FINAL

RCRA FACILITY INVESTIGATION REPORT

Military Munitions Response Program
Former Gun and Trench Mortar Range
Munitions Response Site (RFAAP-002-R-01)

Radford Army Ammunition Plant
Radford, Virginia

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LIST OF ACRONYMS AND ABBREVIATIONS

β	beta
%	percent
%R	percent recovery
µg/dL	microgram(s) per deciliter
5xRMS	five times the root mean square
AGC	advanced geophysical classification
ALM	Adult Lead Model
AOR	AOR International
ASCII	American Standard Code for Information Interchange
AVS	assisted visual survey
BAE Systems	BAE Systems, Inc.
bgs	below ground surface
BLL	blood lead level
CAMBL	Continuous Automated Multi-Base Line
CAR	corrective action report
CDC	Centers for Disease Control and Prevention
CENAB	United States Army Corps of Engineers, Baltimore District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cm	centimeter(s)
CMS	Corrective Measures Study
CSM	conceptual site model
DDESB	U.S. Department of Defense Explosives Safety Board
DERP	Defense Environmental Restoration Program
DGM	digital geophysical mapping
DGPS	differential global positioning system
DID	data item description
DLG	Data Logger
DMM	discarded military munitions
DoD	United States Department of Defense
DQO	data quality objective
DU	Decision Unit
DUA	Data Usability Assessment
Eco SSL	Ecological Soil Screening Level
ELAP	Environmental Laboratory Accreditation Program
EM	Engineer Manual

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

EOD	Explosive Ordnance Disposal
ESS	Explosive Safety Submission
ft	foot (feet)
GGA	GPS Fixed Data
GIS	geographic information system
GOCO	government-owned/contractor-operated
GPO	geophysical prove-out
GPS	global positioning system
GSV	geophysical system verification
ha	hectare(s)
HE	high explosive
HHRA	human health risk assessment
HRR	Historical Records Review
ID	identification
ISM	incremental sampling methodology
ISO	industry standard object
ITRC	Interstate Technology Regulatory Council
IVS	instrument verification strip
kHz	kilohertz
lb	pound(s)
m	meter(s)
MC	munitions constituents
MD	munitions debris
MDAS	material documented as safe
MEC	munitions and explosives of concern
mg/kg	milligram(s) per kilogram
mm	millimeter(s)
MM2x2	MetalMapper 2x2
MMRP	Military Munitions Response Program
MPPEH	material potentially presenting an explosive hazard
MQO	measurement quality objective
MRS	Munitions Response Site
MRSPP	Munitions Response Site Prioritization Protocol
MS	matrix spike

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

mS/m	millisiemen(s) per meter
MSD	matrix spike duplicate
mV/A	millivolt(s) per ampere
NA	not applicable
NAD 83	North American Datum of 1983
NAVD 88	North American Vertical Datum of 1988
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NG	nitroglycerin
NGIS	Northrop Grumman Innovative Systems
NMEA	National Marine Electronics Association
NMRD	non-munitions-related debris
NRL	Naval Research Laboratory
nT	nanotesla(s)
PAL	project action level
PD	point detonating
PLS	professional land surveyor
ppt	part(s) per thousand
PRG	preliminary remediation goal
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
QSM	Quality Systems Manual
R	correlation coefficient
RCRA	Resource Conservation and Recovery Act
RFAAP	Radford Army Ammunition Plant
RFI	RCRA Facility Investigation
RPD	Relative Percent Difference
RSD	relative standard deviation
RSL	regional screening level
RTK	real-time kinematic
SAA	small arms ammunition
SARA	Superfund Amendments and Reauthorization Act
SCUBA	self-contained underwater breathing apparatus
SI	Site Investigation

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

SLERA	Screening Level Ecological Risk Assessment
SNR	signal to noise ratio
SOP	standard operating procedure
SUXOS	Senior UXO Supervisor
SVOC	semivolatile organic compound
SW	Solid Waste
SWMU	Solid Waste Management Unit
THQ	target hazard quotient
TNT	trinitrotoluene
TOI	target of interest
TP	Technical Paper
TR	target risk
U.S.	United States
UCL	upper confidence level
UFP-QAPP	Uniform Federal Policy – Quality Assurance Project Plan
URS	URS Corporation
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
UXO	unexploded ordnance
UXOQCS	UXO Quality Control Specialist
UXOSO	UXO Safety Officer
VDEQ	Virginia Department of Environmental Quality
VSP	Visual Sample Plan
WESTON®	Weston Solutions, Inc.
WGS84	World Geodetic System 1984
XRF	X-ray fluorescence

EXECUTIVE SUMMARY

A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was completed at the Former Gun and Trench Mortar Range Munitions Response Site (MRS), Radford Army Ammunition Plant (RFAAP), Radford, VA (RFAAP-002-R-01). The RFI was designed to determine the nature and extent of munitions and explosives of concern (MEC) and munitions constituents (MC) and to determine the hazards and risks posed to human health and the environment by MEC and MC. The RFI Report presents the characterization strategy and results from the geophysical surveys, intrusive investigation, MC sampling and analysis, and MEC and MC risk analyses performed at the Former Gun and Trench Mortar Range. The results were used to further assess explosives hazards posed by MEC and risks associated with MC.

HISTORICAL INFORMATION

The Former Gun and Trench Mortar Range MRS began operations in 1941. Based on information gathered from RFAAP employee interviews, operations were discontinued after the end of World War II. The 87-acre Former Trench Mortar Range portion of the MRS was used to test-fire 4.2-inch, 60-millimeter (mm), and 81mm mortar rounds to verify the quality of propellants manufactured at the facility.

Three Explosive Ordnance Incident Reports dated 10 April 2012, 9 September 2012, and 28 May 2014 were made available by BAE Systems, Inc. (BAE Systems). The incident reports detailed findings of two 60mm mortars and one unidentified round within the Former Gun and Trench Mortar Range MRS and the subsequent actions taken to resolve the incidents. For each finding, an Explosive Ordnance Disposal (EOD) unit was called in from Fort Bragg, NC, to handle the removal of the munition.

The 28-acre Former Gun Range was historically used to test propellant by firing munitions into a hillside using howitzers and/or cannons. Apparently, holes were dug (i.e., caves) into the hillside and were filled with sand to reduce the impact of the rounds. The only reported ordnance test fired were 100-pound shells. No information on the type(s) of propellant tested was contained in the Historical Records Review (HRR) or obtained during the interview process.

The investigation area was expanded from the Site Investigation (SI) to include the Former Gun and Trench Mortar Range MRS and a section of the New River designated as the 31-acre Area A. The area was expanded to account for the possibility of overshoots from the former ranges and of MEC and/or MC migration from the MRS to the river. The migration of MEC and/or MC to the river could potentially result in the presence of munitions items along the northern bank of the river with the potential to travel away from the bank as items are washed down river.

PREVIOUS INVESTIGATIONS

A SI was completed in September 2018 and proposed further investigation for the presence of MEC and MC at the Former Gun and Trench Mortar Range MRS (Bering Sea Environmental, LLC [BSEn], 2018). Evidence of an inert 60mm mortar was observed lying exposed in a drainage ditch during the reconnaissance site walk; however, it could not be determined if the mortar was inert or contained high explosives (HEs). Results and findings of the SI field activities are summarized below:

- No material potentially presenting an explosive hazard (MPPEH) was found during the assisted visual survey (AVS) data collection or during the collection of incremental sampling methodology (ISM) samples and discrete sediment samples.
- Chemical results revealed that explosives, perchlorate, and semivolatile organic compounds (SVOCs) are not present at the MRS at concentrations exceeding the method detection limit, United States (U.S.) Environmental Protection Agency (USEPA) regional screening levels (RSLs), or USEPA Ecological Soil Screening Levels (Eco-SSLs). Various metals were detected in soil and sediment samples.

RCRA FACILITY INVESTIGATION

Between July 2020 and August 2021, Weston Solutions, Inc. (WESTON®) performed RFI field activities at the MRS to assess the nature and extent of MEC in the MRS. Statistically-based digital geophysical mapping (DGM) surveys, advanced geophysical classification (AGC), intrusive investigation of detected anomalies, dive operations to identify MEC in the New River, and MC sampling and analysis were completed during the RFI. A summary is presented in the following subsections.

Geophysical Investigations

Geophysical investigations, including AGC of the MRS and DGM of Area A of the New River, identified numerous anomalies throughout the MRS.

Intrusive Investigations

Numerous MPPEH items were identified. During initial inspections, some were able to be verified to have inert filler (wax or sand), while some required to be explosively vented (explosive charge that blows a hole in the side of the military munition) for further inspection. After post-demo internal inspections, these items were determined to be munitions debris (MD) as they contained inert filler, also.

MC Sampling and Analysis

The only MC of concern at the MRS was lead, which was detected at DU1; however, the extent of lead contamination was limited to one section within the sampling grid at DU1. Lead species in soil are subject to various reactions with the soil matrix that ultimately limit environmental transport. The solubility of lead in soil decreases over time because of the relatively slower kinetics of the irreversible adsorption and precipitation reactions. Other attenuation mechanisms related to long-term soil forming processes also reduce lead solubility in soil (Interstate Technology Regulatory Council [ITRC], 2022). Based on the limited lead presence at DU1 and the heavy vegetation present, significant migration of lead is not anticipated at the MRS.

Risk Analysis

Risk assessments for human and ecological receptors were not conducted because of the limited MC noted during the MC sampling efforts for the MRS.

Conclusions and Recommendations

Based on the results of the RFI field activities, the following conclusions were determined for the MRS:

- Low risks are associated with MEC because munitions with inert filler (i.e., sand, wax) and practice-only fuzes were identified.
- No MC source was identified during the RFI field investigations.

- The nature and extent of MEC and MC at the MRS have been adequately characterized. Based on these conclusions, no further characterization is recommended for the MRS.

- Further action in the form of conducting a corrective measures study is warranted.

1. INTRODUCTION

This report describes the findings and conclusions of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) to characterize the nature and extent of munitions and explosives of concern (MEC) and munitions constituents (MC) at the Former Gun and Trench Mortar Range Munitions Response Site (MRS) located at the Radford Army Ammunition Plant (RFAAP) in Radford, VA (**Figure 1-1**). This work is being performed by Weston Solutions, Inc. (WESTON®) under Contract Number (No.) W912DR-15-D-0022, Delivery Order No. W912DR18F0492.

RFAAP was issued and operates under the Hazardous Waste Management Permit for Corrective Action (USEPA identification [ID] No. VA1210020730), dated April 2016. The Permit summarizes final remedies for the Solid Waste Management Unit (SWMU) sites and the other corrective action units. The U.S. (United States) Department of Defense (DoD) primarily uses Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for munitions responses; however, RFAAP is under a RCRA Corrective Action Permit, and RCRA will be the primary regulatory driver. Specific investigations for corrective actions, including the RFI, adhered to the RCRA Corrective Action Program. RCRA has no special provisions for dealing with explosive safety; therefore, technical requirements and guidance associated with the Military Munitions Response Program (MMRP) and CERCLA were used during performance of the work. RFAAP munitions responses for this MRS were performed under CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), National Oil and Hazardous Substances Pollution Contingency Plan (NCP) requirements, and with regulatory coordination, as appropriate, with the Virginia Department of Environmental Quality (VDEQ). The RFI was conducted pursuant to the Environmental Restoration Defense Account and the Defense Environmental Restoration Program (DERP), Chapter 160 of SARA.

1.1 PURPOSE AND SCOPE

The purpose of this RFI is to determine the nature and extent of MEC and MC, if present, at the Former Gun and Trench Mortar Range MRS and adjacent Area A, encompassing a portion of New River (**Figure 1-2**). The RFI field investigations consisted of statistically based digital geophysical mapping (DGM) surveys, advanced geophysical classification (AGC), intrusive

investigation of detected anomalies, dive operations to identify MEC in the New River, and environmental media sampling. Results of the field investigation will be used to assess hazards and risks posed by MEC and MC, where encountered, and determine whether further response action under RCRA is warranted. Based on the findings presented in the RFI Report, a Corrective Measures Study (CMS) will be prepared for the MRS, in which alternative remedy options will be evaluated if an unacceptable risk is identified as a result of MEC and/or MC.

1.2 CONCEPTUAL SITE MODEL

The primary purpose of this section is to describe the conceptual site model (CSM) for the Former Gun and Trench Mortar Range MRS and adjacent Area A (i.e., the New River). To provide the basis for the CSM, this section also summarizes observations from previous investigations, secondary data and information from site reports, and other relevant supporting information.

1.2.1 Facility Profile, Site Description, and Background

1.2.1.1 RFAAP Location

RFAAP is a government-owned/contractor-operated (GOCO) facility that lies in one of a series of narrow valleys typical of the eastern range of the Appalachian Mountains. Oriented in a northeast-southwest direction, the valley is approximately 25 miles long, is 8 miles in width at the southeast end, and narrows to 2 miles in width at the northeast end. RFAAP lies along the New River in the relatively narrow northeastern corner of the valley. The Horseshoe Area of RFAAP, named because of its horseshoe shape within a meander of the New River, is part of the Main Manufacturing Area of RFAAP. The Former Gun and Trench Mortar Range MRS lies within the Horseshoe Area.

1.2.1.2 Former Gun and Trench Mortar Range MRS

The Former Gun and Trench Mortar Range MRS (RFAAP-002-R-01) is located adjacent to New River in the west-central portion of the RFAAP. The MRS consists of 115 acres and comprises two adjacent ranges: the Former Gun Range (28 acres) and the Former Trench Mortar Range (87 acres). Area A, a designated portion of New River, is an area adjacent to the Former Gun and Trench Mortar Range MRS that has been included in the investigation and totals 31 acres in size. The portions of the MRS consisting of the Active Production Facility (approximately 50 acres)

and Active Test Range Area (8 acres) are considered inaccessible and are excluded from the planned field investigation area. The MRS and Area A are depicted in **Figure 1-2**.

1.2.2 History

1.2.2.1 RFAAP

The manufacturing of propellants, the primary mission of RFAAP, began in 1941 and continues today. BAE Systems, Inc. (BAE Systems) was awarded the RFAAP Operating Contract in 2011. GOCO tenants on RFAAP include Orbital ATK, Alexander Arms, and Pyrotechnique by Grucci Inc. All RFAAP tenants are involved with industrial enterprises; none of them are commercial businesses with customer traffic, including a post exchange or post office. Since 1968, RFAAP has also produced TNT on an intermittent basis. The RFAAP property has a controlled and monitored entry procedure and 24-hour surveillance. Approximately 2,500 buildings are located within a 2-mile radius, including RFAAP manufacturing and residential buildings. Land use surrounding RFAAP is primarily agricultural with some residential and industrial use. Land use at and around RFAAP is not projected to change (URS Corporation [URS], 2003).

1.2.2.2 Former Gun and Trench Mortar Range MRS

The Former Gun and Trench Mortar Range MRS began operations in 1941. Based on information gathered from RFAAP employee interviews, operations were discontinued after the end of World War II. The 87-acre Former Trench Mortar Range portion of the MRS was used to test-fire 4.2-inch, 60-millimeter (mm), and 81mm mortar rounds to verify the quality of propellant manufactured at the facility. According to the interviewees, the propellant manufactured at RFAAP during the 1940s was comprised of 52 percent (%) cellulose, 38% nitroglycerin (NG), and a small fraction (exact amount not disclosed) of potassium nitrate (Bering Sea Environmental, LLC [BSEn], 2018).

Available information gathered during the Historical Records Review (HRR) and interview process provided no information on the exact testing procedures employed or the location of the range firing point(s), munitions storage area(s), or impact zone(s). However, information gathered from interviews with RFAAP personnel indicates that the mortars were generally fired in an upward direction for testing, suggesting the impact area was near the firing point.

Information gathered during the HRR and interview process also suggested that the test mortars were not filled with high explosives (HEs), but rather various fillers, including concrete, gravel, Halowax®, and possibly antifreeze. It was disclosed during the interview process that, while constructing the Active Production Facility and Continuous Automated Multi-Base Line (CAMBL) Facility on the MRS, numerous "piles" of mortars were discovered and disposed of by RFAAP personnel. Several interviewees stated that one round discovered between 2011 and 2012 may have contained white phosphorus. The presence of white phosphorus filler was never confirmed through testing and analysis or documented in RFAAP safety reports or Explosive Ordnance Incident Reports. One interviewee described a 4.2-inch mortar found on the MRS as containing a liquid that "sloshed" when moved. The 4.2-inch mortar was disposed of by demolition.

Three Explosive Ordnance Incident Reports dated 10 April 2012, 9 September 2012, and 28 May 2014 were made available by BAE Systems. The incident reports detailed findings of two 60mm mortars and one unidentified round within the Former Gun and Trench Mortar Range MRS and the subsequent actions taken to resolve the incidents. For each finding, an Explosive Ordnance Disposal (EOD) unit was called in from Fort Bragg in North Carolina to handle the removal of the munition.

The 10 April 2012 report states that an unidentified item (referred to then as an unexploded ordnance [UXO] item) was found and disposed of with no additional details presented in the report. The 9 September 2012 report states that an inert 60mm mortar was discovered in the Active Production Facility within the Former Gun and Trench Mortar Range MRS (RFAAP-002-R- 01). The mortar was reported to likely be filled with concrete. The 28 May 2014 EOD Report states that an unidentifiable 60mm item (referred to as a UXO item) was safely removed from the Active Production Facility and was disposed of by demolition at an undisclosed location on RFAAP (BSEn, 2018). Additional communication with Chuckie Williams of BAE Systems in 2019 indicated that approximately three munitions items encountered within the Active Production Facility (as discussed above) were all encountered in the subsurface. However, approximately four or five munitions items encountered and disposed of from the northeast end of the MRS were encountered on the surface, with a couple of the items located outside of the fence along the steep slope adjacent to the New River.

The 28-acre Former Gun Range was historically used to test propellant by firing munitions into a hillside using howitzers and/or cannons. Apparently, holes were dug (i.e., caves) into the hillside and were filled with sand to reduce the impact of the rounds. The only reported ordnance test fired were 100-pound shells. No information on the type(s) of propellant tested was contained in the HRR or obtained during the interview process. Furthermore, no information was found to indicate the location of the sand-filled caves. The 8-acre Active Test Range within the Former Gun Range was not included in the Site Investigation (SI). The Active Test Range contains the Inert Gun Testing Facility that is currently used by Northrop Grumman Innovative Systems (NGIS) to test propellant by firing inert projectiles. It is not known if this 8-acre plot includes the hillside used for test-firing. No information presented in the HRR or gathered during the interview process indicates that munitions have ever been discovered that could be associated with the Former Gun Range. This includes munitions encountered on the ground surface or unearthed by erosion or excavation (BSEn, 2018).

The investigation area was expanded from the SI to include the Former Gun and Trench Mortar Range MRS and a section of the New River designated as the 31-acre Area A. The area was expanded to account for the possibility of overshoots from the former ranges and of MEC and/or MC migration from the MRS to the river. The migration of MEC and/or MC to the river could potentially result in the presence of munitions items along the northern bank of the river with the potential to travel away from the bank as items are washed down river.

Given the extensive development at the Former Gun and Trench Mortar Range MRS following the discontinuation of range operations and the absence of documentation of firing points or impact locations, these areas may be located underneath process facilities or infrastructure that were constructed after the range closed. These process facilities include the Active Production Facility and the defunct CAMBL Facility. The Active Production Facility is in a continual state of production, whereas the CAMBL Facility was built, but it never went into production and is being demolished. As a result of the construction of these process facilities, considerable earthwork was conducted at the MRS, including grading to level the uneven terrain and creation of earthen berms to serve as blast walls.

1.2.3 Previous Investigations

1.2.3.1 Site Investigation

An SI was completed in September 2018 and proposed further investigation for the presence of MEC and MC at the Former Gun and Trench Mortar Range MRS (BSEn, 2018). Evidence of an inert 60mm mortar was observed lying exposed in a drainage ditch during the reconnaissance site walk; however, it could not be determined if the mortar was inert or contained HEs. Results and findings of the SI field activities are summarized below:

- No material potentially presenting an explosive hazard (MPPEH) was found during the assisted visual survey (AVS) data collection or during the collection of incremental sampling methodology (ISM) samples and discrete sediment samples. However, the presence of 60mm, 81mm, and 4.2-inch mortars has previously been documented at the MRS. The majority of these discoveries were made during construction and/or maintenance activities performed at the production facilities.
- No apparent firing, impact, or other range-related features were identified during the AVS data collection or collection of media samples.
- Chemical results revealed that explosives, perchlorate, and semivolatile organic compounds (SVOCs) are not present at the MRS at concentrations exceeding the method detection limit, U.S. Environmental Protection Agency (USEPA) regional screening levels (RSLs), or USEPA Ecological Soil Screening Levels (Eco-SSLs).
- The mean lead concentration in ISM sample Decision Unit (DU) 1 (i.e., DU1), located in the Former Gun Range portion of the Former Gun and Trench Mortar Range MRS, was 1,909 milligrams per kilogram (mg/kg), which exceeded the background level (26.8 mg/kg), the USEPA Composite Worker RSL (800 mg/kg), and the Eco-SSLs for soil invertebrates (1,700 mg/kg), mammalian wildlife (56 mg/kg), avian wildlife (11 mg/kg), and plants (120 mg/kg).
- The mean antimony concentration in ISM sample DU1 exceeded the Eco-SSL for mammalian wildlife (0.27 mg/kg); the mean manganese concentration exceeded the Eco-SSL for plants (220 mg/kg) and soil invertebrates (450 mg/kg); and the mean vanadium concentration exceeded the Eco-SSL for avian wildlife (7.8 mg/kg). The mean manganese and vanadium concentrations were less than their respective background levels (2,543 mg/kg and 108 mg/kg). No background level was established for antimony.
- The mean cadmium concentration in ISM sample DU2, also located in the Former Gun Range portion of the Former Gun and Trench Mortar Range MRS, exceeded the Eco-SSL for mammalian wildlife (0.36 mg/kg); the mean lead concentration exceeded the Eco-SSL for avian wildlife (11 mg/kg); and the mean vanadium concentration exceeded the Eco-SSL for avian wildlife (7.8 mg/kg). The mean lead and vanadium concentrations were less than their background concentrations (26.8 mg/kg and 108 mg/kg, respectively). No background level was established for cadmium.

- The lead concentration in discrete sediment sample RFAAP-FGMR-SSD-001 exceeded the RFAAP background level (26.8 mg/kg) and Eco-SSLs for mammalian wildlife (56 mg/kg), avian wildlife (11 mg/kg), and plants (120 mg/kg).
- Antimony, selenium, and vanadium concentrations in all four discrete sediment samples exceeded one or more of the Eco-SSLs.
- Lead and manganese concentrations exceeded one or more of the Eco-SSLs in two discrete sediment samples.
- Only lead was detected in discrete sediment samples at a concentration that exceeded the RFAAP background level (26.8 mg/kg).
- The surface MEC exposure pathway of handle/tread underfoot is considered potentially complete for Current and Future Visitors, Site Workers, Construction Workers, and Trespassers. The subsurface MEC exposure pathway of handle/tread underfoot is considered potentially complete for Current and Future Construction Workers.
- The surface MC exposure pathways of ingestion, dermal contact, and inhalation (dust) are considered complete for Current and Future Visitors, Site Workers, Construction Workers, and Trespassers and for biota. The subsurface MC exposure pathways of ingestion, dermal contact, and inhalation (dust) are considered potentially complete for Current and Future Construction Workers and biota. The MC vegetation food chain pathway is considered potentially complete for biota. The MC wildlife food chain pathway is considered potentially complete for Current and Future Site Workers and Trespassers and biota.

The SI proposed further investigation related to MEC and MC in site soils and sediment.

1.2.3.2 Topographic Fill Analysis

A Topographic Fill Analysis Report (provided as **Appendix A**) was prepared to compare and assess historical and present-day topography to quantify cut and fill across the Former Gun and Trench Mortar Range MRS. Military munitions have been encountered during construction work at depths ranging from 8 to 10 feet (ft) below ground surface (bgs) at the MRS. The depth that these munitions were located may be the result of extensive development at the MRS after the discontinuation of range operations. The RFI fieldwork approach needs to consider the locations of past munitions use of the MRS in addition to locations of subsequent cut and fill during earthmoving activities as potential "source areas" because cut and fill activities may have moved or covered MEC. Fill locations were of particular focus because of the potential for MEC firing points or target areas to be located underneath infrastructure or general earthwork areas.

Results and recommendations from the report were used to enhance the MRS CSM and to finalize the overall characterization strategy to achieve RFI data quality objectives (DQOs).

When compared to present day conditions, the results from this topographic fill analysis suggest cut and fill activities have occurred at the Former Gun and Trench Mortar Range MRS since munitions-related activities ceased in the mid-1940s. Significant fill elevations from 1949 to the present can be attributed to building and other infrastructure construction activities; however, areas remain within the MRS where MEC may be present that are now covered with fill due to earthwork. In some cases, MEC may be deeper than the depth of detection capability of geophysical technologies (estimated to be 8 ft). A total of 10 features of interest was identified based on a 1949 aerial photograph and topographic analysis because the fill areas do not correlate with infrastructure, are co-located with historical aerial photograph disturbances, and/or are beyond planned RFI geophysical surveys. Detailed results of the assessment are provided in the Topographic Fill Analysis Report presented in **Appendix A**.

1.2.4 Physical Profile

1.2.4.1 Topography

The Former Gun and Trench Mortar Range MRS is located within a portion of the Main Manufacturing Area, which is characterized by gently to steeply sloping ridges. The physiography at RFAAP is typical of karst topography. The southern boundary of the Former Gun and Trench Mortar Range MRS abuts a steep bluff that drops down to the New River. The original topography at the MRS was altered significantly by the construction of processing facilities. The resulting topography and current condition can best be described as hummocky. During the construction of the facilities, the process buildings and containment vessels were partially buried as soil was mounded around the remaining exposed exterior walls to contain explosives in a catastrophic event. Large mounds of soil were also constructed between buildings that serve as blast berms to limit the impact of a catastrophic event to surrounding buildings. In addition, several portions of the Former Gun and Trench Mortar Range MRS were graded to create level areas for administrative offices and storage areas (BSEn, 2018).

A topographic change analysis was conducted to evaluate changes in topography from 1949 (the period when the MRS was in use) and today. The calculated change within the accessible

portion of the Former Gun Range varies between –16 ft and +15 ft. The current topographic surface within this area is an average of 3.3 ft lower than the 1949 topographic surface. Approximately 28% of the accessible portion of the Former Gun Range exhibits a higher topography than in 1949. The calculated change within accessible regions of the Former Trench Mortar Range varies between
–43 ft and +19 ft. Excluding the steep slope beside the river, the current topographic surface is an average of 1.2 ft above the 1949 topographic surface within the accessible region. Approximately 53% of the area of the accessible portion of the Former Trench Mortar Range exhibits a higher topography than in 1949.

1.2.4.2 Vegetation

Vegetation found at the MRS is primarily influenced by past human activities, topographic setting, soil types, and surface water features. Most of the MRS has, at one point, been cleared of vegetation by the construction of the Active Production Facility and CAMBL Facility. In general, the flora and fauna at the MRS consist of commonly and widely distributed species that are common in ecologically altered landscapes.

The MRS is located primarily within the early successional habitat. Early successional habitats typify areas of RFAAP that received heavy and protracted disturbance from operations associated with the plant. Much of the MRS is landscaped with grassed areas mixed with shrubs and clusters of trees in certain areas, such as within the Former Gun Range. The steep slope along the southeastern side of the MRS is densely covered with vegetation, including mature trees, understory shrubs, and vines.

1.2.4.3 Soils and Geology

The Former Gun and Trench Mortar Range MRS is located in the New River Valley, which crosses the Valley and Ridge Province. The subsurface geology consists of alluvium and residual deposits composed of clay and silt with some sand and gravel overlying bedrock. The MRS is underlain by the Braddock Loam soil type. This soil type has a variable slope between 2% and 30% and does not have a seasonal high-water table within 6 ft of the surface. Based on the depth of trenches and washed-out gullies at the Active Production Facility observed during the SI field activities at the MRS, the clays and silts extend to a minimum depth of 10 ft bgs. Soils within forested areas of the MRS were observed to be dark brown and silty. Permeability of the Braddock Loam soil is

moderate and organic matter content is moderately low. This soil type is generally acidic or very strongly acidic with a hydrogen ion concentration (pH) range of 4.5 to 5.5 standard units.

A saprolitic layer, formed from in situ weathering of the carbonate bedrock, immediately overlies the competent bedrock. The saprolite is up to 10 ft in thickness and consists of yellowish-red and red clay. The clay has low to medium plasticity. Bedrock consists of the Elbrook Formation. Depth to bedrock ranges from 18 ft to more than 60 ft bgs. The Elbrook Formation is highly fractured and is composed of thickly bedded, blue-gray dolomite interspersed with blue-gray to white limestone; brown, green, and red shale; argillaceous limestone; and brecciated limestone. The Max Meadows Breccia is evident in outcrops along the slope leading to the river. In the outcrop along the slope, the tectonic breccias and the limestone and dolostone are highly weathered with many solution cavities.

Three deep soil borings (B43SB11, B43SB15, and B43SB17) were installed as part of an RFI at the Building 4343 site, which is located approximately 400 ft northwest of the Former Gun Range (Shaw Environmental & Infrastructure, Inc., 2004). Boring depths ranged from approximately 20 to 60 ft bgs. Logging descriptions indicate that the subsoil is yellowish-red and red clay down to bedrock. The clay is the result of weathering of carbonate bedrock formations. The clay has low to medium plasticity and is dry to slightly moist. The clays are underlain by bedrock of the Elbrook Formation with depth to bedrock ranging from 18 ft to more than 60 ft bgs.

1.2.4.4 Hydrology and Hydrogeology

No permanent surface water bodies are present within the Former Gun and Trench Mortar Range MRS. Storm water drainage occurs primarily by infiltration and overland flow in ditches along engineered roadways. The Former Gun and Mortar Range MRS borders New River, which flows along the southern boundary of the MRS. The river flow varies as a result of water management at Claytor Dam, approximately 9 miles upstream (south) of RFAAP (URS, 2003).

The hydrogeologic framework at RFAAP is based on generalized stratigraphic succession, with indurated sedimentary rocks of the Paleozoic age forming predominant units. Groundwater flow paths are typically short, commonly extending no more than several miles in their longest dimension. The largest groundwater supplies are produced from the carbonate rocks, especially where they are associated with thick regolith, an important storage reservoir throughout the entire

area. The regolith stores recharge that would otherwise be rapidly diverted to overland flow. It also slowly releases water to underlying carbonate aquifers. Because of the widespread distribution of carbonate rocks and associated regolith, abundant precipitation in a humid climate, and relatively steep hydraulic gradients, this region (and locality) is one of the major karstlands in the eastern United States.

Although the Elbrook Formation was encountered during the Building 4343 RFI field investigations, no groundwater was encountered to a depth of 60 ft bgs. These conditions are expected to be similar to the Former Gun and Trench Mortar Range MRS because of the comparable topography and elevation at both areas. The average depth to groundwater at RFAAP is approximately 70 ft bgs (URS, 2003). Along ridgelines where the MRS is located, the depth to groundwater averages around 100 ft bgs.

Groundwater supplies in the Valley and Ridge Province are generally of good quality compared to surface water supplies; however, because of extended contact with minerals, many groundwater supplies contain higher levels of dissolved solids than the streams into which they discharge. Because of sinkholes and underground caverns in karst aquifers, a high potential exists for groundwater to be impacted by direct infiltration of contaminated surface water; however, no evidence is available of sinkholes on the MRS.

No federal or state wetlands are located within the MRS boundary.

1.2.4.5 Climate

RFAAP lies in the humid, subtropical climate zone of Virginia. Average high temperatures range from 42 degrees Fahrenheit (°F) in January to 84 °F in July with average lows ranging from 22 °F in January to 61 °F in July. Precipitation occurs on average 71 days per year with 209 sunny days per year. Average seasonal rainfall is approximately 37 inches per year and snowfall is about 24 inches per year. Wind conditions are at their greatest from December through March with primary wind directions out of the west-northwest, west, and northwest.

1.2.4.6 Cultural Resources

Cultural and archaeological resources have not been evaluated on a facility wide basis at RFAAP. No facilities on RFAAP are currently listed in the National Register of Historic Places (NRHP),

although it is possible that some of RFAAP may be eligible based on the long history of operation of the plant. It is not anticipated that any of the infrastructure located on the Former Gun and Trench Mortar Range MRS is eligible for inclusion in the NRHP (BSEn, 2018).

1.2.4.7 Ecological Setting

The Former Gun and Trench Mortar Range MRS is located in an upland habitat. The non-developed portion of the MRS includes habitat that could support terrestrial species, and the adjacent Area A, located within New River, could support aquatic species. U.S. Fish and Wildlife Service (USFWS) does not list any critical habitat for threatened or endangered species within the boundaries or in the nearby vicinity of the MRS. The USFWS Environmental Conservation Online System lists the following threatened and endangered species as present in Pulaski and/or Montgomery Counties: Indiana bat, Virginia big-eared bat, Roanoke logperch, Virginia fringed mountain snail, Cumberland bean (pearlymussel), and James spinymussel. These species, as well as reasons why other listed species are not believed to be located within the MRS.

1.2.5 Release Profile

1.2.5.1 Land Use

All RFAAP tenants are involved with industrial enterprises and no tenants are commercial businesses with customer traffic (BSEn, 2018). The MRS is located on land owned by the U.S. government that is used for industrial purposes (propellant manufacturing) and is currently part of the RFAAP designated Active Production Facility and Active Test Range areas. RFAAP is an actively guarded facility with perimeter fencing that is patrolled by armed guards. The MRS is not completely fenced; however, all visitors must be escorted by RFAAP personnel while inside the MRS boundary. Area A is a portion of New River and is used by the public for recreational purposes. No change in future land use is anticipated for this site; the site will continue to be used for industrial purposes, and development is unlikely within the foreseeable future.

1.2.5.2 Potential Receptors and Exposure Pathways

The pathway analysis portion of a CSM identifies all complete, potentially complete, or incomplete pathways for both current and reasonably anticipated future land uses for the MRS. Each pathway must include a source, a receptor, and the interaction between them (access and activity).

Sources are those areas where MEC and/or MC have entered the site. A receptor is an organism (human or ecological) that contacts the source. Interaction involved any access and/or activity that facilitates receptors coming into contact with a source. For sites such as the Former Gun and Trench Mortar Range MRS and Area A (New River), where both MEC hazards and MC risk must be considered, the CSMs are typically separated into MEC-based or MC-based scenarios, reflecting the key differences between the types of risks or hazards that may be present.

The potential, based on former firing activities, for military munitions and MC to be present within various areas of the MRS is likely. A potential for military munitions from the MRS to have migrated into Area A (New River) also exists. The tables describe the known or suspected contamination sources, potential/suspected location and distribution of contamination, contamination source or exposure medium, current and future receptors, and potentially complete exposure pathways. The CSM is a "living document" based on existing knowledge and will be updated as more information becomes available.

The MEC CSM is based on the historical range activities within the MRS boundary where a former gun range and former trench mortar range were operational. Data are not available to establish the configurations of the range fans. There is a potential for hazards as a result of possible overshoots from the two former firing ranges towards Area A of the New River. The possibility of migration of military munitions from the MRS to Area A through surface runoff is also likely. Based on the time of range operations and the incomplete records, a complete list of potential military munitions is not available.

1.2.6 CSM Summary

The CSM Pathway Analyses for the MRS and Area A (New River) are summarized in **Tables 1-1** and **1-2**. This table describes the known or suspected contamination sources, potential/suspected location and distribution of contamination, contamination source or exposure medium, current and future receptors, and potentially complete exposure pathways. The CSM is a "living document" based on existing knowledge and will be updated as more information becomes available.

Table 1-1 MEC Conceptual Site Model Pathway Analysis Summary

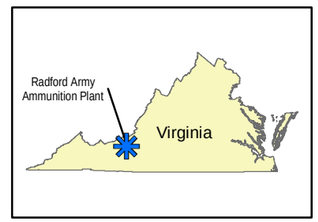
Site Details	Known or Suspected Contamination Source	Potential/Suspected Location and Distribution	Source or Exposure Medium	Current and Future Receptors	Potentially Complete Exposure Pathway
Name: Former Gun and Trench Mortar Range MRS **Acreage:** MRS - 115 acres (Former Gun Range – 28 acres/Former Trench Mortar Range – 87 acres) **Suspected Past DoD Activities *(release mechanism)*:** Firing from two former ranges to test propellants to target locations within the MRS. **Current and Future Land Use:** Part of the Active Production Facility and Active Test Range Areas.	**Former Trench Mortar Range:** MEC from the test-firing of 4.2-inch, 60mm, and 81mm mortar rounds to verify the quality of propellants manufactured at the facility. **Former Gun Range:** MEC from the historical testing of propellant by test-firing projectiles into a hillside using howitzers and/or cannons. The only reported ordnance test fired was 100-pound shells.	Mortars have been encountered within the MRS and removed and disposed of by EOD. Specific locations and depths of these encounters are unknown; however, subsurface items were encountered in the active production facility area, and surface encounters were noted in the northeast end of the MRS.	MEC in surface soil (0–0.5 ft bgs) and in subsurface soil (greater than 0.5 ft bgs).	Current and Future Visitors, Site Workers, Construction Workers, and Trespassers.	Human receptors may encounter surface and/or subsurface MEC through walking, maintenance activities, or intrusive work activities.
Name: Area A (New River) **Acreage:** 31 acres **Suspected Past DoD Activities *(release mechanism)*:** Overshoots from the two former firing ranges and potential migration of munitions from the MRS through runoff from the steep slope area. **Current and Future Land Use:** Area A portion of the New River is used for recreational activities.	Potentially same as land-based portion of the MRS. However, movement of MEC from years of river flow is expected.	No MEC has been investigated or encountered. However, military munitions have been identified along the steep slope area adjacent to Area A.	MEC in surface sediment (0–0.5 ft bgs) and in subsurface sediment (greater than 0.5 ft bgs).	Recreational users (e.g., fishing, boating, wading, and/or swimming).	Human receptors may encounter surface and/or subsurface MEC through recreational activities where they or their possessions may contact the river bottom.

Table 1-2 MC Conceptual Site Model Pathway Analysis Summary

Site Details	Known or Suspected Contamination Source	Potential/Suspected Location and Distribution	Source or Exposure Medium	Current and Future Receptors	Potentially Complete Exposure Pathway
Name: Former Gun and Trench Mortar Range MRS **Acreage:** MRS - 115 acres (Former Gun Range – 28 acres/Former Trench Mortar Range – 87 acres) **Suspected Past DoD Activities *(release mechanism)*:** Firing from two former ranges to test propellants to target locations within the MRS. **Current and Future Land Use:** Part of the Active Production Facility and Active Test Range Areas.	*Metals:* ▪ Antimony ▪ Cadmium ▪ Lead ▪ Manganese ▪ Selenium ▪ Vanadium *Explosives:* Not applicable.	DU1 area where elevated lead concentrations were noted during the SI. Where damaged and/or heavily corroded individual MEC items are discovered with visible signs of an MC release (e.g., stained sediment or soil under MEC) or in low visibility scenarios, tactile signs of a potential MC release (e.g., cracks, holes).	MC in surface soil and sediment (0–0.5 ft bgs) and/or subsurface (greater than 0.5 ft bgs) soil and sediment.	Current and Future Visitors, Site Workers, Construction Workers, and Trespassers. Potential ecological receptors.	Human receptors may be exposed to surface MC in soil and sediment through dermal contact, incidental ingestion, and/or inhalation pathways for all human receptors. Only construction workers should be exposed to subsurface MC in soil and sediment. Ecological receptors may be exposed to MC in surface soil, surface water, and sediment (0-0.5 ft bgs) through dermal contact, incidental ingestion, inhalation, and/or the food chain.
Name: Area A **Acreage:** 31 acres **Suspected Past DoD Activities *(release mechanism)*:** Overshots from the two former firing ranges and potential migration of munitions from the MRS through runoff from the steep slope area. **Current and Future Land Use:** Area A portion of the New River is used for recreational activities.	Potentially same as land-based portion of MRS. However, movement of MEC from years of river flow is expected to remove potential sources of MC.	Where damaged and/or heavily corroded individual MEC items are discovered with visible signs of an MC release (e.g., stained sediment under MEC) or in low visibility scenarios, tactile signs of a potential MC release (e.g., cracks, holes).	MC in surface sediment (0–0.5 ft bgs) and/or subsurface (greater than 0.5 ft bgs) sediment.	Recreational users (e.g., fishing, boating, wading, and/or swimming). Potential ecological receptors.	Human receptors may be exposed to surface and/or subsurface MC in sediment through dermal contact, incidental ingestion, and/or inhalation pathways. Ecological receptors may be exposed to MC in surface soil, surface water, and sediment (0-0.5 ft bgs) through dermal contact, incidental ingestion, inhalation, and/or the food chain.

Legend

Imagery Source:
ESRI, Imagery Mapping Service, 2017



N

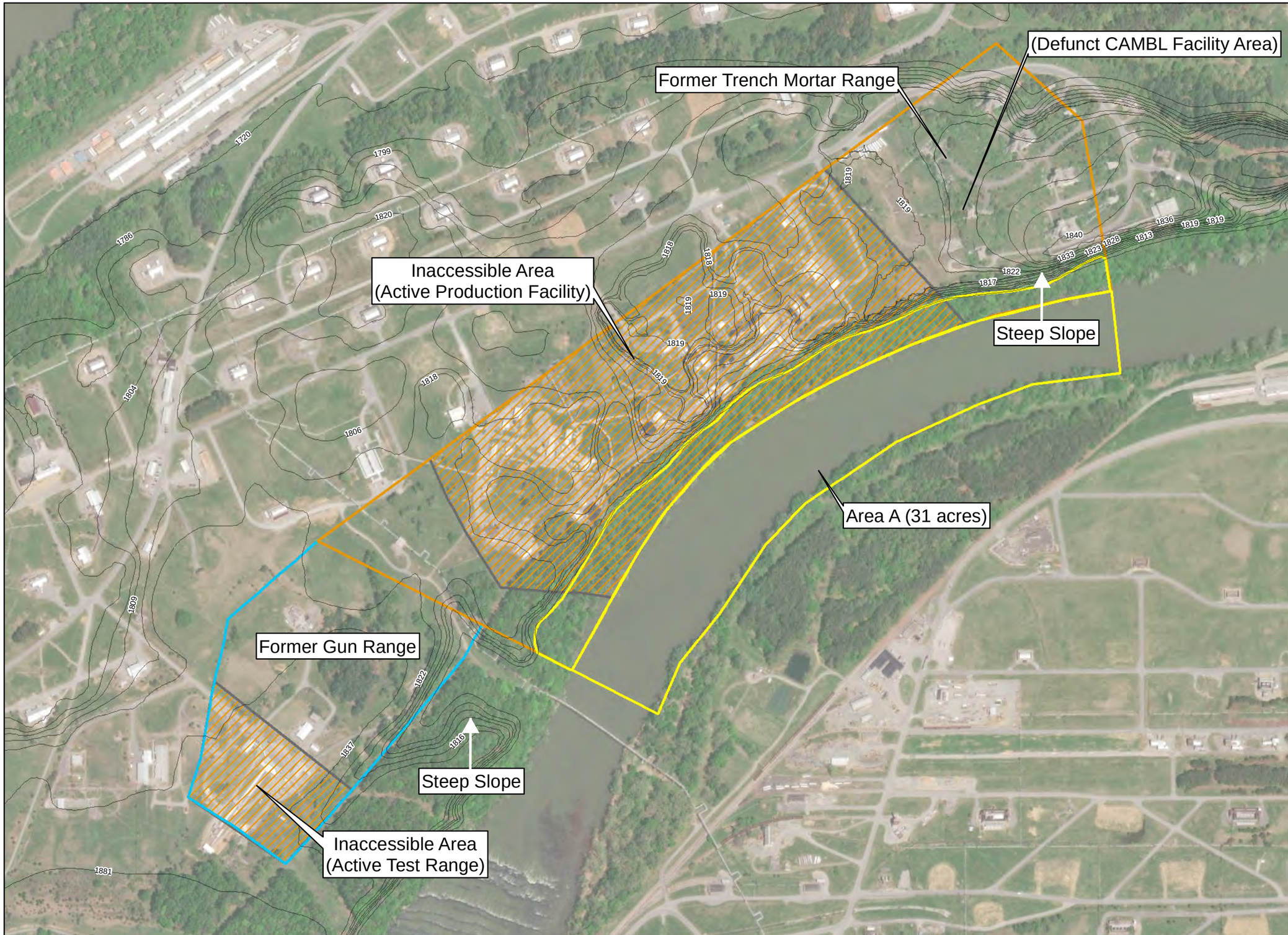
0 2 4
Miles

Prepared By:

Baltimore District

FIGURE 1-1
RADFORD ARMY AMMUNITION PLANT LOCATION MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\Radford_Regional_Map.mxd, 4/25/2022 6:33:45 AM, johna



Legend

Contours (Feet)

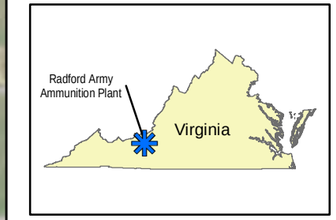
Area A

Inaccessible Area

Former Trench Mortar Range

Former Gun Range

Imagery Source:
ESRI, Imagery Mapping Service, 2018



N

0 165 330 660
Feet

Prepared By:

Baltimore District

FIGURE 1-2
FORMER GUN AND TRENCH
MORTAR RANGE AND AREA A SITE MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\Former_Gun_Trench_Mortar_AreaA_A2.mxd, 6/30/2022 10:25:39 AM, Langloisb

2. PROJECT GOALS AND OBJECTIVES

2.1 SITE CHARACTERIZATION GOALS

The following site characterization goals were developed for the Former Gun Range and Trench Mortar Range MRS:

- Determine nature and extent of MEC (type, depth, density, distribution).
- Determine nature and extent of MC (specific chemicals of concern, distribution, and concentration based on media).
- Evaluate the hazards and risks posed to human health and the environment by MEC and MC.

2.2 DATA QUALITY OBJECTIVES

The MRS characterization goals and strategies used to define the extent and nature of MEC were focused on historical areas where mortar rounds had previously been encountered. DQOs were established to incorporate the data needs of the field investigation. The DQOs were designed to ensure that the data collected provide sufficient and reliable information to identify, evaluate, and technically defend the recommendation of remedial alternatives. The DQOs are qualitative and quantitative statements that define the type, quantity, and quality of data necessary to support the decision-making process during the RFI. The DQOs are developed using a seven-step process that includes the following:

1. **State the Problem**: Provide a concise description of the problem.
2. **Identify the Goal of the Study**: Develop decision statements to solve the problem.
3. **Identify Information Inputs**: Identify information and measurements needed to make the decisions.
4. **Define the Boundaries of the Study**: Identify conditions such as spatial and temporal boundaries.
5. **Develop the Project Data Collection and Analysis Approach**: Qualify the decisions to understand data needs.
6. **Specify Performance or Acceptance Criteria**: Develop performance criteria.
7. **Survey Design and Project Work Flow**: Design an effective data collection strategy based on the previous steps.

The DQOs proposed below and refined during project planning served as standards, against which project objectives were measured. Throughout implementation of the field investigation, project personnel were required to meet the DQOs defined below in **Table 2-1**.

Table 2-1 Data Quality Objectives

DQO Element	Data Quality Objective (DQO) Activity Description
1. State the Problem	The nature and extent of MEC and MC has not been defined in the MRS and Area A (New River). Based on historical encounters with munitions items in various locations within the Former Trench Mortar Range, MEC in the form of UXO or discarded military munitions (DMM) is potentially present at the MRS, resulting from use of the MRS in the 1940s as propellant testing ranges. Due to the development of the MRS over time that included placing fill, the extent that MEC may be present in the subsurface soils is not known at the areas identified in the Topographical Fill Analysis Report. If present, the MEC may present an unacceptable risk to receptors. In addition, lead was detected above risk screening criteria within DU1 at the Former Gun Range during the SI. Specific locations of firing and impact areas are not known, although the hillside is a potential impact area of the Former Gun Range, based on historical interviews. The actual occurrence and approximate density of MEC/MPPEH, if present, has not been verified. The extent of lead contamination at DU1 has not been delineated. In addition, the source of lead contamination has not been identified. It is not known whether MC is present due to MEC/MPPEH being damaged, leaking/corroded, or otherwise potentially releasing MC into the environment.
2. Identify the Goal of the Study	Identify the principal study goal: The overall goal of the RFI is to determine the presence or absence of MEC and MC at the Former Gun and Trench Mortar Range MRS, and if present, then the nature and extent of MEC and MC on the ground surface and subsurface and in adjacent surface waters (Area A of New River) will be determined. Additional goals include: To determine the presence or location of any suspected burial pits and/or trenches. To use Visual Sample Plan (VSP) software to calculate the appropriate coverage using AGC to achieve 95% confidence in determining that less than 0.5 MEC per acre are detectable in areas associated with potential DMM burial features. VSP will also be used to determine coverage in New River. To determine the nature and extent of MEC if it is determined to be present at quantities greater than 0.5 MEC per acre. To evaluate whether MEC, if identified, presents an unacceptable or acceptable hazard to human health by using the U.S. Army Corps of Engineers (USACE) Risk Management Methodology. To evaluate the nature and extent (horizontal and vertical) of lead in soil at the Former Gun Range, which was previously identified during the SI at DU1 above background, human, and ecological screening levels. Concentrations in on-site samples will be compared to the project-specific human health screening levels. To determine the source of the lead contamination identified during the SI at DU1. To determine whether a MC release to soil has occurred at locations where MEC/MPPEH is observed to be damaged, corroded, or otherwise potentially releasing MC into the environment. The biased soil samples will be analyzed for select metals (antimony, cadmium, lead, manganese, selenium, and vanadium) and explosives. To delineate the vertical and horizontal extent if MC is observed to have impacted soils in these locations.

Table 2-1 Data Quality Objectives (Continued)

DQO Element	Data Quality Objective (DQO) Activity Description
	To determine whether MC is present in sediment above screening levels as a result of surface water runoff and erosion transporting MC outside the MRS toward and in New River (Area A), and if present to determine the nature and extent. Based on the historical use of the MRS, SI analytical results, and depth to groundwater (greater than 80 ft bgs), impacts to groundwater are not anticipated; therefore, no groundwater sampling is planned. However, if analytical data detect subsurface soil with contamination significantly above RSLs that could impact groundwater quality, then groundwater assessment will be evaluated. To determine if a risk to human health or ecological receptors is present based upon the delineated MC in soil, surface water, sediments, and/or groundwater and to evaluate whether future response actions need to be considered. The necessary information will be collected in order to develop, screen, and analyze corrective measure alternatives in the CMS and to revise the Munitions Response Site Prioritization Protocol (MRSPP) scoring. <u>State how the data will be used in solving the problem:</u> DGM/AGC Data (land): DGM (full coverage EM31-MK2 survey to evaluate the presence of pits and/or trenches) will be used across all accessible areas of the MRS (approximately 57 acres) and AGC (dynamic and cued surveys using a MetalMapper 2x2 [MM2x2]) will be used to determine if anomalies need to be investigated for potential MEC or left in place because they are likely related to non-hazardous scrap metal. Selected areas of interest based on EM31-MK2 data will be further assessed using intrusive investigations. VSP will determine the appropriate AGC coverage at each portion of the MRS (Former Trench Mortar Range and Former Gun Range). Selected anomalies based on dynamic detection surveys will be further assessed using AGC cued surveys. Cued data will be used to classify anomalies as follows: 1) target of interest (TOI) (i.e., highly likely to be DMM or UXO); 2) non-TOI (i.e., highly unlikely to be DMM or UXO); or 3) inconclusive. Detected items classified as TOI and inconclusive items will be intrusively investigated. Items classified as non-TOI will be left in place. Trenching/Test Pitting: Topographic and aerial photographic data from the topographic fill analysis have been used to identify potential areas of concern requiring mechanical trenching/test pitting to evaluate the presence of munitions. Analog Surveys: Areas inaccessible to AGC methods (including the steep slope area on the southeast side of the MRS) will undergo analog geophysical surveys and anomalies will be investigated as they are detected. Additional areas of concern, where there is a potential for MEC to have migrated and thus where analog surveys will be conducted, will be identified during field activities (geophysical and intrusive investigations). DGM (New River, Area A): DGM (transect coverage boat-mounted G-858 survey to evaluate the presence of anomalies) will be used in the Area A portion of New River (approximately 31 acres) to determine if anomalies need to be investigated for potential MEC. VSP will be used to determine the appropriate DGM coverage. Intrusive Investigations: Anomalies identified in the land and water geophysical survey investigations and analog surveys will be investigated to determine the nature and extent of MEC in the subsurface. Environmental Sampling: MC samples (soil, sediment, and potentially groundwater) will be collected based on historical environmental sampling and the findings of the MEC investigation (land and New River, Area A) findings to assess the nature and extent of MC at the MRS and Area A.

Table 2-1 Data Quality Objectives (Continued)

DQO Element	Data Quality Objective (DQO) Activity Description
3. Identify Information Inputs	Additional data collection will be performed based on the results from previous studies, including the SI and historical photograph analysis. These previous studies were used to develop the CSM and to focus MEC and MC characterization during the development of the Uniform Federal Policy – Quality Assurance Project Plan (UFP-QAPP). Specifics include: Updated CSM based on previous studies: RFI objectives, site histories/uses, site boundaries, types/quantities of MEC, MEC distribution, MEC incident reports, topography/ geology/vegetation, future use/receptors/exposure/access. EM31-MK2 (land) and G-858 (water) survey results, including: Areas covered; System quality control (QC) test results; Unique anomaly/feature identification numbers and locations; EM31-MK2/G-858 survey data maps; and Updated CSM. Dynamic detection survey results, including: Areas covered; System QC test results; Instrument Verification Strip (IVS) results; Background data; Surveyed validation seed and QC seed locations and types; Unique anomaly identification numbers and locations; Site-specific munitions library; Classification of anomalies with confidence metric; Dynamic survey data validation report; Dynamic survey data usability evaluation; and Updated CSM. Cued survey results, including: System QC results; IVS results; Background data; Surveyed validation seed and QC seed locations and types; Unique anomaly identification numbers and locations; Site-specific munitions library; Classification of anomalies with confidence metric; Cued survey data validation report; Cued survey data usability evaluation; and Updated CSM. Intrusive Investigation results (land-based and dive work), including: Excavation results (database); Photos; Disposal records; Stop-Dig Threshold verification;

Table 2-1 Data Quality Objectives (Continued)

DQO Element	Data Quality Objective (DQO) Activity Description
	Comparison of excavated "classification validation targets" to predictions; Final data usability evaluation; and Final CSM. MC sampling results, including: Collection of soil samples at the MRS based on the SI results and results of DGM/AGC and intrusive investigations (land-based and dive work) to assess the nature and extent of contamination. Collection of soil samples from within DU1, which was located at the Former Gun Range to assess extent of lead in soil. Lead was detected in DU1 during the SI field investigations. Collection of sediment samples at drainage ditches, if present, near DU1 within the MRS and Area A if MC can be transported from the MRS through drainage ditches to Area A based on initial analytical results from the drainage ditches and from within the MRS and Area A based on results of MEC investigations (land-based and underwater work) where potential MC releases from corroded or damaged MEC could have occurred. Collection of groundwater samples, if warranted, at the MRS based on the MC soil results. Collection of background sediment samples upstream of Area A to be used to evaluate RFI Area A sediment samples exceeding project screening levels. Soil and drainage swale data will be compared to the existing RFAAP background dataset, so collection of background soil samples is not required.
4. Define the Boundaries of the Study	The MRS is approximately 115 acres; however, much of the MRS has been extensively developed. The Active Production Facility (approximately 50 acres) and Active Test Range (8 acres) are considered inaccessible areas and are excluded from the planned field investigation area. The accessible area of the MRS that will be included in the RFI characterization is 57 acres, located in the southwestern and northeastern portions of the MRS. The DGM/AGC surveys, analog surveys, intrusive investigation results, and MC sampling results collected within representative portions of this area will be used to assess MEC hazards and risk to human health and the environment associated with MC. Area A, which is a portion of New River to be included in the RFI characterization, is 31 acres and is located southeast of the MRS. The vertical depth boundary for the MRS will be constrained for the detection depth of the DGM and AGC instrumentation. The geophysical detection threshold for Former Trench Mortar Range Area will be demonstrated against the 60mm projectile because it is the most difficult item to detect that is anticipated based on the historical records and previous investigations. The geophysical detection threshold for the Former Gun Range will be demonstrated against the 100-pound shell. All detection thresholds will be set above five times the root mean square (5xRMS) background noise to ensure adequate signal to noise ratio. The vertical depth boundary within Area A sediment will be constrained by the depth that divers can effectively investigate anomalies detected in the sediments (i.e., approximately 1 ft). The target population for MC characterization consists of the analytical samples collected at biased soil, sediment, and groundwater (if warranted) locations. Details for each sample are presented as follows: The location of the elevated lead during the SI (i.e., DU1) will be mapped into a 30-square foot grid, and discrete samples will be collected in 6-inch increments from the grid nodes. If elevated lead is observed above risk screening criteria, additional subsurface soil samples will be collected to vertically delineate the extent of contamination.

Table 2-1 Data Quality Objectives (Continued)

DQO Element	Data Quality Objective (DQO) Activity Description
	Areas where an MC release is suspected in soil as a result of observing high densities of corroded or damaged MEC/MPPEH during RFI geophysical and intrusive investigations will be assessed for MC. If individual suspected MEC/MPPEH items are observed to be damaged or leaking, each item will warrant discrete grab soil sampling from the 6 inches of soil directly below the item. Additional samples will be collected vertically and from locations where MC is identified above screening levels in the initial samples. Only samples collected from 0 to 2 ft bgs will be used to assess ecological risk. Human health risk will be assessed using all samples collected during the RFI, regardless of depth. For surficial sediment sampling of MRS drainage areas and within Area A, each sampling type (drainage ditch, New River) will be evaluated separately. For subsurface sediment sampling of MRS drainage areas and within Area A, discrete sampling will be conducted below the locations where exceedances of screening criteria in the surface sample were observed until the vertical extent of contamination is delineated. Groundwater sampling is not anticipated so details for the sampling were not developed. Should groundwater sampling be required based on the results of the subsurface soil sampling, a separate groundwater sampling memorandum will be prepared to document the number, type, and location of samples to be collected. MEC/MPPEH or MC characterization may extend beyond the boundaries of the investigation areas if results indicate that hazards extend beyond the current MRS or Area A boundaries based on the new RFI data collected. Samples required to establish background levels (if needed for risk assessment) would be collected outside the MRS boundary and upstream of Area A to assess media that has not been impacted by historical use of munitions at the MRS and is thus representative of local background conditions.
5. Develop the Project Data Collection and Analysis Approach	If MEC is not present in the Former Trench Mortar Range Area, the Former Gun Range, or Area A, then that portion of the investigation area will be identified as not having an explosive hazard. If MEC is present, then the extent of contamination will be determined and a MEC risk assessment will be performed using USACE Risk Management Methodology. Where lead concentrations were identified above project screening levels during the previous SI, additional sampling in the form of X-ray fluorescence (XRF) screening and off-site laboratory definite confirmation sampling is warranted to define the nature and extent of contamination. If lead is noted at concentrations greater than the project action levels (PALs) at the perimeter grid nodes for the DU1 grid sampling program, then additional step-out lead sampling and analysis is warranted to define the extent of lead contamination. If lead is identified above project screening levels and background in any of the samples collected from DU1 at the Former Gun Range, the area will be confirmed to be contaminated. Grid nodes with lead below project screening levels and background will be confirmed to be non-contaminated. If the source of the lead contamination identified during the SI at DU1 is not detected, then it will be assumed that the contamination is due to former gun range-related activities. If another source for the lead is identified during field activities, then it will be evaluated to determine which cleanup program will be appropriate to manage the contamination moving forward. If MC is suspected in soil as a result of observing corroded or breached munition items during intrusive investigations, then discrete soil sampling will be performed to assess MC (target metal analytes and explosives compounds). If MC is detected above project screening levels and background (metals only) in surface soils, then the extent of vertical contamination will be determined through discrete sampling.

Table 2-1 Data Quality Objectives (Continued)

DQO Element	Data Quality Objective (DQO) Activity Description
	If drainage ditches are identified adjacent to DU1 that could transport lead from the DU1 Area to other downstream areas within the MRS and potentially into Area A of the New River, then discrete sediment sampling will be conducted within these drainage ditches until the extent of lead above project screening level is fully delineated laterally and vertically. If MC is present in sediment collected from drainage swales, above screening levels and background, as a result of surface water runoff and erosion transporting MC outside the MRS toward and in the New River (Area A), then the extent of contamination will be delineated within these swales and Area A. If MC is suspected in sediment in the MRS or Area A as a result of observing corroded or breached munition items during intrusive investigations (land-based and dive work), then discrete soil sampling will be performed to assess MC (target metal analytes and explosives compounds). If MC is detected at concentrations greater than the PALs in soil or sediment, then risk assessments will be conducted to determine whether unacceptable risk to receptors is posed by contaminants and to determine whether future response actions need to be considered. Based on the historical use of the MRS, SI analytical results, and depth to groundwater (greater than 80 ft bgs), impacts to groundwater are not anticipated; therefore, no groundwater sampling is planned. However, if analytical data detect subsurface soil at significant levels above RSLs that could impact groundwater quality, then groundwater assessment will be evaluated. If results from soil sampling indicate that soil is not contaminated at levels that could migrate to groundwater, then no investigation of groundwater is required. If EM31-MK2 surveys indicate anomalies that may be indicative of a potential burial trench, then those areas will be considered for intrusive investigations. If G-858 surveys completed in Area A identify subsurface anomalies, then all anomalies will be investigated during follow-on intrusive dive investigations. If anomalies are detected using AGC methods, then results from AGC dynamic and cued surveys will be used to classify anomalies as TOI, non-TOI, or inconclusive. The final product will be a ranked anomaly list ordered from most likely to be TOI to most likely to be non-TOI. TOI and inconclusive results will be placed on the dig list for intrusive investigation. If analog geophysical surveys identified subsurface anomalies, then all anomalies will be investigated as detected during analog geophysical surveys. The project approach involves three primary components: MEC burial pit/trench (EM31-MK2) surveys, AGC dynamic data collection, AGC cued data collection, and analog geophysical surveys. Decision rules for these components are listed as follows: **Foerster FEREX® 4.032 Data Logger (DLG) Magnetometer Surveys of Area A** Parameters of interest: Measurements with a response amplitude, size, and a signal to noise ratio (SNR) as identified in the IVS Report. Type of inference: Measurements meeting the criteria noted above will be considered to be potential targets and will be selected for further evaluation during the intrusive dive survey. Decision rule: IF G-858 response is above the threshold defined in the initial IVS report, THEN it will be selected for evaluation using intrusive dive surveys. **Geonics EM31-MK2™ Survey of MRS Footprint** Parameters of interest: Measurements with a response size, amplitude, and an SNR as identified in the Survey Report. Type of inference: Measurements meeting the criteria noted above will be considered to be potential areas of concern and selected for further evaluation during the intrusive trench survey.

Table 2-1 Data Quality Objectives (Continued)

DQO Element	Data Quality Objective (DQO) Activity Description
	Decision rule: IF EM31-MK2 response is indicative of that determined to identify a potential trench, THEN it will be selected for evaluation using intrusive trench surveys. **AGC Dynamic Detection Surveys** Parameters of interest: Measurements with a response amplitude and an SNR as identified in the IVS Memorandum. Additionally, we will test using an observed data fit value and library match as identified in the IVS memorandum. Type of inference: Measurements meeting the criteria noted above will be considered to be potential TOI and selected as anomalies for further evaluation during the cued survey. Decision rule: IF target thresholds in excess of that determined to identify a TOI as stated in the initial IVS memorandum, THEN it will be selected for evaluation using cued surveys, as documented in the Target Selection Memorandum to be reviewed and approved by the Government. **AGC Cued Data Collection** Parameters of interest: Spatial extent of detected anomaly, cued measurement SNR, inversion fit coherence, and inversion outputs of beta (β)1, β2, β3, x, y, and z. Type of inference: If any of the following criteria are met, the anomaly will be selected as a TOI and added to the dig list for intrusive investigation: The polarizability matches that of an item in the project-specific TOI library; Estimate if an item could be munitions related; There is a group (cluster) of five or more anomalies having similar polarizabilities that, after investigation, are discovered to be TOI; and Anomalies with poor inversion fit coherence that, after considering all available information, cannot be ruled as non-TOI (i.e., the data are inconclusive). Decision rules: IF the cued data quality has been confirmed and any of the following three criteria are met, THEN the anomaly will be selected as a TOI: 1) the polarizability matches that of an item in the project-specific TOI library, 2) estimates of the size, shape, symmetry, and wall thickness calculated from the polarizability, indicates the item is long, cylindrical, and thick-walled; or 3) there is a group (cluster) of five or more anomalies having similar polarizabilities that, after investigation, are discovered to be TOI. Inconclusive anomalies with poor observed data fit that, after considering all available information, cannot be ruled as non-TOI will be added to the TOI list. IF intrusive results do not agree with the source or sources predicted by the AGC data, THEN the UXO Team will be sent back to confirm that no additional sources remain at the predicted location. IF an anomaly is classified as non-TOI, THEN it will not be included on the dig list nor investigated, unless identified as a verification dig. IF dynamic detection data show areas with SNRs that cannot reliably detect TOI or locations that interfere with geophysical detection requirements, such as structures or reinforced concrete, to effectively perform cued surveys and classification, THEN the area will be documented as presented in the final report. IF MEC is recovered, THEN it will be documented, photographed, and disposed of.

Table 2-1 Data Quality Objectives (Continued)

DQO Element	Data Quality Objective (DQO) Activity Description
6. Specify Performance or Acceptance Criteria	Project-specific MPCs are the criteria that collected data must meet to satisfy the DQOs. Failure to achieve the MPCs may have an adverse effect on end uses of the data. Military Munitions Investigation MPCs: Project-specific MPCs are the criteria that collected data must meet to satisfy the DQOs. Failure to achieve the MPCs may have an impact on end uses of the data, which will be discussed in the Data Usability Assessment (DUA) Report. Updates to MPCs may be made based on IVS results and site-specific variations. MC Investigation MPCs: All data will be reviewed and verified to ensure that they are acceptable for the intended use. All data will be validated in accordance with the procedures specified in the DoD Quality Systems Manual (QSM) for Environmental Laboratories and USEPA National Functional Guidelines. Decision errors will be limited to the extent practicable for the USEPA methods and applicable standard operating procedures (SOPs). Specific details regarding MC investigation performance and acceptance criteria during sample collection and analytical data processing are specified in the UFP-QAPP. Any deviations from the UFP-QAPP will be documented.
7. Survey Design and Project Work Flow	Analog geophysical instrumentation will be used in specific areas of the MRS, based on terrain and inaccessibility for use of the AGC methods. Specific locations will be determined after initial DGM and AGC investigations have been completed. All (100%) of all anomalies detected during the analog mag and dig surveys will be investigated to determine the source of the elevated signal. A full-coverage EM31-MK2 survey over the accessible portion of the MRS is planned to detect and define potential pits or trenches. We anticipate 45-acres of accessible survey area based on topographic analysis and the extent of various hardscapes (e.g., structures, parking lots, roadways). Both quadrature and in-phase EM31-MK2 data will be evaluated to identify anomalies requiring further investigation and will be reviewed in the context of MRS features and local background noise/interference conditions. All areas (100%) of elevated responses that cannot be reconciled with existing MRS features will be further investigated to determine the source of anomalies. Intrusive investigations in the form of manual digs will be conducted for single point anomalies identified for specific anomalies identified by the AGC cued surveys. Intrusive investigations in the form of diving operations will be conducted for 100% of anomalies identified by the DGM survey work along transects in Area A. Mechanical trenching/test pitting will be conducted for the areas of concern identified during the topographic fill analysis and the EM31-MK2 survey. The measurement quality objectives (MQOs) for the DGM and AGC surveys will be achieved to ensure equipment is functioning to specification and the surveys are achieving design requirements. All MEC/MPPEH and munitions debris (MD) will be subject to a dual inspection and verification system on-site to identify suspected munitions and any associated hazard, and to determine proper handling and disposal requirements. This process will be completed by two qualified UXO Technicians (Level III) performing independent inspections. MC parameters (i.e., explosives and metals) will be determined based on geophysical and intrusive investigation findings to develop focused analyte/compound lists for MC associated with the types of munitions recovered. Verification and validation of analytical MC data will be performed by a third-party in accordance with DoD QSM and federal guidelines and communicated to the Army prior to data incorporation into data evaluation/risk screening activities to make project decisions.

Table 2-1 Data Quality Objectives (Continued)

DQO Element	Data Quality Objective (DQO) Activity Description
	MC sampling plan design and assessment parameters will be refined based on geophysical and intrusive findings and documented for RFAAP, USACE, Baltimore District (CENAB), and stakeholders in a technical memorandum during RFI execution. Project screening levels will initially be set equivalent to USEPA Regional Screening Levels (RSLs) for direct contact exposure at a target cancer risk of 1E-06, or non-carcinogenic target hazard quotient (THQ) of 0.1, for human health, and based on conservative published ecological benchmarks for point-by-point comparison to MC concentrations observed in each sampling unit assessed. Risk assessment protocols will follow USEPA procedures as appropriate. MC sample results will also be screened against project screening levels discussed above and to Radford AAP background values as established in the Facility Wide Background Study Report. If warranted, based on the presence of corroded or leaking munitions items within Area A from the dive operations, local background sediment samples for MC (metals) will be collected upstream of Area A and assessed to support risk assessment during identification of site-related chemicals of potential concern as those that exceed both screening level criteria and background concentrations.

3. CHARACTERIZATION OF MUNITIONS AND EXPLOSIVES OF CONCERN AND MUNITIONS CONSTITUENTS

This section documents the approaches used to investigate MEC and MC at the Former Gun and Trench Mortar Range MRS in accordance with the DQOs presented in Section 2.2. The MEC and MC characterization activities were conducted in accordance with the Quality Assurance Project Plan (QAPP) (WESTON, 2020). Numerous field investigations were conducted as part of the RFI, including the following:

- Digital geophysical investigations across the MRS and Area A were conducted from July through October 2020.
- Intrusive investigations of the MRS and Area A targets of interest (TOIs) were conducted from November through December 2020 and May through July 2021
- Analog surveys ("mag and dig") were conducted across the MRS from May through July 2021.
- Test pitting was conducted in select locations across the MRS in June 2021.
- MC sampling at DU1 was conducted in August 2021.

Daily quality control reports and field investigation photographs are presented in **Appendices B** and **C**, respectively.

3.1 MUNITIONS AND EXPLOSIVES OF CONCERN CHARACTERIZATION

The following section summarizes the geophysical surveys, anomaly reacquisition, and subsequent intrusive investigation activities that were performed at the MRS. The RFI field activities associated with MEC characterization were conducted in four separate significant events as discussed below:

- **Geophysical Survey Phase 1**: The initial phase of work at the site was initiated on 20 July 2020 and completed on 19 August 2020. Dynamic AGC and EM31-MK2 surveys were initiated on 23 July 2020 and completed on 19 August 2020.
- **Geophysical Survey Phase 2**: RFI field investigations were re-initiated on 21 September 2020 with the performance of AGC cued surveys of grids within the MRS. The AGC cued surveys were completed on 16 October 2020. The DGM survey of Area A was initiated on 9 October 2020 and completed on 15 October 2020.

- **Intrusive Investigation Phase 1**: Initial intrusive investigations were conducted between 16 November and 7 December 2020. Minimal intrusive investigation was conducted in the form of mag and dig of grids that could not be accessed by the AGC instruments during this period. Because of RFAAP safety personnel concerns associated with planned demolition activities, this phase of work was terminated with team demobilization on 7 December 2020. The dive team (WESTON subcontractor AOR International [AOR]) mobilized to the site on 16 November 2020, but river conditions (flow and clarity) were not amenable to dive operations, and AOR demobilized on 19 November 2020.
- **Intrusive Investigation Phase 2:** Mobilization associated with the second phase of intrusive investigations was conducted on 24 May 2021. Mag and dig, test pitting, and AGC TOI investigations were completed on 9 July 2021. Dive operations within Area A were completed from 25 through 27 June 2021. Demolition preparation, implementation, and material documented as safe (MDAS) management was conducted from 12 through 16 July 2021. The team demobilized on 16 July 2021.

The results of the RFI field activities related to MEC characterization are discussed in Section 4, RFI Results while the specific field activities conducted are presented in the following sections.

3.1.1 Site Control

A WESTON UXO Technician II assisted the Virginia-licensed professional land surveyor (PLS) (Thompson & Litton Surveyors) through the performance of site surveying on 8 and 9 July 2020 to install five control points (data are presented in **Table 3-1** below), acquire and mark the MRS investigation boundary, acquire and mark grid corners, and survey blind seed locations. The WESTON UXO Technician II provided MEC avoidance services for the PLS.

Table 3-1 Control Point Data

Control Point ID	Coordinates (NAD 83 UTM Zone 17 North)		Elevation (NAVD 88)
	Easting	Northing	Above Mean Sea Level (ft)
Control Point 2	4114967.145	539114.145	553.037
Control Point 3	4116010.975	539055.548	552.497
Control Point 4	4116445.468	539884.955	555.582
Control Point 5	4116453.851	539911.48	555.617
Control Point 6	4115569.316	539924.369	550.525

Notes:
NAD 83 — North American Datum of 1983
NAVD 88 — North American Vertical Datum of 1988
UTM — Universal Transverse Mercator

3.1.2 Blind Seeding

As part of the blind seeding program, small and medium industry standard objects (ISOs) were placed across the MRS at a frequency of one per grid to monitor detection performance and positional accuracy of geophysical instrumentation. The blind seeding team consisted of a UXO Technician II and the PLS. The team placed the blind seeds prior to conducting the geophysical surveys. The PLS recorded the seed location and the UXO Technician II provided MEC avoidance as well as emplacement of the seeds. Members of the blind seeding team had no further role in the collection, processing, or analysis of the geophysical data. The Quality Control (QC) Geophysicist did not provide the geophysical survey team information regarding the seed locations or types of seeds emplaced.

3.1.3 Site Preparation Activities

WESTON initiated the full geophysical survey team to the MRS on 20 July 2020. Site preparation activities included material and equipment mobilization setup, utility clearance, evaluation of site conditions, on-site training, review, and signature on RFAAP work permits, and instrument verification strip (IVS) setup. As part of site preparation, the WESTON field team relocated large pieces of surface metal and other debris away from the planned survey areas.

3.1.4 Vegetation Clearance Activities

Brush clearing was conducted as part of the initial geophysical investigations to remove vegetation to allow for comprehensive AGC dynamic and EM31-MK2 data collection. During the DGM surveys, the WESTON field team used hand tools and a brush cutter to provide clearance at the IVS area, select grids for the AGC surveys, and for transects for the EM31-MK2 survey. All cut vegetation was left in place within the MRS. The vegetation clearance team was escorted by a UXO Technician for MEC avoidance.

3.1.5 Geophysical Survey Activities

3.1.5.1 DGM Surveys

DGM survey coverage involved a Geonics EM31-MK2™ Ground Conductivity Meter (28.79 acres) and Foerster FEREX® 4.032 Data Logger (DLG) (2.9 acres). The geophysical investigations employed the use of global positioning systems (GPSs) in open areas and where

canopy cover was low to moderate. Line and fiducial methods were used in the wooded areas or where dense canopy cover prevented adequate GPS surveying.

3.1.5.1.1 Geonics EM31-MK2™ Ground Conductivity Meter Survey

The Geonics EM31-MK2™ Ground Conductivity Meter surveys were performed over all accessible areas, approximately 10.94 acres of the Former Trench Mortar Range and 17.86 acres of the Former Gun Range. Because of the presence of extensive structures, equipment and material storage areas, and metallic debris on the surface, not all areas could be surveyed. The EM31-MK2 survey transects are shown on **Figures 3-1** and **3-2**. EM31-MK2 operations were performed in accordance with the U.S. Army Corps of Engineers (USACE) Performance Requirements for Removal Actions using DGM Methods as presented in Engineer Manual (EM) 200-1-15 (USACE, 2015).

A real-time kinematic (RTK) GPS (i.e., Trimble® R10 Global Navigation Satellite System [GNSS]) (GCO-SOP-31) was integrated with the EM31-MK2 for accurate data positioning. The precise position of each EM31-MK2 measurement was calculated by translating the GPS antenna location to the sensor location during collection.

Data were collected at a line spacing of approximately 10 ft to locate burial features and to provide the data density necessary for detection of suspected on-site burial trenches. The data were collected at the speed demonstrated at the IVS to ensure that along-line spacing between data points is less than 0.25 meters (m). Line spacing was maintained by placing visual markers for the technician to follow or by use of navigation display system on the data logging system.

Dynamic EM31-MK2 data were stored by the supplied data acquisition system on a hard disk and downloaded to the field processing computer via portable digital media (e.g., thumb drives). The dynamic EM31-MK2 data were processed as described in GEO-SOP-5. The Data Analyst assessed the data to identify any areas where instrument responses are indicative of subsurface disturbances or possible burial trenches. Areas determined to contain potential burial trenches were considered for intrusive trench investigations.

3.1.5.1.2 Foerster FEREX® 4.032 DLG Survey of Area A (NEW RIVER)

Approximately 2.9 acres (9.35%) of Area A required investigation to achieve a 95% confidence level that densities are less than 1.0 MEC per acre. DGM data were collected over parallel transects in Area A MRS with a bias toward the northern shoreline, as shown in **Figure 3-3**. These transects are slightly different than the planned transects shown on **Figure 3-4** because the northern shoreline was lined with vegetation and fallen trees and had greater water depths. This interfered with planned transect coverage; therefore, a meandering transect approach was used near the shoreline to collect data where physically possible.

The Foerster FEREX® 4.032 DLG coupled with a differential global positioning system (DGPS) (i.e., Trimble Pathfinder® Pro X-Ray Spectrometer [XRS]) for survey grade positioning was used. This setup provided the greatest detection range for the items of interest in New River. A small Jon boat with a gas trolling motor was used to complete the DGM survey in Area A of New River. The survey approach used a vessel mounted magnetometer rather than a towed sensor to maintain better control of the sensor and a higher level of safety while navigating around obstacles close to the shoreline. This configuration also allowed for more accurate positioning and depth positioning when moving through water. The Foerster FEREX® 4.032 DLG was also mounted on the front of the vessel, offset to minimize interference from the vessel and motor.

Sensor-boat/motor offset testing was conducted at the site prior to finalizing the survey platform configuration. FEREX sensor was encased in polyvinyl chloride (PVC) to protect the sensors while surveying below water level. The GPS antenna was fixed vertically above to the boat and sensor offsets will be measured and accounted for during DGM surveys. Data acquisition took place at a speed of approximately 2 knots and was adjusted to meet measurement quality objectives (MQOs). WESTON used the RFAAP boat ramp located on the south side of New River for launching all boats used for the field work (DGM and dive work) within Area A.

Foerster FEREX® 4.032 DLG DGM transect survey operations were performed in accordance with the USACE Performance Requirements for Removal Actions using Digital Methods in EM 200-1-15 and data item description (DID) MMRP-009-004 for Geophysics.

3.1.5.2 AGC Surveys

3.1.5.2.1 Dynamic Survey

Data Acquisition

Geometrics MM2x2 dynamic surveys were performed over all accessible grassy areas in the Former Gun and Trench Mortar Range MRS covering approximately 5.74 acres across 25 grids (10 grids in the Former Trench Mortar Range area and 15 in the Former Gun Range area). **Figure 3-4** presents the initially planned 31 grids for the AGC surveys as included in the QAPP; however, due to steep slopes and inaccessible areas (presence of structures or equipment storage areas), the following revisions were made:

- Trench Mortar Range (original plan called for AGC survey of 13 grids [TM-1 through TM-13]):
  - One grid (TM-1) was relocated due to a steep slope from northern part of the Former Trench Mortar Range to a location near the inaccessible area of the MRS.
  - Four grids (TM-2, TM-3, TM-4, and TM-6) were surveyed using analog methods (mag and dig) instead of AGC methods because barriers (piping at TM-2, TM-3, and TM-6) and building structure at TM-4) on the surface prevented AGC methods.
  - Six grids (TM-5, TM-7, TM-10, TM-11, TM-12, and TM-13) were surveyed as planned.
  - Two grids (TM-8 and TM-9) were not surveyed by any means because of the steepness of the slope towards New River, which created an unsafe environment.
  - Three larger grids (TM-14, TM-15, and TM-16) were added to the survey plan so that sufficient AGC data could be collected to meet coverage requirements.
- Gun Range Area (original plan called for AGC survey of 18 grids [GR-1 through GR-18]):
  - The locations of many of the original 18 grids were moved because of the presence of steep slopes, structures, and woodlands.
  - Fifteen grids surveyed as planned.
  - Three grids (GR-6, GR-7, and GR-12) were surveyed using analog methods (mag and dig) instead of AGC methods because barriers (heavy wooded area with fallen trees) on the surface prevented AGC methods.

For those grids relocated as presented above, alternative locations were selected that were as close to the original locations as possible that did not have surface barriers/building that would prevent survey. These locations were selected for the reasons above while the original grid locations were not selected on base but were randomly selected during the VSP process; therefore, the relocation of grids did not impact DQOs as location was not part of the process. Objectives for grids were primarily focused on acreage and not location based on historical observation of munitions. Final AGC survey acreage was approximately 8.2 acres, which was greater coverage than the 7.75 acres associated with the originally planned 31 grids; therefore, this specific DQO was met even with the relocation of the grids.

Figures 3-1 and **3-2** present the grids where MM2x2 dynamic data collection was performed in accordance with the relevant WESTON standard operating procedures (SOPs). Data were collected at a line spacing of 0.5 m (approximately 20 inches) to ensure 100% coverage of the area and detection of the smallest TOI to the project clearance depth. The data were collected at walking speeds that were demonstrated at the IVS to ensure that along-line spacing between data points was less than 0.25 m (approximately 10 inches). Line spacing was maintained by use of navigation display system on the data logging system and by placing visual markers for the technician to follow.

Data Processing

Data were processed by a WESTON AGC data analyst using Geosoft – Seequent UX-Analyze software, version 9.6, in accordance with GCO-SOP-30, Processing Dynamic Surveys with MM2X2 and GCO-SOP-20, Processing Cued Data. The data were processed using the general procedures listed below:

- Sensor Function Test Inspection
- Static Background Validation
- Dynamic IVS Processing
- Static IVS Processing

Anomaly Selection

Based on the testing results of the IVS for MM2x2 in dynamic mode, it was demonstrated that the equipment and methodologies used on-site were able to detect TOI to their anticipated depth. Each grid used background validation procedures and classification thresholds to detect the

smallest TOI at its anticipated depth. A dig threshold of 5 times the root mean square (5xRMS) of background noise was used for each grid target selection. Based on the initial IVS data, 5xRMS would provide a threshold of 0.279 millivolts per ampere (mV/A). This threshold confidently detects a 60mm mortar to a depth of 60 centimeters (cm) bgs.

Data Management

MM2x2 data were managed using Geosoft® Oasis montaj – Seequent software and Microsoft Excel. Data were provided electronically to the USACE Geophysicist via Oasis database and map formats with all MQO tracking data provided in Excel spreadsheets. Data were backed up on an internal network and project workstation. All dynamic and QC data are provided in **Appendix D**.

Dynamic and Cued Data Quality Control

Data processing QC metrics were tracked throughout the duration of the project. The QC Geophysicist reviewed the QC instrument function tests to ensure all MQOs were met. **Table 3-2** presents the results and metrics established for the project. Details of the QC metrics and daily results are located in the Excel spreadsheets (**Appendix D**).

Table 3-2 MQO Results

Requirements	Applicability	Performance Standard	Status
Sensor Function Test	Instrument standardization. Includes static background and static spike tests.	The results are within 20% of the reference values for the serialized test item and instrument configuration.	Pass
In-line measurement spacing	Dynamic IVS survey	98% less than or equal to 0.25 m between successive measurements.	Pass
Initial detection survey positioning accuracy (IVS)	Dynamic IVS survey	Derived positions of IVS target(s) are within 25 cm of the ground truth locations.	Pass
Sensor TX Current (Dynamic)	All dynamic data	Current must be greater than or equal to 3.5 amps.	Pass
Confirm all background measurements are valid	IVS background location	Ensure background variation does not impact ability to classify correctly	Pass
Initial IVS background measurement validation	IVS background location	All five measurements (decay amplitude) within the noise level of each other and library match from all four offset measurements greater than 0.9.	Pass
Initial derived polarizabilities accuracy (IVS)	Cued IVS survey	Library Match metric greater than or equal to 0.9 for each set of inverted polarizabilities.	Pass

Table 3-2 MQO Results (Continued)

Requirements	Applicability	Performance Standard	Status
Derived target position accuracy (IVS)	Cued IVS survey	All IVS items fit locations within 0.25 m of ground truth locations.	Pass
Transmit current levels (MM2x2)	All cued data	Current must be greater than or equal to 5.5 amps.	Pass
Valid position data	Per measurement	GPS status flag indicates RTK fix and dilution of precision less than 4.0.	Pass
Confirm reacquisition GPS precision	Performed daily	Benchmark positions repeatable to within 10 cm.	Pass

Validation of the dynamic data was performed through comparison of the data to the MQOs specified in Worksheet #22 and as described in Worksheet #35 of the QAPP (WESTON, 2020). A list of anomalies was prepared and delivered to the project delivery team following completion of the target selection, and it was concluded that the dynamic detection survey results can be used as intended and that the work was performed in accordance with the QAPP.

3.1.5.2.2 Cued Survey

The MM2x2 cued survey was conducted between 21 September and 16 October 2020 at the Former Gun and Trench Mortar Range MRS.

Each of the anomaly locations selected during the dynamic (MM2x2) survey were reacquired directly using the MM2x2 system with selected navigation according to GCO-SOP-19 (Appendix G of the QAPP [WESTON, 2020]). The center of the transmitter had to be less than 40 cm from the modeled or actual item location for the cued survey to be accurate. An infield inversion was used to confirm the offset, which was checked by the field team lead. An FCR was present for all cued survey activities.

Single-target and multi-target inversion routines in Geosoft – Seequent UX-Analyze software were used to determine the parameters of a target (single-target inversion) or constellations of targets (multi-target inversion), which would produce responses that closely match the observed responses. These parameters included extrinsic parameters (location and orientation) as well as the intrinsic parameters related to the object size, shape, and composition. These intrinsic parameters

were the principal axis polarizabilities, otherwise known as betas (βs), and were the parameters used for classification.

The single-target inversion solved for a single-target and the multi-target inversion posited multiple targets. The multi-source solver not only estimated the parameters for multiple source objects but also produced a number of candidate "realizations" of target combinations. Each candidate realization proposed a configuration of targets whose combined modeled response reasonably fit the observed data. For example, one candidate realization may have had three targets, whereas a second candidate realization for the same measurement may have had two, three, or four targets. This process reflected the fact that, with an unknown number of potential targets of different sizes and shapes, a number of different model combinations could closely match the observed data. A separate fit coherence value was derived for each candidate realization, as well as for the single solver.

Background locations for the cued survey were selected based on the dynamic AGC survey results. Background locations were selected to meet the requirements described in GCO-SOP-18, Collection of Static Background Measurements (Appendix G of the QAPP [WESTON, 2020]). Each background location selected was validated by collecting five cued advanced EMI sensor points at the selected location and offset approximately 0.4 m in four perpendicular directions from the selected location. If comparison of the decays for any of the five cued data points indicated the presence of metallic objects, that location was either cleared and rechecked or was not used for background data collection during the cued survey.

Cued data acquisition was performed in accordance with GCO-SOP-19, Collection of Cued Target Measurements (Appendix G of the QAPP [WESTON, 2020]), and did not commence until after the cued target list had been reviewed and approved by the project team. Any anomalies added to the cued target list based on the project team's review of the Target Selection Memorandum, the data validation results, and the data anomaly list were collected before the cued data collection team demobilized from the site.

Cued target data were processed using UX-Analyze-Advanced software in accordance with GCO-SOP-20, Processing of Cued Target Data (Appendix G of the QAPP [WESTON, 2020]).

After the cued data were downloaded from the data acquisition computer, the Data Analyst reviewed the dataset to validate that it met the MQOs listed on Worksheet #22, which included the following:

- Instrument function test;
- IVS-derived polarizabilities;
- IVS-derived positions;
- GPS quality;
- Offset from selected to measured position;
- Production area background measurements;
- Transmit current levels;
- Offset between multiple sensors; and
- Valid inertial measurement unit function.

The results of these checks were summarized in the project QC plots and spreadsheets generated during the UX-Analyze processing (**Appendix E**).

Classification

Objective, numeric criteria were used to classify the anomalies. These criteria were used to create a prioritized list with high-likelihood TOIs placed at the top of the dig list (just after digs classified as "training data" and "can't analyze") and high-likelihood non-TOIs placed at the bottom. The primary method for classification was library matching, supplemented by cluster analysis and feature space analysis as described in the following subsections.

Site Specific Library

A site-specific library of βs was used for candidate munitions items, including all the items identified as TOIs in **Table 3-3**. A qualified UXO Technician confirmed the entries in existing libraries as representative of the anticipated TOI (i.e., the same caliber, model, and configuration).

Table 3-3 TOI Project Library

Type
100-lb bomb
4.2-inch mortar
60mm mortar
60mm illumination mortar
81mm mortar
81mm illumination mortar
81mm projectile
Large ISO 40
Large ISO 80
Medium ISO 40
Medium ISO 80
Small ISO 40
Small ISO 80

Notes:
lb — pound(s)

Library Matching

The classifier was based primarily on the confidence metric generated by UX-Analyze during a comparison of the β values estimated for each surveyed target and the β values in the munitions library developed for the project. The confidence metric indicated the fit correlation between a target and the best fit item in the library, with higher metrics indicating a better fit between the target and the corresponding item in the library.

The library fit analysis matched the following four combinations of βs to those of the candidate library TOIs:

- β1, β1/β2, β1/β3
- β1, β1/β2
- β1/β2, β1/β3
- β1

This library matching process was performed for each single-solver model and every target model in each of the multi-solver candidate realizations. For each flag position, the best library fit from

the single-solver and multi-solver targets were used to derive a decision metric. This decision metric was used to rank the target list in descending order of likelihood of being a TOI. The list was divided into TOI (dig) and non-TOI (no-dig) based upon the threshold. This threshold was the decision metric threshold, below which all items were classified as non-TOI.

Objects were classified into one of the following three categories:

- Category 1: TOI (highly likely to be MEC)
- Category 2: Non-TOI (highly unlikely to be MEC)
- Category 3: Inconclusive (data cannot be analyzed)

Objects were placed on a ranked anomaly list, arranged in order from highest likelihood that the object is a TOI to highest likelihood that the object is a non-TOI. A stop-dig threshold between TOI and non-TOI (i.e., the last TOI on the dig list) was defined by the Data Analyst. Prior to acceptance, USACE reviewed the classification results with regard to the validation seeds and other pertinent validation data. Changes could be made to the classifier used and the dig list, as necessary, prior to acceptance.

Cluster Analysis/Feature Space Analysis

To detect instances of potential TOI that were found throughout the MRS but not included in the library, the Data Analyst performed a cluster analysis. This analysis involved identifying groups of anomalies that have similar β signatures. The Data Analyst selected representative samples of these clusters to be intrusively investigated as part of the set of calibration digs. If the intrusive investigation identified a hazardous item, these signatures were placed in the library, and the matching process was repeated to ensure that all similar items were classified as TOIs.

The Data Analyst also performed a feature space analysis to identify individual items that did not match any library items but had βs that indicated a large, axially symmetric, thick-walled object. These items were investigated as part of calibration dig program and added to the library if they were identified as TOIs.

Cued Results

At the conclusion of cued survey, all QC seeds were classified as TOI. The QC Geophysicist reviewed the QC instrument function tests to ensure all MQOs were met. **Table 3-2** summaries

the MQOs from Worksheet #22. Details of the QC metrics are located in the MQO tracking spreadsheet (**Appendix D**).

Validation of the cued data was performed through comparison of the data to the MQOs specified in Worksheet #22 and as described in Worksheet #35 of the AGC-QAPP (WESTON, 2020). The final dig list was prepared and delivered to the project team following completion of the classification (**Appendix D**).

3.1.5.3 Analog Surveys

In grids where AGC was not conducted because of surface barriers/debris and topography, analog "mag and dig" surveys using Schonstedt® magnetometers were conducted over four grids in the Former Trench Mortar Range and three grids in the Former Gun Range to identify anomalies for intrusive investigation. The grids are presented in **Figures 3-1** and **3-2**.

3.1.5.4 Instrumentation

A variety of analog and digital geophysical instrumentation were applied to achieve comprehensive characterization of MPPEH and munitions debris (MD) in the subsurface for the geophysical investigations, as described below:

- Analog Surveys: For the analog mag and dig surveys of grids, the UXO teams used the Schonstedt 52cx.
- DGM Surveys: The geophysical survey team used the Geonics EM31-MK2™ Ground Conductivity Meter in gurney mode integrated with a Trimble R10 GNSS (RTK GPS) receiver for navigation. To conduct the DGM survey in Area A (New River), a Foerster FEREX® 4.032 DLG, which was mounted on a Jon boat and coupled with a Trimble Pathfinder Pro XRS (DGPS), was used to effectively survey underwater areas and locate high amplitude anomalies. Full coverage DGM was performed using the EM31-MK2 integrated with the DGPS or RTK GPS.
- AGC Surveys: The geophysical survey team used the MM2x2 in dynamic mode to detect prospective TOI, followed by cued survey over identified anomaly locations resulting from dynamic methods.

3.1.5.4.1 Schonstedt 52cx Magnetic Locator

Schonstedt 52cx instruments were used to determine the location and extent of any surface material that might include MPPEH, MEC, MD, or cultural debris in grids that were inaccessible by the MM2x2 or where canopy cover prevented adequate RTK GPS coverage. Schonstedt magnetic

locators detect ferrous metal materials. Schonstedts are handheld units with an audible alarm that detects changes in the Earth's ambient magnetic field caused by ferrous metal. The technology uses two fluxgate sensors mounted at a fixed distance apart and aligned in gradiometer configuration to eliminate a response to the Earth's ambient field. The magnetic locators generate an audio output and a meter deflection when either of the two sensors is exposed to a disturbance in the Earth's ambient field associated with a ferrous target and/or the presence of a permanent field associated with a ferrous target.

3.1.5.4.2 Geonics EM31-MK2™ Ground Conductivity Meter

The Geonics EM31-MK2™ Ground Conductivity Meter was used to perform DGM transects in all accessible areas of the Former Gun and Trench Mortar Range MRS. The EM31-MK2 Ground Conductivity Meter is battery powered and operates at a frequency of 9.8 kilohertz (kHz). This system consists of a transmitting coil (primary field source), receiving coil (sensor), phase-sensing circuits, and an amplifier. A fixed 12.1-ft intercoil spacing is standard for the EM31-MK2. The instrument measures apparent conductivity in units of millisiemens per meter (mS/m) in materials with conductivity ranging up to 1,000 mS/m and, in units of parts per thousand (ppt) for the in-phase component, ranging up to 24.48 ppt.

Both quadrature (apparent conductivity) and in-phase (metal detection) components of the electromagnetic signal were collected in the vertical dipole mode. The quadrature component is sensitive to conductors with low induction numbers (i.e., low conductivity materials). The in-phase measurements (relative conductivity values) have a greater sensitivity to buried metal objects. The effective depth of penetration is approximately 18 ft bgs, measured from the center point of the transmitter/receiver coils.

3.1.5.4.3 Real-Time Kinematic Global Positioning System

An RTK GPS (Trimble R10 GNSS) was used to position the data during the DGM surveys. The Trimble R10 GNSS is an integrated parallel channel GPS receiver with a built-in, radio-modem communication system. A designated base station broadcasts RTK corrections to the rover unit being used by the field crew. Positional data in the National Marine Electronics Association (NMEA) GPS Fix Data (GGA) format were output to the logging computer at 1-second intervals

using a serial cable. The GPS antenna was placed on a tripod directly above the bottom coil center for accurate location of data.

In addition to providing positioning data for the geophysical sensor measurements, the RTK GPS was used for reacquiring DGM anomalies. Coordinates for each interpreted DGM anomaly identified for intrusive investigation was uploaded to the RTK GPS rover and the "stakeout" mode of operations was used to reacquire each location. The RTK GPS is capable of providing centimeter-scale positional accuracy while in motion. Site control monuments established by a Virginia-licensed PLS were used to accurately locate the RTK GPS base station geospatially at the site. Coordinates are reported in World Geodetic System 1984 (WGS84), Universal Transverse Mercator (UTM) Zone 17N and horizontal precision was within approximately 1 cm. Elevations were referenced to the North American Vertical Datum of 1988 (NAVD 88) Adjustment. The RTK GPS base station control points were established by the surveyors across the entire length of the site. The base station was set up on the control points to provide differentially corrected data to the rover unit mounted above the center points of the DGM and AGC instrumentation within centimeter-scale positional accuracy.

3.1.5.4.4 Instrument Quality Control

QC function checks were performed in accordance with the instrument operating manuals and standard industry practices. Static background, static spike, and vibration/cable connection tests were performed daily before and after surveying for the Geonics EM31-MK2™ Ground Conductivity Meter and the Foerster FEREX® 4.032 DLG. These tests were performed in accordance with the EM 1110-1-4009 (USACE, 2007) and the most recent version of the Performance Requirements for Geophysical Instrumentation (USACE, 2009) for the 2011 geophysical surveys and with EM 200-1-15 for the 2015 surveys to determine whether the equipment was functioning properly throughout the day. The Geonics EM31-MK2™ and Foerster FEREX® 4.032 DLG checks were performed at a designated QC area. The results for all function tests performed during the DGM surveys are presented in **Appendix E**. The EM31-MK2 pre-operation settings (zero compensation and phasing) were adjusted daily in accordance with the manufacturer's instructions and instrument manual. Prior to EM31-MK2 surveying, a response

check was performed over a large metallic object to ensure that the instrument was operating properly.

The static background test consisted of collecting data with the Foerster FEREX® 4.032 DLG for a period of 3 minutes at a location that did not have obvious interferences (e.g., power lines) that would induce noise into the data. The static test enabled the operator to see if any fluctuations were occurring in the data.

Static spike tests of the Foerster FEREX® 4.032 DLG was performed using a small ISO, set below the sensor. Data were collected for a period of 3 minutes, enabling the operator to monitor real-time fluctuations in the data.

The vibration/cable test was performed to measure any effect of moving the cables during data collection. The cable test was performed for a period of 1 minute and allowed the operator to verify that all connections were in good condition and were operating as designed.

Repeat lines were collected with the FEREX® DLG to verify the repeatability of results. Repeat lines were collected on the IVS twice daily. The repeat lines are displayed as graphical outputs of sensor response amplitude and sample location. The acceptable limits for these tests were a repeatability of response amplitude ±20% and a positional accuracy of 20 cm or less, plus half-line spacing. Results for repeatability of response amplitude and positional accuracy were within these metrics.

Statistical evaluation of the static background, static spike, and cable connection tests indicates acceptable noise levels. Acceptable noise levels are defined as variability from the mean noise reading of less than 3 standard deviations in magnitude for the Geonics EM31-MK2™ and Foerster FEREX® 4.032 DLG. Instrument function tests were within acceptable values with respect to established metrics.

3.1.5.5 Geophysical System Verification

A geophysical system verification (GSV) program was used to monitor and verify DGM equipment functionality during the geophysical mapping activities of the MRS. The GSV is a

USACE-accepted alternative to the traditional geophysical prove-outs (GPOs), which capitalizes on the known performance of the geophysical sensors (Naval Research Laboratory [NRL], 2009).

3.1.5.5.1 Instrument Verification Strip

As part of the GSV approach, an IVS was installed in the northern portion of RFAAP – Former Gun Range. During the IVS installation process, an analog background survey was conducted using a Schonstedt magnetometer on 22 July 2020 to ensure that the area was free of metallic debris and suitable for an IVS location. Prior to seed placement, a 3-ft radius was cleared using the Schonstedt to ensure that no surface or subsurface metal was present.

The location of the IVS was chosen based on its accessibility, proximity to the survey areas, and similarity in terrain and geology to the surrounding production environment. The IVS was seeded with surrogate ISOs and target MEC-sized items. The seeds consisted of one small ISO (80 gauge) (ISO80), labeled as IVS-01 and two medium ISO80s labeled as IVS-03 and IVS-04. A background location was selected within the IVS line, identified as IVS-02, and was validated in accordance with GCO-SOP-18, Collecting Static Background Measurements. All seeds were positioned and documented in accordance with GCO-SOP-12, Advanced Classification IVS. A photo log of the IVS seed items and initial QC documentation are presented in **Appendix E**.

Table 3-4 tabulates the coordinates, description, location, orientation, and depth bgs for items emplaced in the IVS.

Table 3-4 Instrument Verification Strip Design

ID	Northing (m)	Easting (m)	Description	Orientation	Depth (m)
IVS-01	4115969.83	539018.52	Small ISO80	Horizontal	0.2
IVS-BG	4115972.80	539017.92	Background	NA	NA
IVS-03	4115975.73	539017.29	Medium ISO80	Vertical	0.3
IVS-04	4115978.63	539016.66	Medium ISO80	Horizontal	0.3

Notes:
*Coordinate System in WGS84, UTM Zone 17N, meters (m)
NA — not applicable

The IVS was surveyed twice daily, before and after AGC data collection. The results of the IVS were plotted on individual maps, and response curves were developed for each seed type. Seed responses that plotted above the predicted minimum response curve indicated reliable detection.

The results of the IVS are presented in both before and after plots, and response curves are provided in **Appendix E**, along with the tracking sheet. The tracking sheets provide the response results as well as the seed offsets between the detected locations to the surveyed locations. Offsets were within the 1-meter (m) metric.

3.1.5.5.2 Blind Seeding

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As part of the GSV seeding program, blind QC seeds were installed within each AGC area. The seeds were similar to those seeded within the IVS (small and medium ISOs with a 1-inch diameter by 4-inch length for small ISO, and 2-inch diameter by 8-inch length for medium ISO) installed by UXO-trained personnel between 7 to 29 cm bgs using anomaly avoidance techniques. The seed locations were not disclosed to the data collection team. The purpose of the seed program was to provide ongoing monitoring of the quality of the geophysical data collection and target selection process as they relate to the production survey throughout the MRS.

A total of 24 seeds was placed within the Former Gun and Trench Mortar Range MRS to monitor and verify detection capabilities of the geophysical instrumentation. **Table 3-5** present the results from the seeding program for the MM2x2. The table lists seed location, offsets, and anomaly target ID. A total of 24 QC seeds was successfully detected in areas surveyed.

Table 3-5 MM2x2 2020 GSV Seeding Results

Grid	Target ID	Seed Location		Target Location		Position Offset (m)	Predicted Depth (cm)	Depth (cm)	Depth Offset (cm)
		X	Y	X	Y				
GR01	GR01-2	538972.06	4115962.42	538972.02	4115962.38	0.06	16.62	16.00	0.62
GR02	GR02-6	538917.82	4115937.45	538917.80	4115937.42	0.03	10.00	12.00	2.00
GR03	GR03-2	539005.01	4115914.49	539004.99	4115914.49	0.02	22.38	22.00	0.38
GR04	GR04-2	539035.14	4115942.93	539035.21	4115942.92	0.07	18.31	23.00	4.69
GR05	GR05-1	538902.64	4115887.01	538902.65	4115887.03	0.02	12.83	15.00	2.17
GR09	GR09-1	538882.03	4115853.26	538882.00	4115853.25	0.03	22.03	22.00	0.03
GR10	GR10-1	538951.41	4115836.16	538951.48	4115836.20	0.08	30.77	29.00	1.77
GR11	GR11-1	539106.34	4115856.91	539106.35	4115856.94	0.03	18.50	16.00	2.50
GR14	GR14-1	538988.63	4115789.22	538988.66	4115789.24	0.04	8.94	14.00	5.06

Table 3-5 MM2x2 2020 GSV Seeding Results (Continued)

Grid	Target ID	Seed Location		Target Location		Position Offset (m)	Predicted Depth (cm)	Depth (cm)	Depth Offset (cm)
		X	Y	X	Y				
GR15	GR15-1	538933.17	4115764.47	538933.16	4115764.49	0.02	13.98	14.00	0.02
GR15	GR15-2	538929.31	4115747.90	538929.32	4115747.94	0.03	25.49	26.00	0.51
GR16	GR16-1	539024.23	4115737.85	539024.19	4115737.83	0.05	22.84	23.00	0.16
GR17	GR17-1	539063.15	4115767.07	539063.18	4115767.15	0.09	15.26	14.00	1.26
GR18	GR18-1	538853.46	4115800.15	538853.39	4115800.11	0.07	8.52	10.00	1.48
TM01	TM01-38	539754.90	4116580.50	539754.91	4116580.49	0.01	12.19	11.00	1.19
TM05	TM05-4	539818.93	4116558.89	539818.94	4116558.92	0.04	12.77	10.00	2.77
TM07	TM07-10	539895.78	4116458.91	539895.79	4116458.95	0.05	5.57	9.00	3.43
TM10	TM10-9	539100.01	4116065.70	539100.04	4116065.69	0.03	16.11	17.00	0.89
TM11	TM11-4	539036.14	4116000.72	539036.14	4116000.68	0.04	6.82	7.00	0.18
TM12	TM12-5	539183.42	4115963.96	539183.43	4115963.95	0.01	8.65	9.00	0.35
TM14	TM14-9	539857.08	4116564.95	539857.09	4116565.03	0.08	8.67	13.00	4.33
TM14	TM14-16	539858.30	4116535.71	539858.25	4116535.68	0.06	5.50	13.00	7.50
TM15	TM15-259	539832.54	4116483.67	539832.53	4116483.66	0.01	10.29	10.00	0.29
TM16	TM16-3	539868.53	4116427.95	539868.54	4116427.90	0.05	16.55	17.00	0.45

3.1.5.6 Geophysical Survey Data Processing and Quality Control

QC of the data processing was performed daily during the project. The Project Geophysicist performed QC measures on the QC instrument function tests and on the DGM data processing. The following parameters were analyzed:

- Coverage
- Sample separation
- Mean noise
- Noise standard deviation
- QC seed analysis

Daily data were initially checked by the Project Geophysicist and subsequently approved by the QC Geophysicist and by the USACE Quality Assurance (QA) Geophysicist.

All data related to DGM surveys were processed and managed using Geosoft Oasis montaj – Seequent software. Descriptive attribute information about the field surveys and targets is stored and maintained in a centralized project master database in Microsoft excel format. This database contains all QC statistics and processing parameters collected, performed, and calculated on the DGM data. All spatial data are managed using a geographic information system (GIS) and are stored in Esri-compatible GIS formats, primarily ArcInfo coverage and ArcView shape files. Data are stored in site-specific folders based on date, data type, and file extensions. All DGM data were provided electronically to the USACE QA Geophysicist for QA review.

3.1.5.6.1 Geonics EM31-MK2™ Ground Conductivity Meter

The raw EM31-MK2 line and fiducial field data were processed using Geonics Dat31 software. Data were positioned to the fiducial markers and checked for positional accuracy against field notes. Raw EM31-MK2 data collected with RTK GPS data were processed using Geomar Trackmaker31-MK2 software. All data were then exported to the Geosoft XYZ file format.

Raw XYZ files were imported into Geosoft Oasis montaj – Seequent processing software. A scripted processing routine was run to automatically progress through the processing steps for each dataset. DQOs, such as sample separation and velocity, were calculated during the processing routine. Line and fiducial data were "warped" to geodetic coordinates and were checked for positional accuracy again. The quadrature and in-phase components were gridded using a cell size of 0.25 ft with a search radius of 2 ft and blanking distance of 6.75 ft. The data were then reviewed for any temporal lags and a latency correction was applied.

3.1.5.6.2 Foerster FEREX® 4.032 DLG

The raw FEREX® DLG field data were processed using TrackmakerFX software. American Standard Code for Information Interchange (ASCII) data were then exported to the Geosoft XYZ file format.

Raw XYZ files were imported into Geosoft Oasis montaj – Seequent processing software. GPS and sensor offsets were measured and corrected in Geosoft using the Sensor Offset Corrections function in the Oasis montaj – Seequent software. The cable shake/personnel and static test were evaluated for QC compliance. Geophysical sensor data were evaluated in profile format for spikes,

gaps, and sensor failure. A demedian filter was applied to the gradient data. Subsequently, a B-line filter was applied to the data to filter low amplitude high frequency noise associated with the boat motor. A latency correction was applied to correctly position the data, and data quality was performed for positioning and sensor readings.

Anomalies that represented similar amplitude along their respective EM profiles to the medium ISO at the river bottom IVS were chosen as targets for intrusive investigation. The target picking threshold of ±40 nanoTeslas (nT) on the profile data was used to identify targets. Within Oasis montaj – Seequent, targets were chosen from the 'Pick Dipoles from Profiles' menu option with the chosen threshold and a maximum dipole separation of 2.0 m as a conservative parameter. IVS results indicated a dipole separation distance of 0.48 m, and IVS data yielded ±40 nT response on the emplaced medium ISO. The conservative target threshold was chosen to reflect least favorable orientation and location relative to data collection in New River Intrusive Investigations

3.1.5.7 Investigation of Individual Items

All anomalies that were classified as either TOI, inconclusive, or inclusive of QC/QA anomalies were reacquired using RTK GPS for intrusive work. The Senior UXO Supervisor (SUXOS) and UXO Safety Officer (UXOSO)/UXO Quality Control Specialist (UXOQCS) supervised and assisted the reacquisition team. The SUXOS scheduled operations such that the minimum team separation distance was maintained at all times, in accordance with the Explosive Safety Submission (ESS). The UXOSO/UXOQCS monitored team separation distances.

One eight-man intrusive investigation team was deployed during intrusive investigations. The team consisted of one Technician III (Team Leader), one geophysicist, two UXO Technician IIs, and four UXO Technician Is. The UXO Technician III supervised the intrusive operations for the team. Technician Is were always working under the supervision of a Technician II or Technician III, in accordance with U.S. Department of Defense Explosives Safety Board (DDESB) Technical Paper (TP) 18.

Hand digging of single point anomalies was performed by UXO personnel. A Schonstedt magnetic locator was used to determine and verify the location of subsurface material. Items identified

during the survey were inspected, treated for MPPEH, if necessary, and stored in locked drums for recycling. Each dig location was backfilled to grade upon completion.

Predicted depths based on AGC were provided to the UXO Team. The team recorded offsets from waypoint locations, target description, size, depth, and orientation of items recovered. Dig results were digitally recorded to increase efficiency and reduce transcription errors. Digital photographs were taken of identifiable MEC and significant MD found during the investigation.

The MPPEH was carefully uncovered and examined to identify the item and its condition. Each item was logged on WESTON grid sheets using the x, y, and z coordinates of the item's location. The Team Leader also recorded the locations of all intact MEC items using a handheld GPS unit. The handheld GPS unit was checked each day against two known control points to ensure accuracy within prescribed limits. Results of this daily test were logged.

3.1.5.8 Mechanical Test Pitting

The mechanical test pitting program was based on the topographic fill analysis findings. No test pitting was associated with the findings of the EM31-MK2 survey because no larger anomalous areas were identified. A topographic final analysis was conducted prior to the RFI field investigations to compare and assess historical and current topography to quantify cut and fill areas within the MRS. Test pits were to be excavated at 10 locations recommended based on the Topographic Fill Analysis Report (**Appendix A**) to assess the nature and to delineate the vertical extent of buried materials and/or MEC; however, because of the presence of underground utilities and aboveground structures, only five test pits (FTMR-01, FTMR-05, FTMR-06, FGR-01, and FGR-04) were completed. Because the locations were based on the findings of the topographic analysis, relocation of the five test pits not completed was not warranted. After utility clearances were conducted, test pits were excavated to depths approximately 10 ft bgs with a mini-excavator operated by one of the UXO field team members. Test pitting was conducted from 23 through 29 June 2021. Soils removed was screened with magnetometers by the UXO field team; no staff member entered the pits. The locations of the five test pits are provided on **Figures 3-1** and **3-2**.

3.1.5.9 Dive Operations

Dive operations, including reacquisition of the required dig list and removal of those items, was conducted during the period of 25 through 27 June 2021 by WESTON subcontractor AOR. All dive operations were conducted by two qualified boat operators, a Dive Supervisor, a Dive Tender, a Standby Diver, and a Diver. Site management was provided by the WESTON land-based UXO team, including the SUXOS and UXOSO/UXOQCS. All UXO Technicians met DDESB TP 18 requirements for their respective positions. In accordance with EM 385-1-1 30.A.03, a self-contained underwater breathing apparatus (SCUBA) was used for most dive operations in Area A. Divers also used snorkels in shallow water along the shoreline to maximize productivity while adhering to safety and accuracy in reporting.

All recovered items were recorded (non-munitions-related debris [NMRD], MEC/MPPEH, and MD). All MEC/MPPEH and MD will be brought to the surface for inspection and to confirm the diver's characterization. The divers were equipped with an underwater magnetometer, a Fisher Aquanaut 1280x. The locations of all anomalies encountered were recorded. All anomalies from the dig list were intrusively investigated. All munition items will be transferred by the Dive Team to the land-based UXO team for final disposition.

3.1.6 MPPEH Demolition and MDAS Management

The WESTON demolition team conducted demolition operations (demolition preparation, detonation operations, and restoration) from 12 through 16 July 2021, in accordance with the protocols presented in the QAPP. Donor explosives were received from Tripwire Operations Group, LLC, and American EOD Services, Inc., picked up all MDAS on 16 July 2021 for off-site transportation and recycling.

3.1.7 Land Surveying

Prior to initiating the 2020 geophysical investigation field work, location surveys and surface mapping activities were conducted across the MRS, in accordance with the procedures outlined in DID MR-005-07.01, Geospatial Information and Electronic Submittals (USACE, 2003), and the QAPP (WESTON, 2020). Surveying was performed by Thompson & Litton, Inc., a Virginia-licensed PLS.

3.2 MUNITIONS CONSTITUENTS CHARACTERIZATION

MC sampling was performed based on the decision logic provided in the DQOs and with respect to geophysical investigation data, intrusive investigation, and DU1 grid sampling evaluation to allow flexible management, systematic planning, and strategic implementation of the RFI sampling program. Sampling and analysis activities were conducted in accordance with the QAPP (WESTON, 2020), which focused on MC characterization of lead concentrations at DU1, as noted during the SI field investigation and MC characterization in the areas (land or Area A of New River) of any damaged or corroded MEC items encountered during the RFI intrusive investigations.

3.2.1 DU1 Lead Characterization

ISM was conducted at DU1 located in the Former Gun Range area of the MRS during the SI. The lead concentrations for the three replicates were 454 mg/kg, 173 mg/kg, and 5,100 mg/kg. The mean lead concentration was 1,909 mg/kg. Because of the potential uncertainty associated with the extent of lead contamination in the soil at DU1, as determined during the SI, additional soil samples were warranted to further delineate the extent of lead contamination at DU1.

A grid system (110 grids) (**Figure 3-5**) in accordance with the grid described in the QAPP (WESTON, 2020) was established in the field using GPS to further characterize the extent of lead contamination within the vicinity of DU1. Each grid was 30-ft by 30-ft with a discrete surface soil sample (0- to 6-inch depth) collected at each grid node. Discrete soil samples were collected in the field using unused, disposable plastic scoops and were placed in resealable plastic bags. The sample material was sieved to remove large organic debris and non-representative material (i.e., twigs, leaves, roots, rocks, and metallic debris) and homogenized while inside the bag by rotational shaking and kneading of the bag, then an aliquot was removed from the bag for drying and X-ray fluorescence (XRF) analysis.

Field screening of the soil samples was conducted on-site using a real-time field portable Vanta™ XRF analyzer. After XRF analysis of the aliquot had been conducted, it was returned to the bag and the entire sample was archived for possible confirmation sample analysis. This rapid acquisition of data results allowed the field team to make decisions regarding the extent of potential contamination, such as determining the location of hot spots or whether step-out sampling is

needed outside the DU1 boundary. Based on the former DU1 size, 110 grid nodes were initially sampled. The pre-designated sample locations within each grid were loaded onto a handheld GPS unit for navigation in the field. The grid system has an alphanumeric numbering system (e.g., A1, A2, A3), and the soil samples collected from each grid note were labeled based on the numbering system and sample depth (e.g., A1 [0–6], A2 [0–6]).

XRF sampling was conducted in accordance with EPA Solid Waste (SW)-846 Test Method 6200 and fixed base laboratory correlation samples for metals using SW-846 Test Method 6010C. The USEPA industrial land use screening level of 800 mg/kg was used as the project action level (PAL) for lead.

Laboratory correlation samples consisted of a minimum of 20% of the soil samples screened with the XRF and were submitted for off-site laboratory analysis for total lead. A total of 25 confirmation samples was submitted for off-site laboratory analysis for total lead. At the selected locations, the previously dried aliquots were returned to the bags with the remaining soil, and the bags in their entirety were submitted to the off-site laboratory for correlation analysis. Locations for correlation laboratory analysis were selected to represent a range of lead concentrations (low to high), to verify the XRF field screening results, and to develop a correlation between the XRF results and the laboratory analytical results. The selection of these samples was distributed horizontally and vertically, as much as possible, within the constraints of representing a range of concentrations. The XRF field screening results were used to determine the extent of lead contamination within the Former Gun Range area.

Subsurface soil sampling (two depths: 6 to 12 inches and 12 to 24 inches bgs) were conducted at only one location (Grid A11) as this was the only location with lead contamination that exceeded the PAL of 800 mg/kg.

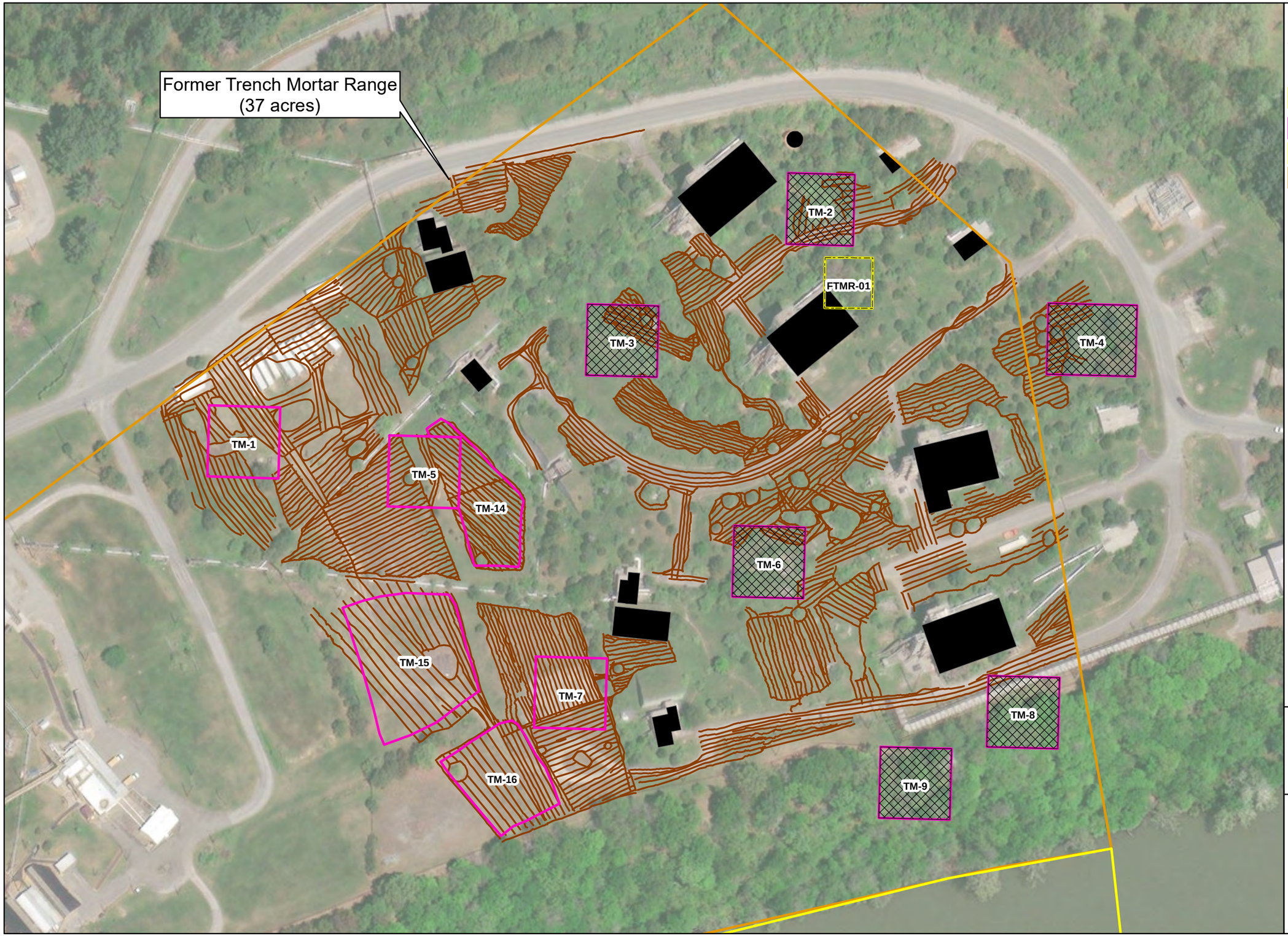
Additional step-out surface soil sampling was conducted at grids A12, AA11, and AA12 as these were step-outs from Grid A11, which contained lead concentrations greater than 800 mg/kg. No drainage areas with lead concentrations above the project screening level were identified near A11; therefore, no sediment samples were collected to assess runoff from the grid area.

3.2.2 MC Characterization – Damaged/Corroded Munitions Areas

Biased, discrete soil or sediment samples were to be collected within the MRS or Area A of New River near breached munitions items and areas that may have contained HEs. However, no items or areas were identified during the geophysical and intrusive investigations. Additionally, during the MEC/MPPEH demolition operations, only wax or sand-filled mortar rounds were discovered, as identified from the post-demolition internal inspections of the shells. This determination was anticipated based on historical observations from EOD of previous mortar rounds detected at the MRS; therefore, no MC samples were collected.

3.2.3 Laboratory Analysis Program

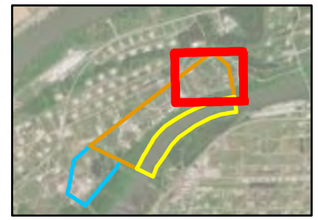
All field activities and chemical analyses were conducted in accordance with the QAPP (WESTON, 2020). MC samples were analyzed by the DoD Environmental Laboratory Accreditation Program (ELAP)-certified laboratory, CT Laboratories, LLC, for the lead confirmation samples collected at DU1. Analyses included EPA SW-846 Test Method 6010C for lead.



Legend

- EM31 Transects
- No AGC Surveys
- Pitting/Trenching Location
- Trench Mortar Grids – AGC Survey
- Area A
- Former Trench Mortar Range
- Buildings

Imagery Source:
ESRI, Imagery Mapping Service, 2018



N

0 45 90 180
Feet

Prepared By:
Baltimore District

FIGURE 3-1
GEOPHYSICAL INVESTIGATION MAP – EASTERN PORTION OF MRS
RADFORD, VIRGINIA

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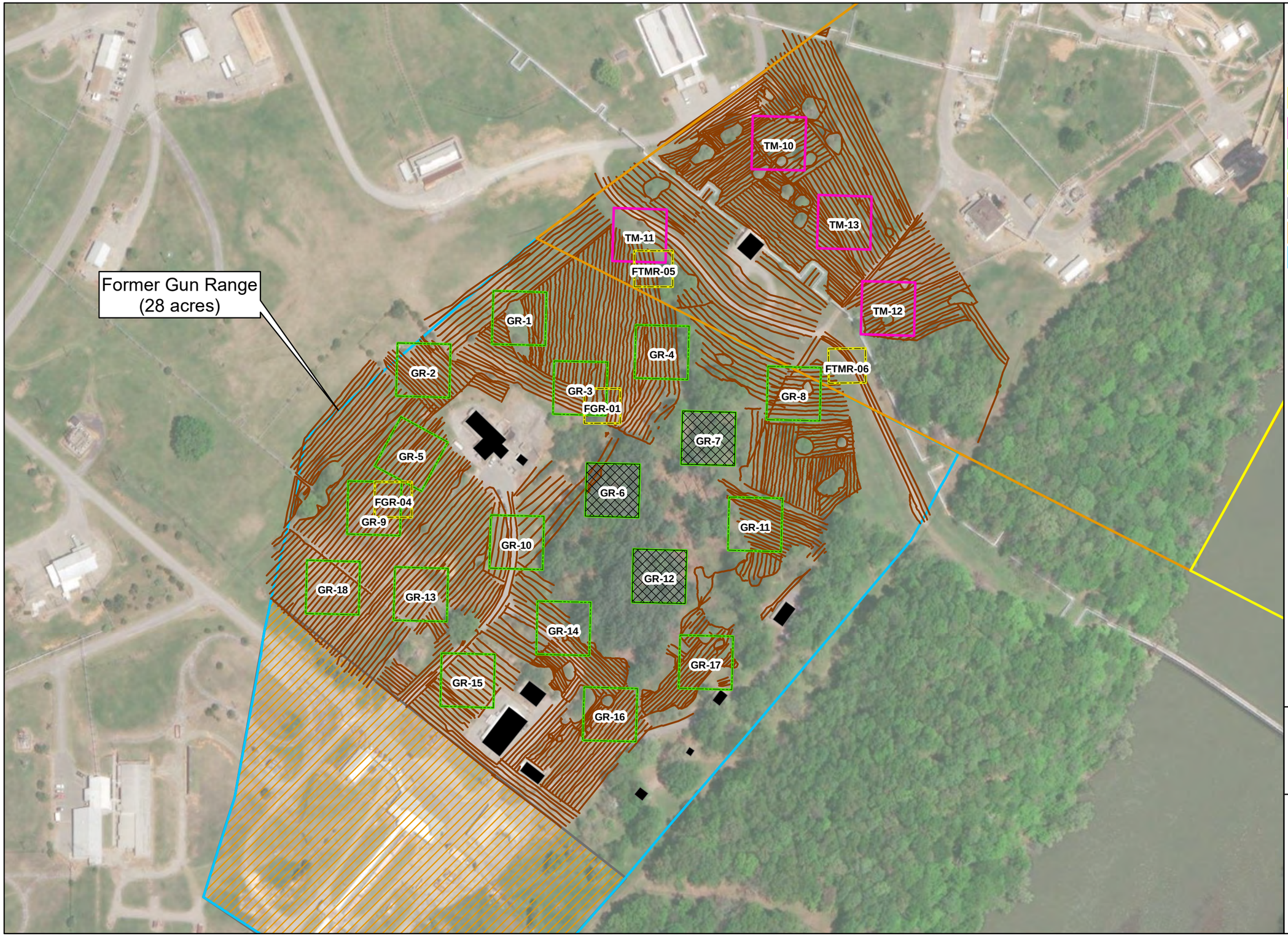
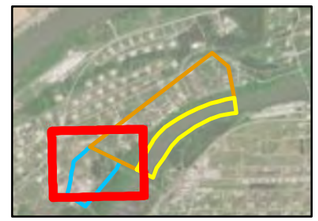


Legend

- EM31 Transects
- No AGC Surveys
- Pitting/Trenching Locations
- Trench Mortar Grids – AGC Survey
- Gun Range Grids – AGC Survey
- Area A
- Inaccessible Area
- Former Trench Mortar Range
- Former Gun Range
- Buildings

Imagery Source:
ESRI, Imagery Mapping Service, 2018



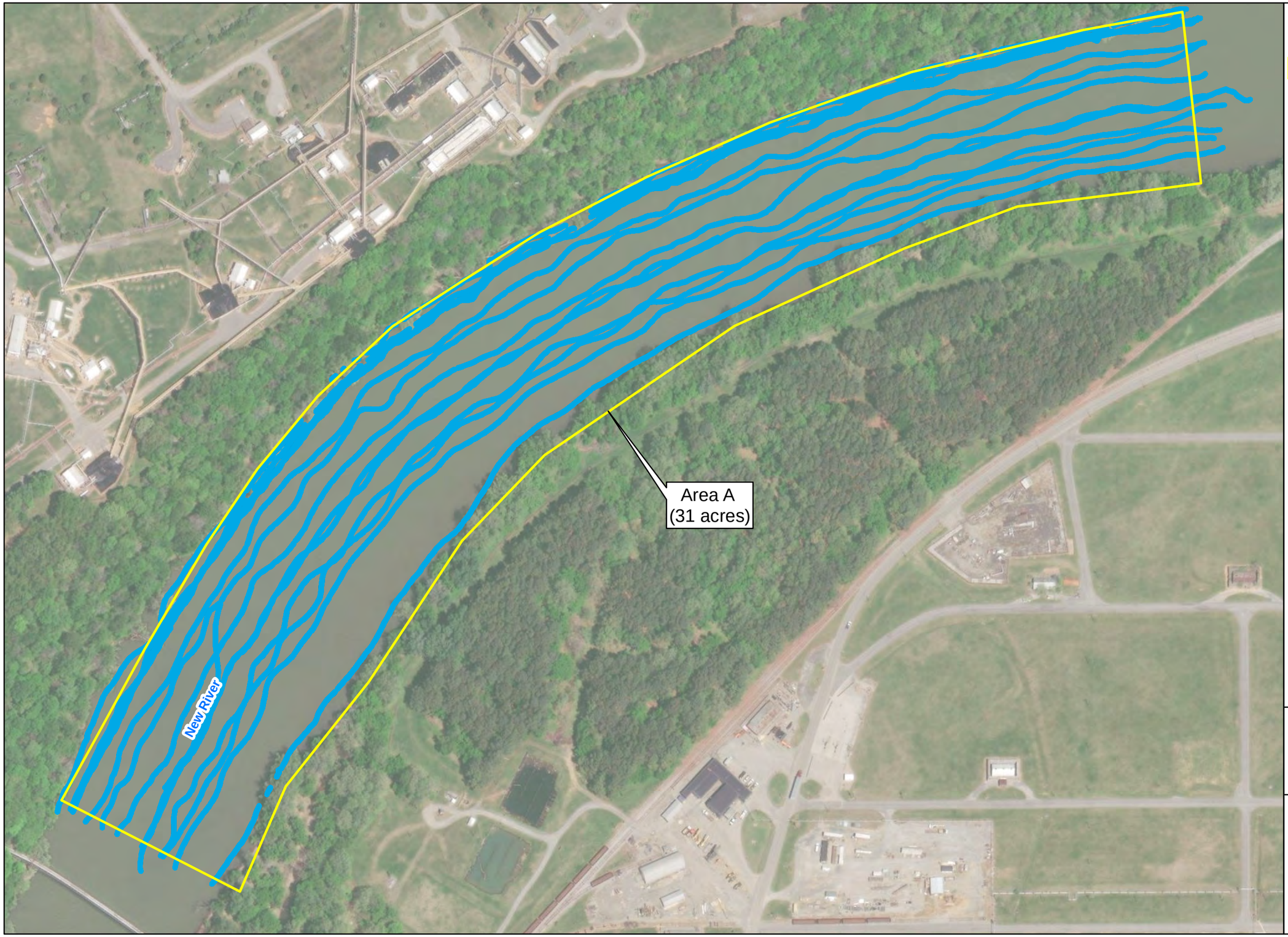
N

0 62.5 125 250
Feet

Prepared By:
Baltimore District

FIGURE 3-2
GEOPHYSICAL INVESTIGATION MAP – WESTERN PORTION OF MRS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\GunRange_Geophysical_Investigation_Map.mxd, 4/23/2022 10:35:07 AM, johna

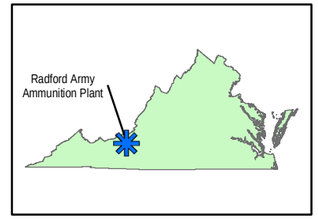


Legend

Ferex DGM Transects

Area A

Imagery Source:
ESRI, Imagery Mapping Service, 2018



N

0 75 150 300

Feet

Prepared By:

Baltimore District

FIGURE 3-3
AREA A TRANSECT MAP
GEOPHYSICAL INVESTIGATION MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\AreaA_TransectMap.mxd, 4/15/2022 3:53:14 PM, langloisb

Former Trench Mortar Range
(37 acres)

Inaccessible Area

Steep Slope

Area A
(31 acres)

Former Gun Range
(28 acres)

Steep Slope

Inaccessible Area

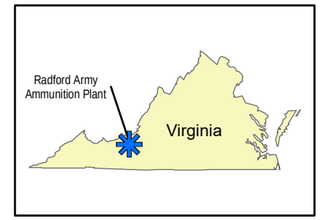
TM-1
TM-2
TM-3
TM-4
TM-5
TM-6
TM-7
TM-8
TM-9
TM-10
TM-11
TM-12
TM-13
GR-1
GR-2
GR-3
GR-4
GR-5
GR-6
GR-7
GR-8
GR-9
GR-10
GR-11
GR-12
GR-13
GR-14
GR-15
GR-16
GR-17
GR-18
AA-1
AA-2
AA-3
AA-4
AA-5
AA-6
AA-7
AA-8

1720 1786 1819 1799 1883 1845 1820 1819 1840 1836 1819 1813 1823 1828 1817 1818 1818 1819 1819 1819 1819 1804 1806 1809 1837 1816 1822 1881

Legend

- Planned DGM Transects – Area A
- Contours (Feet)
- Trench Mortar Grids – AGC Survey
- Gun Range Grids – AGC Survey
- Area A
- EM-31 Area
- Inaccessible Area
- Former Trench Mortar Range
- Former Gun Range
- Buildings

Imagery Source:
ESRI, Imagery Mapping Service, 2018



N

0 165 330 660
Feet

Prepared By:
Baltimore District

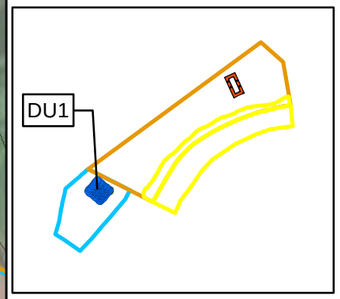
FIGURE **3-4**
PLANNED
GEOPHYSICAL INVESTIGATION MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\Geophysical_Investigation_Map_04302019.mxd, 7/9/2019 1:09:23 PM, johna

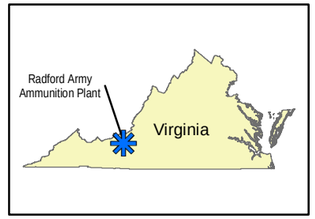


Legend

- Sampling Points
- Contours (Feet)
- SI Incremental Sampling Decision Unit
- Former Trench Mortar Range
- Proposed XRF Sampling Grid (30 X 30 Ft.)
- Former Gun Range
- Buildings



Imagery Source:
ESRI, Imagery Mapping Service, 2018



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0 25 50 100
Feet

Prepared By:

Baltimore District

FIGURE 3-5
DU1 GRID MAP
RADFORD, VIRGINIA

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4. RCRA FACILITY INVESTIGATION RESULTS

This section presents the results of the MEC and MC characterization for the MRS. The MEC and MC characterization results are used to determine the nature and extent of MEC and MC and, subsequently, to determine the potential hazards and risks posed to human health and the environment. After the risks were determined, they were integrated into a CSM, as presented in Section 7, Conceptual Site Model.

4.1 RESULTS FOR MUNITIONS AND EXPLOSIVES OF CONCERN CHARACTERIZATION

The following sections provide the results of the RFI field efforts performed to achieve the DQOs defined in Section 2.2 and to delineate the nature and extent of MEC in the surface and subsurface at the MRS. As described in Section 3.1, the RFI for MEC characterization involved the following tasks:

- DGM and AGC data collection in two phases.
- Intrusive investigation of detected anomalies in two phases within the land and water components of the MRS.

The following paragraphs detail the results of these activities.

4.1.1 Geophysical Survey Results

WESTON completed three geophysical investigations at the MRS, including a Geonics EM31-MK2™ survey, MM2x2 (dynamic and cued) survey, and Foerster FEREX® 4.032 DLG survey of Area A on New River (2.9 acres).

4.1.1.1 Geonics EM31-MK2™ Ground Conductivity Meter Results

An EM31-MK2 conductivity survey was conducted across the MRS to identify suspected burial trenches, as referenced in Section 3.1.5. The analysis of the data indicated no geophysical conductivity results representative of burial trench characteristics were prevalent in the data. EM31-MK2 survey data results are presented on **Figures 4-1** and **4-2**.

4.1.1.2 MetalMapper 2x2 Results

A dynamic AGC survey was conducted in the accessible areas of the Former Gun and Trench Mortar MRS, as referenced in Section 3.1.5.2. Anomaly selection from dynamic MM2x2 surveys

was based on the grid-specific 5xRMS value identified during data processing, which varied across the grids surveyed. In total, 3,093 anomalies were selected to be followed up with cued MM2x2 surveys to better distinguish between metallic clutter and TOI targets. The dynamic MM2x2 survey data for each surveyed grid are presented on the maps in **Appendix E**.

Cued MM2x2 surveys were conducted as referenced in Section 3.1.5.2.2 for all anomalies identified from the dynamic MM2x2 survey. A decision statistic criterion of 0.85 was used for the TOI/non-TOI threshold for data analysis classification. The results of cued surveys identified 694 predicted TOI source locations and seven cannot analyze source locations for intrusive investigation. Validation and verification sources were also identified from cued MM2x2 surveys for sources below the TOI/non-TOI threshold of 0.85. A total of 200 sources was identified for validation targets, and 201 sources were identified for verification targets.

4.1.1.3 Foerster FEREX® 4.032 DLG Results

A DGM survey was conducted with a Foerster FEREX® 4.032 DLG, as referenced in Section 3.1.5 in Area A of New River. As identified in the IVS memo, any anomalous area that upheld similar elevated response characteristics of a medium ISO was identified as a target for intrusive investigation. As a result of the target picking threshold, 37 targets were selected for intrusive. The DGM results for Area A transects are presented on **Figure 4-3**.

4.1.2 Intrusive Investigation

A total of 1,102 sources was included on the final dig list for all grids surveyed by AGC, and 37 DGM targets were investigated for Area A of New River. For analog clearance areas in the grids, 20 items were recovered as either MPPEH or QC/QA seeds, and 203 pounds of NMRD were accounted for. No munitions items were encountered in the five test pits conducted. A summary of each target investigated for the MRS grids by AGC hand digs or by analog mag and dig surveys and for Area A by dive operations is presented in the tables in **Appendix D**. The AOR Dive Report is also presented in **Appendix D**.

All targets, except for grids investigated with analog clearance methods, were reacquired using an RTK GPS and investigated by qualified UXO personnel. The UXO intrusive team investigated the anomalies using hand tools and recorded the target ID, operator, item category, item type, depth,

weight, etc., on dig sheets. Dig sheets were reviewed by the SUXOS and UXOQCS daily, and any discrepancies were resolved at the end of the day. Dig sheets were reviewed by the Project Geophysicist and QC Geophysicist to ensure that all items were recovered. Dig sheets are included in **Appendix D**. Photographs of daily activities, including intrusive investigation results, are presented in the photo log (**Appendix C**).

During the analog clearance surveys, similar intrusive investigation procedures were used; however, reacquisition was not required because items were dug in real-time, and the individual coordinates of items encountered were not collected (except for MEC items). Team Leaders recorded anomaly production data and included the location, ordnance designation and associated descriptive data of individual MPPEH items, number of digs, pounds of MD, and pounds of NMRD so that the results could be compared to the specific classification.

The UXOQCS inspected at least 10% of the dig locations using a Schonstedt magnetometer to determine whether the removal was effective. Prior to UXOQCS inspections, UXO team leaders inspected 100% of the dig locations using a Schonstedt magnetometer to confirm a reduction in signal.

The UXO field team investigated each of the anomalies identified during the analog clearance survey, all targets identified as a result of the AGC cued survey, and all anomalies identified from the DGM survey in New River, Area A. Information regarding each subsurface anomaly was entered into a database using WESTON's proprietary RespondFastSM – UXO Investigation software. At the end of each field day, the data were synchronized with the database, which was located at an off-site server.

Tables 4-1 and **4-2** summarize the results of the intrusive investigations at the grids by AGC and mag and dig surveying, respectively. The locations and types of targets encountered within each grid is presented in the maps in **Appendix E**. **Figure 4-4** presents a larger scale view of the locations that munitions items were encountered throughout the MRS and Area A.

Table 4-3 summarizes the results of the intrusive investigation in Area A of the New River. **Figure 4-5** presents the locations and types of targets encountered within Area A.

Table 4-4 provides a summary of all items encountered during intrusive operations at the MRS.

Table 4-1 Intrusive Results for AGC Clearance Area

Item Type	Total	% of Total	Description
MEC	**0**	0.0	
MPPEH	**110**	10	(74) 4.2-inch mortar; (3) 60mm mortar; (33) 81mm mortar
MD	**10**	0.9	(7) 4.2-inch mortar base plate and/or tail boom; (3) 81mm mortar fin or tail boom
SAA	**0**	0.0	SAA debris (casings and projectiles)
NMRD	**646**	58.6	Aluminum, anchor, angle iron, bolt, nails, barbed wire, metal plate, metal rings, pipe, rod, rebar, scrap metal, wire, etc.
Seed	**36**	3.3	(25) QC seed; (11) QA seed
Cultural Feature	**126**	11.4	Utility or utility influence, concrete pad, metal encased within concrete (rebar, pipe, pole, anchor), fence
Duplicate Targets	**148**	13.4	
No Contact	**9**	0.8	
Target not Investigated	**17**	1.5	(8) Under hardscape; (9) adjacent to gas line utility
Total:	**1,102**	100%	

Notes:
SAA — small arms ammunition

Table 4-2 Intrusive Results for Analog Clearance Area

Item Type	Total	% of Total	Description
MEC	**0**	0.0	
MPPEH	**7**	35.0	(4) 4.2-inch mortar; (3) 81mm mortar
MD	**0**	0	
Seed	**13**	65.0	(12) QC seed; (1) QA seed
NMRD	**203 lb**	NA	Not recorded
Total:	**20 items**	100%	

Notes:
lb — pound(s)
NA — not applicable

Table 4-3 Intrusive Results for DGM Clearance of Area A

Item Type	Total	% of Total	Description
MEC	**0**	0.0	
MPPEH	**15**	40.5	(9) 4.2-inch mortar; (5) 81mm mortar; (1) 4.2-inch mortar and 81mm mortar
MD	**5**	13.5	(3) 4.2-inch mortar
NMRD	**17**	45.9	Aluminum, barbed wire, hardware, cable, paint can, pipe, railroad tie, scrap metal, sheet metal
Total:	**37**	100%	

Table 4-4 Cumulative Intrusive Results for All Clearance Areas

Item Type	Analog	AGC	Area A River DGM	Total	% of Total
MEC	0	0	0	**0**	0
MPPEH	7	110	15	**132**	11.4
MD	0	10	5	**15**	1.3
SAA	0	0	0	**0**	0
NMRD	203 lb	646	17	**663 + 203 lb**	17.5 + 203 lb
Seed	13	36	0	**49**	4.2
Cultural Feature	0	126	0	**126**	10.9
Duplicate Targets	0	148	0	**148**	12.8
No Contact	0	9	0	**9**	0.8
Target not Investigated	0	17	0	**17**	1.5
Total:	**20 + 203 lb**	**1,102**	**37**	**1,159 + 203 lb**	100 + 203 lb

Notes:
lb — pound(s)
SAA — small arms ammunition

4.1.2.1 Munitions and Explosives of Concern

MEC items were recovered during intrusive operations at RFAAP due to the identification of point detonating (PD) fuzes that were not expended. Although some of the items were fuzed with PD fuzes, no booster or additional explosive compounds were included.

4.1.2.2 Material Potentially Presenting an Explosive Hazard

A total of 132 MPPEH items was recovered during the intrusive investigation. A majority of MPPEH were recovered targets as a result of AGC cued survey (110 in quantity).

Altogether, 7 MPPEH items were found during analog surveys, and 15 MPPEH items were recovered from Area A of New River. All MPPEH items were identified as either 4.2-inch mortars, 81mm mortars, or 60mm mortars.

If encountered during the course of the RFI intrusive activities, military munitions-related items were considered MPPEH until properly inspected by a qualified UXO Technician II or higher. At the time of recovery of all MPPEH items, UXO technicians were unable to determine the fill content of each of these mortars and classified them as MPPEH during intrusive operations for safety concerns. It was determined as a result of demolition operations and subsequent internal inspections that all mortars discovered were either filled with wax or sand, confirming these items as MD for all non-fuzed mortars.

4.1.2.3 Munitions Debris

A total of 15 MD items was recovered during intrusive operations. A total of 10 MD items was recovered as a result of AGC cued surveys, including a 4.2-inch mortar base plate and/or tail boom and 81mm mortar fin or tail boom. Five MD items were recovered from Area A, which were all 4.2-inch mortars.

4.1.2.4 Non-Munitions Related Debris

A total of 663 NMRD items was recovered as intrusive targets as a result of AGC and DGM surveys. A total of 203 pounds of NMRD was recovered during analog survey in the seven grids in the Former Trench Mortar and Gun Range areas of the MRS. NMRD consisted of a myriad of item types, such as aluminum, utility anchors, angle irons, bolts, nails, barbed wire, metal plates, metal rings, pipes, rods, rebar, scrap metal, wire, etc.

4.1.2.5 Small Arms Ammunition

No small arms ammunition (SAA) items were recovered during intrusive operations.

4.1.2.6 No Contacts or Targets Not Investigated

A total of nine targets identified from AGC surveys was confirmed as “no contacts.” All no contact digs met the positioning threshold of reacquisition. Each no contact target was dug to at least the predicted depth provided from AGC results, and six targets were investigated deeper than the

predicted depth. A total of 17 targets was not investigated because they were located under pavement and inaccessible or were adjacent to a gas line utility and not dug for safety concerns.

4.1.2.7 Verification/Validation Failures

Although this project was an RFI, validation and verification targets were implemented. Intrusive results yielded four verification failures and three validation failures. One validation failure occurred because of a poor decision statistic library match (0.71) to QA seed #NAB 160, which was below the project threshold of 0.85. A corrective action was documented (Corrective Action Report [CAR] 01) for target GR02-001, which indicated a possible root cause: the small ISO40 steel grade could not provide as consistent of a classification as a small ISO80 with elevated background measurements.

Two other validation failures were evident during intrusive operations. Target TM15-343, which was a duplicate target to verification target TM15-123, resulted in the retrieval of a 4.2-inch mortar. The decision statistics for this duplicate and target were 0.79 and 0.83, respectively, and were not chosen as TOI with the project threshold of 0.85. The recovered depth of this target was 0.32 m, which falls well within the detection and classification modelling depth of 0.85 m using the grid specific 5xRMS value.

Validation target TM05-130 produced a decision statistic of 0.73 and was recovered at a depth of 0.75 m, which falls within close proximity of the maximum detection/classification capability of cued MM2x2 for a 4.2-inch mortar down to 0.88 m using the grid specific 5xRMS value.

Verification target TM12-026 detected an 81mm fuzed mortar at a depth of 0.38 m with a decision statistic of 0.83. Verification target GR08-013 was recovered as an 81mm mortar at a depth of 0.28 m with a decision statistic of 0.81. Both targets were recovered well within the detection and classification modeling capability depths of 0.62 m and 0.9 m, respectively, using the 5xRMS value. These targets would have met the TOI threshold if the project decision statistic threshold was lowered to 0.8.

Verification target TM13-077 was recovered as an 81mm fuzed mortar at 0.63 m, which is outside the maximum detection and classification capability of cued MM2x2 for an 81mm mortar down to 0.57 m using the 5xRMS value.

4.2 RESULTS FOR MUNITIONS CONSTITUENTS CHARACTERIZATION

The following sections present the results of the RFI field efforts performed to achieve the DQOs defined in Section 2.2 and to delineate the nature and extent of MCs in soil at the MRS. Based on the results from the RFI field efforts, project DQOs have been achieved to adequately support human health and ecological risk assessments during the RFI, if necessary.

4.2.1 MC Soil Sampling Results – DU1

4.2.1.1 Sampling Summary

XRF sampling was conducted in August 2020 to assess the extent of lead contamination in soils at DU1. A total of 129 soil samples (including duplicates) was collected and analyzed by the XRF unit within and adjacent to the DU1 grid. A total of 25 soil samples (including duplicates) was submitted to the off-site analytical laboratory for analysis as confirmation samples to determine the accuracy of the XRF analysis. A summary of the soil sampling effort is presented as follows:

- XRF Analysis:
  - Initial Surface Soil Samples – 110 surface soil samples from the 110 grid nodes within the DU1 grid, all from the 0- to 6-inch depth.
  - Step-out Surface Soil Samples – 3 step-out surface soil samples from Grids AA11, AA12, and A12 were collected to define the extent of lead contamination because the surface sample at Grid A11 was the only sample with a lead concentration (3,423 mg/kg and 3,519 mg/kg for duplicate) greater than the PAL of 800 mg/kg.
  - Subsurface Soil Samples – 2 subsurface soil samples from Grid A11 (6- to 12-inch and 12- to 24-inch depths) were collected because the surface samples at Grid A11 were the only samples with a lead concentration (3,423 mg/kg and 3,519 mg/kg for the duplicate) greater than the PAL of 800 mg/kg.
  - Duplicates – 13 XRF surface soil duplicates of the total 113 surface soil samples were collected, and 1 XRF subsurface soil duplicate of the 2 total subsurface soil samples was collected.
- Off-Site Laboratory Analysis:
  - A total of 23 confirmation soil samples was submitted to the off-site laboratory for analysis.
  - A total of 2 duplicate confirmation soil samples was submitted to the off-site laboratory for analysis.

4.2.1.2 XRF Analysis Summary

Of the 110 soil samples analyzed by XRF from the 110 grid nodes, lead concentrations above the PAL of 800 mg/kg were only noted in one grid (A11), which is a corner grid located in the eastern corner of the DU1 grid. Most lead concentrations (108 of 110 total initial grid node samples) were less than 60 mg/kg. Step-out sampling from Grid A11 was conducted because the grid samples had elevated lead results (3,423 mg/kg and 3,519 mg/kg for the duplicate). The step outs conducted for delineation had concentrations of 10 mg/kg and 18 mg/kg (duplicate) for Grid AA11, 62 mg/kg and 62 mg/kg (duplicate) for grid AA12, and 50 mg/kg for grid A12, which were well below the PAL of 800 mg/kg; therefore, no additional lateral delineation was necessary. At Grid A11, subsurface soil samples produced results of 238 mg/kg and 266 mg/kg (duplicate) for the 6- to 12-inch depth and 165 mg/kg for the 12- to 24-inch depth. Because these subsurface soil samples exhibited lead concentrations well below the PAL, no additional vertical delineation was necessary.

Additional delineation with XRF analysis was conducted on surface soils within Grid A11 to determine the extent of the lead exceedances. XRF shots of the soil surface around the initial center node sampling location were conducted, and the lead hot spot appeared to be limited to an area of about 5 ft in diameter. Although a specific source is not known for the limited extent of lead within this grid, the data clearly indicate that the area was not used as a gun range; otherwise, lead concentrations would have been encountered throughout the larger DU1 grid.

Table 4-5 presents the lead results by XRF analysis; **Figure 4-6** presents the locations of the soil samples and the exceedances.

4.2.1.3 Confirmation Sample Analysis

A total of 25 confirmation samples was analyzed by CT Laboratories, LLC, for evaluation of the correlation between XRF analysis data and laboratory data. Lead concentrations in the confirmation soil samples ranged from 7.6 to 5,500 mg/kg. As for the XRF analysis, most lead concentrations (20 of 21 initial grid node samples submitted for confirmation analysis) were less than 60 mg/kg. **Table 4-6** presents the lead results by off-site laboratory analysis; the laboratory analytical package is presented in **Appendix F**.

4.2.1.4 Correlation Analysis

Laboratory analytical results were used to establish the correlation between XRF analysis data and laboratory data, and the precision and accuracy of the XRF unit. Confirmation samples were chosen based on a combination of concentrations and location within DU1. The samples were selected from the lower, middle, and upper range of concentrations within the DU for the select metal analyzed by the XRF (lead only), with an effort made to select samples from across the DU to determine the potential horizontal extent of lead (if the XRF data were unusable because of poor correlation between XRF analysis data and laboratory data).

Simple linear regression and regression diagnostics were used to determine the "best fitting" linear relationship between XRF measurements of lead and its corresponding laboratory measurements. The steps to perform simple linear regression include the following:

- Plot the data.
- Compute the least squares regression statistics.
- Examine adherence to the assumptions of regression using residual plots.
- Employ regression diagnostics.

A total of 25 samples was sent for laboratory analysis for lead. The soil samples sent to the laboratory for analysis were used as confirmation samples to determine the accuracy of the XRF. XRF sampling was conducted in accordance with EPA SW-846 Test Method 6200, and laboratory correlation samples for metals was conducted in accordance with SW-846 Test Method 6010C. In addition to the confirmation samples, a minimum of 1 per 20 soil samples was collected as a matrix spike (MS) sample, and one matrix spike duplicate (MSD) sample was also collected and submitted to the laboratory for QC purposes.

Refer to **Table 4-6** for the correlation sample results in comparison to the XRF sample results and the associated correlation plot.

In accordance with EPA SW-846 Test Method 6200, a correlation coefficient (R) was determined for lead analyzed with the XRF unit. If the R-value was greater than 0.7, then the XRF data could be considered usable for screening level purposes. The R-value was determined for lead using the confirmation samples. Refer to **Table 4-6** for the Correlation Plot, which includes a scatter chart with the R values for lead as analyzed by the XRF.

The R value for lead is 0.987, which is greater than 0.7; therefore, the XRF lead values were considered usable to assess the extent of lead contamination at DU1 and for use in a risk assessment, if necessary.

4.2.2 Munitions Constituents Data Quality

An assessment of data quality for MC sampling was conducted in accordance with the QAPP (WESTON, 2020). Field QC samples were collected and analyzed to assess the quality of the data resulting from the field sampling program. Additionally, as discussed in the following subsection, 100% of the MC data results were validated by an independent third party, Validata.

4.2.2.1 Data Validation

Analytical data collected for the project were validated in accordance with the project QAPP. Third-party data validation was performed by Validata on 100% of the data at USEPA Stage 2B. The analytical data were validated in accordance with requirements of the QAPP, USEPA's *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, 2017a), and QC requirements established based on the latest version of the DoD Quality Systems Manual (QSM), Version 5.1. The data validation report, including validation narratives for the analytical results and data qualifier codes, are provided as part of **Appendix F**.

The data validation guidelines ensure that all data meet uniform requirements for accuracy and determine the validity and usability of the data for their intended use. If the data quality parameters for the MRS-specific analyses did not meet the criteria of the USEPA and DoD QSM Version 5.1 or the laboratory SOP, a discussion of the implications regarding the guidelines is included in the data validation narrative. A summary of the data validation is presented as follows:

- All laboratory data were acceptable with qualifications.
- All holding time criteria were met.
- All calibration criteria were met.
- Lead (2.05 µg/L) was detected in the associated calibration blanks analyzed on 12 August 2021. However, since the lead results for the associated samples were greater than the action level, no data qualification was necessary.

- MS/MSD analyses were performed using samples C-4-06 and al11-06-FD. The parent sample result for A-11-06-FD was greater than 4X the spike concentrations so the results for this sample were not considered meaningful. The percent recoveries (%Rs) for C-4-06 at 71.9% and 67.2% were below the QC limits. The post spike criteria were met. The relative percent differences (RPDs) for C-4-06MD (35.5%) and A-11-06FDMD (20.9%) exceeded the 20% QC limit. The lead results for all samples, which consisted entirely of positive results, were qualified as estimated (J).

- No data qualification was necessary for the three sets of field duplicates as the calculable RPD were 29% for the first set (A-11-06/A-11-06-FD), 46% for the second set (F-1-06/F-1-06-FD), and 0% for the third set (I-10-06/I-10-06-FD), which were within the 50% QC limit for soil samples.

Overall, the remaining data validation showed that the data received from the laboratory were valid and usable for assessing the environmental conditions related to MC, and no major issues were identified. Sufficient usable data were available for the MRS to meet the objectives of the RFI.

4.2.2.2 Field QC Samples and MC Data Quality

Field duplicates and MS/MSD samples were collected for the MRS soil. MS/MSD samples represent field QC. Soil QC samples collected at DU1 included three duplicates and one MS/MSD. Field duplicates, which consist of one soil sample split into two parts with each aliquot analyzed by the laboratory for the identical parameters, are collected to estimate the sampling and laboratory analysis precision, including sample homogeneity. Precision is measured using the routine and duplicate sampling results and is expressed as an RPD. MS/MSD samples are created by the introduction of a known concentration of a compound into a sample to provide information about the effect of the sample matrix on the extraction and/or measurement methodology. MS/MSDs are reviewed as part of the data validation process and are discussed in the data validation report (see **Appendix F**). High-quality MC data were collected at the MRS as evidenced by the following parameters employed to assess data usability:

- **Precision**: Precision is represented as the RPD between measurements of an analyte in duplicate samples or as the relative standard deviation (RSD) when the number of samples exceeds two. The RPD and RSD were evaluated as part of the data validation task during the RFI. RPDs for the detected compounds for the field duplicates were within the goal of less than 50%, and no data qualifications were necessary.

- **Accuracy**: Accuracy was ensured by selecting appropriate data collection instruments, having clearly delineated instructions for their correct use, and following the QAPP. There were no deviations from the QAPP.

- **Data Representativeness**: Data representativeness at the MRS was accomplished by implementing approved sampling procedures in the QAPP. No significant deviations from the sampling procedures were documented during the RFI field activities. The field duplicate results show that the data are representative of the population because the RPD indicates that there are low parameter variations at the sampling points for the soil samples. The RPD supports that the sample data are accurate and precise in representing the MC concentration of the soil at the MRS.

- **Completeness**: Completeness is a measure of the amount of adequate data obtained from the actual performance of measurement procedures compared to the amount expected to be obtained from error-free performance of the same measurement procedures under normal conditions. Completeness measures the extent to which the database resulting from a measurement effort fulfills the objectives for the amount of data required. Completeness is defined as the valid data percentage of the total tests requested. Complete project data involve both satisfactory performance and documentation of field and laboratory procedures. Analyses are valid when the sample arrives at the laboratory intact, properly preserved, in sufficient quantity to perform the requested analyses, and accompanied by a completed chain-of-custody. Furthermore, the sample must be analyzed within the specified holding time and in such a manner that analytical QC acceptance criteria are met. An exception is made; however, if data qualified as estimated as a result of data validation are considered valid and are counted toward completeness if still suitable for the intended use of the data.

  Completeness was achieved because the number of locations sampled equaled the number of planned sample locations as discussed in the QAPP. The completeness goal for the RFI at the MRS was 95%. Completeness of 100% was achieved for the MRS soil samples. All designated samples were analyzed; no samples were lost, damaged, or not able to be analyzed. All data points met the project DQOs.

- **Comparability**: Comparability is the degree to which one dataset can be compared to another dataset measuring the same property. Comparability of datasets generated for the project was obtained through the implementation of and adherence to the standard sampling procedures discussed in all work plans. No deviations in field activities as compared to the required work plan requirements; there is no impact to the comparability of datasets generated for the project.

The high-quality data meet the DQOs of the RFI established in the QAPP for the MRS. The high-quality data are sufficient to support the risk assessment and the evaluation of alternatives, if required.

4.3 CONCLUSION UNCERTAINTIES

4.3.1 Geophysics – AGC Results

It was apparent that there were several validation/verification failures for selected anomalies below the project threshold. However, a principle DQO in Worksheet #11 was to determine the nature and extent of MEC on the ground surface and subsurface (WESTON, 2020). The munitions investigation accomplished determining the nature and extent of MEC with the presented intrusive results for the MRS (Appendix D). There are uncertainties pertaining to AGC results and subsequently what was placed on the final dig lists. Specifically, 400 verification/validation (v/v) anomalies were chosen for intrusive investigation to verify/validate the project threshold to appropriately discriminate TOI from non-TOI. Of the 400, seven anomalies resulted in v/v failures (1 of which was a duplicate target for v/v – Target 123 and 343 in grid TM15).

The uncertainties of AGC results are directly related to depth and the project threshold used. More TOI would have been investigated if the decision statistic was lowered to 0.8 vs the upheld statistic of 0.85. Four of the v/v failures would have been resolved. Secondly and most notably, two of the v/v failures were the result of discovered depth. Both of these items were discovered at the cusp of max detection depth or beyond detection capabilities of the instrument. Given the 5xRMS threshold used during the dynamic phase with MM2x2 survey coupled with the subsequent cued library decision statistic used, it can be determined that there could be deeper 81mm mortars and 4.2 inch mortars remaining within the TM and GR grids investigated.

Below are the intrusive results of the v/v failures due to depth considerations. The depth response curves for 81 mm mortar and 4.2 inch mortars at 5xRMS indicates a max detection depth as follows:

- Verification Target TM13-077: Recovered 81mm mortar at 0.63 meters. Depth response curve at 5xRMS (0.553) indicates max detection depth of 0.57 meters.
- Validation Target TM05-130: Recovered 4.2 inches mortar at 0.75 meters. Depth response curve at 5xRMS (0.327) indicates max detection depth of 0.88 meters for a 4.2 inch mortar.

4.4 INVESTIGATION RESULTS – PROJECT DATA QUALTY OBJECTIVES (DQO)

Worksheet #11 outlines the Data Quality Objectives (DQO) that were developed in accordance with the *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA QA/G-4) (USEPA, 2006) to be applied across the multiple phases of the munitions investigation for Radford AAP.

4.4.1 AGC, DGM, Analog, Intrusive Investigation - DQOs

A primary DQO description was to determine nature and extent of MEC and MC at the Former Gun and Trench Mortar Range MRS on the surface, subsurface, and in adjacent waters (Area A of the New River). This principle DQO was achieved and the following DGM, AGC, analog surveys, and intrusive investigation were accomplished to achieve the DQOs from Worksheet #11:

- DGM full coverage survey was conducted with EM31-MK2 to evaluate the presence or burial pits and/or trenches within approximately 30 acres of the MRS (Section 3.1.5.1);
- DGM of Area A (New River) was conducted with a Forrester FEREX to determine the presence of anomalies and subsequently intrusively investigated for approximately 2.9 acres to achieve a 95% confidence level that densities are less than 1.0 MEC per acre (Section 3.1.5.2);
- AGC surveys (MM2x2 - dynamic and cued) were accomplished in established Grenade Range and Trench Mortar grids totaling 5.74 acres with 100% coverage where accessible with AGC equipment, meeting all QC MQOs as outlined in Worksheet #22 for dynamic and cued surveys (Section 3.1.5.2.1). MPCs within Worksheet #12 were evaluated throughout the course of seeding efforts, during dynamic/cued surveys, and during intrusive investigation. All selected anomalies from dynamic survey were to be investigated with cued survey and resulting TOIs matched from the project TOI library were intrusively investigated;
- Analog survey was conducted in AGC inaccessible areas due to slope (Section 3.1.5.4) and all subsurface anomalies to be intrusively investigated; and
- Intrusive Investigation was conducted as result from DGM (water) and AGC surveys (land) as well as in situ analog survey. Excavation results as well as validation report of findings, and photos of items recovered were recorded (Appendix D). Discussion of findings and validation/verification findings are included in Section 4.1.2.

Table 4-5 Lead Concentrations – XRF Analysis – DU1

Sample ID	Depth (inches)	Average Lead (mg/kg) (Original/Duplicate)
AA11	0–6	10 / 18
AA12	0–6	62 / 62
A1	0–6	10
A2	0–6	17
A3	0–6	22 / 23
A4	0–6	20
A5	0–6	20
A6	0–6	19
A7	0–6	18
A8	0–6	24
A9	0–6	22
A10	0–6	18
A11	0–6	3,423 / 3,519
A11	6–12	238 / 266
A11	12–24	165
A12	0–6	50
B1	0–6	8
B2	0–6	13
B3	0–6	18
B4	0–6	23 / 26
B5	0–6	17
B6	0–6	19
B7	0–6	21
B8	0–6	21 / 24
B9	0–6	19
B10	0–6	17
B11	0–6	21
C1	0–6	12
C2	0–6	18
C3	0–6	11
C4	0–6	8 / 10
C5	0–6	13
C6	0–6	22
C7	0–6	15
C8	0–6	23
C9	0–6	26
C10	0–6	17 / 21
C11	0–6	41
D1	0–6	21
D2	0–6	11
D3	0–6	15
D4	0–6	10
D5	0–6	14
D6	0–6	18
D7	0–6	21
D8	0–6	25
D9	0–6	19
D10	0–6	21
D11	0–6	24
E1	0–6	14
E2	0–6	14
E3	0–6	11
E4	0–6	23
E5	0–6	25
E6	0–6	22
E7	0–6	19
E8	0–6	21
E9	0–6	24
E10	0–6	20
E11	0–6	24

Table 4-5 Lead Concentrations – XRF Analysis – DU1

Sample ID	Depth (inches)	Average Lead (mg/kg) (Original/Duplicate)
F1	0–6	15
F2	0–6	15
F3	0–6	25
F4	0–6	28
F5	0–6	36
F6	0–6	23
F7	0–6	19
F8	0–6	23
F9	0–6	19
F10	0–6	24
F11	0–6	20
G1	0–6	11
G2	0–6	13
G3	0–6	11
G4	0–6	94
G5	0–6	20 / 21
G6	0–6	21
G7	0–6	23
G8	0–6	23
G9	0–6	19
G10	0–6	15
G11	0–6	22
H1	0–6	18
H2	0–6	14
H3	0–6	8
H4	0–6	14
H5	0–6	19
H6	0–6	22
H7	0–6	27
H8	0–6	16 / 19
H9	0–6	25
H10	0–6	19
H11	0–6	24
I1	0–6	12
I2	0–6	9
I3	0–6	10
I4	0–6	11
I5	0–6	24
I6	0–6	21
I7	0–6	25
I8	0–6	23
I9	0–6	18
I10	0–6	22 / 23
I11	0–6	26
J1	0–6	19
J2	0–6	12
J3	0–6	9
J4	0–6	14
J5	0–6	16 / 21
J6	0–6	25
J7	0–6	19
J8	0–6	17
J9	0–6	18 / 18
J10	0–6	24
J11	0–6	23

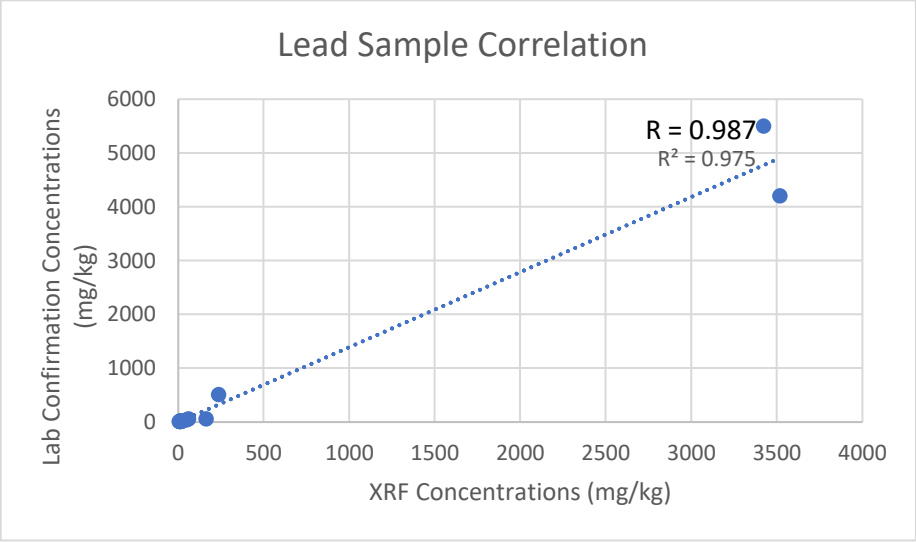
Notes:
Highlighted samples exceed the 800-milligram-per-kilogram (mg/kg) project action level (PAL).

Table 4-6 Lead Concentrations – Confirmation Analysis – DU1

Sample ID	Sample Depth (inches)	Lead Concentrations (mg/kg)	
		X-Ray Fluorescence Samples	Lab Confirmation Samples
AA12	0–6	62	57
A11	0–6	**3,423**	**5,500**
A11 (dup)	0–6	**3,519**	**4,200**
A11	6–12	238	510
A11	12–24	165	55
A12	0–6	50	39
B4	0–6	23	15
B8	0–6	21	17
C4	0–6	8	7.7
C10	0–6	17	11
D3	0–6	15	9.9
E10	0–6	20	12
F1	0–6	15	16
F11	0–6	20	20
G3	0–6	11	10
G5	0–6	20	16
H2	0–6	14	10
H8	0–6	16	17
I1	0–6	12	9.1
I3	0–6	10	7.6
I10 (dup)	0–6	22	21
I10	0–6	23	21
J1	0–6	19	13
J5	0–6	16	15
J9	0–6	18	15

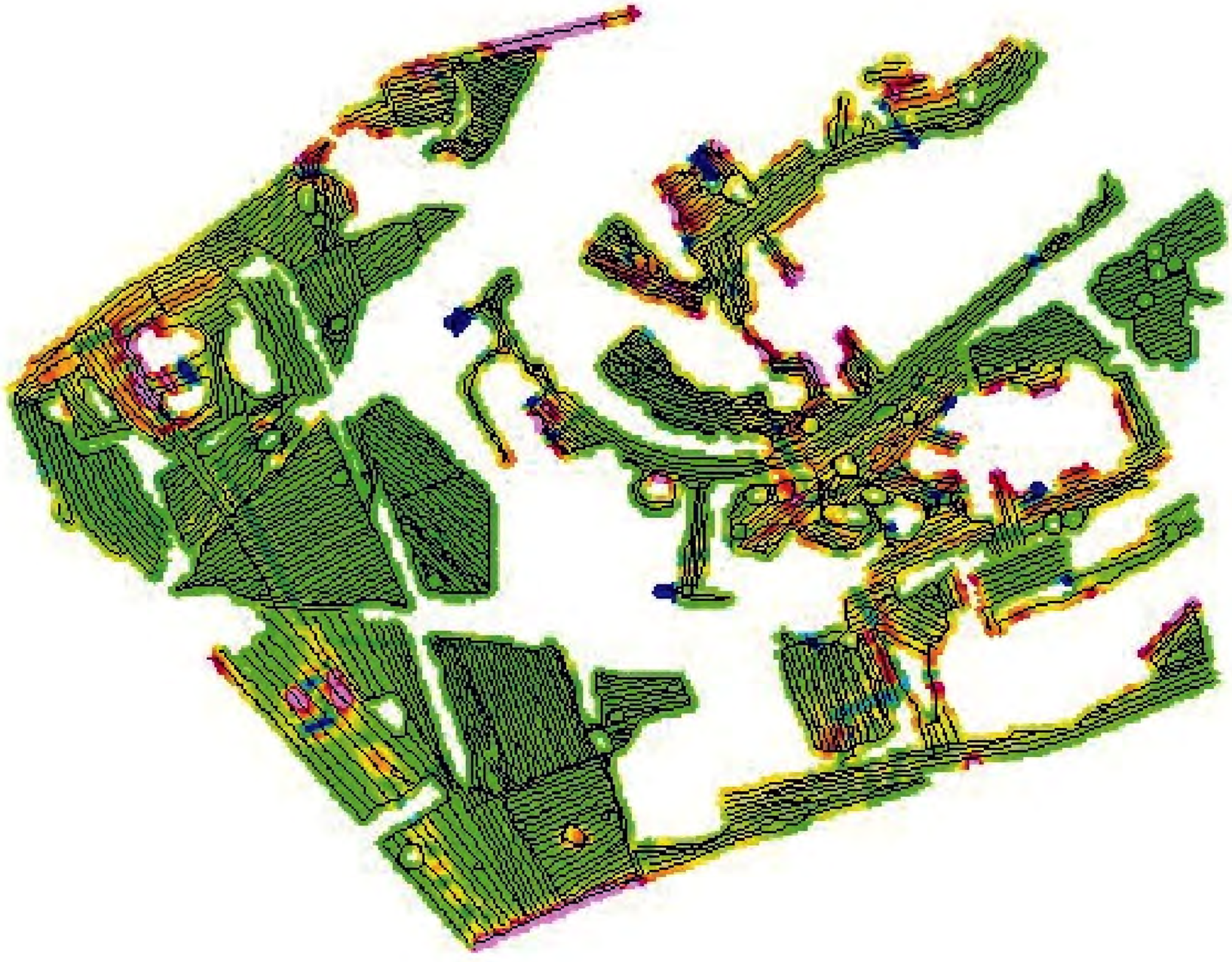
Notes:

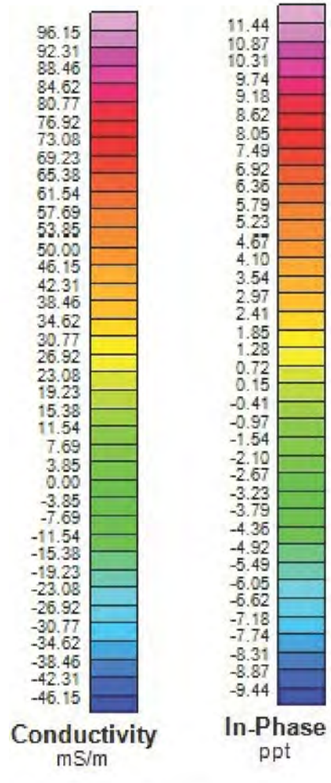
Highlighted samples exceed the 800-milligram-per-kilogram (mg/kg) project action level (PAL).



R — Correlation Coefficient

R^2 — Coefficient of Determination





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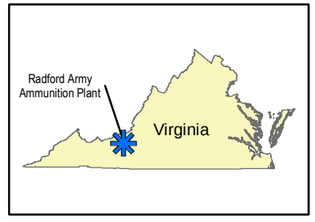

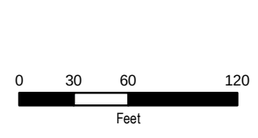

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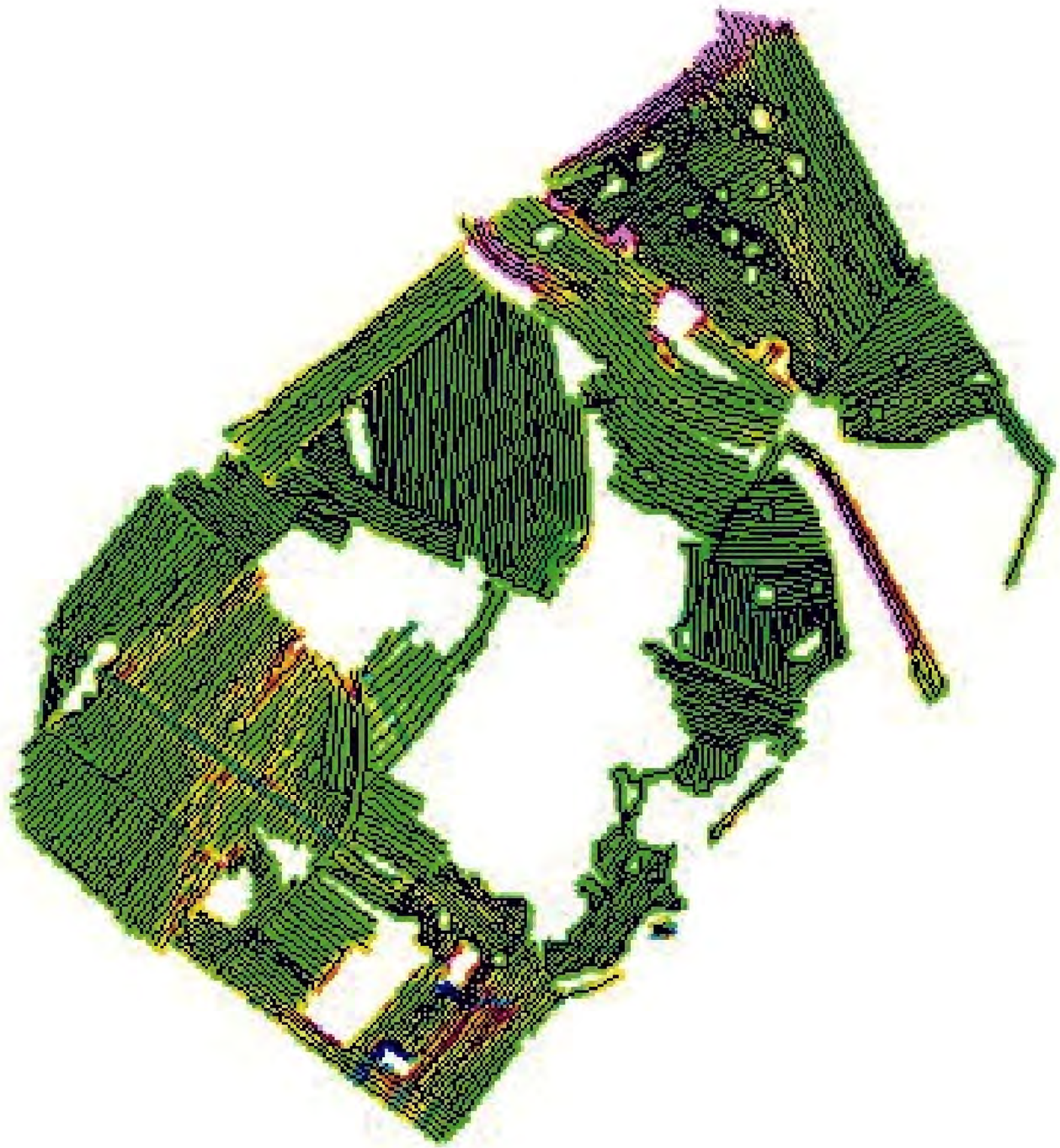
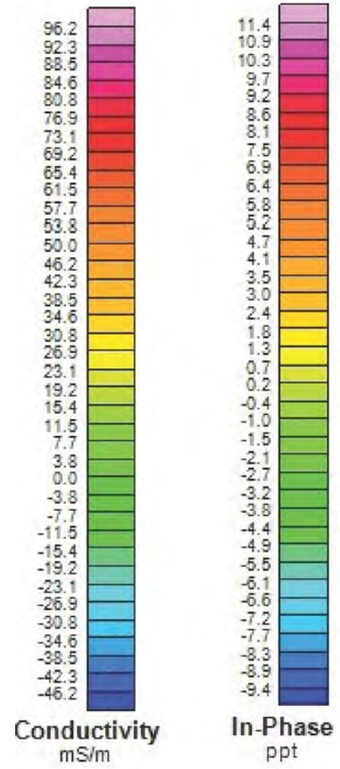
FIGURE 4-1
EM31 SURVEY DGM DATA –
EASTERN PORTION OF MRS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\EM31_DGM_Eastern_Portion_MRS.mxd, 4/24/2022 9:01:26 AM, johna





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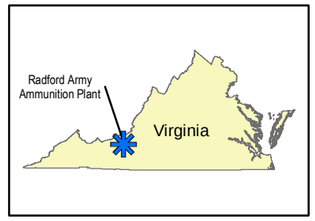

N

0 25 50 100
Feet

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FIGURE 4-2
EM31 SURVEY DGM DATA –
WESTERN PORTION OF MRS
RADFORD, VIRGINIA

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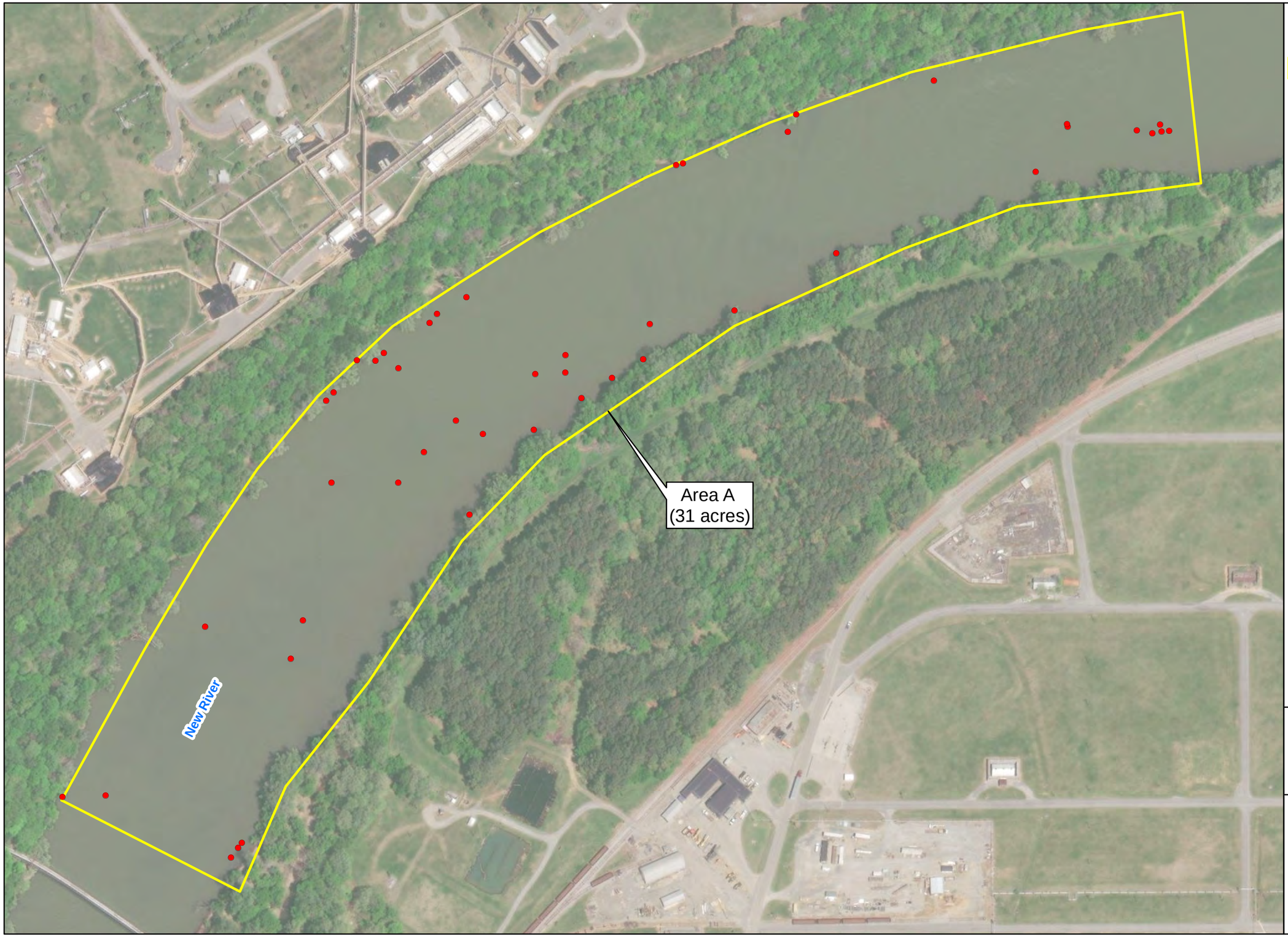
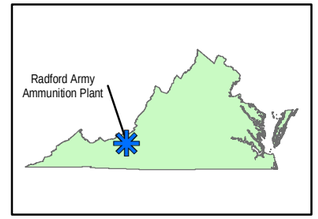


Legend

Ferex DGM Anomalies

Area A

Imagery Source:
ESRI, Imagery Mapping Service, 2018



N

0 75 150 300

Feet

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FIGURE 4-3
AREA A DGM RESULTS MAP
GEOPHYSICAL INVESTIGATION MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\AreaA_DGMAnnomalies.mxd, 4/15/2022 2:56:11 PM, langloisb

Former Trench Mortar Range
(37 acres)

Inaccessible Area

Former Gun Range
(28 acres)

Area A
(31 acres)

Inaccessible Area

TM-1
TM-2
TM-3
TM-4
TM-5
TM-6
TM-7
TM-8
TM-9
TM-10
TM-11
TM-12
TM-13
TM-14
TM-15
TM-16

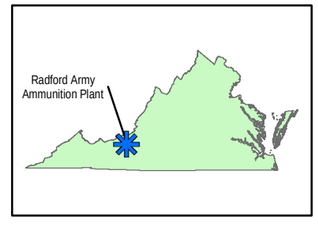
GR-1
GR-2
GR-3
GR-4
GR-5
GR-6
GR-7
GR-8
GR-9
GR-10
GR-11
GR-12
GR-13
GR-14
GR-15
GR-16
GR-17
GR-18

Legend

Targets Item Category

- MPPEH
- Munitions Debris
- Trench Mortar Grids – AGC Survey
- Gun Range Grids – AGC Survey
- Area A
- EM-31 Area
- Inaccessible Area
- Former Trench Mortar Range
- Former Gun Range
- Buildings

Imagery Source:
ESRI, Imagery Mapping Service, 2018



N

0 162.5 325 650
Feet

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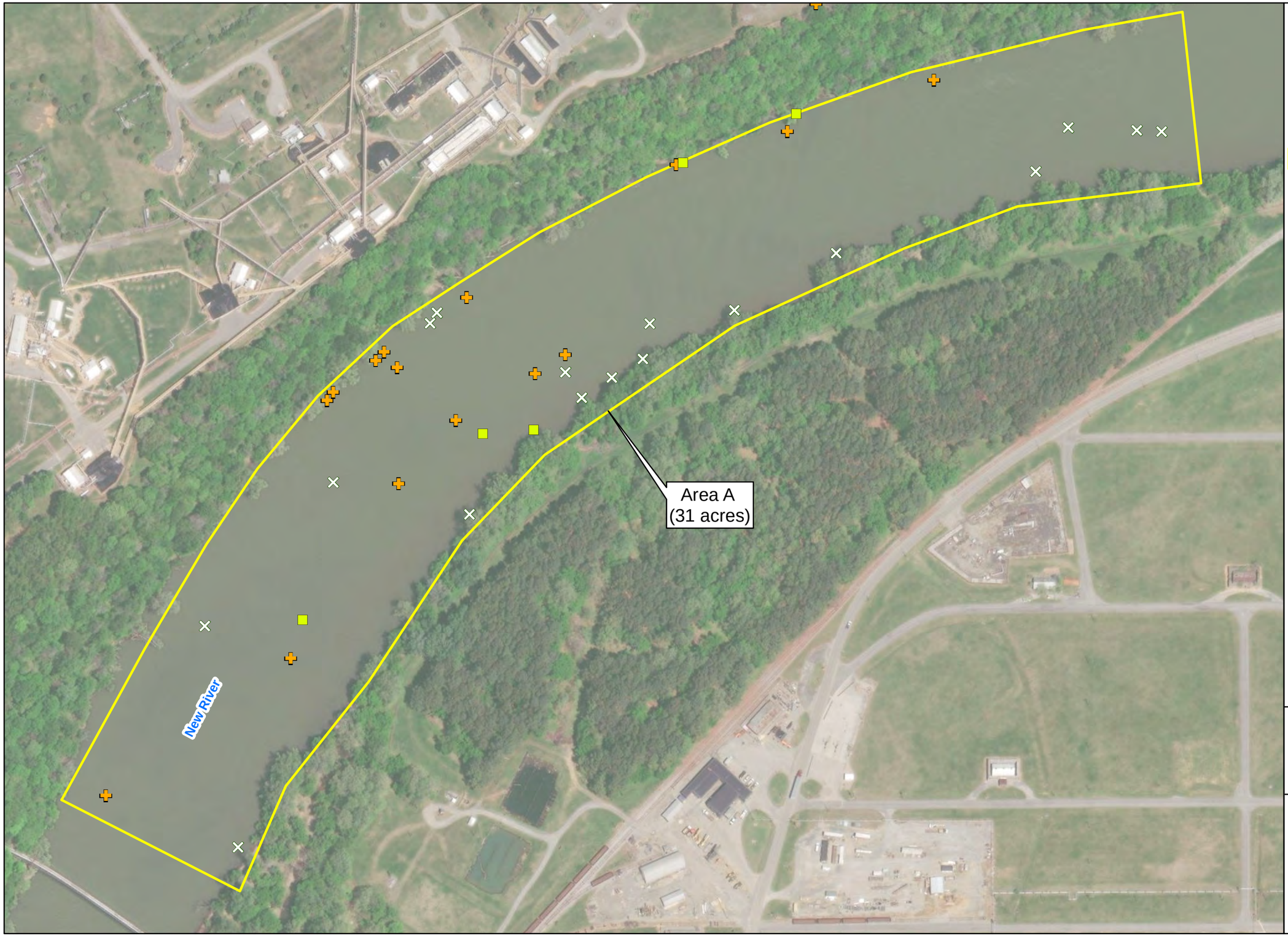
FIGURE 4-4
MRS AND AREA A INTRUSIVE
MUNITIONS FINDINGS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\Geophysical_Investigation_Map_MD_MPPEH.mxd, 4/24/2022 9:10:15 AM, johna

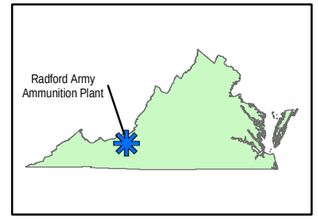


Legend

Targets Item Category

- Cultural Feature
- MPPEH
- Munitions Debris
- Non-Munitions Related Debris
- Area A

Imagery Source:
ESRI, Imagery Mapping Service, 2018



N

0 75 150 300

Feet

Prepared By:

Baltimore District

FIGURE 4-5
AREA A INTRUSIVE RESULTS
RADFORD, VIRGINIA

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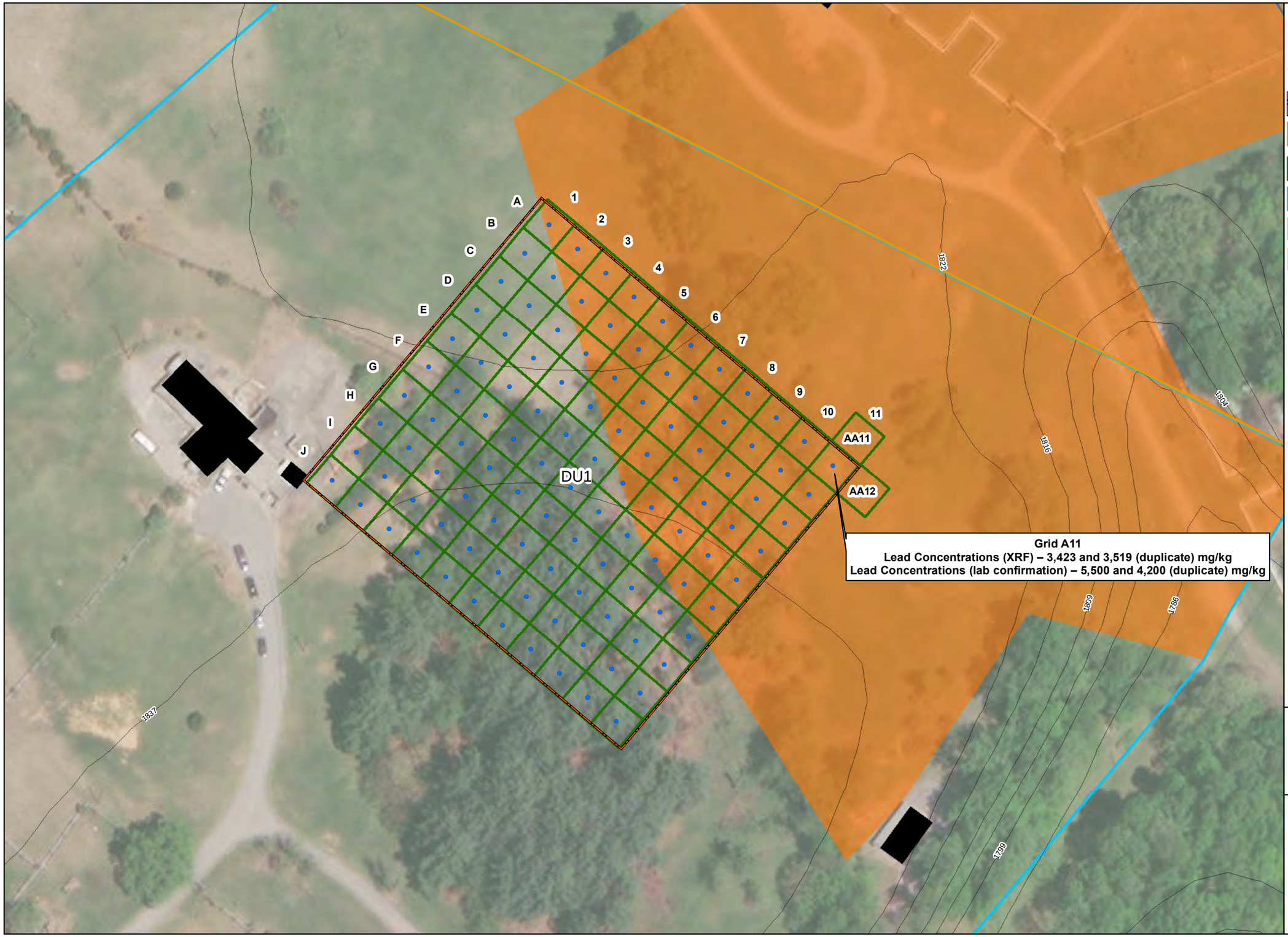
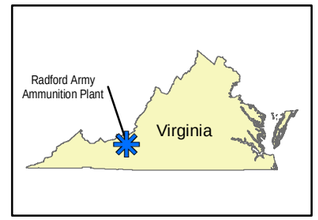


Legend

- Sampling Points
- Contours (Feet)
- SI Incremental Sampling Decision Unit
- Former Trench Mortar Range
- XRF Sampling Grid (30 X 30 Ft.)
- Former Gun Range
- Buildings
- MEC High Density Areas

Imagery Source:
ESRI, Imagery Mapping Service, 2018



0 25 50 100
Feet

N

Prepared By:
Baltimore District

FIGURE 4-6
DU1 LEAD EXCEEDANCES MAP
RADFORD, VIRGINIA

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5. CONTAMINANT FATE AND TRANSPORT

Section 5 describes the fate of contaminants in the environment and the potential transport mechanisms.

5.1 MUNITIONS AND EXPLOSIVES OF CONCERN

The intent of this section is to describe the fate of contaminants in the environment and potential transport mechanisms for MEC identified at the Former Gun and Trench Mortar Range MRS. During the RFI, MPPEH and MD were found within the MRS. As a result of the RFI DGM survey, AGC surveys, mag and dig surveys, and intrusive investigations, it is not expected that a large MEC source is present in the MRS because only a few fuzed items (mortar rounds) were identified during the investigations. Most MPPEH items that were not fuzed were subsequently determined to be MD as the rounds were observed to be only wax or sand-filled with no explosive hazard present during the post-demolition inspection process. However, there is potential for individual fuzed MPPEH to be present on the surface or in the subsurface within the MRS, including the Area A portion of the New River based on these items detected during the RFI field investigations. Migration of MPPEH items downstream within the New River is possible due to high flow conditions during precipitation events.

5.2 MUNITIONS CONSTITUENTS

Once MC is released into the environment, the fate and transport of MC depend on a wide variety of factors. Contaminant fate refers to the expected final state that an element, compound, or group of compounds will achieve following release to the environment. Contaminant transport refers to the migration mechanisms and the rates of contaminant migration away from the source area. Migration pathways often include air, water, soil, and the interfaces between the phases of the contaminant (i.e., solid, liquid, or gas). The fate and transport of contaminants occur in three types of environmental media, terrestrial, aquatic, and atmospheric. Terrestrial environments are comprised of soil and groundwater, aquatic environments are comprised of surface water and sediment, and the atmospheric environment is composed of air.

The only MC of concern at the MRS was lead, which was detected at DU1; however, the extent of lead contamination was limited to one grid within the large sampling grid conducted at DU1.

Lead species in soil are subject to various reactions with the soil matrix that ultimately limit environmental transport. The solubility of lead in soil decreases over time because of the relatively slower kinetics of the irreversible adsorption and precipitation reactions. Other attenuation mechanisms related to long-term soil forming processes also reduce lead solubility in soil (Interstate Technology Regulatory Council [ITRC], 2022). Based on the limited lead present in the DU1 area, lead processes in the environment that limit transport, and heavy vegetation, significant migration of lead is not anticipated at the MRS.

6. RISK ASSESSMENT FOR MUNITIONS CONSTITUENTS

6.1 HUMAN HEALTH RISK ASSESSMENT

The purpose of a human health risk assessment (HHRA) is to document whether MRS conditions pose a risk to current or future MRS receptors and to identify which, if any, MRS conditions need to be addressed further in the RCRA process.

Lead exposure for the DU1 area was evaluated using the Adult Lead Model (ALM) to calculate the blood lead levels (BLLs) in workers and to estimate the probability of fetal BLLs exceeding 10 micrograms per deciliter (µg/dL) in pregnant female workers (USEPA, 2017b). The ALM assumes an assessment protective of a fetus also affords protection for male or female adult workers (USEPA, 2017b). The U.S. Department of Health and Human Services recommends that BLLs among all adults be reduced to less than 10 µg/dL (Centers for Disease Control and Prevention [CDC], 2015). The ALM was used to assess exposure to and risk from lead, applying site-specific information and USEPA default recommended values, which include a default baseline BLL of 0.6 µg/dL and geometric standard deviation of 1.8. The ALM yielded a preliminary remediation goal (PRG) of 2,517 mg/kg for maintenance workers.

The ALM was run assuming current USEPA policy requirement that BLLs do not exceed 10 µg/dL 95% of the time; however, the CDC recommends lowering the BLL to 5 µg/dL based on current scientific literature on lead toxicity, which indicates clear cognitive declines in young children with BLLs between 2 and 8 µg/dL, below the long-held target of 10 µg/dL (USEPA, 2017b). For this reason, the "CDC" ALM PRG (i.e., if the BLL is lowered to 5 µg/dL) was also presented. Assuming a BLL of 5 µg/dL, the ALM yielded a PRG of 1,050 mg/kg for maintenance workers. As summarized on **Table 6-1**, only Grid A11 exceeded any of the lead worker PRGs.

The following are lines of evidence supporting the "keep in place" remedy:

- Considering the size of the Former Gun Area (28 acres) and that the current and designated future use of the site is to remain outdoor industrial, the amount of time and frequency with which a worker would be in the "lead hotspot area" is minimal, and it is believed unnecessary at this time to excavate/disturb. Furthermore, this area has security gates, which make it unlikely for trespassers to frequent.

- With the inclusion of the highest concentrations, the arithmetic mean for the site is still 278 mg/kg, which is below even the strictest industrial soil screening level of 800 mg/kg.
- Grid A11 is a small area, in which workers will not spend the majority of their time (only mowing crews currently work in this area).
- DU1 is located at a highly secure facility, which ensures limited exposure to human receptors.

6.2 ECOLOGICAL RISK ASSESSMENT

A Screening Level Ecological Risk Assessment (SLERA) evaluates the potential for adverse effects posed to ecological receptors from potential releases at an MRS.

The following are lines of evidence supporting the "keep in place" remedy:

- Grid A11 is small area, in which ecological receptors will not spend the majority of their time. The home range of a ground feeding bird is much larger than the hotspot location.
- While elevated concentrations of lead are present in A11, the small area would not provide sufficient habitat to support wildlife populations (e.g., ground-feeding birds and insectivorous mammals).
- Likely receptors are the mourning dove, American robin, and short-tailed shrew, all of which have home ranges larger than the hotspot in A11. Thus, only a small fraction of the total dietary intake would be provided from the impacted area (i.e., A11), and it is not likely that ground feeding birds or insectivorous small mammals would be harmed, given the following:
  - The home range of the mourning dove is 217 hectares (ha) (Losito and Mirarchi, 1991).
  - The home range of the American robin is 0.42 ha (USEPA, 1993).
  - The home range of the short-tailed shrew is 0.39 ha (USEPA, 1993).

Table 6-1 Summary of Lead Concentrations

Lead Concentrations (mg/kg)	*n*	Arithmetic Mean	95% UCL	Number of PRG Exceedances (800 mg/kg)	Number of ALM PRG Exceedances (2,517 mg/kg)	Number of ALM PRG Exceedances (CDC Based = 1,050 mg/kg)
XRF Samples from Table 4-6	23	188.3	850.1	1/23	1/23	1/23
Lab Confirmation Samples from Table 4-6	23	278.4	1317	1/23	1/23	1/23
Combined Samples from Table 4-6	46	233.4	843	2/46	2/46	2/46
XRF Samples from Table 4-5	115	54.21	187.2	1/115	1/115	1/115

Notes:

ALM – Adult Lead Model

CDC – Centers for Disease Control and Prevention

mg/kg – milligram(s) per kilogram

PRG – preliminary remediation goal

UCL – upper confidence limit

XRF – X-ray fluorescence

7. CONCEPTUAL SITE MODEL

The revised CSM for the Former Gun and Trench Mortar Range MRS (**Tables 7-1** and **7-2**) is based on the results of the data collected for the RFI and on the previous information provided in various removal actions and investigations, including the SI. A discussion of the MEC and MC sources, interactions, and receptors for the MRS is presented in the following subsections. The discussion is followed by a summary of the exposure pathways.

7.1 SOURCES

7.1.1 Former Trench Mortar Range Area

Munitions (mortar rounds) were intentionally fired from a firing point area in the central portion of the MRS towards the eastern and western ends of the MRS for the purpose of propellent testing to verify the quality of propellants manufactured at the facility. Suspected munitions on the Former Trench Mortar Range portion of the MRS include 4.2-inch, 60mm, and 81mm mortar rounds. Mortars have historically been encountered within the MRS during construction activities and removed and disposed of by EOD. Specific locations and depths of these encounters are not documented; however, subsurface items have been encountered in the Active Production Facility area, and surface encounters were noted in the northeast end of the MRS. Intrusive investigations conducted as part of the RFI also identified these mortar rounds present throughout the Trench Mortar Range portion of the MRS and Area A of New River but their density was greater in the northeastern corner of the MRS in the area of the CAMBL Facility suggesting that area was the primary target area of the range.

As discussed in Section 4, sampling was considered to be adequate to satisfy the target density DQO of 0.5 MEC per acre at a 95% confidence level. Larger quantities of MPPEH were identified; however, demolition activities (use of perforators to open up the rounds for internal inspection) indicated that these MPPEH items were MD as they were non-fuzed and filled with wax or sand, and no explosives were present.

7.1.2 Former Gun Range Area

Munitions items from the historical testing of propellant by test-firing projectiles into a hillside using howitzers and/or cannons. The only reported ordnance test fired was 100-pound shells.

Intrusive investigations conducted as part of the RFI identified only mortar rounds present within the Former Gun Range portion of the MRS suggesting that the source of these munitions was likely the Former Trench Mortar Range. No munitions were encountered that may have been related to a former gun range that used howitzers and/or cannons.

As discussed in Section 4, sampling was considered to be adequate to satisfy the target density DQO of 0.5 MEC/acre at a 95% confidence level. Smaller numbers of MPPEH were identified within the Gun Range area; however, demolition activities (use of perforators to open up the rounds for internal inspection) indicated that the majority of MPPEH items were MD as they were non-fuzed and filled with wax or sand and no explosives were present. However, some MPPEH items had PD fuzes, which would present a low explosive hazard since no booster or other explosive compounds were present.

7.2 INTERACTIONS

The hazard from MEC/MPPEH arises from direct contact as a result of human activity. The MRS includes industrial property on the facility. For most of the MRS boundary, there is little restriction for access by authorized on-base humans (e.g., base workers and construction workers). However, due to its location within a restricted government facility, trespassers are not likely to access the land-based portions of the MRS. No restrictions are established for Area A of New River; recreational boat traffic through this area occurs year round, but more significant activity (fishing and recreational boating) occurs in the summer.

Human activity (e.g., construction, utility maintenance, wading in the river) could potentially move or otherwise disturb MEC in a manner that may cause it to detonate; however, based on former range activities, HEs were not likely used in the mortar rounds (as noted by RFI observations and available information from interviews) thereby partially mitigating the explosive risk. Because of historical and RFI investigation encounters with MD and MPPEH only, a MEC source or explosive safety hazard is low in the MRS; limited source-receptor interactions exist for activities at the MRS.

Based on limited MC presented on the MRS, no potential source-receptor interactions exist for activities identified at the MRS.

7.3 RECEPTORS

Human receptors at the MRS include industrial workers, construction workers, road and utility workers on the land, and recreational users of Area A of New River. Munitions items have been encountered on the ground surface and in the subsurface during previous removal actions, investigations, and construction activities. Exposure pathways for MEC/MPPEH on the surface and in the subsurface, therefore, were determined to be incomplete for all human health receptors (see **Table 7-1**). Exposure to MEC related to explosive safety hazards is unlikely for ecological receptors due to the lack of HEs used in the mortar rounds previously fired at the MRS and the identification of only MPPEH and MD at the MRS.

Because of limited detections of MC, the pathways for human receptors to encounter MC resulting from MD in surface and subsurface soil is determined to be incomplete. Pathways for human receptors for surface water, sediment, surface soil, or through the food chain are determined to be incomplete. No complete pathways were identified for MC for all ecological pathways (see **Table 7-2**).

Table 7-1 Revised MEC Conceptual Site Model Pathway Analysis Summary

Site Details	Known or Suspected Contamination Source	Potential/Suspected Location and Distribution	Source or Exposure Medium	Current and Future Receptors	Potentially Complete Exposure Pathway
Name: Former Gun and Trench Mortar Range MRS **Acreage:** MRS - 115 acres (Former Gun Range – 28 acres/Former Trench Mortar Range – 87 acres) **Suspected Past DoD Activities *(release mechanism)*:** Firing from two former ranges to test propellants to target locations within the MRS. **Current and Future Land Use:** Part of the Active Production Facility and Active Test Range Areas.	**Former Trench Mortar Range:** MEC from the test-firing of 4.2-inch, 60mm, and 81mm mortar rounds to verify the quality of propellants manufactured at the facility. **Former Gun Range:** MEC from the historical testing of propellant by test-firing projectiles into a hillside using howitzers and/or cannons. The only reported ordnance test fired was 100-pound shells.	Mortars have been encountered within the MRS and removed and disposed of by EOD. Specific locations and depths of these encounters are unknown; however, subsurface items were encountered in the active production facility area, and surface encounters were noted in the northeast end of the MRS. Mortars were encountered during the RFI field investigations; however, they are considered MD as they are only filled with wax or sand with no HEs encountered in any of the rounds found.	MEC encountered.	Current and Future Visitors, Site Workers, Construction Workers, and Trespassers.	Human receptors potentially could encounter surface and/or subsurface MEC through walking, maintenance activities, or intrusive work activities as the mortars encountered did contain fuzes but did not contain any HEs.
Name: Area A (New River) **Acreage:** 31 acres **Suspected Past DoD Activities *(release mechanism)*:** Overshoots from the two former firing ranges and potential migration of munitions from the MRS through runoff from the steep slope area. **Current and Future Land Use:** Area A portion of the New River is used for recreational activities.	Potentially same as land-based portion of the MRS. However, movement of MEC from years of river flow is expected.	Mortars have been encountered within Area A and removed and disposed of by Weston during the RFI field investigations; however, they are considered MD as they are only filled with wax or sand with no HEs encountered in any of the rounds found.	MEC encountered.	Recreational users (e.g., fishing, boating, wading, and/or swimming).	Human receptors are not likely to encounter surface and/or subsurface MEC through recreational activities where they or their possessions may contact the river bottom.

Table 7-2 Revised MC Conceptual Site Model Pathway Analysis Summary

Site Details	Known or Suspected Contamination Source	Potential/Suspected Location and Distribution	Source or Exposure Medium	Current and Future Receptors	Potentially Complete Exposure Pathway
Name: Former Gun and Trench Mortar Range MRS **Acreage:** MRS – 115 acres (Former Gun Range – 28 acres/Former Trench Mortar Range – 87 acres) **Suspected Past DoD Activities *(release mechanism)*:** Firing from two former ranges to test propellants to target locations within the MRS. **Current and Future Land Use:** Part of the Active Production Facility and Active Test Range Areas.	*Metals:* ▪ Antimony ▪ Cadmium ▪ Lead ▪ Manganese ▪ Selenium ▪ Vanadium *Explosives:* Not applicable	DU1 area where elevated lead concentrations were noted during the SI. Where damaged and/or heavily corroded individual MEC items are discovered with visible signs of an MC release (e.g., stained sediment or soil under MEC) or in low visibility scenarios, tactile signs of a potential MC release (e.g., cracks, holes).	A minimal area with lead concentrations above the project action limit was noted in one DU1 grid sampled during the RFI field work. MEC (fuzed rounds) encountered at the MRS.	Current and Future Visitors, Site Workers, Construction Workers, and Trespassers. Potential ecological receptors.	Human receptors are not expected to be exposed to surface or subsurface MC in soil and sediment through dermal contact, incidental ingestion, and/or inhalation pathways for all human receptors due to the lack of a significant MC source. Ecological receptors are not expected to be exposed to MC in any environmental medium through dermal contact, incidental ingestion, inhalation, and/or the food chain due to the lack of a significant MC source.
Name: Area A **Acreage:** 31 acres **Suspected Past DoD Activities *(release mechanism)*:** Overshoots from the two former firing ranges and potential migration of munitions from the MRS through runoff from the steep slope area. **Current and Future Land Use:** Area A portion of the New River is used for recreational activities.	Potentially same as land-based portion of MRS. However, movement of MEC from years of river flow is expected to remove potential sources of MC.	Where damaged and/or heavily corroded individual MEC items are discovered with visible signs of an MC release (e.g., stained sediment under MEC) or in low visibility scenarios, tactile signs of a potential MC release (e.g., cracks, holes).	MEC (fuzed rounds but no HE) encountered in the river are unlikely to contaminate sediment or surface water.	Recreational users (e.g., fishing, boating, wading, and/or swimming). Potential ecological receptors.	Human receptors are unlikely to be exposed to surface and/or subsurface MC in sediment through dermal contact, incidental ingestion, and/or inhalation pathways due to the lack of an MC source. Ecological receptors are unlikely to be exposed to MC in surface water and sediment through dermal contact, incidental ingestion, inhalation, and/or the food chain due a lack of a MC source.

8. MUNITIONS AND EXPLOSIVES OF CONCERN RISK MANAGEMENT

The current protocol for MEC hazard assessment is the use of MEC risk management matrices (USACE, 2017). The matrices were employed using site-specific CSM data to evaluate accessibility, munitions sensitivity, and severity of an explosive event if it were to occur to determine baseline risks. The purpose of each of the four matrices used in the risk management methodology is as follows:

- **Matrix 1 – Likelihood of Encounter**: Relates the site characterization data for amount of MEC potentially present to site use, including accessibility, to determine the likelihood of encountering MEC at the MRS.
- **Matrix 2 – Severity of an Incident:** Assesses the likelihood of encounter from Matrix 1 as related to the severity of an unintentional detonation.
- **Matrix 3 – Likelihood of Detonation**: Relates the sensitivity of the MEC items to the likelihood for energy to be imparted to an item during an encounter by specific land users.
- **Matrix 4 – Acceptable and Unacceptable Site Conditions:** Combines the results of the above categories to differentiate the acceptable and unacceptable conditions. A site that results in an unacceptable initial condition will proceed to the next phase of the CERCLA response process.

Munitions have historically been encountered within the MRS footprint based upon historical removal actions and investigations. No MEC was recovered during the RFI field activities; however, MPPEH and MD were discovered during RFI work activities within the land-based MRS and Area A of New River. Based on the distribution of MPPEH items, the MRS was subdivided, and the high- and low-density areas were evaluated separately. the high- and low-density areas are shown on **Figure 8-1**. In addition, because of the differences in land use. Area A was evaluated separately from the MRS. Current land use and future construction activities scenarios were evaluated for both the high- and low-density areas.

The low density MPPEH areas of the Former Gun and Trench Mortar Range MRS for the current land use were determined to have an acceptable site condition but unacceptable under future construction activities land use. The high density MEC areas of the Former Gun and Trench Mortar

Range MRS was determined to have an unacceptable site condition under both the current land use and future construction activities land use.

The low density MPPEH areas of Area A for the current land use was determined to have an acceptable site condition.

Supporting risk management matrices input information is provided in **Appendix G.**

Former Trench Mortar Range
(37 acres)

Former Gun Range
(28 acres)

Area A
(31 acres)

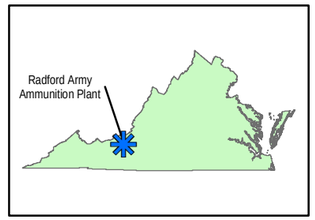
Potential MEC High
Density Area
(12 acres)

Legend

Targets Item Category

- MPPEH
- Munitions Debris
- MEC High Density Areas
- MEC Low Density Areas
- Trench Mortar Grids – AGC Survey
- Gun Range Grids – AGC Survey
- Area A
- Potential MEC High Density Area
- EM-31 Area
- Former Trench Mortar Range
- Former Gun Range
- Buildings

Imagery Source:
ESRI, Imagery Mapping Service, 2018



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Prepared By:
Baltimore District

FIGURE 8-1
RMM DENSITY MAP
RADFORD, VIRGINIA

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9. SUMMARY AND CONCLUSIONS

The following subsections summarize the results and conclusions of the RFI activities conducted at the Former Gun and Trench Mortar Range MRS. The RFI was intended to determine the nature and extent of MEC and MC and the potential hazards and risks posed to human health and the environment by MEC and MC. As a result of the characterization activities conducted at the MRS, the objectives of the RFI have been satisfied.

9.1 SUMMARY OF RCRA FACILITY INVESTIGATION ACTIVITIES

The data needs and DQOs were developed and documented in the QAPP. In general, the data needs and DQOs for the MRS focused on characterizing the nature and extent of MEC and MC that may be present in the MRS. The characterization activities to support the data needs and DQOs were used to gather information to evaluate whether there are unacceptable risks to human health and the environment associated with MEC and/or MC. The characterization activities were also used to determine whether further action is required under the RCRA process.

Geophysical investigations, including AGC of the MRS and DGM of Area A of New River identified numerous anomalies through most areas of the site.

Numerous MPPEH items were identified. During initial inspections, some were able to be verified to have inert filler (wax or sand), while some required to be explosively vented (explosive charge that blows a hole in the side of the military munition) for further inspection. After post-demo internal inspections, these items were determined to be MD. The fuzes did not contain booster or additional explosive compounds but were treated as MPPEH for safety purposes.

The DQOs stated that MC sampling activities would be conducted at the MRS in the DU1 area for lead contamination and in areas where corroded/damaged MEC were observed during RFI anomaly reacquisition and intrusive investigations. A 110-node grid system was sampled at DU1 for lead (XRF and off-site laboratory analysis) that indicated the elevated lead concentrations above the PAL were only detected in the surface soils within one 30-ft by 30-ft grid. No corroded or damaged MEC was encountered; therefore, specific MC sampling was not conducted for these items.

9.2 RISK ASSESSMENT

Based on a qualitative assessment, the following are lines of evidence supporting the "keep in place" remedy:

- Considering the size of the Former Gun Range Area (28 acres) and that the current and designated future use of the site is to remain outdoor industrial, the amount of time and frequency with which a worker would be in the "lead hotspot area" is minimal, and it is believed unnecessary at this time to excavate/disturb. Furthermore, this area has security gates, which make it unlikely for trespassers to frequent.

- With the inclusion of the highest concentrations, the arithmetic mean for the site is still 278 mg/kg, which is below even the strictest industrial soil screening level of 800 mg/kg.

- Grid A11 is a small area, in which workers will not spend the majority of their time (only mowing crews currently work in this area).

- DU1 is located at a highly secure facility, which ensures limited exposure to human receptors.

- Grid A11 is small area, in which ecological receptors will not spend the majority of their time. The home range of a ground feeding bird is much larger than the hotspot location.

- While elevated concentrations of lead are present in A11, the small area would not provide sufficient habitat to support wildlife populations (e.g., ground-feeding birds and insectivorous mammals).

- Likely receptors are the mourning dove, American robin, and short-tailed shrew, all of which have home ranges larger than the hotspot in A11. Thus, only a small fraction of the total dietary intake would be provided from the impacted area (i.e., A11), and it is not likely that ground feeding birds or insectivorous small mammals would be harmed.

9.3 REVISED CONCEPTUAL SITE MODEL

The information collected during the RFI was used to establish the CSM (Section 7). The purpose of the CSM is to identify the complete, potentially complete, or incomplete source-receptor interactions for reasonably anticipated future land use activities at the MRS. An exposure pathway is the course a MEC item or MC takes from a source to a receptor. Each pathway includes a source, interaction, and receptor.

Based on the results of the RFI field investigations and historical investigations, there have been historical and current encounters with MEC and current finds of MD. Thus, it is expected that a

MEC source or explosive safety hazard is potentially present in the MRS. The CSM for MEC identified potentially complete pathways for surface and subsurface soils for all receptors having access to the MRS.

Based on the minimal lead detected at DU1, a potential MC release at the MRS is not evident.

9.4 MEC RISK MANAGEMENT

MEC, MPPEH, and MD were recovered during the RFI field activities within the land-based MRS and Area A of the New River. Based on the distribution of MEC/MPPEH items, the MRS was subdivided, and the high- and low-density areas were evaluated separately. The high density and low-density areas are shown on **Figure 8-1**. In addition, because of differences in land use, Area A was evaluated separately from the MRS. Current land use and future construction activities scenarios were evaluated for both the high- and low-density areas. The low density MPPEH areas of the Former Gun and Trench Mortar Range MRS for the current land use were determined to have an acceptable site condition but unacceptable under future construction activities land use. The high density MEC areas of the Former Gun and Trench Mortar Range MRS were determined to have an unacceptable site condition under both the current land use and future construction activities land use. The low density MPPEH areas of Area A for the current land use were determined to have an acceptable site condition.

9.5 UNCERTAINTIES

The nature and extent of MEC and MC at the MRS have been adequately characterized; however, inherent limitations and uncertainties exist within areas not surveyed because of obstructions (e.g., sloped areas, structures, roadways, and inadmissible areas [Active Production Facility]) in the planned survey areas and in deeper subsurface soils that exceed the detection capabilities of the DGM instruments. It is expected that a MEC/MPPEH source or explosive safety hazard is potentially present at the MRS because of the historical and current encounters. In addition, natural processes in the vicinity of, and within, New River (e.g., erosion due to steep slope or water movement) may uncover additional MPPEH items over time.

Also, there were several v/v failures for selected anomalies below the project threshold. The uncertainties of AGC results are directly related to depth and the project threshold used. More TOI would have been investigated if the decision statistic was lowered to 0.8 versus the

upheld statistic of 0.85. Four of the v/v failures would have been resolved. Secondly, and most notably, two of the v/v failures were the result of discovered depth. Both of these items were discovered at the cusp of max detection depth or beyond detection capabilities of the instrument. Given the 5xRMS threshold used during the dynamic phase with MM2x2 survey coupled with the subsequent cued library decision statistic used, it can be determined that there could be deeper 81mm mortars and 4.2-inch mortars remaining within the TM and GR grids investigated.

In summary, a principal DQO in Worksheet #11 was to determine the nature and extent of MEC on the ground surface and subsurface (WESTON, 2020). Even with the uncertainties presented above, the munitions investigation accomplished determining the nature and extent of MEC with the presented intrusive results for the MRS (Appendix D) as the QC failures were located within grids with numerous other munitions items already detected and intrusively investigated; therefore, these failures did not impact the identification of the extent of munitions items, including MEC across the MRS.

9.6 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the RFI field activities, the following conclusions were determined for the Former Gun and Trench Mortar Range MRS:

- Low risks were associated with MEC due to only identifying PD fuzes utilized on the encountered mortar rounds, which did not contain any HE.
- Low risks were associated with MC due to the limited area of lead exceedances at DU1 area of the Former Gun Range.
- Although a specific source is not known for the limited extent of lead within Grid A11 in DU1, the data clearly indicate that the area was not used as a gun range, because lead concentrations would have been encountered throughout the larger DU1 grid. Although the lead appears not to be related to gun range firing activities, this does not necessarily mean that the source (e.g., battery disposal, lead-based paint disposal) was not range-related activity.
- The nature and extent of MEC and MC at the MRS have been adequately characterized. Low- and high-density MEC and MPPEH areas were identified within the MRS.
- Based on these conclusions, it is recommended that the MRS by subdivided into low- and high-density areas and that Area A of New River be made into an MRS.
- Further action in the form of conducting a corrective measures study is warranted.

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APPENDIX A
TOPOGRAPHIC FILL ANALYSIS REPORT

FINAL

TOPOGRAPHIC FILL ANALYSIS REPORT

FORMER GUN AND TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE

ENVIRONMENTAL AND MUNITIONS RESPONSE SERVICES
RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

Contract No.: W912DR-15-D-0022
Delivery Order No.:W912DR18F0492

Prepared For:

U.S. ARMY CORPS OF ENGINEERS
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2 Eaton Street, Suite 603
Hampton, VA 23669

May 2019

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LIST OF ACRONYMS AND ABBREVIATIONS

CSM	Conceptual Site Model
DEM	digital elevation model
DQO	Data Quality Objective
EPIC	Environmental Photographic Interpretation Center
ft	feet
GIS	geographic information system
GOCO	Government-Owned Contractor-Operated
m	meter
MEC	munitions and explosives of concern
mm	millimeter
MMRP	Military Munitions Response Program
MRS	munitions response site
RCRA	Resource Conservation and Recovery Act
RFAAP	Radford Army Ammunition Plant
RFI	RCRA Facility Investigation
TNT	trinitrotoluene
USGS	U.S. Geological Survey
WESTON	Weston Solutions, Inc.

1. INTRODUCTION

Military munitions have been encountered during utility work at depths ranging from 8 to 10 feet (ft) below ground surface at the Former Gun and Trench Mortar Range Munitions Response Site (MRS), Radford Army Ammunition Plant (RFAAP), Radford, Virginia. The depth of these munitions may be due to extensive development of the MRS after discontinued use of the ranges.

A characterization strategy is being developed to determine the nature and extent of munitions and explosives of concern (MEC) as part of the Military Munitions Response Program (MMRP) Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) at the MRS. The RFI fieldwork approach needs to consider the past munitions use of the MRS in addition to subsequent cut and fill during earthmoving activities, which may have moved or covered MEC.

The purpose of this Topographic Fill Analysis Report is to compare and assess historical and present day topography to quantify cut and fill across the Former Gun and Trench Mortar Range MRS. Fill locations are of particular focus because of the potential for MEC firing points or target areas to be located underneath infrastructure or general earthwork areas. Results and recommendations from this report will be used to enhance the MRS conceptual site model (CSM) and finalize the overall characterization strategy to achieve RFI data quality objectives (DQOs).

2. MRS DESCRIPTION

The Former Gun and Trench Mortar Range MRS (RFAAP-002-R-01) is located adjacent to the New River in the west-central portion of the RFAAP. The MRS is comprised of 115 acres (**Figure 1**). The Former Gun Range portion of the MRS is 28 acres, and the Former Trench Mortar Range portion of the MRS is 87 acres.

The individual Former Gun and Former Trench Mortar Ranges began operations in 1941. Based on information gathered from RFAAP employee interviews, operations were discontinued after the end of World War II. The Former Trench Mortar Range was used to test-fire 4.2-inch, 60-millimeter (mm), and 81-mm mortar rounds to verify the quality of propellants manufactured at the facility. The Former Gun Range was historically used to test projectile propellant by test-firing projectiles into tunnels that were dug into the hillside. Powder was tested using both chronograph and photoelectric screen methods for guns and mortars. Mortars were tested by firing

them through large loops of electric wires, which were connected to the chronograph. The fire power was established by calculating the distance of the shot and the time traveled (Neville and McClane, 1996).

Over time, the RFAAP has undergone modifications to meet production needs. In 1945, the RFAAP was put on stand-by because of cessation of hostilities, and in 1946, the RFAAP was modified to begin producing ammonium nitrate as part of the War Department fertilizer production program. In April 1949, the facility was re-modified for the manufacture of smokeless powder and placed on stand-by until it reopened in 1952. Between 1953 and 1956, the RFAAP underwent major rehabilitation of all operating areas, including expansion of the Pilot Plants and conversion to manufacturing rocket powder (MacDonald and Mack Partnership, 1984). During this time period, nearly 100 buildings deemed as surplus were demolished, including the entire pentolite and trinitrotoluene (TNT) manufacturing areas. In 1968, the facility was modernized to include some automated production lines and from 1972 to 1975, several new facilities were constructed (Neville and McClane, 1996). Additionally, two explosions occurred in the 1970s (May 1974 and January 1978) that demolished several buildings, damaged other buildings, and required manufacturing areas to be completely rebuilt.

Because there was extensive development of the Former Gun and Trench Mortar Range MRS after its use was discontinued and there are no documented firing point or impact locations, these areas may be located underneath process facilities or infrastructure that have been constructed. Because of the construction of these process facilities, considerable earthwork was conducted at the MRS, including grading to level uneven terrain and the creation of earthen berms to serve as blast walls.

3. DATA COLLECTION AND EVALUATION

Available historical and present day topographic data and aerial photographs were gathered as part of data collection activities. To assemble this information, Weston Solutions, Inc. (WESTON) contacted various archives in Virginia such as former RFAAP operation contractors and federal and state data websites, including the following:

- The National Archives at College Park, Maryland
- Radford University McConnell Library (Digital Archives Collection and Discussion)

- University of Virginia Library (Digital Archives Collection and Archivist Discussion)
- Virginia Tech Library (Digital Archives Collection)
- Geospatial Data Center
- RFAAP Administrative Record
- EPA National Exposure Research Lab's Environmental Photographic Interpretation Center (EPIC)
- Hagley Museum (Digital Archives Collection, Archivist Discussion, and Site Visit)

Data availability was found to be limited due to general record keeping practices. However, several key archives were acquired and evaluated to support the topographic analysis. The earliest useful available aerial photographs of the MRS are from 1949, 1953 and 1960. The 1953 aerial photograph mosaic was missing a key overlapping frame that precluded its use for analysis of the Former Trench Mortar Area portion of the MRS. The 1949 aerial photographs provided full coverage of the MRS and they were used as the starting point for topographic analysis (**Figure 2**). The aerial photographs also indicate little site work occurred between 1949, approximately 4 years after use of the Former Gun and Trench Mortar Range MRS ended, and the 1960s, when additional construction began at the MRS. For current imagery, a 2018 DEM was acquired from United States Geological Survey (USGS).

4. TOPOGRAPHIC CHANGE ANALYSIS METHODOLOGY

The methodology for the topographic change analysis involved the production of a digital elevation model (DEM) using stereoscopy to highlight topographic feature changes between 1949 and present day. Four overlapping aerial images from 1949 contained the MRS. Photograph frames were corrected for radiometric and geometric variation and georeferenced to create an orthoimage.

Agisoft software was then used to produce an unreferenced 3-dimensional surface model from the four original images. Ground control points were based on elevation from the 2018 imagery and DEM, with total 3-dimensional error of 1.47 meters (m) (x: 0.164 m, y: 0.72 m, z: 1.27 m). Exterior orientation values were available for bearing and focal length; flight elevation was assumed to be 10,500 feet and pitch and roll were assumed to be zero. Elevation at ground control points and exterior orientation estimates were applied to the unreferenced model to back-calculate the flight

location. Lastly, an ultra-high density point cloud was generated for elevation throughout the image, producing a 1.69 m resolution digital surface model (**Figure 3**).

To assess topographic change, the difference in elevation between the 2018 and 1949 DEM was calculated in ArcGIS Pro. The 2018 DEM for the MRS is presented in **Figure 4**. A figure showing increases in elevation at 2 ft contour intervals is presented in **Figure 5** and **Figure 6**.

5. TOPOGRAPHIC CHANGE ANALYSIS RESULTS

The topographic change results are depicted in **Figure 5** and **Figure 6** for the Former Gun Range and Former Trench Mortar Range, respectively. Both figures use a 2 ft contour interval with color ramping and labeling applied to the index contours to reduce map clutter and highlight trends. Areas exhibiting fill (positive values) indicate a lower elevation/digital surface model in 1949 versus present day suggesting material was added during earth moving work.

The Area A (New River) portion of the site is more susceptible to error because of the dramatic change in topography. The appearance of fill within Area A and along the southern boundary of the MRS is a manifestation of actual topography changes from 1949 to present day coupled with the greater than typical error of the stereopair analysis. Regions of the MRS with shallower slopes show less sensitivity to sources of error and are the focus of our interpretations.

The calculated change within the accessible portion of the Former Gun Range (**Figure 5**) varies between -16 ft and 15 ft. The present day topographic surface within this area is an average of 3.3 ft below the 1949 topographic surface. Approximately 28% of the accessible portion of the Former Gun Range area exhibits a higher topography than in 1949.

The calculated change within accessible regions of the Former Trench Mortar Range (**Figure 6**) varies between -43 ft and 19 ft. Excluding the steep slope beside the river, the present day topographic surface is an average of 1.2 ft above the 1949 topographic surface within the accessible region. Approximately 53% of the area of the accessible portion of the Former Trench Mortar Range exhibits a higher topography than in 1949.

The 1949 aerial photograph for the Former Gun Range is presented in **Figure 7,** including the portion of the MRS that exhibits fill. A similar depiction of the Former Trench Mortar Range and is presented in **Figure 8**.

Topographic changes were then reviewed against the 1949 and present day aerial photographs. Larger and/or horizontally contiguous areas of fill are generally attributed to building construction or other infrastructure that is currently in place. The location of present day infrastructure (buildings, roadways, parking areas and other above ground structures) is depicted on the figures to show correlation with fill. Infrastructure and fill associated with infrastructure will be avoided during RFI fieldwork.

The primary focus of this analysis are the other areas of fill that are not associated with present day infrastructure. These fill areas vary from several feet in size to several hundred feet in diameter such as the area located in the western side of the Former Gun Range. Each fill location was then compared to the 1949 historical aerial image to determine if there was any correlation to potential scaring or other notable features. Fill areas that exceed or nearly exceed predicted detection capability of planned RFI geophysical surveys are also of particular interest because mechanical excavation may be the only opportunity to verify if there is a munitions related source.

Identified features of interest are fill areas that do not correlate with infrastructure, are co-located with historical aerial photograph disturbances and/or are beyond planned RFI geophysical surveys. Features are further described in **Table 1**. The locations of the features of interest are also presented in **Figure 7** and **Figure 8**. Unique identification numbers are used to match **Table 1** with **Figure 7** and **Figure 8**.

Table 1 1949 Aerial Photograph Features of Interest

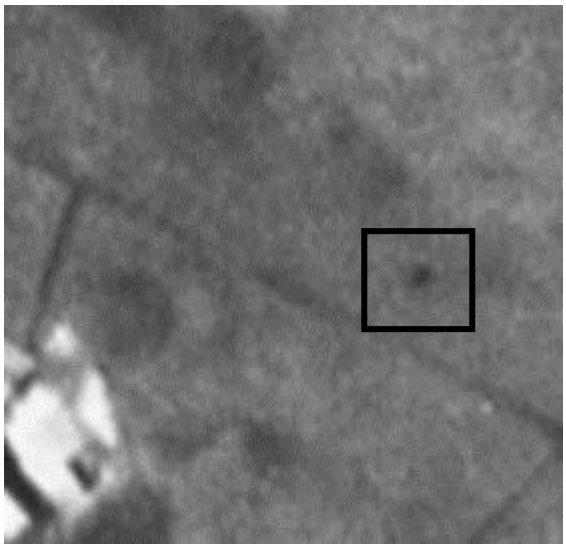
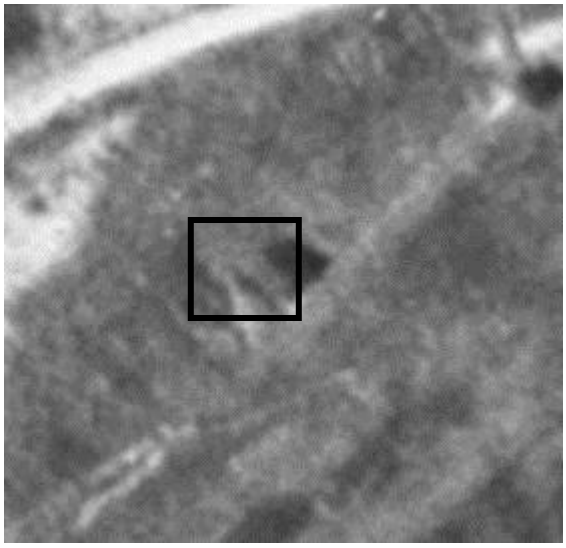
MRS Location	Feature ID and Description	Feature Image
Former Gun Range (see **Figure 7**)	**FGR-01**: Shadow observed in 1949 aerial photograph. Estimated at approximately 8 ft of fill.	
	FGR-02: Fill area that exceeds 8 ft. Adjacent to structure that is also present in 1949 aerial photograph.	

Table 1 1949 Aerial Photograph Features of Interest (Continued)

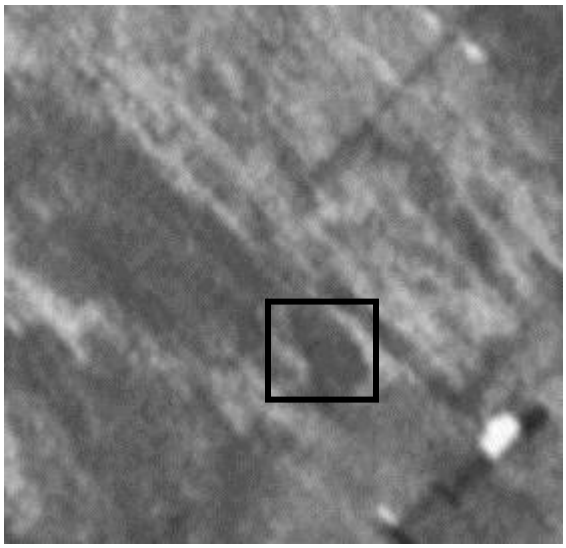
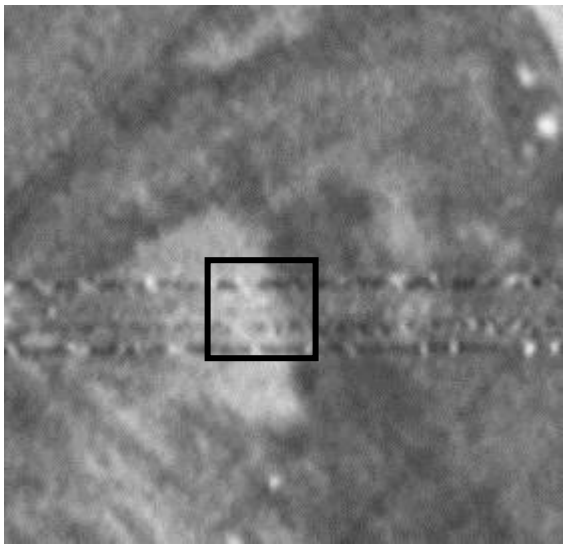
MRS Location	Feature ID and Description	Feature Image
	FGR-03: Approximately 6 ft of fill but within a discrete fill area that is atypical from surroundings. Shadow also observed in 1949 aerial photograph.	
	FGR-04: Large fill area, approximately 13 ft thick. Correlates to variation in 1949 aerial photograph. Striping due to faulty image.	

Table 1 1949 Aerial Photograph Features of Interest (Continued)

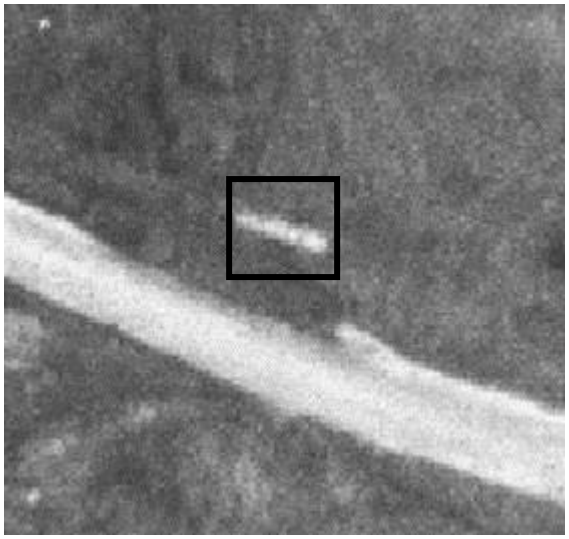
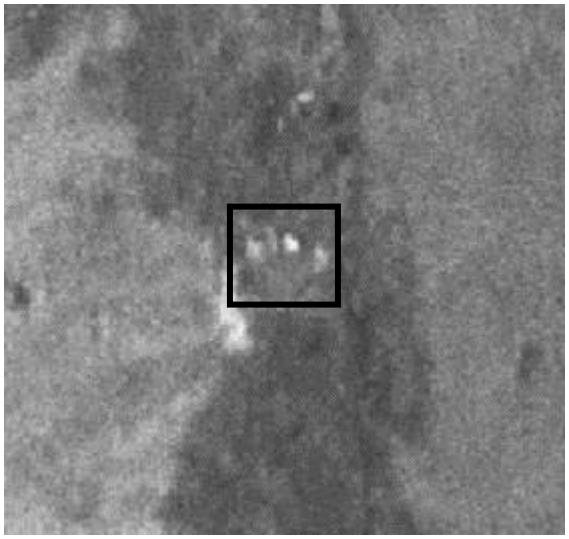
MRS Location	Feature ID and Description	Feature Image
Former Trench Mortar Range (see **Figure 8**)	**FTMR-01**: Linear feature adjacent to former roadway. Present day topography is 6 ft to 8 ft higher in elevation than 1949 topography.	
	FTMR-02: Fill area exceeding 13 ft. Several reflective features clustered in a single area observed in 1949 aerial photograph.	

Table 1 1949 Aerial Photograph Features of Interest (Continued)

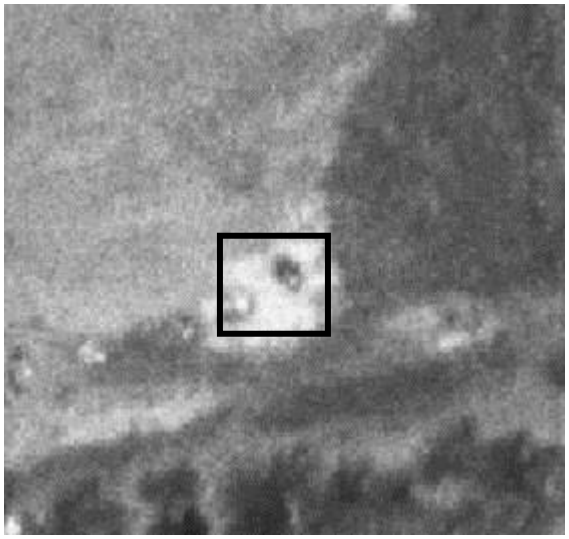
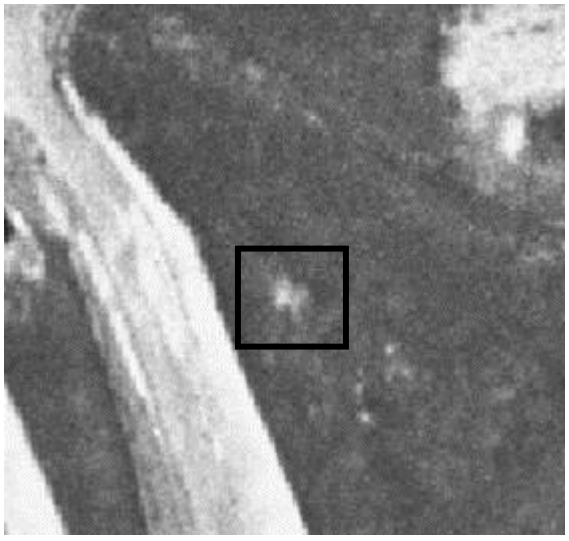
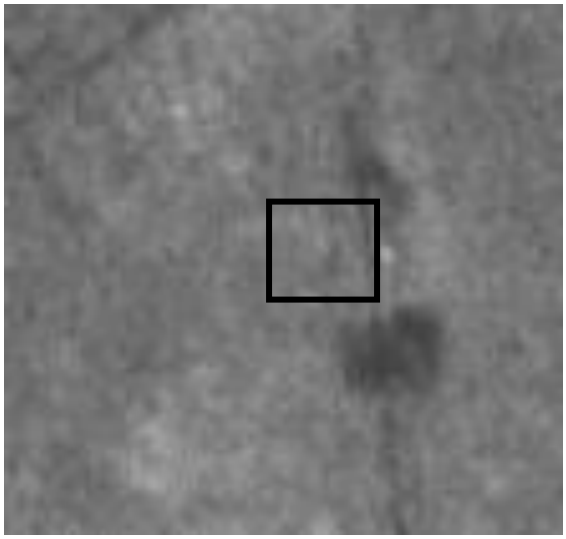
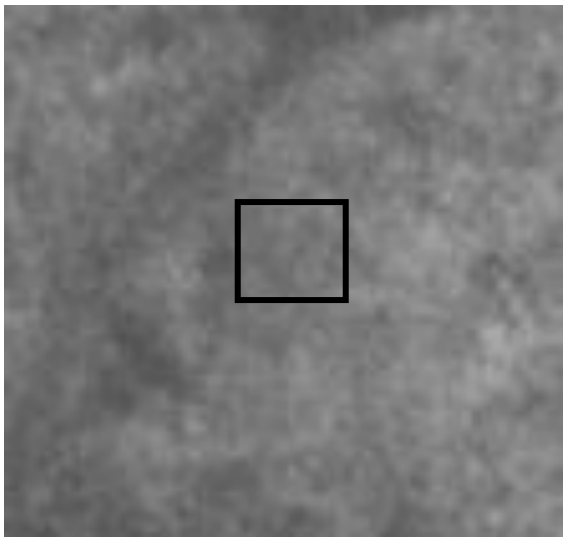
MRS Location	Feature ID and Description	Feature Image
	FTMR-03: Approximately 6 ft of fill. Located in a scarred area in 1949 aerial photo. Potential former structures visible.	
	FTMR-04: Scarring feature located next to former roadway with significant fill.	

Table 1 1949 Aerial Photograph Features of Interest (Continued)

MRS Location	Feature ID and Description	Feature Image
	FTMR-05: Peak observed in 1949 elevation model. Estimated at approximately 7 ft of fill. No corresponding feature in the 1949 aerial photograph was observed.	
	FTMR-06: Peak observed in 1949 elevation model. Estimated at approximately 8 ft of fill. No corresponding feature in the 1949 aerial photograph was observed.	

6. RECOMMENDATIONS

The results from this topographic fill analysis suggest cut and fill activities have occurred at the Former Gun and Trench Mortar Range MRS since munitions related activities ceased in the mid-1940s when compared to present day conditions. Significant fill heights can be attributed to building and other infrastructure construction activities. However, there are remaining areas within the MRS where MEC may be present that are now covered with fill due to earthwork. In some cases MEC may be deeper than anticipated depth of detection of geophysical technologies (estimated to be 8 ft).

A total of 10 features of interest identified from a 1949 aerial photograph and topographic analysis were identified because the fill areas do not correlate with infrastructure, are co-located with historical aerial photograph disturbances and/or are beyond planned RFI geophysical surveys. The specific circumstance for selecting each feature of interest is listed in **Table 1.** Feature of interest locations based on unique ID are presented in **Figure 7** and **Figure 8**.

These results and recommendations should be used as part of the RFI work planning process to refine the MRS CSM and to further develop DQOs. The recommended sequence of work for the RFI includes the following steps:

1. Perform EM31 survey transects across accessible portions of the MRS.
2. Identify anomalies of interest based on the EM31 surveys that may require further investigation as part of the RFI.
3. Determine if the anomalies of interest from the EM31 survey are co-located with feature of interest locations identified in **Table 1** and presented in **Figure 7** and **Figure 8**.
4. Reacquire features of interest from **Table 1** and the EM31 survey to assess topography and accessibility for intrusive work.
5. Conduct mechanized test pitting/trenching of each feature of interest in **Table 1** and/or based on the EM31 survey to the 1949 surface if possible.
6. Note and record findings as part of the RFI.

7. REFERENCES

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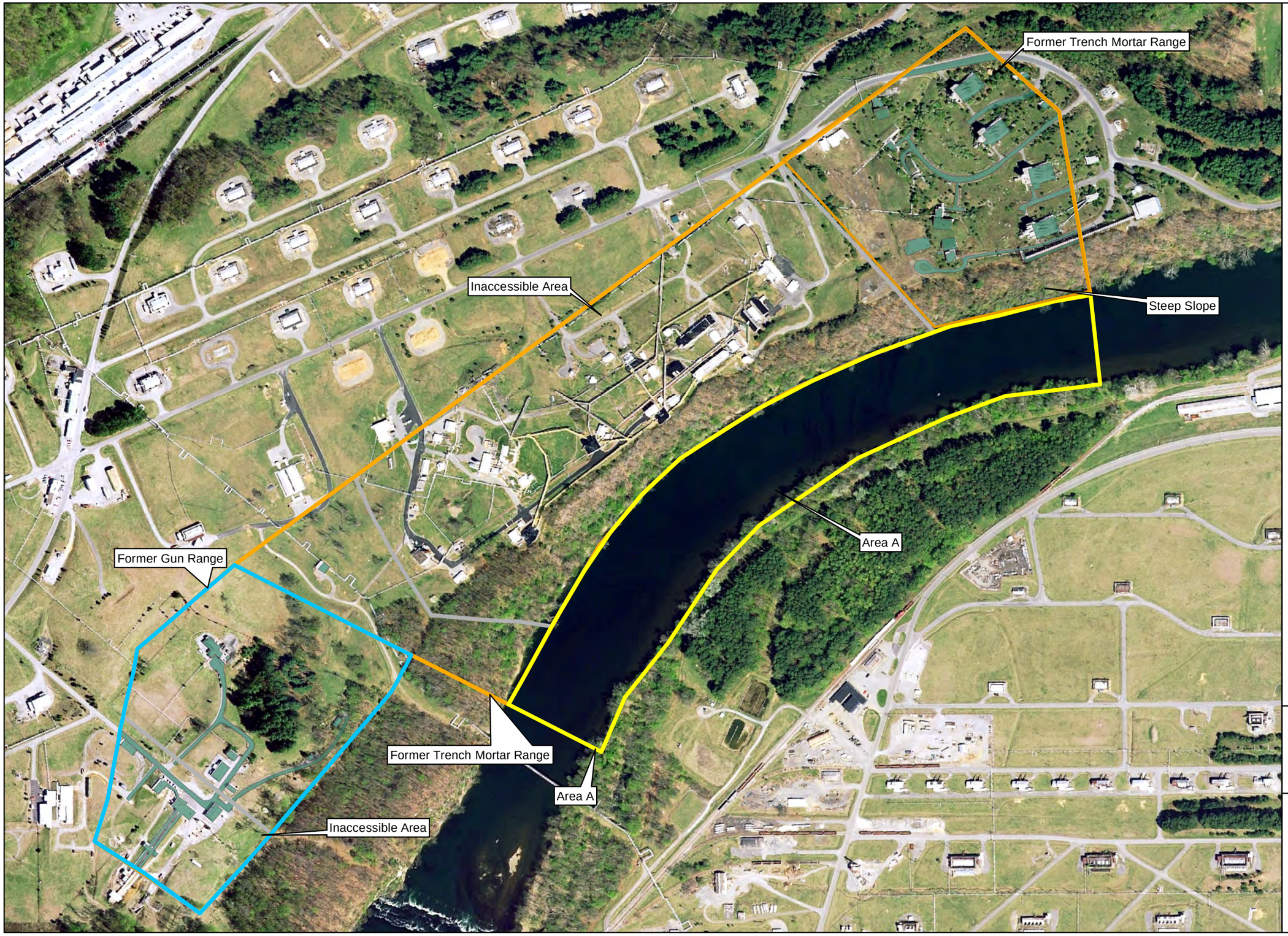
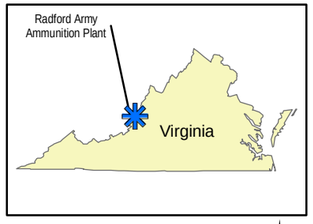
Neville, Ashley M. and McClane, Debra A (Gray & Pape, Inc. subcontractor to Geo-Marine, Inc.). 1996. The World War II Ordnance Department's Government-Owned Contractor-Operated (GOCO) Industrial Facilities: Radford Ordnance Works, Historic Investigation. Performed under U.S. Army Corps of Engineers, Fort Worth District. U.S. Army Material Command Historic Context Series Report of Investigations, Number 6A. February 1996.

FIGURES



Legend

- Hardscape
- Area A
- Inaccessible Area
- Former Gun Range
- Former Trench Mortar Range



0 150 300 600

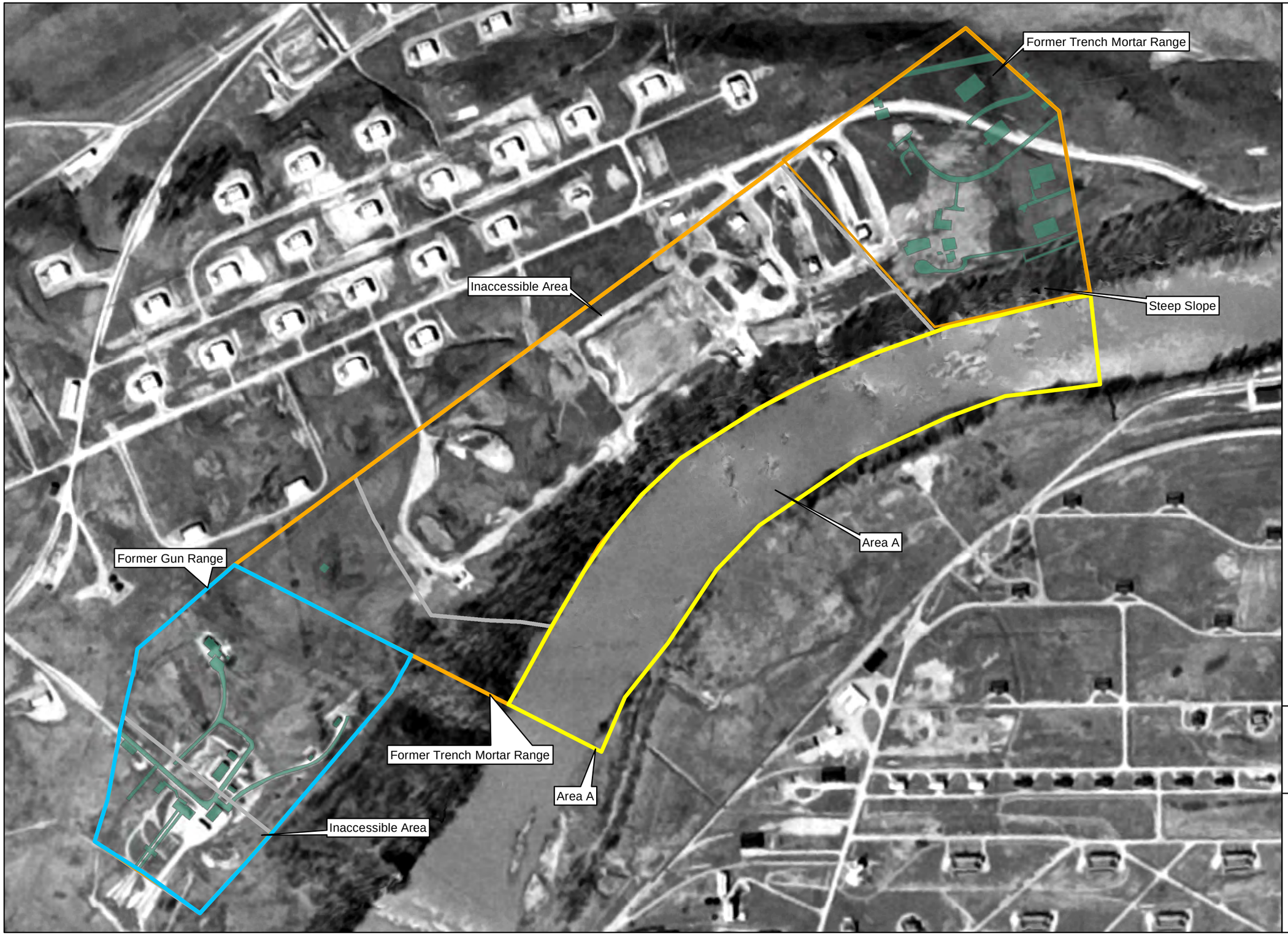
Feet

Prepared By:

Baltimore District

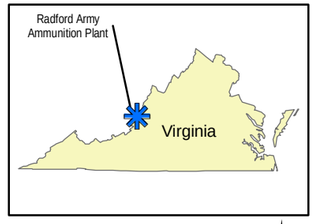
FIGURE 1
SITE LAYOUT

STEREOSCOPIC ANALYSIS REPORT
FORMER GUN AND TRENCH
MORTAR RANGE MRS
RADFORD ARMY AMMUNITION PLAN
RADFORD, VIRGINIA



Legend

- Hardscape
- Area A
- Inaccessible Area
- Former Gun Range
- Former Trench Mortar Range



0 150 300 600

Feet

Prepared By:

Baltimore District

FIGURE 2
1949 AERIAL IMAGERY
FOR THE ENTIRE MRS

STEREOSCOPIC ANALYSIS REPORT
FORMER GUN AND TRENCH
MORTAR RANGE MRS
RADFORD ARMY AMMUNITION PLAN
RADFORD, VIRGINIA

Former Trench Mortar Range

Inaccessible Area

Steep Slope

Area A

Former Gun Range

Former Trench Mortar Range

Area A

Inaccessible Area

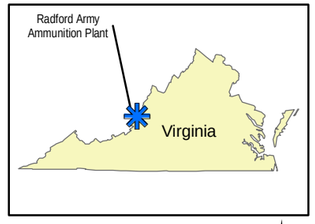
Legend

- Hardscape
- Area A
- Inaccessible
- Former Gun Range
- Former Trench Mortar Range

Elevation (ft)

High : 1949.6

Low : 1550.59



0 150 300 600

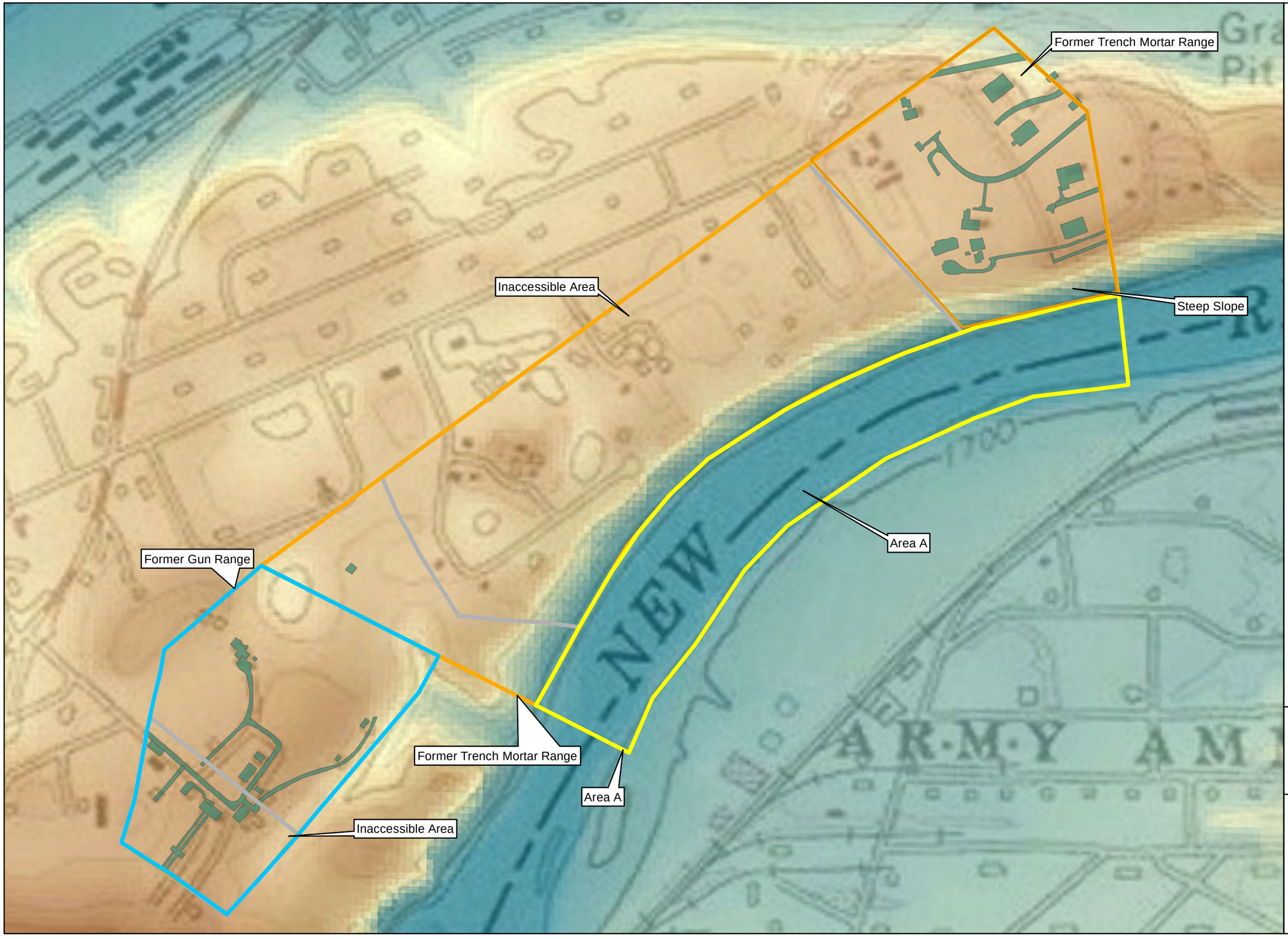
Feet

Prepared By:

Baltimore District

FIGURE 3
1949 DIGITAL ELEVATION MODEL
FOR THE ENTIRE MRS

STEREOSCOPIC ANALYSIS REPORT
FORMER GUN AND TRENCH
MORTAR RANGE MRS
RADFORD ARMY AMMUNITION PLAN
RADFORD, VIRGINIA



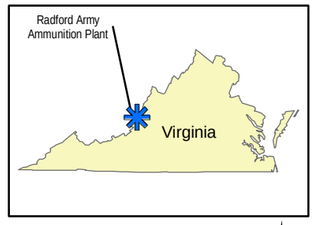
Legend

- Hardscape
- Area A
- Inaccessible
- Former Gun Range
- Former Trench Mortar Range

Elevation (ft)

High : 1939.84

Low : 1659.39



0 150 300 600

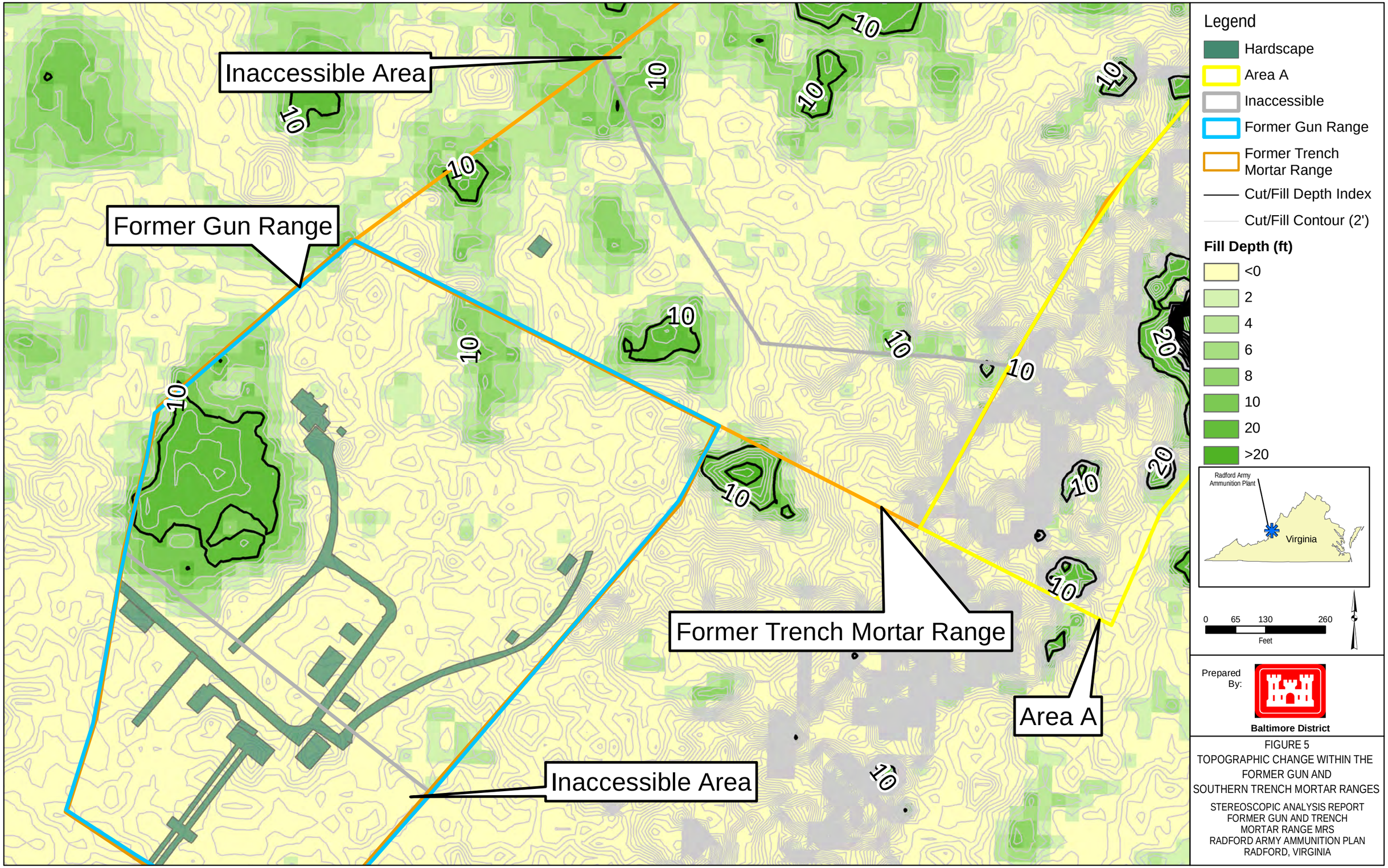
Feet

Prepared By:

Baltimore District

FIGURE 4
2018 DIGITAL ELEVATION MODEL FOR THE ENTIRE MRS

STEREOSCOPIC ANALYSIS REPORT
FORMER GUN AND TRENCH MORTAR RANGE MRS
RADFORD ARMY AMMUNITION PLAN
RADFORD, VIRGINIA


Inaccessible Area
Former Gun Range
Former Trench Mortar Range
Area A
Inaccessible Area
10
20
Legend
Hardscape
Area A
Inaccessible
Former Gun Range
Former Trench Mortar Range
Cut/Fill Depth Index
Cut/Fill Contour (2')
Fill Depth (ft)
<0
2
4
6
8
10
20
>20
Radford Army Ammunition Plant
Virginia
0 65 130 260
Feet
Prepared By:
Baltimore District
FIGURE 5
TOPOGRAPHIC CHANGE WITHIN THE FORMER GUN AND SOUTHERN TRENCH MORTAR RANGES
STEREOSCOPIC ANALYSIS REPORT
FORMER GUN AND TRENCH MORTAR RANGE MRS
RADFORD ARMY AMMUNITION PLAN
RADFORD, VIRGINIA

Former Trench Mortar Range

Inaccessible Area

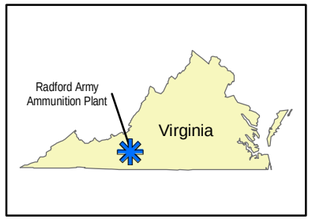
Steep Slope

Legend

- Hardscape
- Area A
- Inaccessible Area
- Former Trench Mortar Range
- Cut/Fill Depth Index
- Cut/Fill Contour (2')

Fill Depth (ft)

- <0
- 2
- 4
- 6
- 8
- 10
- 20
- >20



N

0 65 130 260

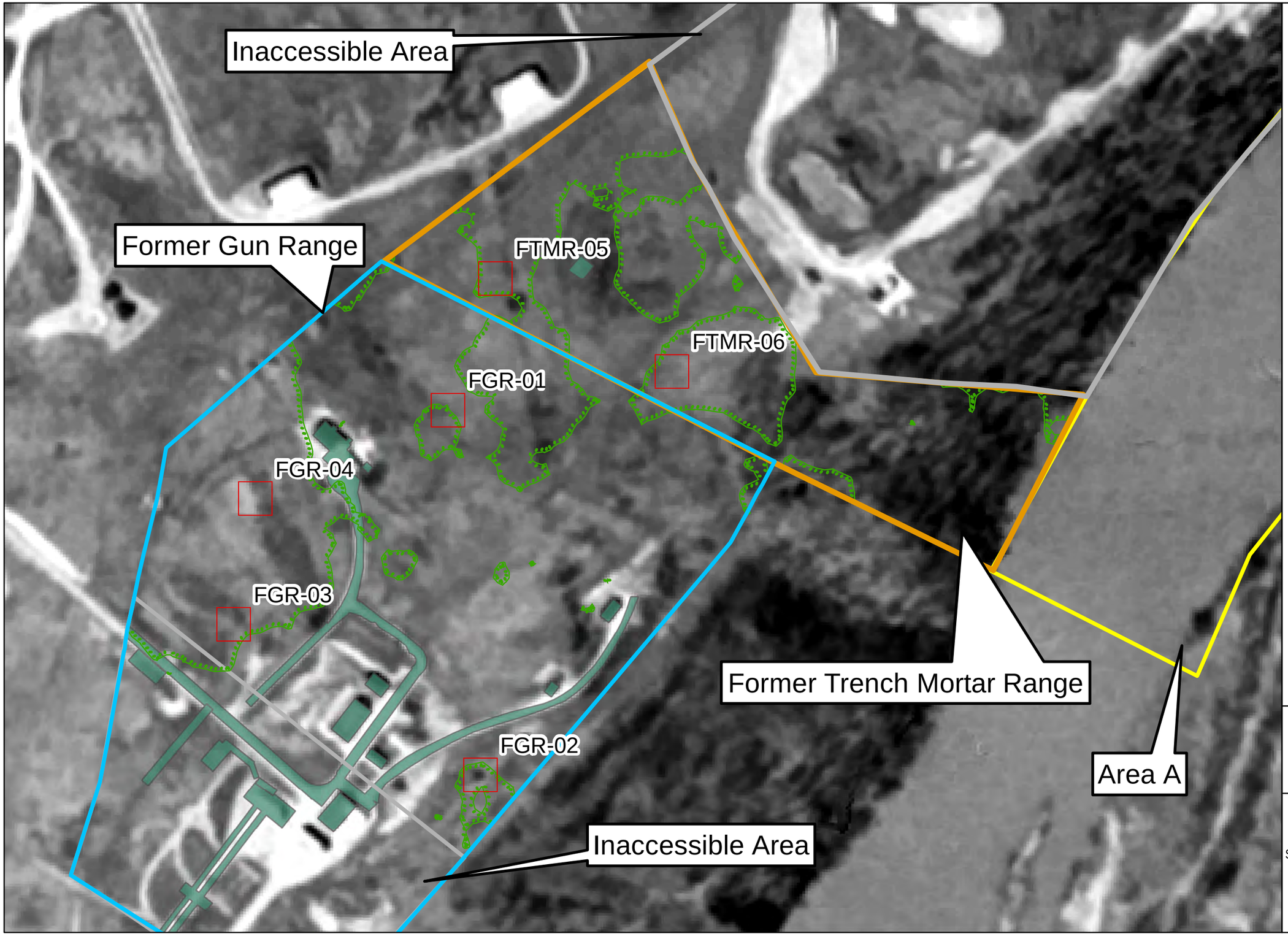
Feet

Prepared By:

Baltimore District

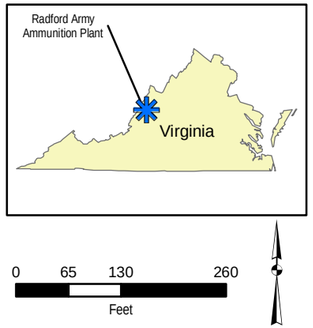
FIGURE 6
TOPOGRAPHIC CHANGE WITHIN THE FORMER TRENCH MORTAR RANGE

STEREOSCOPIC ANALYSIS REPORT
FORMER GUN AND TRENCH
MORTAR RANGE MRS
RADFORD ARMY AMMUNITION PLAN
RADFORD, VIRGINIA



Legend

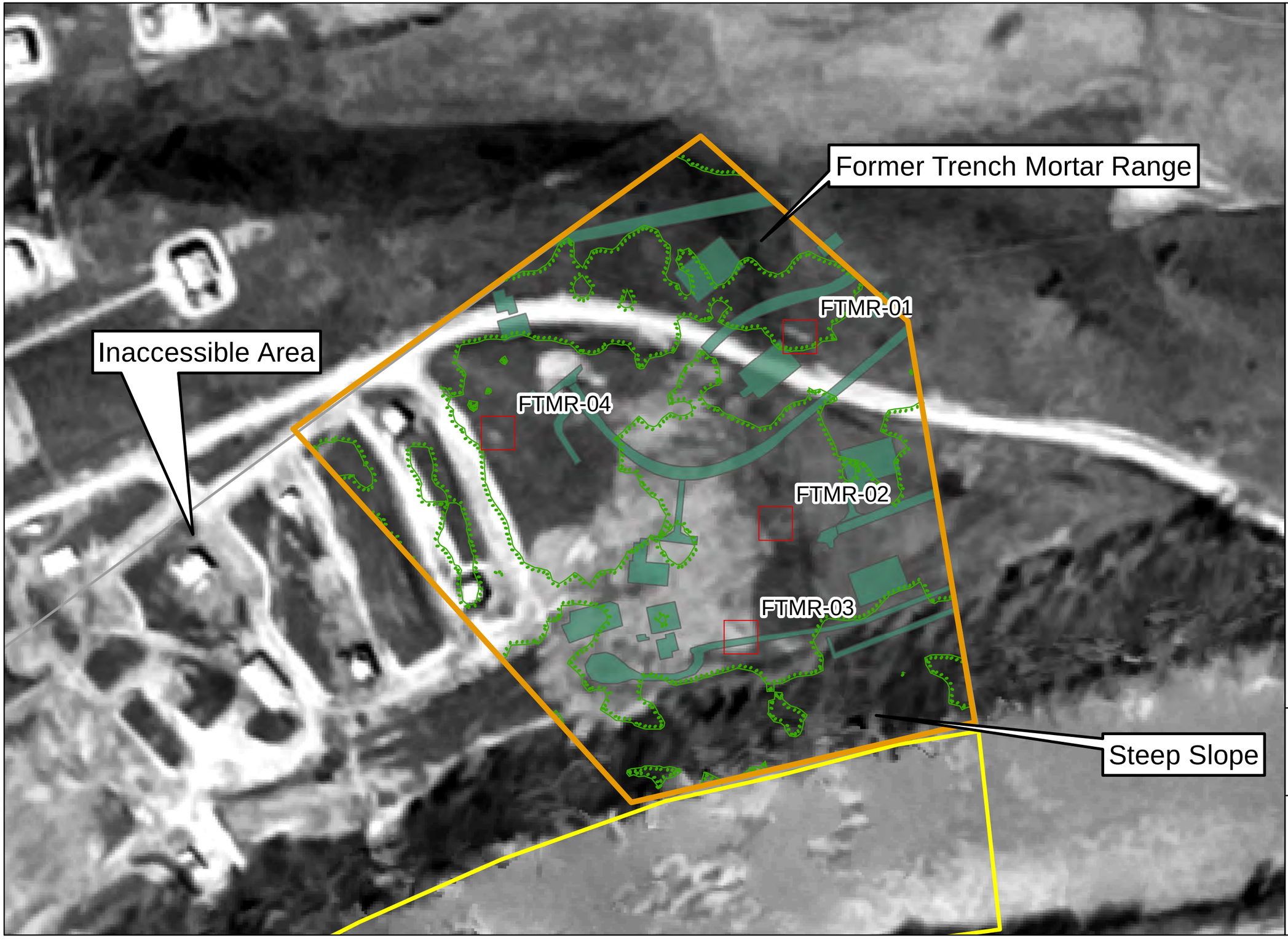
- Hardscape
- Area A
- Inaccessible Area
- Former Gun Range
- Former Trench Mortar Range
- Proposed Test Pit
- Fill



Prepared By:

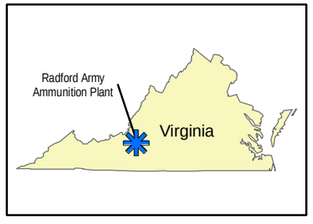
Baltimore District

FIGURE 7
FILL AREAS WITHIN THE
FORMER GUN AND
SOUTHERN TRENCH MORTAR RANGES
STEREOSCOPIC ANALYSIS REPORT
FORMER GUN AND TRENCH
MORTAR RANGE MRS
RADFORD ARMY AMMUNITION PLAN
RADFORD, VIRGINIA



Legend

- Hardscape
- Area A
- Inaccessible Area
- Former Trench Mortar Range
- Proposed Test Pit
- Fill



N

0 65 130 260

Feet

Prepared By:

Baltimore District

FIGURE 8
FILL AREAS WITHIN THE
FORMER TRENCH MORTAR RANGE

STEREOSCOPIC ANALYSIS REPORT
FORMER GUN AND TRENCH
MORTAR RANGE MRS
RADFORD ARMY AMMUNITION PLAN
RADFORD, VIRGINIA

APPENDIX B
DAILY REPORTS

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site
(RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/20/20 0800 - 1400

WEATHER/TEMPERATURE: mid 90s, Sunny and Clear

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist), Tony Pace (WESTON Project Manager)

Health and Safety: Topics and Concerns Discussed – UXO safety, PPE, Site Safety, Ticks

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ Munitions Constituents Sampling.
- ☒ UXO Technician Escort activities.
- ☒ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☐ Grubbing

Comments:
- Acquire badges and familiarize team with site
-Acquire permits for DGM activities
-Locate area for AGC IVS
-Acquire Supplies

WESTON personnel on-site hours:
Mike Link - 6
Sean Stout – 6
Dane Kormos – 6
Jeff Holm – 6
Brad Hartman – 6
Tony Pace - 6

MATERIALS DELIVERED (Amount, Condition, and Purpose):
Metal Mapper 2x2, R10 RTK Equipment, EM-31

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: N/A

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Brush Cut area for IVS, organize equipment, await connex delivery

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/21/20 0700 - 1500

WEATHER/TEMPERATURE: mid 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – UXO safety, Hydration, PPE, Heat Stress

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ Munitions Constituents Sampling.
- ☒ UXO Technician Escort activities.
- ☒ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
-Acquire permits for brush cutting
-Clear area for AGC IVS
-Place Connex and unpack equipment

WESTON personnel on-site hours:
Mike Link –8
Sean Stout – 8
Dane Kormos – 8
Jeff Holm – 8
Brad Hartman - 8

MATERIALS DELIVERED (Amount, Condition, and Purpose):
Storage Connex, Toro Brush Cutter for Veg Clearance

PROBLEMS/RESOLUTIONS:
Grids overgrown with vegetation, rented brush cutter.

DATA TRACKING: 072120_QC_T1, 072120_QC_T2

Comments: Lightning Hold 1305-1415

PLANNED OPERATIONS FOR NEXT DAY: Install AGC IVS, Collect Initial Background Validations, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/22/20 0630 - 1630

WEATHER/TEMPERATURE: Low 90s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – UXO safety, Wildlife, Heat Stress

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☒ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☒ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
-Install AGC IVS
-Build Metal Mapper
-Place Port-o-John and Hand Washing Station
-Validate IVS Background Locations on targets 90001 and 1002
- Performed IVS AM function tests including SBG, SFT, and SQC over items 1001-1004 and 90001.
-Data sent to processor for review

WESTON personnel on-site hours:
Mike Link –10
Sean Stout – 10
Dane Kormos – 10
Jeff Holm – 10
Brad Hartman - 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
Port-o-John and Hand Washing Station

PROBLEMS/RESOLUTIONS:

DATA TRACKING: 072220_QC_T1, 072220_QC_T2, Collect SBR at IVS targets 1002 and 90001, collected SBG, SFT tests at IVS targets 1002 and 90001, collected SQC checks at IVS items 1001, 1003, and 1004.

Comments: Lightning Hold 1555, Thunderstorms remainder of day.

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/23/20 0700 - 1700

WEATHER/TEMPERATURE: Low 90s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – UXO safety, Wildlife, Heat Stress

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG, SFT, and SQC over items 1001-1004 and 90001.
-EM-31 team complete site evaluation and RTK power poles and southern border of Former Trench Mortar Range MRS.
- Collect EM-31 data over approximately 1.5 acres in SW Corner of Former Trench Mortar Range MRS.
- Performed QC/IVS AM function tests with EM31
- Brush Cut GR-13.
-Collect dynamic data with Metal Mapper 2x2 in GR-13.
- Performed IVS PM function tests including SBG, SFT, and SQC over items 1001-1004 and 90001.
- Performed QC/IVS AM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Mike Link –10
Sean Stout – 10
Dane Kormos – 10
Jeff Holm – 10
Brad Hartman - 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:

DATA TRACKING: 072320_QC_T1, 072320_QC_T2, Collect SBG, SFT tests at IVS targets 1002 and 90001, collected SQC checks at IVS items 1001, 1003, and 1004, Metal Mapper – Radford Grid 13 Dynamic Data, EM-31 -072320_ivsam, 072320_ivspm, 072320_qcam, 072320_qcpm

Comments: Lightning Hold 1645, Thunderstorms remainder of day.

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/24/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Site Safety, Escorting In Site

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG, SFT, and SQC over items 1001-1004.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of power poles and elevated pipe rack in Former Trench Mortar Range MRS near GR-9.
- Collect EM-31 data over approximately 1.5 acres in Former Trench Mortar Range MRS.
- Brush Cut GR-9, GR-18, GR-14, GR-10.
-Collect dynamic data with Metal Mapper 2x2 in GR-9.
- Performed IVS PM function tests including SBG, SFT, and SQC over items 1001-1004. DAM tests over lines 1001, 1002, 1003
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Mike Link –10
Sean Stout – 10
Dane Kormos – 10
Jeff Holm – 10
Brad Hartman - 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 072420_QC_T1, 072420_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, collect SQC checks at IVS items 1001, 1003, and 1004, Metal Mapper – Radford Grid 9 Dynamic Data, EM-31 -072420_ivsam, 072420_ivspm, 072420_qcam, 072420_qcpm, 072420_01, 072420_02

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/27/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Site Traffic, Wildlife

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of power poles, trees, and fence in Former Trench Mortar Range MRS near IVS.
- Collect EM-31 data over approximately 2.5 acres in Former Trench Mortar Range MRS.
- Brush Cut TM-10, TM-12, TM-13
-Collect dynamic data with Metal Mapper 2x2 in TM-10.
- Performed IVS PM function tests including SBG and SFT over IVS item 1002, DAM tests over lines 1001, 1002, 1003
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Mike Link –10
Sean Stout – 10
Dane Kormos – 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
Made the Metal Mapper more rugged by installing shims.

DATA TRACKING: 072720_QC_T1, 072720_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Metal Mapper – Radford TM-10 Dynamic Data, EM-31 -072720_ivsam, 072720_ivspm, 072720_qcam, 072720_qcpm, 072720_01, 072720_02, 072720_03

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/28/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Heat Stress, PPE

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of power poles, trees, and fence in Former Gun Range MRS near TM-12.
- Collect EM-31 data over approximately 2.5 acres in Former Gun Range MRS.
- Brush Cut TM-11, GR-3, GR-4
-Collect dynamic data with Metal Mapper 2x2 in TM-12.
- Performed IVS PM function tests including SBG and SFT over IVS item 1002, DAM tests over lines 1001, 1002, 1003
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Mike Link –10
Sean Stout – 10
Dane Kormos – 10
Brad Hartman - 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
Acquisition Warning on Metal Mapper; swapped battery and ensured ethernet cable has no strain.

DATA TRACKING: 072820_QC_T1, 072820_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Metal Mapper – Radford TM-11 Dynamic Data, EM-31 -072820_ivsam, 072820_ivspm, 072820_qcam, 072820_qcpm, 072820_01, 072820_02, 072820_03

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/29/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Hydration, Buddy System

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of power poles, pipe racks, buildings, trees, and fence in Former Gun Range MRS.
- Collect EM-31 data over approximately 2.5 acres in Former Gun Range MRS.
- Additional Veg Removal in GR-15
-Collect dynamic data with Metal Mapper 2x2 in GR-14 and GR-15.
- Performed IVS PM function tests including SBG and SFT over IVS item 1002, DAM tests over lines 1001, 1002, 1003
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Mike Link –10
Sean Stout – 10
Dane Kormos – 10
Brad Hartman - 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 072920_QC_T1, 072920_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Metal Mapper – Radford GR-14 and GR-15 Dynamic Data, Radford TM-12 Dynamic Data IMU Abnormality EM-31 -072920_ivsam, 072920_ivspm, 072920_qcam, 072920_qcpm, 072920_01, 072920_02, 072920_03

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/30/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Mike Link (WESTON Geophysicist), Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Hydration, Poisonous Plants

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of power poles, pipe racks, buildings, trees, and fence in Former Gun Range MRS.
- Collect EM-31 data over approximately 2.5 acres in Former Gun Range MRS.
- Performed Veg Removal in TM-7, GR-11, GR-8, GR-16, and GR-17
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Mike Link –10
Sean Stout – 10
Dane Kormos – 10
Brad Hartman - 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 073020_QC_T1, 073020_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, EM-31 -073020_ivsam, 073020_ivspm, 073020_qcam, 073020_qcpm, 073020_01, 073020_02,

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site
(RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	07/31/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Hydration, Rally Points

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of power poles, pipe racks, buildings, trees, and fence in Former Gun Range MRS.
- Collect EM-31 data over approximately 2.0 acres in Former Gun Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in TM-11 and GR-1.
- Performed Veg Removal GR-2
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 10
Dane Kormos – 10
Brad Hartman - 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
TK6000 would not save EM-31 PM IVS and QC files. No resolution for this issue at this time

DATA TRACKING: 073120_QC_T1, 073120_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Metal Mapper- TM-11 and GR-1 Dynamic Data, EM-31 -073120_ivsam, 073120_ivspm, 073120_qcam, 073120_qcpm, 073120_01, 073120_02, 073120_03, 073120_04, 073130_05

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/03/20 0700 - 1200

WEATHER/TEMPERATURE: Mid 80s, Overcast with Severe Storms

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Covid-19, Ticks, Hydration

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of pipe racks, trees, and sewer cover in Former Gun Range MRS.
- Collect EM-31 data over approximately 1.5 - 2.0 acres in Former Gun Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in western side of GR-1.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 5
Mike Link - 5
Dane Kormos – 5
Brad Hartman - 5
Jeff Holm – 5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 080320_QC_T1, 080320_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Metal Mapper- GR-1 (West) Dynamic Data, EM-31 -080320_ivsam, 080320_ivspm, 080320_qcam, 080320_qcpm, 080320_01, 080320_02

Comments: Severe storms for remainder of day and storms throughout the week.

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/04/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 80s, Overcast.

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Covid-19, Ticks, Hydration

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Gun Range MRS.
- Collect EM-31 data over approximately 2.5 - 3.0 acres in Former Gun Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in accessible areas of GR-3, GR-4 and the western side of GR-8.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 10
Mike Link - 10
Dane Kormos – 10
Brad Hartman - 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 080420_QC_T1, 080420_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Metal Mapper- GR-8 (West), GR- 3, and GR-4 Dynamic Data, EM-31 -080420_ivsam, 080420_ivspm, 080420_qcam, 080420_qcpm, 080420_01, 080420_02, 080420_03

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/05/20 0700 - 1630

WEATHER/TEMPERATURE: Mid 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Hydration, Slips, Trips, and Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Gun Range MRS.
- Brush cut lanes in Former Gun Range for EM-31 collection.
- Collect EM-31 data over approximately 2.5 - 3.0 acres in Former Gun Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in accessible areas of GR-11, TM-13 and the eastern side of GR-8.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 10
Mike Link - 10
Dane Kormos – 10
Brad Hartman - 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
Brush Cutter stopped working; contacted rental company and swapped out machines at the end of the day.

DATA TRACKING: 080520_QC_T1, 080520_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Collect DQC over lines 1001, 1002, and 1003. Metal Mapper- GR-8 (East), GR- 11, and TM-13 Dynamic Data, EM-31 - 080520_ivsam, 080520_ivspm, 080520_qcam, 080520_qcpm, 080520_01, 080520_02, 080520_03, 080520_04

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/06/20 0700 - 1615

WEATHER/TEMPERATURE: Mid 80s, Sunny with Severe Storms in the Afternoon

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Buddy System, Wildlife

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Gun Range MRS.
- Brush cut lanes in Former Gun Range for EM-31 collection.
- Collect EM-31 data over approximately 2.0 - 2.5 acres in Former Gun Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in gaps for GR-13, GR-14, and GR-15 and eastern portion of GR-18.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 9.25
Mike Link – 9.25
Dane Kormos – 9.25
Brad Hartman – 9.25
Jeff Holm – 9.25

MATERIALS DELIVERED (Amount, Condition, and Purpose):
Brush Cutter for Veg Removal (Toro)

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 080620_QC_T1, 080620_QC_T2, Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Collect DQC over lines 1001, 1002, and 1003. Metal Mapper- GR-18 (East), GR- 13 Gaps, GR-14 Gaps, and GR-15 Gaps Dynamic Data, EM-31 -080620_ivsam, 080620_ivspm, 080620_qcam, 080620_qcpm, 080620_01, 080620_02

Comments: Severe Storms with Lightning in the area for most of the afternoon

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/07/20 0700 - 1730

WEATHER/TEMPERATURE: Mid 80s, Overcast

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Buddy System, Wildlife

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Gun Range MRS.
- RTK measurements of trees, pipe racks, dense brush in Former Trench Mortar Range.
- RTK measurements of polygons of accessible areas in Former Trench Mortar Range.
- Brush cut lanes in Former Trench Mortar Range for EM-31 collection.
- Brush cut accessible areas in Trench Mortar Range to move grids.
- Collect EM-31 data over approximately 2.0 acres in Former Trench Mortar Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in remaining portion of GR-18, collected all of TM-7, and southwestern area of GR-16.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 10.5
Mike Link – 10.5
Dane Kormos – 10.5
Brad Hartman – 10.5
Jeff Holm – 10.5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
Wildlife interacted with RTK Base causing the base to be moved. Will sandbag legs if it continues to happen or move the base location.

DATA TRACKING: 080720_QC_T1, 080720_QC_T2, 080720_QC_T1_1, 080720_QC_T2_1; Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Collect DQC over lines 1001, 1002, and 1003. Metal Mapper- GR-18, GR-16, and TM-7 Dynamic Data, EM-31 -080720_ivsam, 080720_ivspm, 080720_qcam, 080720_qcpm, 080720_01, 080720_02, 080720_3, 080720_4

Comments:

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/10/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 80s, Overcast

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Buddy System, PPE

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Trench Mortar Range.
- Brush cut lanes in Former Trench Mortar Range for EM-31 collection and brush cut grids TM-1 and TM-5.
- Collect EM-31 data over approximately 3.5-4.0 acres in Former Trench Mortar Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in accessible areas of TM-1 and eastern section of TM-5.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 10
Mike Link – 10
Dane Kormos – 10
Brad Hartman – 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 081020_QC_T1, 081020_QC_T2; Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Collect DQC over lines 1001, 1002, and 1003. Metal Mapper- TM-1, TM-5 (East) Dynamic Data, EM-31 -081020_ivsam, 081020_ivspm, 081020_qcam, 081020_qcpm, 081020_01, 081020_02, 081020_3

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/11/20 0700 - 1730

WEATHER/TEMPERATURE: High 80s, Sunny with Afternoon Showers

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Rally Points, Vehicle Safety

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Trench Mortar Range.
- Brush cut lanes in Former Trench Mortar Range for EM-31 collection.
- Collect EM-31 data over approximately 2.0 acres in Former Trench Mortar Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in accessible areas of GR-17 and remaining areas of GR-16 and TM-5.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 10.5
Mike Link – 10.5
Dane Kormos – 10.5
Brad Hartman – 10.5
Jeff Holm – 8.5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 081120_QC_T1, 081120_QC_T2; Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Collect DQC over lines 1001, 1002, and 1003. Metal Mapper- TM-5, GR-16, and GR-17; Dynamic Data, EM-31 -081120_ivsam, 081120_ivspm, 081120_qcam, 081120_qcpm, 081120_01, 081120_02, 081120_3

Comments: Active Ballistic Testing All Day (Stronger blasts than normally encountered)

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids/ EM-31 Lanes

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/12/20 0700 - 1500

WEATHER/TEMPERATURE: High 80s, Sunny with Afternoon Thunderstorms

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Heat Stress, PPE

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Trench Mortar Range.
- Brush cut lanes in Former Trench Mortar Range for EM-31 collection.
- Collect EM-31 data over approximately 1.0-1.5 acres in Former Trench Mortar Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in accessible areas of GR-2.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 8
Mike Link – 8
Dane Kormos – 8
Brad Hartman – 8
Jeff Holm – 8

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 081220_QC_T1, 081220_QC_T2; Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Collect DQC over lines 1001, 1002, and 1003. Metal Mapper- Gr-2 Dynamic Data, EM-31 -081220_ivsam, 081220_ivspm, 081220_qcam, 081220_qcpm, 081220_01, 081220_02

Comments: Thunderstorms and Lightning started at 12:20 and last the remainder of the day.

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids/ EM-31 Lanes

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/13/20 0700 - 1500

WEATHER/TEMPERATURE: High 80s, Sunny with Afternoon Thunderstorms

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Ergonomics, Hydration

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Trench Mortar Range.
- Brush cut lanes in Former Trench Mortar Range for EM-31 collection.
- Collect EM-31 data over approximately 2.0-2.5 acres in Former Trench Mortar Range MRS.
- Collect dynamic data with Metal Mapper 2x2 in accessible areas of TM-12 and GR-10.
- Performed QC/IVS PM function tests with EM31
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 8
Mike Link – 8
Dane Kormos – 8
Brad Hartman – 8
Jeff Holm – 8

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 081320_QC_T1, 081320_QC_T2; Collect SBG, SFT tests at IVS targets 1002, collect DAM over lines 1001, 1002, 1003, Collect DQC over lines 1001, 1002, and 1003. Metal Mapper- GR-10 and TM-12 Dynamic Data, EM-31 -081320_ivsam, 081320_ivspm, 081320_qcam, 081320_qcpm, 081320_01, 081320_02, 081320_3, 081320_4

Comments: Thunderstorms and Lightning started at 13:30 and last the remainder of the day.

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids/ EM-31 Lanes

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/14/20 0630 - 1200

WEATHER/TEMPERATURE: High 80s, Sunny with Afternoon Thunderstorms

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Mike Link (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Driving, Situational Awareness

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☒ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed QC/IVS AM function tests with EM31
- RTK measurements of trees, pipe racks, dense brush in Former Trench Mortar Range.
- Brush cut lanes in Former Trench Mortar Range for EM-31 collection.
- Collect EM-31 data over approximately 1.0-1.5 acres in Former Trench Mortar Range MRS.
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 5.5
Mike Link – 5.5
Dane Kormos – 5.5
Brad Hartman – 5.5
Jeff Holm – 5.5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 081420_QC_T1, 081420_QC_T2;EM-31 -081420_ivsam, 081420_ivspm, 081420_qcam, 081420_qcpm, 081420_01, 081420_02,

Comments: Thunderstorms and Lightning for the afternoon.

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey, and Brush Cut Grids/ EM-31 Lanes

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/17/20 0700 - 1700

WEATHER/TEMPERATURE: High 80s, Sunny with Clouds in the Afternoon

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Wildlife, PPE

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- Collect dynamic data with Metal Mapper 2x2 in accessible areas of TM-16 and the eastern section of TM-15.
- RTK measurements of trees, pipe racks, dense brush in Former Trench Mortar Range.
- Collect EM-31 data over approximately 1.0-1.5 acres in Former Trench Mortar Range MRS.
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 10
Dane Kormos – 10
Brad Hartman – 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 081720_QC_T1, 081720_QC_T2; Metal Mapper- TM-16 and TM-15 East Dynamic Data; EM-31 -081720_ivsam, 081720_ivspm, 081720_qcam, 081720_qcpm, 081720_01, 081720_02, 081720_03.

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Metal Mapper DGM Survey, EM-31 Survey

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/18/20 0700 - 1700

WEATHER/TEMPERATURE: High 80s, Sunny with Clouds in the Afternoon

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Hydration, PPE

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- Collect dynamic data with Metal Mapper 2x2 in accessible areas of TM-14, GR-5 and remainder of TM-15.
- Collect EM-31 data over approximately 1.0-1.5 acres in Former Trench Mortar Range MRS.
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 10
Dane Kormos – 10
Brad Hartman – 10
Jeff Holm – 10

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 081820_QC_T1, 081820_QC_T2; Metal Mapper- TM-14, GR-5, and TM-15; EM-31 -081820_ivsam, 081820_ivspm, 081820_qcam, 081820_qcpm, 081820_01, 081820_02, 081820_03, 081820_04.

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue EM-31 Survey and Metal Mapper Survey.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	08/19/20 0700 - 1500

WEATHER/TEMPERATURE: High 80s, Sunny with Afternoon Thunderstorms

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Jeff Holm (Weston UXO Escort), Dane Kormos (WESTON Scientist), Brad Hartman (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Trip Hazards, PPE

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ ERI Resistivity Survey
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS AM function tests with EM31
- Collect dynamic data with Metal Mapper 2x2 in remaining areas of TM-14.
- Collect EM-31 data over approximately 1.0-1.5 acres in Former Trench Mortar Range MRS.
- Performed IVS PM function tests including SBG and SFT over item 1002, DAM and DQC tests over lines 1001, 1002, 1003.
- Performed QC/IVS PM function tests with EM31
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 8
Dane Kormos – 8
Brad Hartman – 8
Jeff Holm – 8

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 081920_QC_T1, 081920_QC_T2; Metal Mapper- TM-14 Dynamic Data; EM-31 -081920_ivsam, 081920_ivspm, 081920_qcam, 081920_qcpm, 081920_01.

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Demobilization of EM-31 Team and Metal Mapper Team

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	09/21/20 0700 - 1200

WEATHER/TEMPERATURE: High 80s, Sunny with Clouds in the Afternoon

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist), Bill Bounds (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Site Safety

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☒ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Unload equipment onsite and organize connex.
-Locate river access.
-Purchase supplies needed for this phase of work
-Renew badge for S. Stout

WESTON personnel on-site hours:
Sean Stout – 5
Dane Kormos – 5
Bill Bounds – 5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
Metal Mapper 2x2, Ferex Magnetometer, Trimble RTK R10 GPS, 12' John Boat with Motor and Trolling Motor

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: N/A

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Build equipment and begin equipment testing.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	09/22/20 0700 - 1930

WEATHER/TEMPERATURE: High 80s, Sunny with Clouds in the Afternoon

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist), Bill Bounds (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Cold Weather, Slips, Trips, and Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Performed equipment tests with Ferex Magnetometer
- Collect background validations in Former Gun Range and Former Trench Mortar Range (only GR-02, GR-05, and GR-10 remain to be collected).
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 12.5
Dane Kormos – 12.5
Bill Bounds – 12.5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 092220_QC_T1, 092220_QC_T2; Metal Mapper- Radford Proposed Background Cued Data 092220, Radford AM IVS 092220, Radford PM IVS 092220; Ferex Magnetometer – 092220_Test, 092220_IVS_Land, 092220_IVS_Test, 092220_QC_Test

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue with Background Validations and started Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	09/23/20 0700 - 1800

WEATHER/TEMPERATURE: High 80s, Sunny with Clouds in the Afternoon

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, PPE, Driving Safety

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect remaining background validations in Former Gun Range (GR-02, GR-05, and GR-10).
- Collect cued shots over targets in TM-16 and TM-15 (All targets collected in TM-16 and started cued shots in TM-15; 306 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 11
Dane Kormos – 11

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 092320_QC_T2; Metal Mapper- Radford Background Validations 092320, Radford TM16 Cued Data, Radford AM IVS 09_23_20, Radford PM IVS 09_23_20.

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	09/24/20 0700 - 1945

WEATHER/TEMPERATURE: High 60s with afternoon showers.

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Hydration, Wildlife

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect cued shots over targets in TM-15 (All targets collected in TM-15; 552 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 12.75
Dane Kormos – 12.75

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 092420_QC_T2; Metal Mapper- Radford TM15 Cued Data, Radford AM IVS 09_24_20, Radford PM IVS 09_24_20.

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	09/26/20 0700 - 1500

WEATHER/TEMPERATURE: Low 70s and Overcast

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, PPE, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect cued shots over targets in GR-09 and TM-12 (All targets collected in GR-09 and TM-12; 239 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 8
Dane Kormos – 8

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 092620_QC_T2; Metal Mapper- Radford TM12 Cued Data, Radford GR09 Cued Data, Radford AM IVS 09_26_20, Radford PM IVS 09_26_20.

Comments: No work on previous day (09/25/20) due to Thunderstorms

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	09/27/20 0700 - 1415

WEATHER/TEMPERATURE: Low 70s and Overcast

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Driving Safety, Hydration, Wildlife

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect cued shots over targets in GR-16, GR-17, and TM-11 (All targets collected in GR-16, GR-17, and TM-11; 209 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 7.25
Dane Kormos – 7.25

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 092720_QC_T2; Metal Mapper- Radford TM11 Cued Data, Radford GR16 Cued Data, Radford GR17 Cued Data Radford AM IVS 09_27_20, Radford PM IVS 09_27_20.

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	09/28/20 0700 - 1545

WEATHER/TEMPERATURE: Low 70s with Intermittent Rain

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Inclement Weather, Ticks, PPE

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect cued shots over targets in TM-14 and GR-11 (All targets collected in GR-11 and TM-14; 220 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 8.75
Dane Kormos – 8.75

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 092820_QC_T2; Metal Mapper- Radford GR11 Cued Data, Radford TM14 Cued Data, Radford AM IVS 09_28_20, Radford PM IVS 09_28_20.

Comments: Potential Severe Weather Forecasted for Tomorrow

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	09/30/20 0700 - 1800

WEATHER/TEMPERATURE: High 60s Sunny and Windy

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ergonomics, Cold Stress, PPE

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect cued shots over targets in TM-13, and GR-14, and GR-02 (All targets collected in GR-02, GR-14, and TM-13; 383 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 11
Dane Kormos – 11

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 093020_QC_T2; 093020_QC_T1; Metal Mapper- Radford GR02 Cued Data, Radford GR14 Cued Data, Radford TM13 Cued Data, Radford AM IVS 09_30_20, Radford PM IVS 09_30_20; Ferex -093020_IVS, 093020_QC, 093020_NOISE.

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/01/20 0700 - 1830

WEATHER/TEMPERATURE: High 60s and Overcast

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Driving Safety, Slips/Trips/Falls, Fire Safety

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect cued shots over targets in TM-01 and TM-07 (All targets collected in TM-07, 19 targets remain in TM-01; 280 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 11.5
Dane Kormos – 11.5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
19 Targets remain in TM-01 and are currently inaccessible. Telephone poles and timbers have been placed in grid from laydown yard for power company.

DATA TRACKING: 100120_QC_T2; 100120_QC_T1; 100120_QC_T2A; 100120_QC_T1A; Metal Mapper- Radford TM01 Cued Data, Radford TM07 Cued Data, Radford AM IVS 10_01_20, Radford PM IVS 10_01_20;

Comments: Spent afternoon working with Survey Crew to determine issues with offset (NAD 83 vs. WGS 84)

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/02/20 0700 - 1600

WEATHER/TEMPERATURE: High 60s and Overcast

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, Cold Weather, Situational Awareness

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect cued shots over targets in TM-05 (All targets collected in TM-05; 155 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Maintenance on Metal Mapper 2x2 (Cleaning and strengthening connections on handle and axles).
- GPS testing with Ferex.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 9
Dane Kormos – 9

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 100220_QC_T2; 100220_QC_T1; Metal Mapper- Radford TM05 Cued Data, Radford AM IVS 10_02_20, Radford PM IVS 10_02_20;

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/05/20 0700 - 1830

WEATHER/TEMPERATURE: High 60s and Overcast

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Ticks, PPE, Driving Safety

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
- Collect cued shots over targets in TM-10, GR-03, and GR-08 (All targets collected in TM-10, GR-03, and GR-08; 410 targets cued total)
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 11.5
Dane Kormos – 11.5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 100520_QC_T2; Metal Mapper- Radford TM10 Cued Data, Radford GR03 Cued Data, Radford GR08 Cued Data, Radford AM IVS 10_05_20, Radford PM IVS 10_05_20;

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/06/20 0700 - 1815

WEATHER/TEMPERATURE: Mid 60s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Wildlife, Cold Weather, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:

-Set up RTK GPS, perform QC geodetic function test

- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.

- Collect cued shots over targets in GR15, GR18, GR13, GR10, GR05, GR04, and GR01 (All targets collected in TM-10, GR-03, and GR-08; 388 targets cued total)

- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.

-Data sent to processor for review

WESTON personnel on-site hours:

Sean Stout – 11.25

Dane Kormos – 11.25

MATERIALS DELIVERED (Amount, Condition, and Purpose):

N/A

PROBLEMS/RESOLUTIONS:

N/A

DATA TRACKING: 100620_QC_T2; Metal Mapper- Radford GR15 Cued Data, Radford GR18 Cued Data, Radford GR13 Cued Data, Radford GR10 Cued Data, Radford GR05 Cued Data, Radford GR04 Cued Data, Radford GR01 Cued Data, Radford AM IVS 10_06_20, Radford PM IVS 10_06_20;

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue Cued Survey with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/07/20 0700 - 1400

WEATHER/TEMPERATURE: Low 70s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Sean Stout (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Pinch Points, PPE, Boating Safety

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Removed telephone pole timbers over cued survey locations in TM-01.
- Collect cued shots over remaining targets in TM-01 previously covered by telephone poles (All targets collected in TM-01; 19 targets cued total)
-Locate boat ramp down stream of site away from rapids
-Test GPS equipment with Ferex.
- Performed IVS PM function tests including SBG and SFT over item 1002, SQC over item 1001, 1003, and 1004.
-Data sent to processor for review

WESTON personnel on-site hours:
Sean Stout – 7
Dane Kormos – 7

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 100720_QC_T2; Metal Mapper- Radford GR15 Cued Data, Radford TM01 Remaining Cued Data, Radford AM IVS 10_07_20, Radford PM IVS 10_07_20;

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Seed location verification and recollection of any cued targets with Metal Mapper 2x2.

PREPARED BY:	SIGNATURE:
Sean M. Stout	Sean M. Stout

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/08/20 0700 - 1800

WEATHER/TEMPERATURE: Mid 70s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Andrew Fedetz (WESTON Geophysicist), Dane Kormos (WESTON Scientist), Jeff Holm (WESTON UXO Tech)

Health and Safety: Topics and Concerns Discussed – Wildlife, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☒ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Testing
- ☐ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Reacquired Blind QC Seed locations and retook whiteboard photos.
- Troubleshoot Ferex

WESTON personnel on-site hours:
Andrew Fedetz – 11.0
Dane Kormos – 11.0
Jeff Holm – 8.0

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: N/A

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Troubleshoot Ferex, Build River IVS

PREPARED BY:	SIGNATURE:
Andrew Fedetz	Andrew Fedetz

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/09/20 0700 - 1830

WEATHER/TEMPERATURE: Mid 60s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Andrew Fedetz (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Wildlife, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Testing
- ☐ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Conducted DMG survey in river Area A.

WESTON personnel on-site hours:
Andrew Fedetz – 11.5
Dane Kormos – 11.5

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: N/A

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Build River IVS

PREPARED BY:	SIGNATURE:
Andrew Fedetz	Andrew Fedetz

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/10/20 0700 - 1500

WEATHER/TEMPERATURE: Mid 60s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Andrew Fedetz (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Wildlife, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Testing
- ☐ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Built equipment mount for river surveys

WESTON personnel on-site hours:
Andrew Fedetz – 8
Dane Kormos – 8

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: N/A

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Build River IVS

PREPARED BY:	SIGNATURE:
Andrew Fedetz	Andrew Fedetz

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/12/20 0700 - 1500

WEATHER/TEMPERATURE: Mid 60s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Andrew Fedetz (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Wildlife, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☐ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed IVS AM and PM QC function tests and IVS
- Collected all cued recollects
- Data sent to processor for review
- Finished equipment mounting system for river surveys

WESTON personnel on-site hours:
Andrew Fedetz – 8
Dane Kormos – 8

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 101210_QC_T2; Metal Mapper – Radford AM/PM IVS, Radford Cued Data

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Build River IVS

PREPARED BY:	SIGNATURE:
Andrew Fedetz	Andrew Fedetz

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/13/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 60s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Andrew Fedetz (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Wildlife, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☒ Equipment Testing
- ☐ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Installed DGM River IVS
- Performed AM and PM QC function tests and IVS survey
- Collected DGM transects in River Area A

WESTON personnel on-site hours:
Andrew Fedetz – 12
Dane Kormos – 12

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 101310_QC_T2; DGM Ferex – Radford AM/PM IVS, Radford DGM Ferex Data

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Build River IVS

PREPARED BY:	SIGNATURE:
Andrew Fedetz	Andrew Fedetz

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/14/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 60s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Andrew Fedetz (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Wildlife, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☐ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed AM and PM QC function tests and IVS survey
- Collected DGM transects in River Area A

WESTON personnel on-site hours:
Andrew Fedetz – 12
Dane Kormos – 12

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 101410_QC_T2; DGM Ferex – Radford AM/PM IVS, Radford DGM Ferex Data

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Build River IVS

PREPARED BY:	SIGNATURE:
Andrew Fedetz	Andrew Fedetz

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/15/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 60s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Andrew Fedetz (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Wildlife, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☐ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed AM and PM QC function tests and IVS survey
- Collected DGM transects in River Area A

WESTON personnel on-site hours:
Andrew Fedetz – 12
Dane Kormos – 12

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 101510_QC_T2; DGM Ferex – Radford AM/PM IVS, Radford DGM Ferex Data

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: Continue River DGM Transects

PREPARED BY:	SIGNATURE:
Andrew Fedetz	Andrew Fedetz

Daily Site Progress Report

Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01) Radford Army Ammunition Plant

CONTRACT NO.	WORK ORDER NO.:	DATE / TIME ON AND OFF SITE
W912DR-15-D-0022	03886.552.500	10/16/20 0700 - 1700

WEATHER/TEMPERATURE: Mid 60s and Sunny

WORK LOCATION: Radford Army Ammunition Plant Radford, VA

PERSONNEL ON SITE: Andrew Fedetz (WESTON Geophysicist), Dane Kormos (WESTON Scientist)

Health and Safety: Topics and Concerns Discussed – Wildlife, Slips/Trips/Falls

WORK COMPLETED:

- ☐ Surveyor activities.
- ☐ Mag and Dig activities).
- ☒ DGM activities (List grids).
- ☐ Reacquisition of DGM anomaly targets (List grids).
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA.
- ☐ AGC IVS Installation.
- ☐ UXO Technician Escort activities.
- ☒ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Testing
- ☒ Advanced Geophysical Classification (AGC)
- ☐ Grubbing

Comments:
-Set up RTK GPS, perform QC geodetic function test
- Performed AM and PM QC function tests and IVS survey
- Collected Cued Targets in GR-14
- Collected DGM transects in River Area A
- Dissembled and packed geophysical equipment for demobilization

WESTON personnel on-site hours:
Andrew Fedetz – 12
Dane Kormos – 12

MATERIALS DELIVERED (Amount, Condition, and Purpose):
N/A

PROBLEMS/RESOLUTIONS:
N/A

DATA TRACKING: 101610_QC_T2; DGM Ferex – Radford AM/PM IVS, Radford DGM Ferex Data, Radford MetalMapper AM/PM IVS, Radford MetalMapper Cued Data

Comments: N/A

PLANNED OPERATIONS FOR NEXT DAY: NA

PREPARED BY:	SIGNATURE:
Andrew Fedetz	Andrew Fedetz

Daily Quality Control Report
Area A (New River)
Radford AAP

CONTRACT NO./D.O. NO.:	**WORK ORDER NO.:**	**DATE / TIME ON AND OFF SITE**
W912DR-15-D-0002/	03886.552.500	16 Nov 2020 0700
W912DR18F0492		16 Nov 2020 1500

WEATHER/TEMPERATURE: 59(H) 46(L) P Cloudy, Winds NW 15 Gust to 30

WORK LOCATION: New River DGM Sites
Subcontractor(s) On-Site: ☒ AOR ☐ _____ ☐ _____

WORK COMPLETED:

- ☐ Survey Activities
- ☐ Mapping activities (transects)
- ☐ DGM activities (transects)
- ☐ Reacquire/Investigate Anomalies
- ☐ Open Detonation
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA (List completed grids).
- ☐ Environmental Sampling.
- ☒ UXO Technician Escort activities.
- ☒ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ Equipment Issues (List below).
- ☐ _____
- ☒ Safety Briefing Given

Comments:

Environmental Samples

Level of Health & Safety Protection: Level D

Exposure Hours (WESTON):

Exposure Hours (Subcontractors):

Exposure Monitoring[i]: Noise: NA Chemical: NA

Exposure Mileage[ii]: WESTON: Subcontractor(s):

Instrumentation Used:

NA

Calibration(s) Performed:

NA

Instrument Problems/Remedies:

NA

Summary of Site Activities (Including problems encountered, corrective actions taken, and a summary of any instructions received from Government personnel):

- Met at Hotel to have orientation and safety discussion
- Proceeded to site for setup and staging of materials/equipment
- Security opened gate 18F so that ramp could be looked at and first look at New River
- Issue with current and visibility on river
- USACE (John Day) worked on getting a hold of upstream Dam for release/flow data, requested to have UXO Supervisor and Safety onsite.

Sample Collection Method(s):

NA

Samples Collected[iii]:

NA

Quality Control Samples:

NA

Signature: Bill Bounds Title: Site Safety and Health Officer/Weston Escort

[i] Indicate the low and high readings from monitoring equipment. Attach tabulated readings.
[ii] Estimate vehicle mileage traveled during working hours.
[iii] Indicate 1) Sample Media: Groundwater, Surface Water, Soil or Sediment, 2) Sample Type: Composite, Grab, Duplicate, Incremental, Rinsate, and 3) Sample ID Numbers.

Daily Quality Control Report
Area A (New River) Dive Work
Radford AAP

CONTRACT NO./D.O. NO.:	**WORK ORDER NO.:**	**DATE / TIME ON AND OFF SITE**
W912DR-15-D-0002/ W912DR18F0492	03886.552.500	17 Nov 2020 0700 17 Nov 2020 1300

WEATHER/TEMPERATURE: 50(H) 44(L) P Cloudy, Winds NW 20 Gust to 40

WORK LOCATION: New River DGM Sites
Subcontractor(s) On-Site: ☒ AOR ☐ _____ ☐ _____

WORK COMPLETED:

- ☐ Survey Activities
- ☐ Mapping activities (transects)
- ☐ DGM activities (transects)
- ☒ Reacquire/Investigate Anomalies
- ☐ Open Detonation
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA (List completed grids).
- ☐ Environmental Sampling.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ Equipment Issues (List below).
- ☐ _____
- ☒ Safety Briefing Given

Comments:

Environmental Samples

Level of Health & Safety Protection: Level D

Exposure Hours (WESTON):

Exposure Hours (Subcontractors):

Exposure Monitoring[i]: Noise: NA Chemical: NA

Exposure Mileage[ii]: WESTON: Subcontractor(s):

Instrumentation Used:

NA

Calibration(s) Performed:

NA

Instrument Problems/Remedies:

NA

Summary of Site Activities (Including problems encountered, corrective actions taken, and a summary of any instructions received from Government personnel):

- Met at Hotel to have orientation and safety discussion
- Proceeded to site for inspection of New River and launch of boat
- Security opened gate 18F so that flow/visibility conditions on the New River could be measured
- Issue with current and visibility on river (high flow >1 knot and low vis <5ft)
- USACE (John Day) onsite, worked on getting open gate access.

Sample Collection Method(s):

NA

Samples Collected[iii]:

NA

Quality Control Samples:

NA

Signature: Bill Bounds Title: Site Safety and Health Officer/Weston Escort

[i] Indicate the low and high readings from monitoring equipment. Attach tabulated readings.
[ii] Estimate vehicle mileage traveled during working hours.
[iii] Indicate 1) Sample Media: Groundwater, Surface Water, Soil or Sediment, 2) Sample Type: Composite, Grab, Duplicate, Incremental, Rinsate, and 3) Sample ID Numbers.

Daily Quality Control Report
Area A New River Dive Work
Radford AAP

CONTRACT NO./D.O. NO.:	**WORK ORDER NO.:**	**DATE / TIME ON AND OFF SITE**
W912DR-15-D-0002/	03886.552.500	18 Nov 2020 0700
W912DR18F0492		18 Nov 2020 1200

WEATHER/TEMPERATURE: 45(H) 30(L) P Cloudy, Winds NW 10 Gust to 20

WORK LOCATION: New River DGM Sites
Subcontractor(s) On-Site: ☒ AOR ☐ _____ ☐ _____

WORK COMPLETED:

- ☐ Survey Activities
- ☐ Mapping activities (transects)
- ☐ DGM activities (transects)
- ☒ Reacquire/Investigate Anomalies
- ☐ Open Detonation
- ☐ Grid QC List (List completed grids).
- ☐ Grid QA (List completed grids).
- ☐ Environmental Sampling.
- ☒ UXO Technician Escort activities.
- ☐ Equipment Transport (mob/demob to/from site-List).
- ☐ Equipment Maintenance
- ☐ Equipment Issues (List below).
- ☐ _____
- ☒ Safety Briefing Given

Comments:

Environmental Samples

Level of Health & Safety Protection: Level D

Exposure Hours (WESTON):

Exposure Hours (Subcontractors):

Exposure Monitoring[i]: Noise: NA Chemical: NA

Exposure Mileage[ii]: WESTON: Subcontractor(s):

Instrumentation Used:

NA

Calibration(s) Performed:

NA

Instrument Problems/Remedies:

NA

Summary of Site Activities (Including problems encountered, corrective actions taken, and a summary of any instructions received from Government personnel):

- Met at Hotel to have orientation and safety discussion
- Proceeded to site for inspection of New River with Weston Senior UXO Supervisor (SUXOS), Dave Carlin & UXO Safety Officer (UXOSO), Jeff Holm, to see the conditions
- Security opened gate 18F so that flow/visibility conditions on the New River could be measured
- Issue with current and visibility on river (high flow >1 knot and low vis <5ft)
- Decision made not to proceed with current activities and to come back when conditions are more favorable.

Sample Collection Method(s):

NA

Samples Collected[iii]:

NA

Quality Control Samples:

NA

Signature: Bill Bounds Title: Site Safety and Health Officer/Weston Escort

[i] Indicate the low and high readings from monitoring equipment. Attach tabulated readings.
[ii] Estimate vehicle mileage traveled during working hours.
[iii] Indicate 1) Sample Media: Groundwater, Surface Water, Soil or Sediment, 2) Sample Type: Composite, Grab, Duplicate, Incremental, Rinsate, and 3) Sample ID Numbers.

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492

DATE: 30 November 2020

WORK LOCATION: Former Gun and Trench Mortar Range MRS, Radford Army Ammunition Plant VA

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Team received site training to include APP, QAPP, and applicable AHA's acknowledgement forms signed. Secured 2 rental vehicles all personnel received their base access badges. Went on base and walked the site. Procured equipment and supplies. Secured all equipment onsite.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): None

Total Number AGC Targets: None

Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0
MD: 0
MPPEH: 0
MEC: 0

Team Hours:

SUXOS: Dave Carlin 12 UXOSO/QC: Rick Holmes 12 UXO TIII: Chris Mcvay 10
UXO TII James Hipp 10 UXO TII Kyle Locklear 6 UXO TI: Jonah Stull 10
UXO TI: Braden McIntosh 10
UXO Total: 69 Hours

PREPARED BY:
Dave Carlin

SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492 | **DATE: 01 December 2020**

WORK LOCATION: Former Gun and Trench Mortar Range MRS, Radford Army Ammunition Plant VA

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA completed
- ☒ Covid-19 procedures
- ☒ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Team began mag and dig grids on the Former Gun range, UXO Tech 2 provided escort to re-acquire and survey tasks. Received Mini excavator from Herc rental and staged it near the staging area.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): 2 ea. GR-12, and GR-6.
Began GR-7

Total Number AGC Targets: None

Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:
NMRD: 19 lbs.
MD: 15 lbs.
MPPEH: 2ea (1ea 4.2" Mortar empty, 1ea 60 mm mortar solid) items secured for final disposition.
MEC: 0

Team Hours:
SUXOS: Dave Carlin 11 UXOSO/QC: Rick Holmes 11 UXO TIII: Chris Mcvay 10
UXO TII James Hipp 10 UXO TII Kyle Locklear 10 UXO TI: Jonah Stull 10
UXO TI: Braden McIntosh 10
UXO Total: 72 Hours

PREPARED BY:
Dave Carlin

SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492 | **DATE: 02 December 2020**

WORK LOCATION: Former Gun and Trench Mortar Range MRS, Radford Army Ammunition Plant VA

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Team began mag and dig grids on the Former Trench mortar range. QC/QA checks completed. Team located QC seed today see QC report for details.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): 2 ea. TM-2, and TM-3.

Total Number AGC Targets: None

Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 48 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0

Team Hours:
SUXOS: Dave Carlin 11 UXOSO/QC: Rick Holmes 11 UXO TIII: Chris Mcvay 10
UXO TII James Hipp 10 UXO TII Kyle Locklear 10 UXO TI: Jonah Stull 10
UXO TI: Braden McIntosh 10
UXO Total: 72 Hours

PREPARED BY:
Dave Carlin

SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492

DATE: 03 December 2020

WORK LOCATION: Former Gun and Trench Mortar Range MRS, Radford Army Ammunition Plant VA

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Team began mag and flag operation on the Former Trench mortar range. QC/QA checks completed. Had meeting with Chris McCormick Radford AAP safety office about demolition procedures.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): Mag and flag operations

Total Number AGC Targets: None

Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0

Team Hours:

SUXOS: Dave Carlin 11 UXOSO/QC: Rick Holmes 11 UXO TIII: Chris Mcvay 10
UXO TII James Hipp 10 UXO TII Kyle Locklear 10 UXO TI: Jonah Stull 10
UXO TI: Braden McIntosh 10
UXO Total: 72 Hours

PREPARED BY:
Dave Carlin

SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 04 December 2020

WORK LOCATION: Former Gun and Trench Mortar Range MRS, Radford Army Ammunition Plant VA

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Team continued mag and flag operation on the Former Trench mortar range. QC/QA checks completed.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): Mag and flag operations in the Trench mortar area. Set up RTK and made sure it was working.

Total Number AGC Targets: None

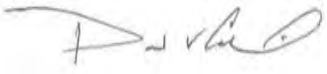
Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0

Team Hours:

SUXOS: Dave Carlin 11	UXOSO/QC: Rick Holmes 11	UXO TIII: Chris Mcvay 10
UXO TII James Hipp 10	UXO TII Kyle Locklear 10	UXO TI: Jonah Stull 10
UXO TI: Braden McIntosh 10		
UXO Total: 72 Hours		

PREPARED BY:	SIGNATURE:
Dave Carlin	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492 | **DATE: 07 December 2020**

WORK LOCATION: Radford Army Ammunition Plant VA Remedial Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Team continued mag and flag operation on the Former Trench mortar range. QC/QA checks completed. Had Conference call with USACE about demolition procedures.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): Mag and flag operations in the Trench mortar area.

Total Number AGC Targets: None

Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0

Team Hours:

SUXOS: Dave Carlin 11 | UXOSO/QC: Rick Holmes 11 | UXO TIII: Chris Mcvay 10
UXO TII James Hipp 10 | UXO TII Kyle Locklear 10 | UXO TI: Jonah Stull 10
UXO TI: Braden McIntosh 10
UXO Total: 72 Hours

PREPARED BY:
Dave Carlin

SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492 | **DATE: 08 December 2020**

WORK LOCATION: Radford Army Ammunition Plant VA Remedial Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Team continued mag and flag operation on the Former Trench mortar range. QC/QA checks completed. Had meeting with Radford AAP safety, risk manager, and explosive safety personnel about demolition procedures. Visitors brief given by UXO Safety officer.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): Mag and flag operations in the Trench mortar area. Team back filled all holes dug in the Mag and Dig areas.

Total Number AGC Targets: None

Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0

Team Hours:

SUXOS: Dave Carlin 11	UXOSO/QC: Rick Holmes 11	UXO TIII: Chris Mcvay 10
UXO TII James Hipp 10	UXO TII Kyle Locklear 10	UXO TI: Jonah Stull 10
UXO TI: Braden McIntosh 10		

UXO Total: 72 Hours

PREPARED BY:
Dave Carlin

SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 09 December 2020

WORK LOCATION: Radford Army Ammunition Plant VA Remedial Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Team pulled all flags that were placed in mag and dig grids. Team investigated Missed seed in grid GR-2 QC/QA checks completed.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): Team pulled all flags in the Trench mortar area. Team cleaned and stowed all gear in preparation for demob.

Total Number AGC Targets: None

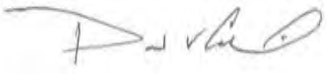
Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0

Team Hours:

SUXOS: Dave Carlin 11	UXOSO/QC: Rick Holmes 11	UXO TIII: Chris Mcvay 10
UXO TII James Hipp 10	UXO TII Kyle Locklear 10	UXO TI: Jonah Stull 10
UXO TI: Braden McIntosh 10		
UXO Total: 72 Hours		

PREPARED BY:	SIGNATURE:
Dave Carlin	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 10 December 2020

WORK LOCATION: Radford Army Ammunition Plant VA Remedial Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations: Demobilized from site.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface): None

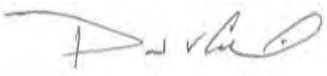
Total Number AGC Targets: None

Test Pits investigated: None

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0

Team Hours:
SUXOS: Dave Carlin 4
UXO Total: 4 Hours

PREPARED BY:	SIGNATURE:
Dave Carlin	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492

DATE: 5/25/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA checks completed
- ☐ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Vegetation removal at the conex. Started Mag and dig operations at grid TM-4. Secured early due to severe weather.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0

Team Hours:
8

PREPARED BY:
K.A. Montgomery

SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492

DATE: 5/26/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☐ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

TM-04

Total Number AGC Targets:

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 16 lbs.
MD: 0 lbs.
MPPEH: 59.9 lbs.
MEC: 0

Team Hours:

1 hours at 0%, 9 hours @ 8%

PREPARED BY:	**SIGNATURE:**
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492

DATE: 5/27/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

TM-06

Total Number AGC Targets:

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 79 lbs.
MD: 0 lbs.
MPPEH: 52.4 lbs.
MEC: 0

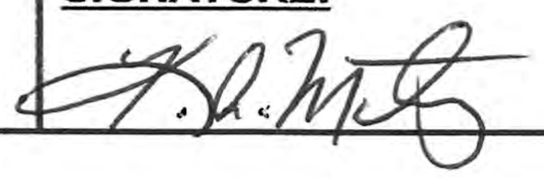
Team Hours:

5.5 hours at 0%, 4.5 hours @ 8%

PREPARED BY:

K.A. Montgomery

SIGNATURE:



Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492

DATE: 5/28/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid. Vehicle Inspections.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

TM-03

Total Number AGC Targets:

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 18 lbs.
MD: 0 lbs.
MPPEH: 00 lbs.
MEC: 0

Team Hours:

1 hours at 0%, 9 hours @ 8%

PREPARED BY:

K.A. Montgomery

SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/1/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

TM-02, GR-12,

Total Number AGC Targets:

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 58 lbs. (TM-02). 5 lbs. (GR-!2)
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/2/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. UXO Team conducted Vegetation Removal Operations at GR-07. GEO/UXO Team flagged grid GR04 in preparation for AGC Intrusive Operations. UXO Team Completed remaining Mag and Dig Grids. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

GR-06, GR-07

Total Number AGC Targets:

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 7 lbs. (GR-06). 19 lbs. (GR0-7)
MD: 0 lbs.
MPPEH: 13.8 lbs.
MEC: 0
MPPEH Found: (2ea.) 81mm Mortars on GR-07

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/3/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. UXO Team conducted Vegetation Removal Operations at GR-04 and GR-08. GEO/UXO Team flagged grid GR-08 in preparation for AGC Intrusive Operations. UXO Team Commenced Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

GR-04

Total Number AGC Targets:

6 Targets (GR-04)

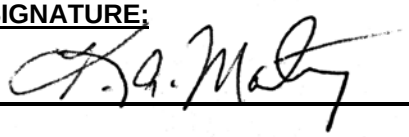
Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH: 20.7 lbs.
MEC: 0
MPPEH Found: (3ea.) 81mm Mortars on GR-04

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/4/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

56 Targets Investigated on Grid GR-08 to date.

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH: lbs.
MEC: 0
MPPEH Found:

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/7/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

GR-08, GR-11

Total Number AGC Targets:

103 Targets Investigated on Grid GR-08 (completed). 8 Targets Investigated on Grid GR-11 (completed).

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH: GR-08: 101.1 lbs. GR-11 33.07 lbs.
MEC: 0
MPPEH Found: Grid GR-08: (3ea.) 4.2” Mortars, (3ea.) 81mm Mortars. Grid GR-11: (1ea.) 4.2” Mortar, (1ea.) 81mm Mortar

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/8/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

42 targets investigated on Grid TM-16. Grid TM16 was not completed.

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH:
MEC: 0
MPPEH Found:

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/9/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Intrusive Team conducted Mag and Dig Operations. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

62 targets investigated on Grid TM-16. Grid TM16 was not completed.

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH:
MEC: 0
MPPEH Found:

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/10/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-16: 19 targets. TM-14:15 targets

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH:
MEC: 0
MPPEH Found:

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/11/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-16: 11 targets. TM-14:43 targets

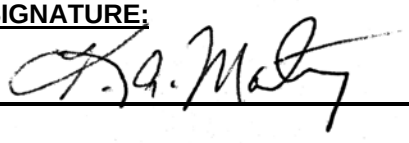
Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH: 250 lbs.
MEC: 0
MPPEH Found: TM-16: (9 ea.) 4.2” mortars, (2ea.) 81mm mortars.

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/14/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid. Excavator on site. Team at Pass and ID for new badges.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-15: 39 targets.

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH:0 lbs.
MEC: 0
MPPEH Found:

Team Hours:

4 hours @ 0%. 5 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/15/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-15: 79 targets.

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH:0 lbs.
MEC: 0
MPPEH Found:

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/16/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-15: 72 targets.

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH:0 lbs.
MEC: 0
MPPEH Found:

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/17/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid. TM-15 completed.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-15: 28 targets. Tm-14: 13 targets

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH:223.7 lbs.
MEC: 0
MPPEH Found: TM-15: (8ea.) 4.2 mortars. (2ea.) 81mm mortars

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/18/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid. TM-7 completed.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-05: 23 targets. Tm-07: 29 targets

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found:

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/21/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-05: 50 targets.

Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH: 501 lbs.
MEC: 0
MPPEH Found: TM-05 (19ea.) 4.2” mortars (1ea.) 81 mm mortar.

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/22/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-01: 43 targets.

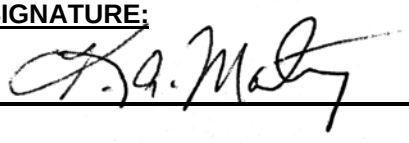
Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/23/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☒ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team Conducted Intrusive AGC Operations. UXO Team conducted Test Pit Investigation of target FTMR-02. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-01: 28 targets. (completed grid)

Test Pits investigated:

FTMR-02

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD:
MD: 0 lbs.
MPPEH: 140 lbs.
MEC: 0
MPPEH Found: (5ea.) 4.2” mortars, (1ea.) 81mm mortars

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/24/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☒ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. UXO Team conducted Test Pit Investigation of targets FTMR-5, FTMR-06, and FGR01. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-11: 12 targets (completed grid). GR-17: 9 targets (completed grid). GR-03: 12 targets (completed grid).

Test Pits investigated:

FTMR-05, FTMR-06, FGR-01

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 100 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/25/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☒ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. Dive Team conducted Intrusive Operations on the New River. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Dive Team completed 13 targets today.

Total Number AGC Targets:

TM-12: 23 Flags. GR-16: 20 Flags.

2” water line nicked during use of excavator for investigation of shallow anomalies. USACE and Radford AAP notified. BAE water utility manager inspected the leak and noted that no action was required over the weekend due to small leak present.

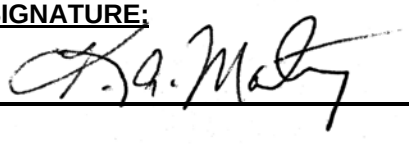
Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 150 lbs.
MD: 0 lbs.
MPPEH: 54 lbs.
MEC: 0
MPPEH Found: flag 7: 4.2” mortar. Flag 14: 4.2” mortar (Dive Team)

Team Hours:

1 hour @ 0%. 11 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/26/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. Dive Team conducted Intrusive Operations on the New River. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Dive Team completed 17 targets today.

Total Number AGC Targets:

GR-16: 16 Flags, (GR-16 completed). GR -2: 43 Flags. GR-1: 2 flags, (GR-1 complete). GR-15: 12 flags, (GR-15 completed).

Weston team placed sleeve on 2-inch water line leak. BAE water department inspected the patch and agreed that no additional repair was warranted. Hole was backfilled.

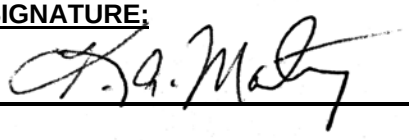
Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 150 lbs.
MD: 0 lbs.
MPPEH: 183 lbs.
MEC: 0
MPPEH Found:(2ea.): 60mm mortar. (3ea.) 81mm mortars (6ea.) 4.2” mortar (Dive Team)

Team Hours:

1 hour @ 0%. 10 hours @ 8 hrs.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/27/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☒ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. Dive Team conducted Intrusive Operations on the New River. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Dive Team completed 9 targets today. Seven rounds encountered.

Total Number AGC Targets:

GR-02: 14 Flags, (GR-02 completed). GR -10: 6 Flags. GR-1: 2 flags, (GR-10 complete). GR-05: 18 flags, (GR-05 completed). GR-09: 6 flags, (GR-09 Completed). GR-18: 1 flag, (GR-18 complete). GR-13: 4 flags, (GR-13 complete)

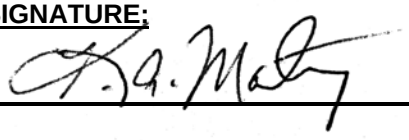
Test Pits investigated:

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 100 lbs.
MD: 0 lbs.
MPPEH: 169 lbs.
MEC: 0
MPPEH Found: (1ea.) 81mm mortars (6ea.) 4.2” mortar (Dive Team)

Team Hours:

1 hour @ 0%. 10 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/29/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☒ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Total Number AGC Targets:

TM-12: 20 Flags, GR -14: 22 Flags (GR-14 complete).

Test Pits investigated:

FGR-04. All Test pits have been investigated.

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 21 lbs.
MEC: 0
MPPEH Found: (3ea.) 81mm mortars (TM-12)

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 6/30/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

TM-12: 38 Flags, TM -13: 21 Flags.

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 3 lbs.
MEC: 0
MPPEH Found: (1ea.) 60mm mortars (TM-12)

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492

DATE: 7/01/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

TM-12: 5 Flags, TM -13: 26 Flags, (TM-13 complete). TM-10: 13 Flags, (TM-10 complete).

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 41 lbs.
MEC: 0
MPPEH Found: (4ea.) 81mm mortars (2ea.) 60mm mortars (TM-13). (1ea) 81mm mortar (TM-10).

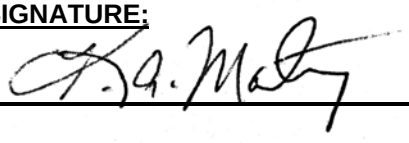
Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:

K.A. Montgomery

SIGNATURE:



Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/02/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. Conducted road maintenance. Received shipment of 55 gal. drums/pallets. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

TM-12: 5 Flags.

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/06/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations. Conducted road maintenance. Received shipment of 55 gal. drums/pallets. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

TM-12: 16 Flags. There are 9 targets in TM-12 that are located directly on or very near a natural gas pipeline. This gas line is constructed of polyethylene; therefore, we have no means of locating it. These targets have not been investigated due to safety concerns

Test Pits investigated:

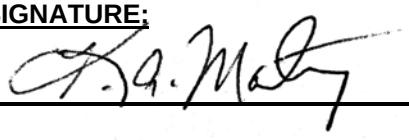
Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/07/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations (re-digs). Took delivery of a skid steer and 18 yards of sand. SUXOS/USACE met with RFAAP/BAE Safety to discuss demo ops. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

The Following targets are all re-digs:
GR-08: 3, GR-17: 1, TM-07: 1, TM-12: 4, TM-15: 4

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 7 lbs.
MEC: 0
MPPEH Found: GR-08: (1ea) 81mm Mortar

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/08/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations (re-digs). SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

The Following targets are all re-digs:

GR-08: 1, GR-14: 1, TM-01: 2, TM-05: 1, TM-12: 1, TM-13: 2

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 7 lbs.
MEC: 0
MPPEH found: 0

Team Hours:

1 hour @ 0%. 7 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/09/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☒ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☒ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☒ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. Morning and Afternoon QC checks conducted at the IVS by GEO Team. UXO Team conducted Intrusive AGC Operations (re-digs). UXO Team Prepped for Demo Ops. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

The Following targets are all re-digs:
GR-08: 1, GR-14: 1, TM-16: 3. AGC Complete

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 7 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/12/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. UXO Team Prepped for Demo Ops. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

AGC Complete

MPPEH/MEC Demolition:

- Team prepared demolition area for planned demolition shots.
- Munitions debris (mortar round shells) demilitarized through removal of fins/cutting in half.

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/13/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☒ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. Instrument Verification Conducted at the IVS by the UXO Intrusive Team. UXO Team Conducted Demolition Operations. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal removed from grid.

DAILY ACTIVITIES:

UXO Team Conducted Demolition of 109 MPPEH Items. Demolition Materials consumed were: (100 EA) 19 Gram Jet Perforators, (300') 80 Grain Detonation Cord, and (10 EA) 40' NONEL Detonators.

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

AGC Complete

Test Pits investigated:

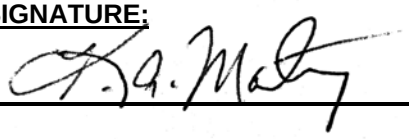
Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/14/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. UXO Team Conducted Demilitarization Operations of MDAS. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

AGC Complete

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492	DATE: 7/15/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☒ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

Safety brief conducted by the UXOSO. UXO Team Conducted Demilitarization Operations of MDAS. SUXOS/UXOQCS conducted an MDAS inspection of scrap metal. Containerized all MDAS into 55-gallon drums and wrapped in plastic and banded drums with straps.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

AGC Complete

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

Team Hours:

1 hour @ 0%. 9 hours @ 8%.

PREPARED BY:	SIGNATURE:
K.A. Montgomery	K.A. Montgomery

Daily UXO SUXOS Site Report

CONTRACT NO. W912DR-15-D-0022 DO: W912DR18F0492

DATE: 7/16/21

WORK LOCATION: Radford Army Ammunition Plant VA RCRA Facility Investigation

WORK COMPLETED:

- ☐ Mag and Dig activities.
- ☐ Demo Operations
- ☐ Test Pit Investigation
- ☐ Grid QC/QA checks completed
- ☒ Covid-19 procedures
- ☐ UXO Technician Escort activities.
- ☐ AGC Targets Investigated
- ☐ Equipment Maintenance
- ☐ Reacquire AGC Anomalies
- ☒ Safety Brief Given

Daily Operations:

SUXOS/UXOSO facilitated transport of MDAS and heavy equipment. American EOD picked up MDAS within 55-gallon drums.

All team members have Demobed.

DAILY ACTIVITIES:

Total Number of grids Mag & Dig completed (Sub Surface):

Mag and Dig Complete

Total Number AGC Targets:

AGC Complete

Test Pits investigated:

Test Pits Complete

Cultural Debris, Munitions Debris and Munitions and Explosives of Concern:

NMRD: 0 lbs.
MD: 0 lbs.
MPPEH: 0 lbs.
MEC: 0
MPPEH Found: 0

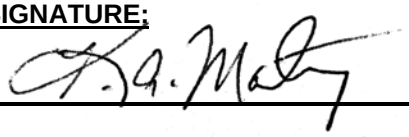
Team Hours:

6 Hours @ 0%.

PREPARED BY:

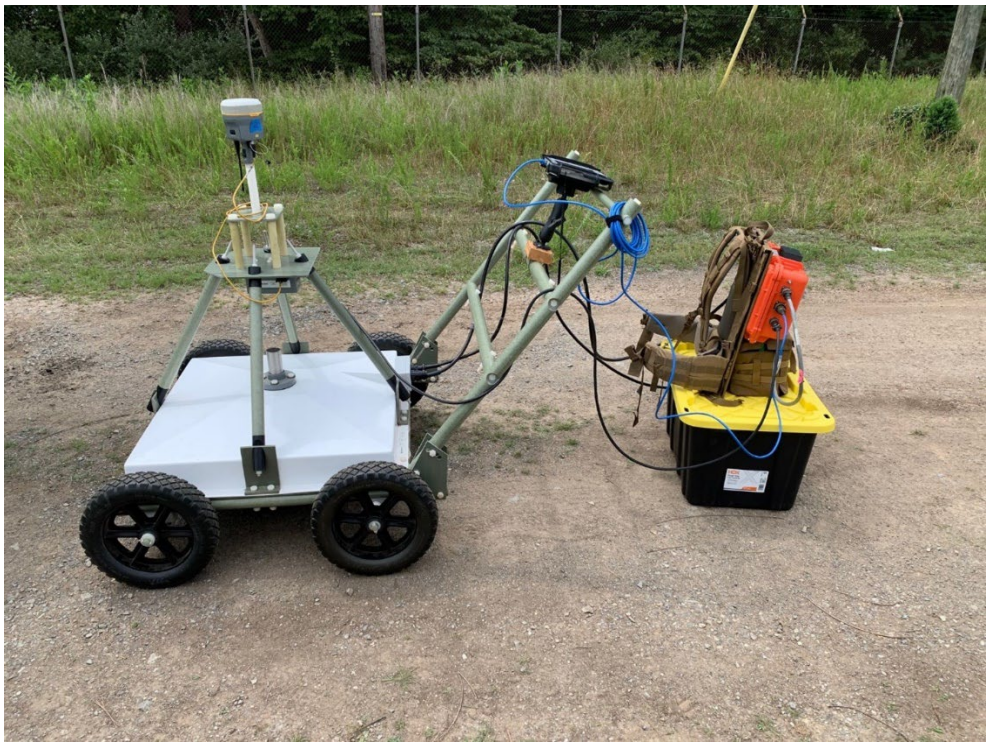
K.A. Montgomery

SIGNATURE:

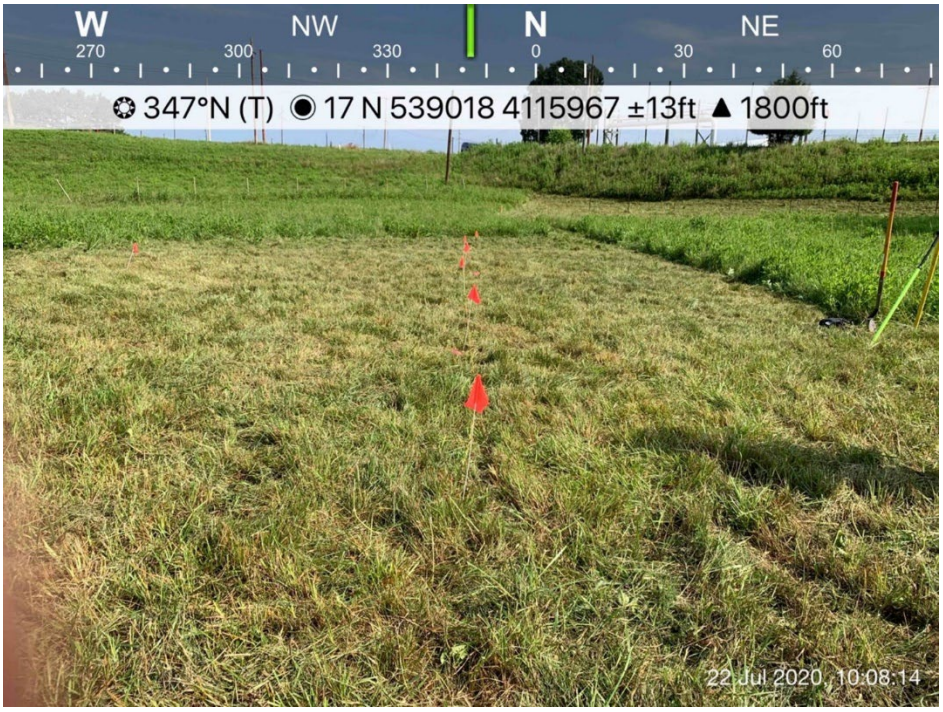


APPENDIX C
PHOTOGRAPHS

GEOPHYSICAL PHOTOGRAPHS



Metal Mapper 2x2 Assembly



IVS Location for Dynamic and Cued Metal Mapper 2x2



FEREX® DLG Boat mount with PVC housing for GPS and underwater FEREX® sensor (Bow View)



FEREX® DLG Boat mount with PVC housing for GPS and underwater FEREX® sensor (Starboard view)

AGC INTRUSIVE PHOTOGRAPHS

AGC Intrusive Photos: GR-01





AGC Intrusive Photos: GR-01





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





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AGC Intrusive Photos: GR-02





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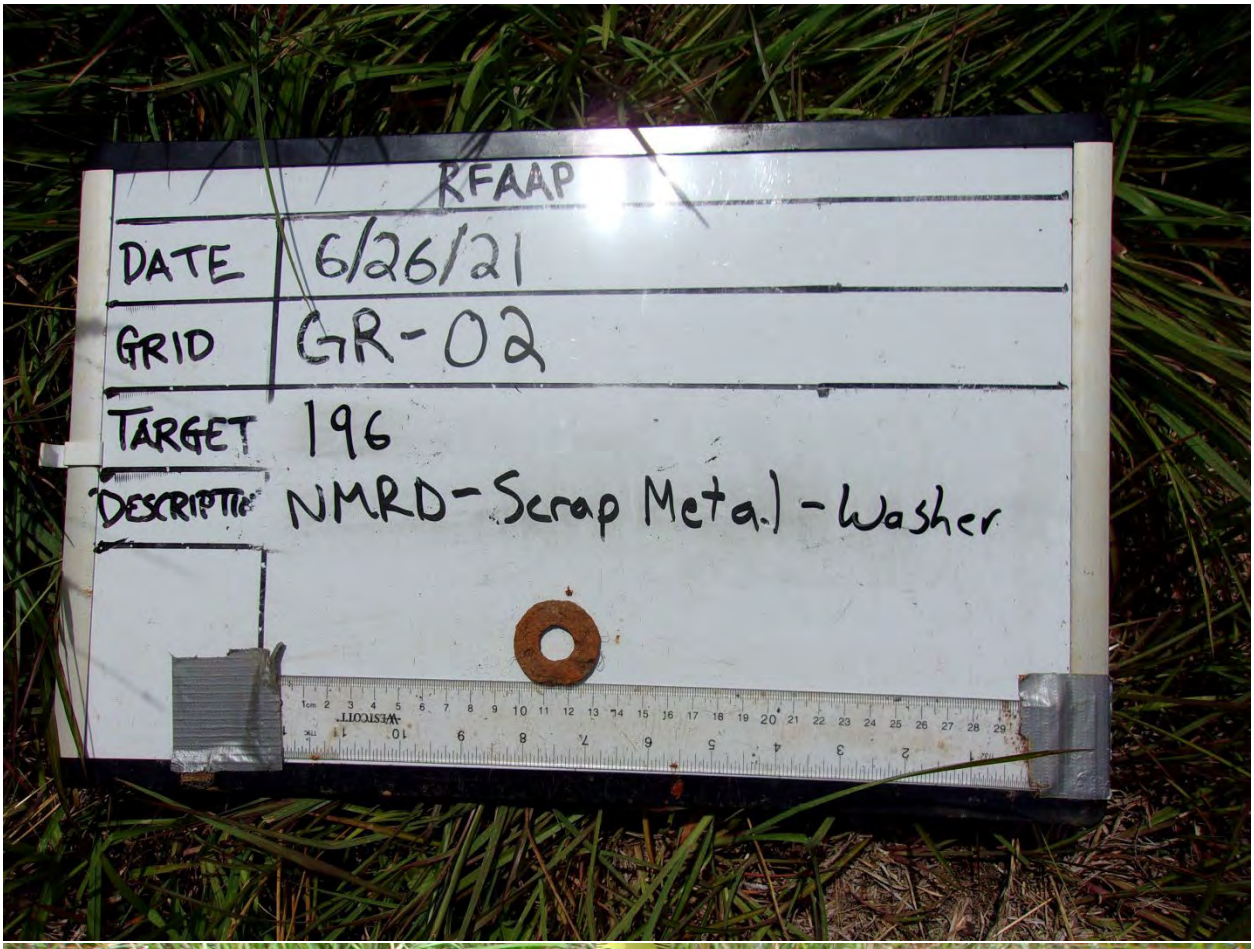



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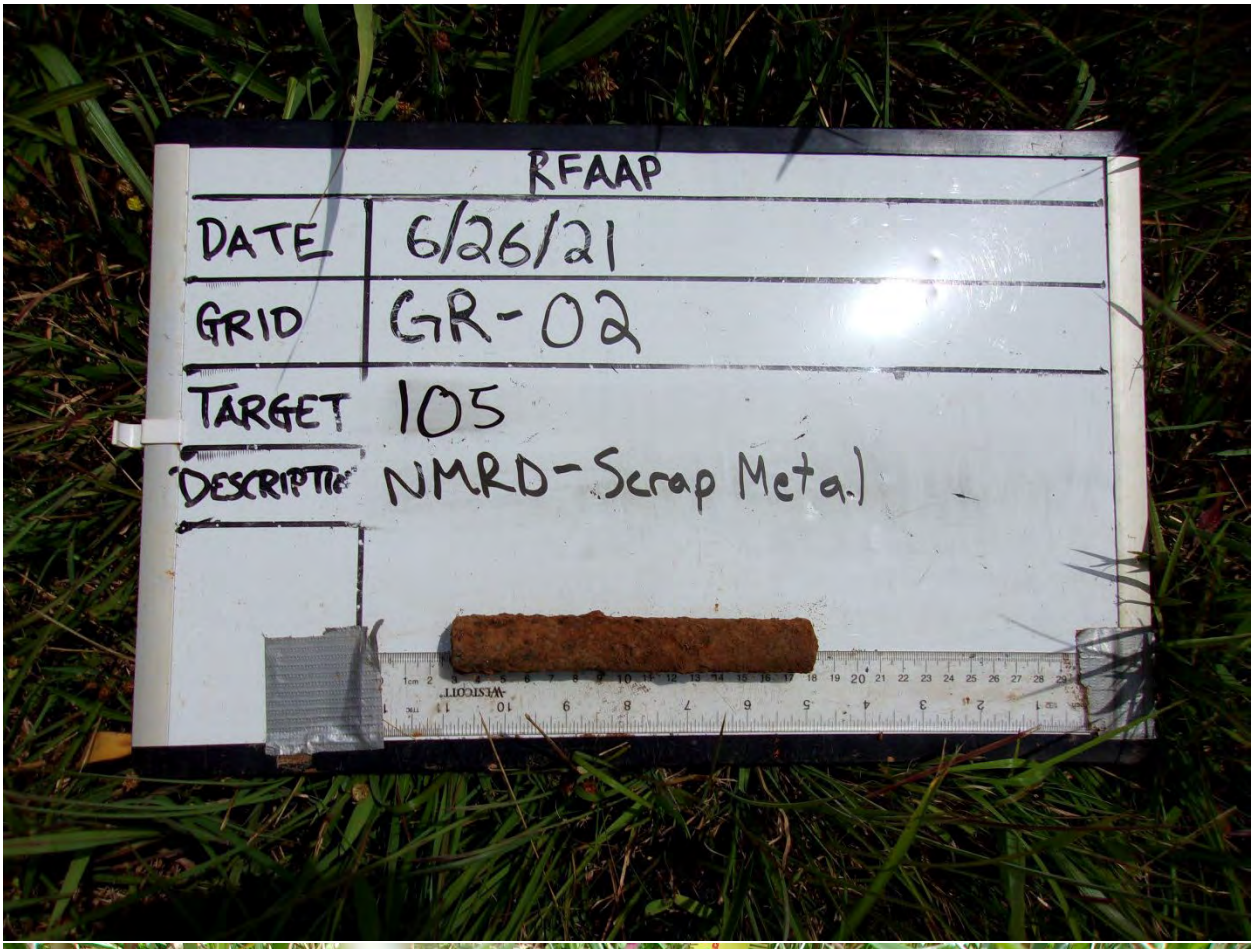



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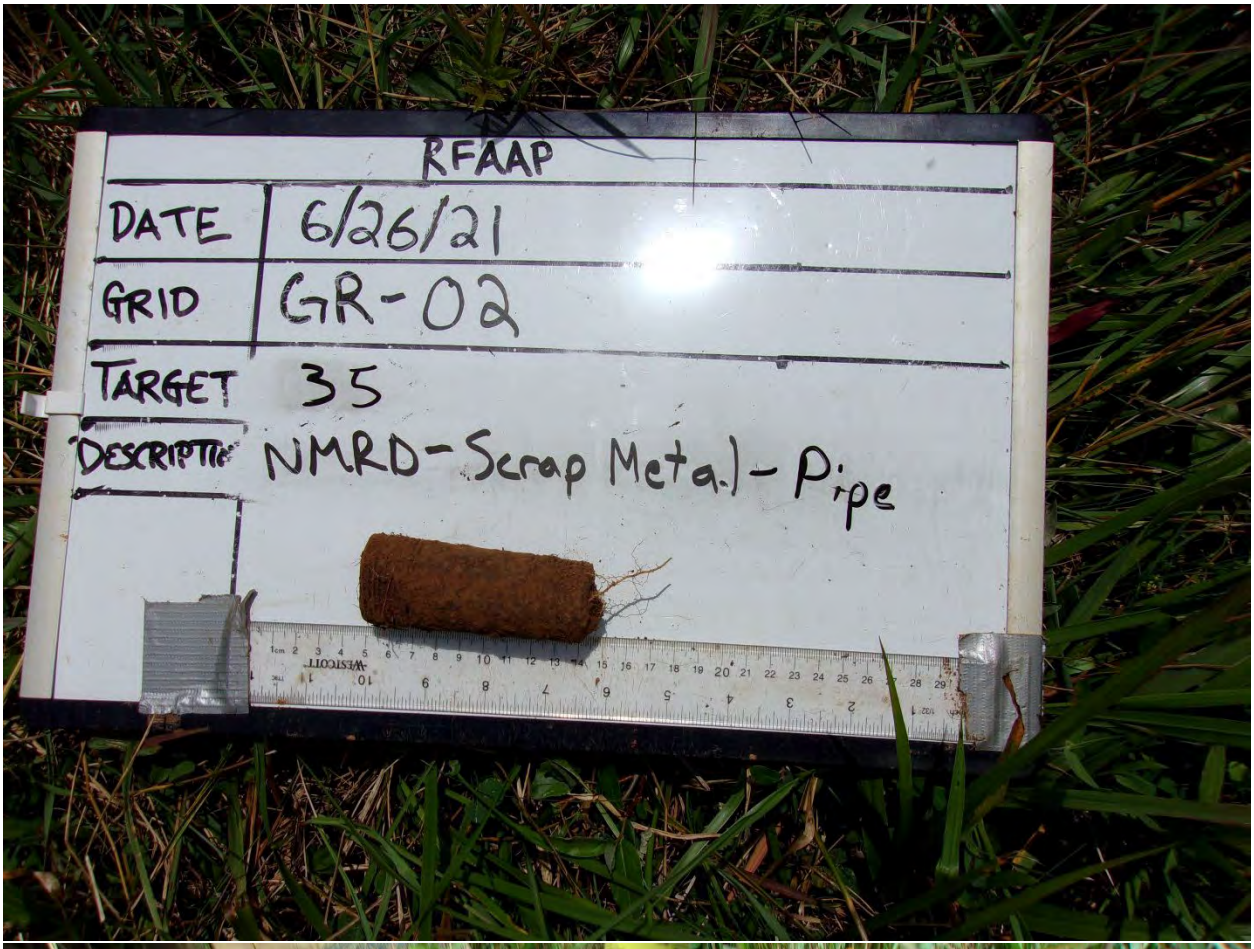



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AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-02





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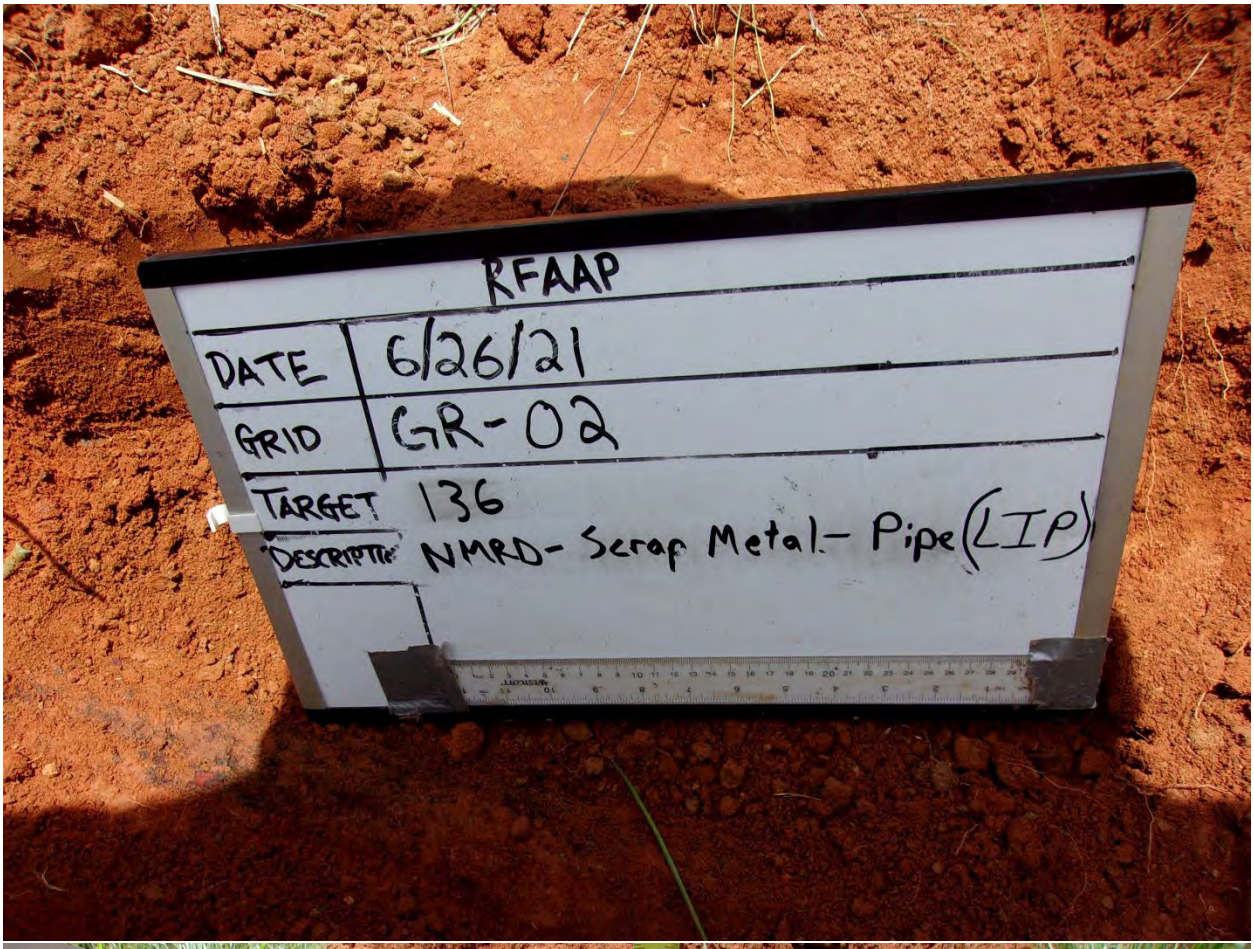



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AGC Intrusive Photos: GR-02





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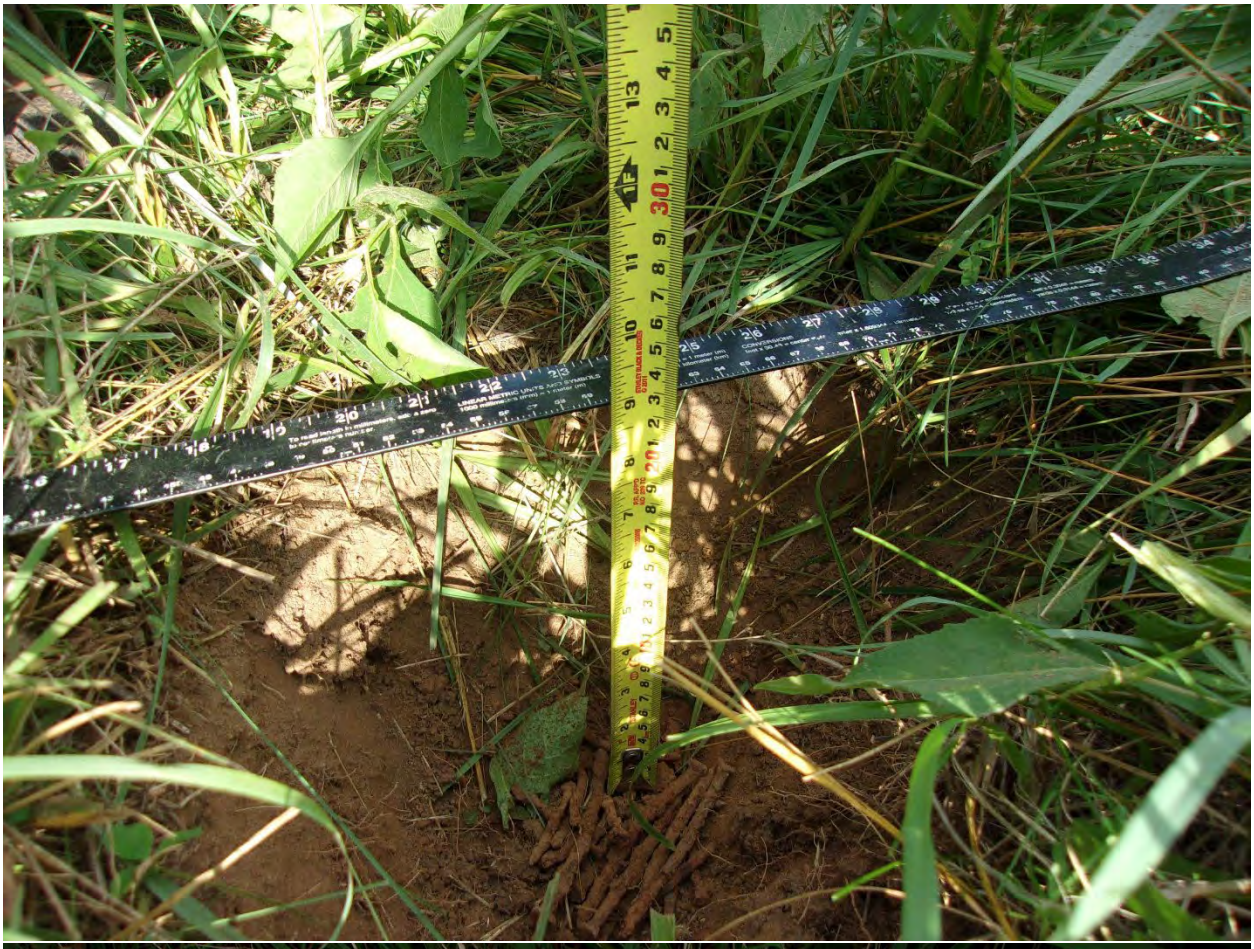



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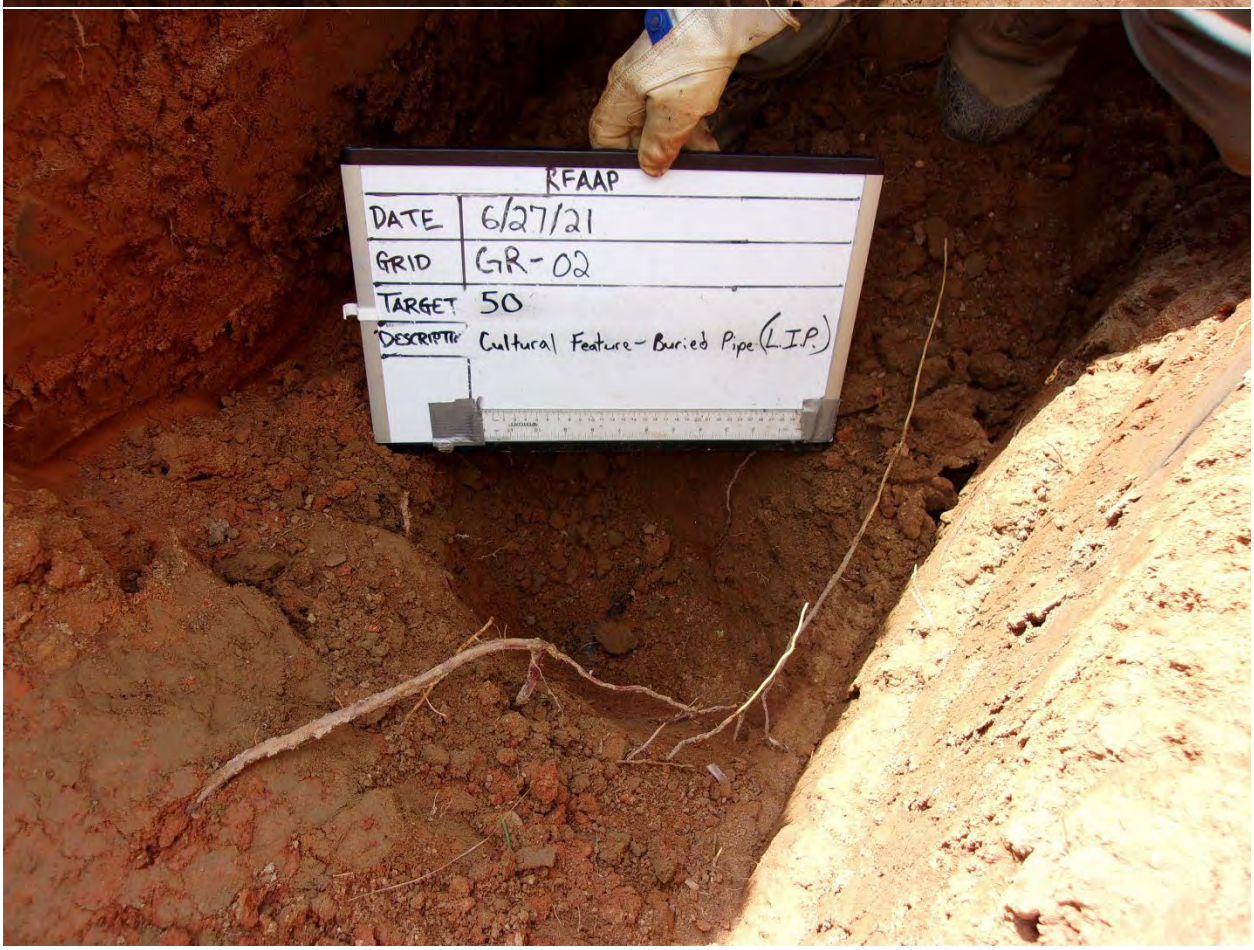
AGC Intrusive Photos: GR-02





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AGC Intrusive Photos: GR-02





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-03





AGC Intrusive Photos: GR-04





AGC Intrusive Photos: GR-04





AGC Intrusive Photos: GR-04





AGC Intrusive Photos: GR-04





AGC Intrusive Photos: GR-04





AGC Intrusive Photos: GR-04





AGC Intrusive Photos: GR-04





AGC Intrusive Photos: GR-05





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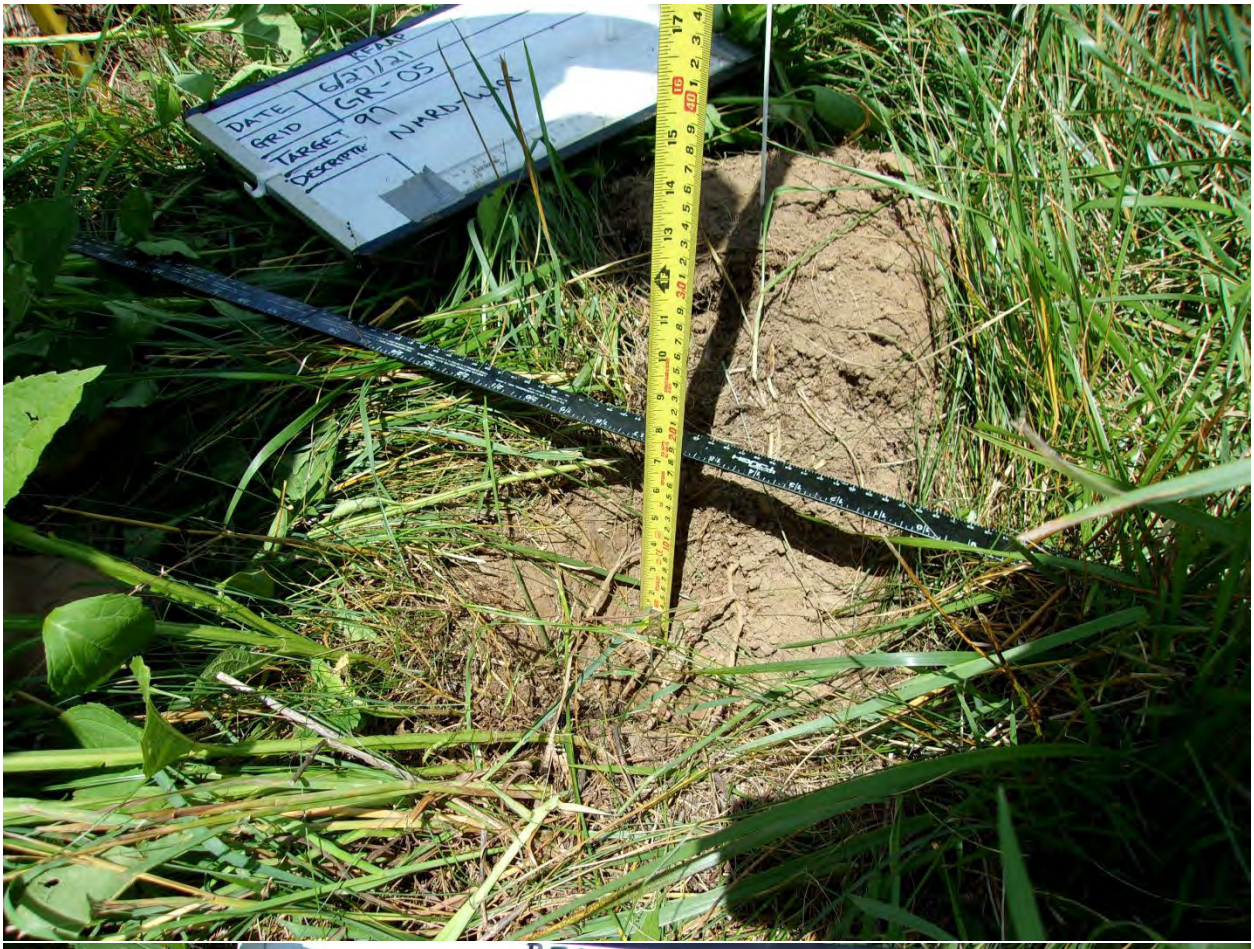
AGC Intrusive Photos: GR-05





AGC Intrusive Photos: GR-05





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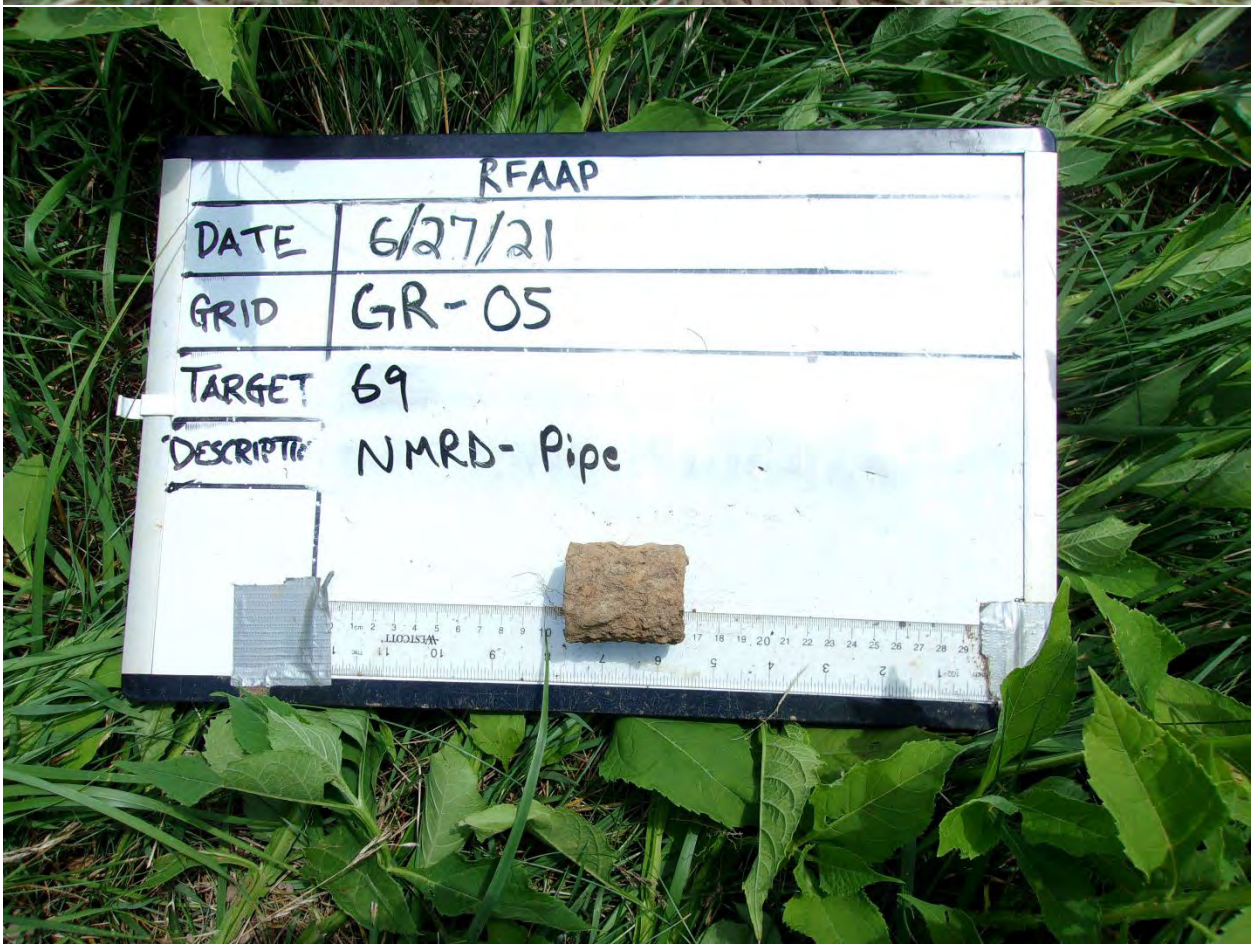

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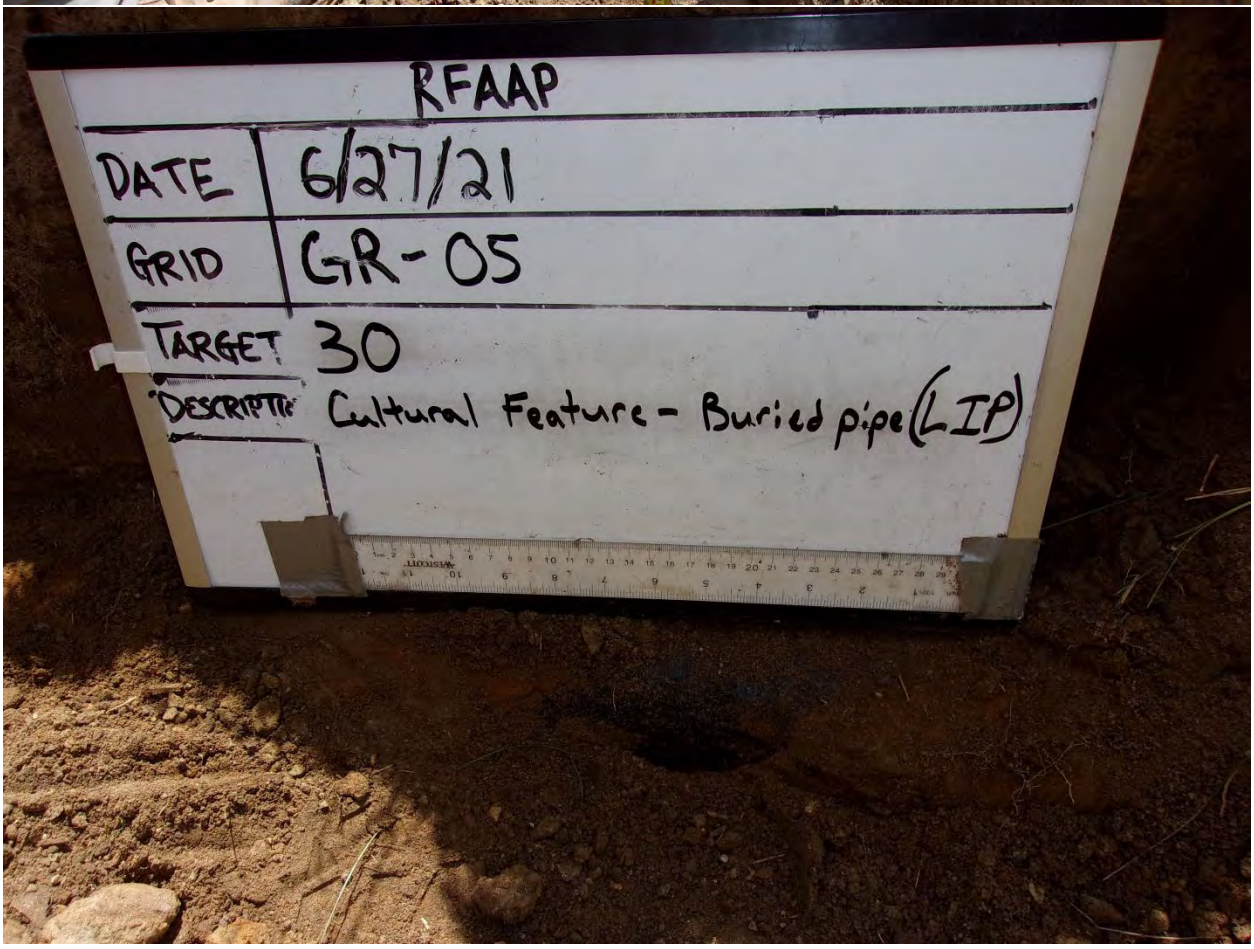

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AGC Intrusive Photos: GR-05





AGC Intrusive Photos: GR-05





AGC Intrusive Photos: GR-05



AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





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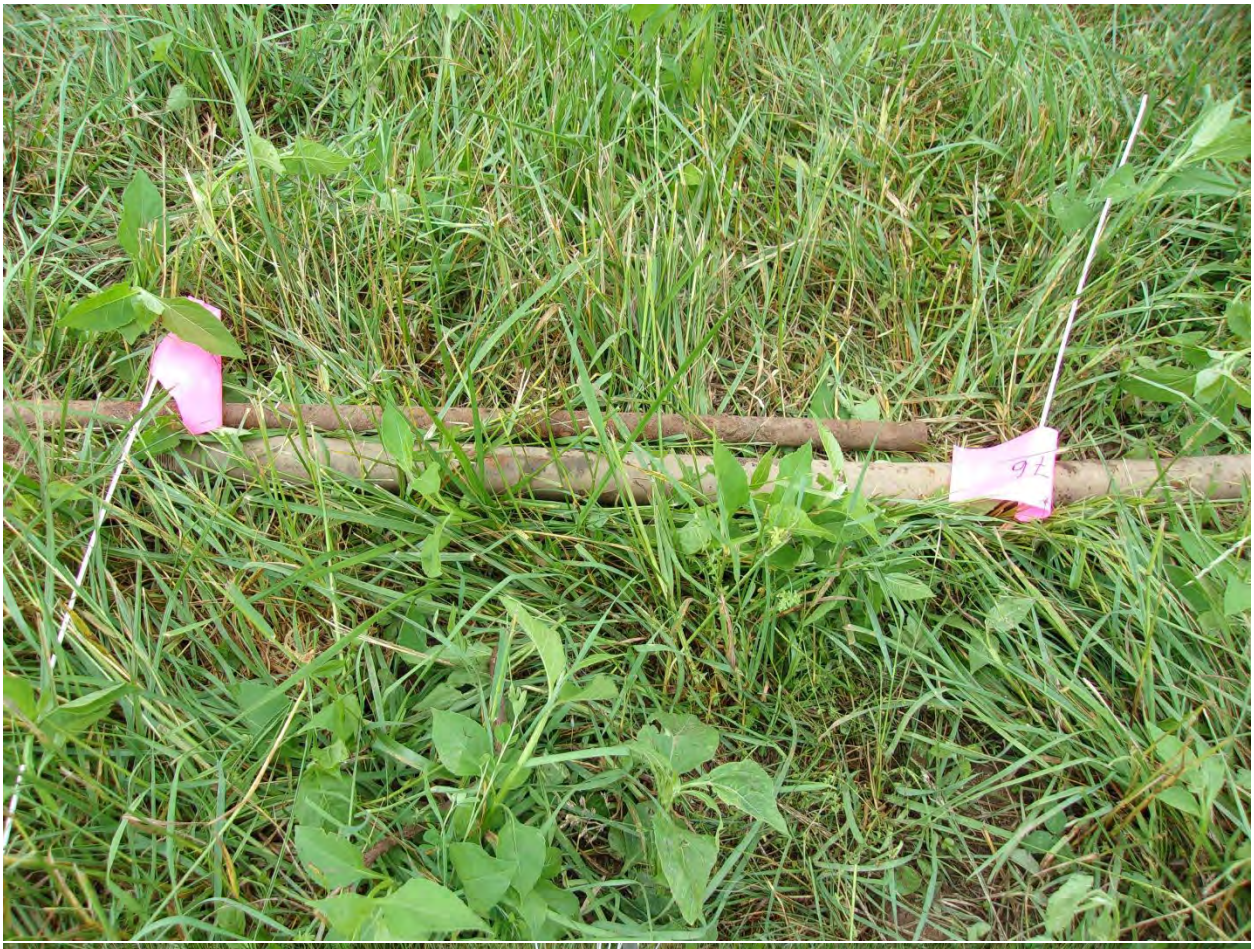



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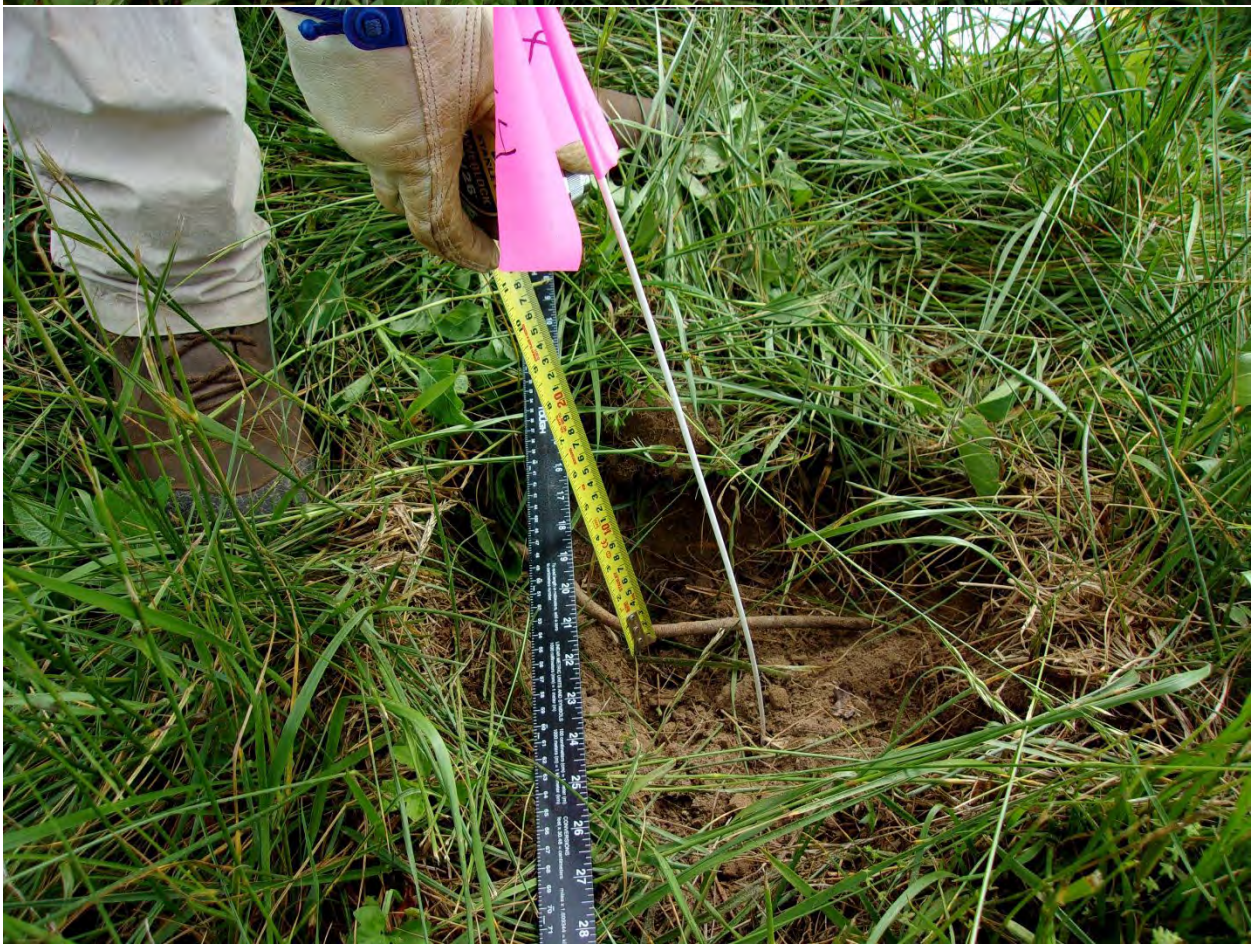

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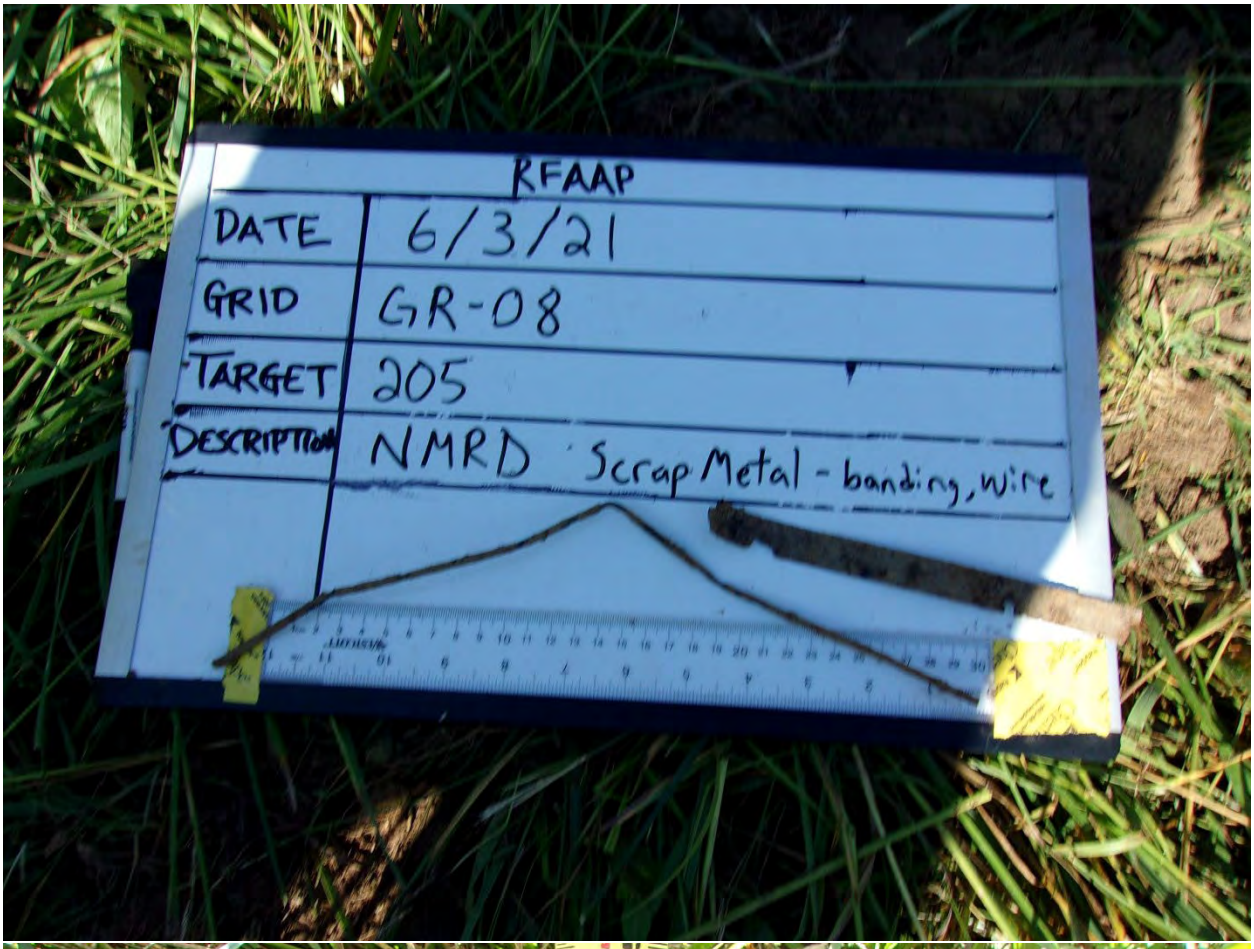



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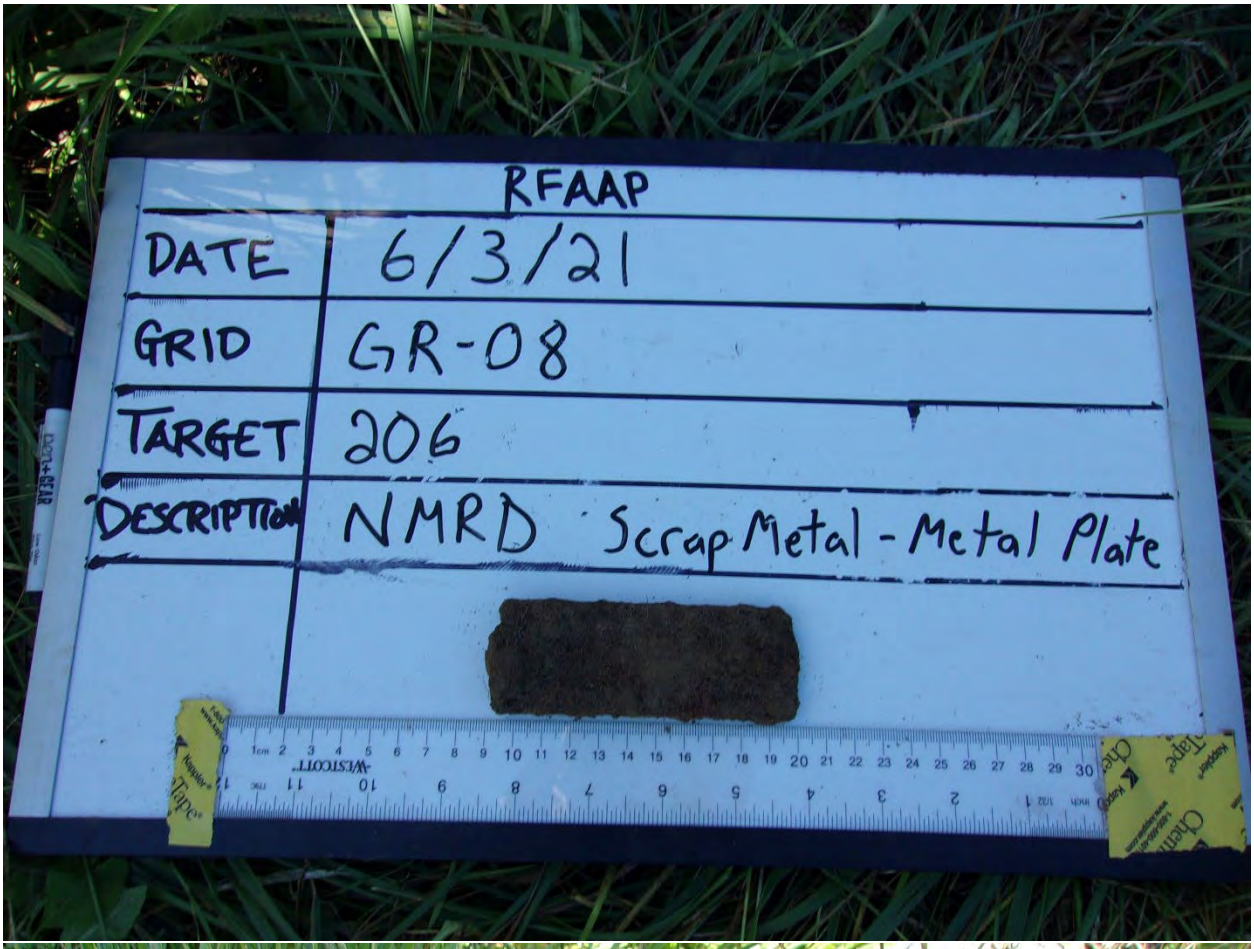



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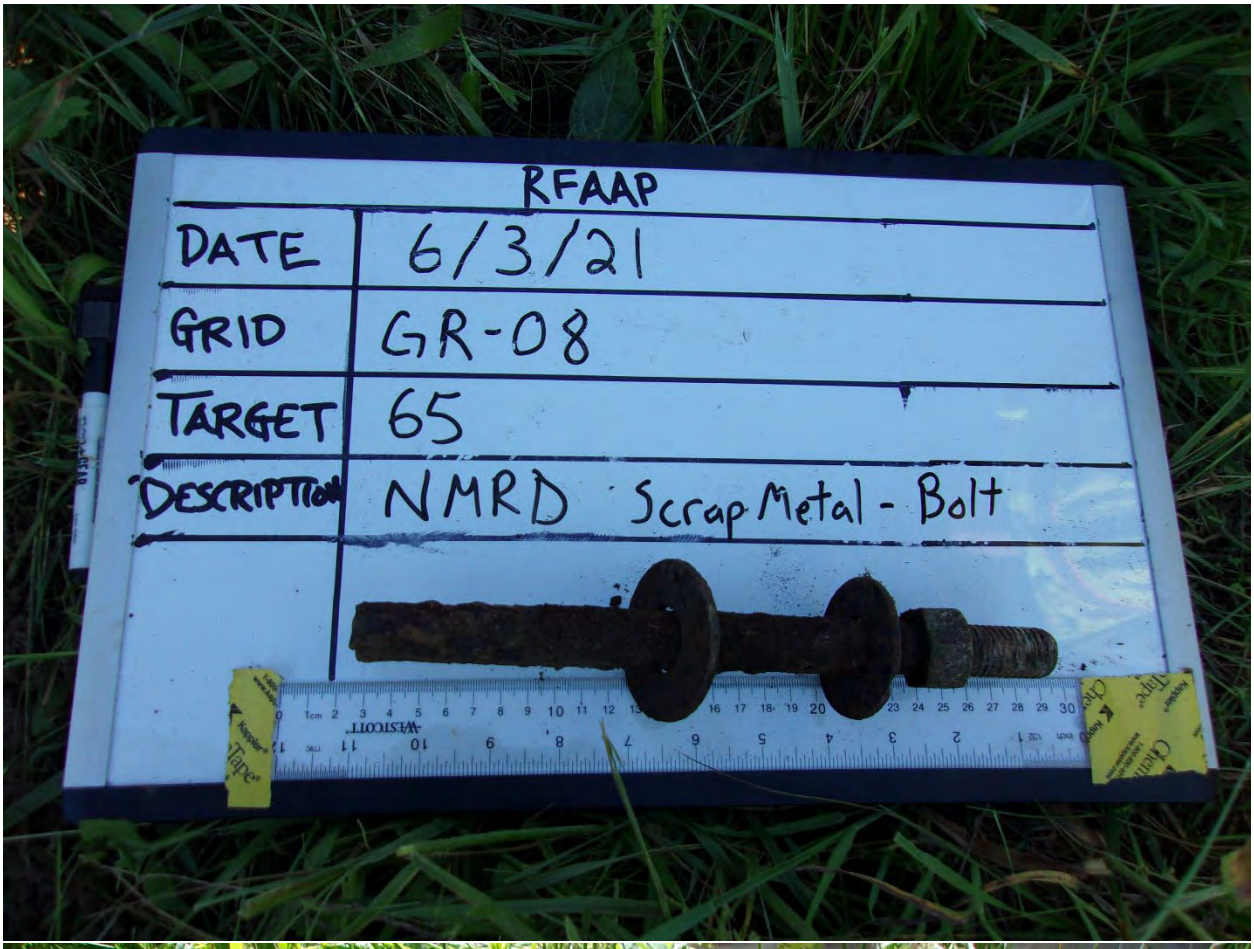



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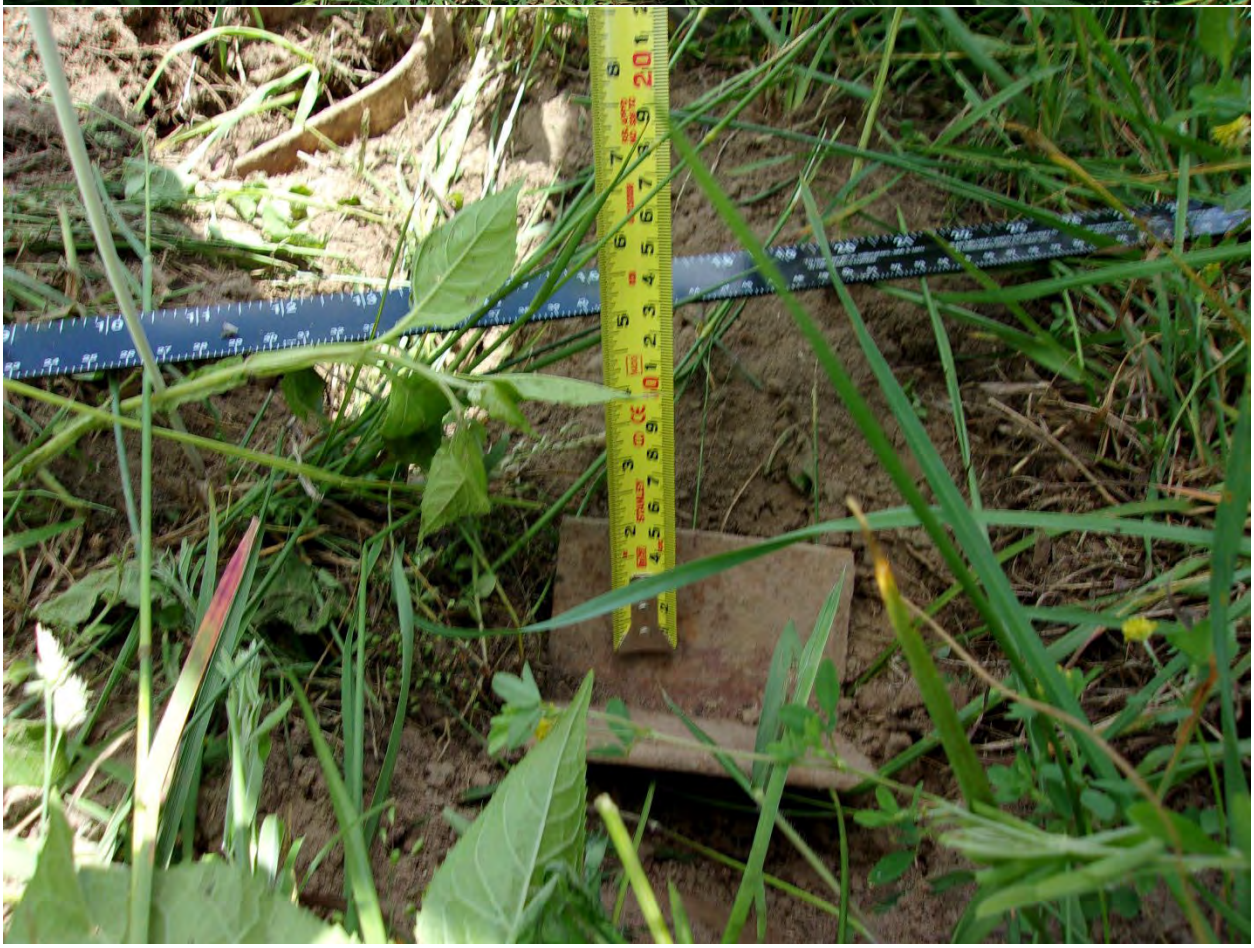

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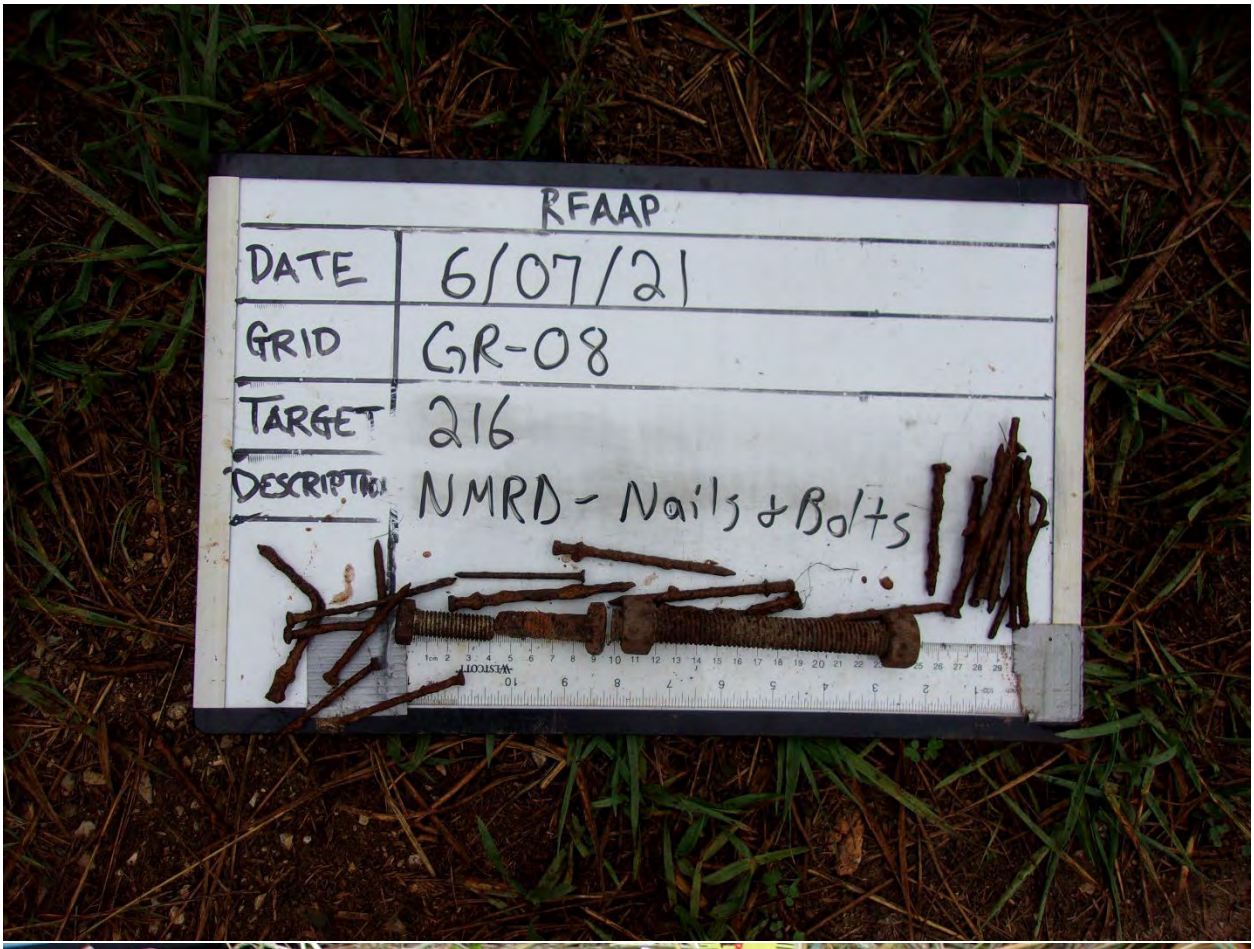

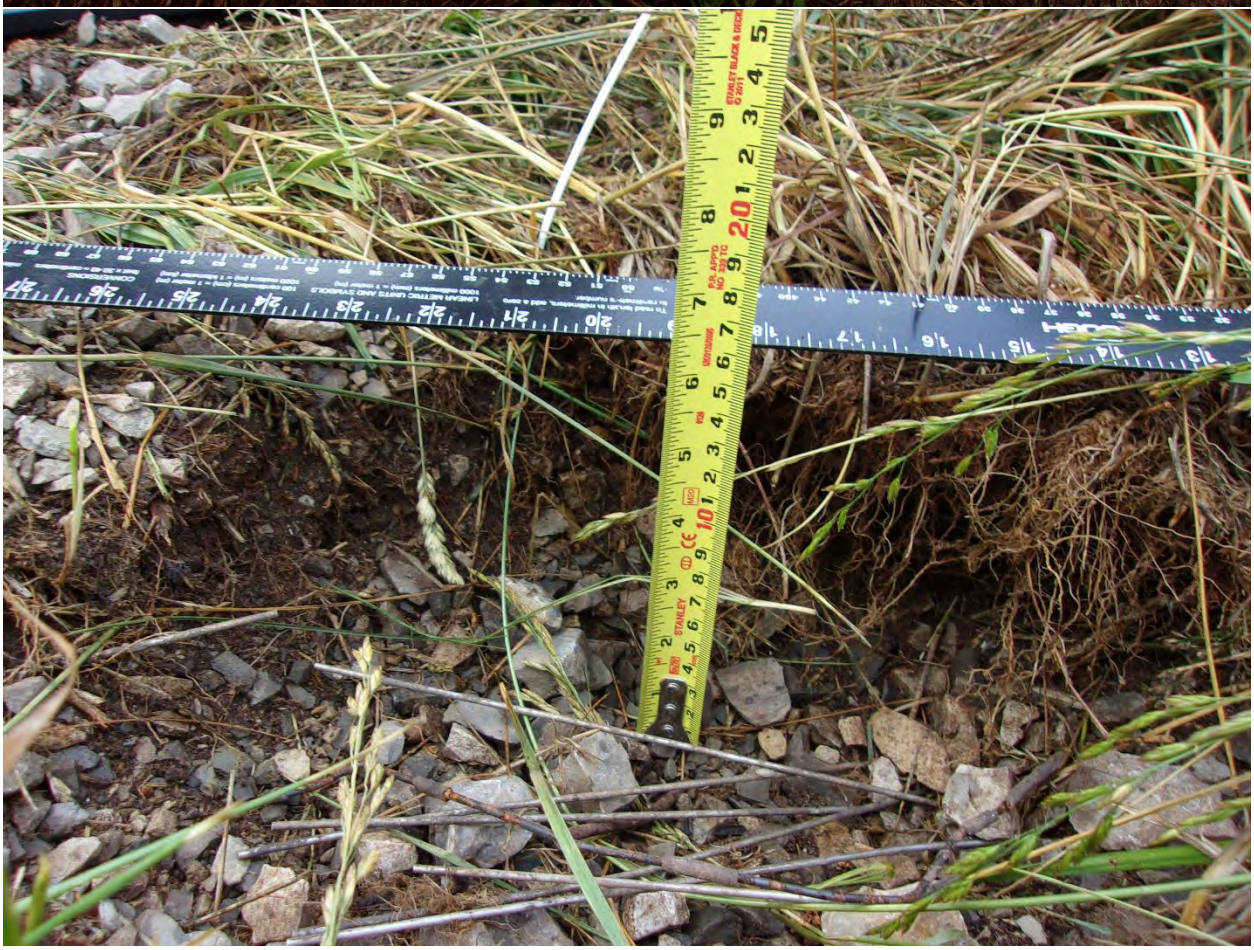

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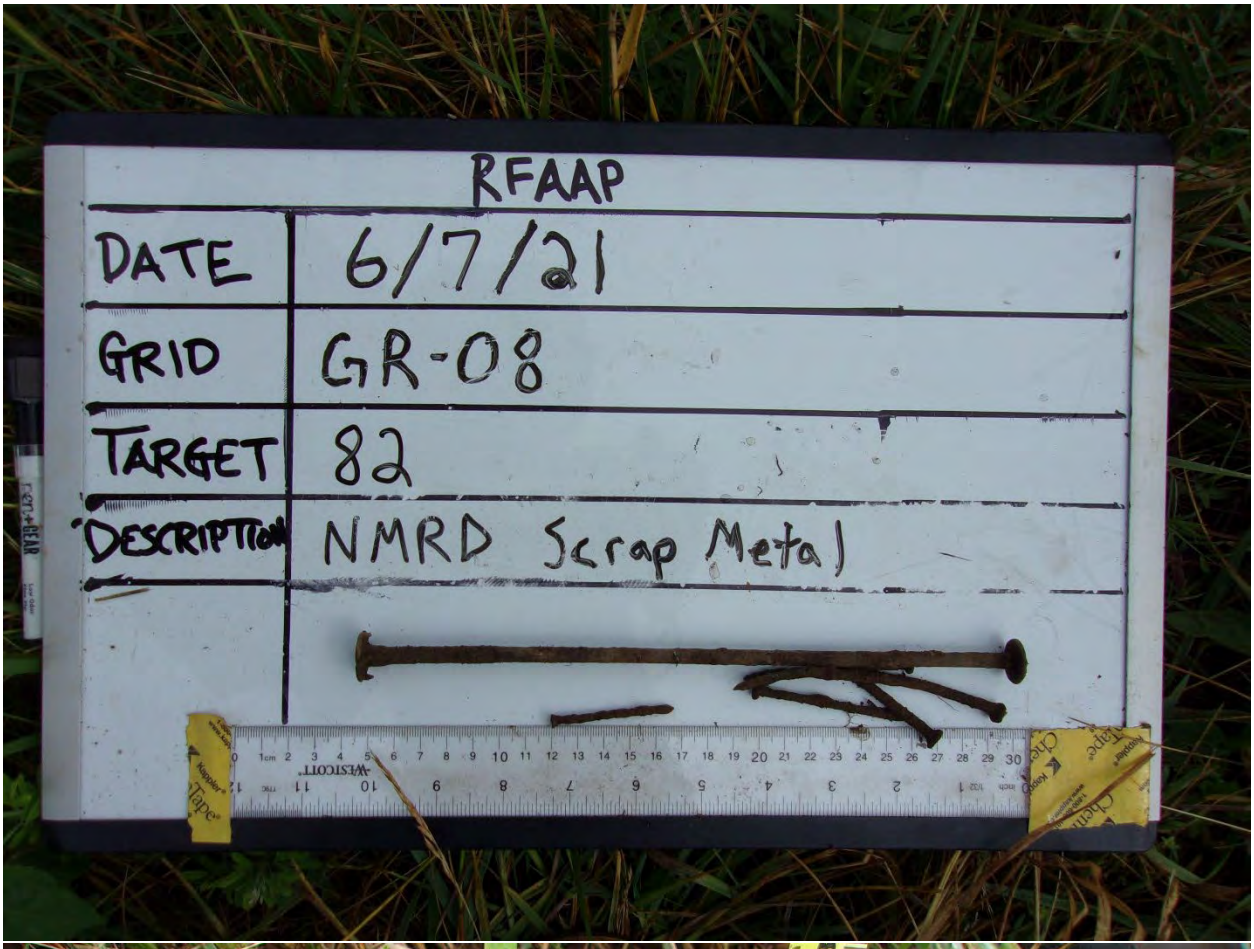



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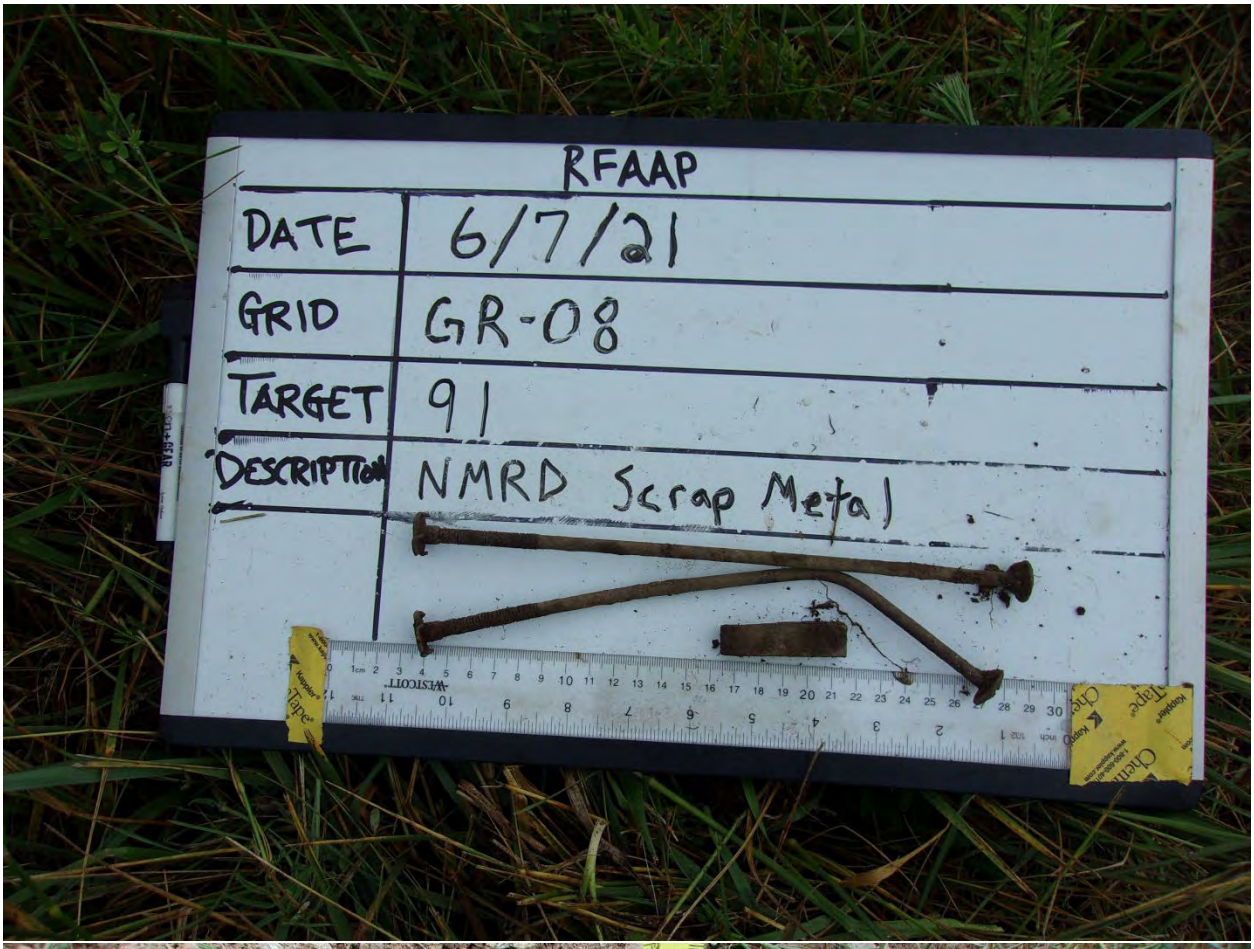



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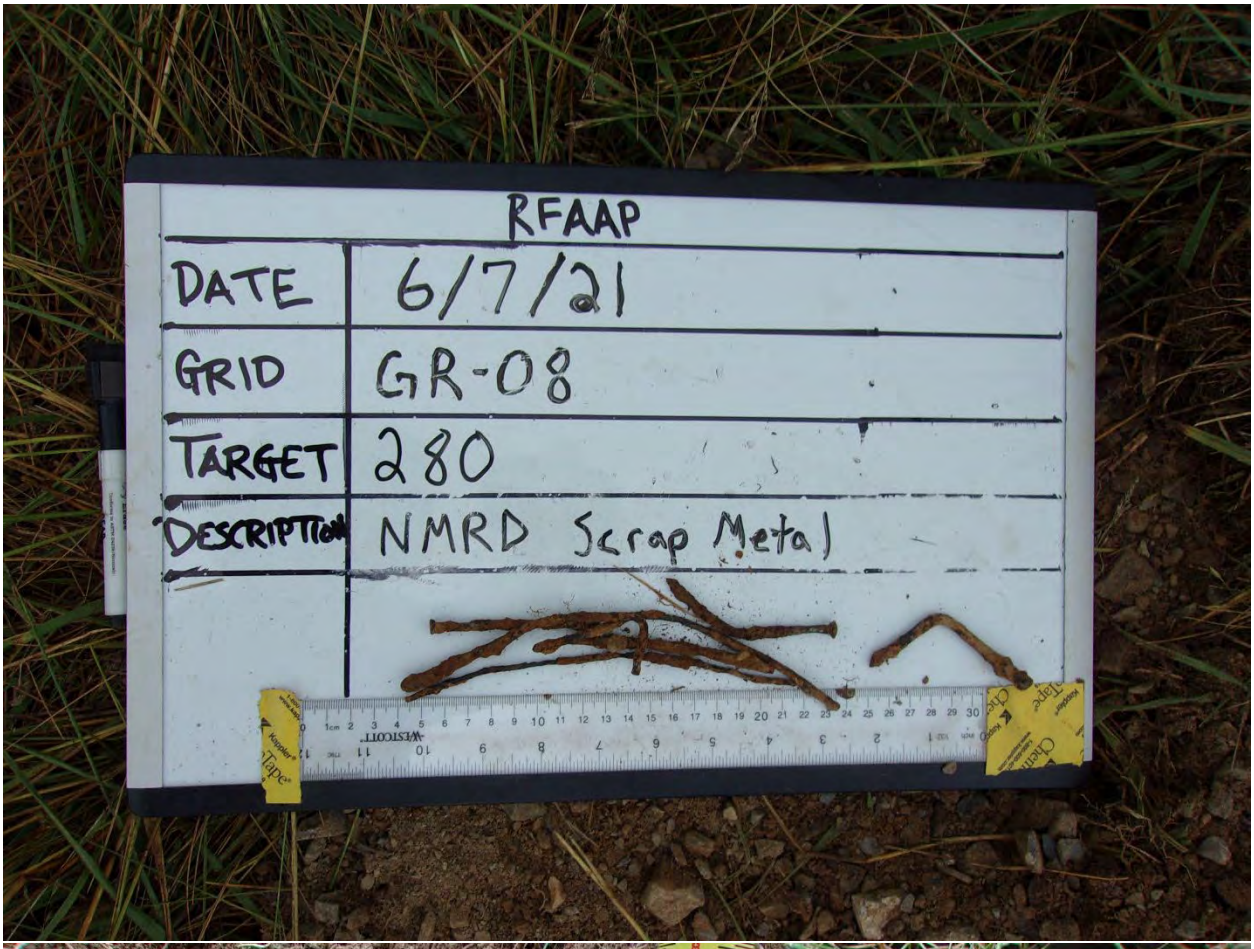



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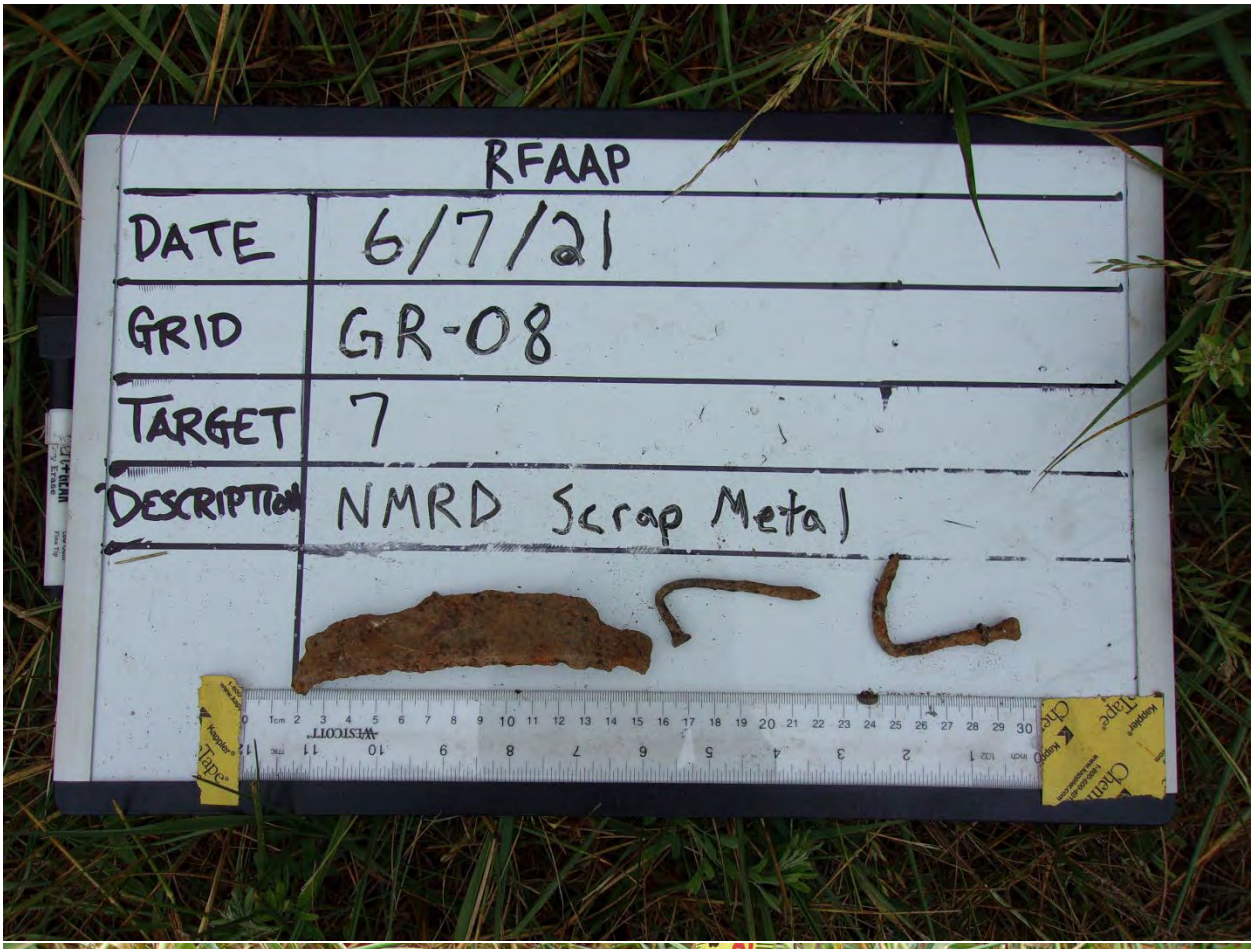



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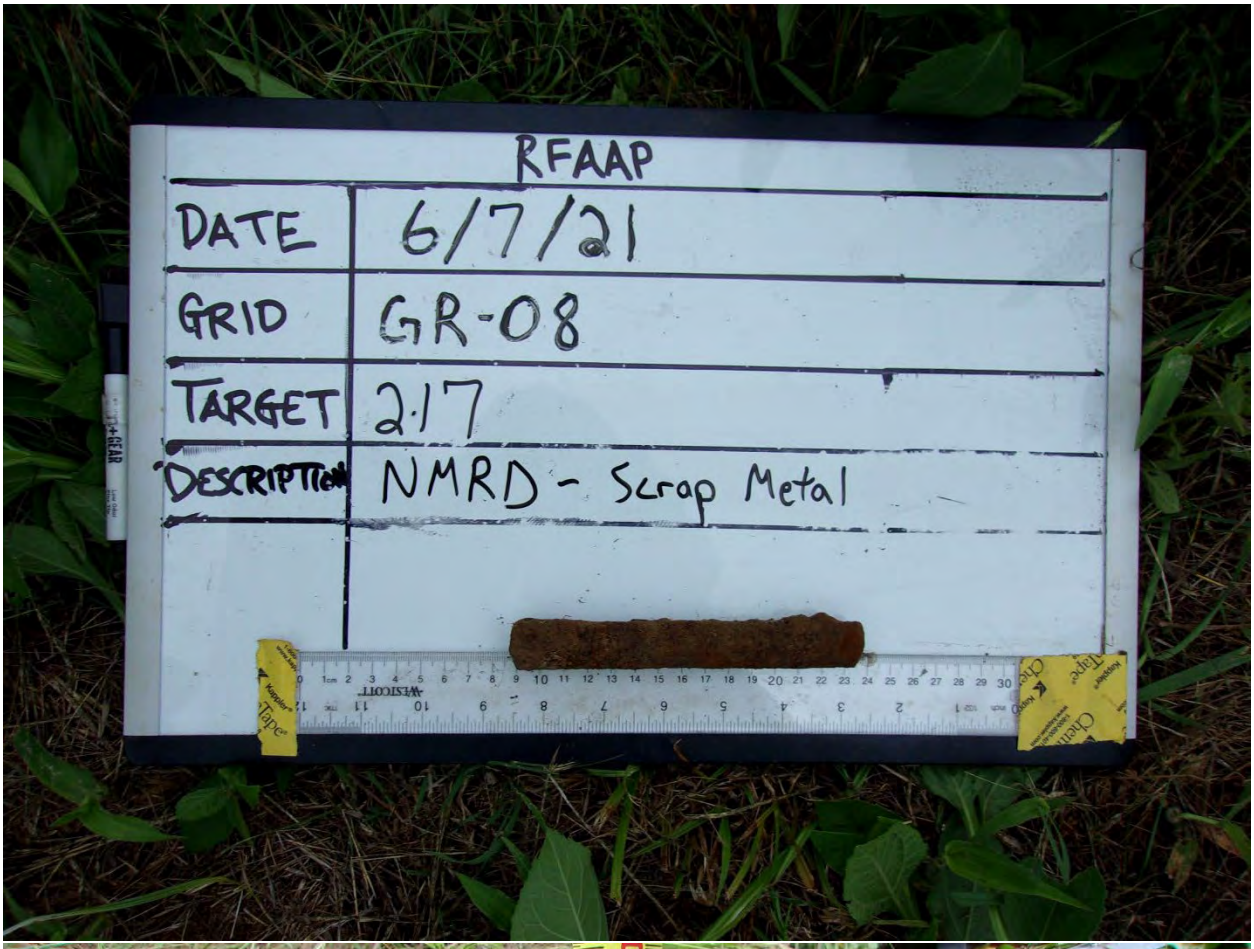



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AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





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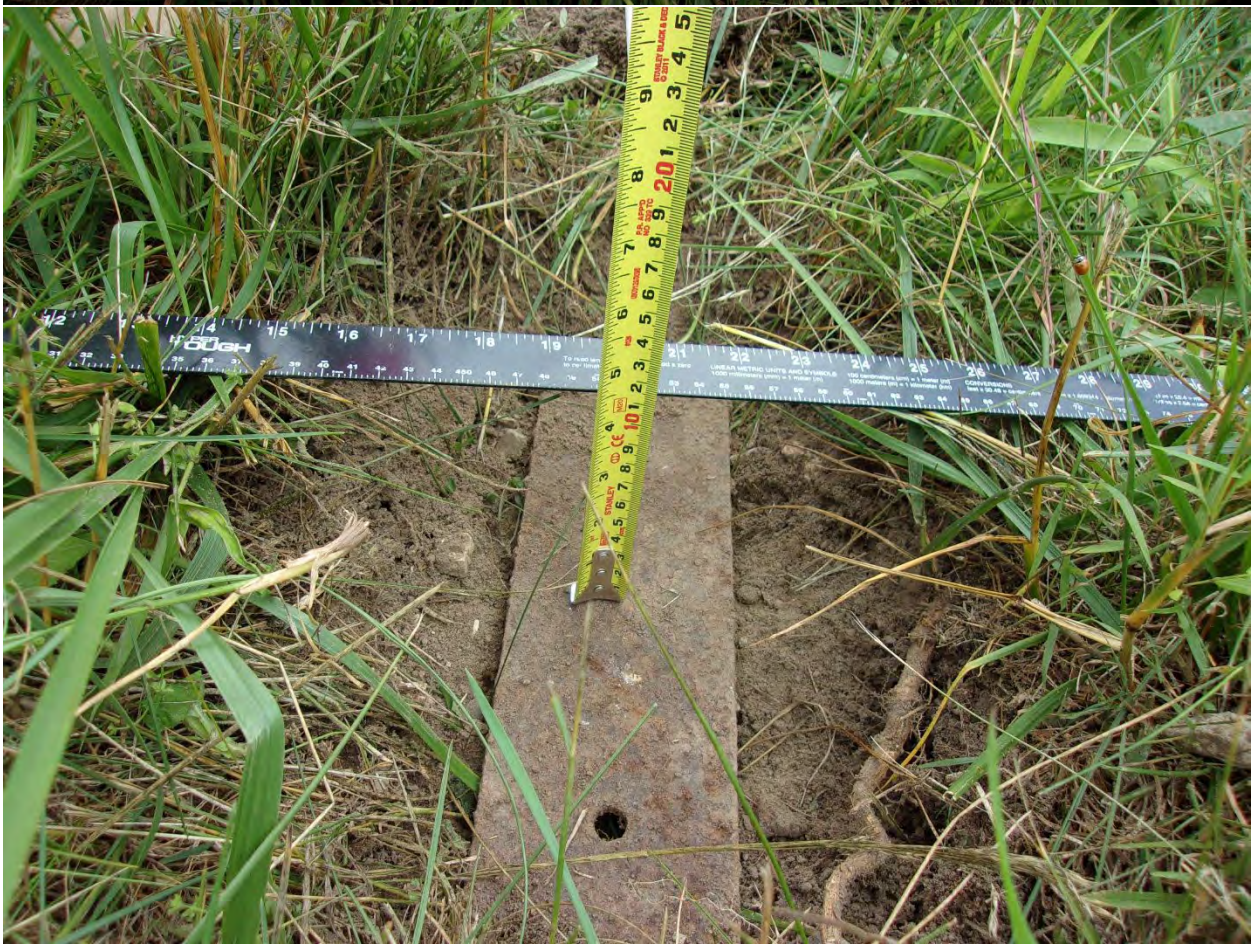
AGC Intrusive Photos: GR-08





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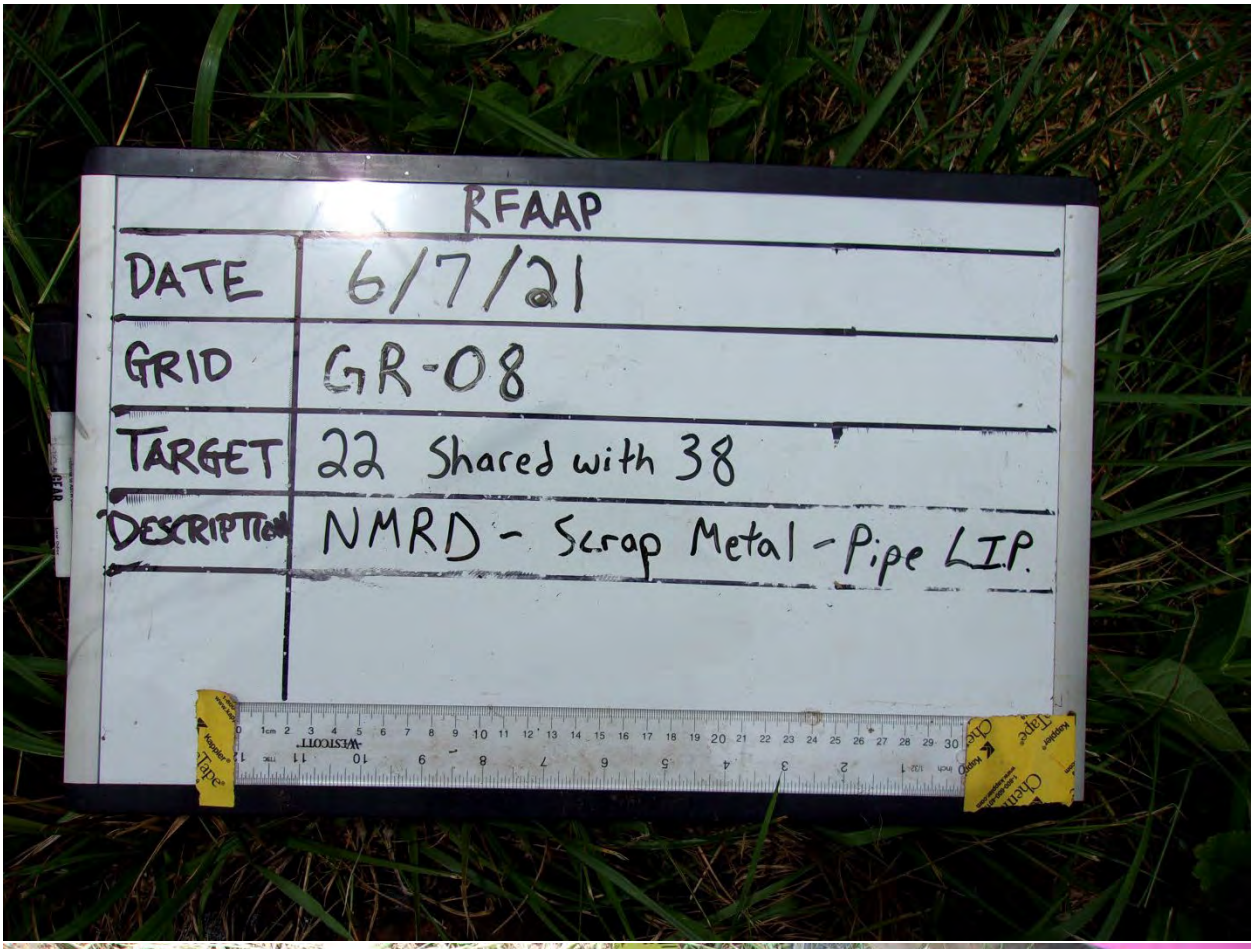



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AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





AGC Intrusive Photos: GR-08





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AGC Intrusive Photos: GR-08





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AGC Intrusive Photos: GR-08





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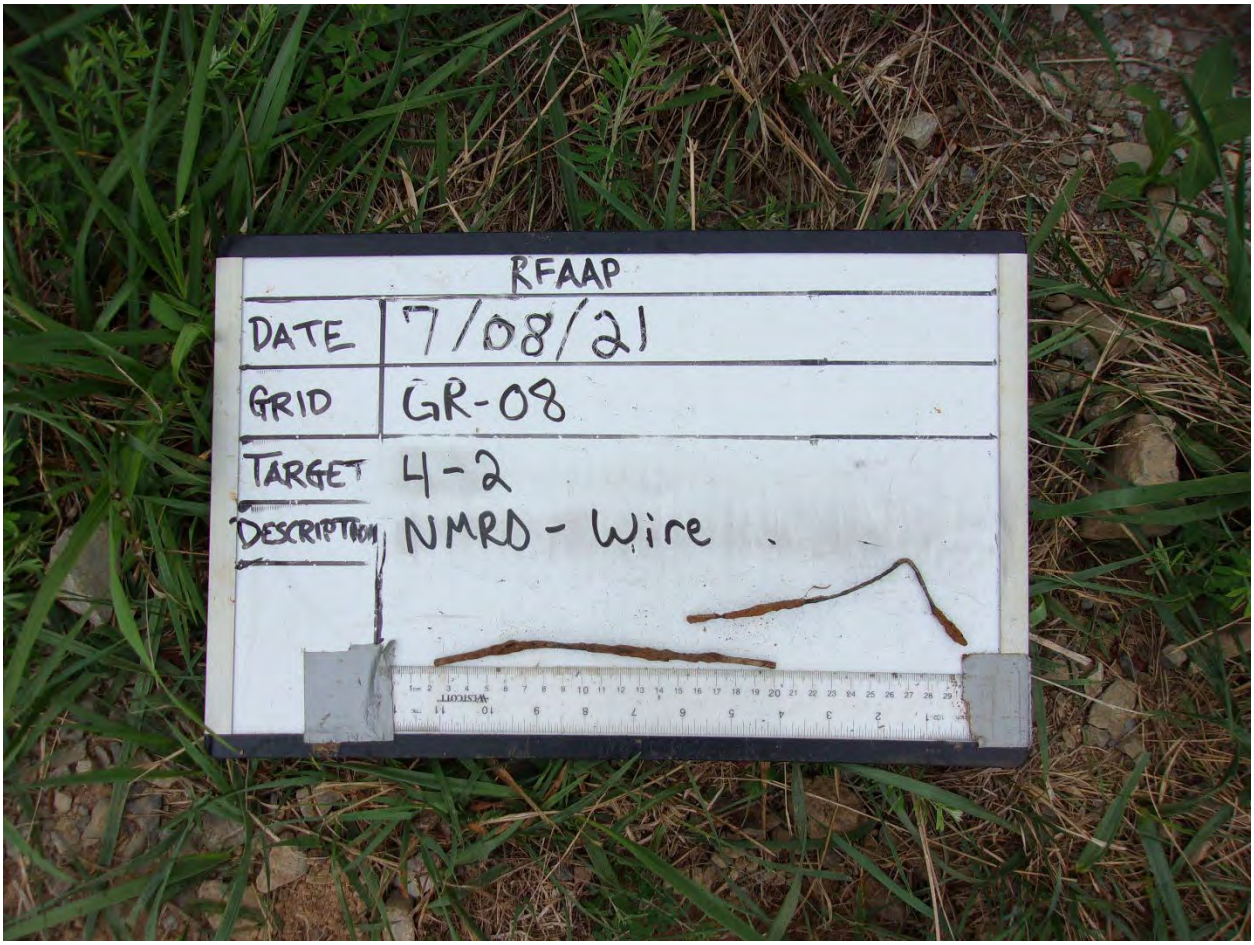


AGC Intrusive Photos: GR-09





AGC Intrusive Photos: GR-09





AGC Intrusive Photos: GR-09





AGC Intrusive Photos: GR-09





AGC Intrusive Photos: GR-09





AGC Intrusive Photos: GR-10





AGC Intrusive Photos: GR-10



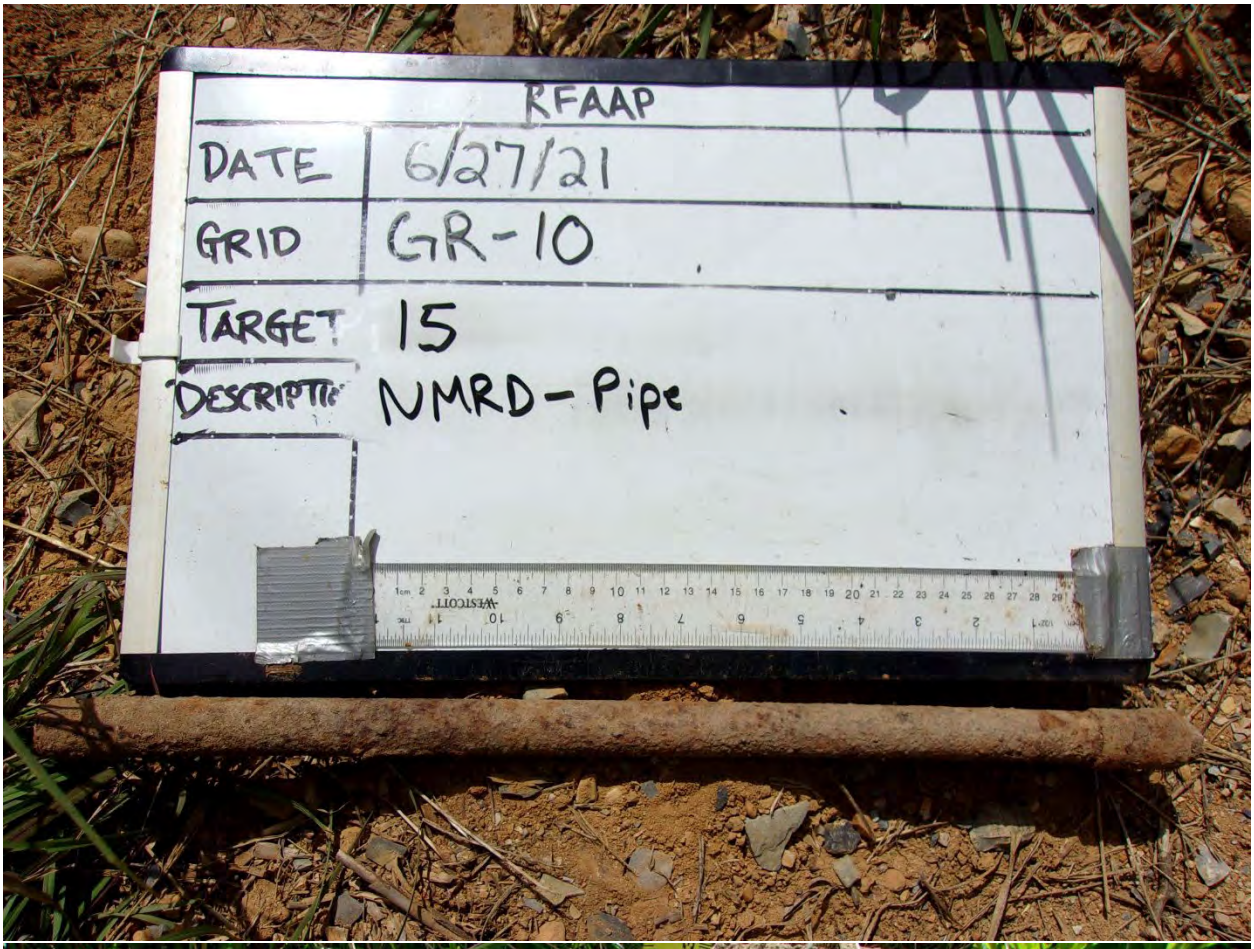


AGC Intrusive Photos: GR-10





AGC Intrusive Photos: GR-10





AGC Intrusive Photos: GR-10



AGC Intrusive Photos: GR-11





AGC Intrusive Photos: GR-11





AGC Intrusive Photos: GR-11





AGC Intrusive Photos: GR-11





AGC Intrusive Photos: GR-11



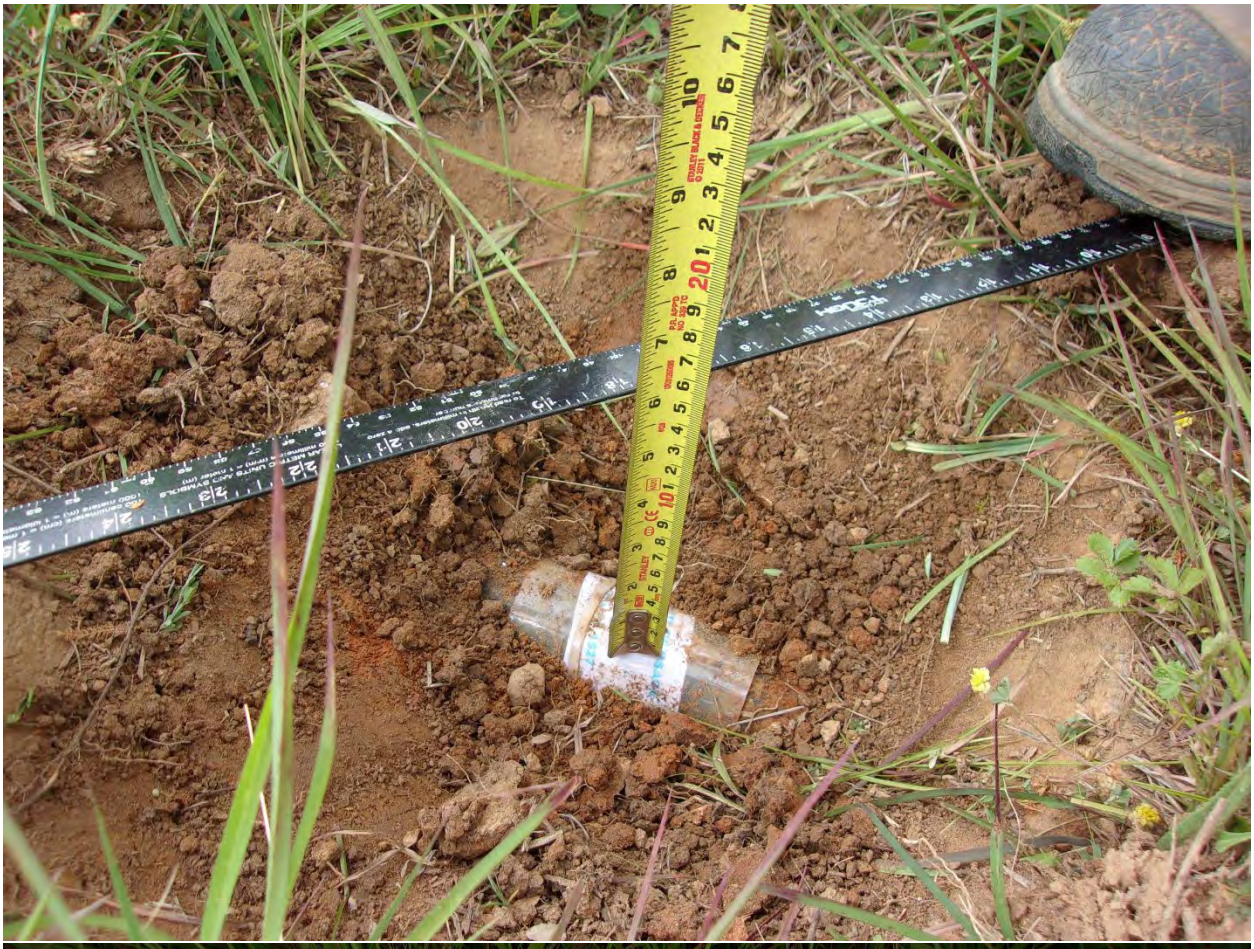


AGC Intrusive Photos: GR-13





AGC Intrusive Photos: GR-13





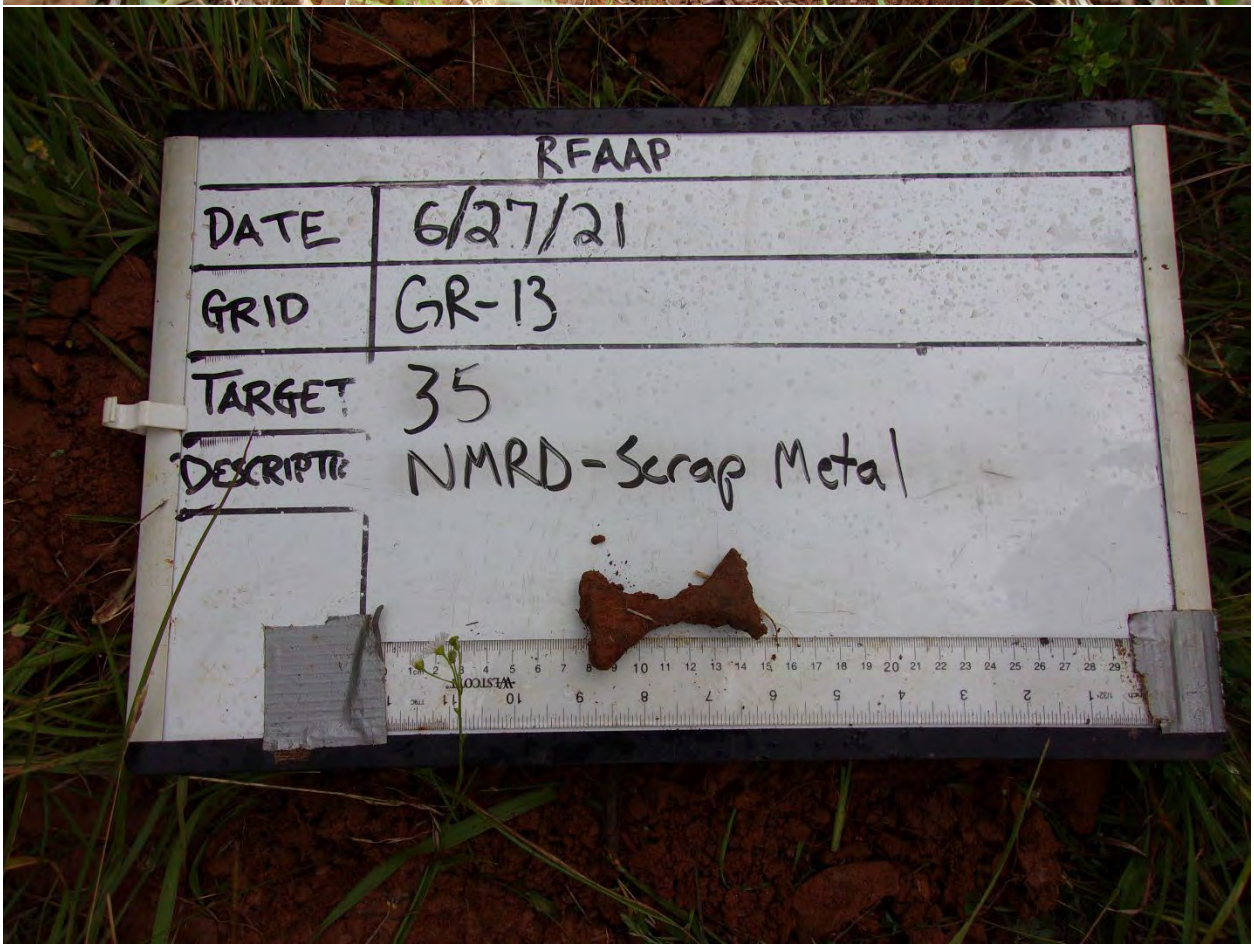
AGC Intrusive Photos: GR-13





AGC Intrusive Photos: GR-13





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14



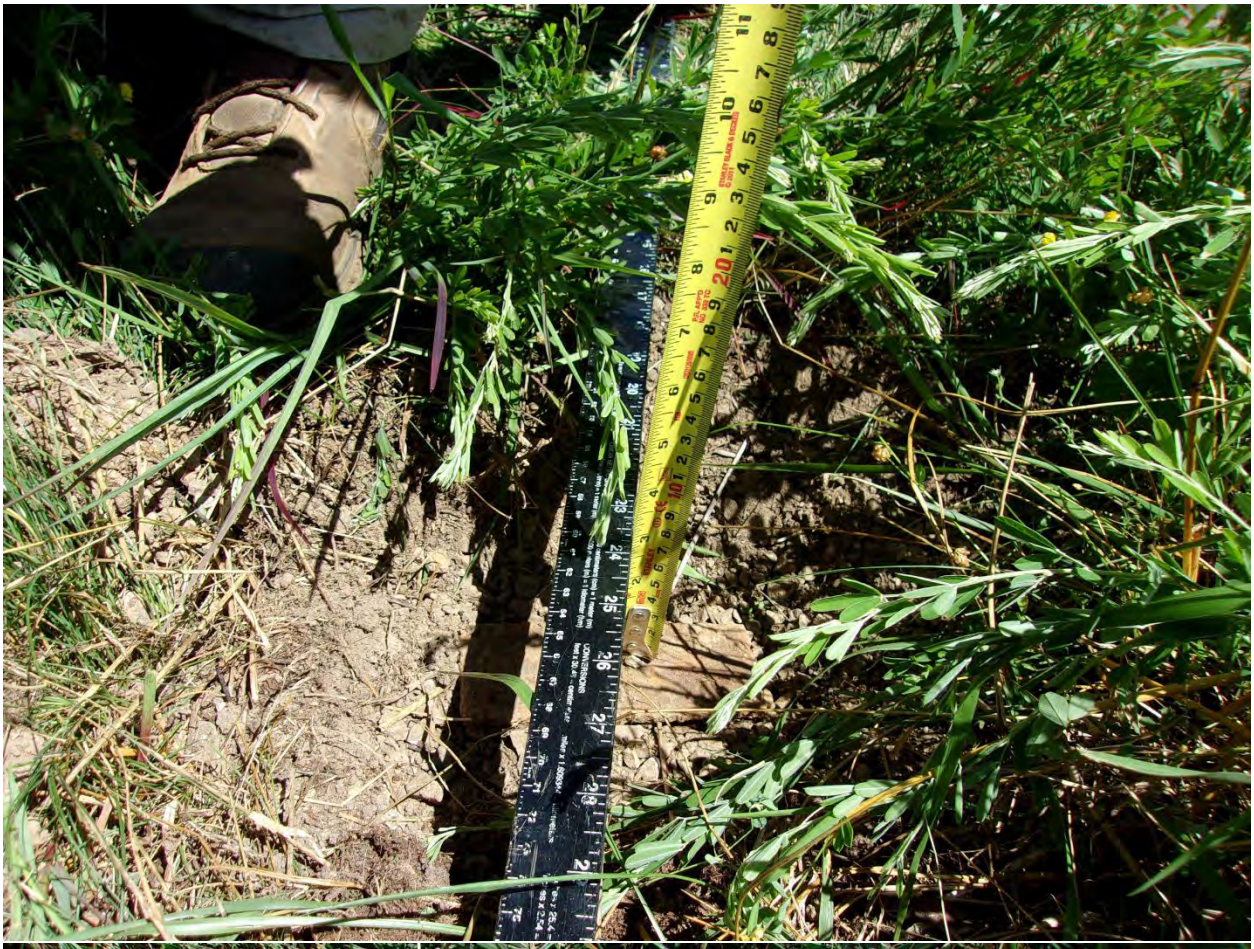


AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





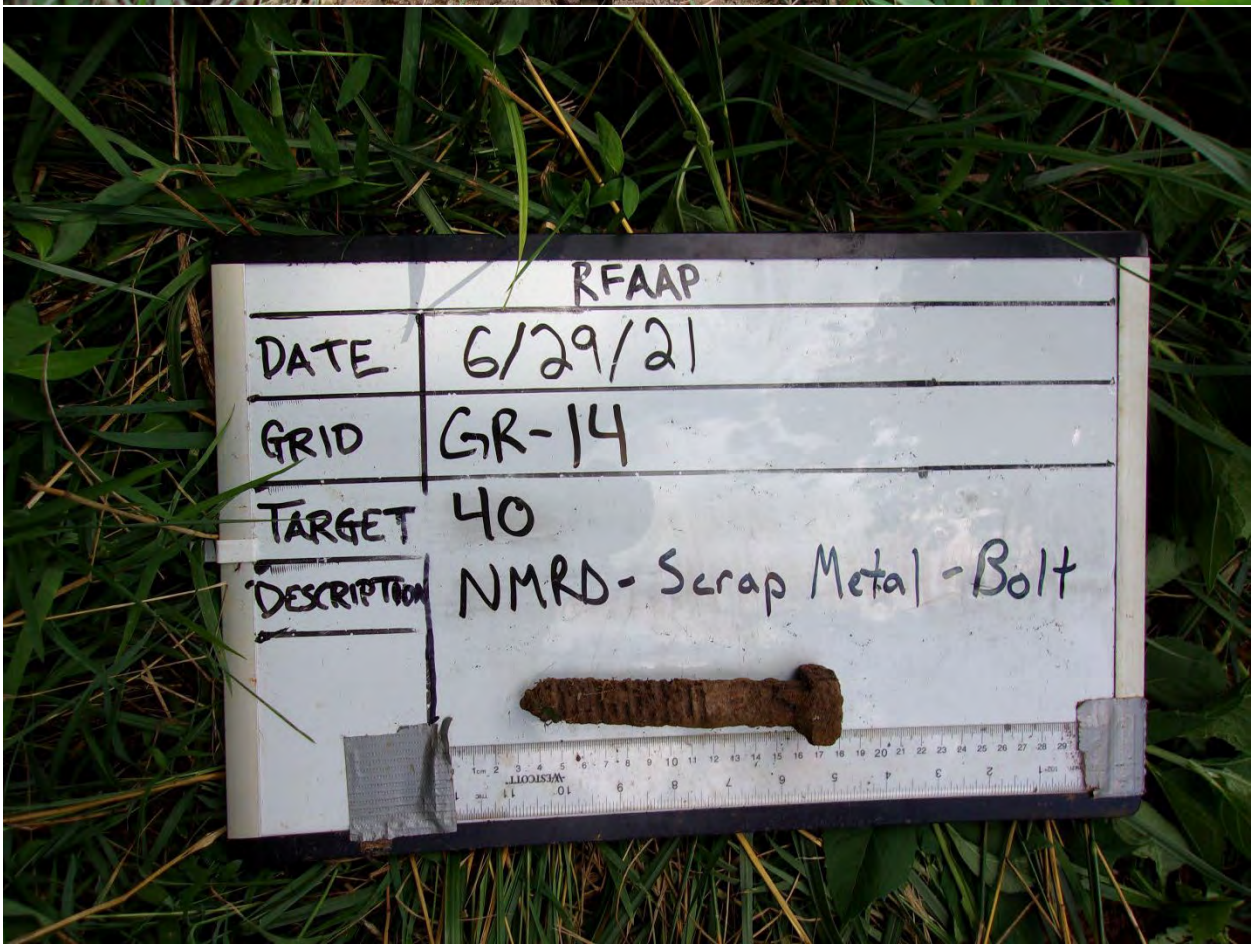
AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





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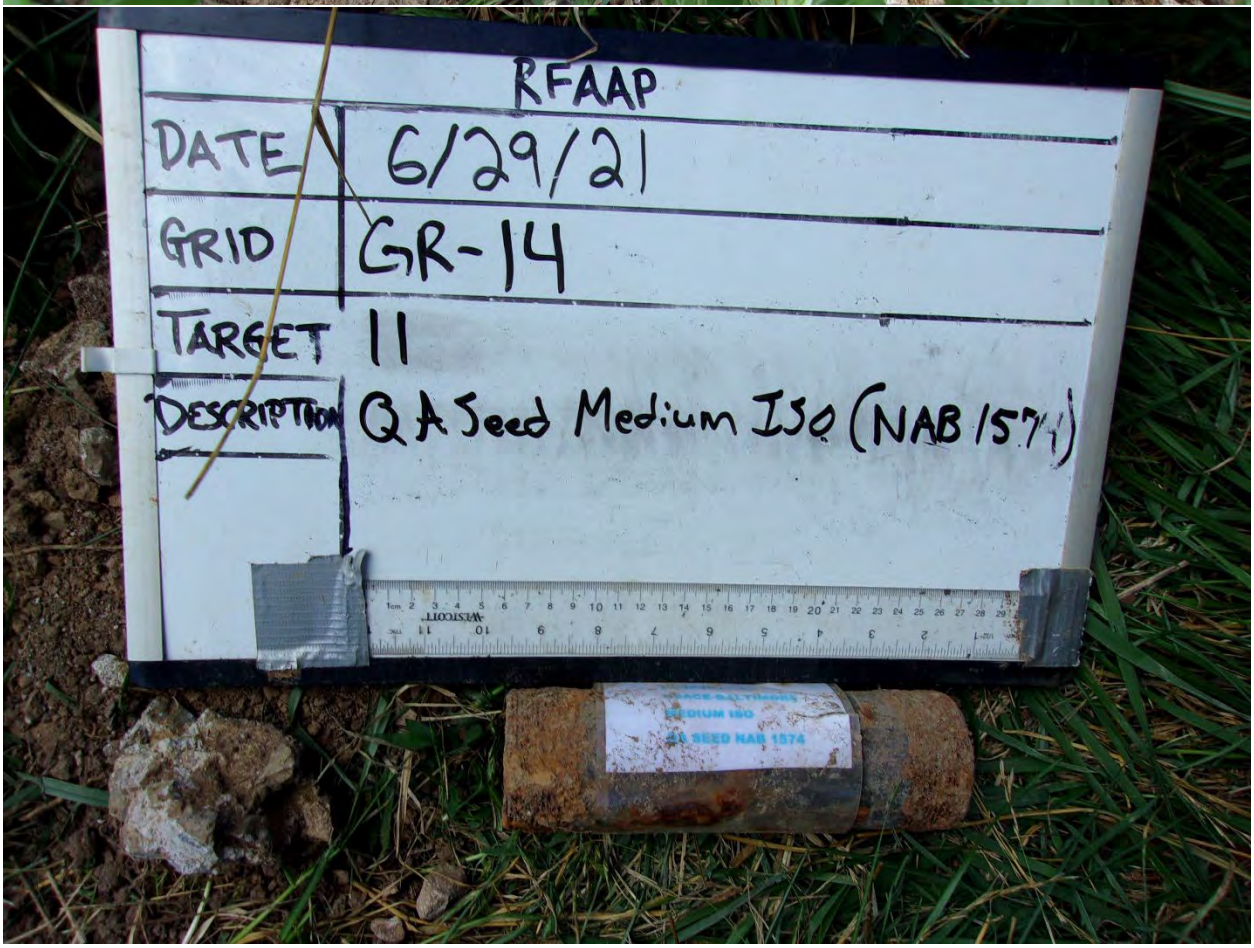
AGC Intrusive Photos: GR-14





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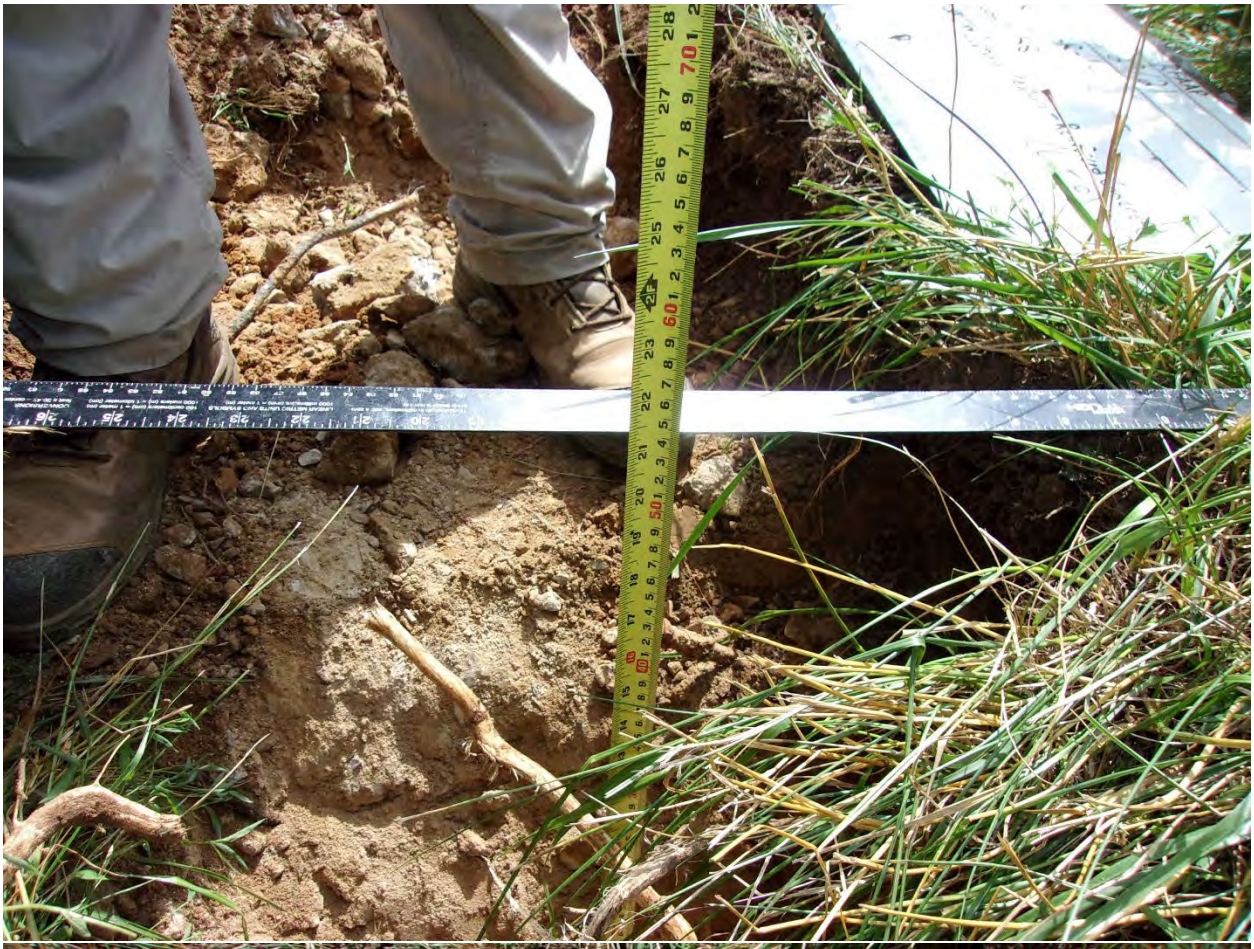




AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-14





AGC Intrusive Photos: GR-15





AGC Intrusive Photos: GR-15





AGC Intrusive Photos: GR-15





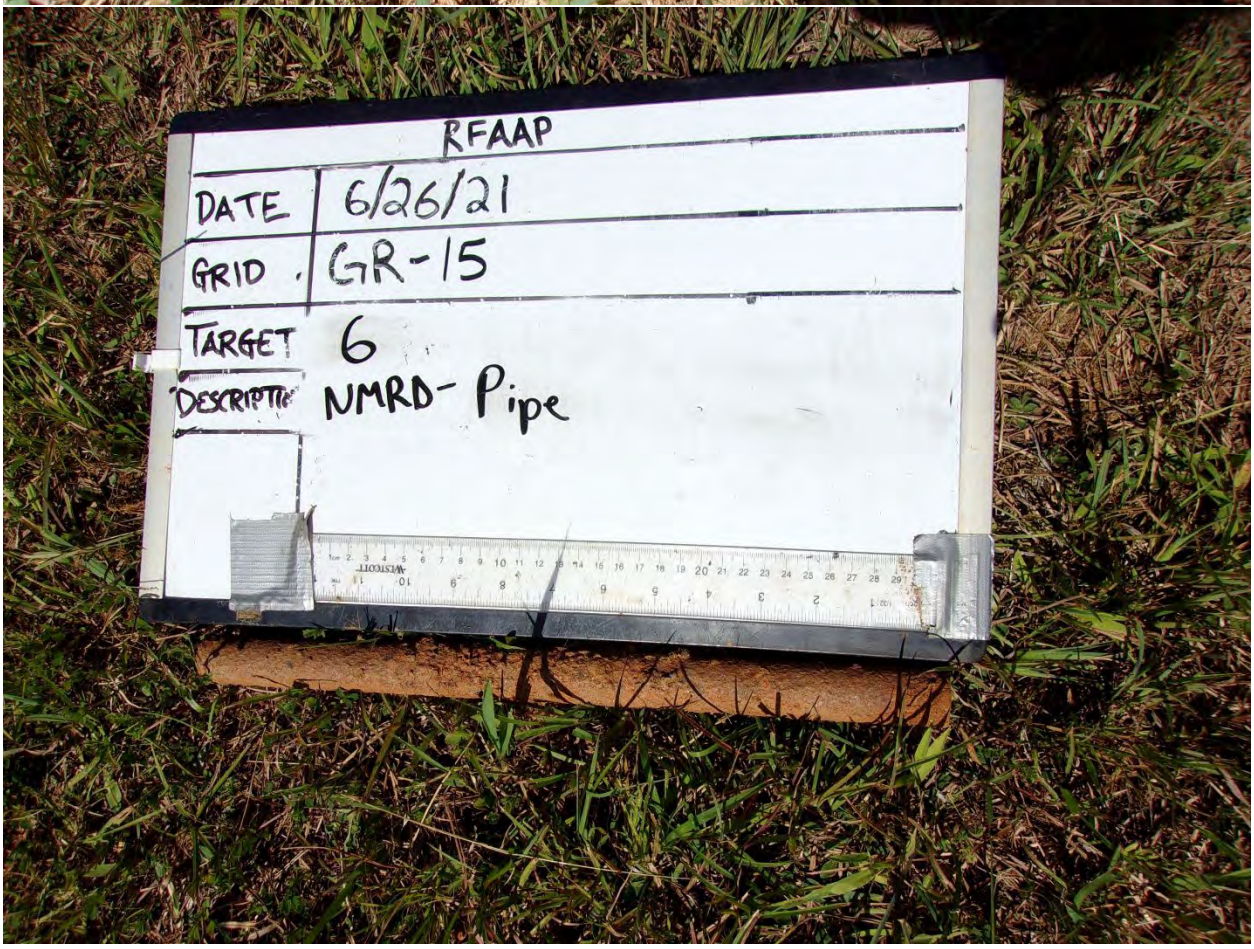
AGC Intrusive Photos: GR-15





AGC Intrusive Photos: GR-15





AGC Intrusive Photos: GR-15





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AGC Intrusive Photos: GR-15





AGC Intrusive Photos: GR-15





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





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AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-16





AGC Intrusive Photos: GR-17





AGC Intrusive Photos: GR-17





AGC Intrusive Photos: GR-17





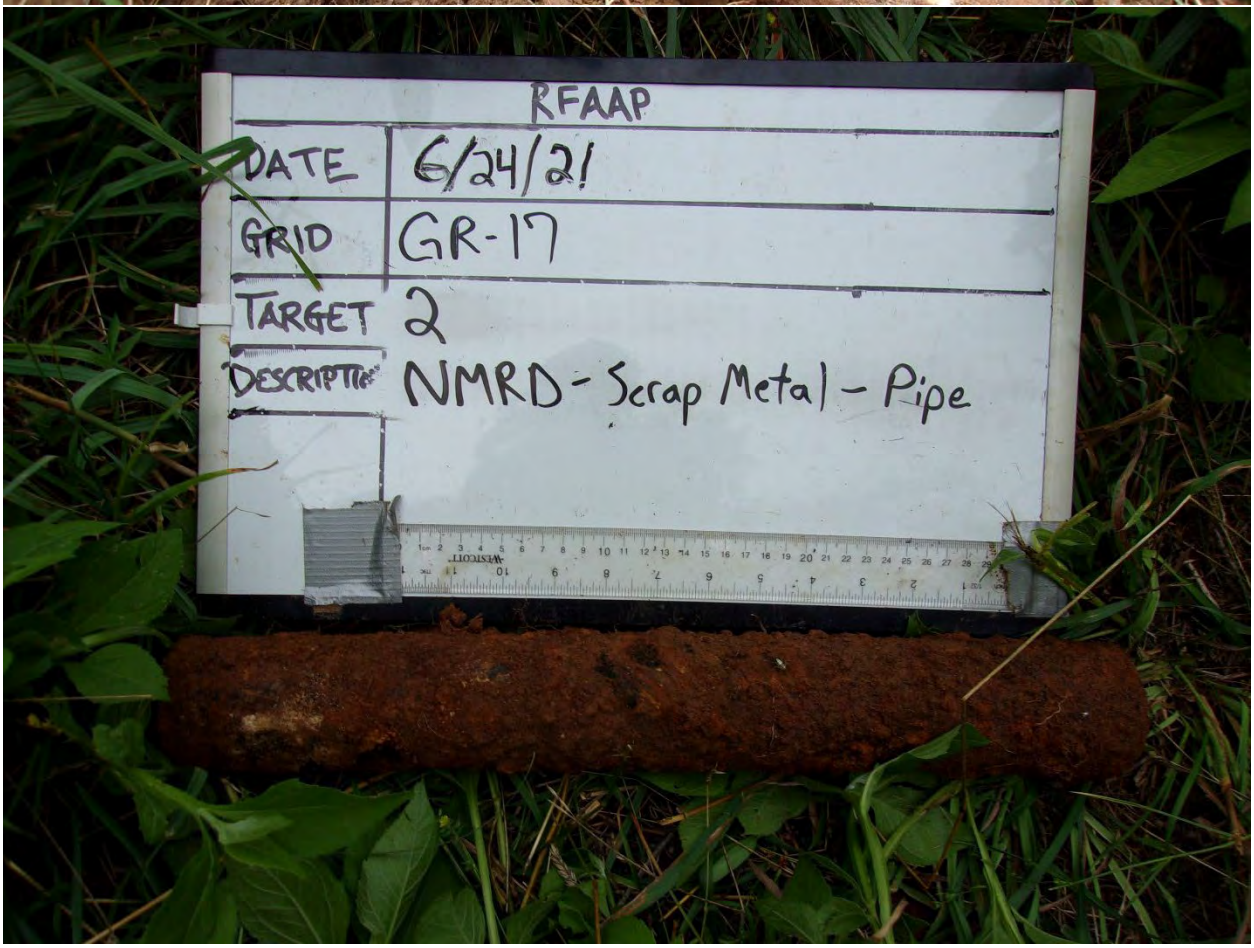
AGC Intrusive Photos: GR-17





AGC Intrusive Photos: GR-17





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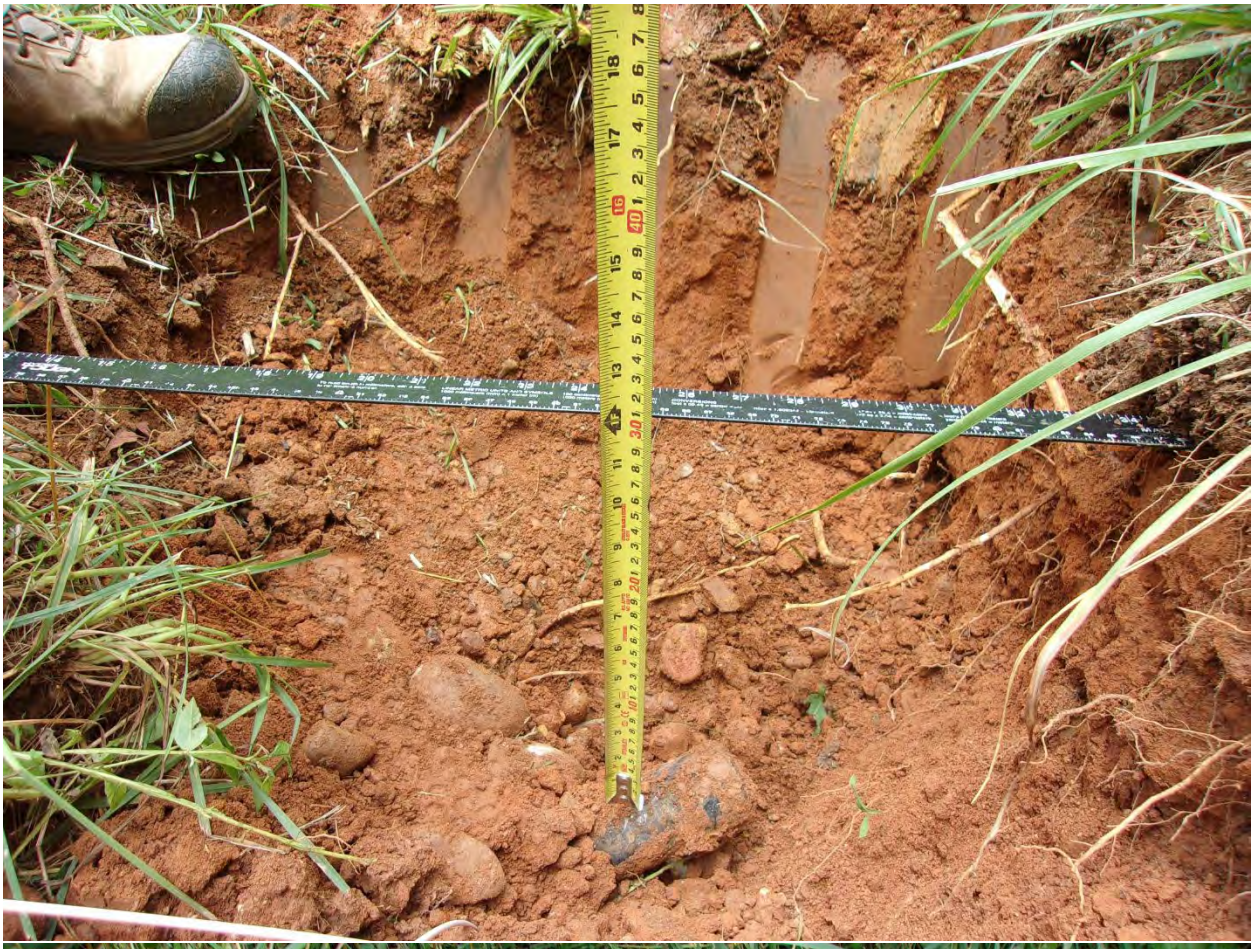




AGC Intrusive Photos: GR-17





AGC Intrusive Photos: GR-17





AGC Intrusive Photos: GR-17





AGC Intrusive Photos: GR-17





AGC Intrusive Photos: GR-18





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





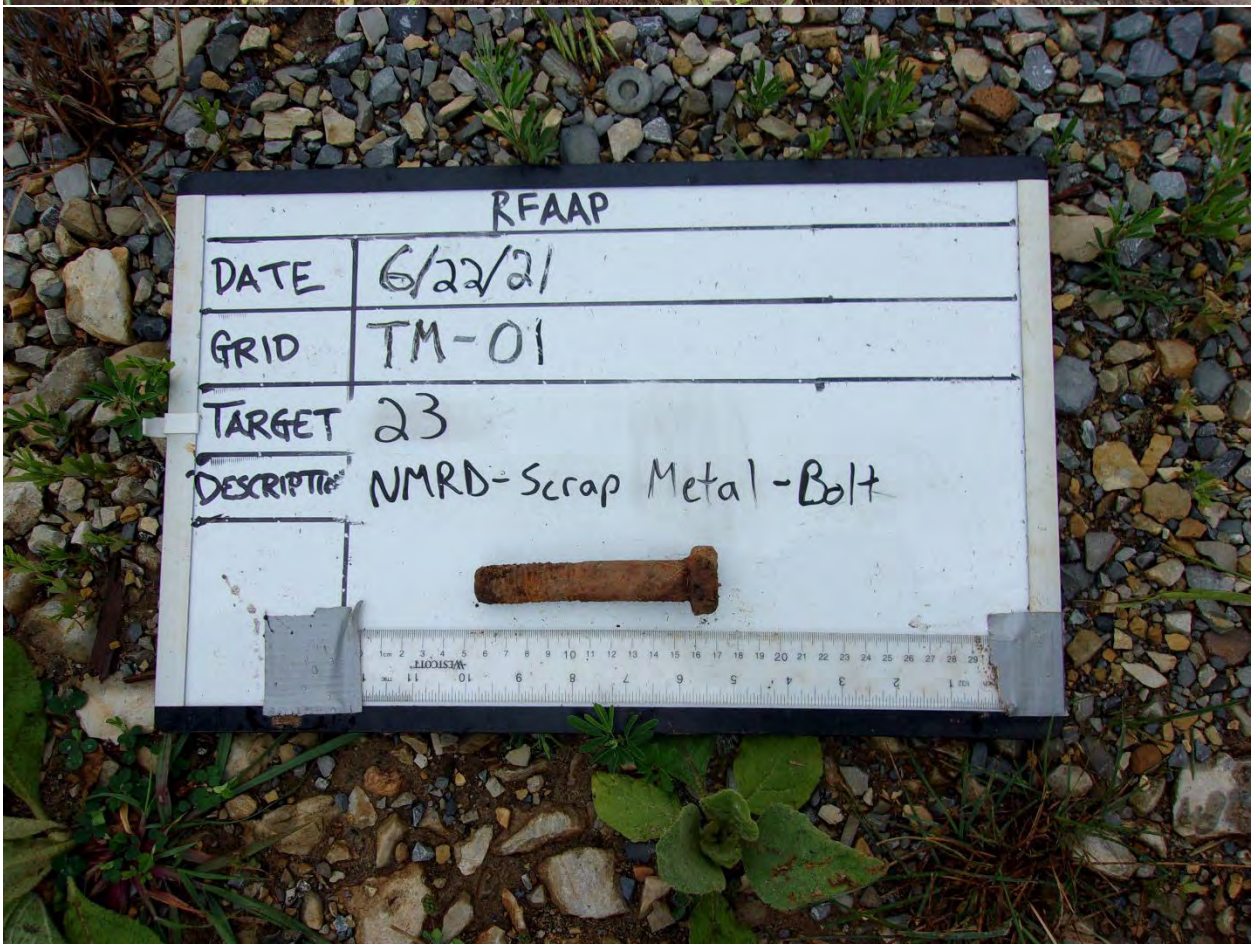
AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





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AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





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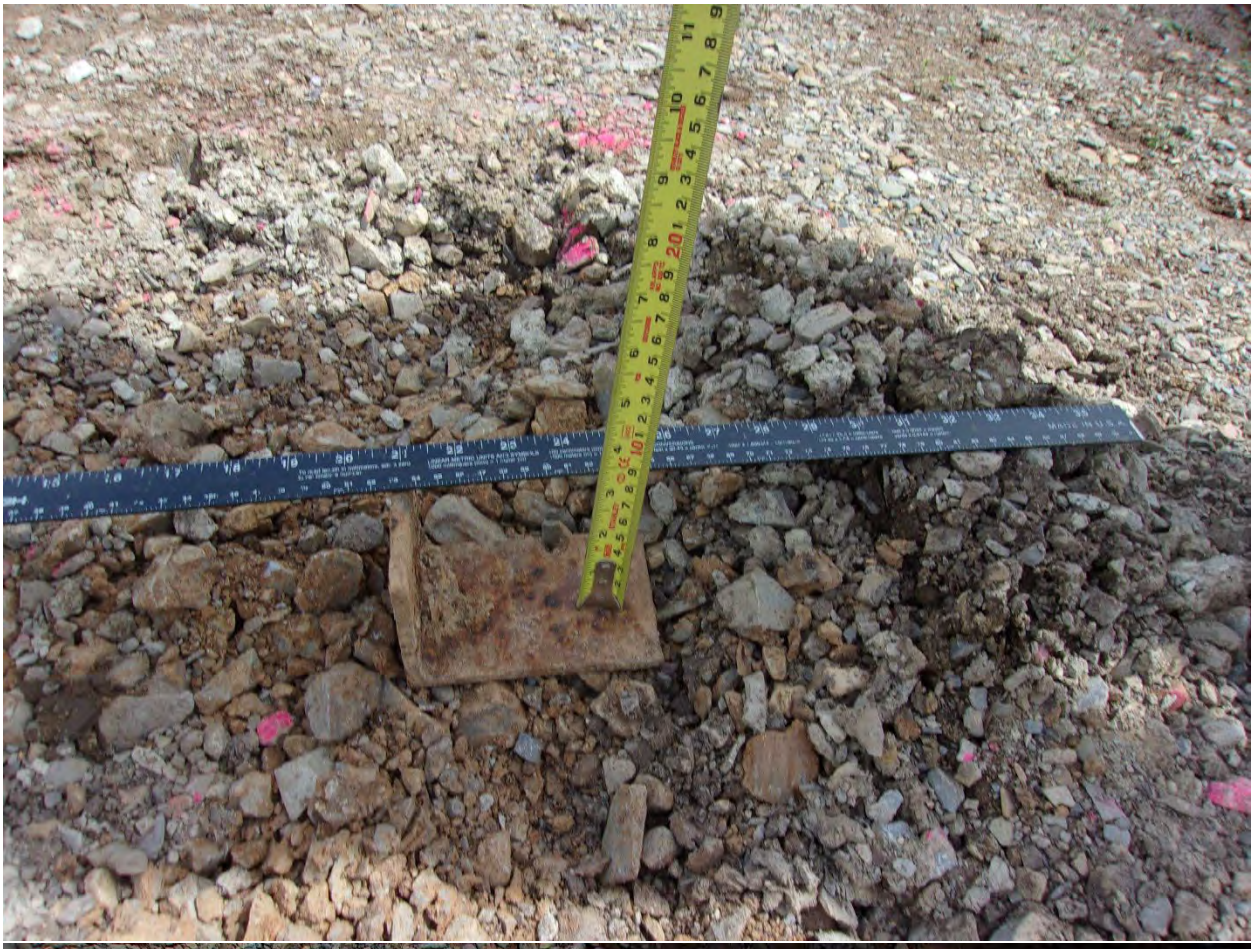



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AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





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AGC Intrusive Photos: TM-01





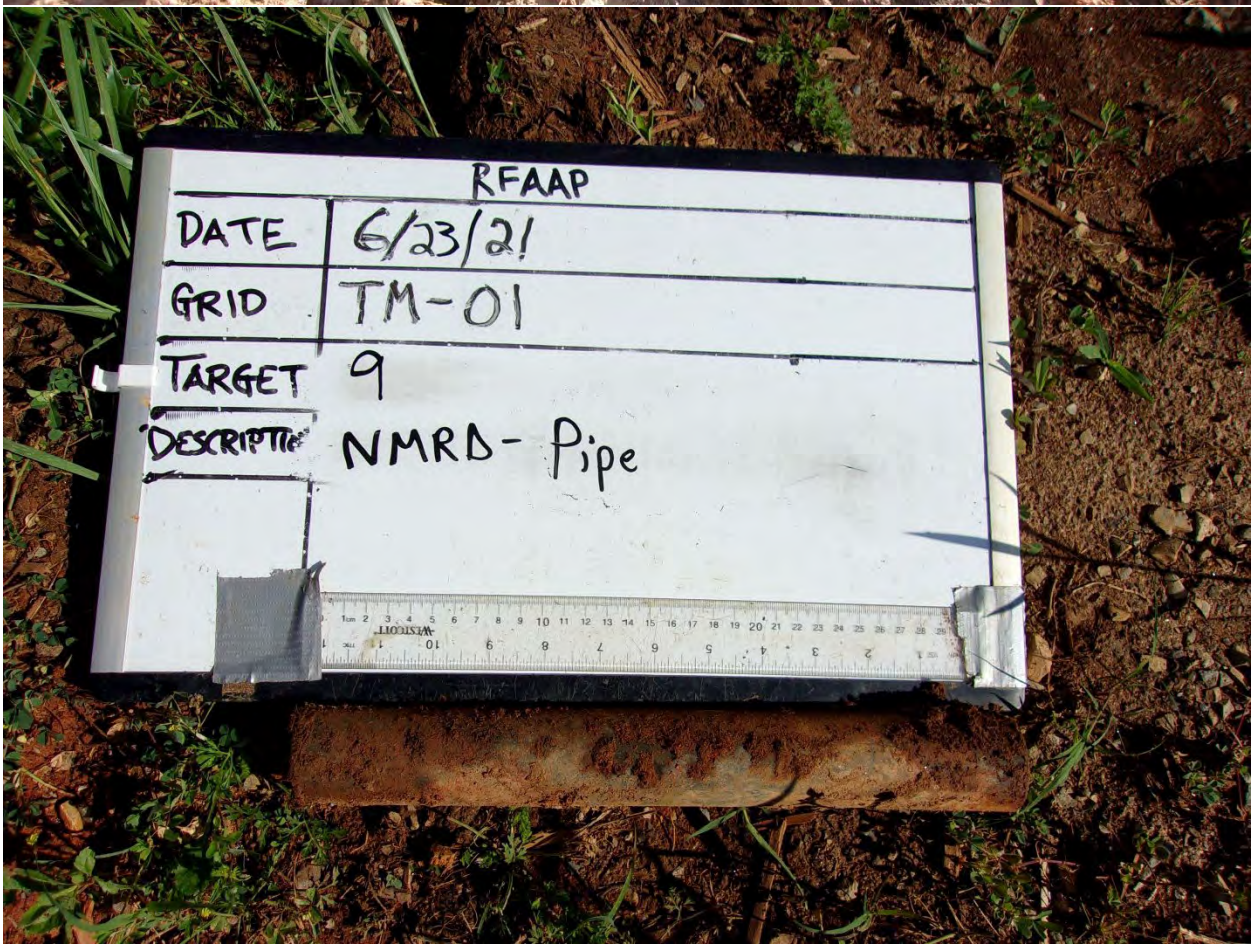
AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





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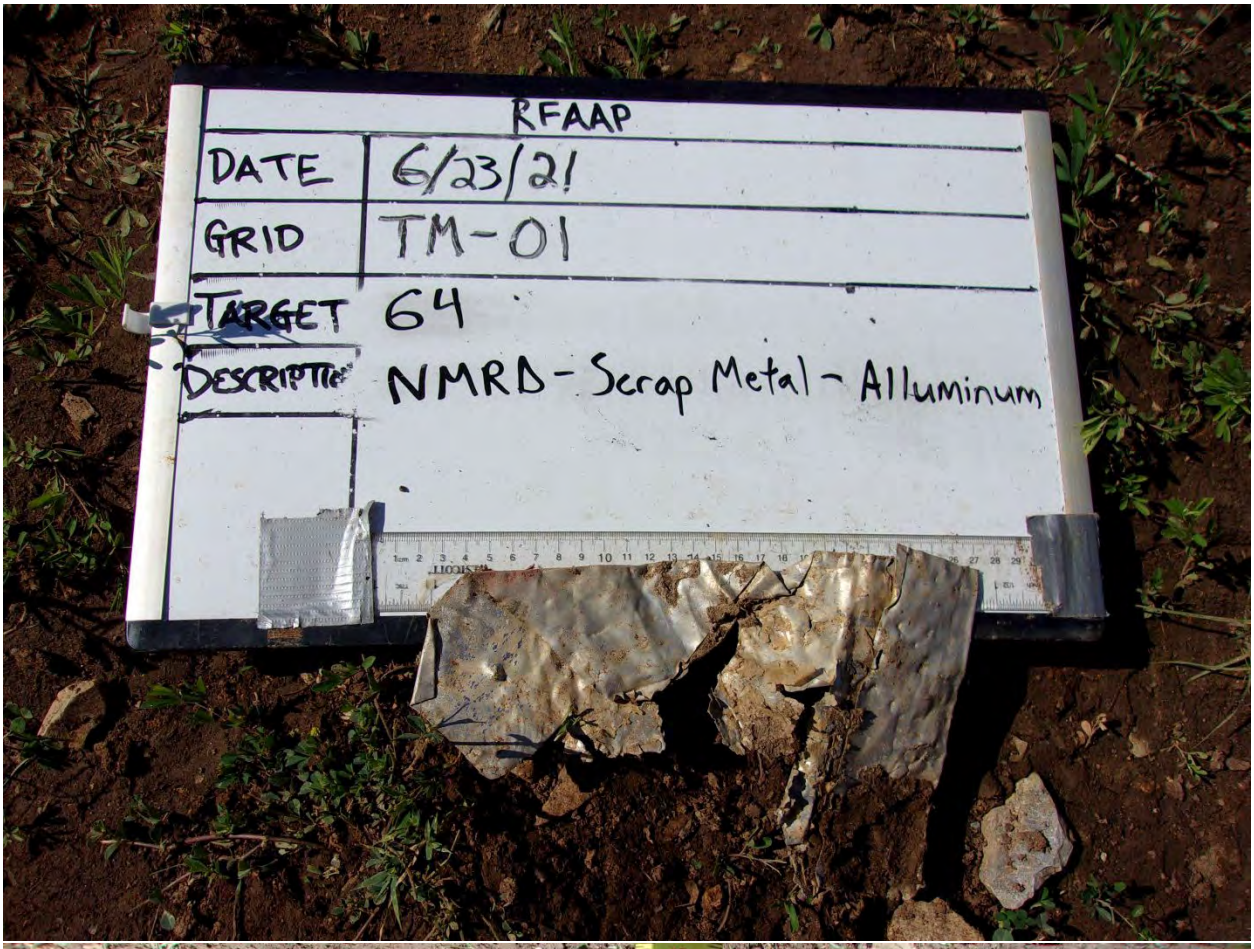



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AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-01





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AGC Intrusive Photos: TM-01



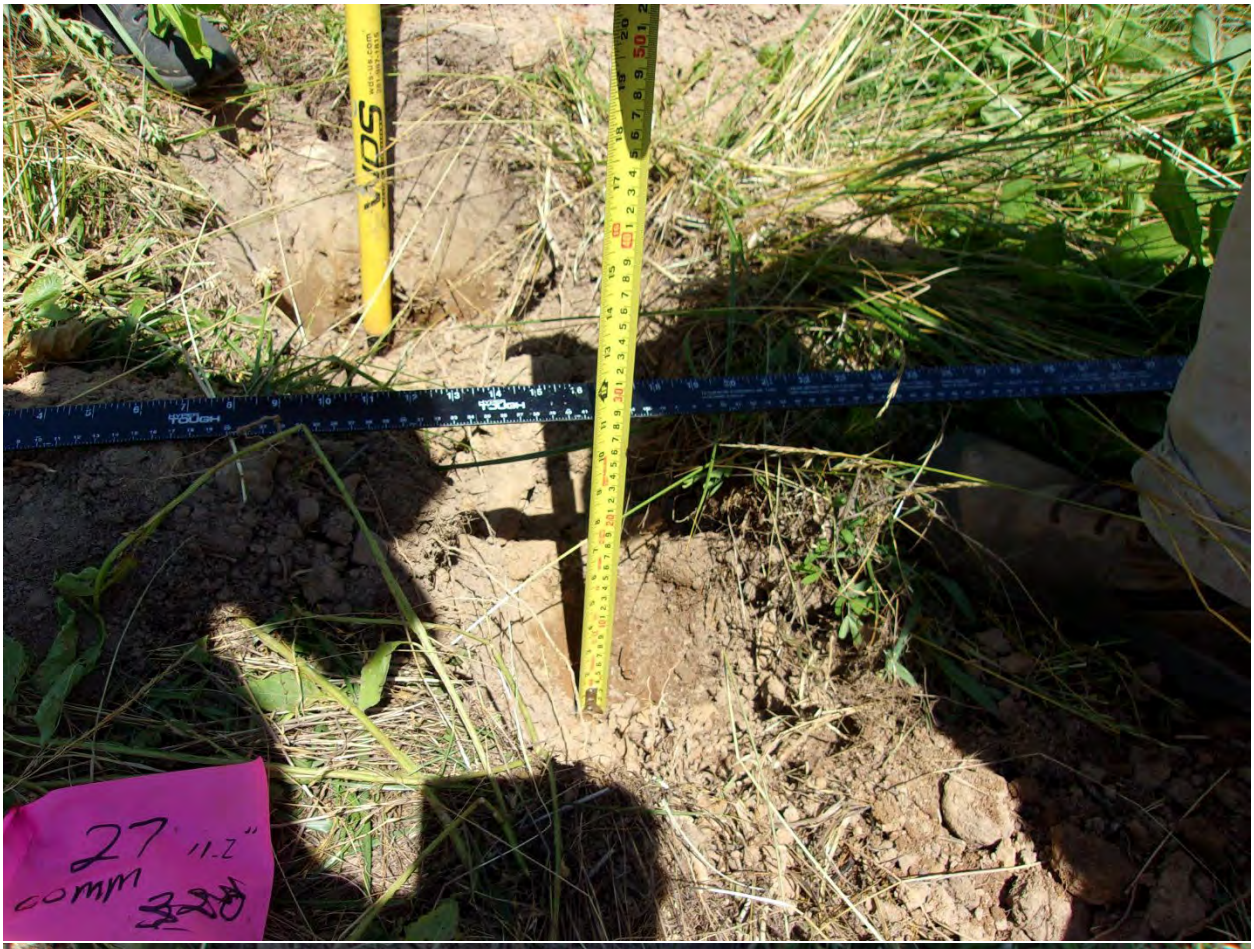


AGC Intrusive Photos: TM-01





AGC Intrusive Photos: TM-05





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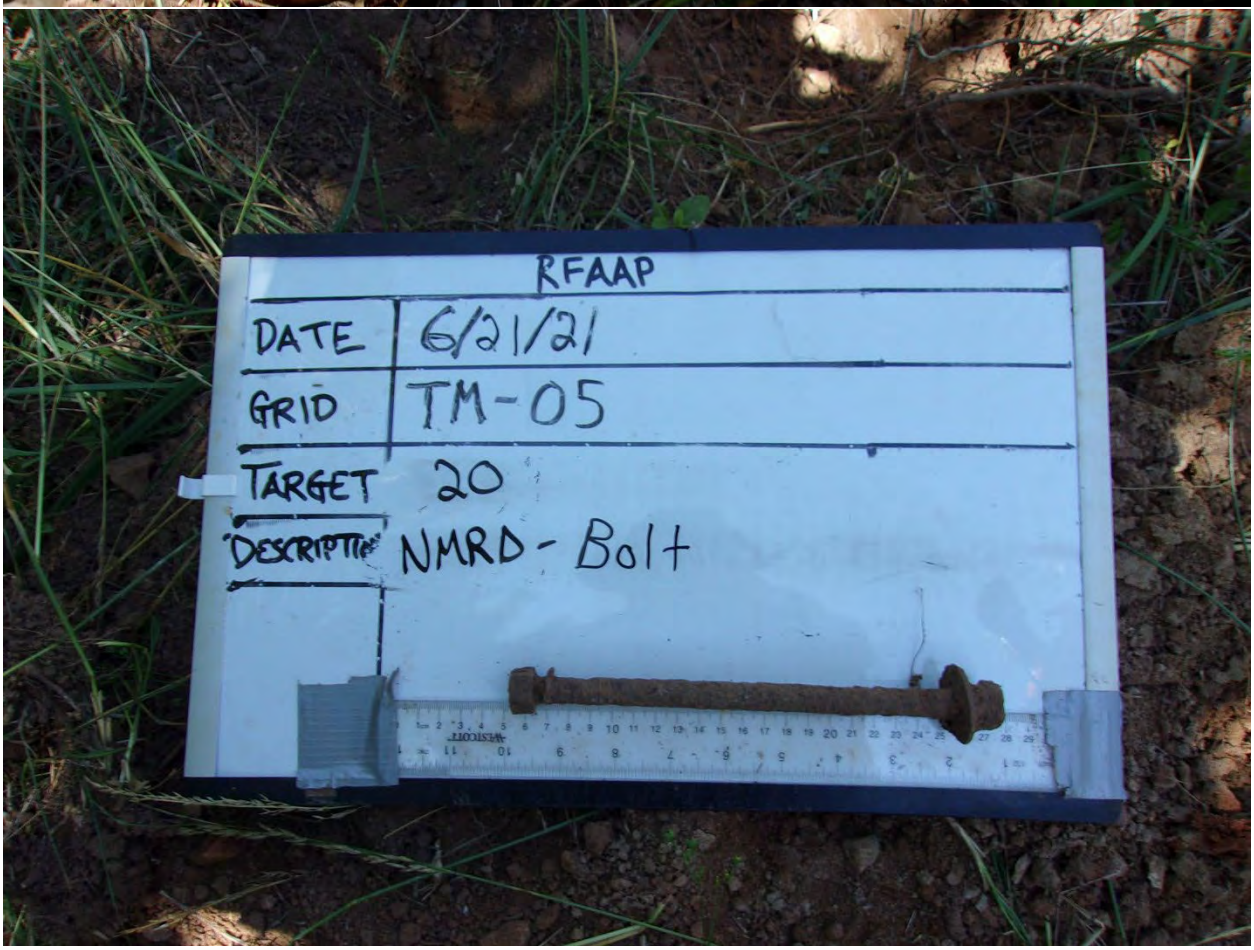
AGC Intrusive Photos: TM-05





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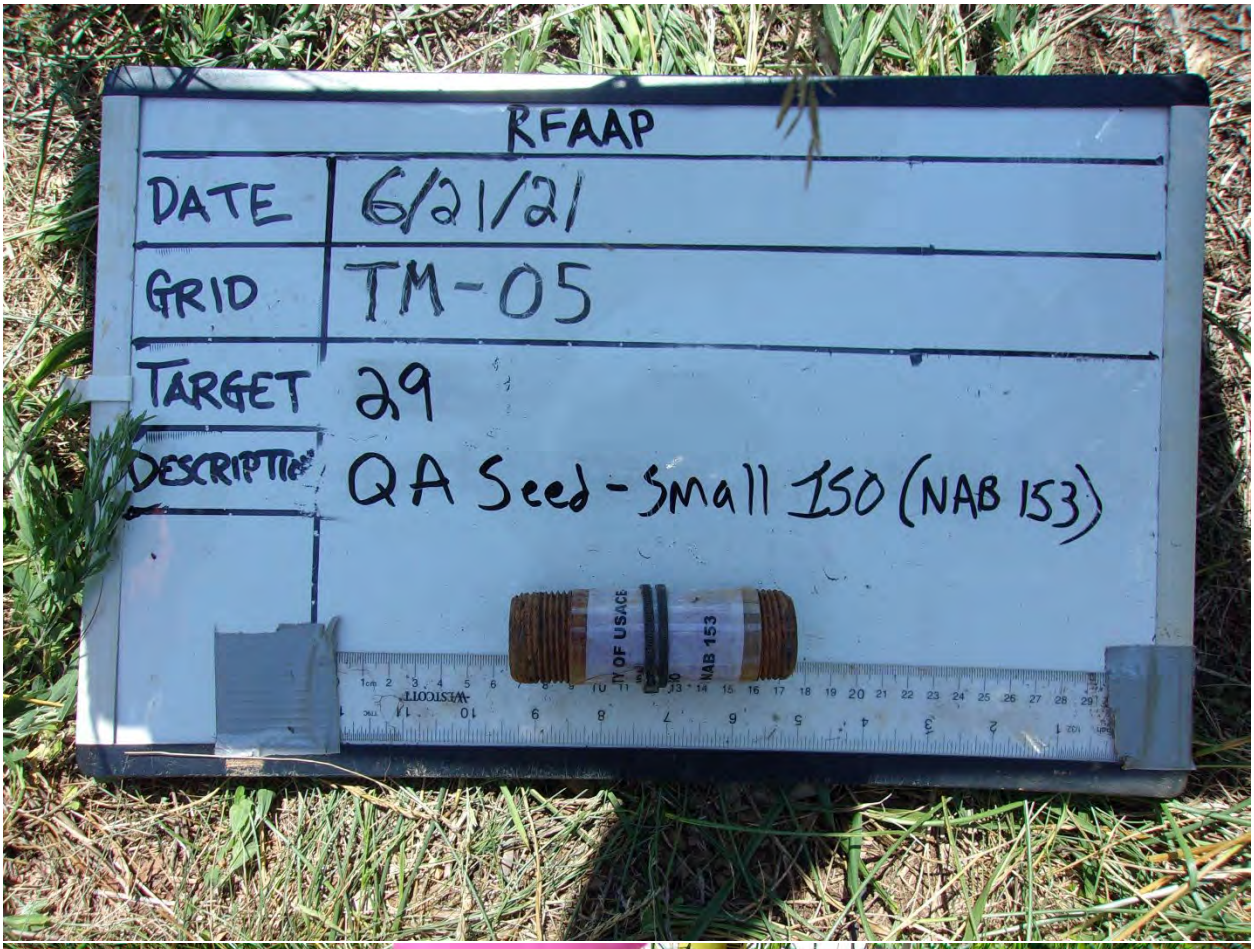



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AGC Intrusive Photos: TM-05





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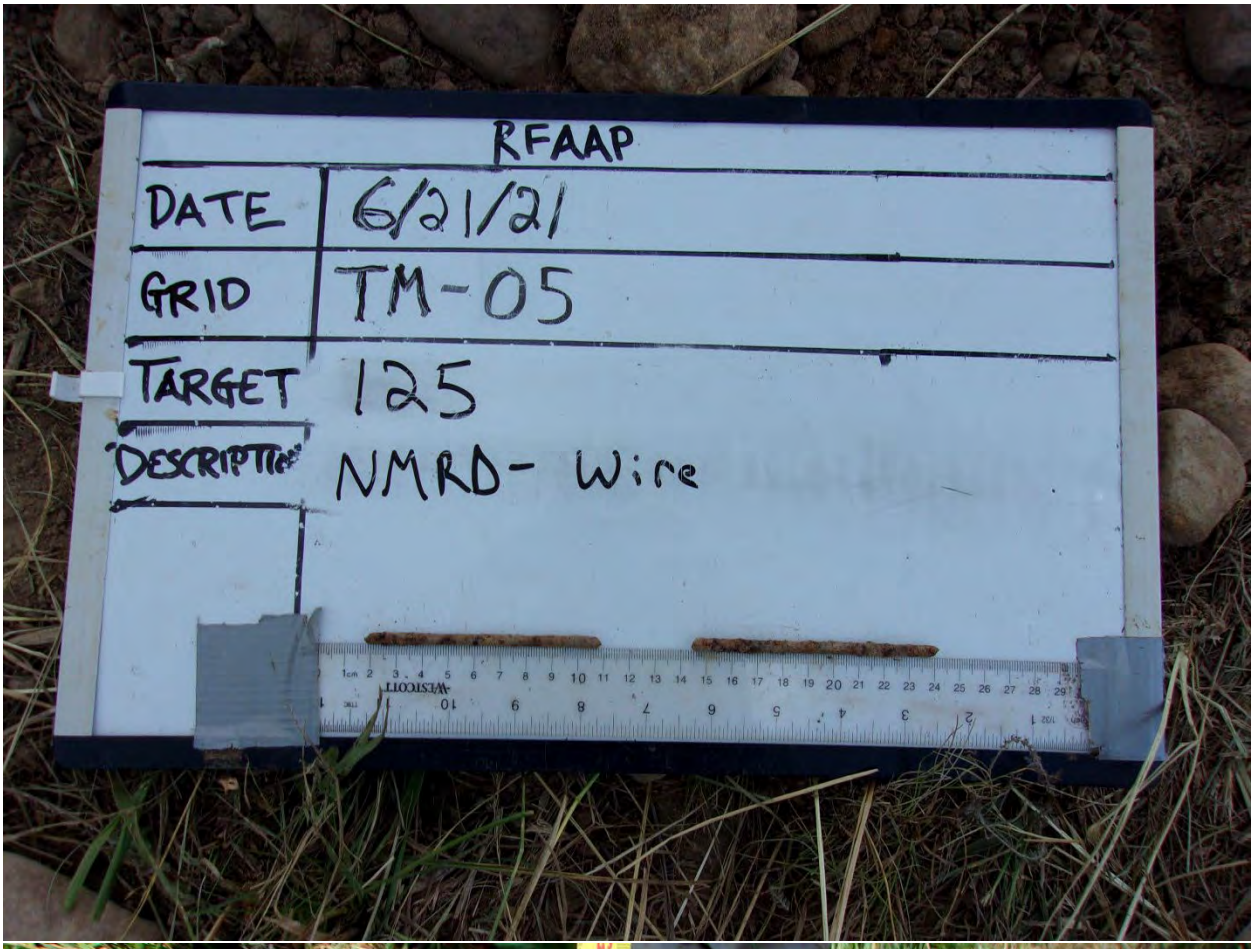



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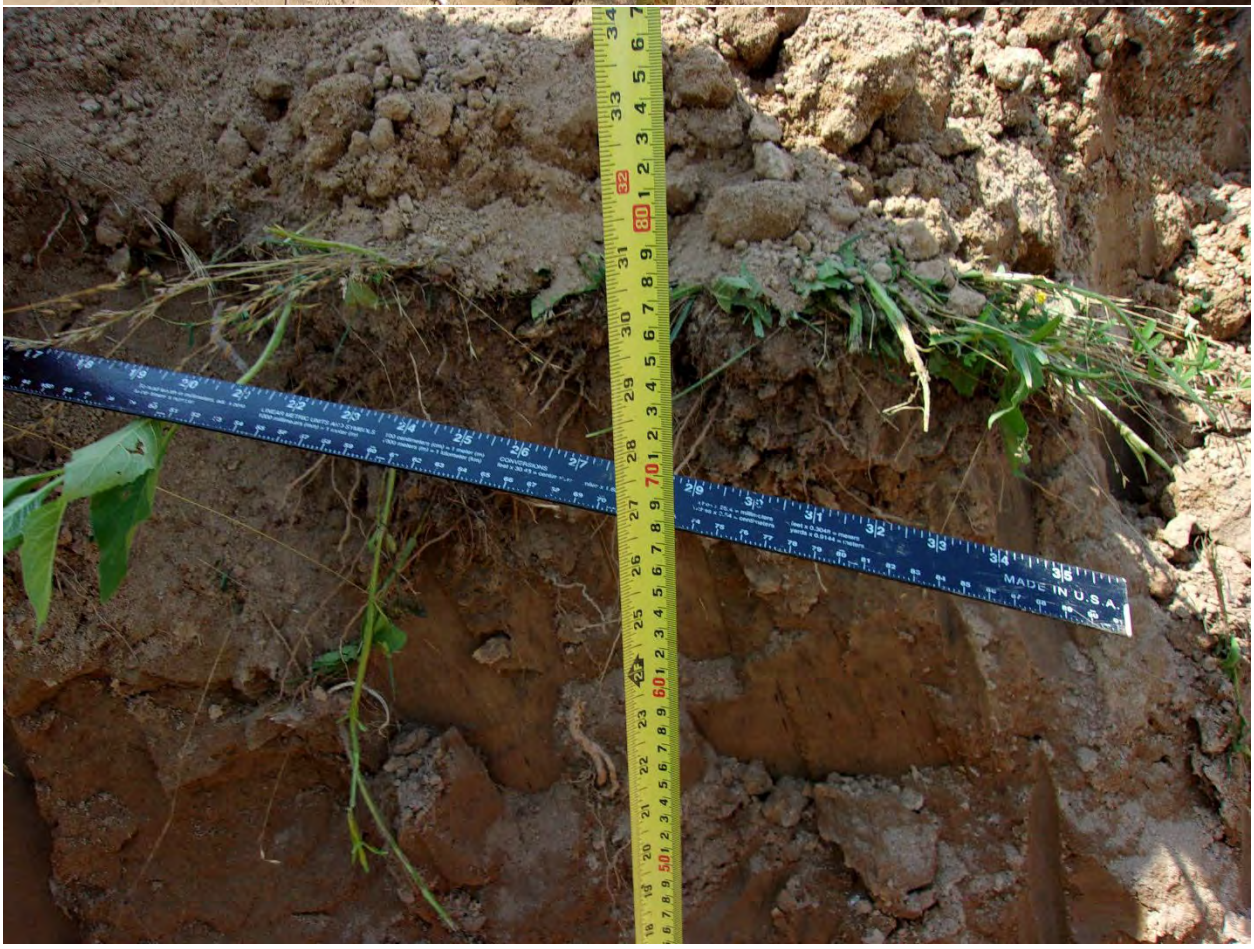
AGC Intrusive Photos: TM-05





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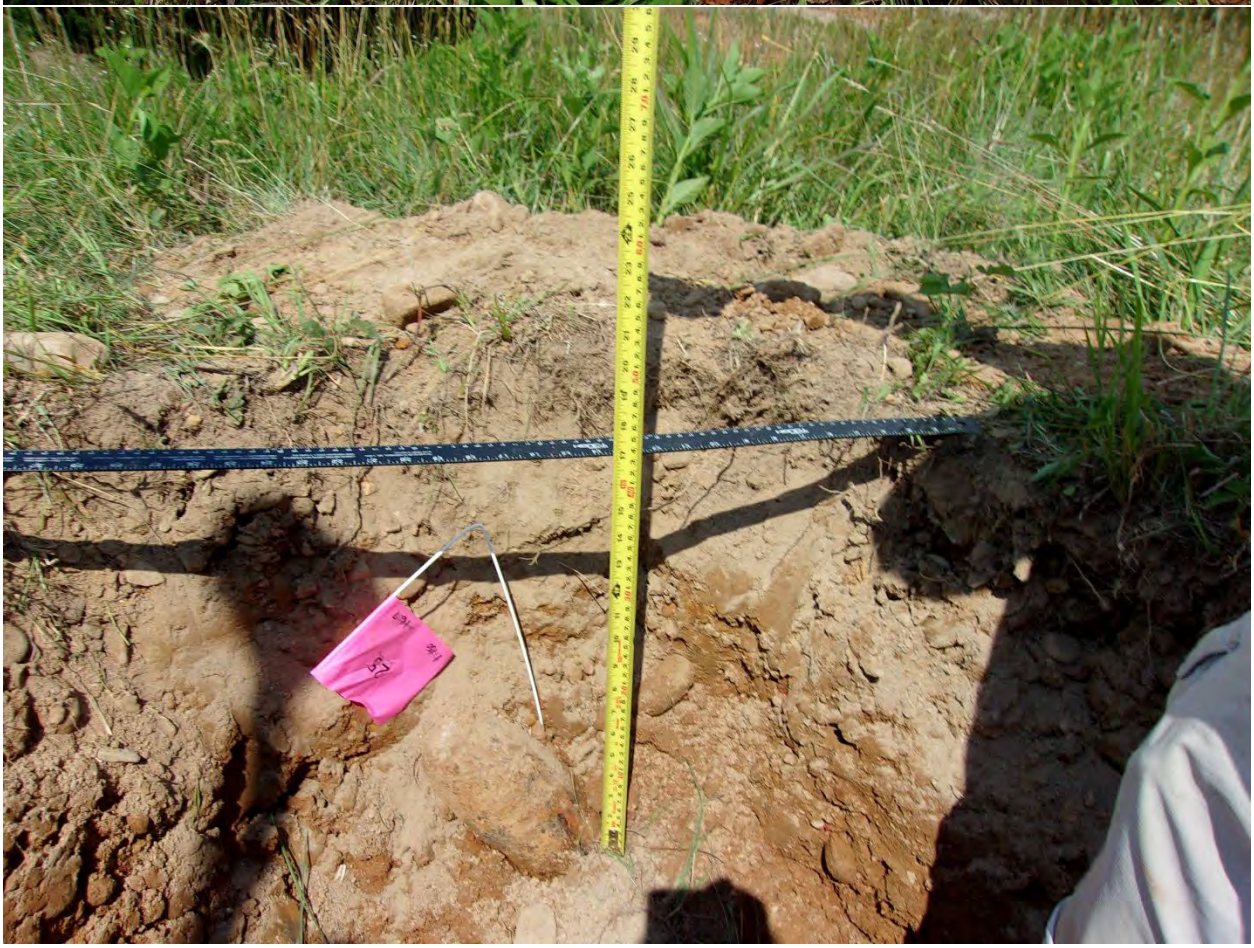

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AGC Intrusive Photos: TM-05





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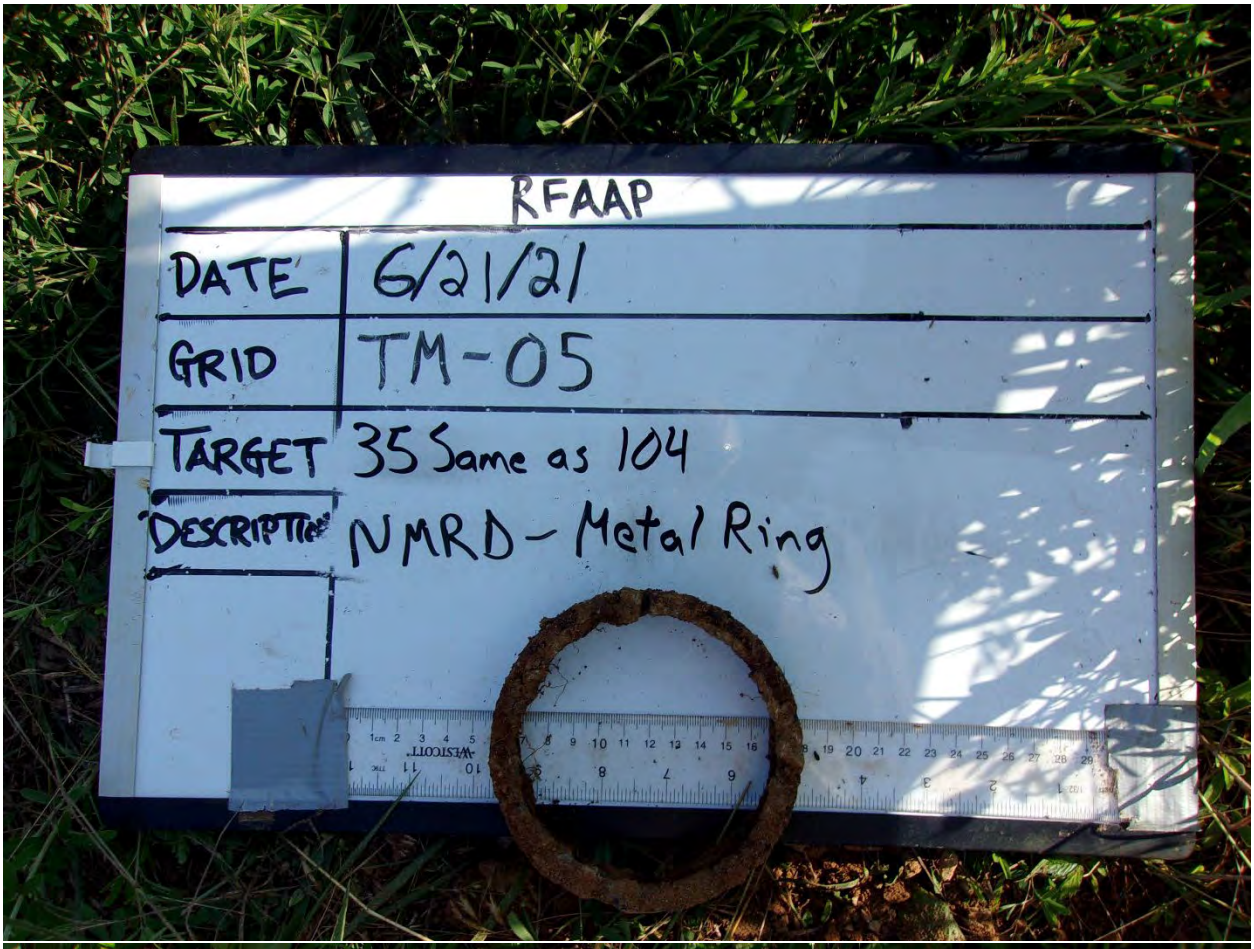



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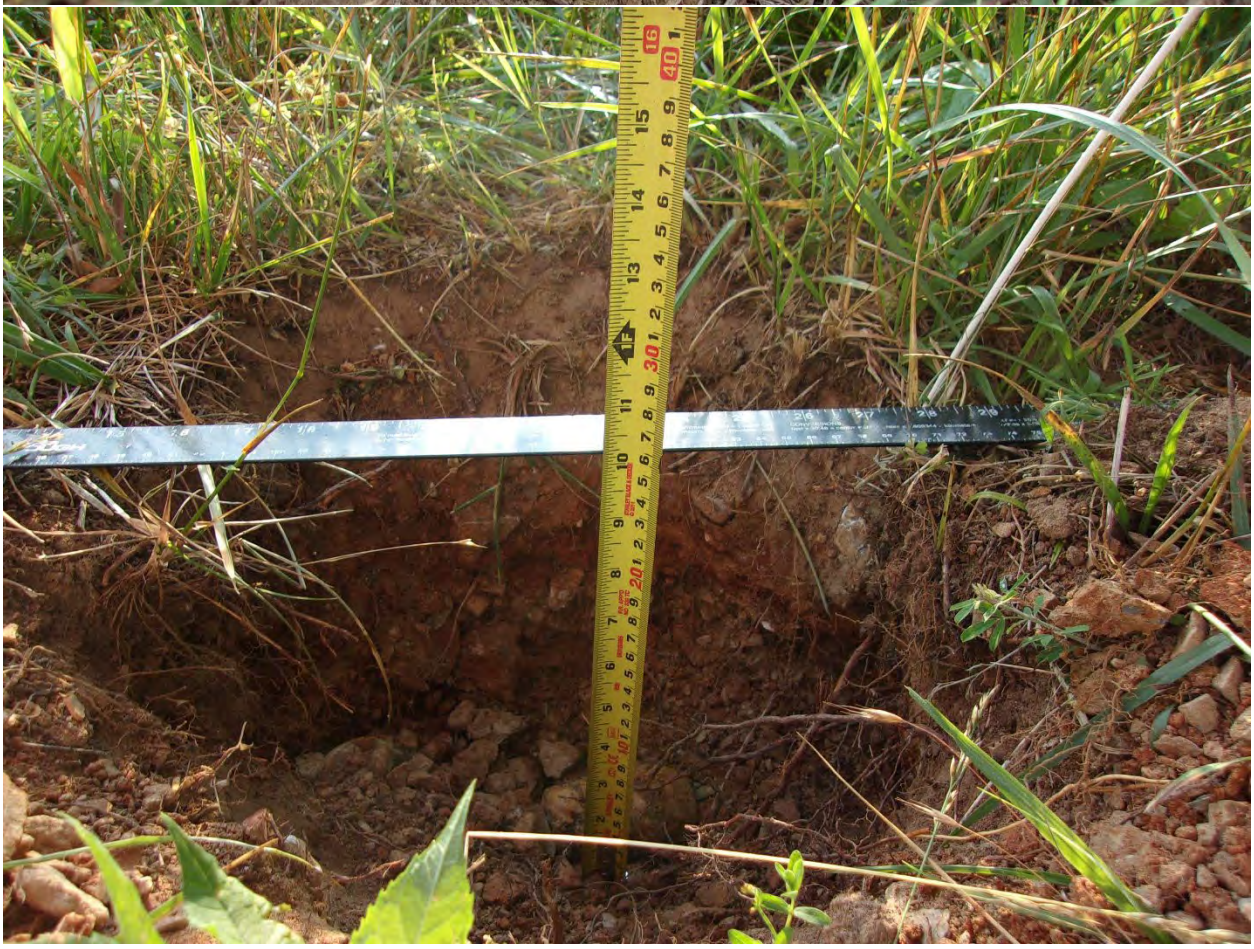

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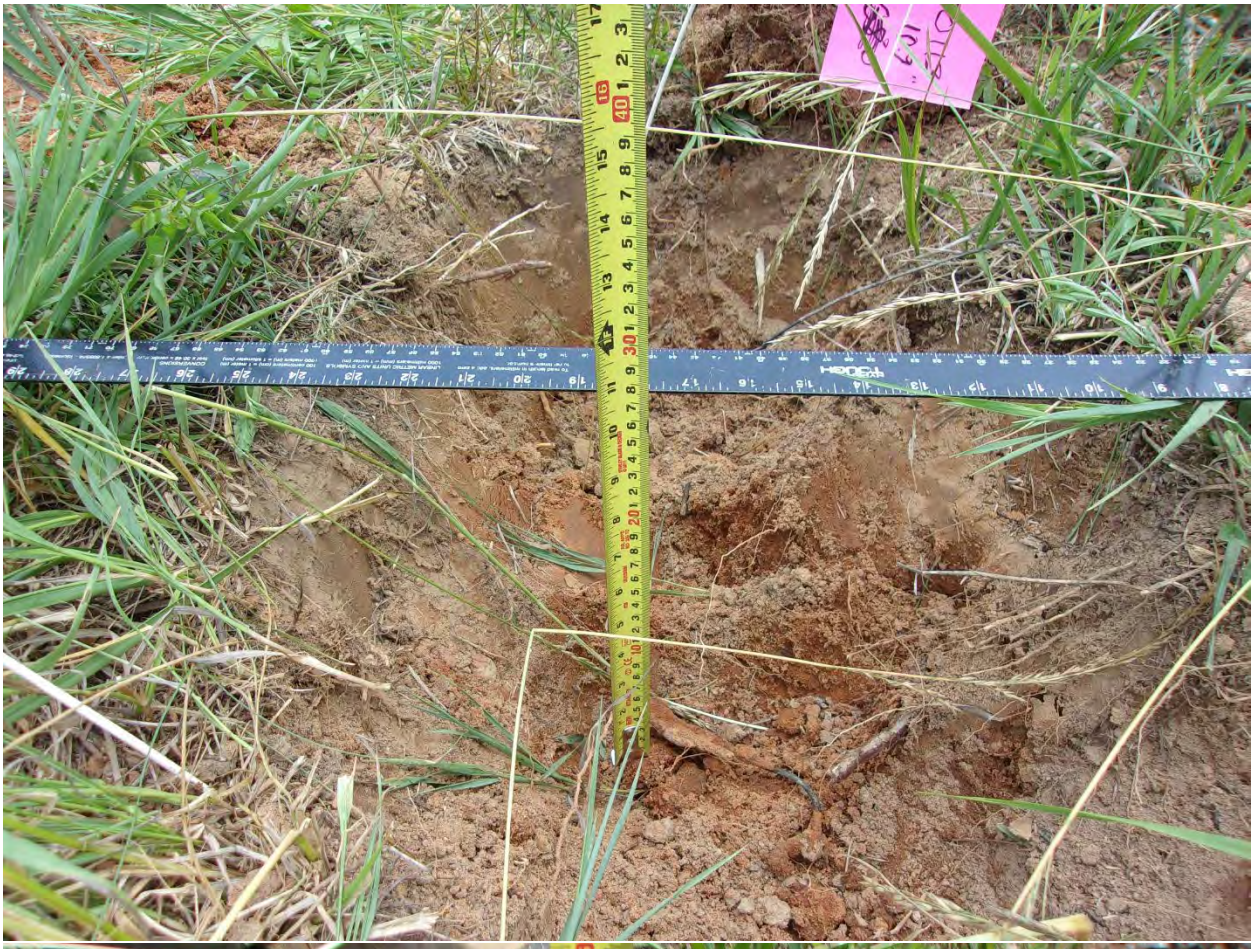



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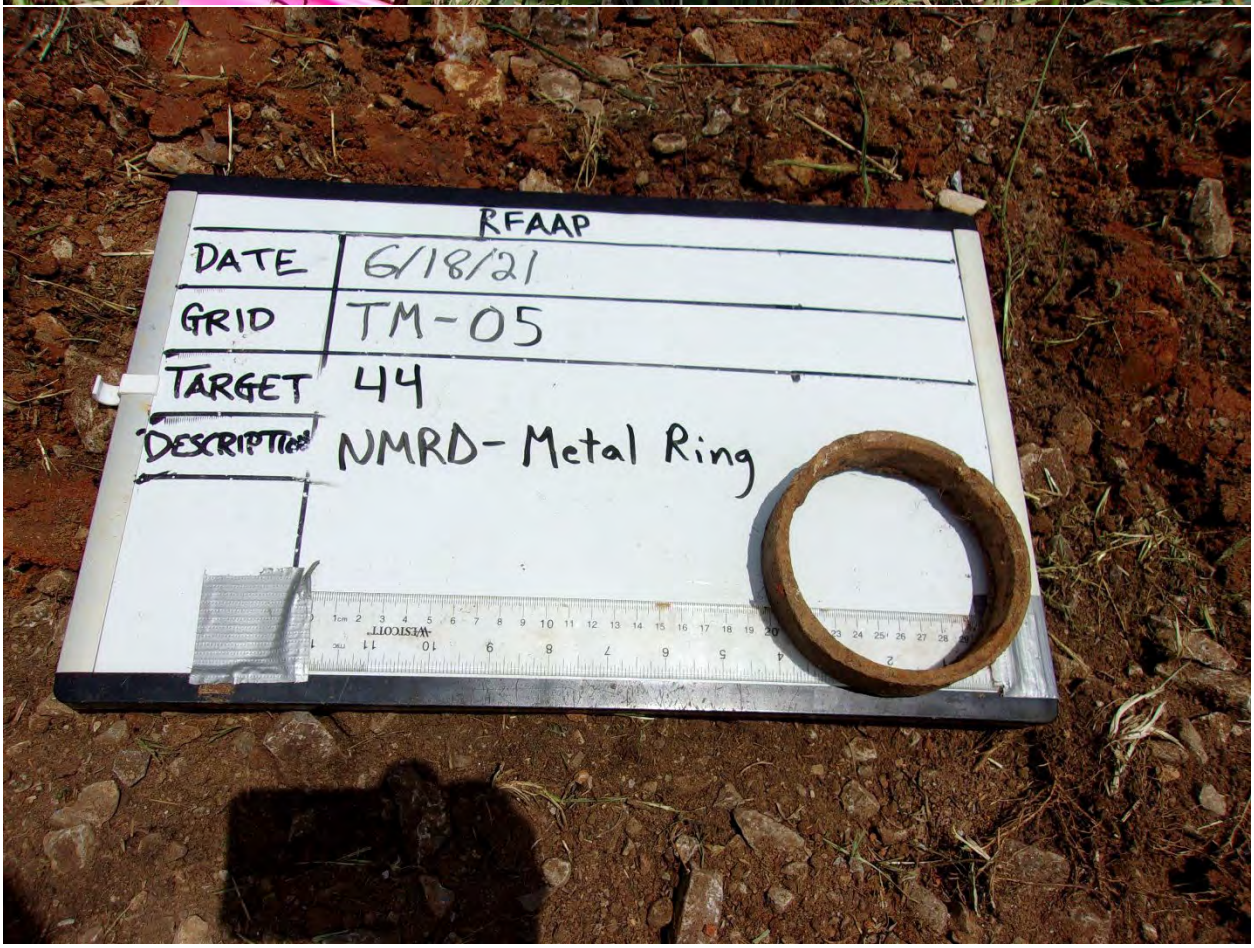

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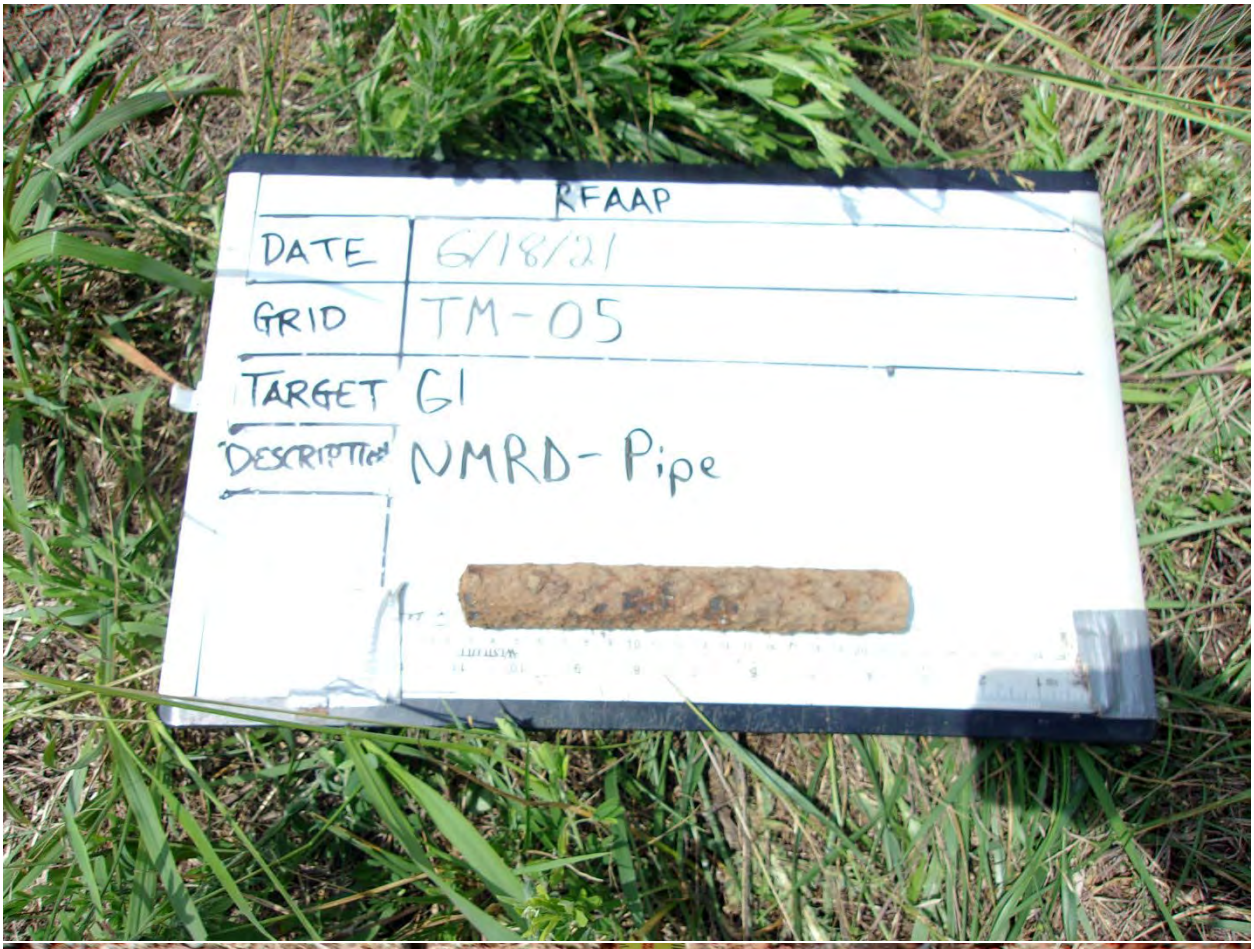




AGC Intrusive Photos: TM-05



AGC Intrusive Photos: TM-07





AGC Intrusive Photos: TM-07





AGC Intrusive Photos: TM-07





AGC Intrusive Photos: TM-07



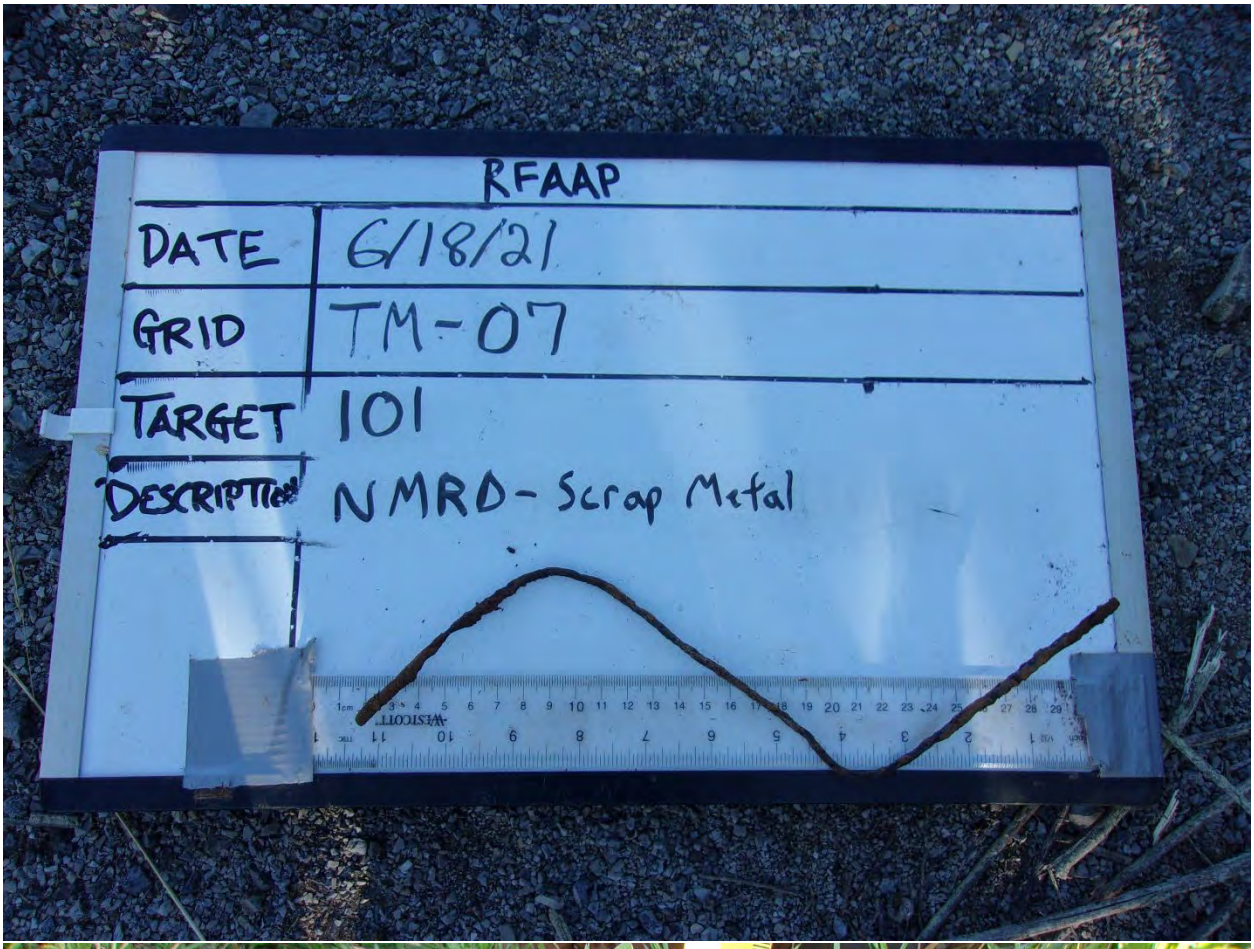


AGC Intrusive Photos: TM-07





AGC Intrusive Photos: TM-07





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AGC Intrusive Photos: TM-07





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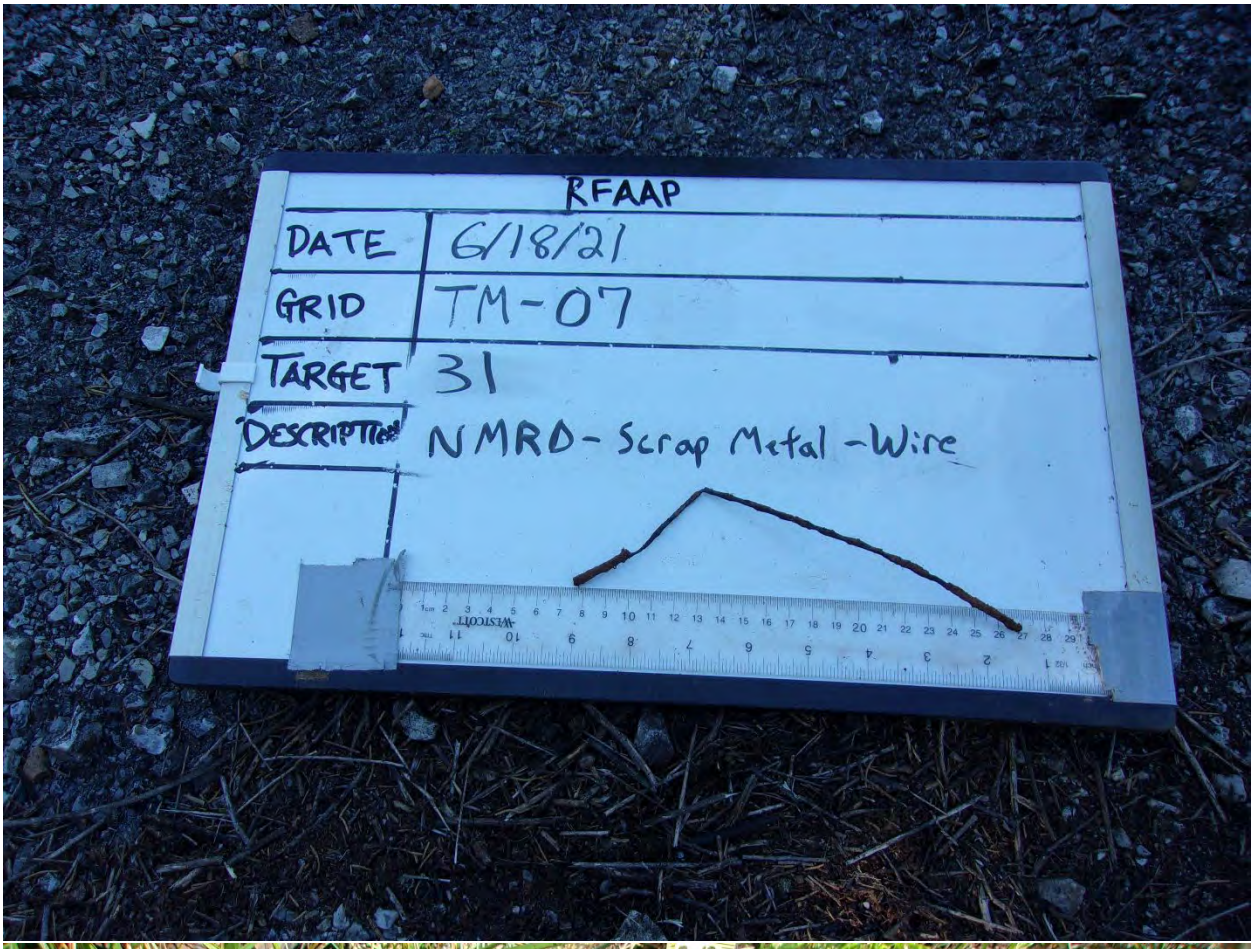



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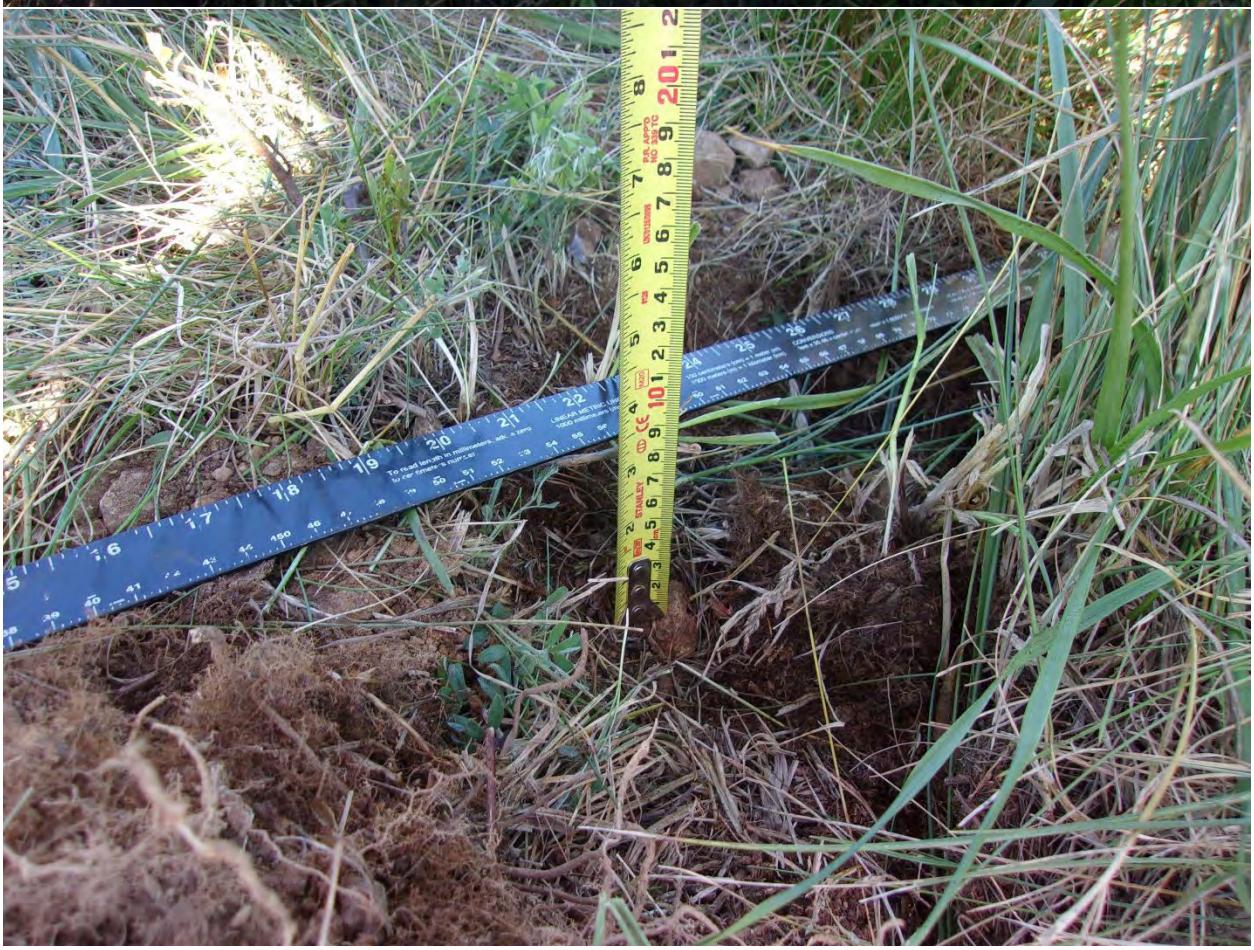
AGC Intrusive Photos: TM-07





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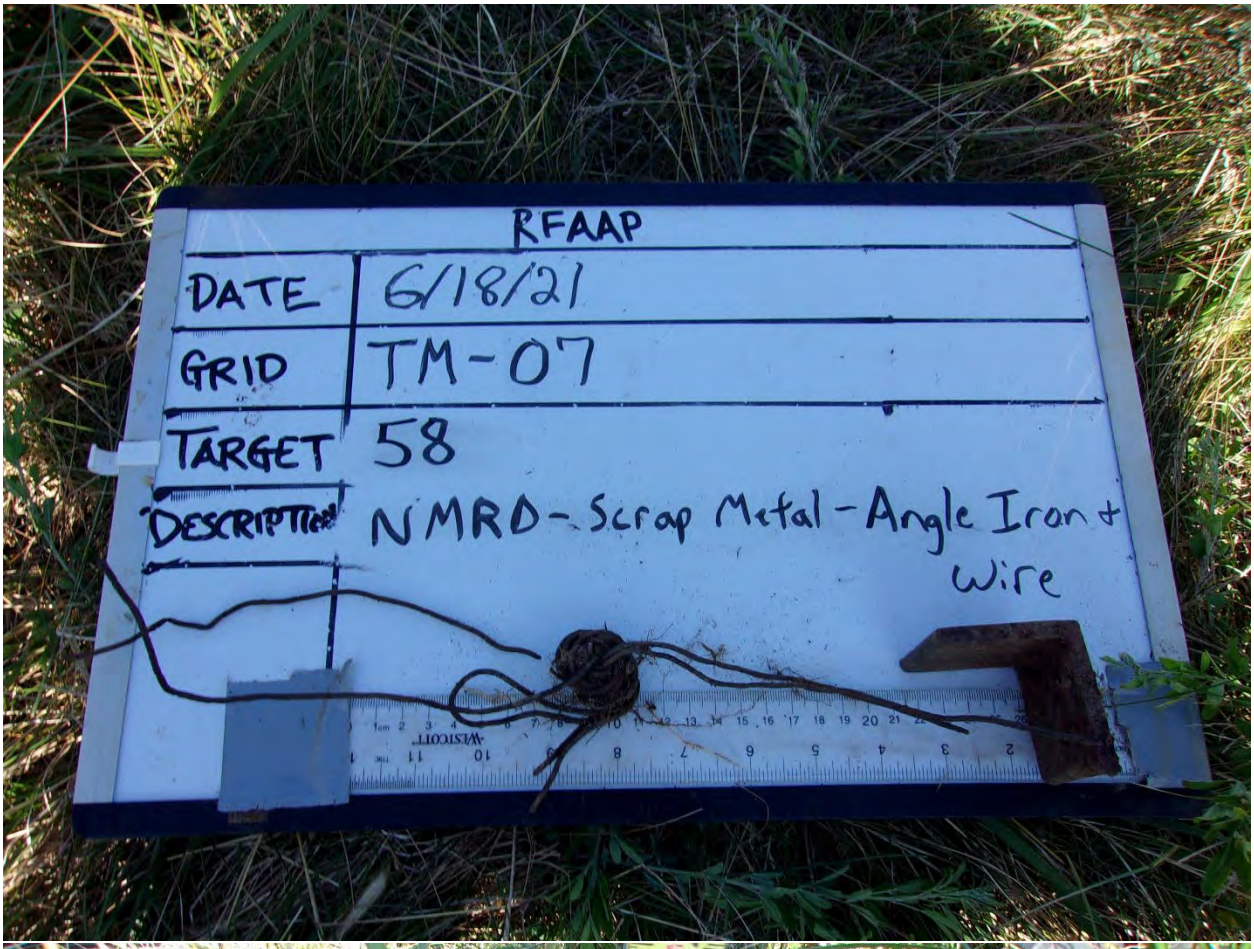



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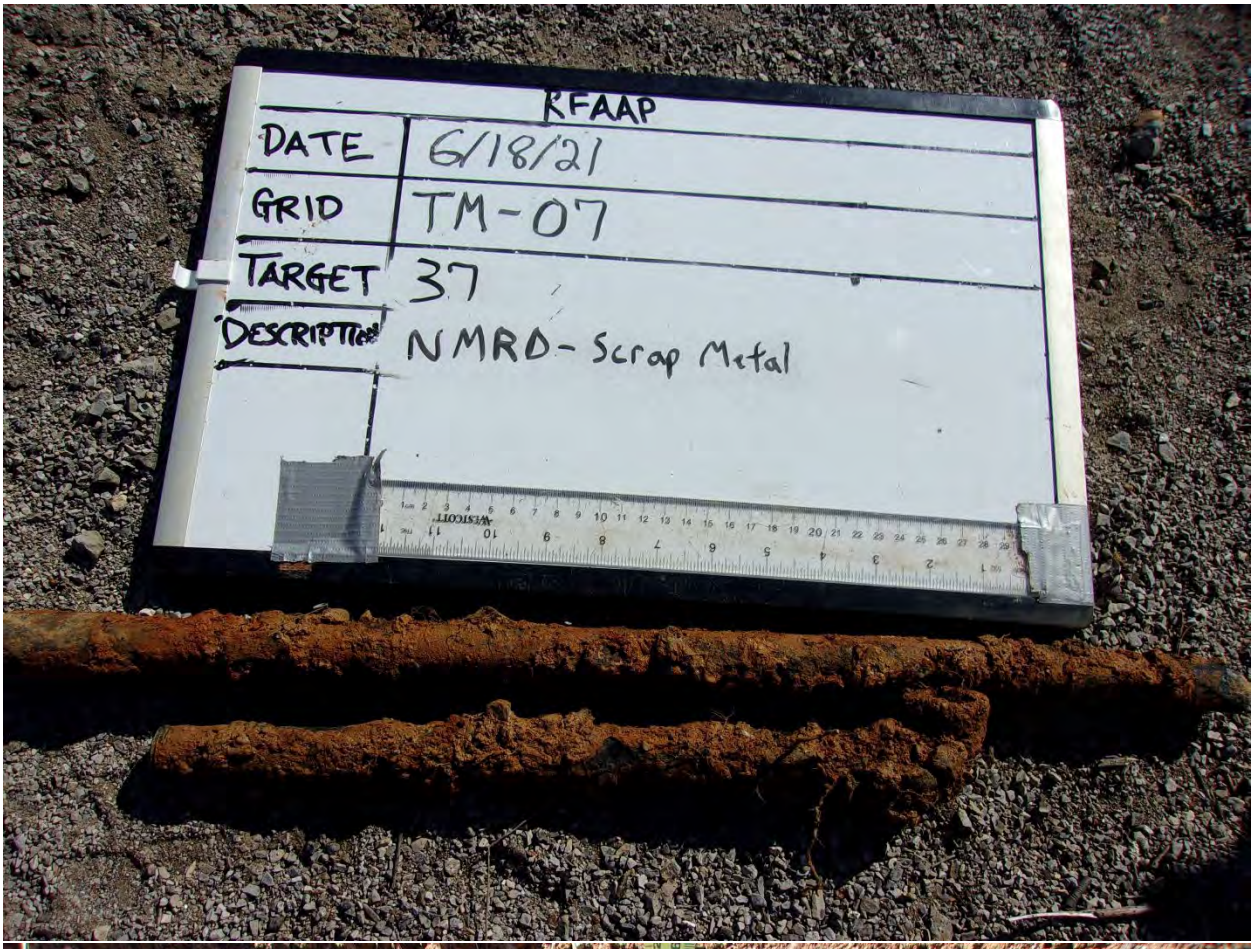



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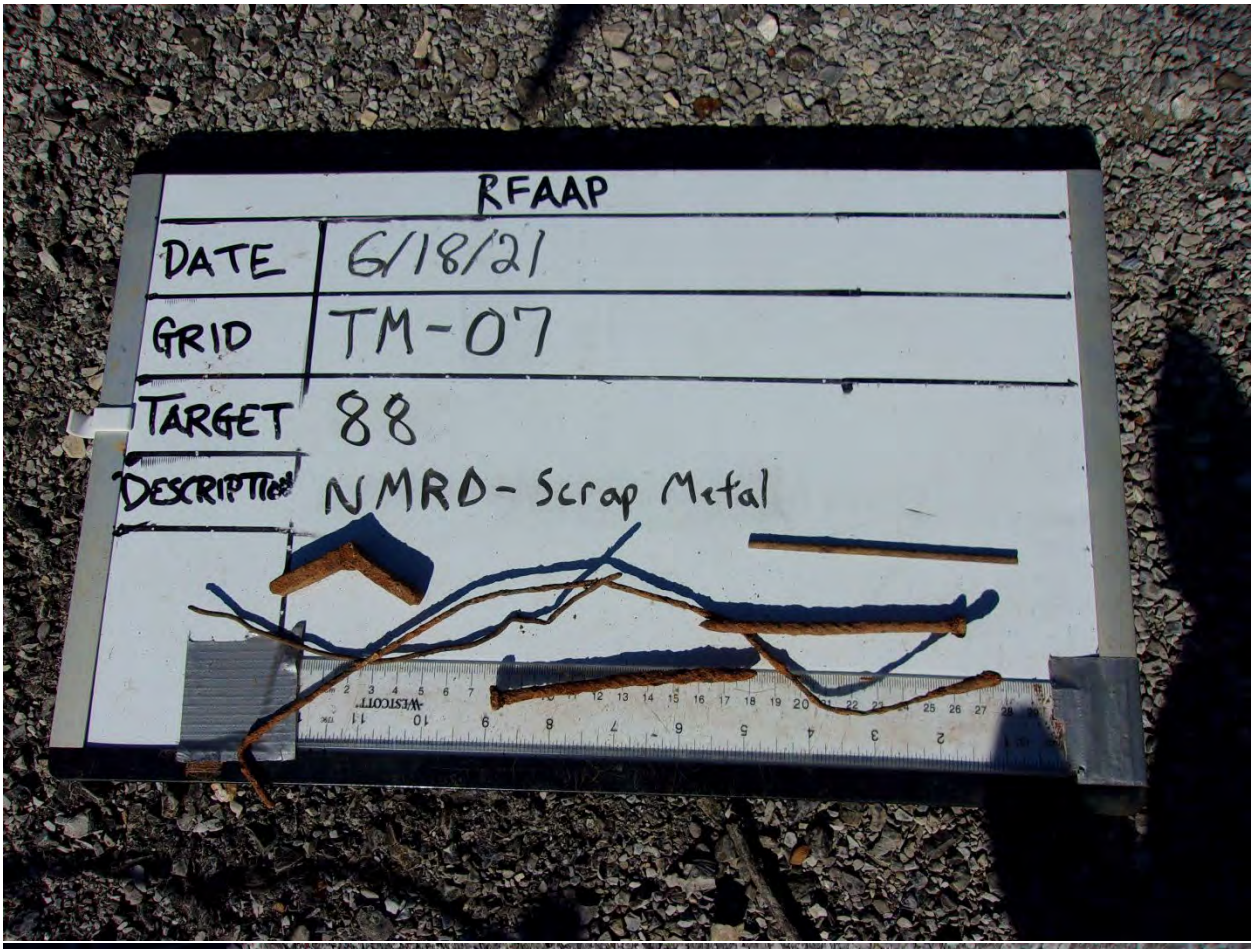

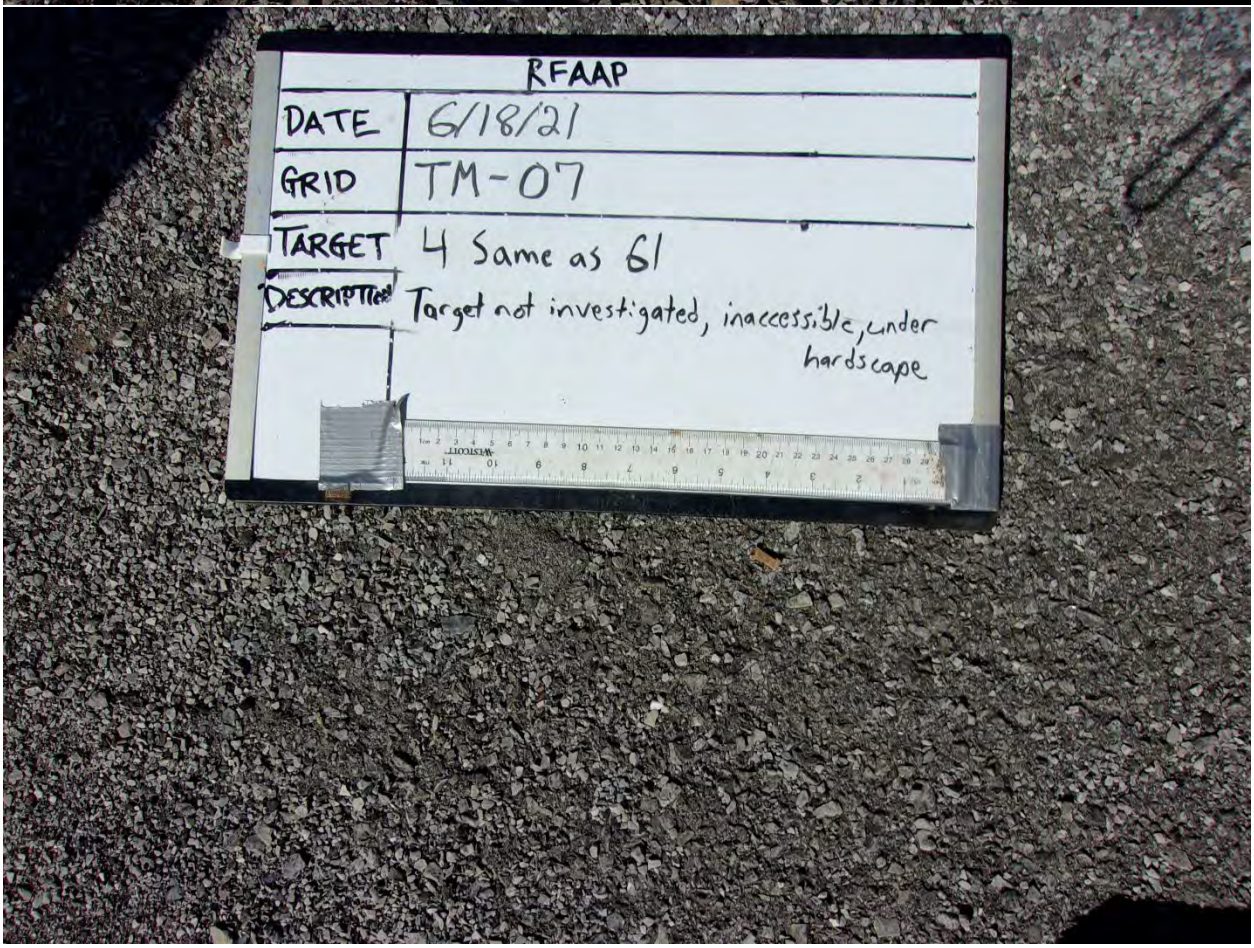

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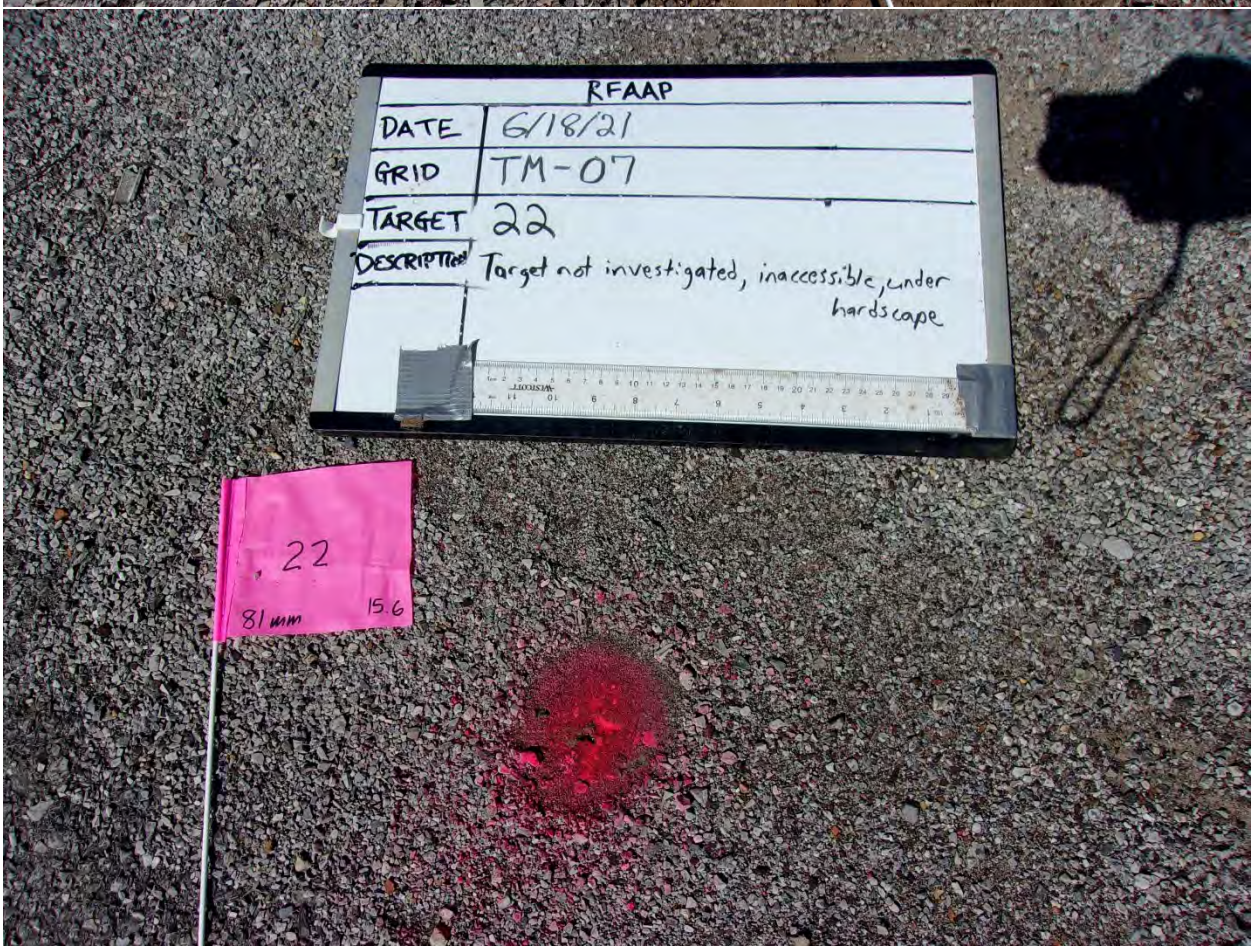

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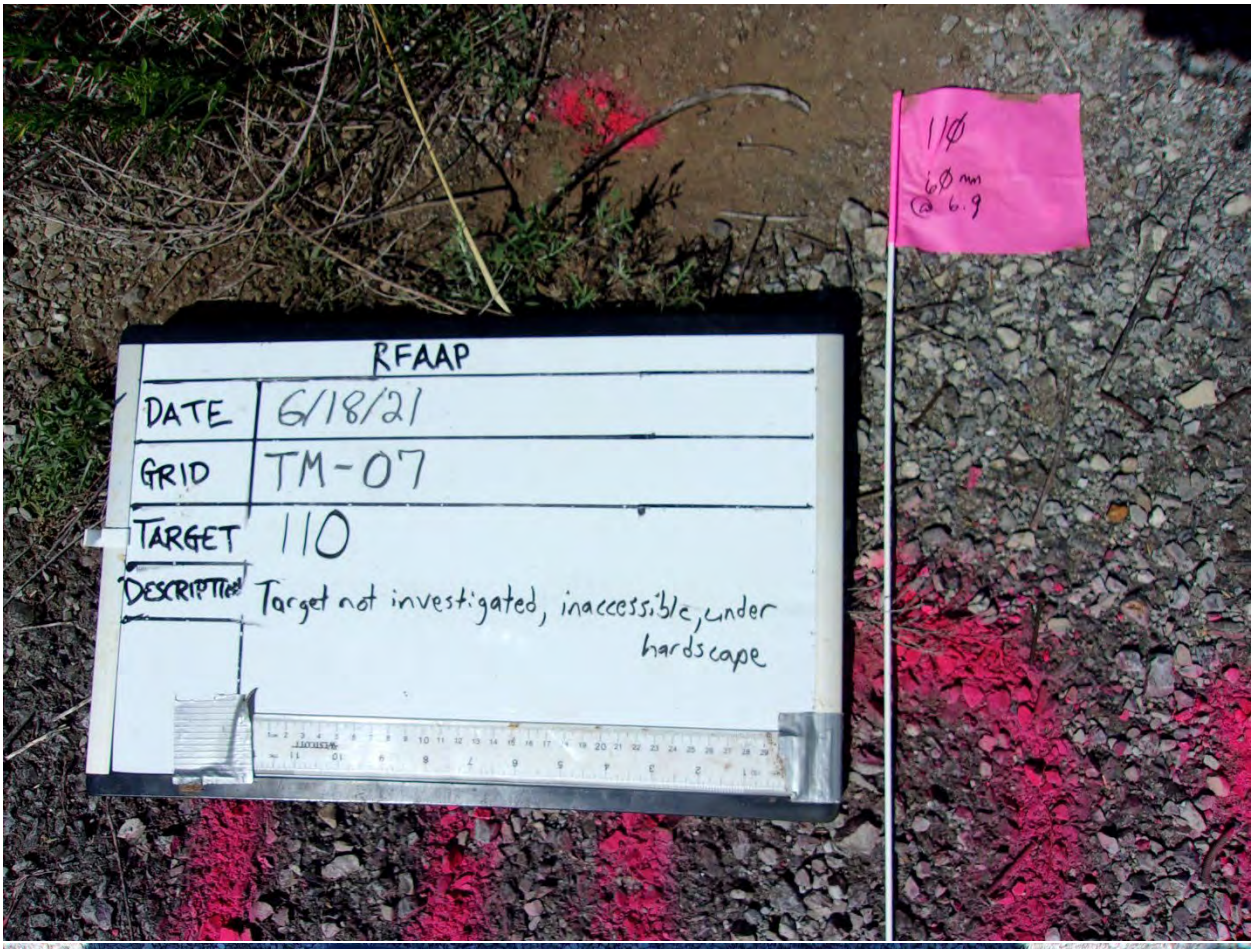
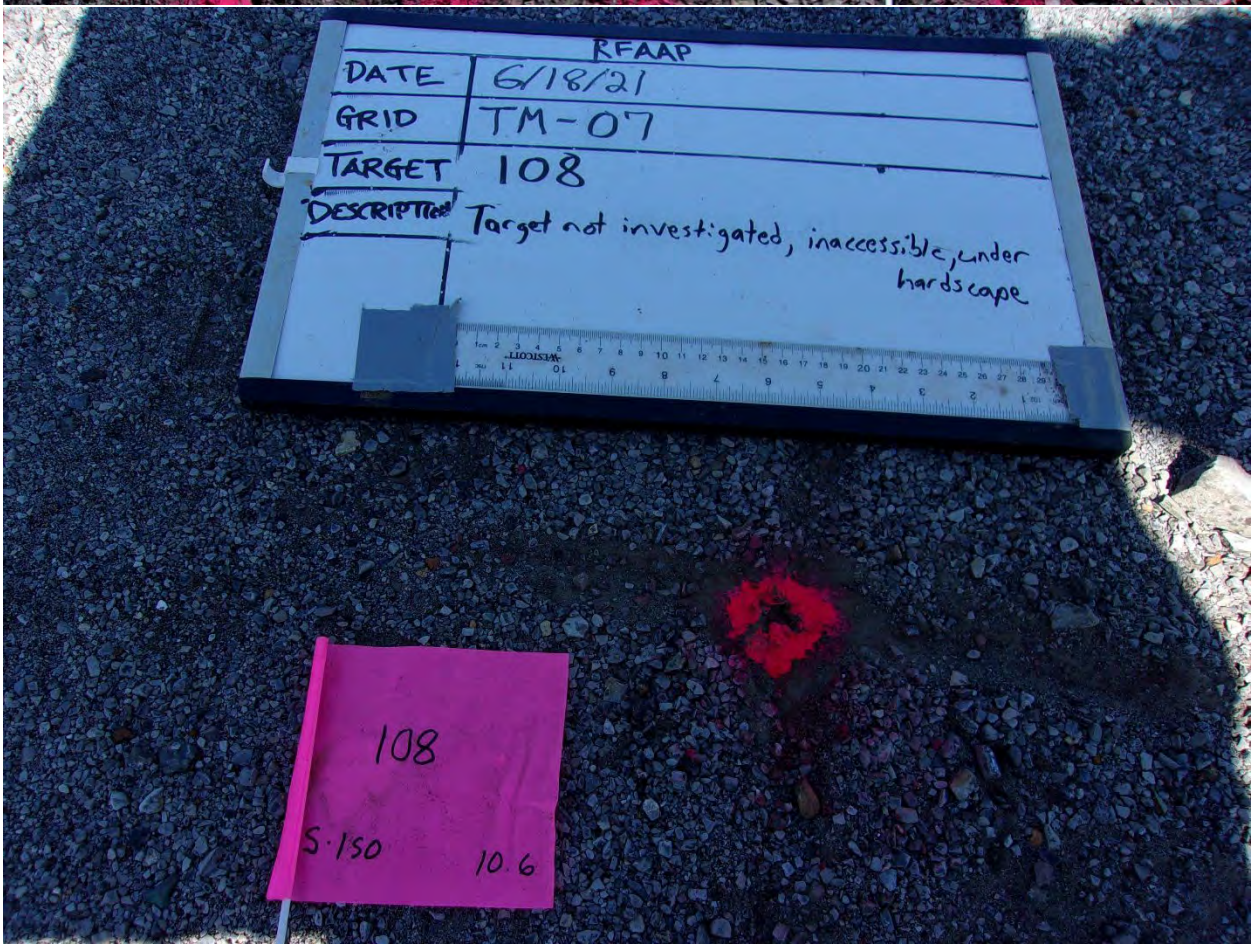
AGC Intrusive Photos: TM-07





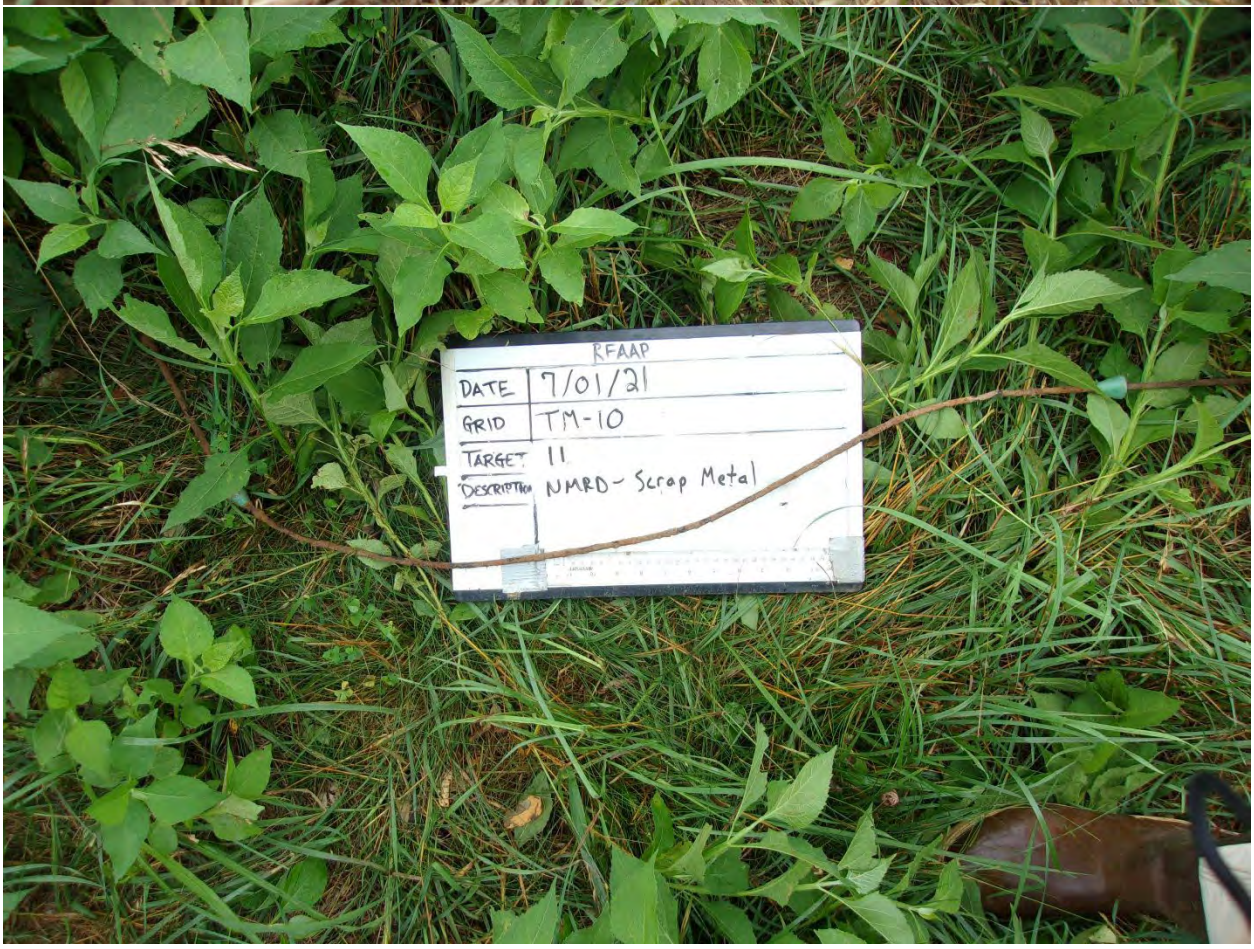
AGC Intrusive Photos: TM-07





AGC Intrusive Photos: TM-10





AGC Intrusive Photos: TM-10





AGC Intrusive Photos: TM-10





AGC Intrusive Photos: TM-10





AGC Intrusive Photos: TM-10





AGC Intrusive Photos: TM-10





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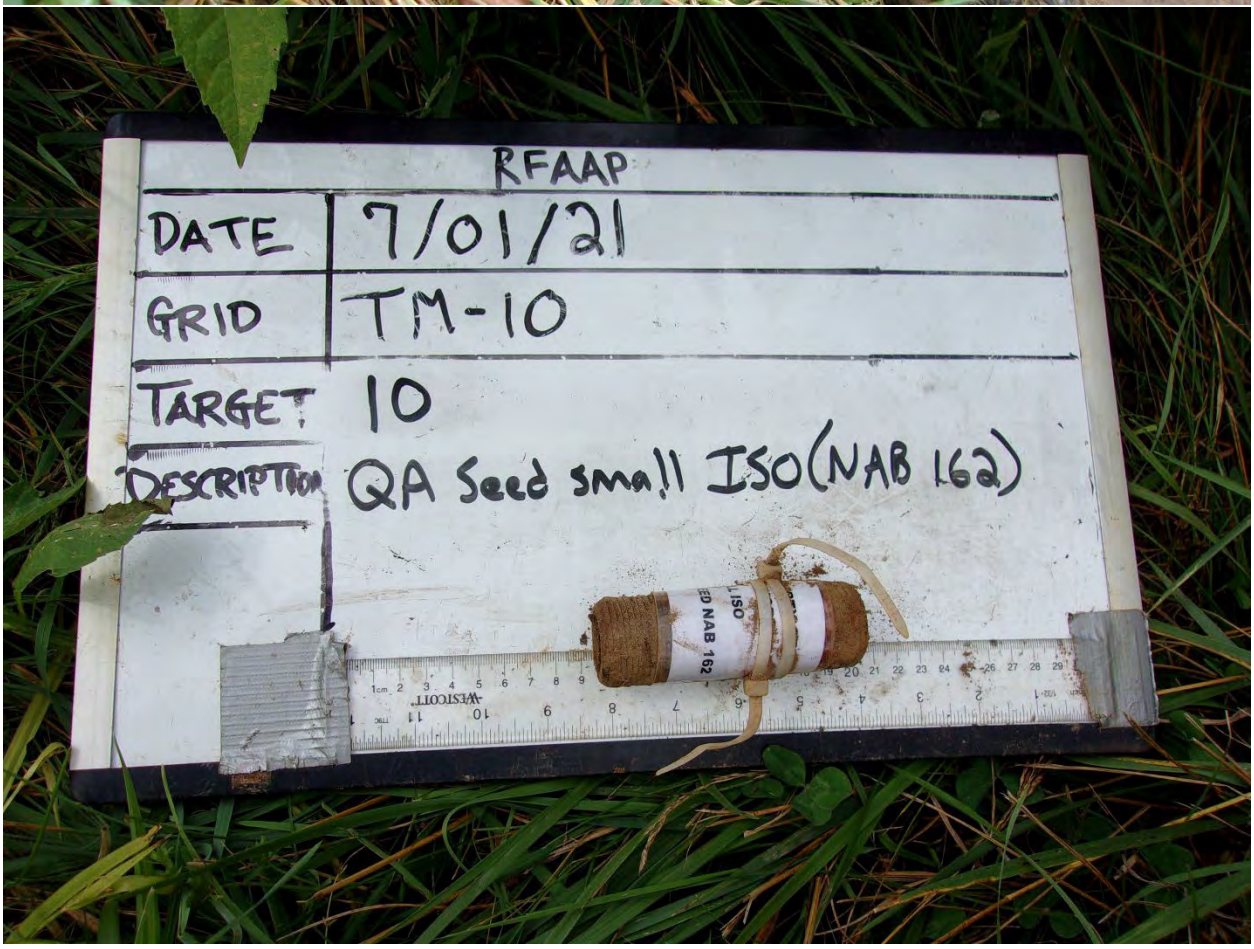
AGC Intrusive Photos: TM-10





AGC Intrusive Photos: TM-10





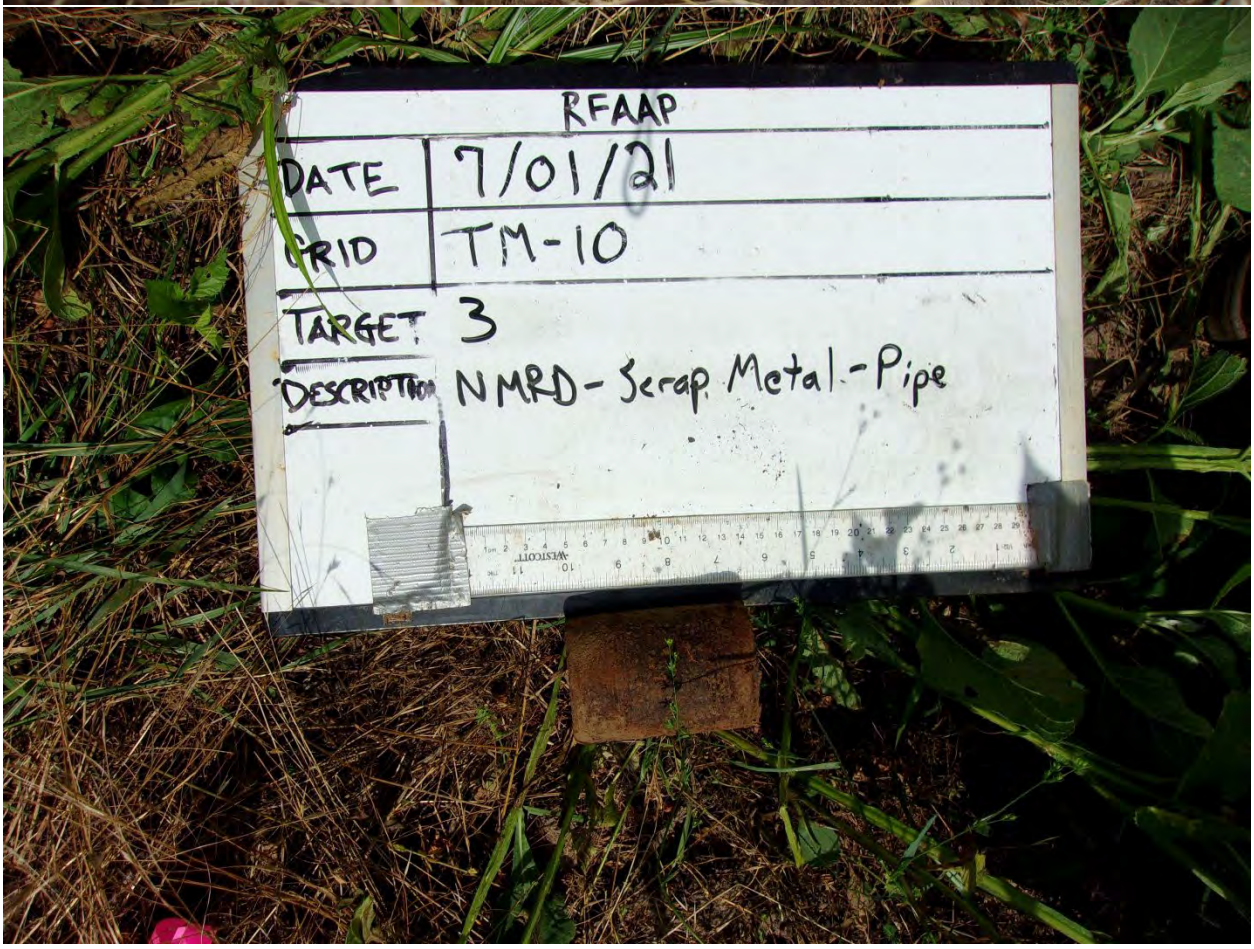
AGC Intrusive Photos: TM-10





AGC Intrusive Photos: TM-10





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-11





AGC Intrusive Photos: TM-12



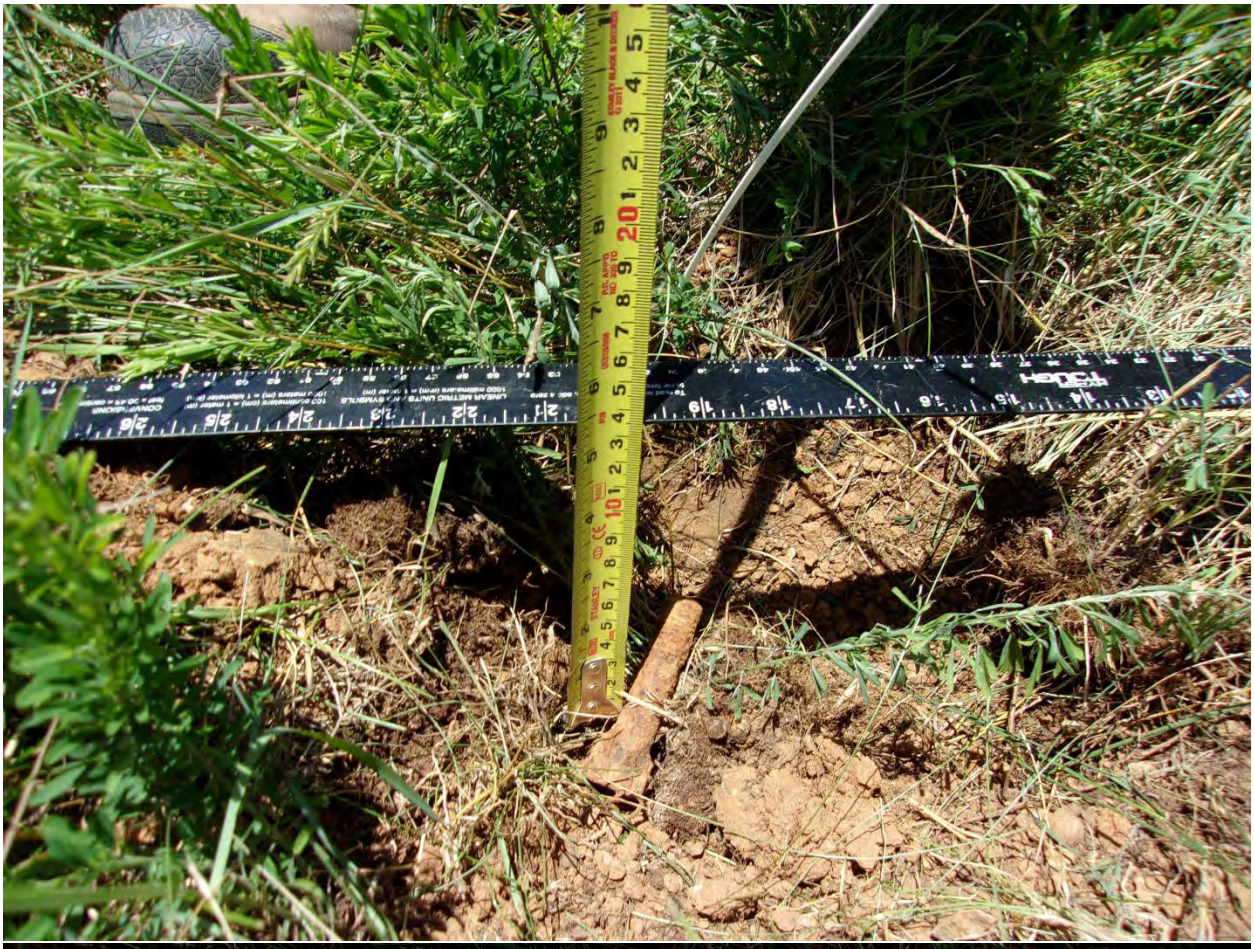


AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12



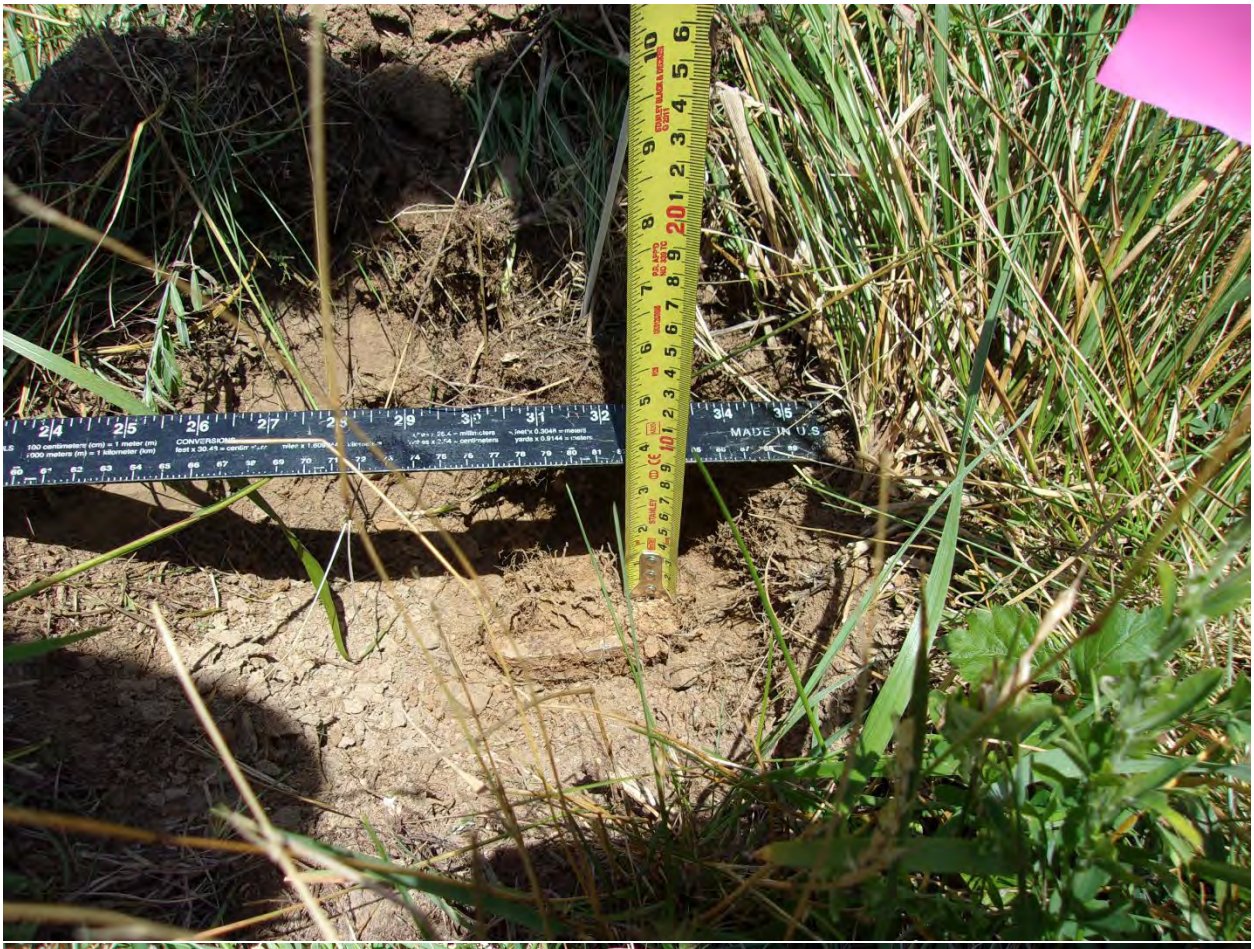


AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





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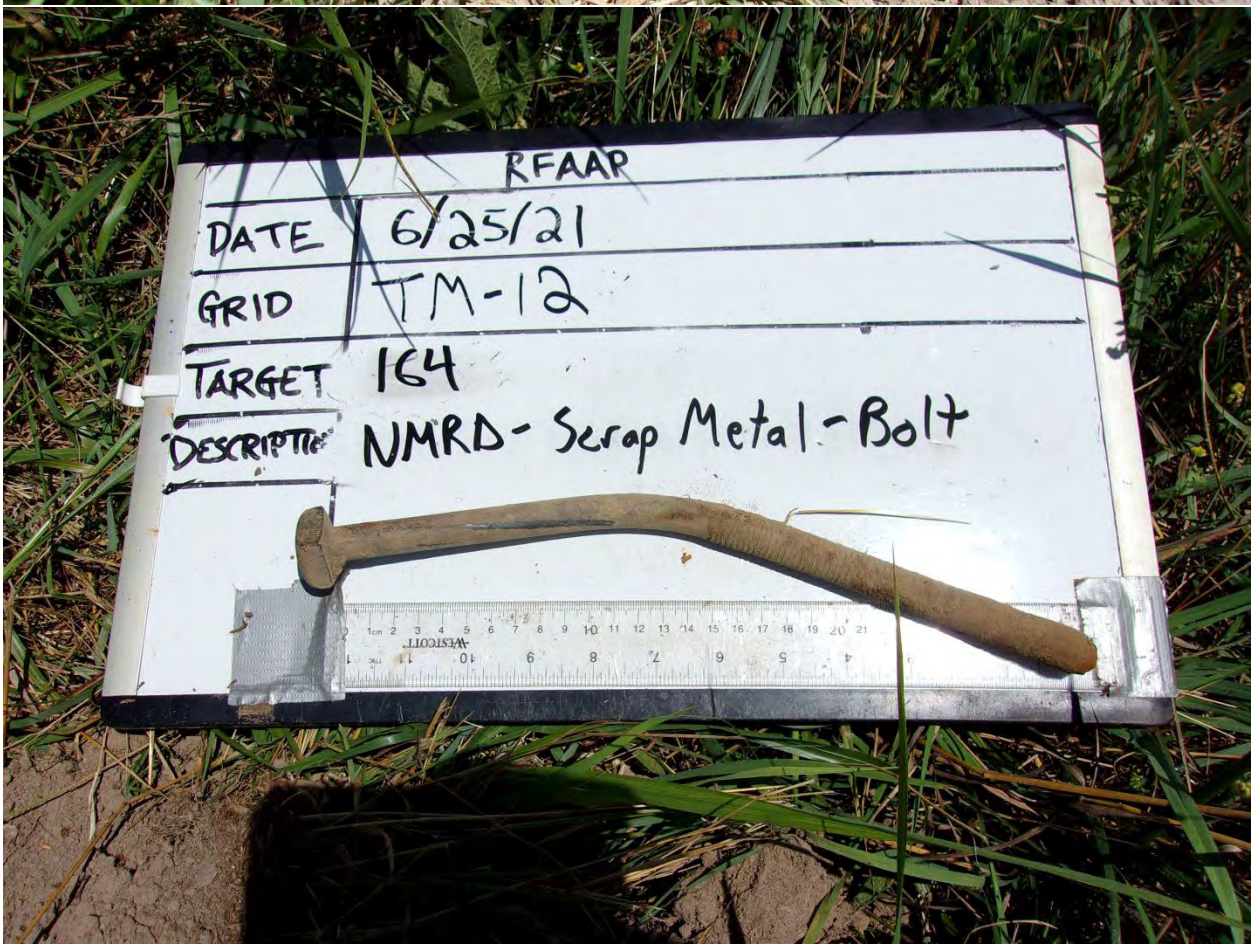
AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12



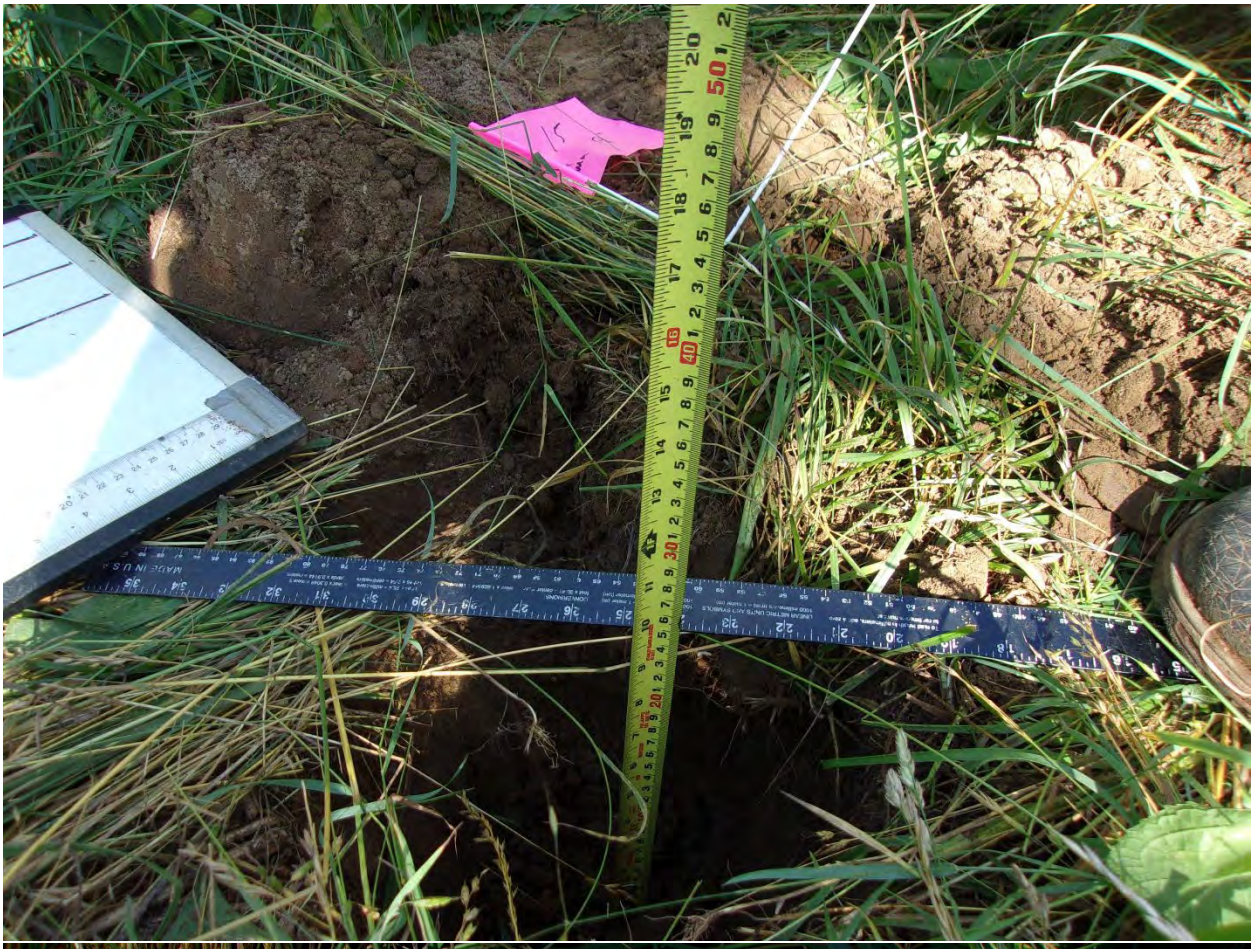


AGC Intrusive Photos: TM-12





AGC Intrusive Photos: TM-12





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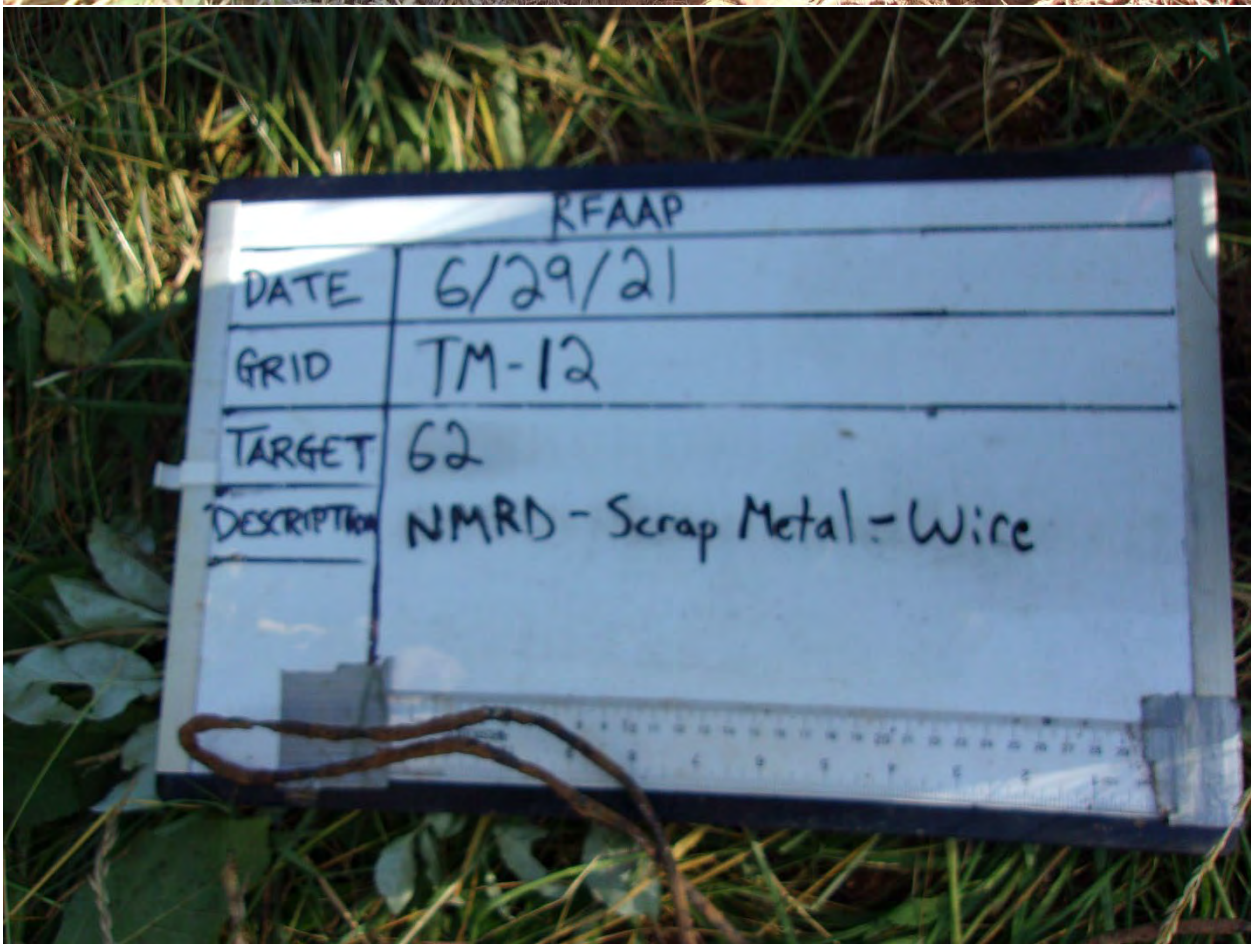

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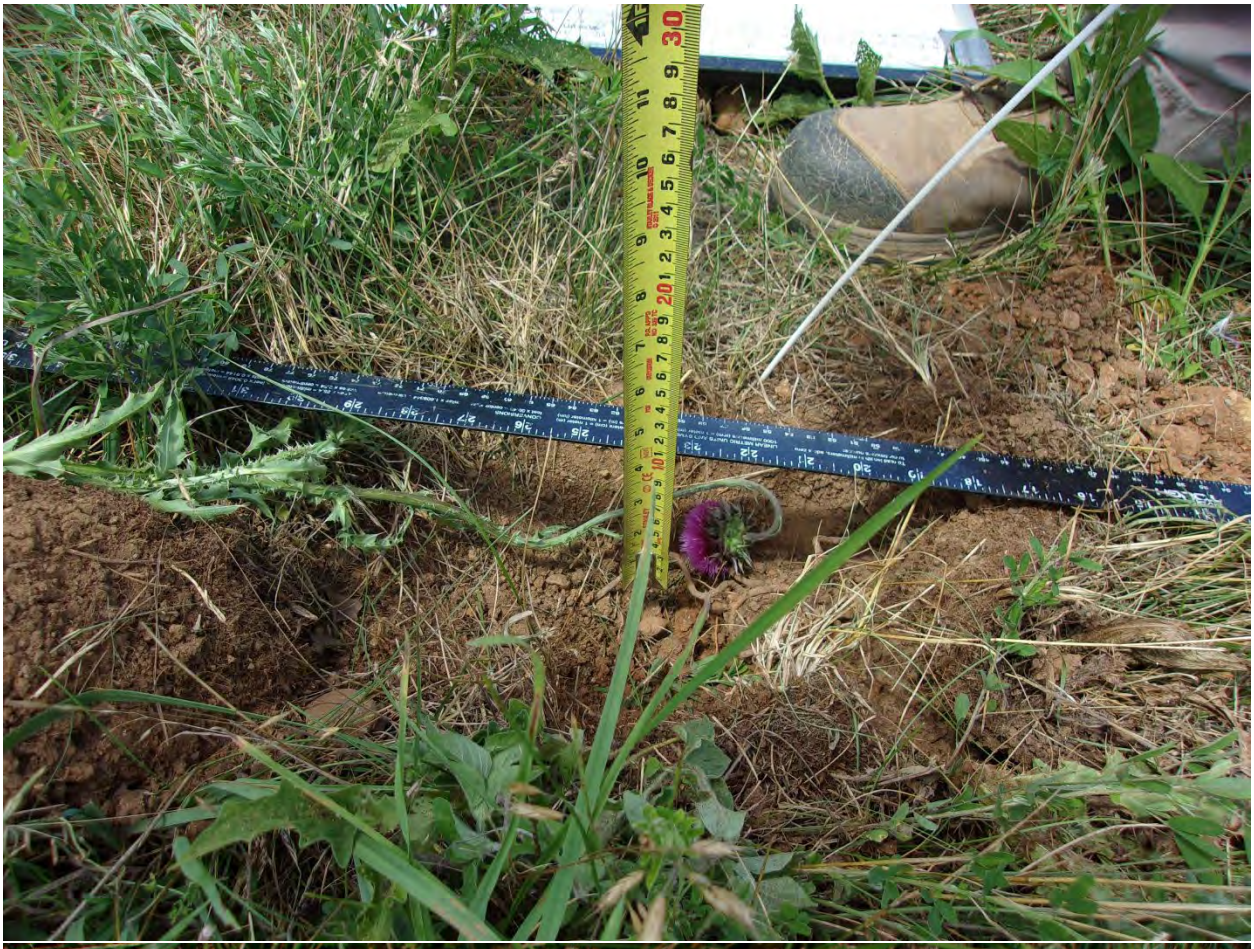



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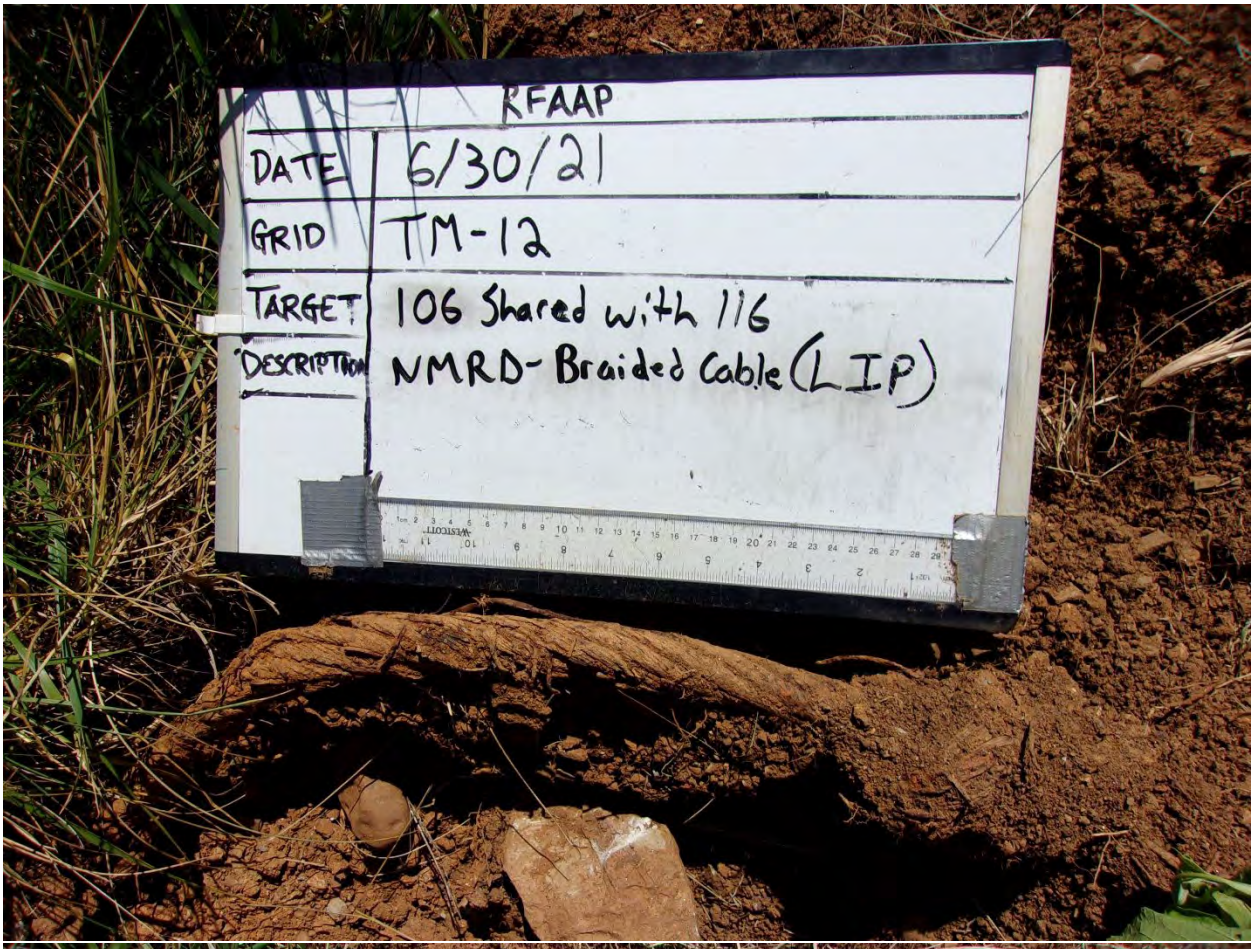



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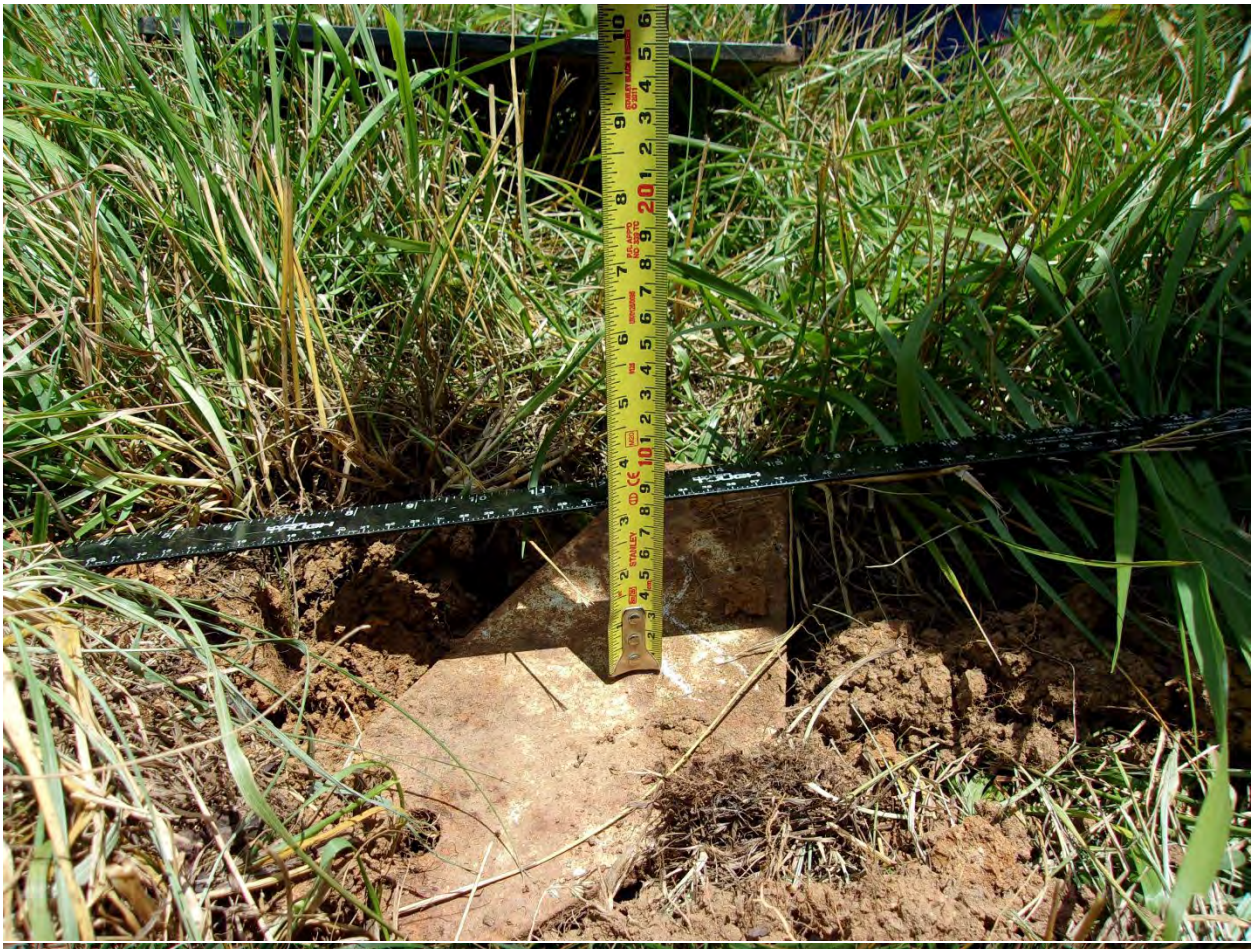



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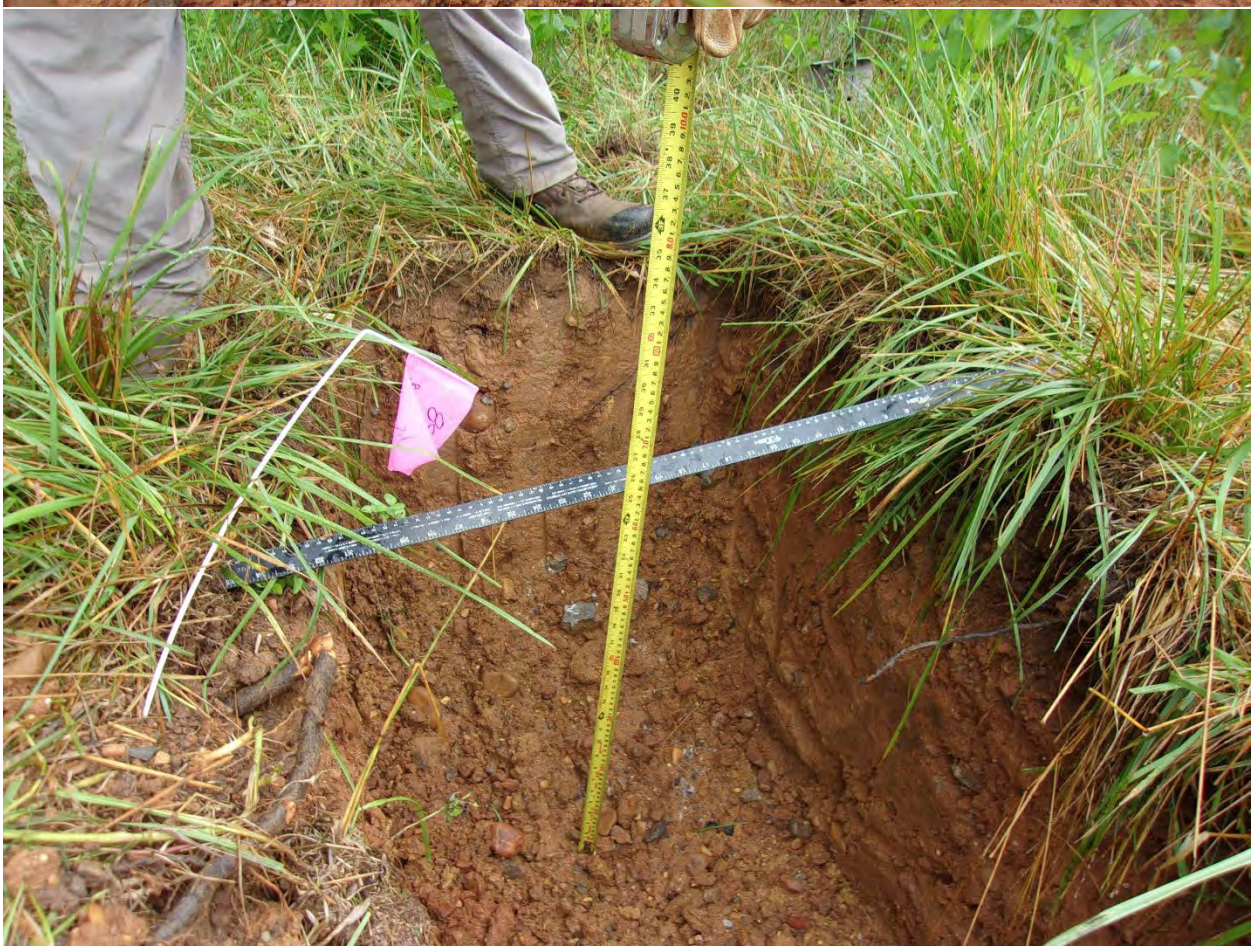

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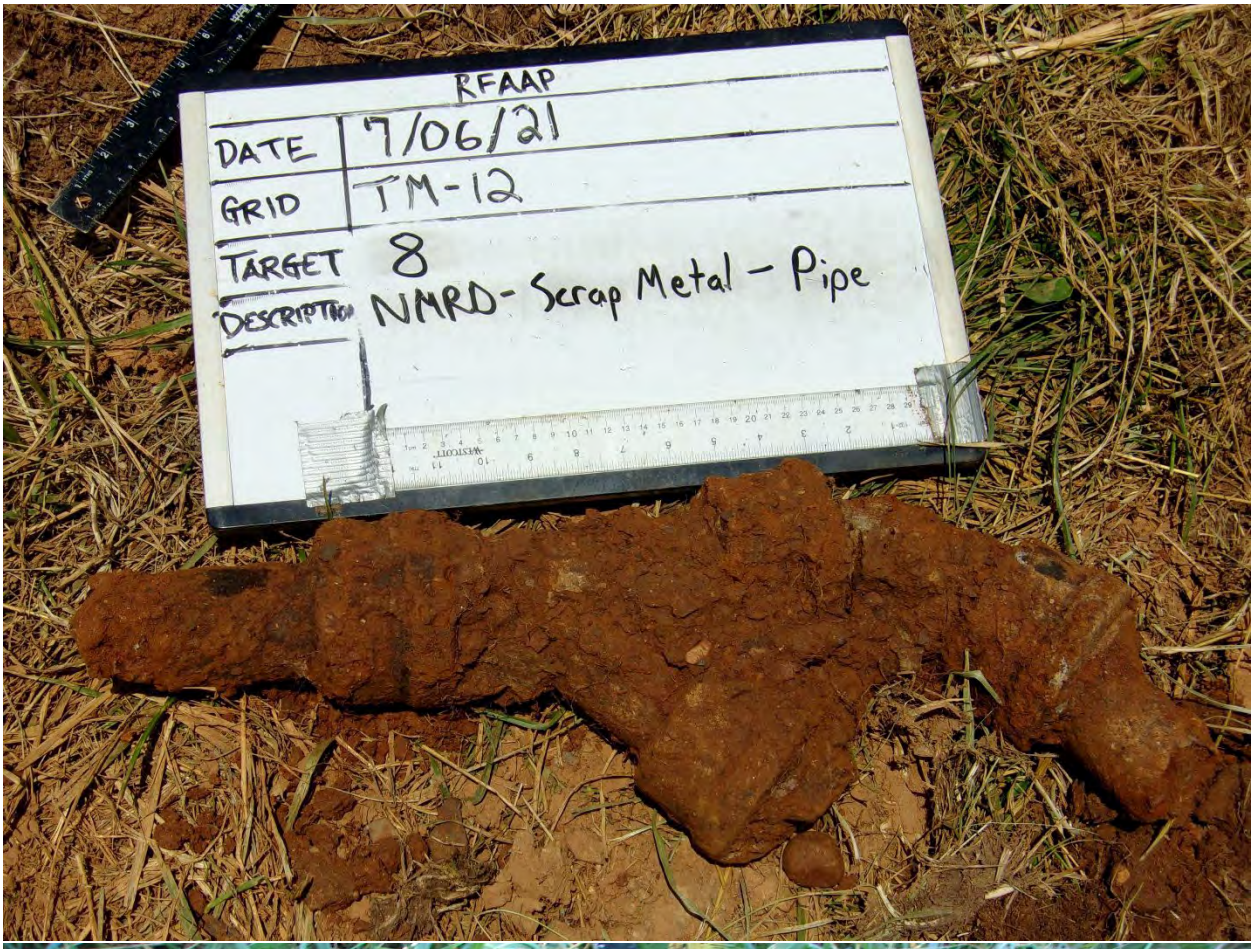



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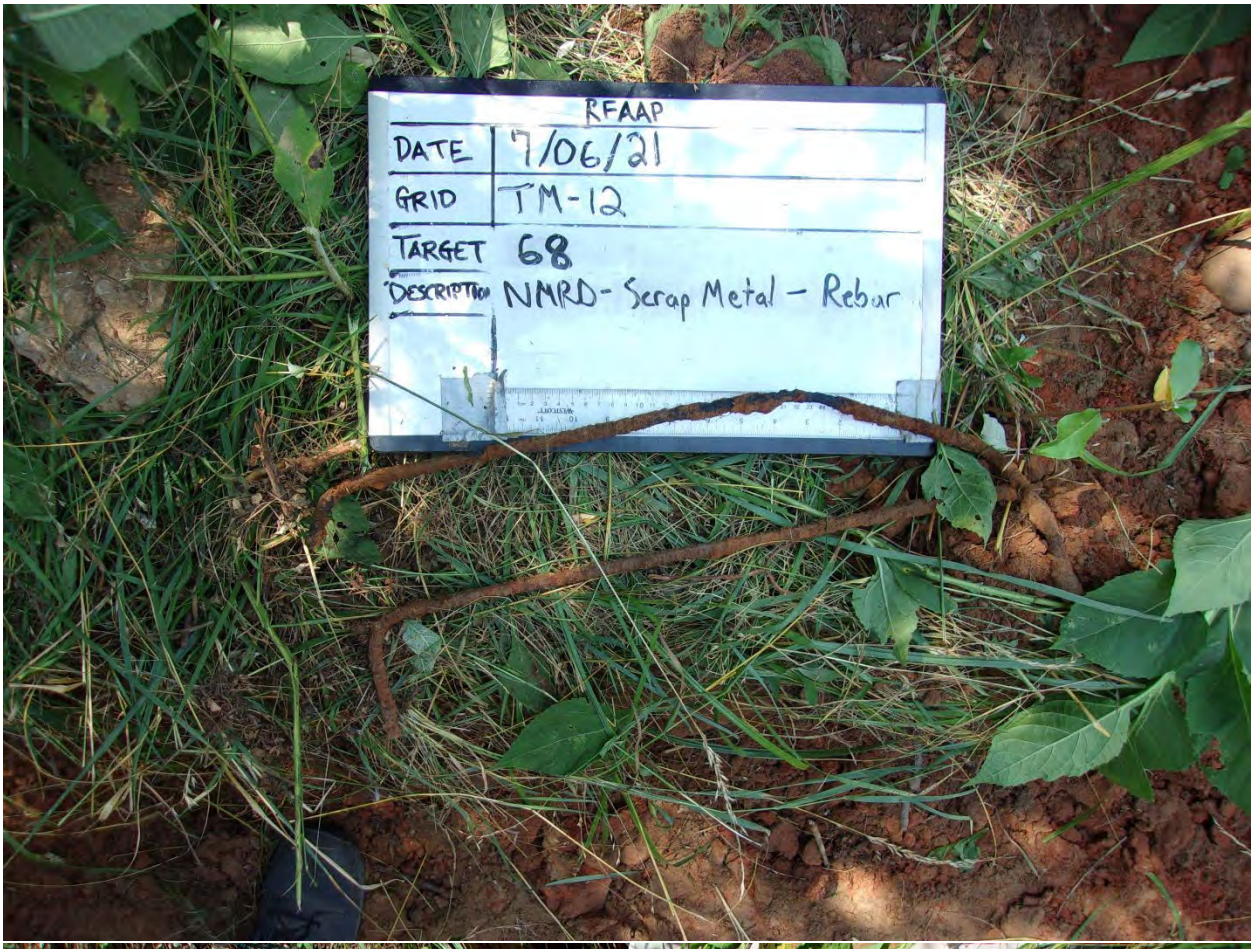



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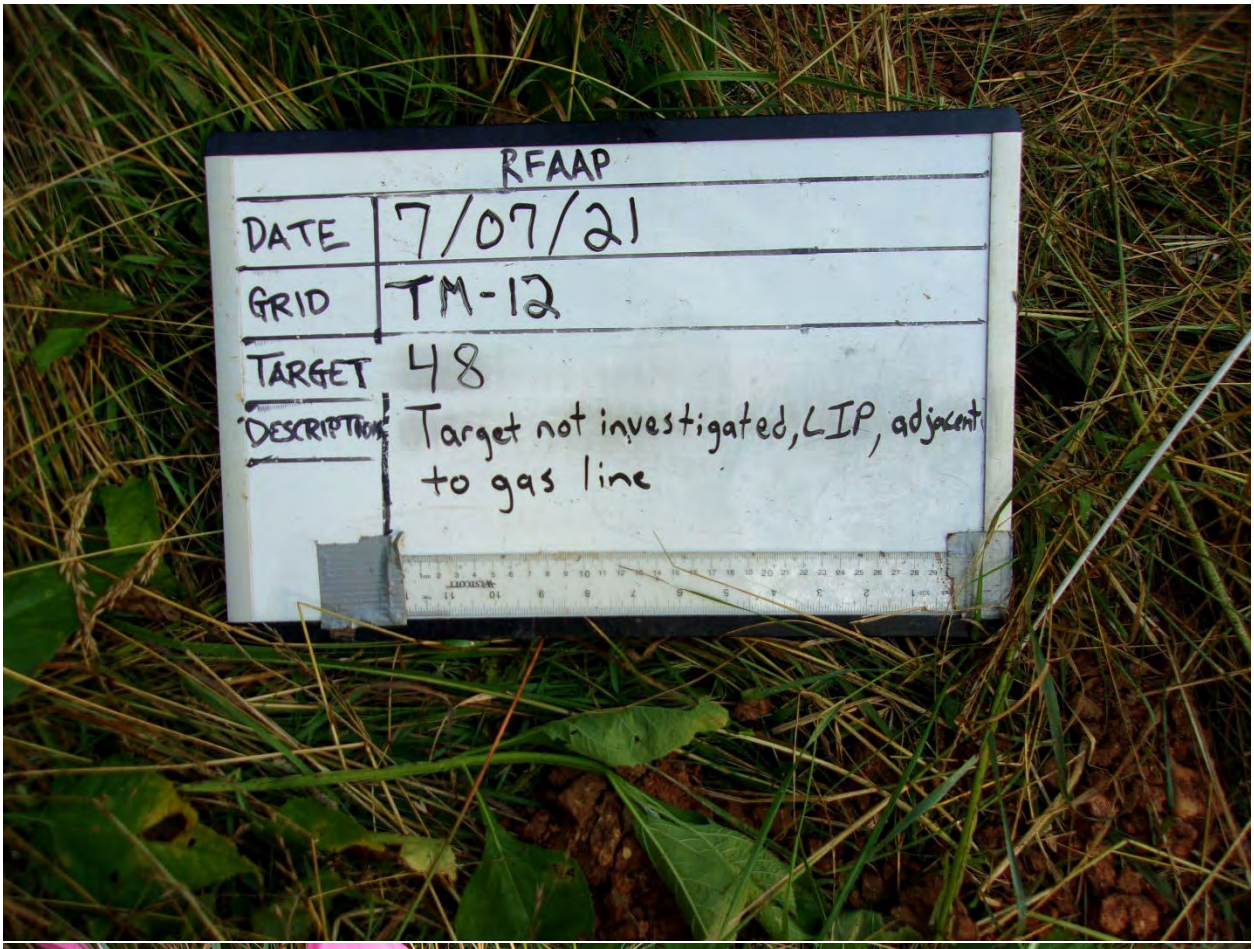



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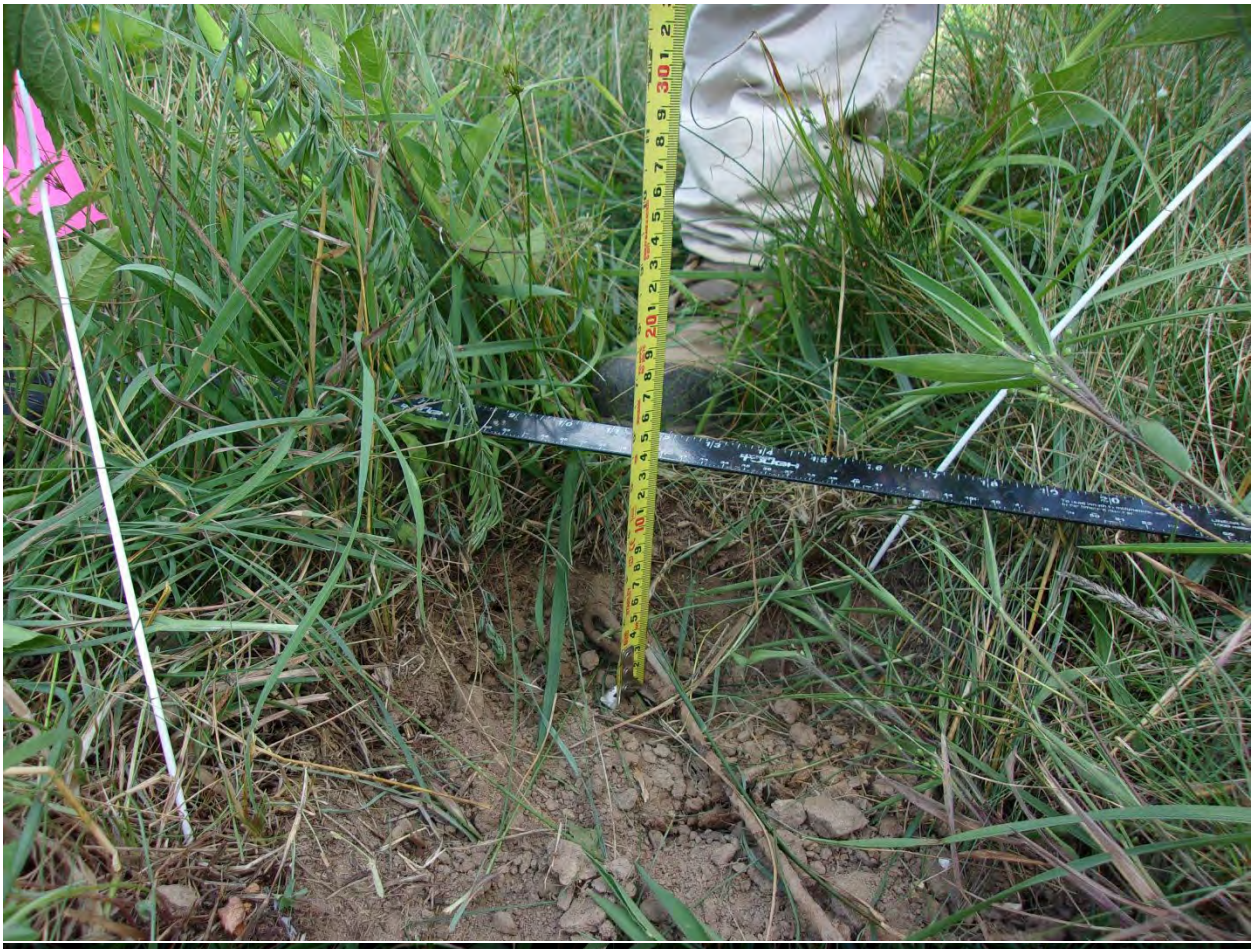



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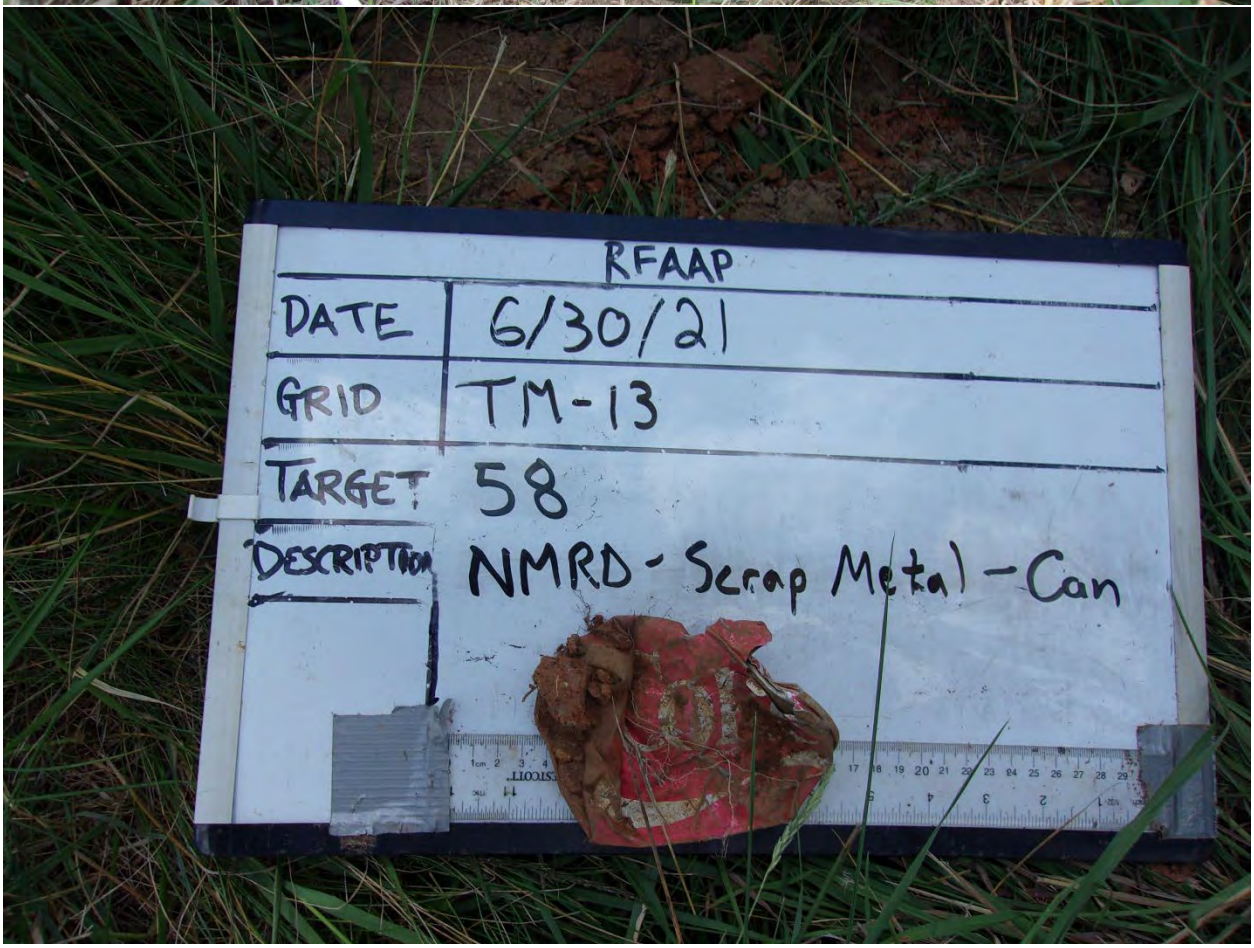

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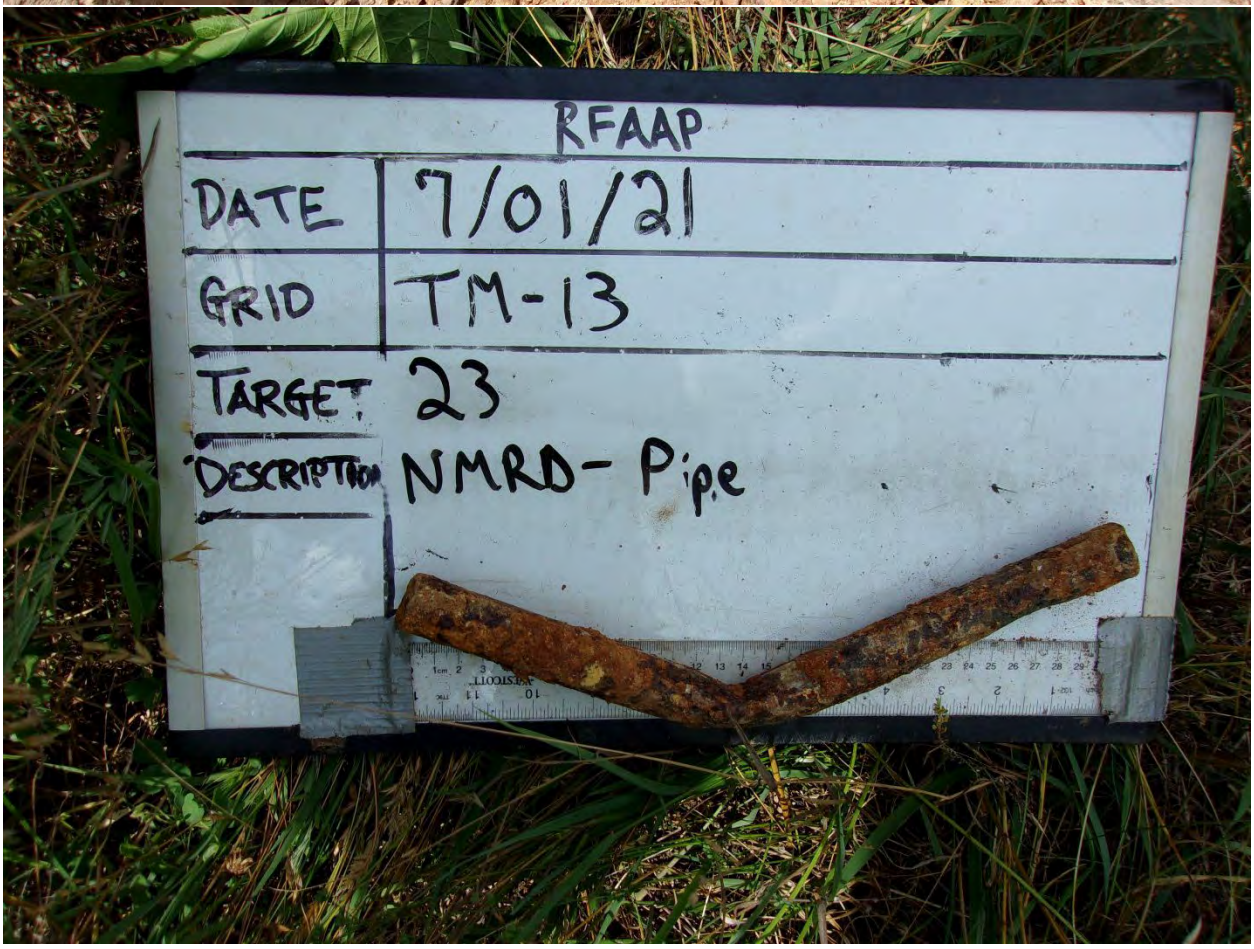

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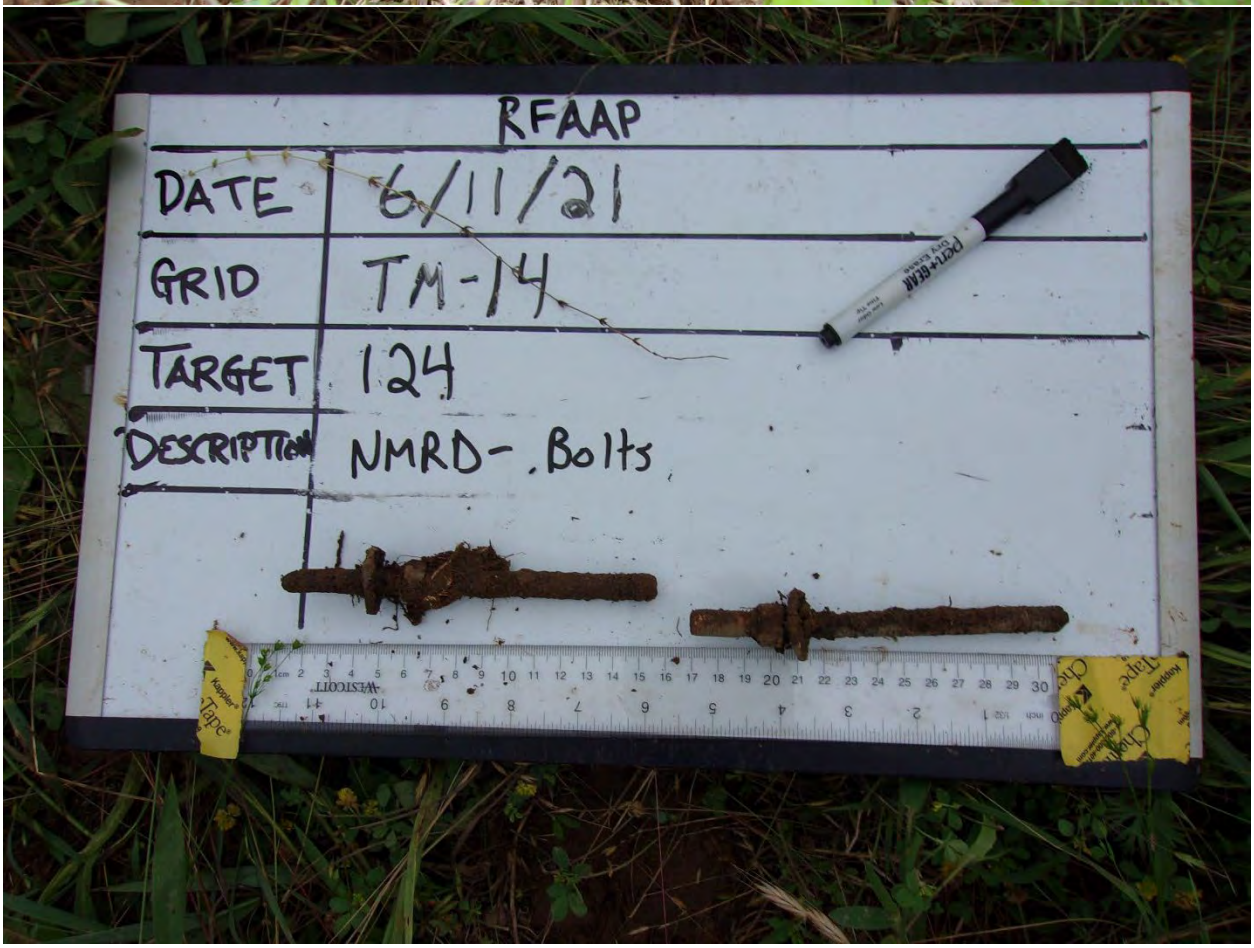

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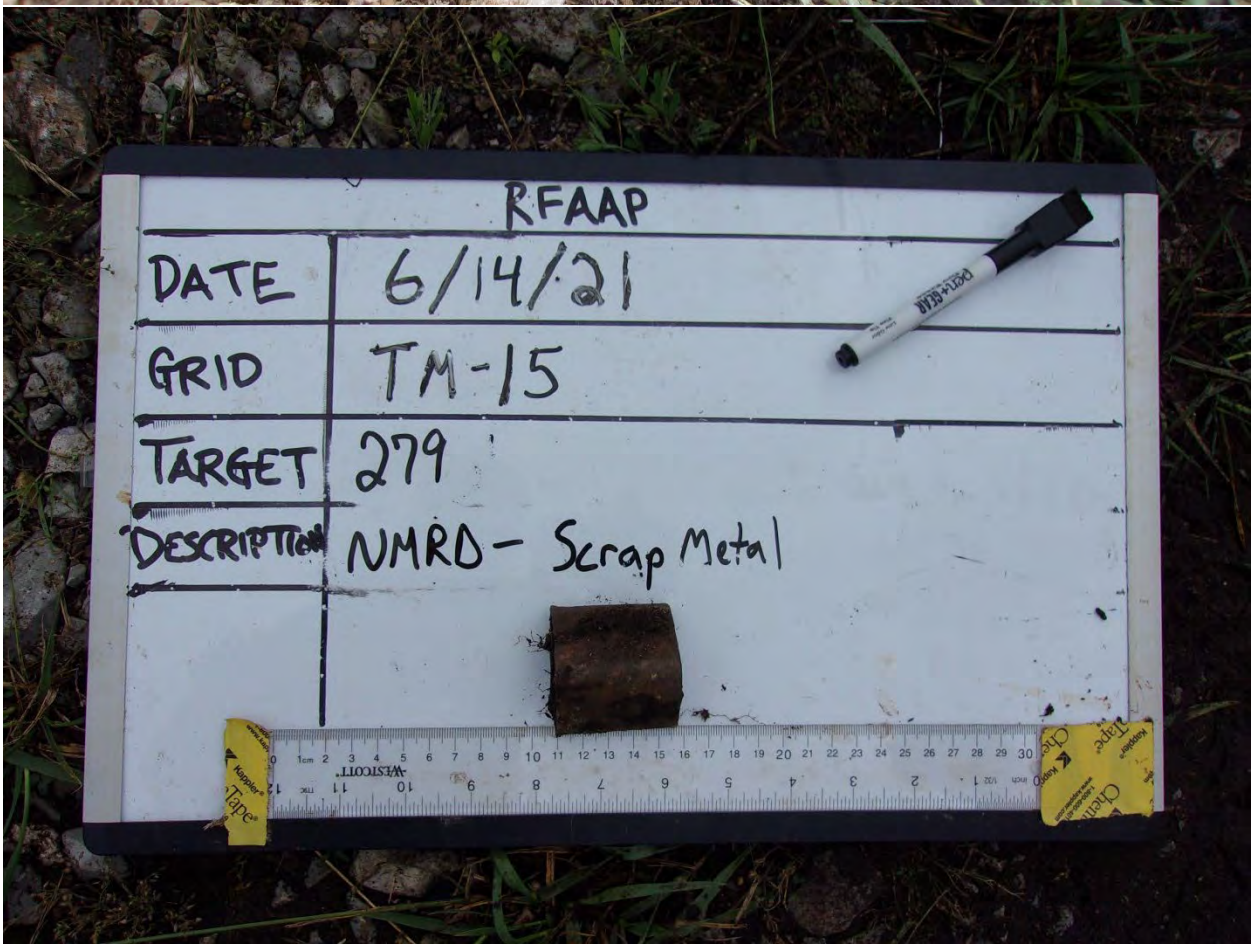
AGC Intrusive Photos: TM-15





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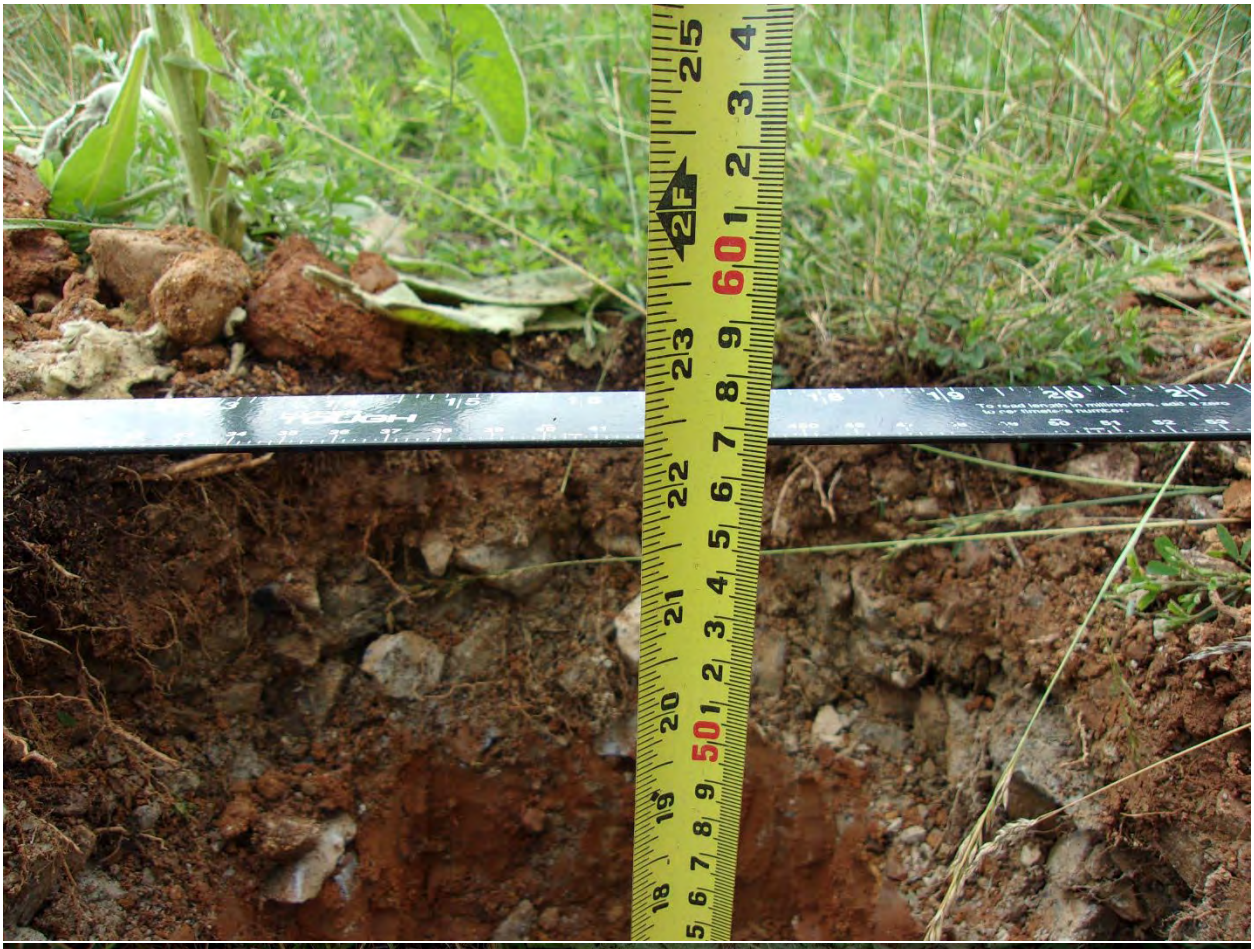



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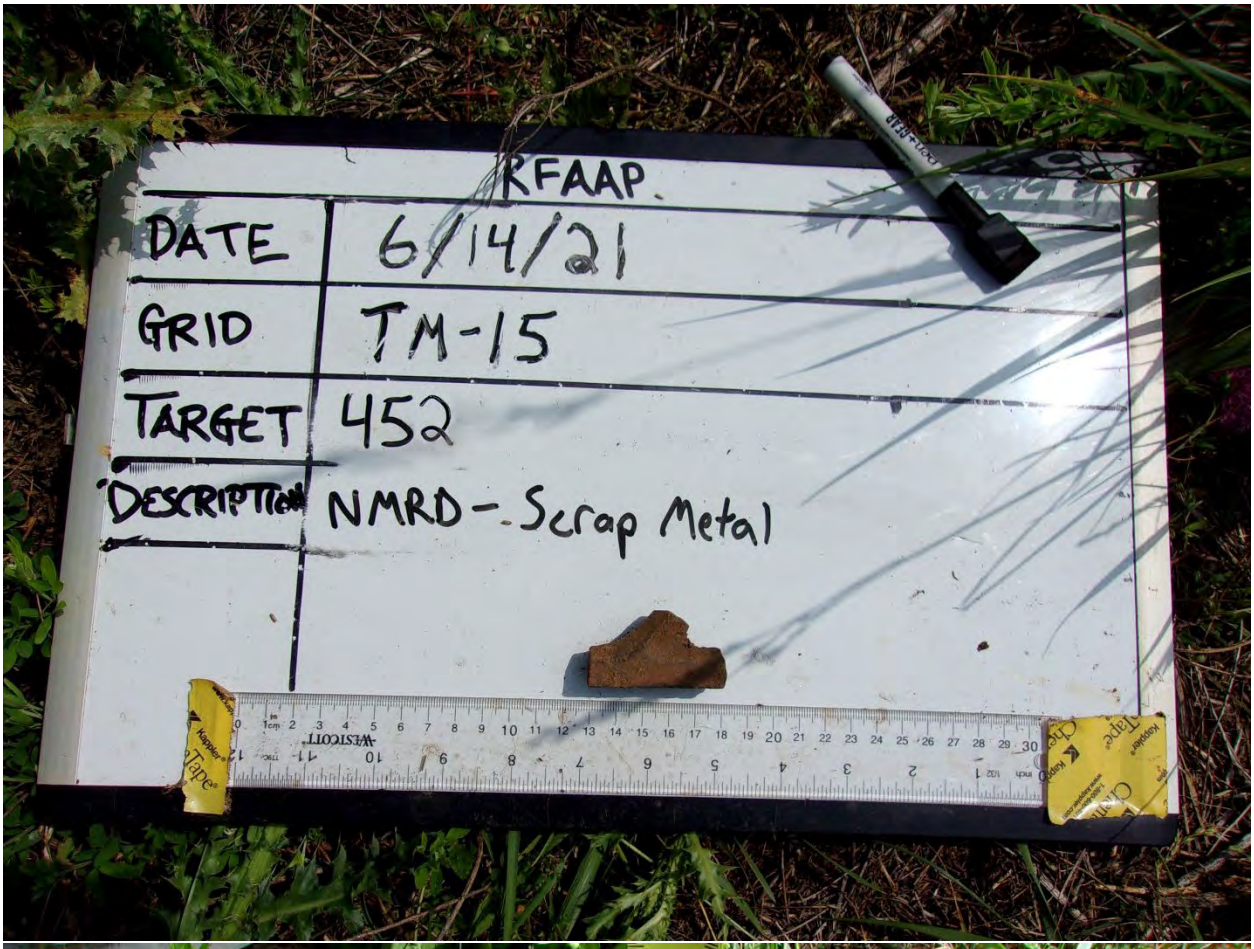



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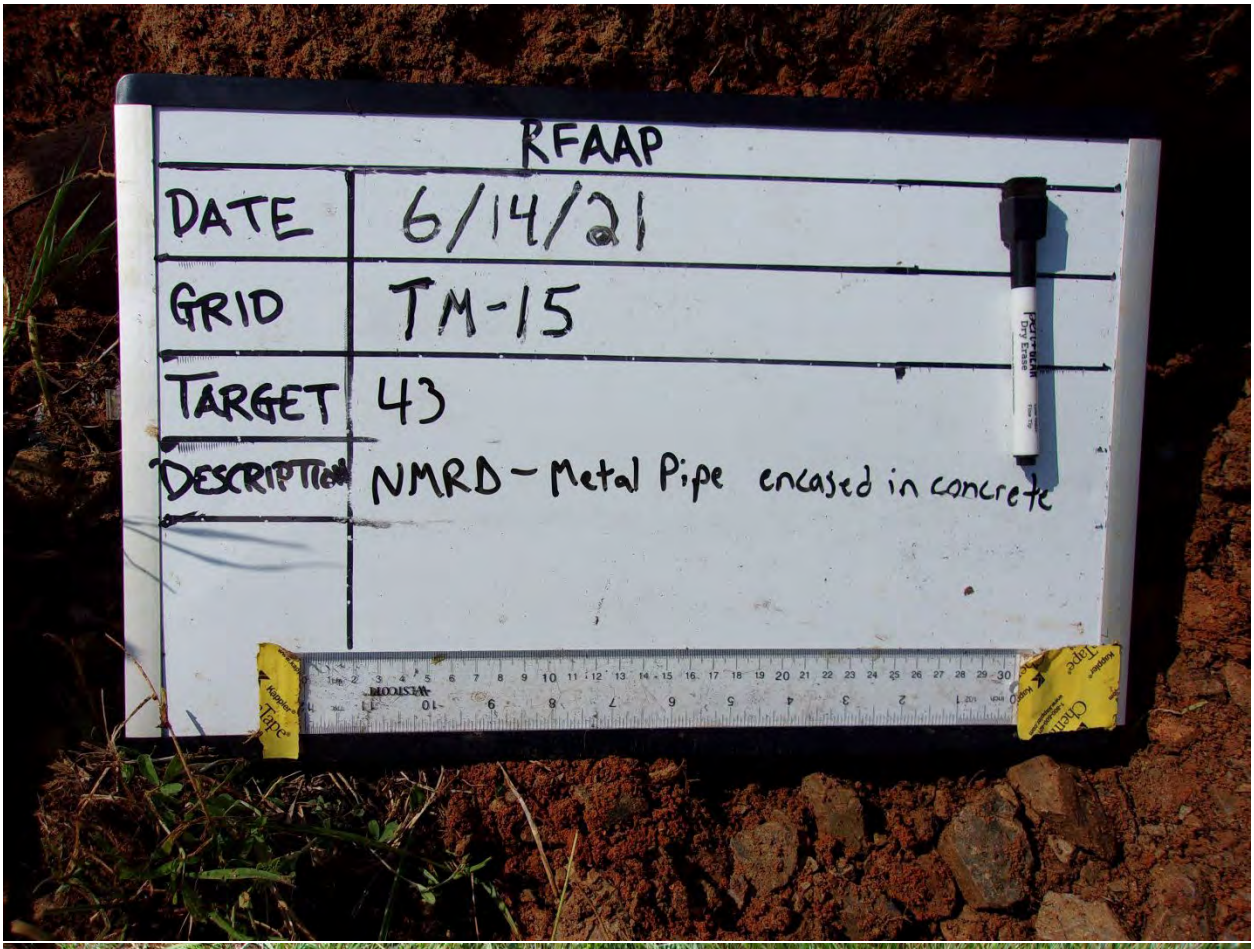



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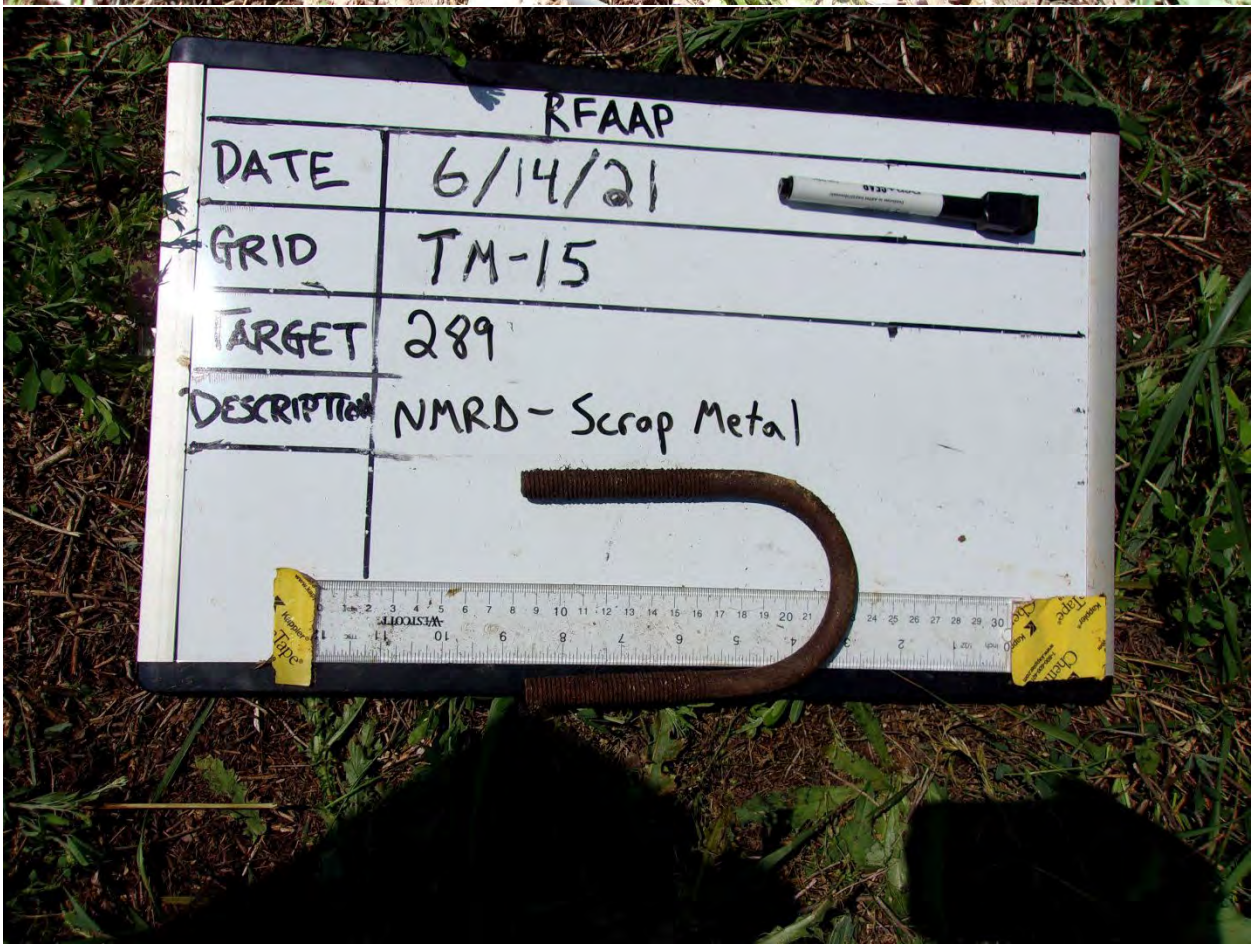

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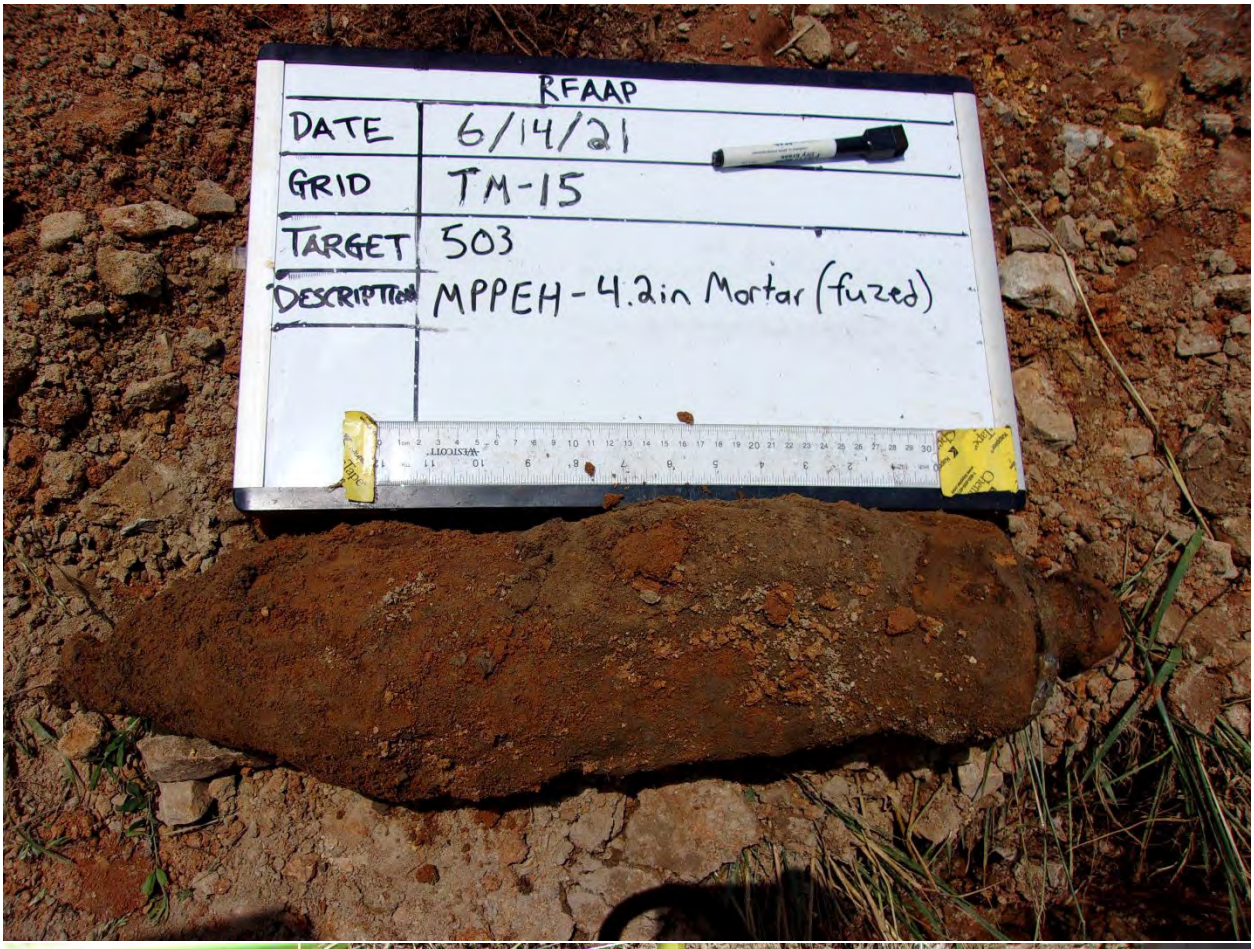



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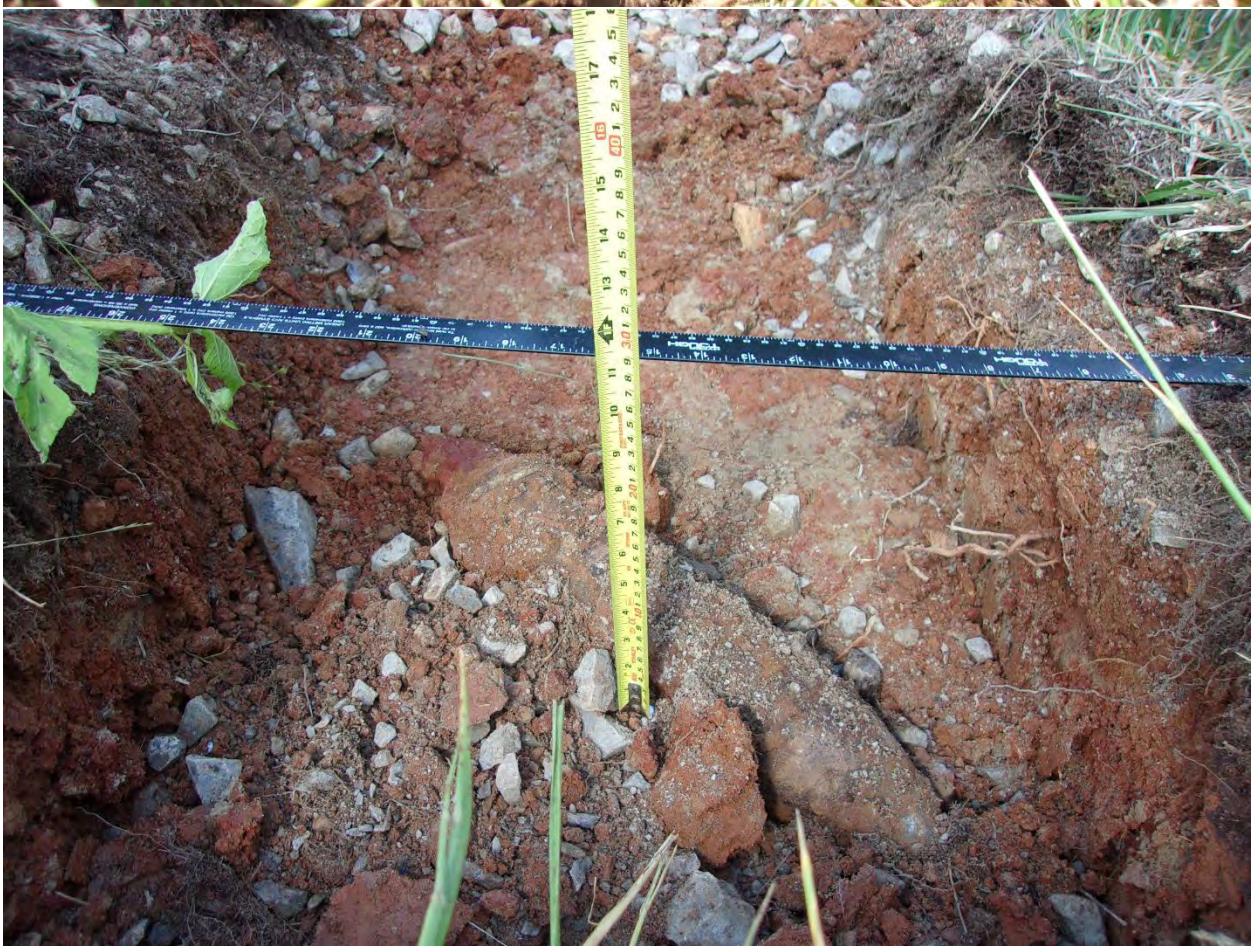

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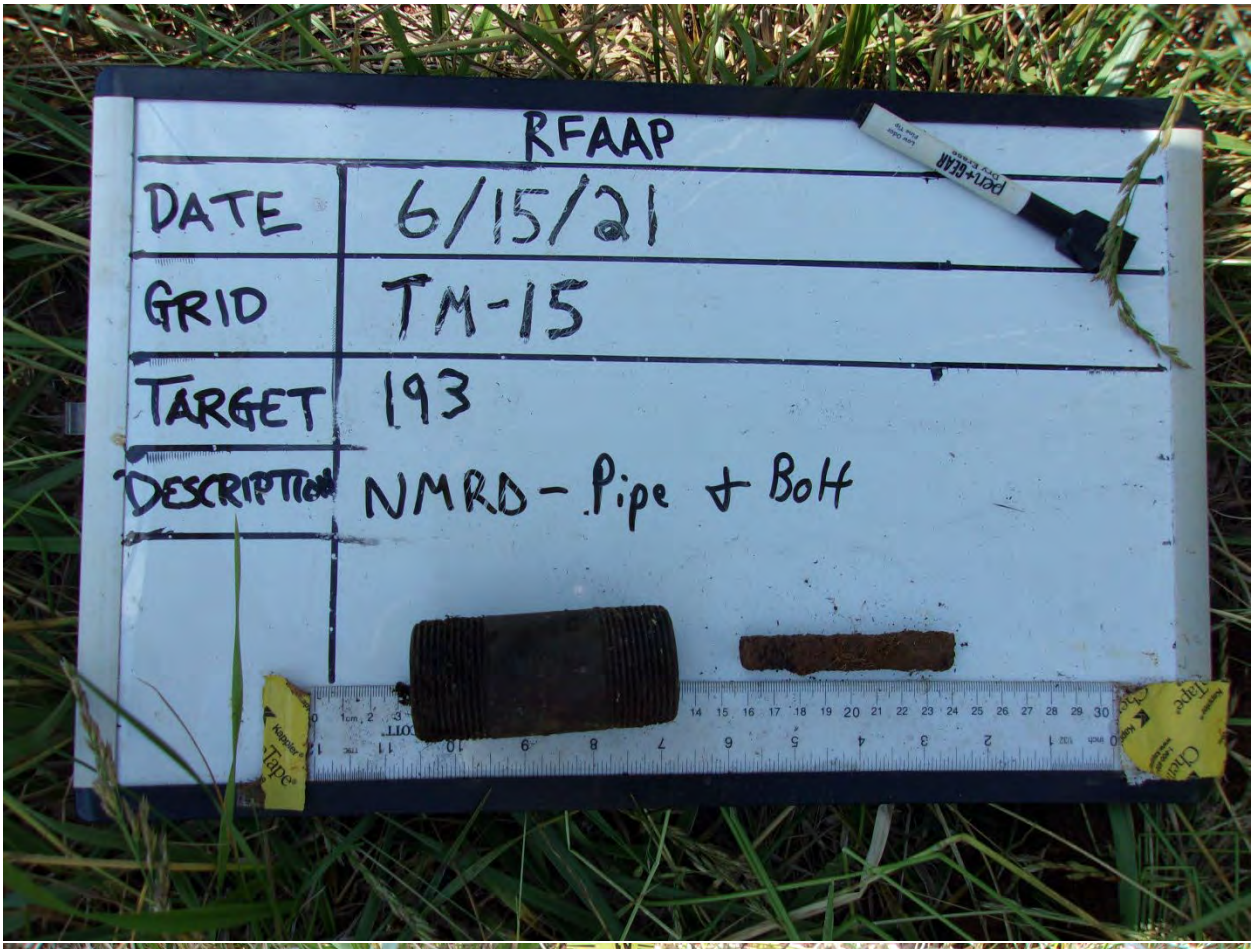



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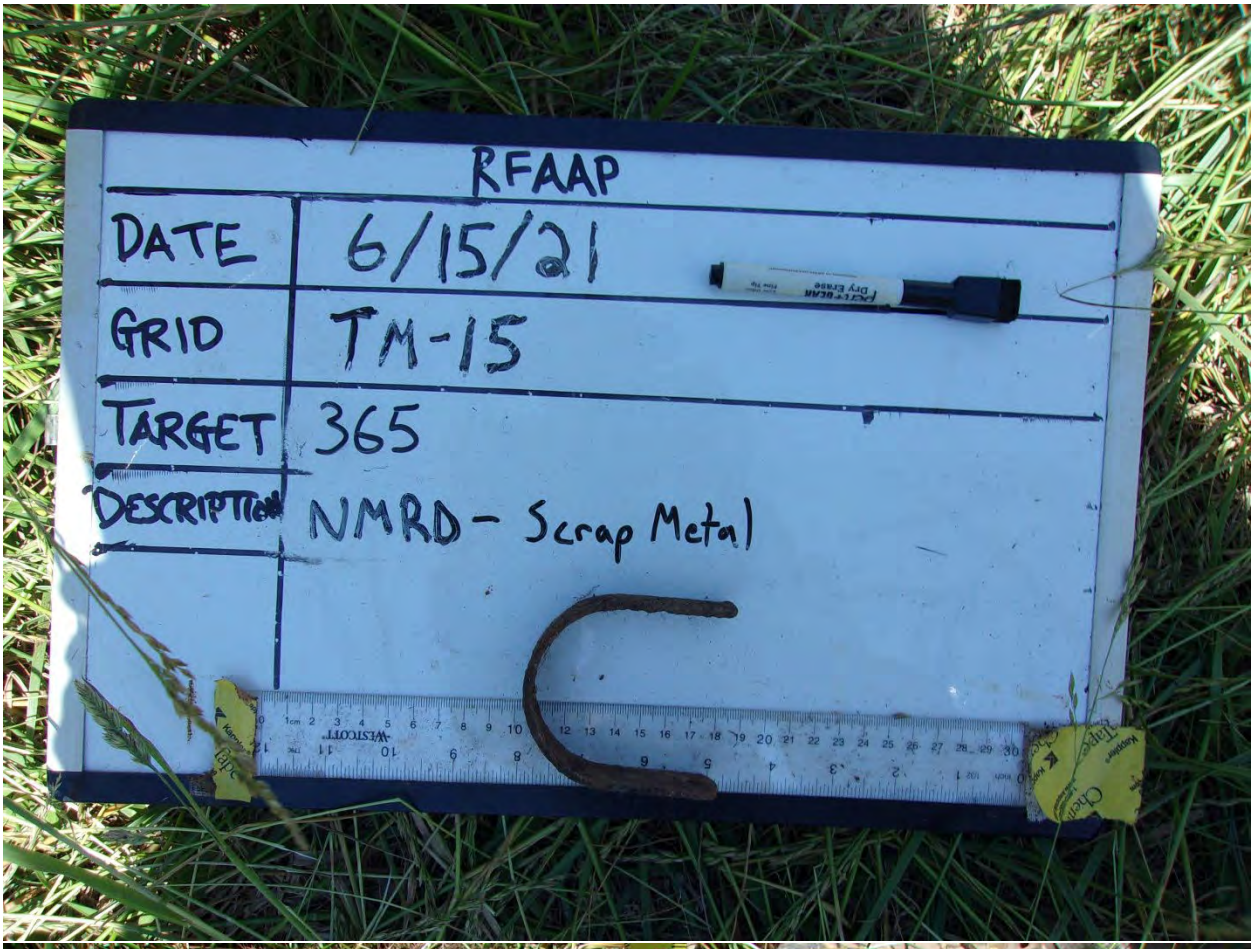



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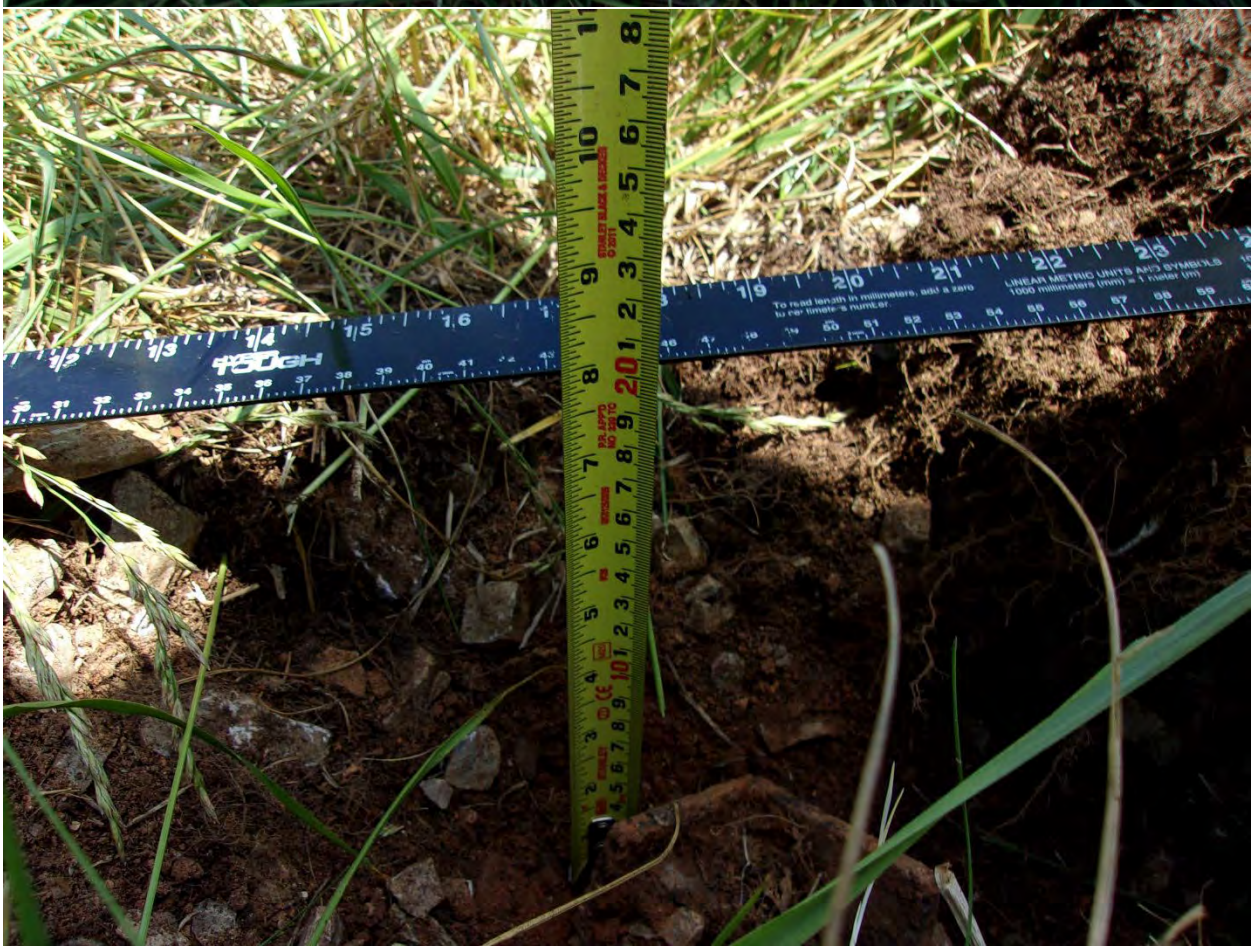

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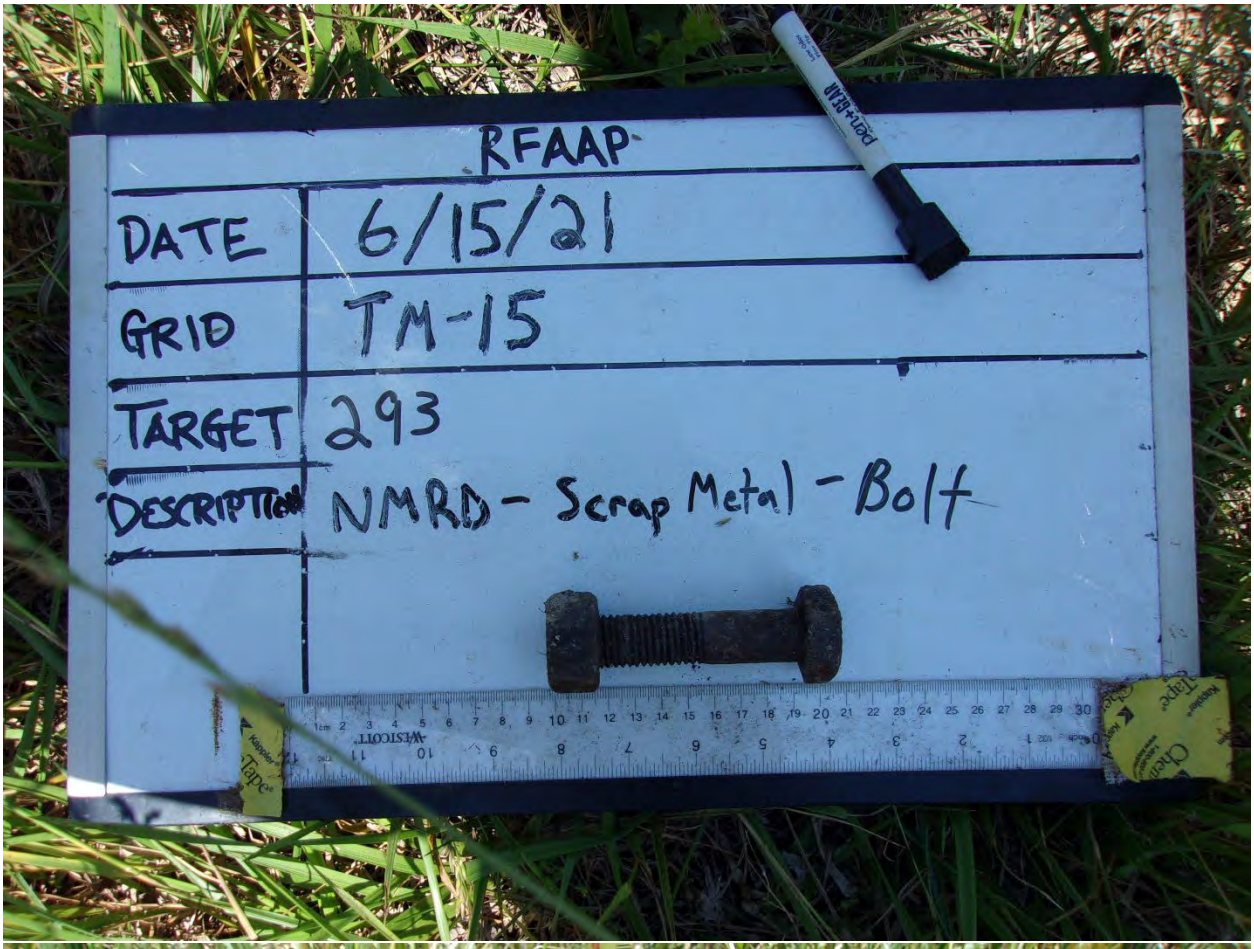



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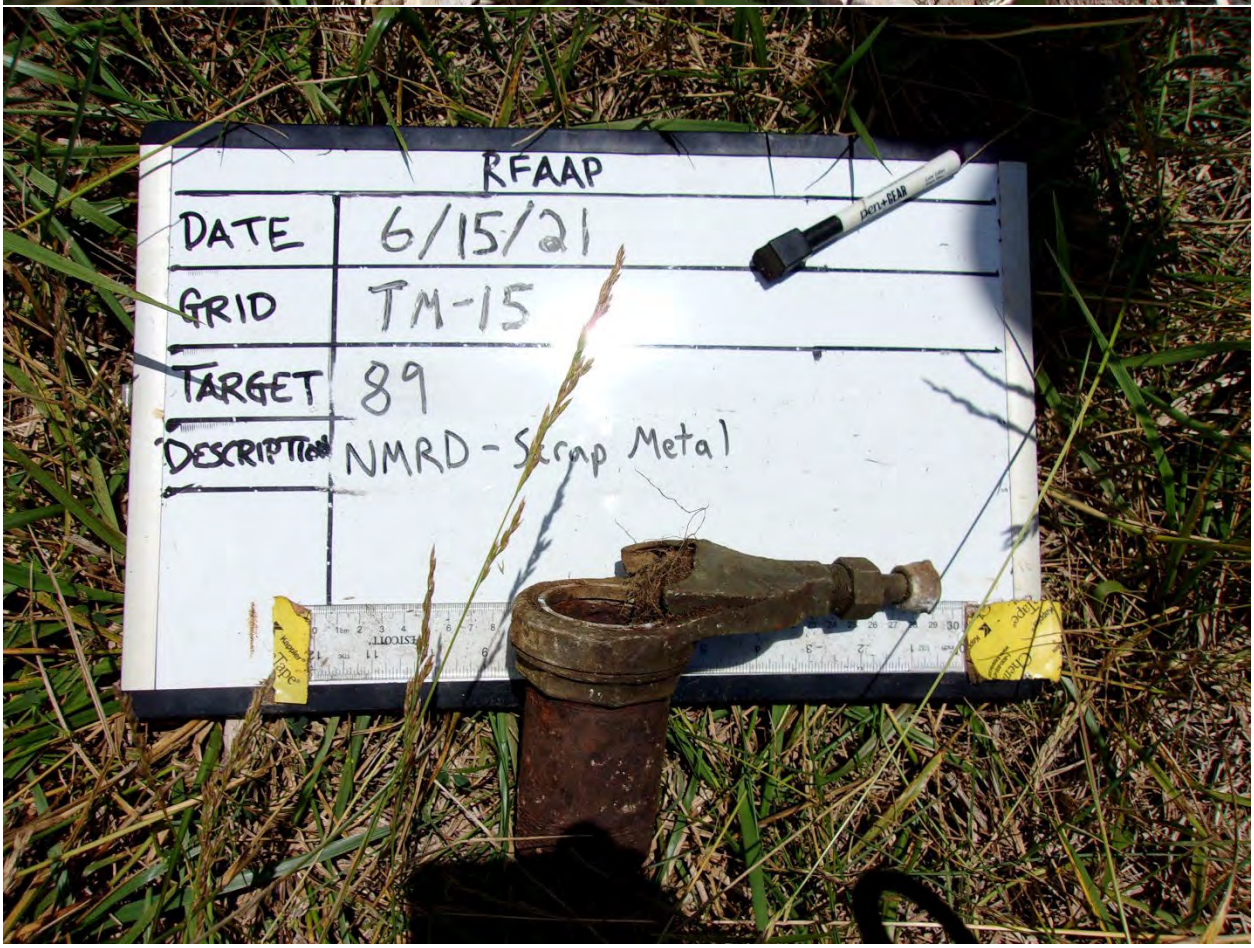

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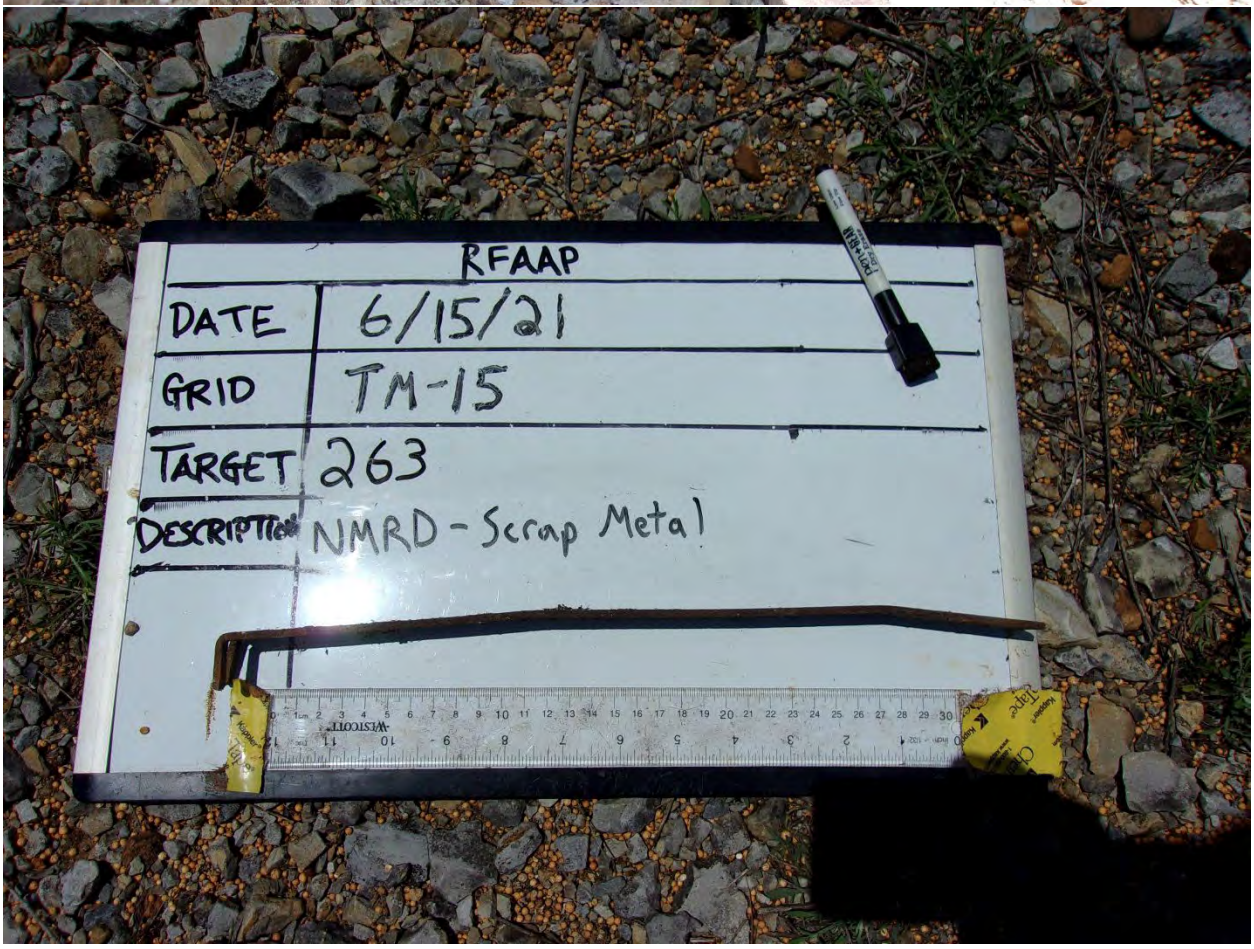

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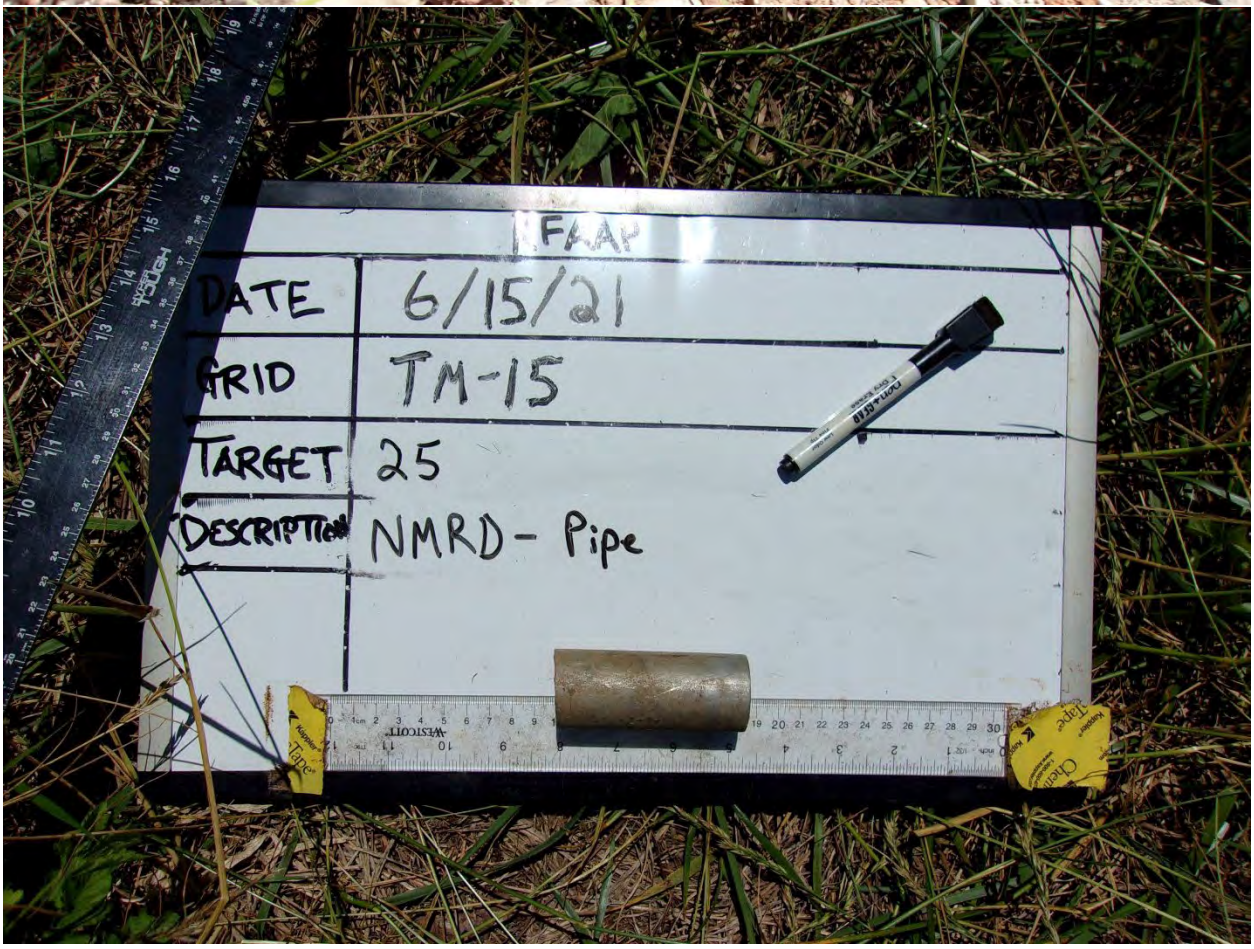

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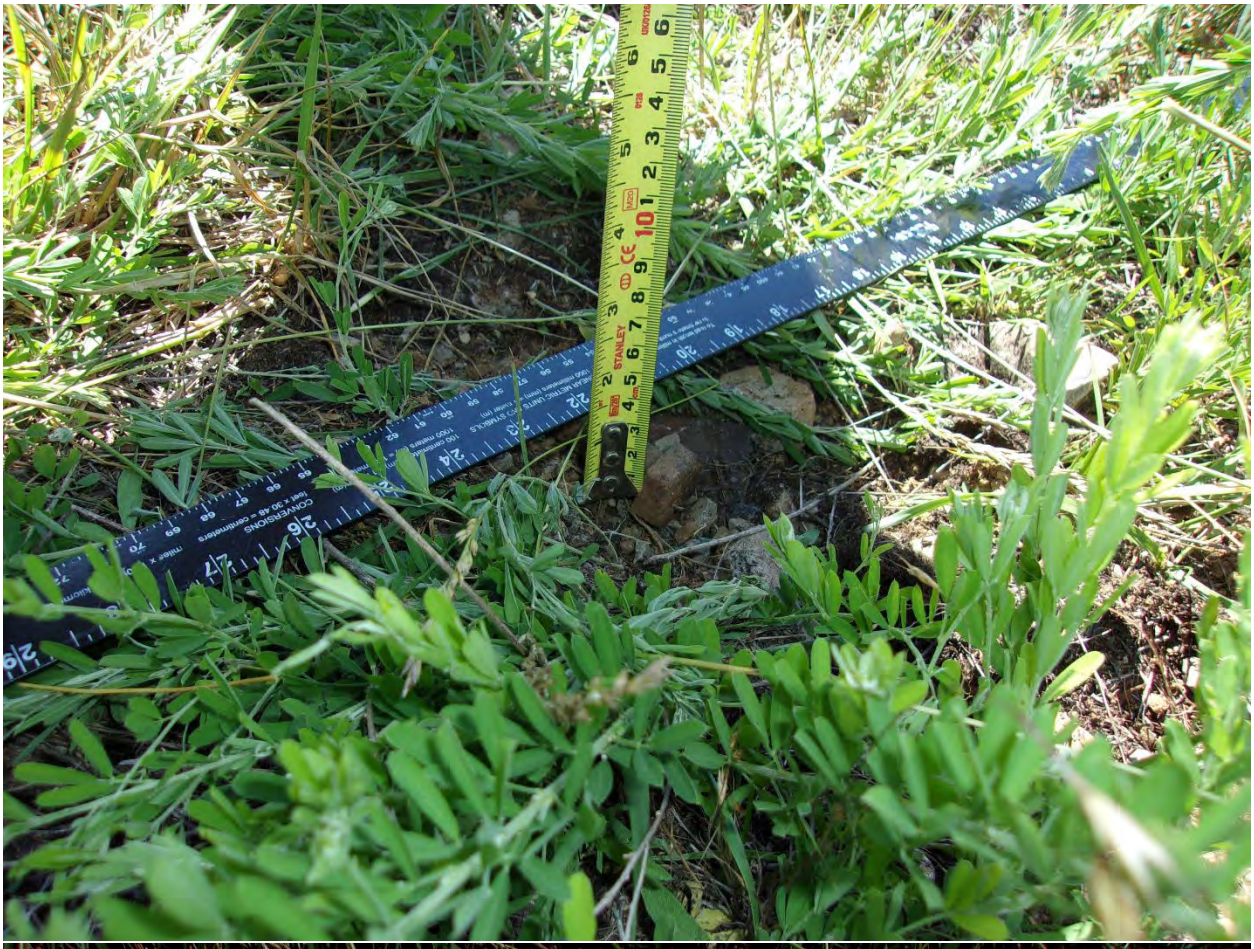



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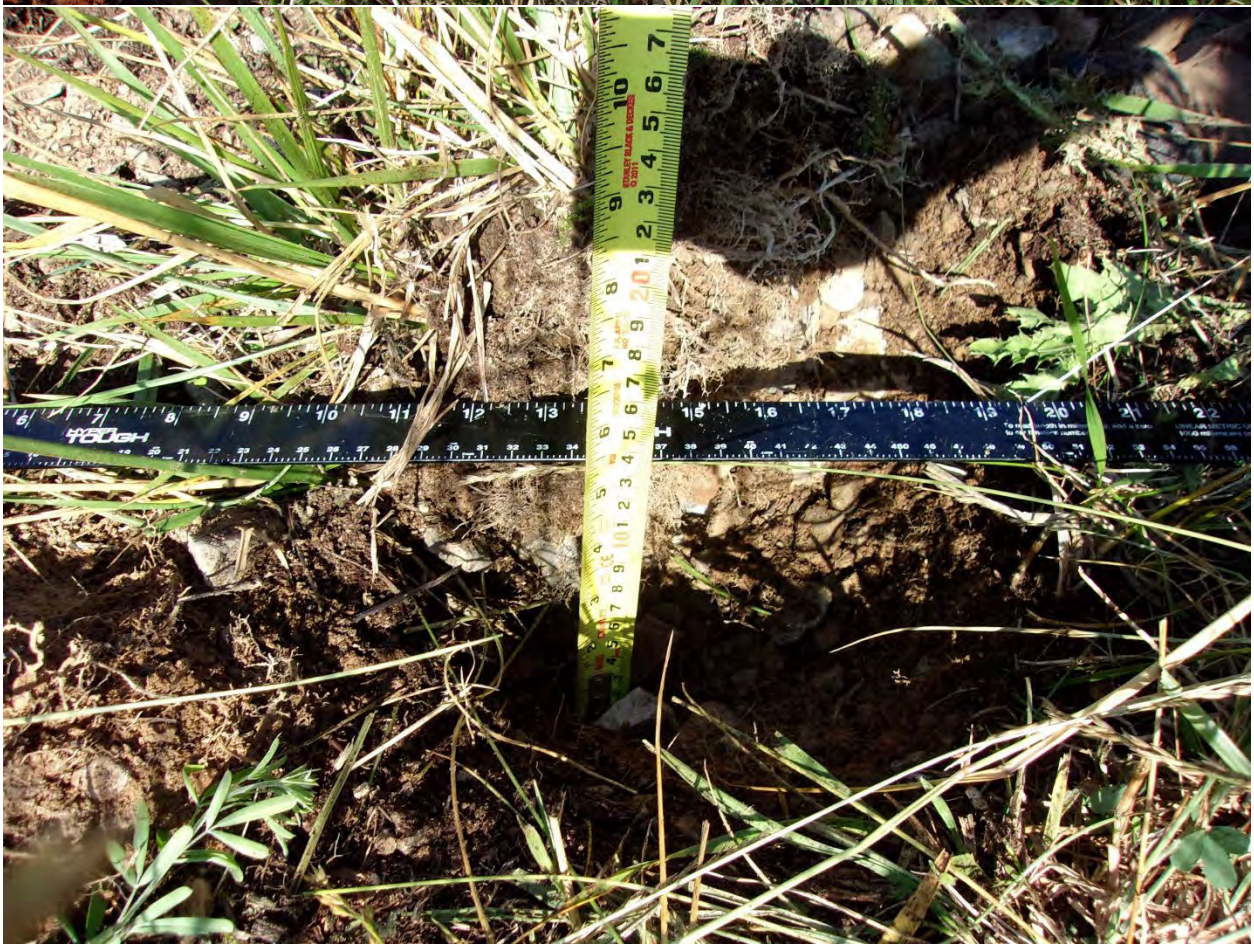

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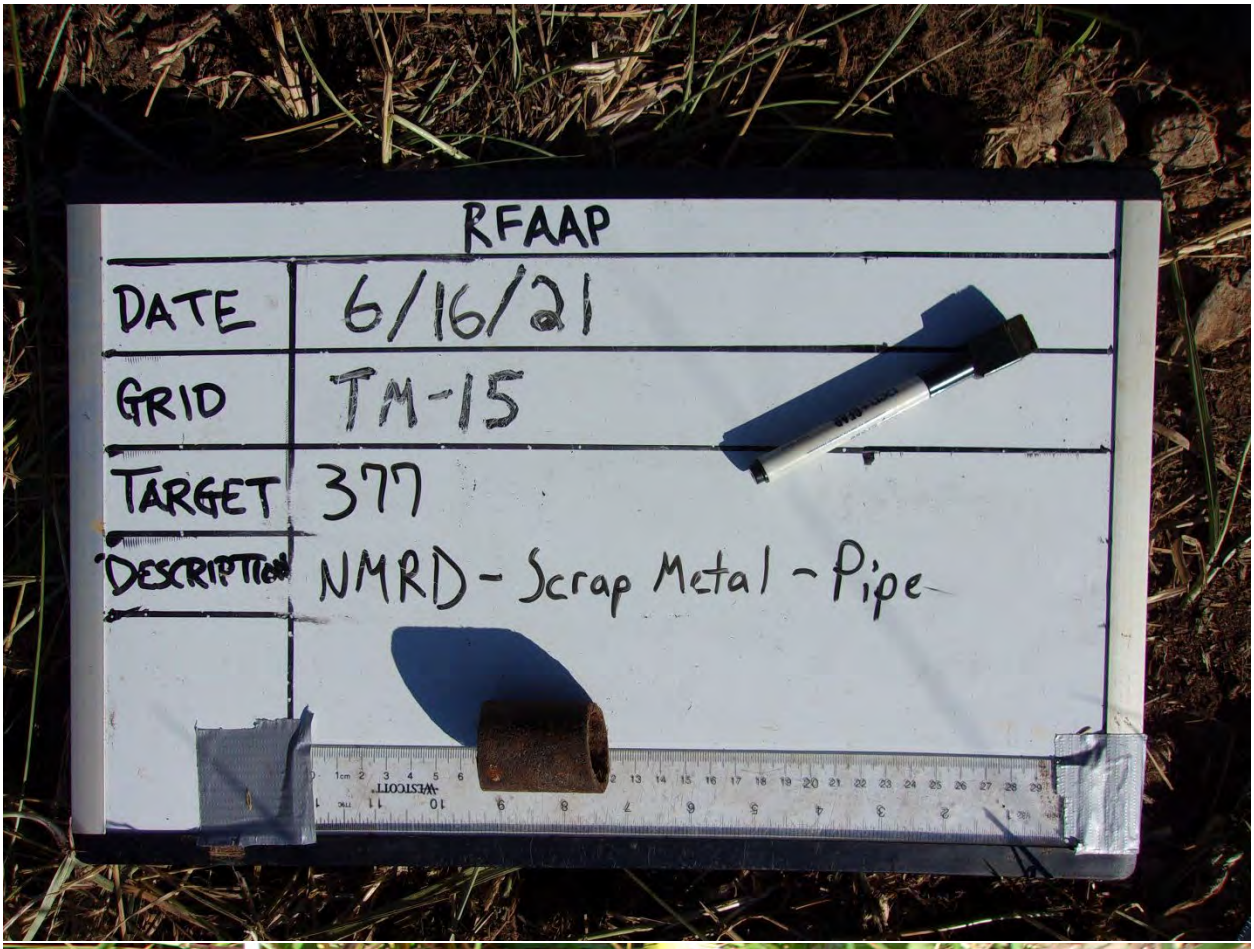

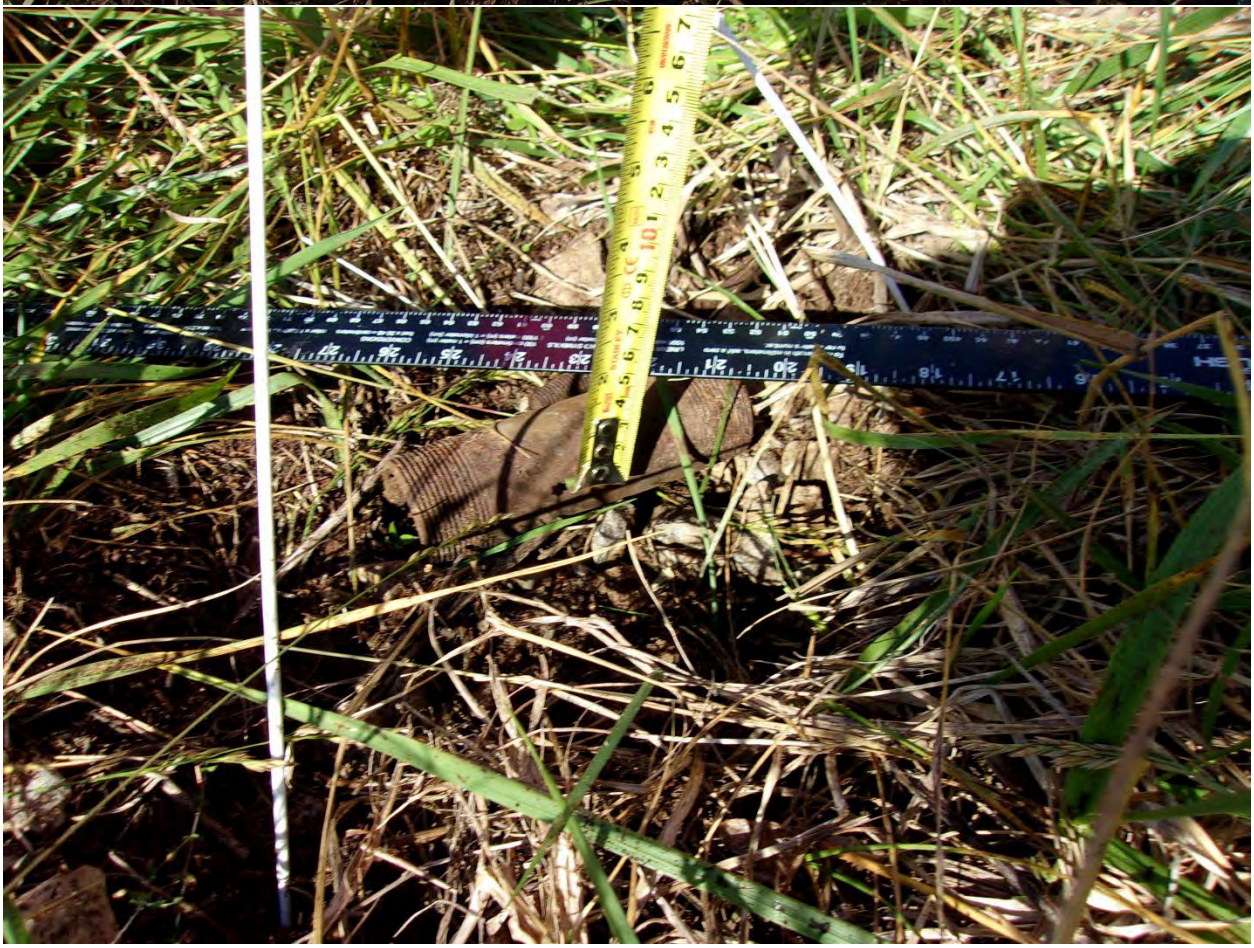

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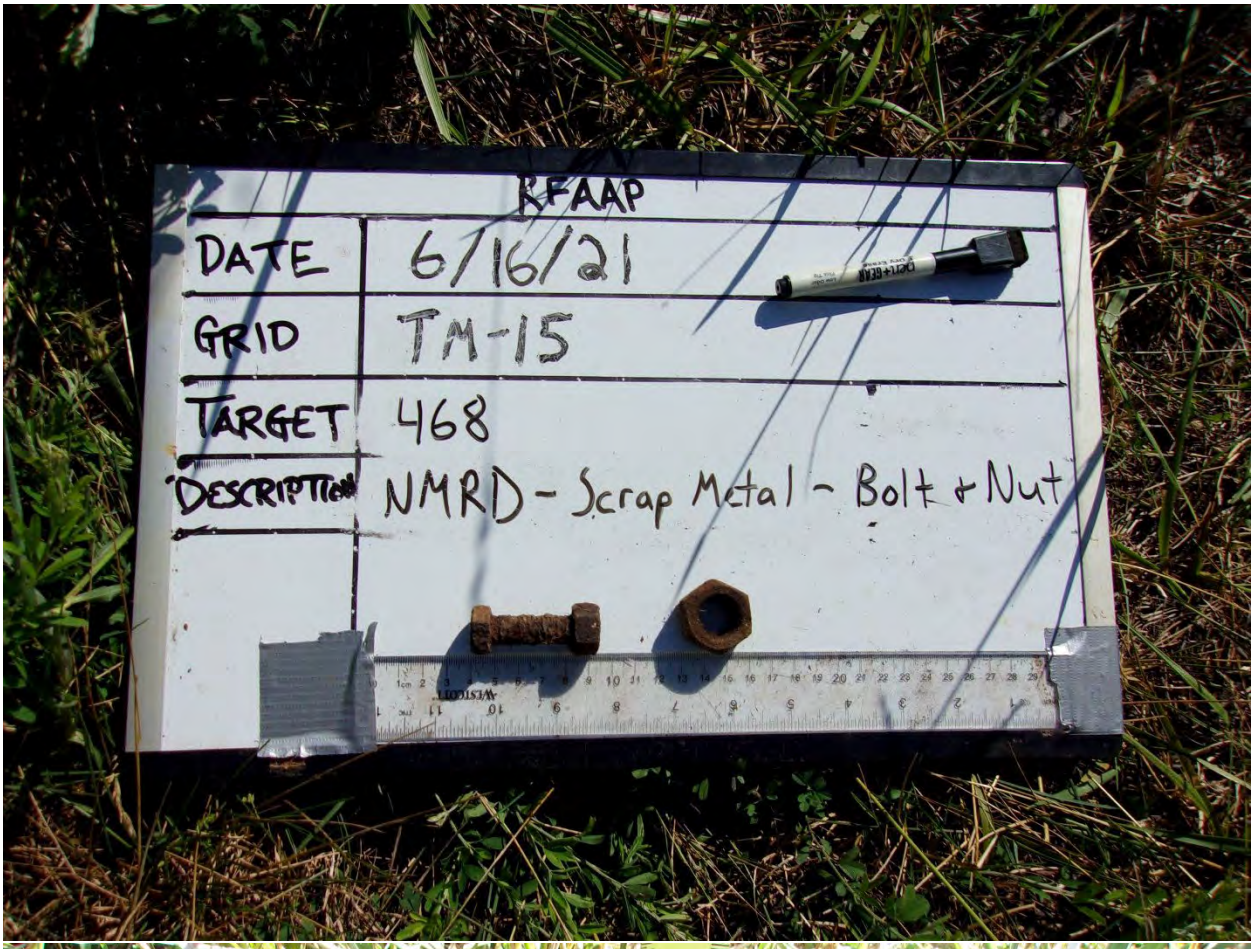



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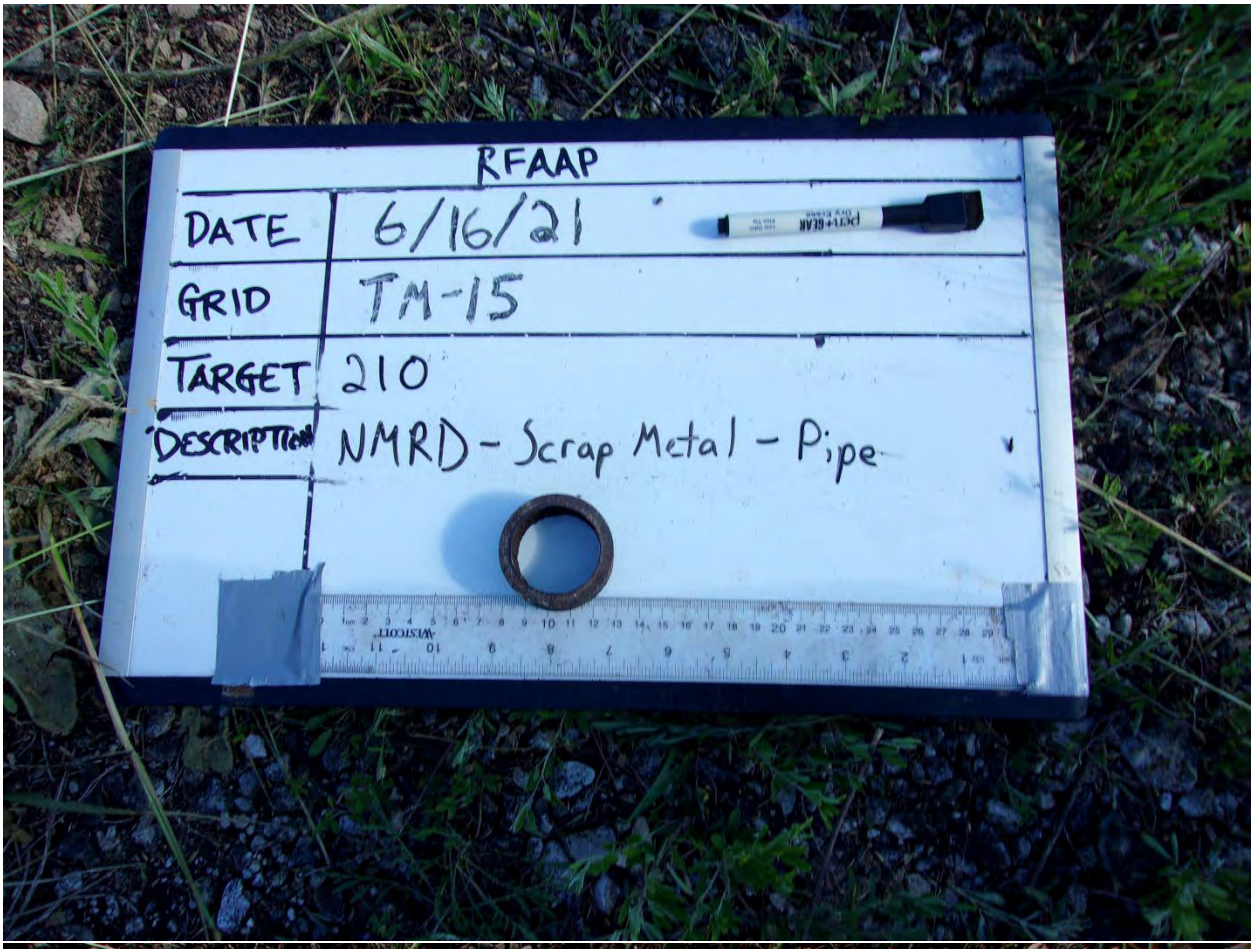



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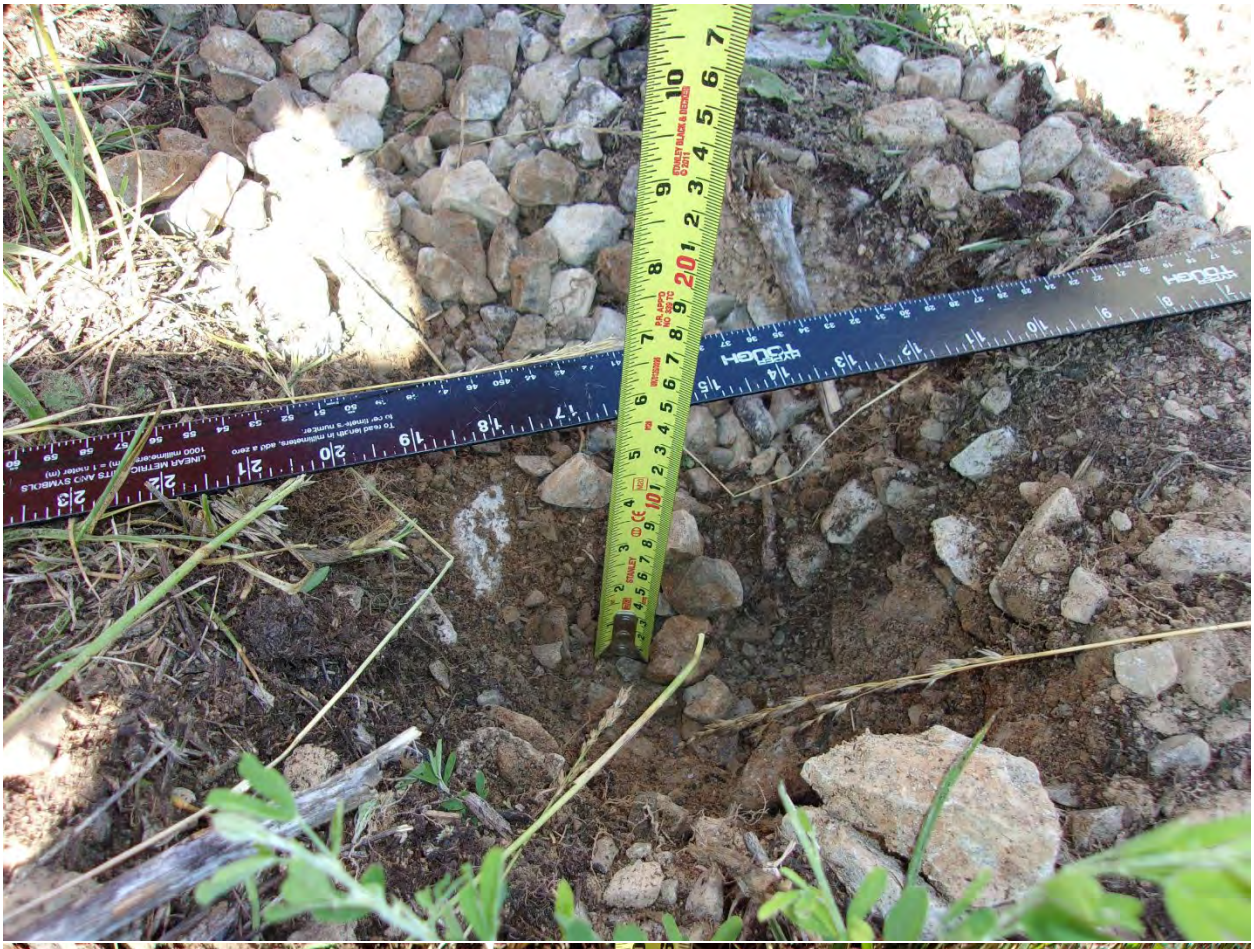



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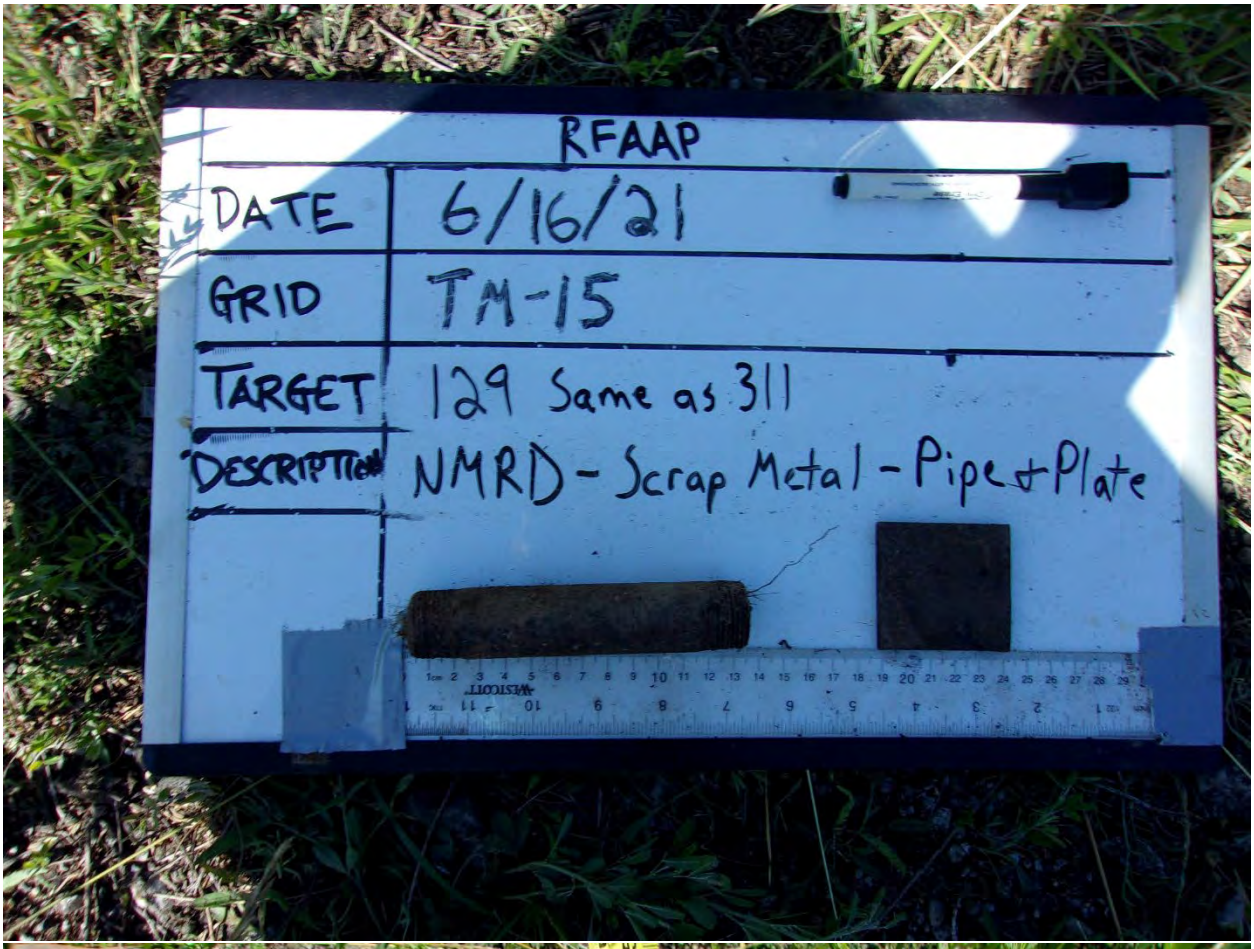



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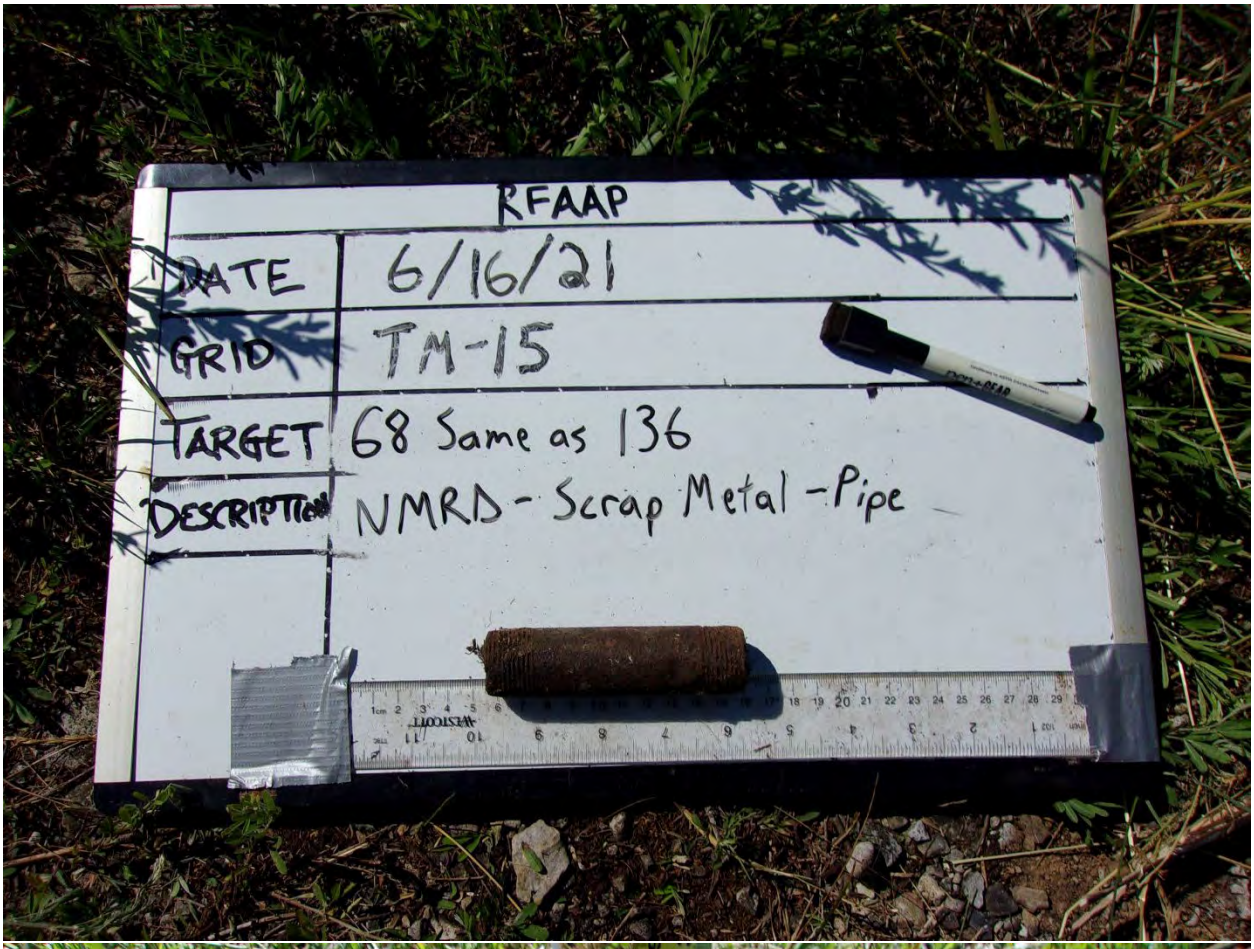



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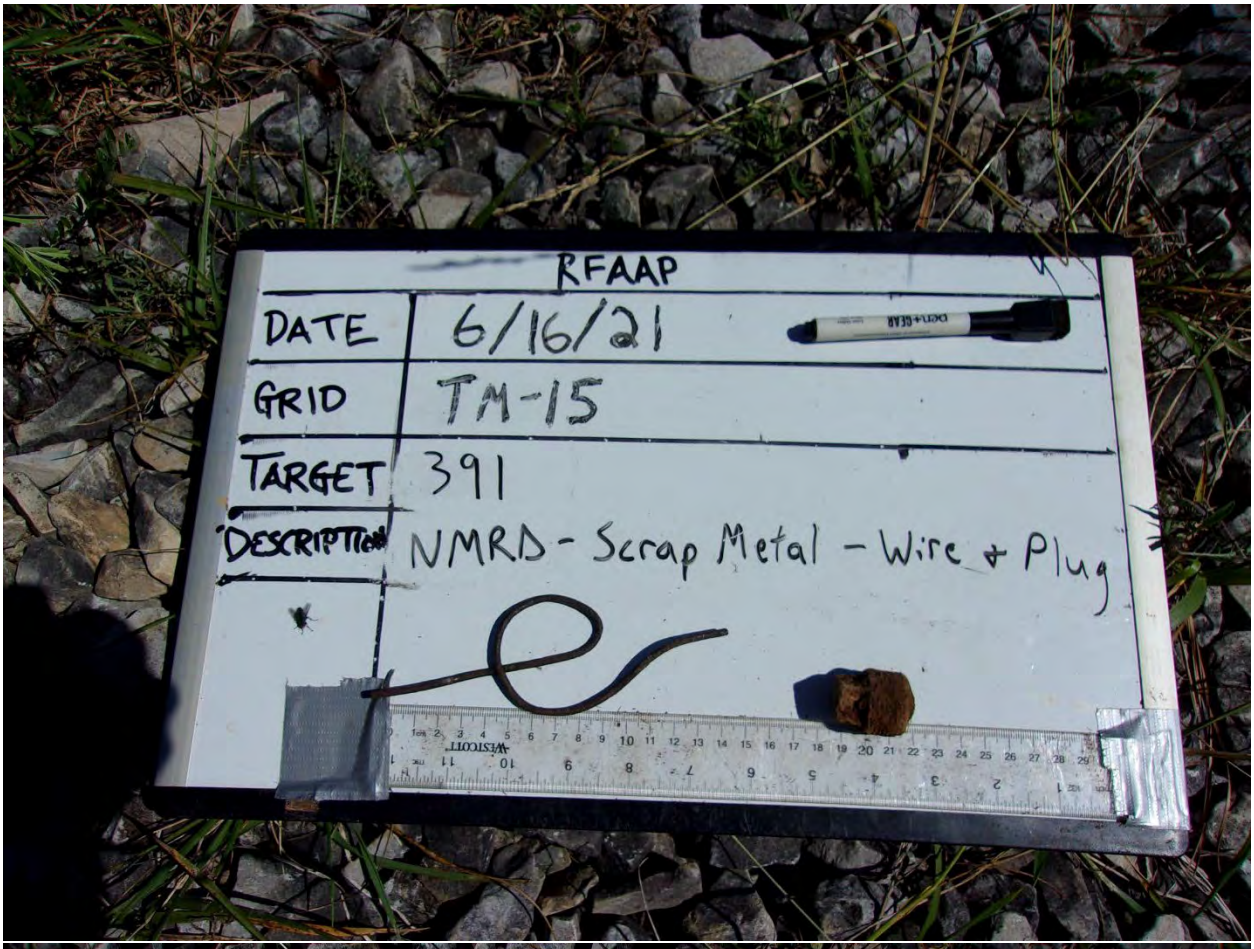



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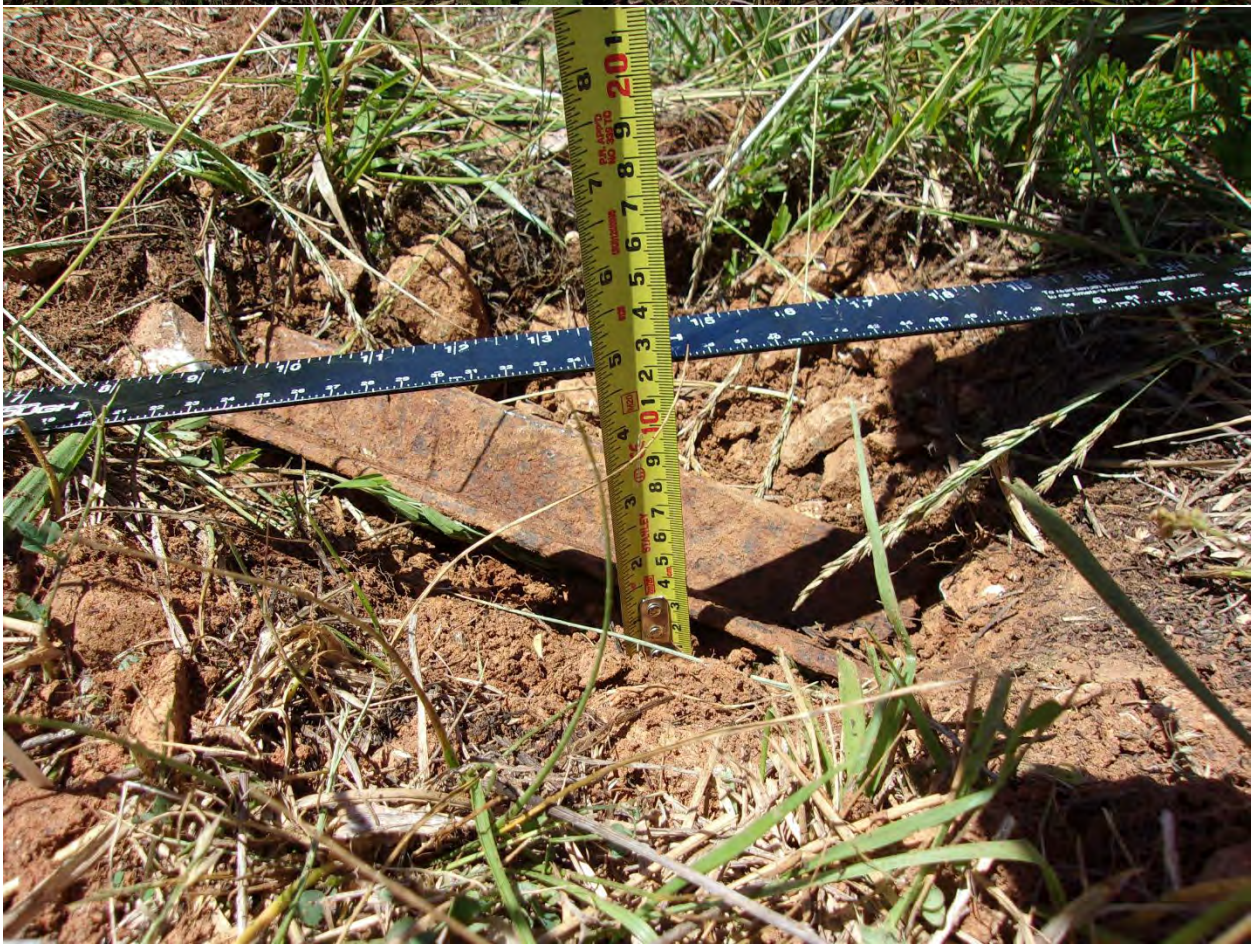

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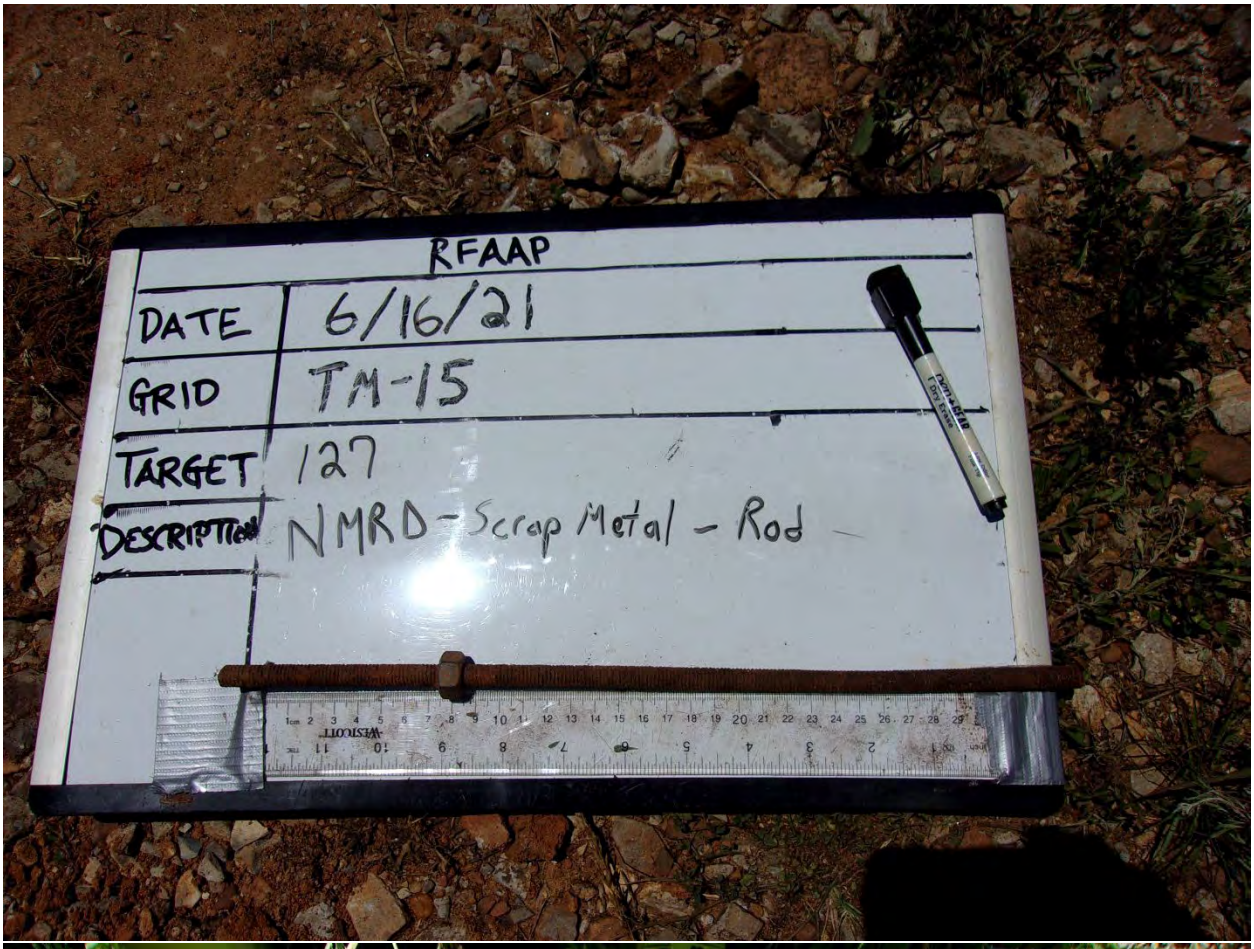



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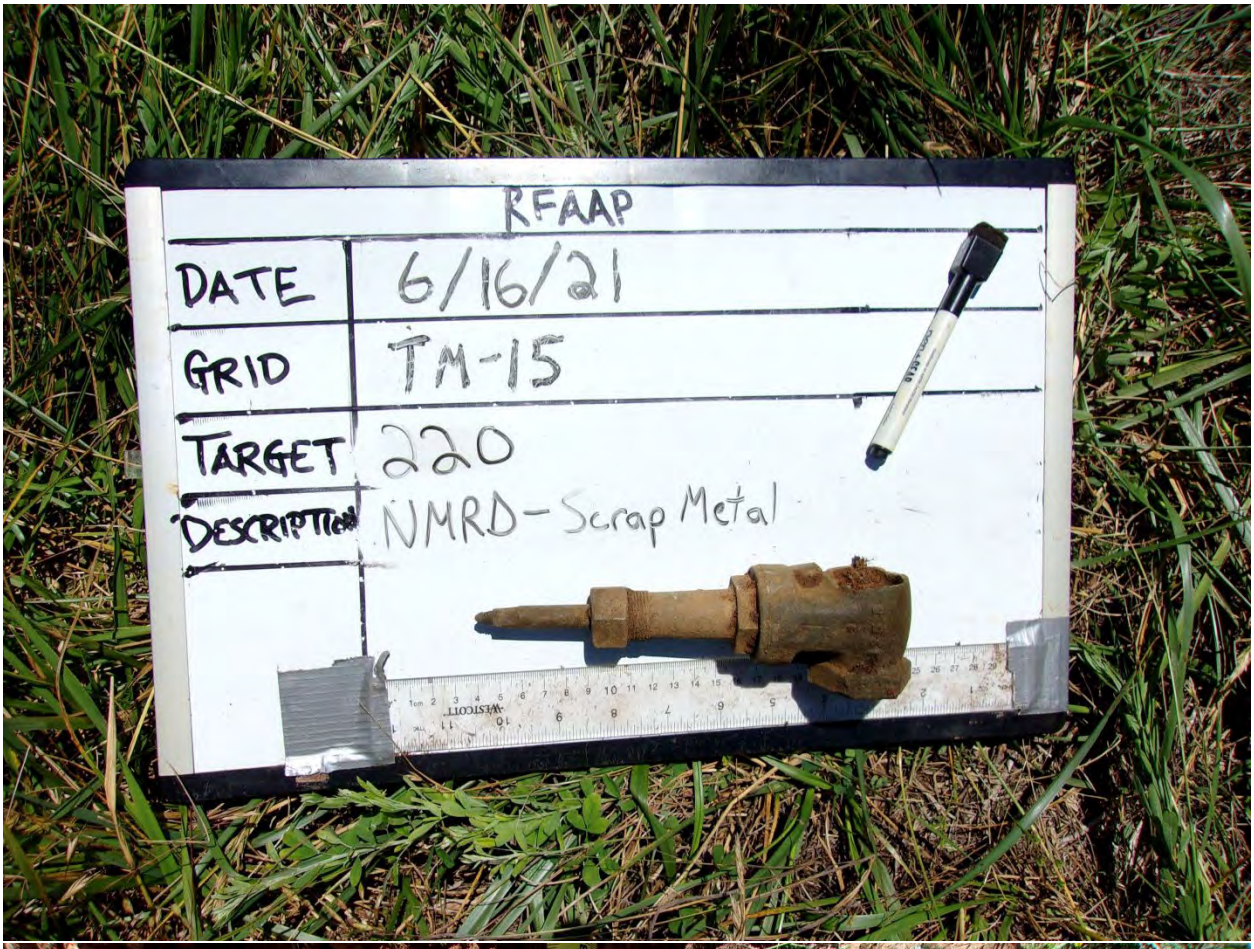



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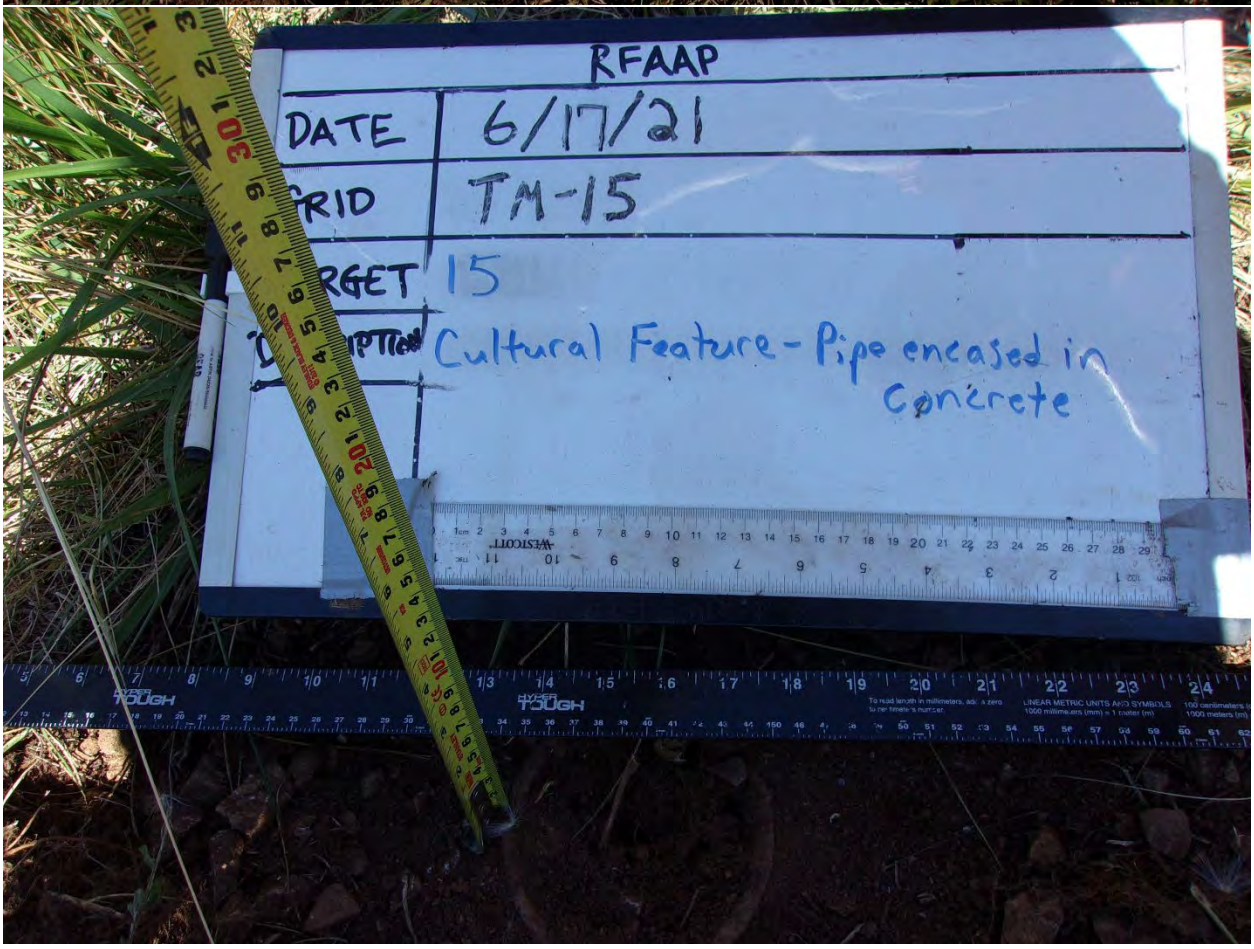

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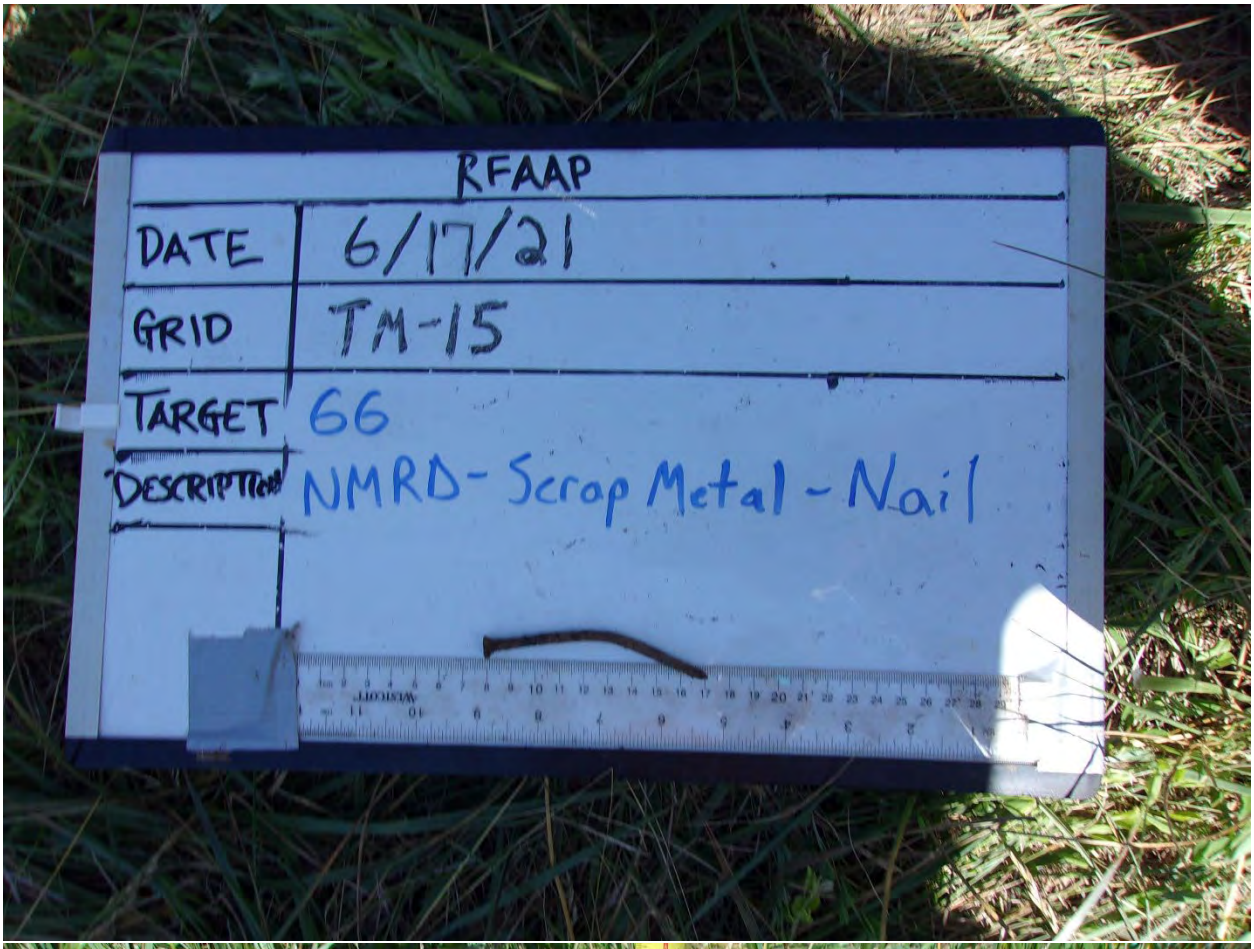



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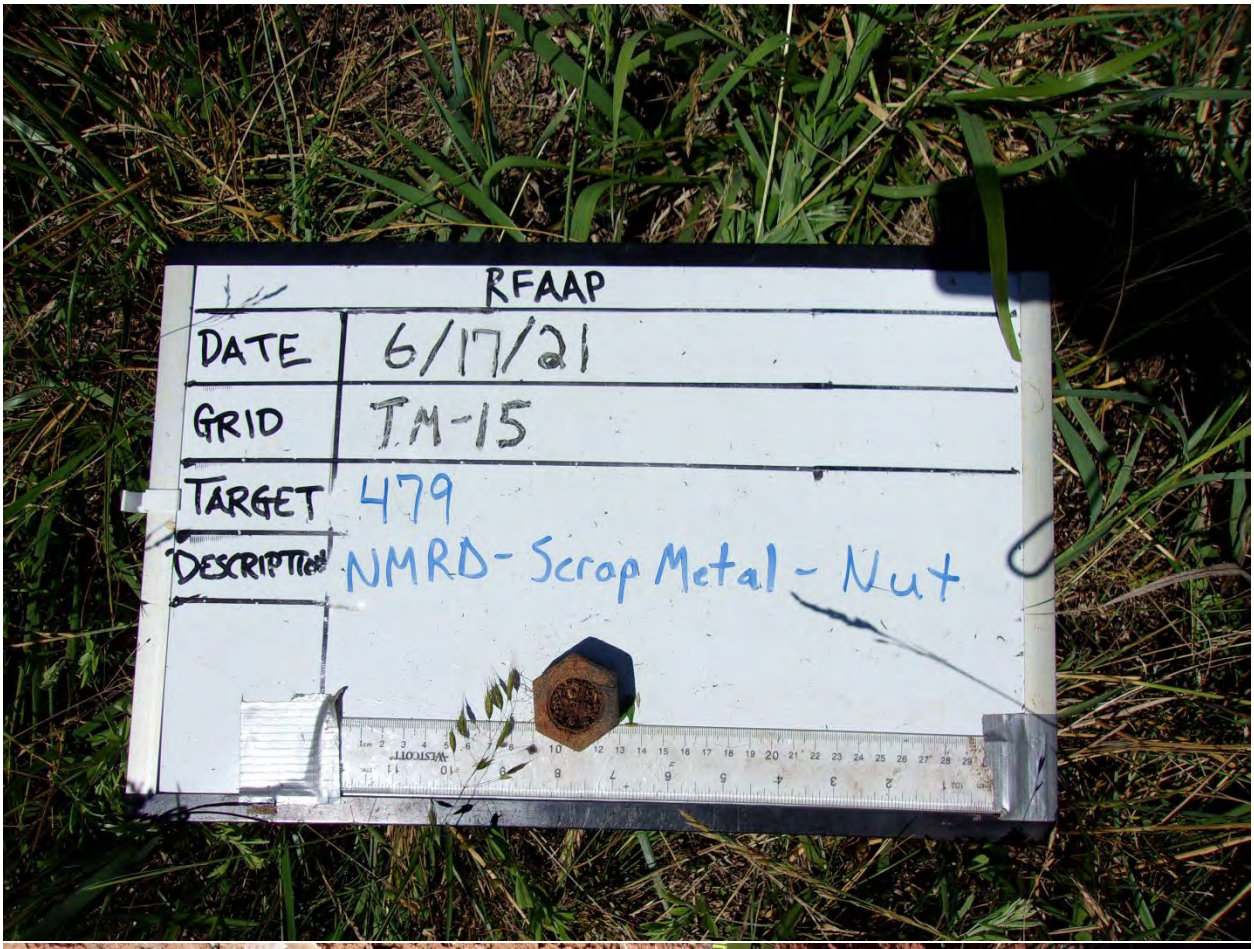



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AGC Intrusive Photos: TM-15





AGC Intrusive Photos: TM-15





AGC Intrusive Photos: TM-16





AGC Intrusive Photos: TM-16





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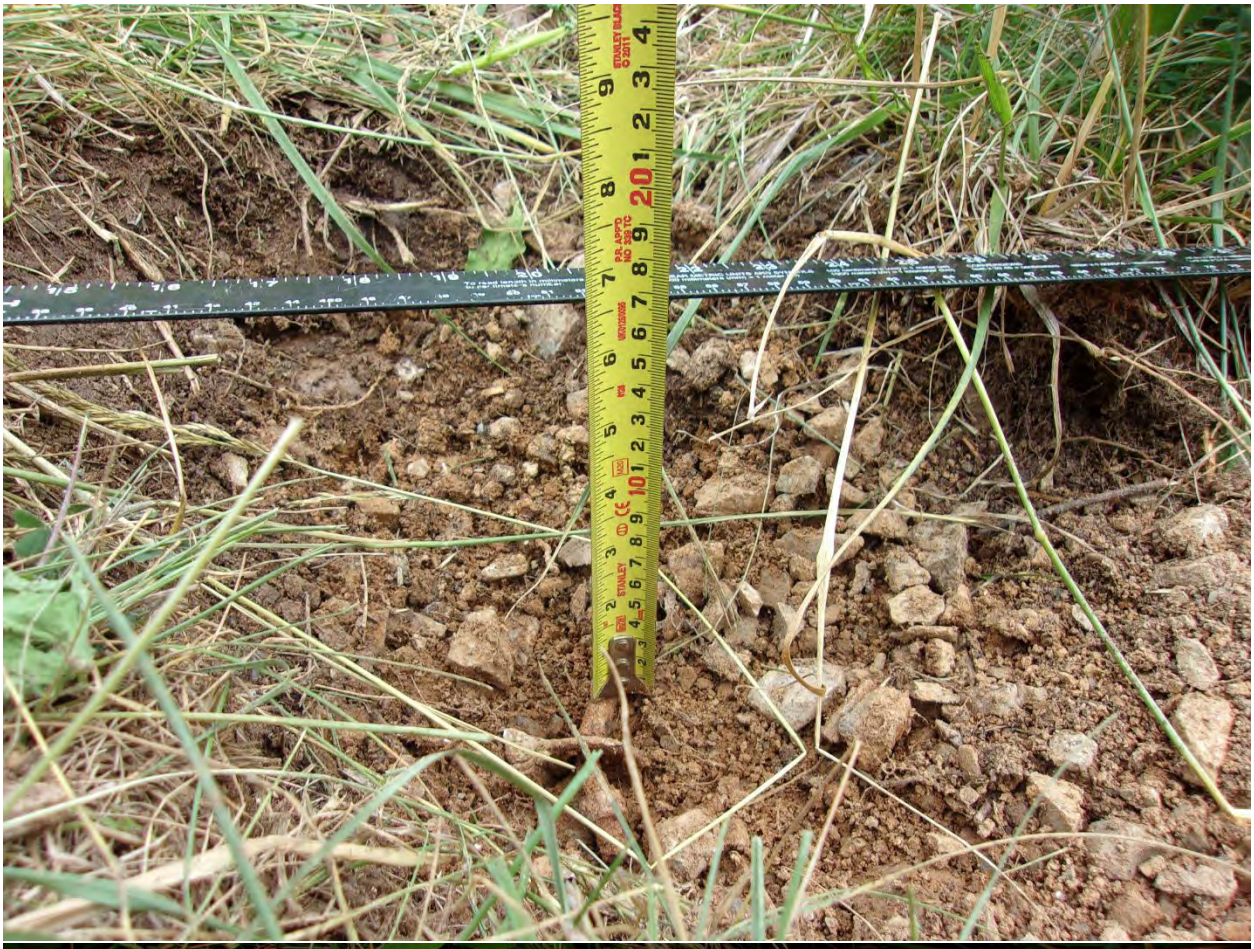
AGC Intrusive Photos: TM-16





AGC Intrusive Photos: TM-16





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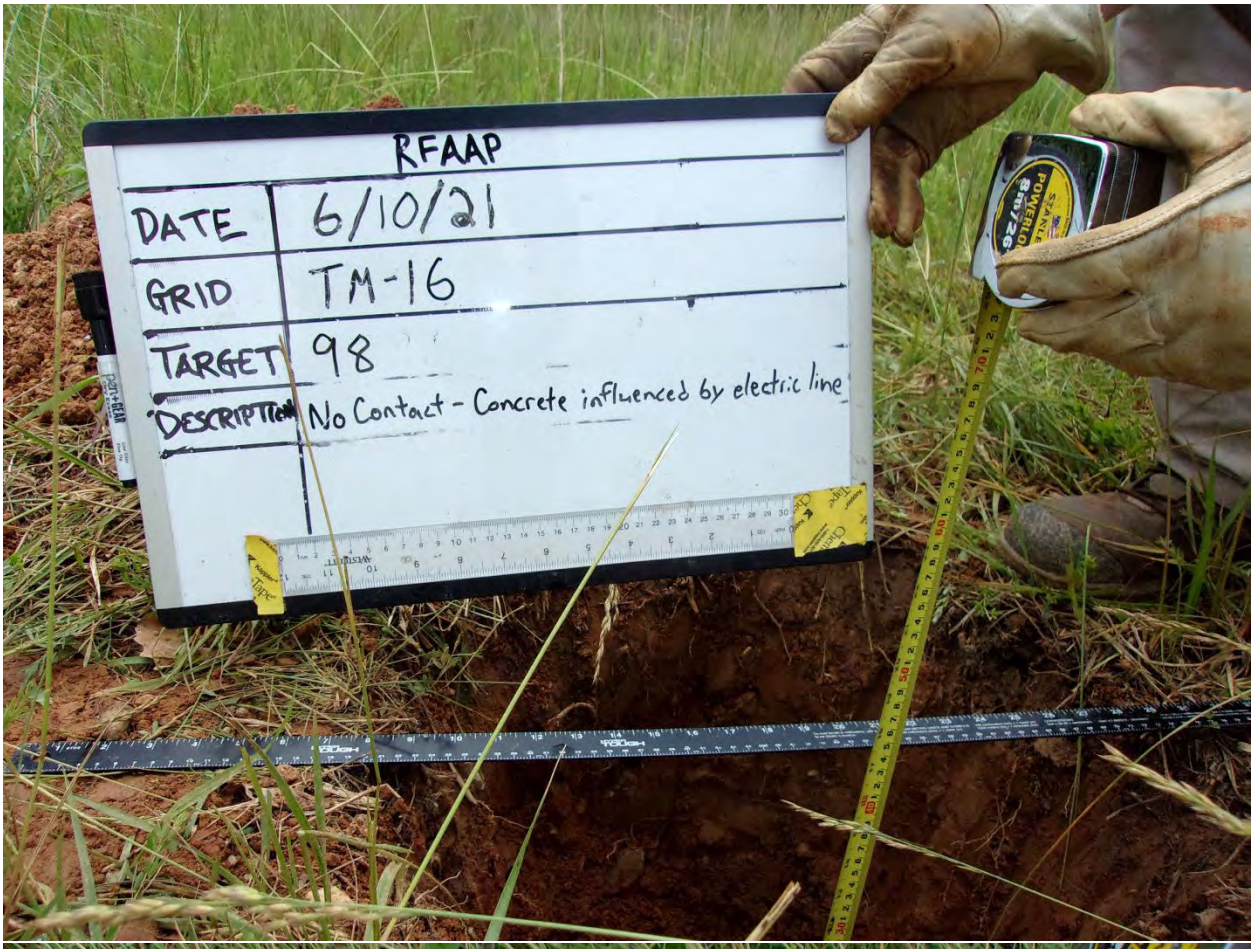



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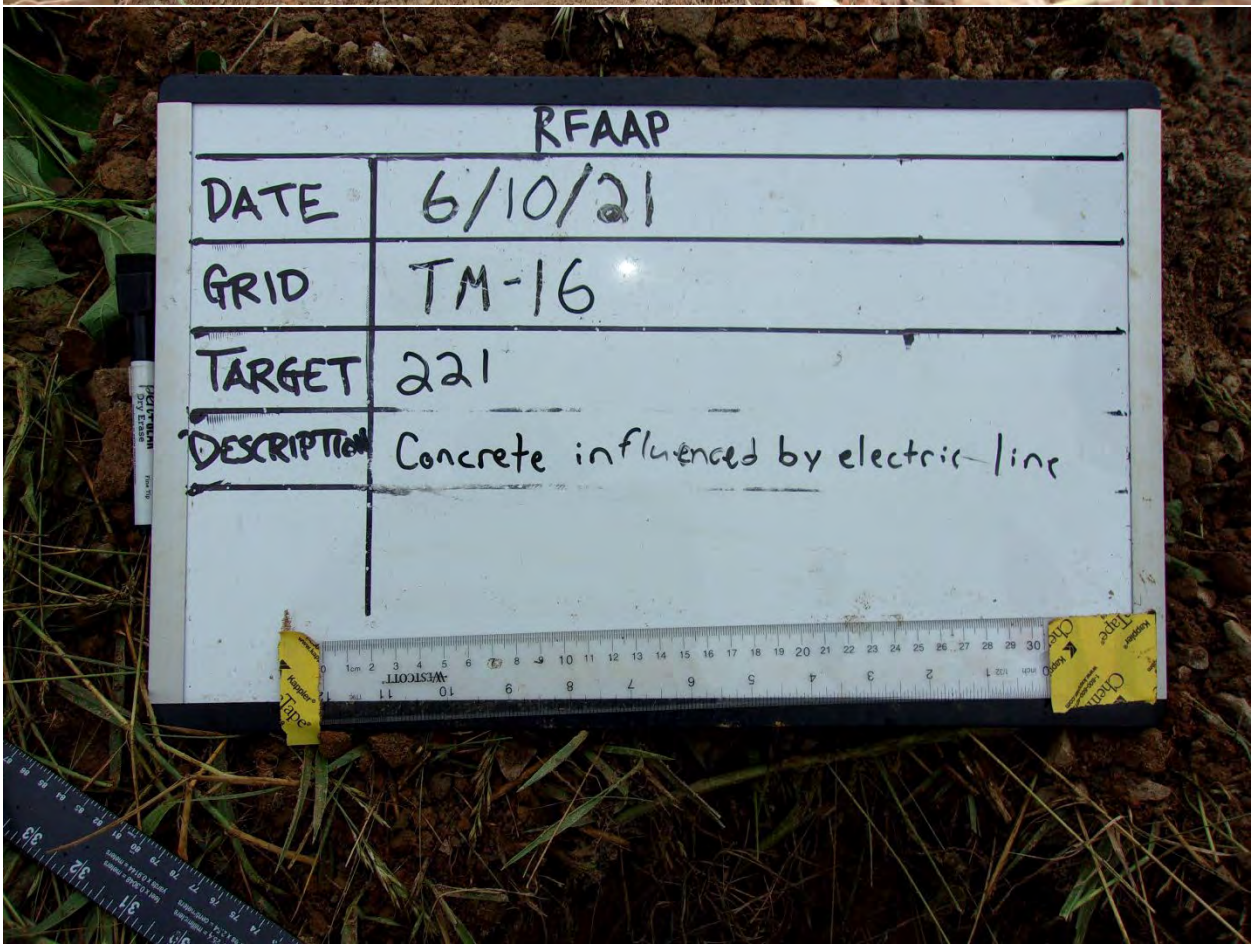

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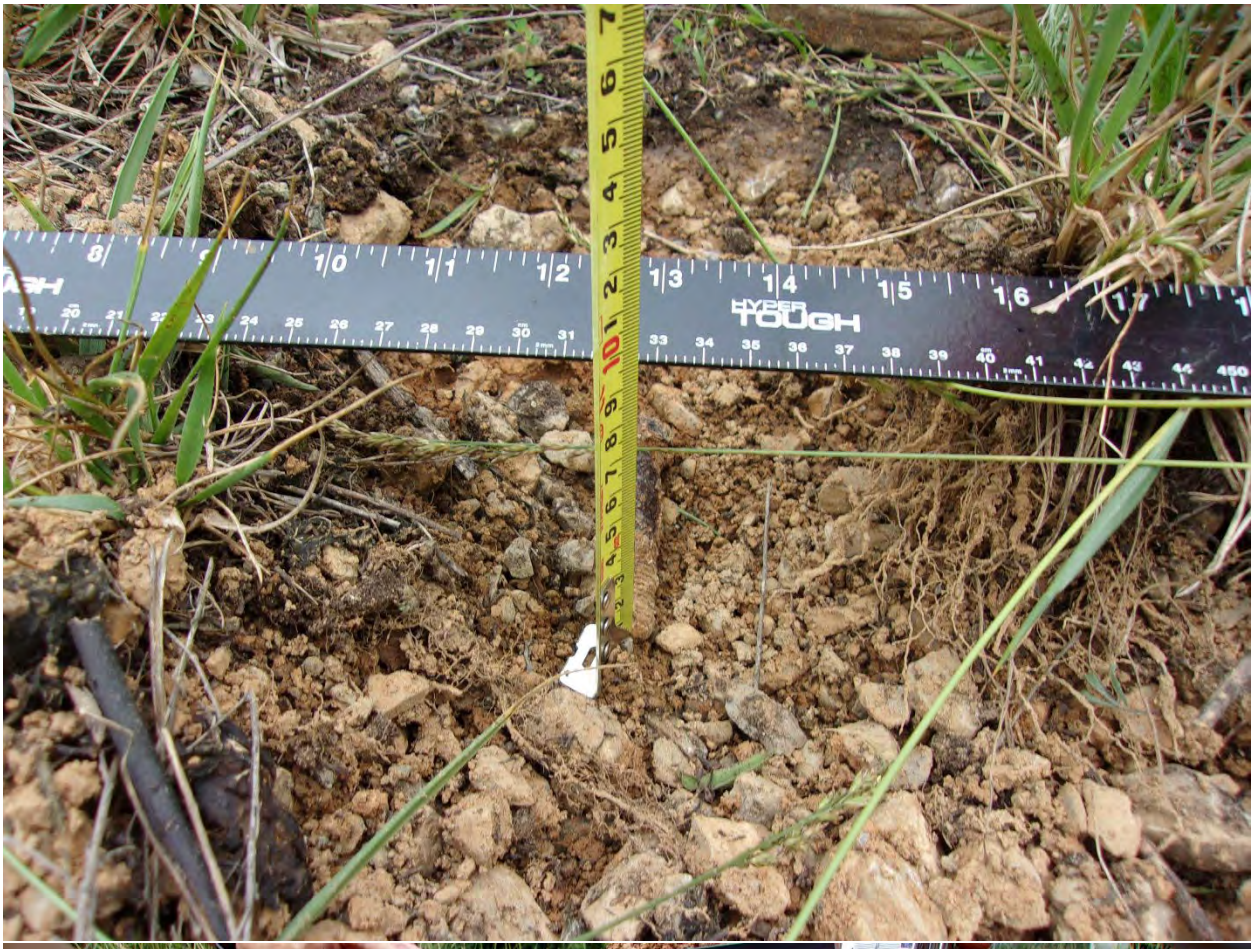



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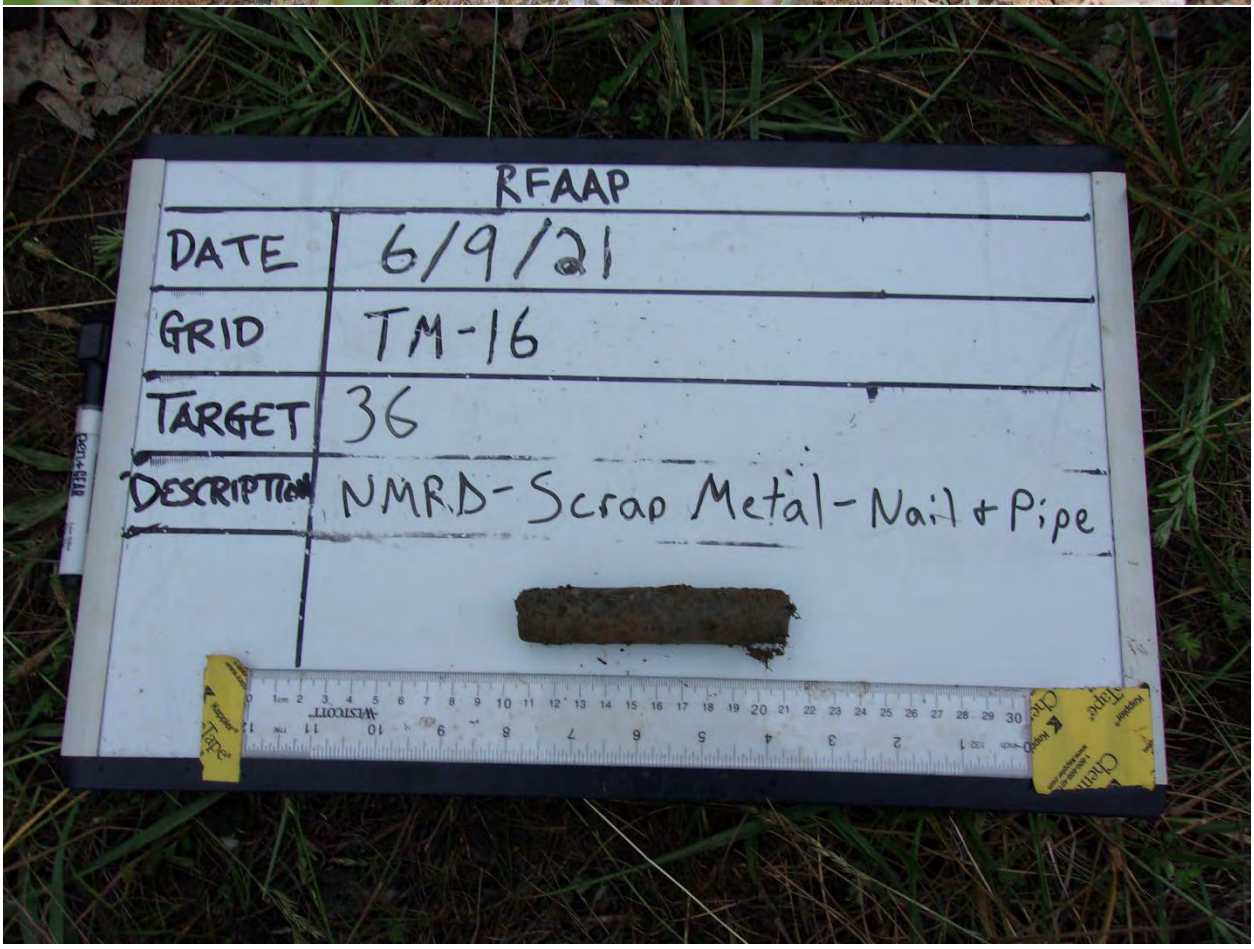

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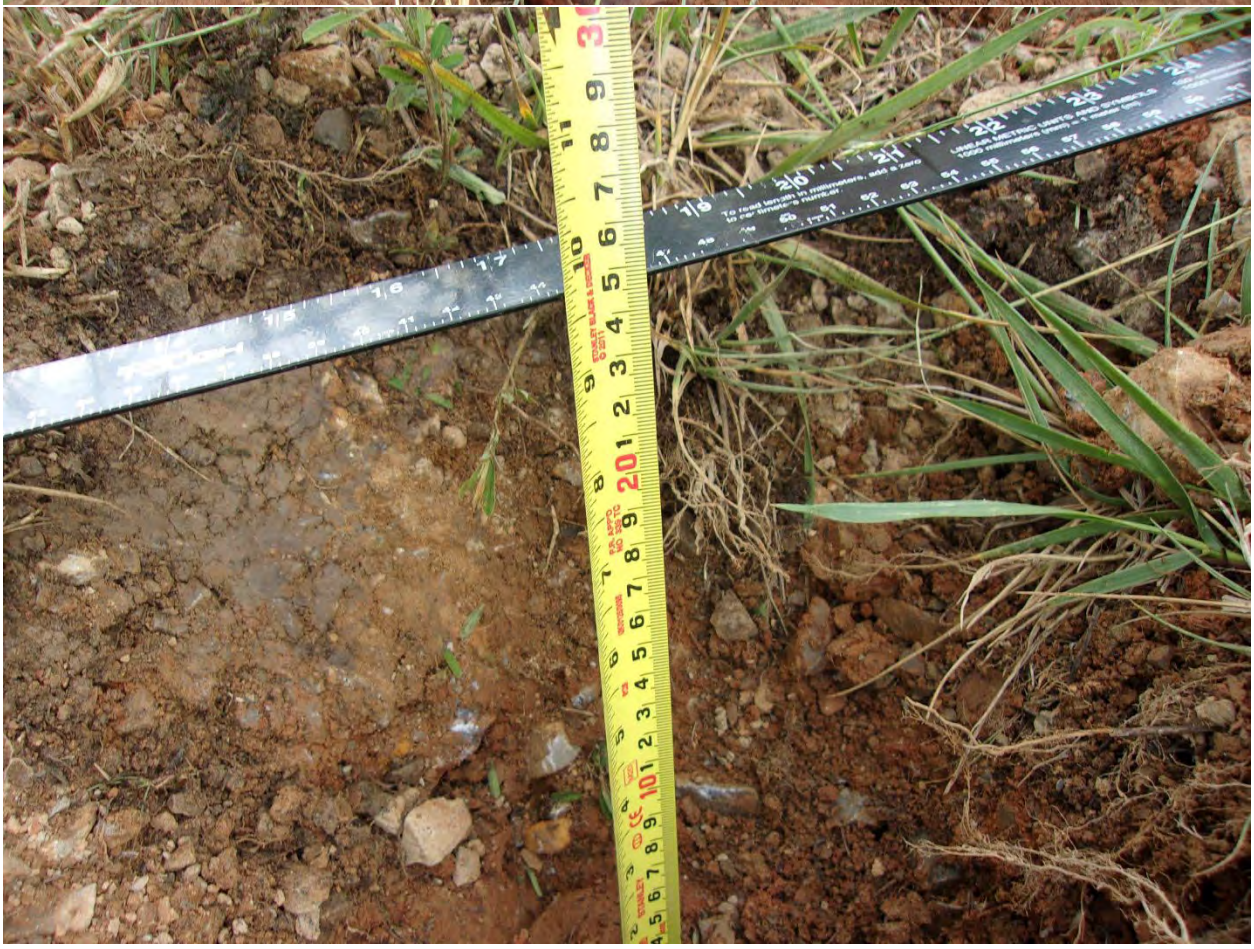

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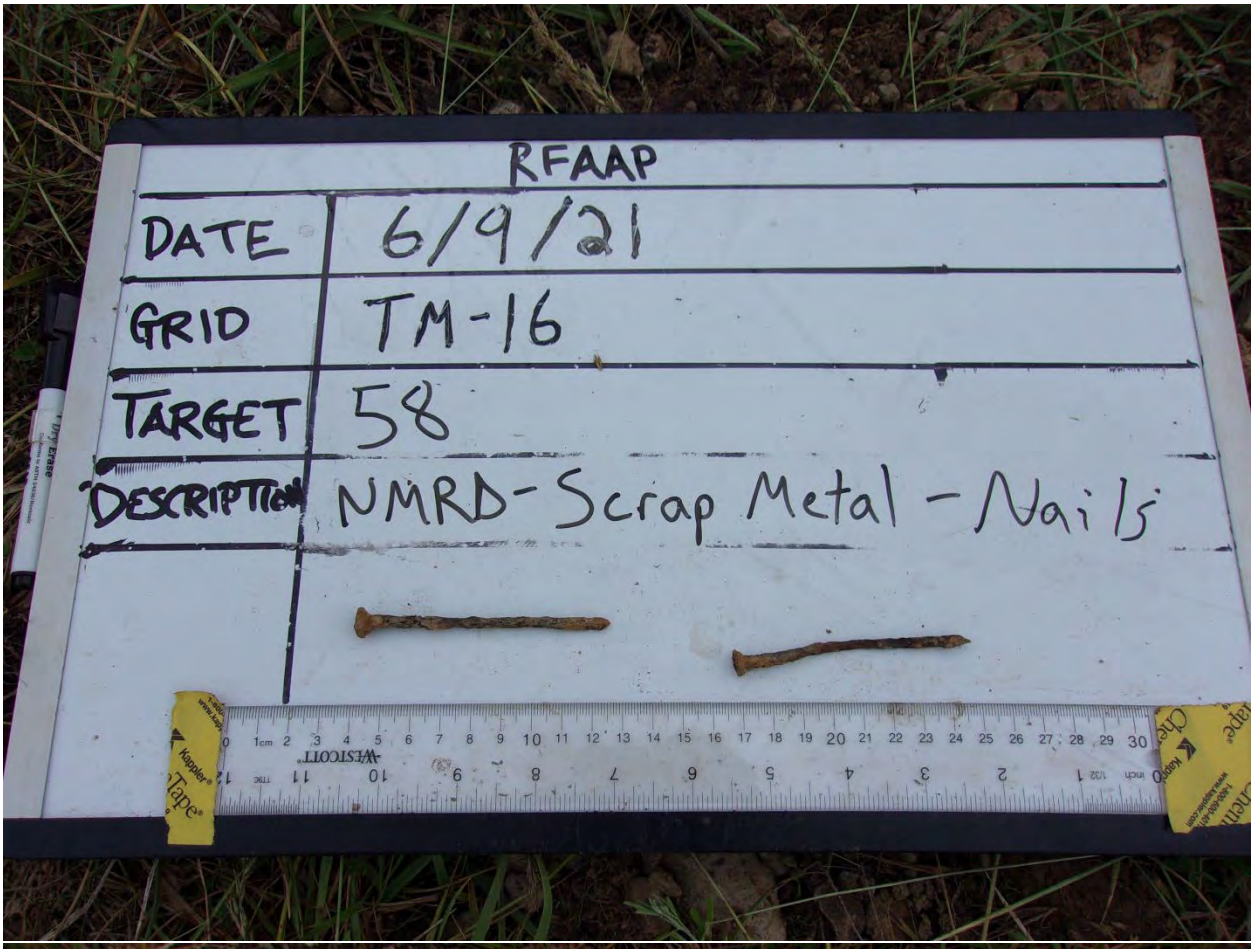



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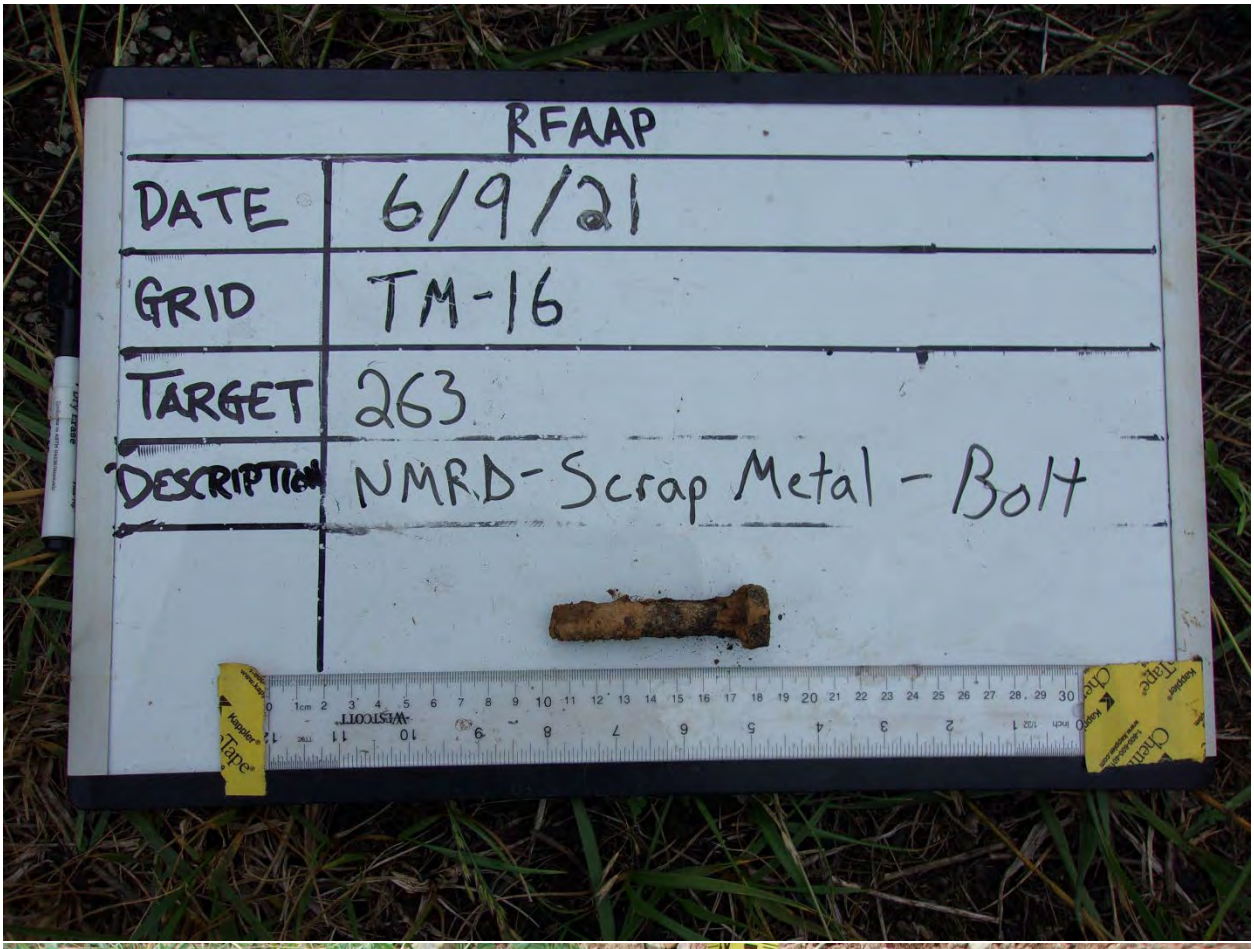

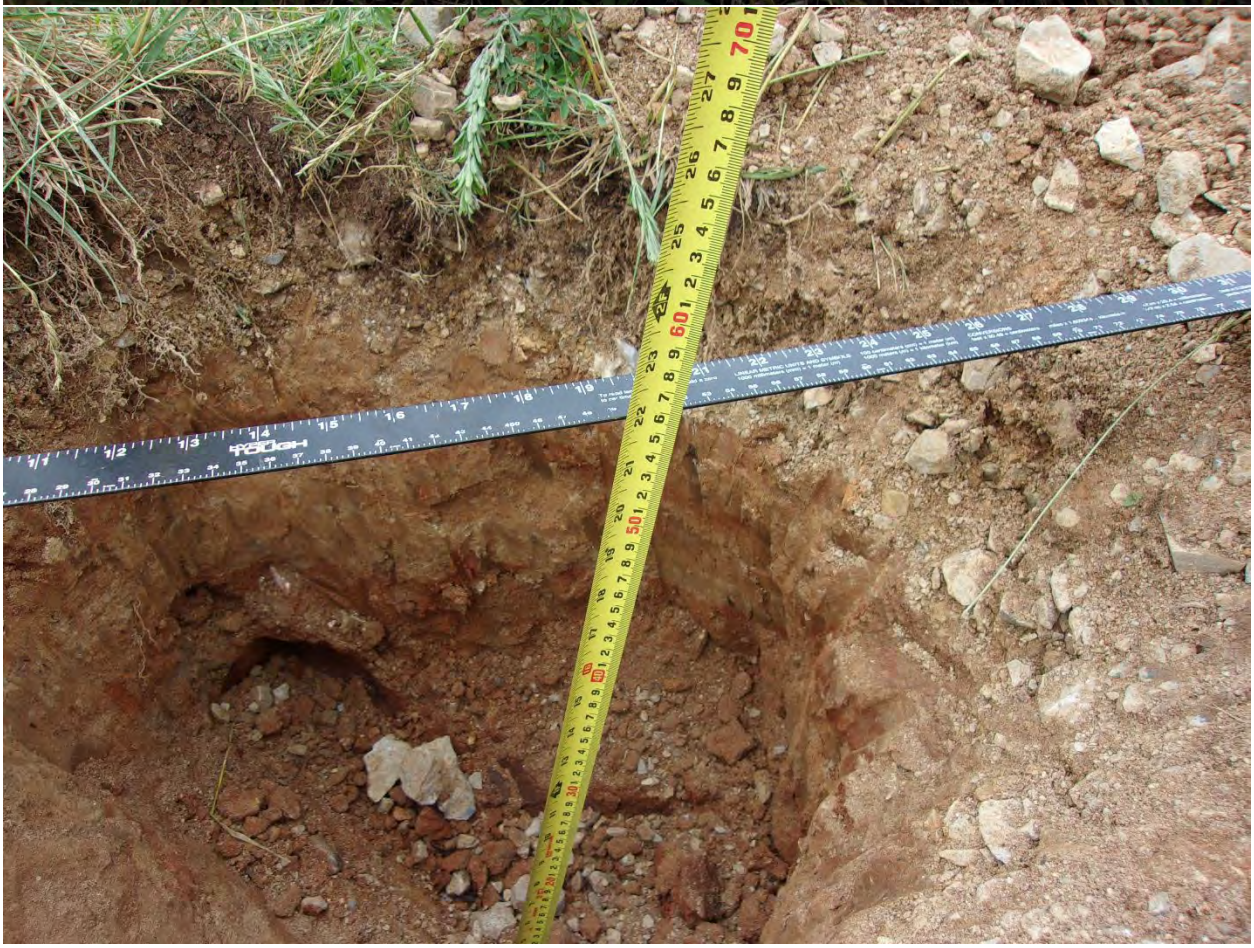

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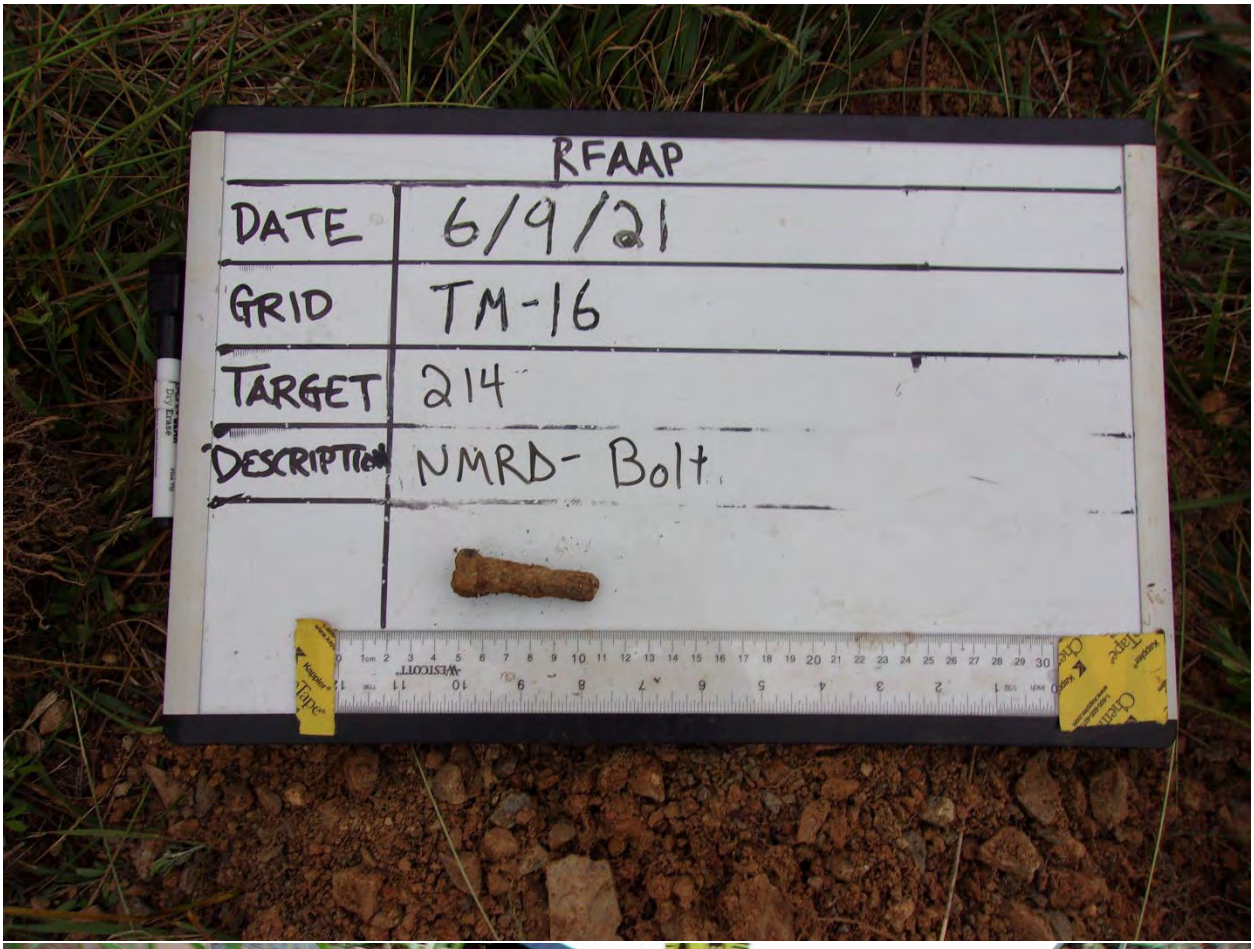



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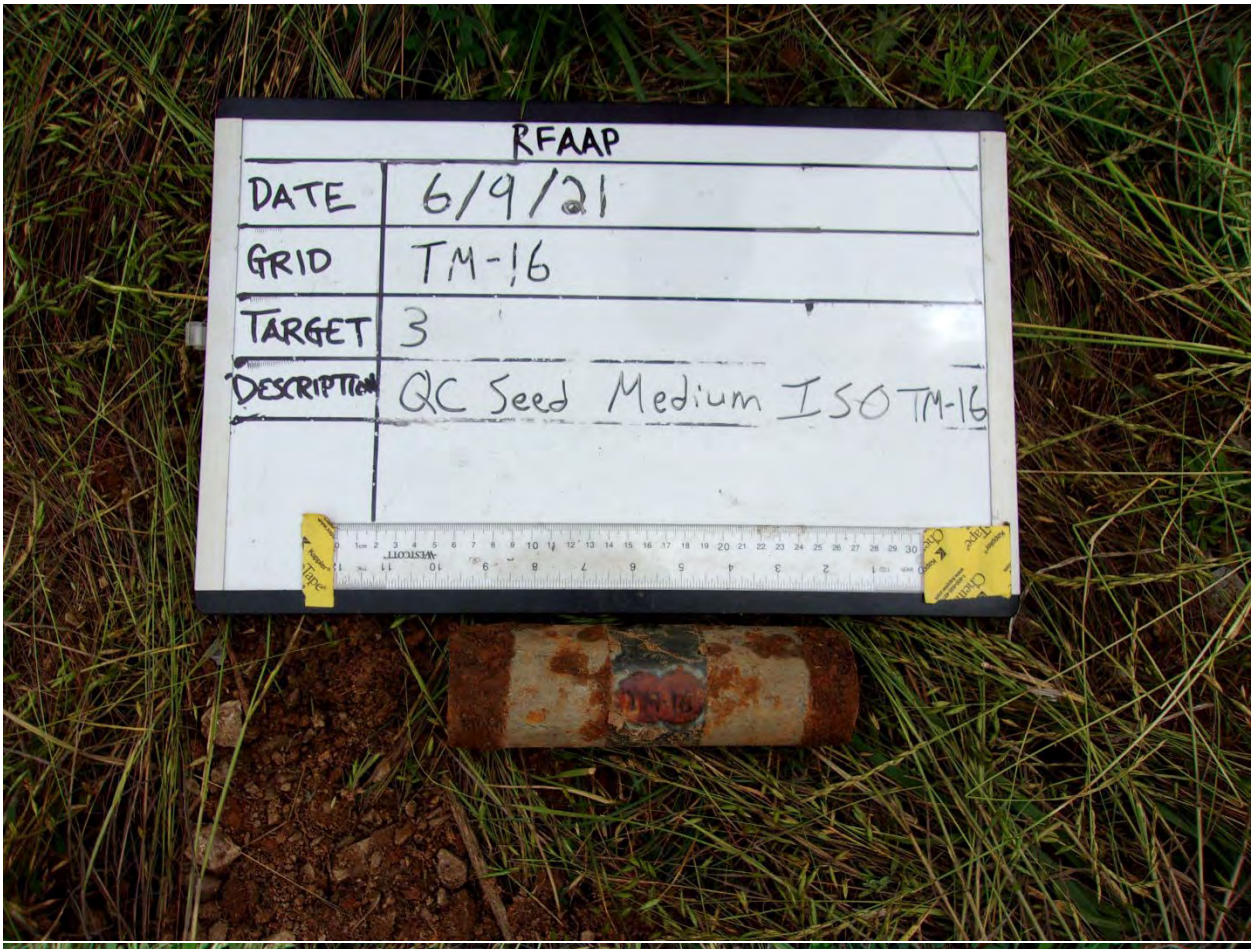



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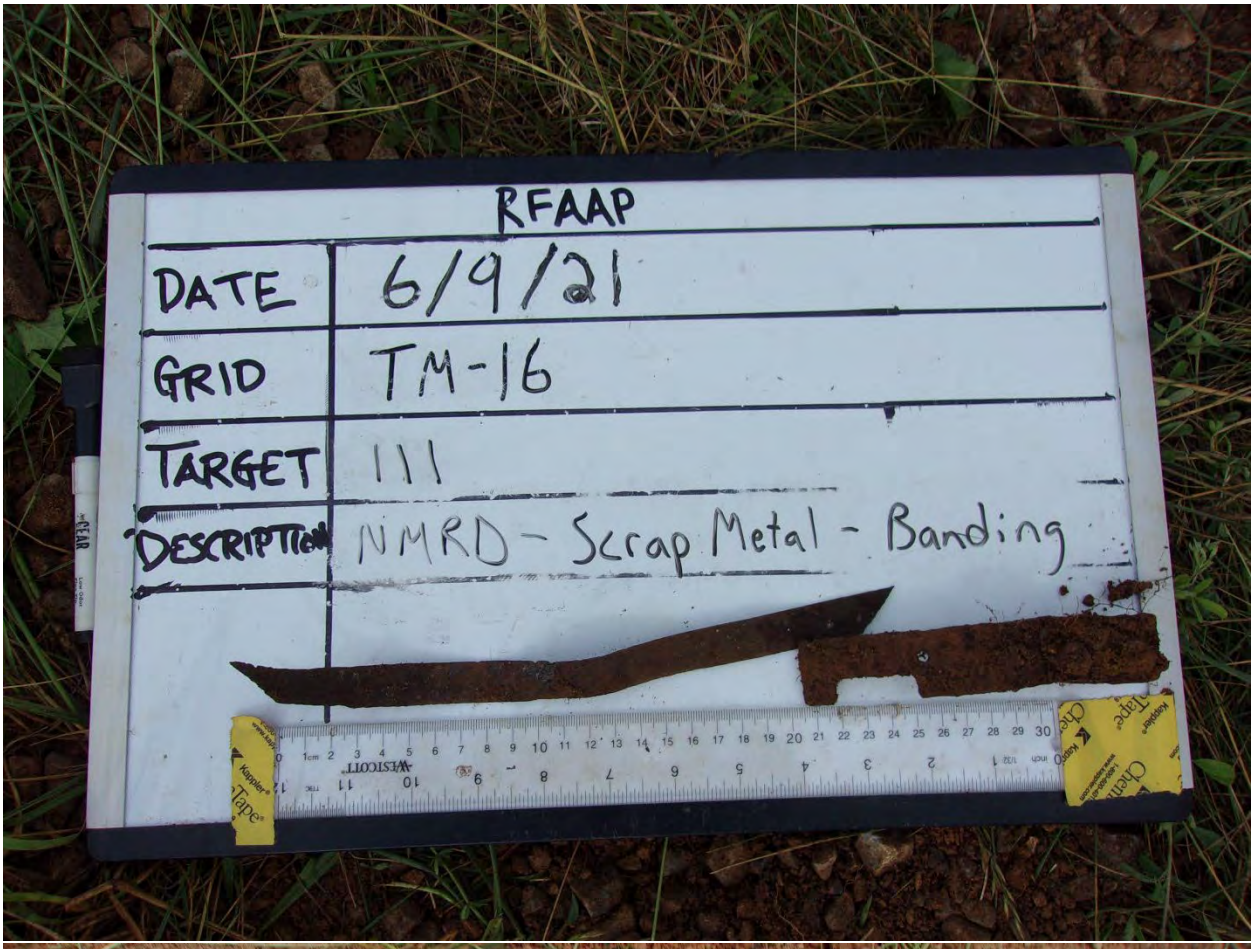



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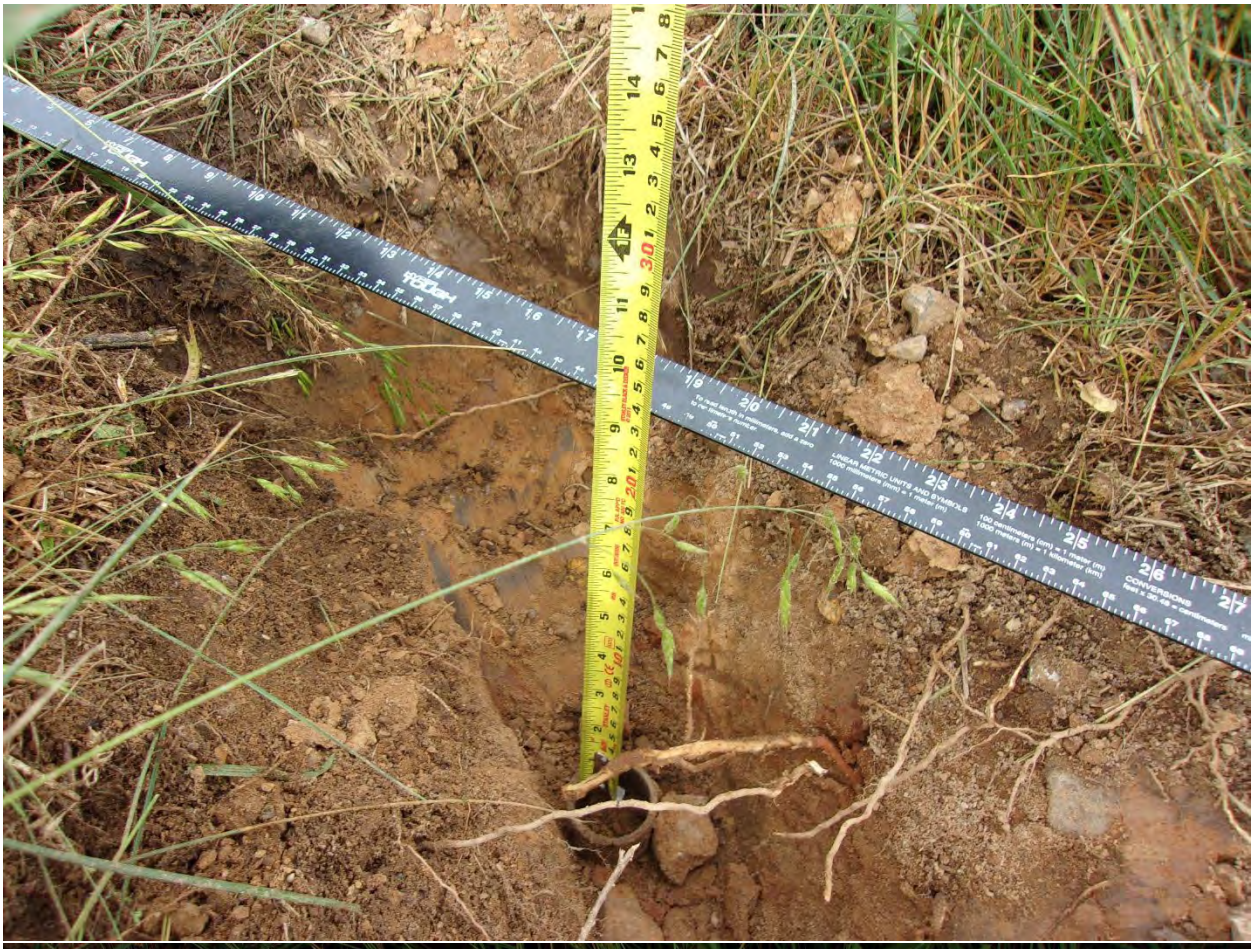



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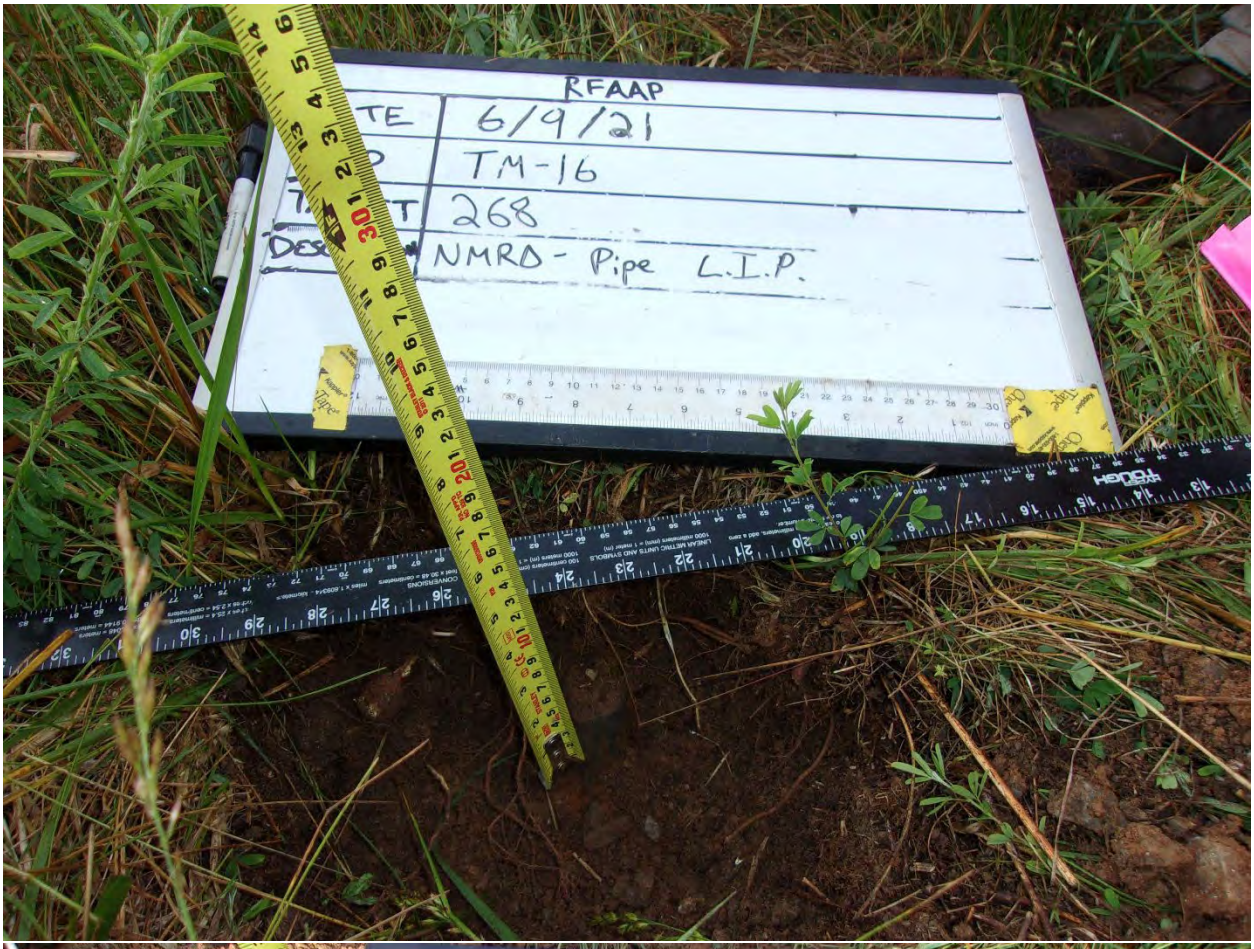



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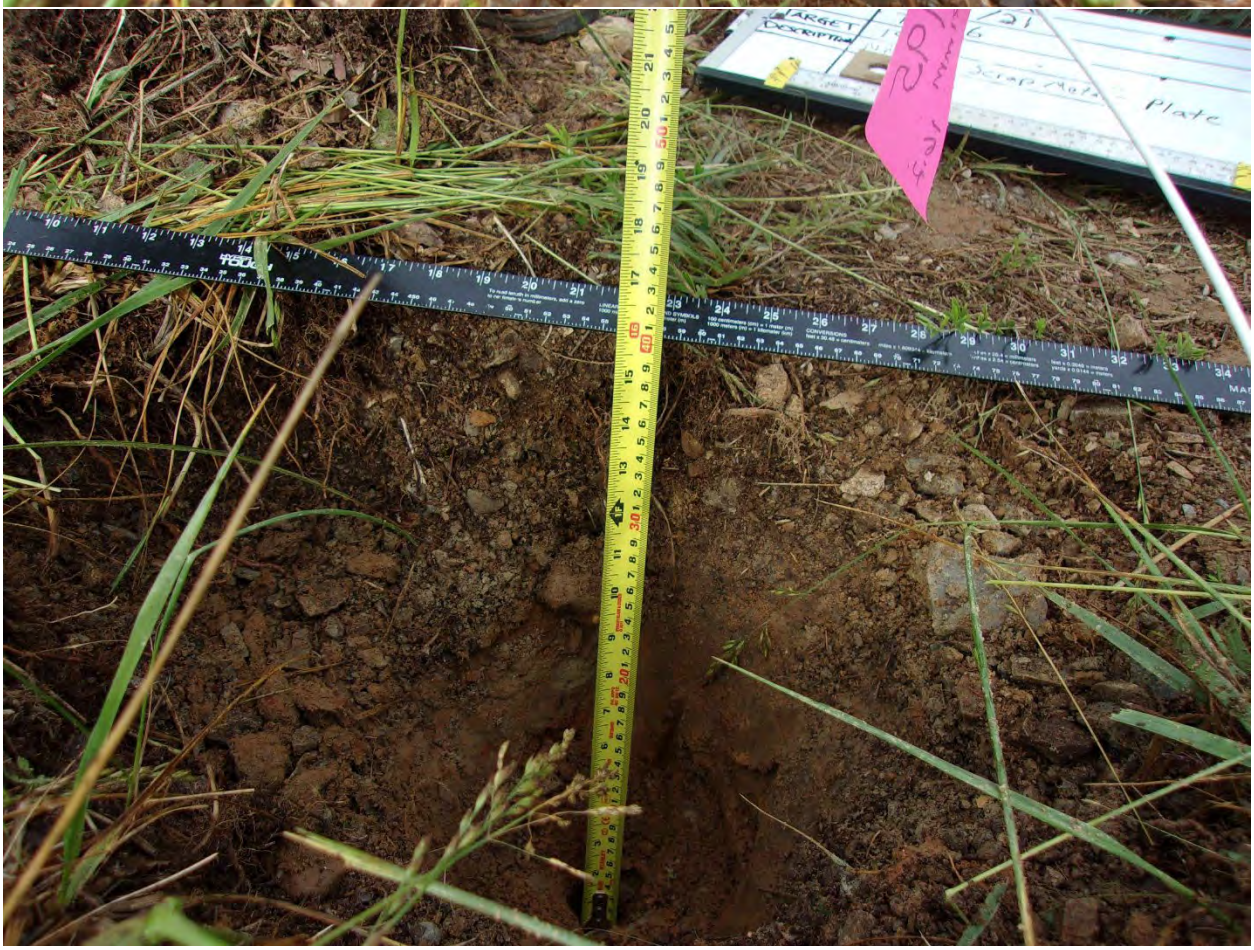

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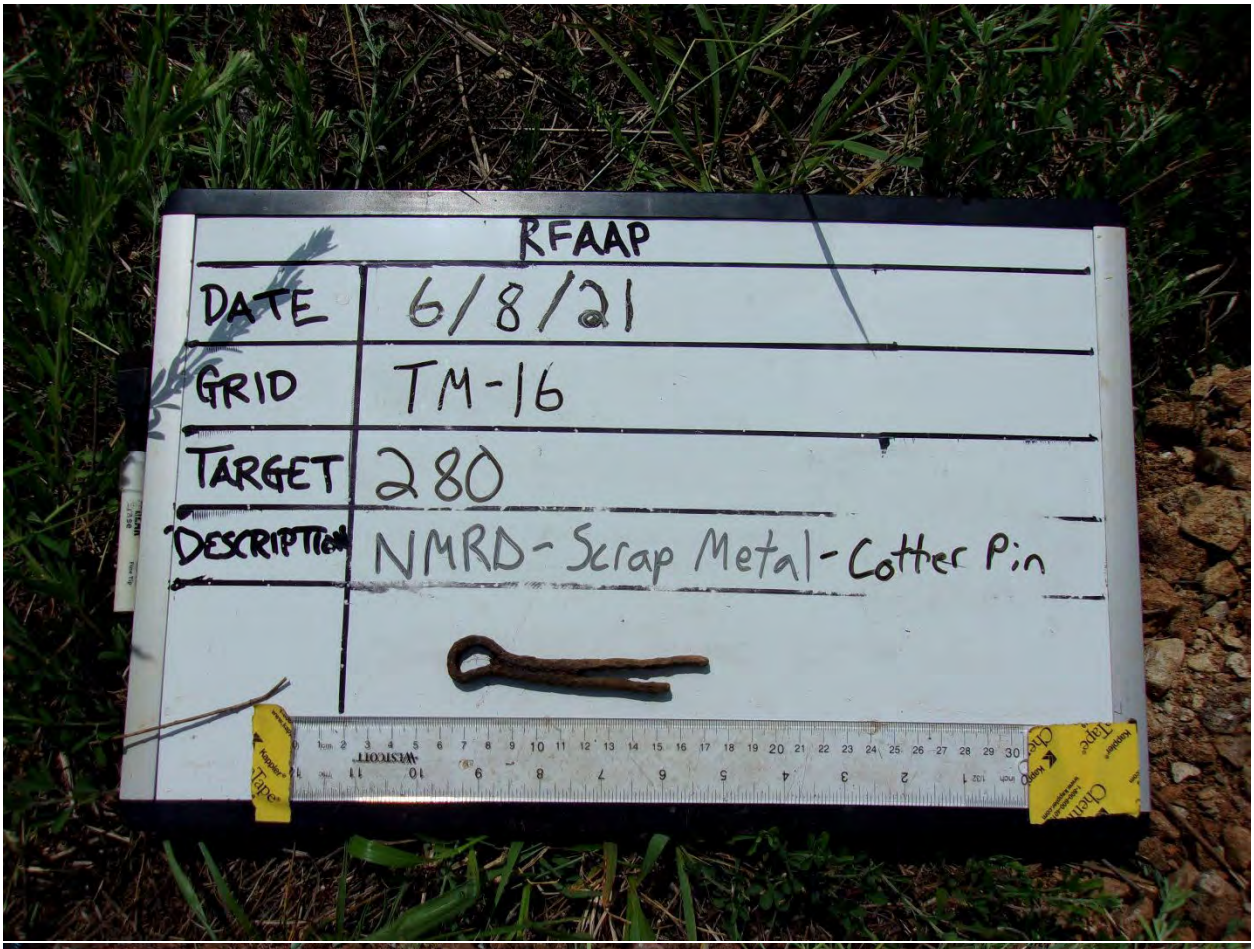



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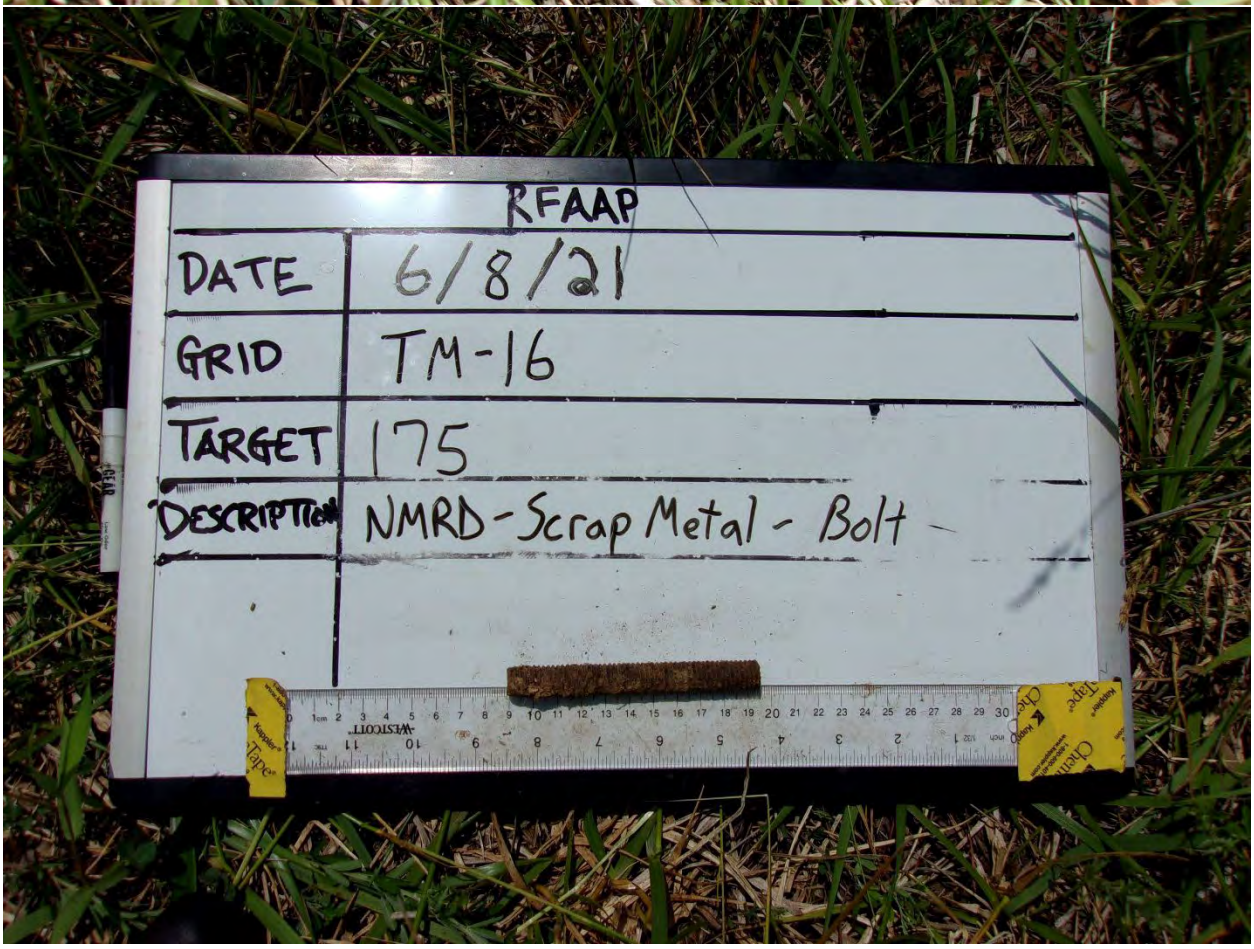

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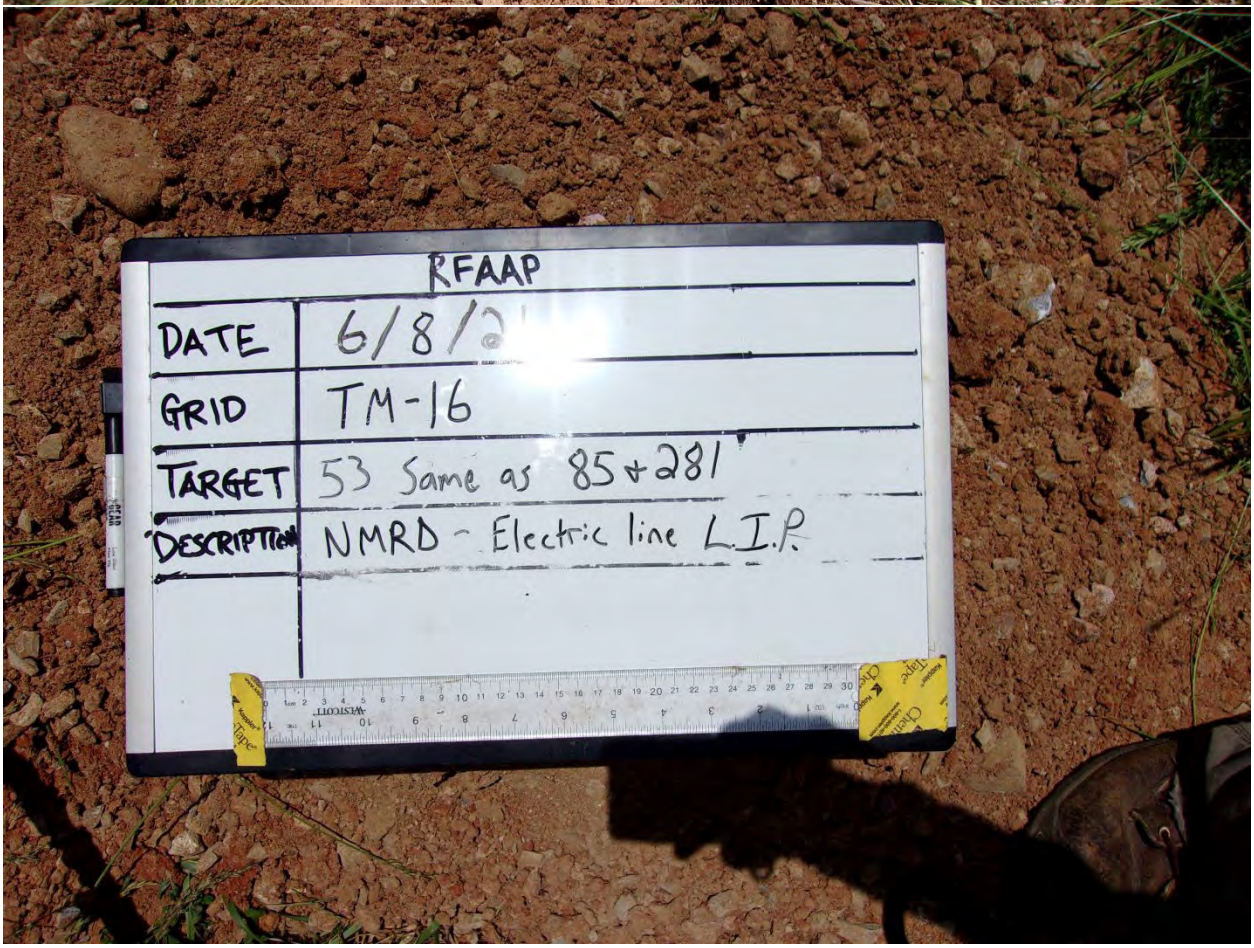

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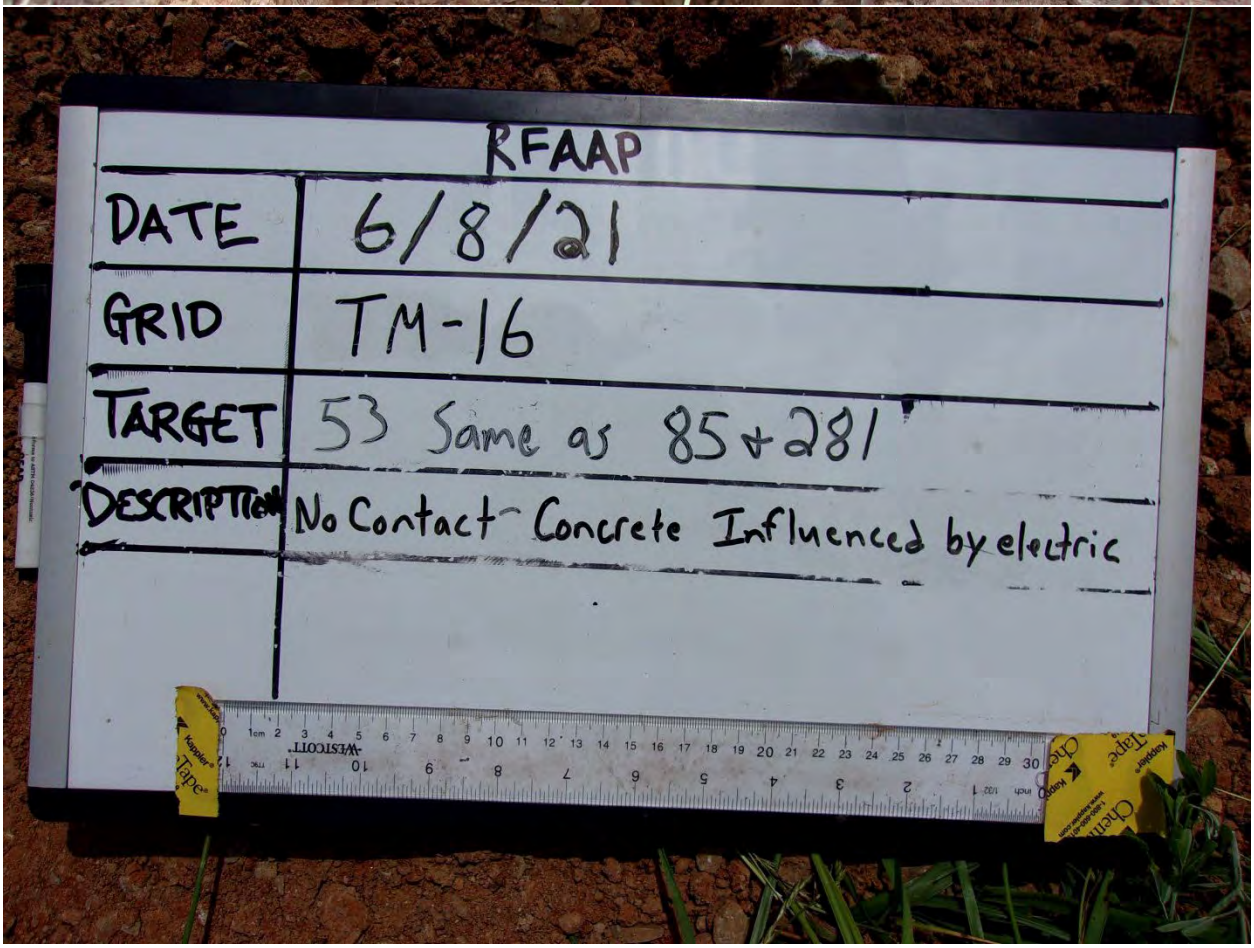

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AGC Intrusive Photos: TM-16





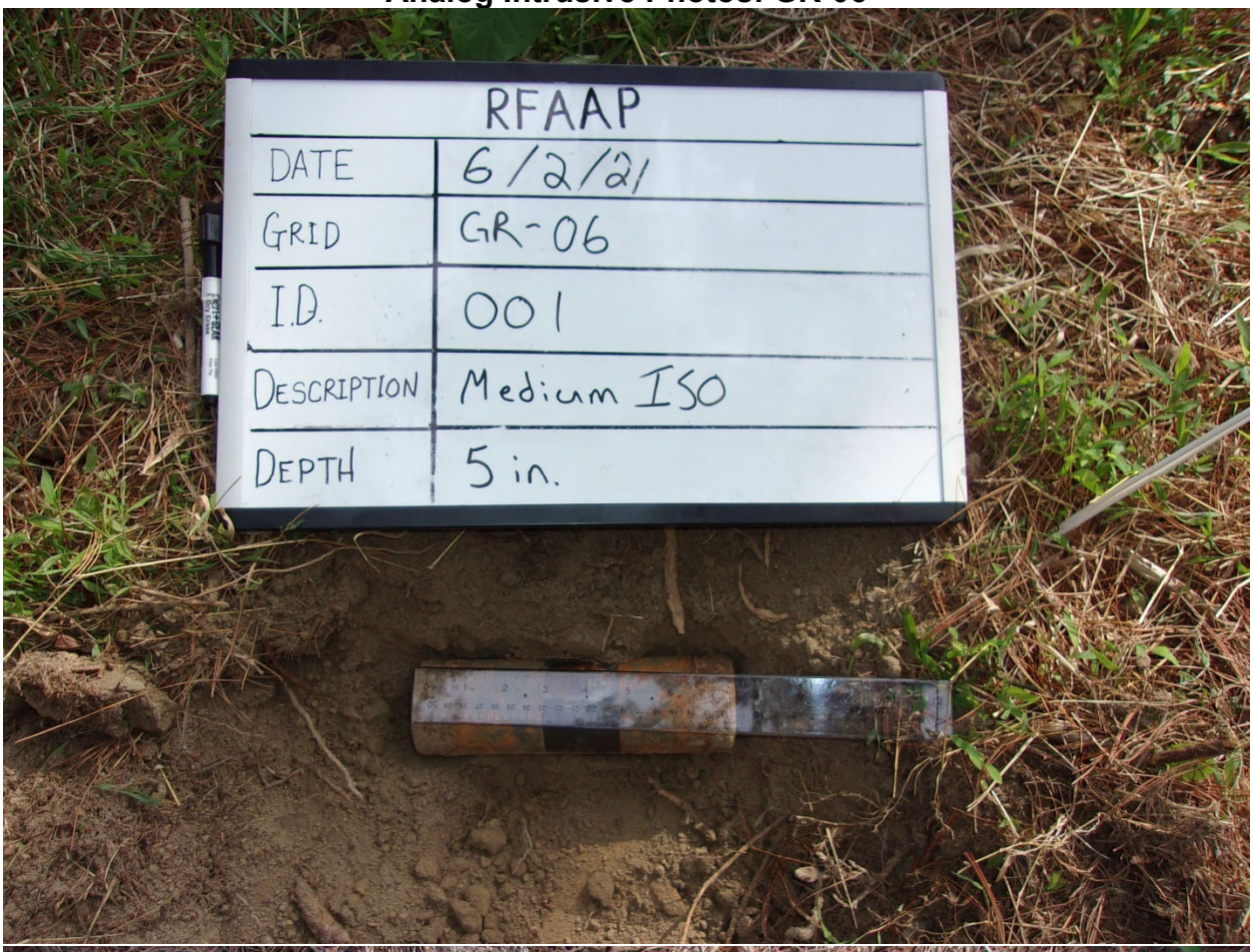
AGC Intrusive Photos: TM-16

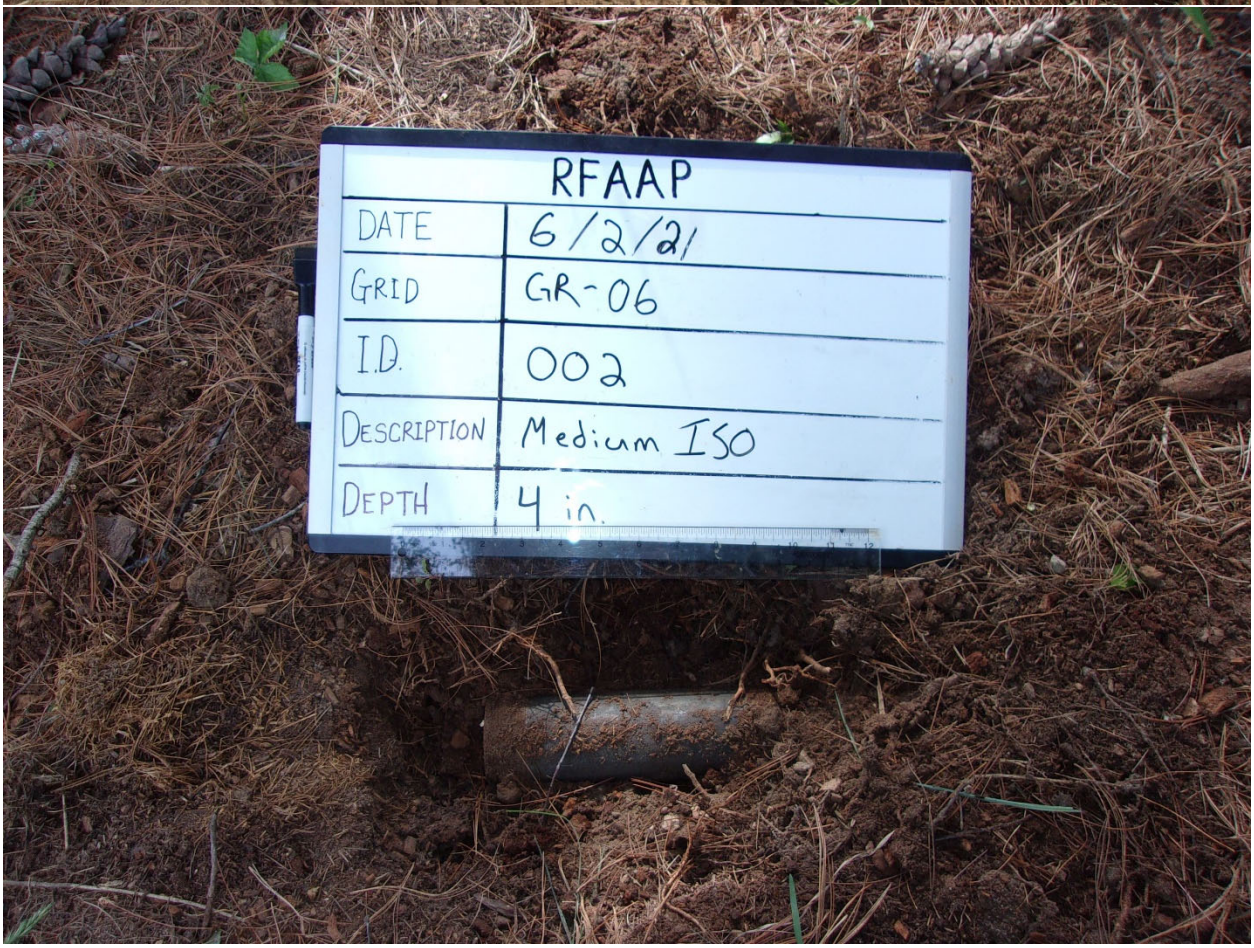




ANALOG INTRUSIVE PHOTOGRAPHS

Analog Intrusive Photos: GR-06





Analog Intrusive Photos: GR-06





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Analog Intrusive Photos: GR-07





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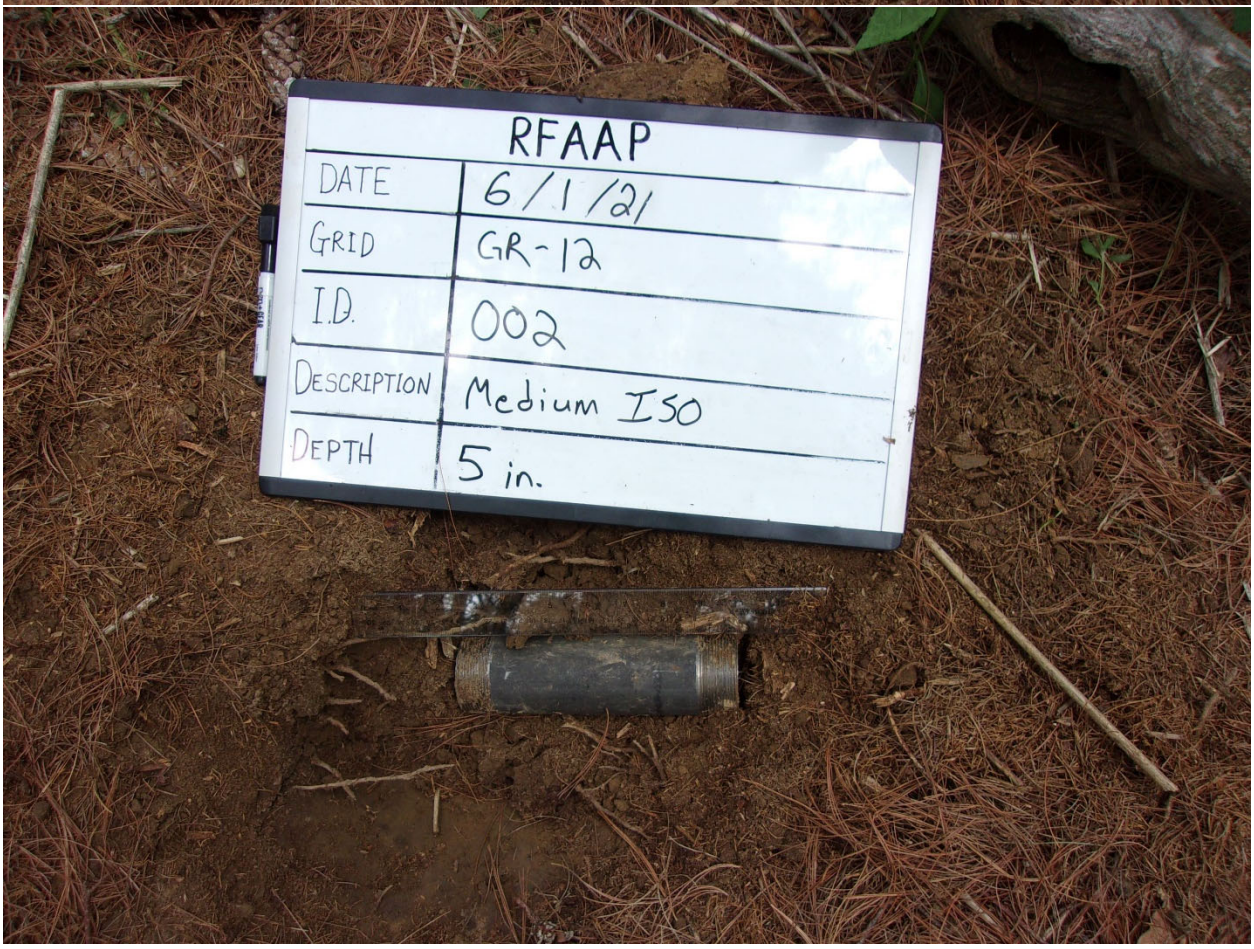
Analog Intrusive Photos: GR-07





Analog Intrusive Photos: GR-12





Analog Intrusive Photos: GR-12



Analog Intrusive Photos: TM-02





Analog Intrusive Photos: TM-03





Analog Intrusive Photos: TM-04





Analog Intrusive Photos: TM-04





Analog Intrusive Photos: TM-04





Analog Intrusive Photos: TM-06





Analog Intrusive Photos: TM-06





Analog Intrusive Photos: TM-06





Analog Intrusive Photos: TM-06



AREA A INTRUSIVE PHOTOGRAPHS

Area A Intrusive Photos





Area A Intrusive Photos





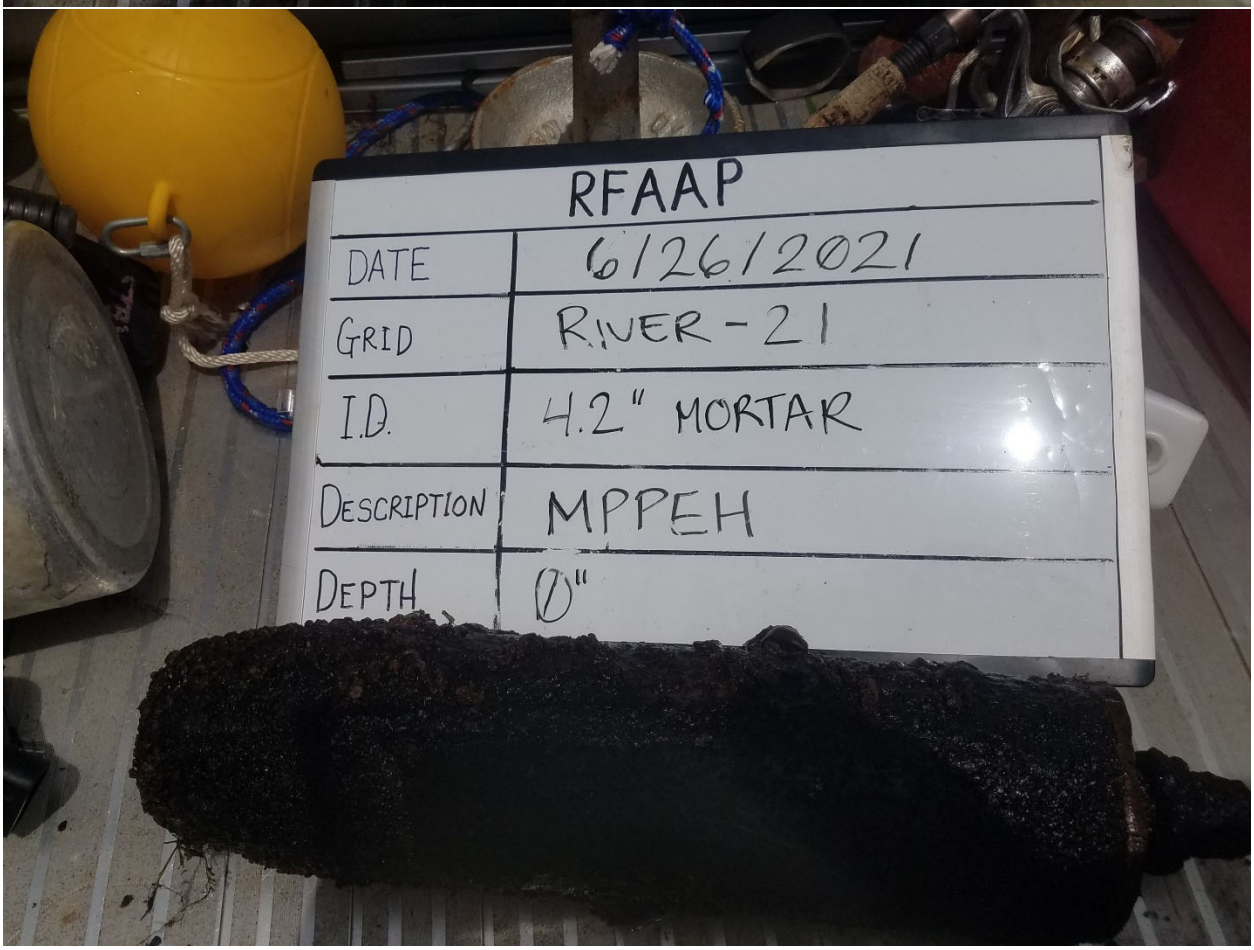
Area A Intrusive Photos





Area A Intrusive Photos





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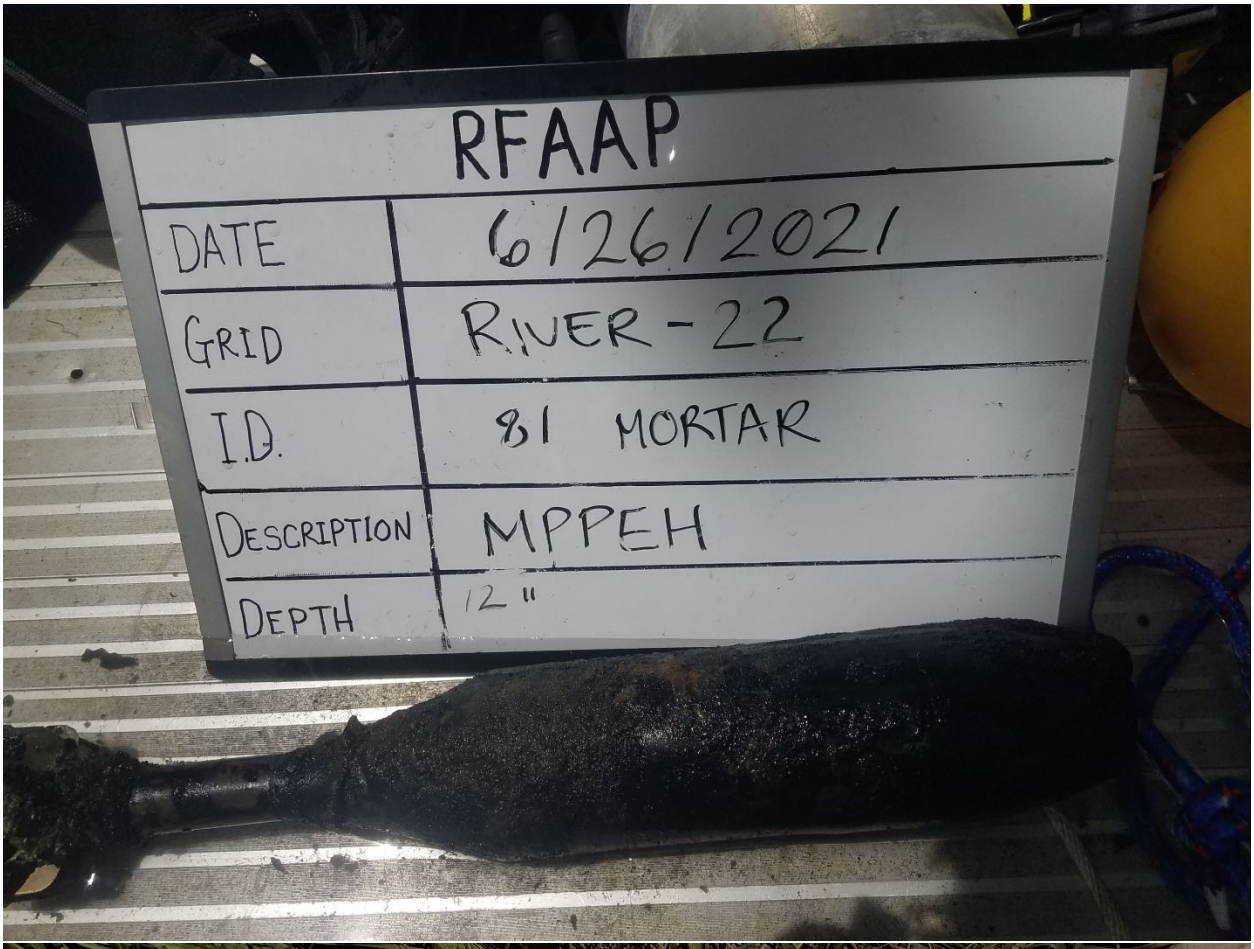

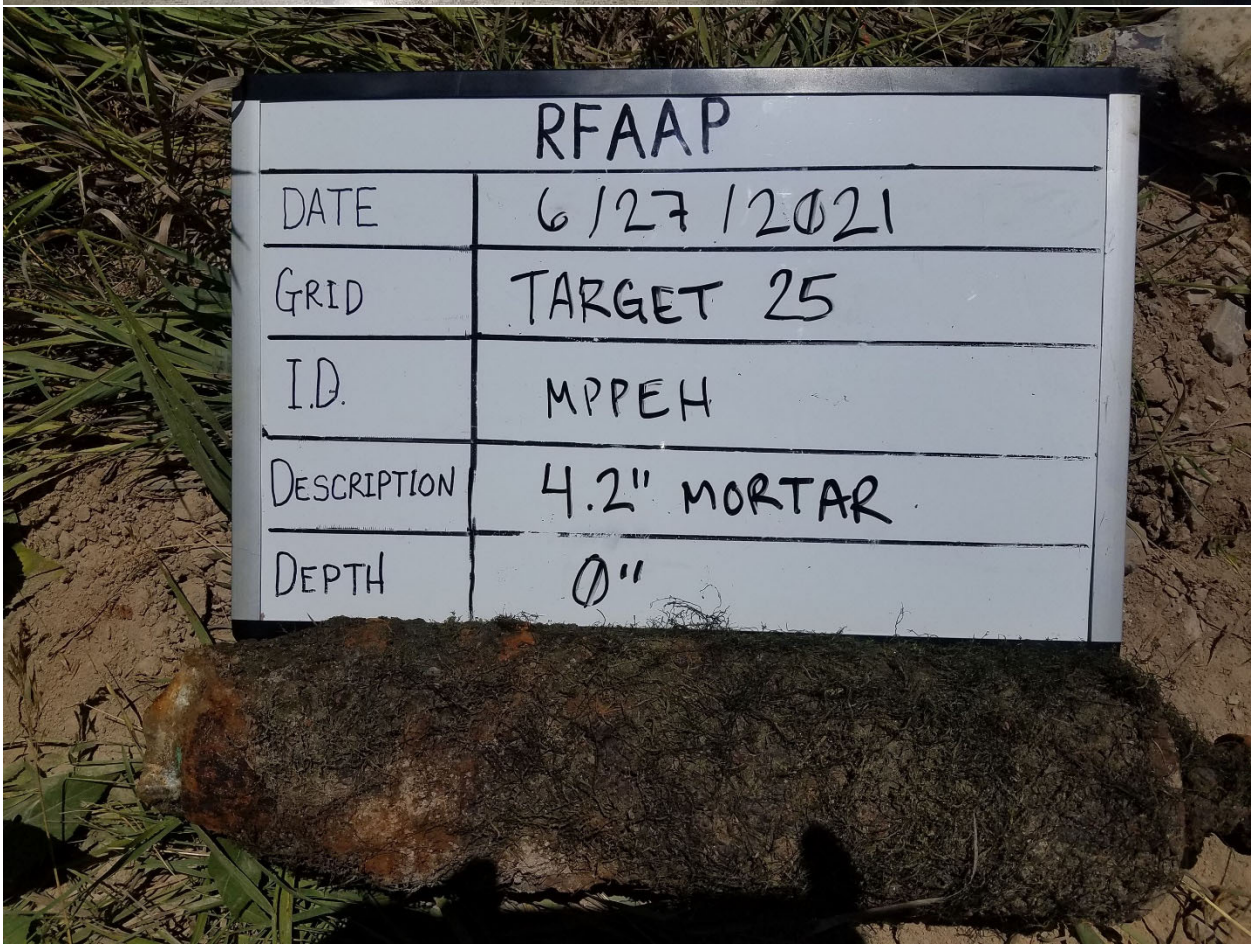

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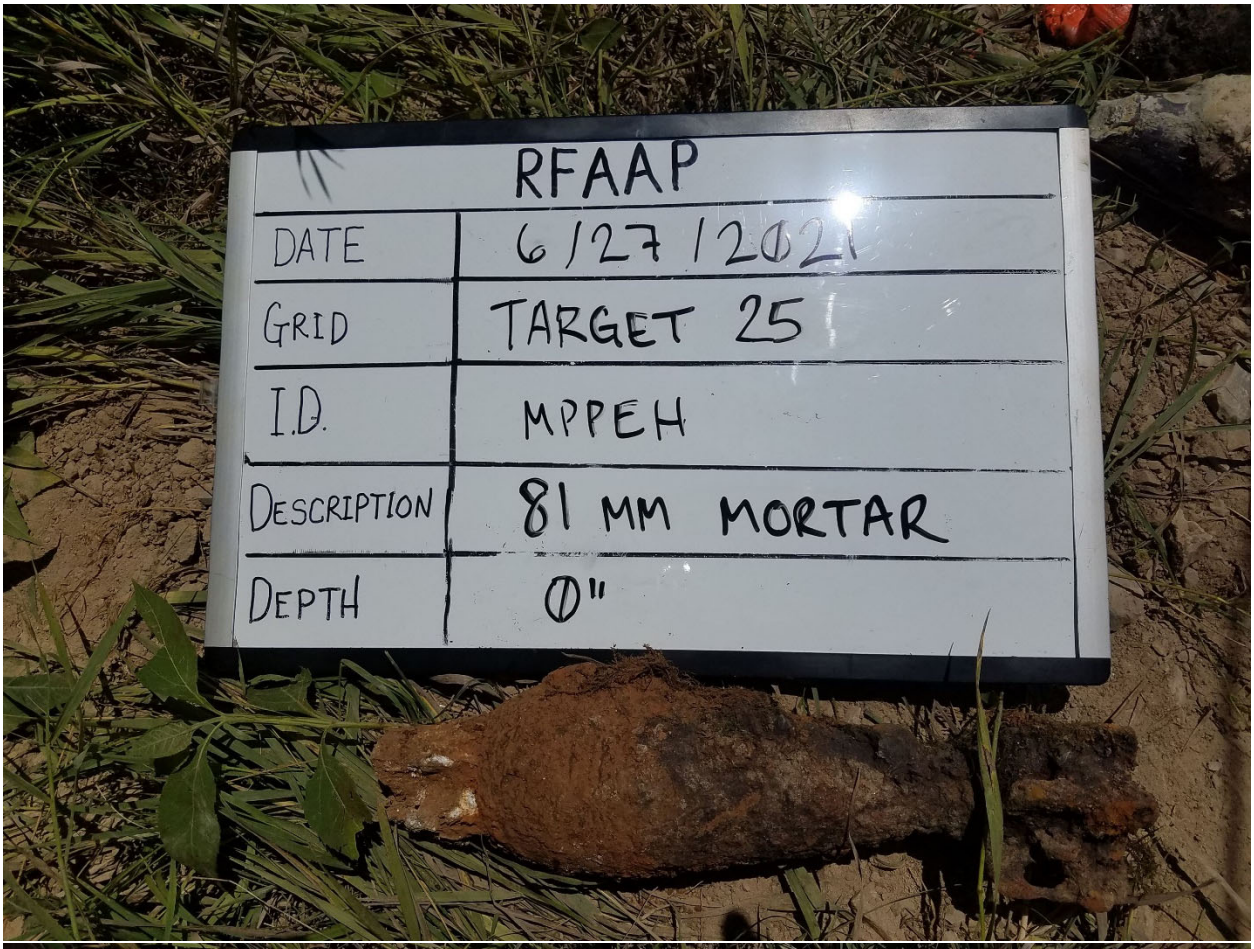

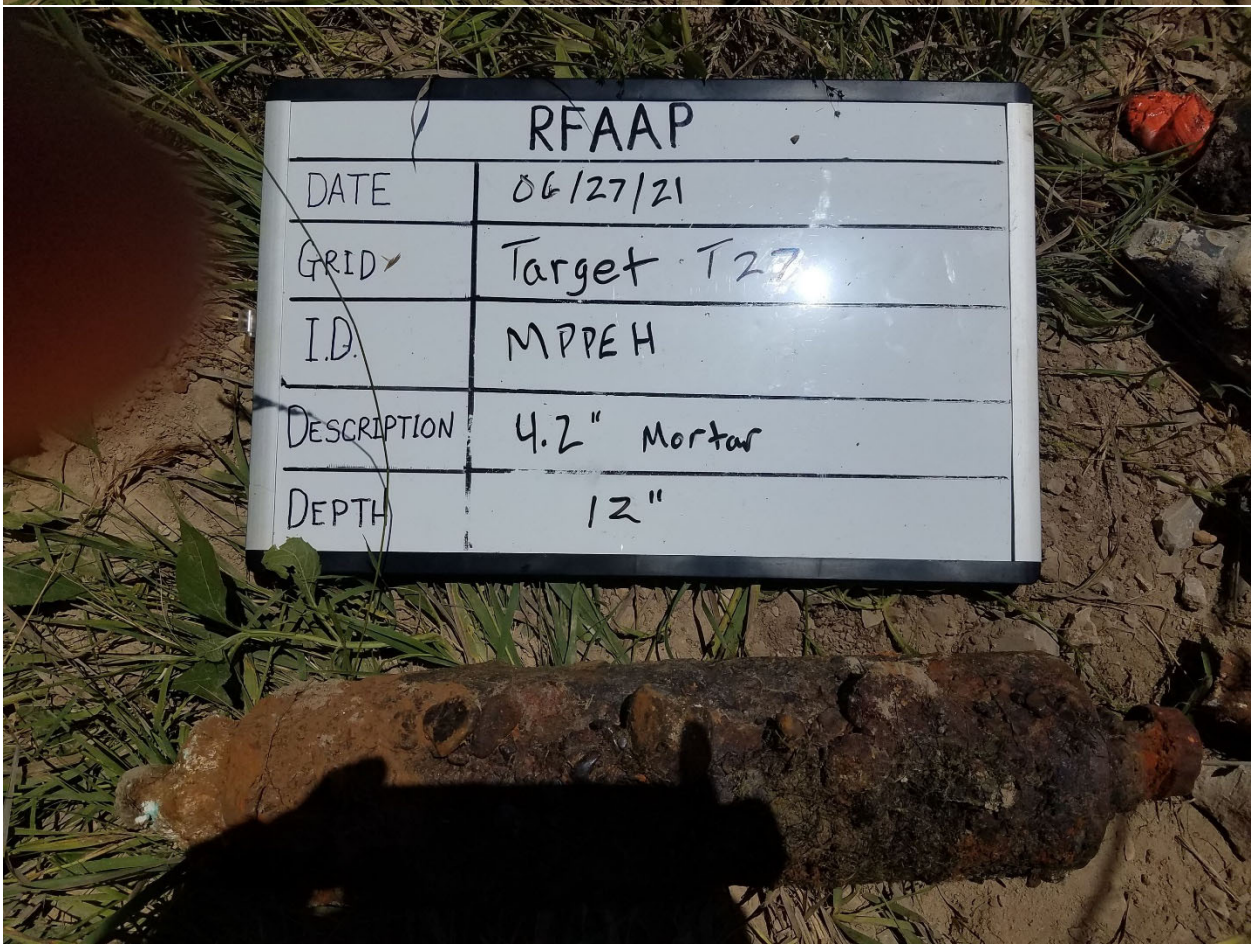

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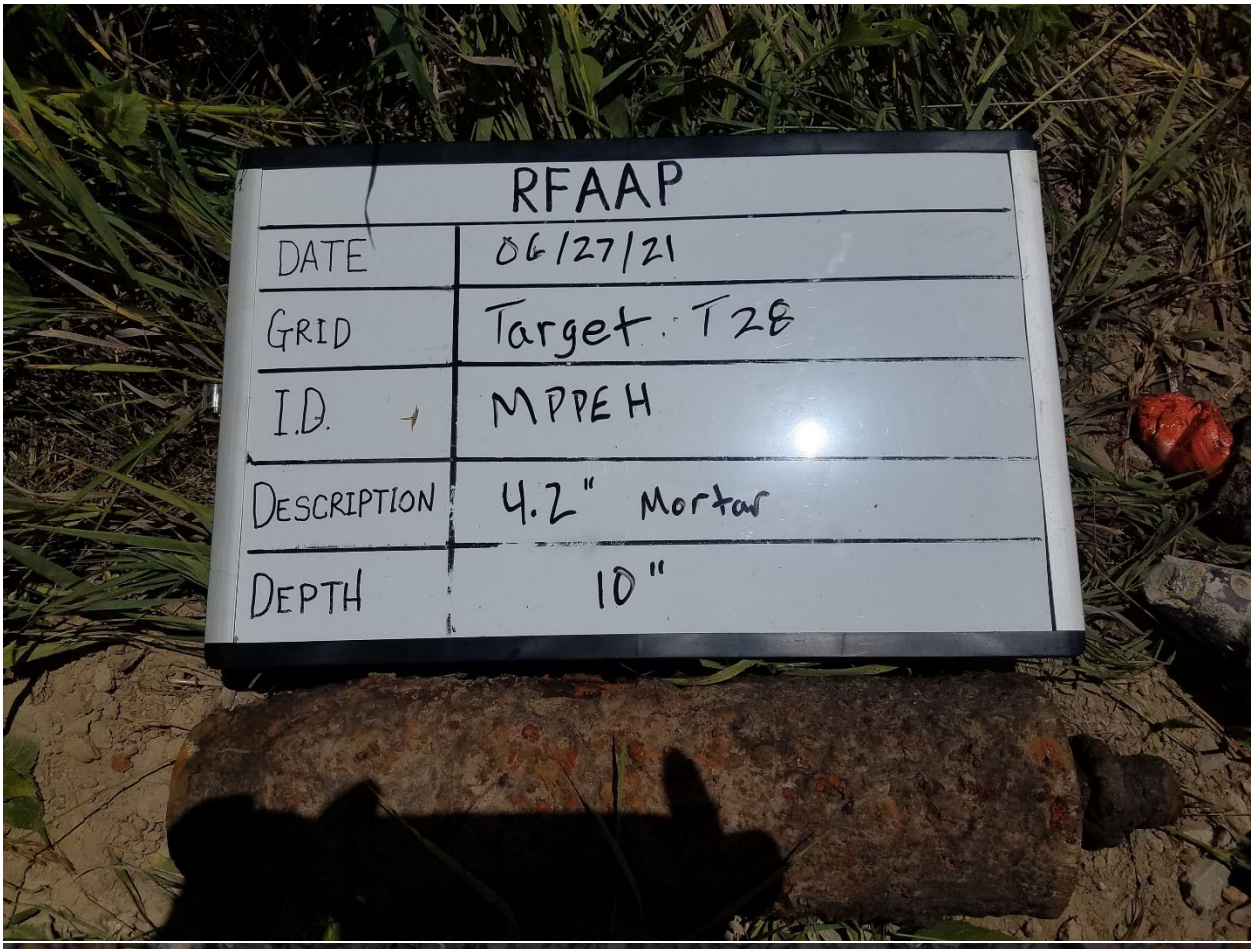

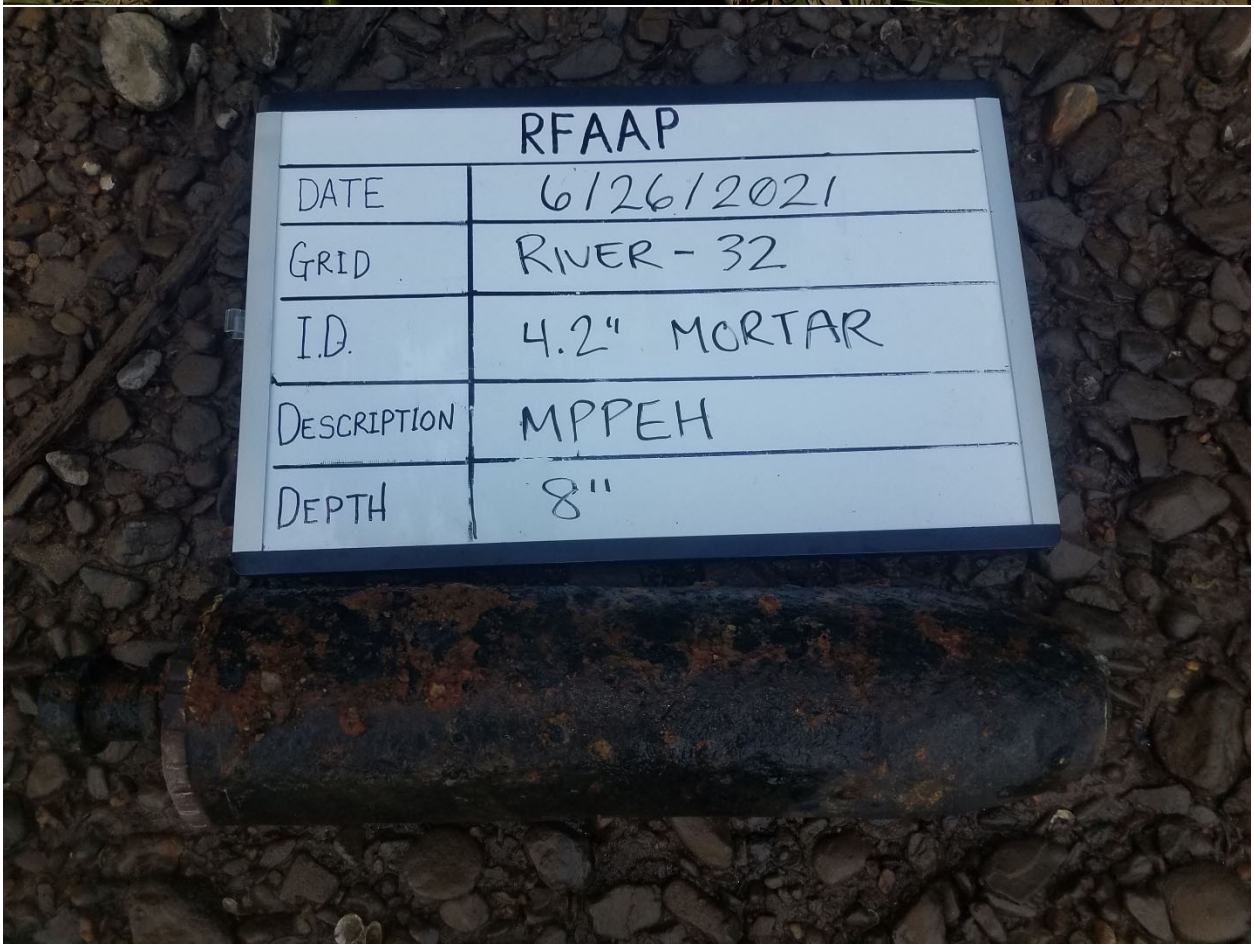

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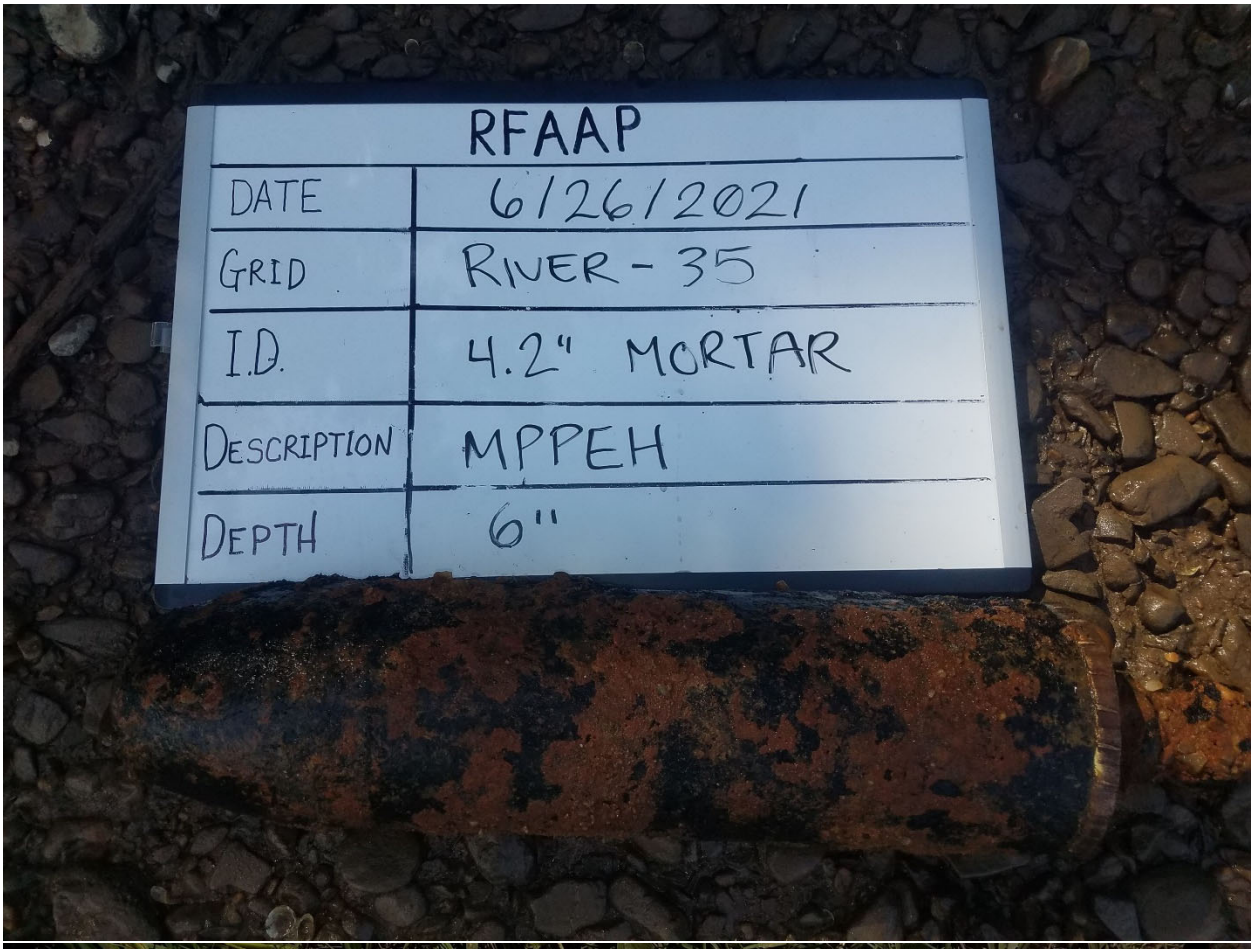



APPENDIX D
INTRUSIVE INVESTIGATION RESULTS

PROJECT Radford AAP RFI | DIG TEAM NO. 1 | DATE STARTED 6/3/2021

GRID/PROPERTY ID All | DIG TEAM LEADER S. Bebow | DATE FINISHED 7/9/2021

AGC SURVEY RESULTS								DIG RESULTS																		
GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR01	GR01-2	TOI	538972.02	4115962.38	ISO SMALL	<=37mm	16.62	6/26/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #GR-1		NA	16.00	0.62	30.00	10.00	Yes	538972.06	4115962.42	0.06	Yes	101-0196; 101-0197	Yes	6/26/2021	SB
GR01	GR01-5	Validation	538972.49	4115961.01	ISO SMALL	<=37mm	7.39	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	10.00	2.61	40.00	6.00	Yes	538972.51	4115961.04	0.04	Yes	101-0198; 101-0199	Yes	6/26/2021	SB
GR02	GR02-1	Validation	538915.44	4115924.58	ISO SMALL	<=37mm	14.14	6/26/2021	1	Seed	QA 1" x 4" pipe	QA Seed #NAB 160		Yes	12.00	2.14	30.00	10.00	No	538915.48	4115924.56	0.05	Yes	101-0210; 101-0211	Yes	6/26/2021	SB
GR02	GR02-2	TOI	538907.99	4115923.67	ISO LARGE	>105mm	34.44	6/26/2021	1	Duplicate Target	Non-MD Scrap Metal	shared with 66; Buried Pipe		NA	33.00	1.44	40.00	143.00	Yes	538907.98	4115923.67	0.01	Yes	101-0217; 101-0218	Yes	6/26/2021	SB
GR02	GR02-3	TOI	538896.06	4115939.65	ISO SMALL	<=37mm	20.60	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	22.00	1.40	10.00	20.00	Yes	538896.06	4115939.68	0.03	Yes	101-0235; 101-0236	Yes	6/26/2021	SB
GR02	GR02-4	TOI	538906.76	4115924.21	ISO MEDIUM	37-105mm	31.85	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		NA	31.00	0.85	35.00	0.00	Yes	538906.84	4115924.18	0.08	Yes	101-0216	LIP	6/26/2021	SB
GR02	GR02-5	TOI	538920.47	4115938.68	ISO MEDIUM	37-105mm	32.41	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Buried Pipe		NA	30.00	2.41	40.00	0.00	Yes	538920.42	4115938.63	0.07	Yes	101-0257; 101-0258	Yes	6/26/2021	SB
GR02	GR02-6	TOI	538917.80	4115937.42	ISO SMALL	<=37mm	10.00	6/26/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #GR-2		NA	12.00	2.00	30.00	10.00	Yes	538917.82	4115937.45	0.03	Yes	101-0245; 101-0246	Yes	6/26/2021	SB
GR02	GR02-8	TOI	538892.96	4115930.68	ISO MEDIUM	37-105mm	33.74	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	33.00	0.74	8.00	43.00	Yes	538892.93	4115930.73	0.06	Yes	101-0229; 101-0230	Yes	6/26/2021	SB
GR02	GR02-11	TOI	538893.07	4115921.32	ISO LARGE	>105mm	19.75	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		NA	19.00	0.75	70.00	114.00	Yes	538893.15	4115921.38	0.11	Yes	101-0321; 101-0322	LIP	6/27/2021	SB
GR02	GR02-12	TOI	538909.37	4115948.23	100-lb GP Bomb	>105mm	52.43	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		NA	50.00	2.43	150.00	0.00	Yes	538909.28	4115948.21	0.09	Yes	101-0278; 101-0279	LIP	6/26/2021	SB
GR02	GR02-13	TOI	538912.21	4115931.11	ISO MEDIUM	37-105mm	33.78	6/26/2021	1	Duplicate Target	Non-MD Scrap Metal	same as 123; buried pipe		NA	31.00	2.78	40.00	47.00	Yes	538912.18	4115931.13	0.03	Yes	101-0260; 10-0259	Yes	6/26/2021	SB
GR02	GR02-14	TOI	538909.74	4115947.76	100-lb GP Bomb	>105mm	45.61	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		NA	42.00	3.61	20.00	34.00	Yes	538909.67	4115947.69	0.10	Yes	101-0276; 101-0277	LIP	6/26/2021	SB
GR02	GR02-16	TOI	538910.27	4115921.75	ISO SMALL	<=37mm	10.94	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	11.00	0.06	50.00	19.00	Yes	538910.31	4115921.73	0.05	Yes	101-0206; 101-0207	Yes	6/26/2021	SB
GR02	GR02-17	TOI	538905.30	4115938.62	ISO MEDIUM	37-105mm	20.04	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		NA	19.00	1.04	60.00	0.00	Yes	538905.32	4115938.62	0.02	Yes	101-0261; 101-0262	LIP	6/26/2021	SB
GR02	GR02-18	TOI	538906.55	4115948.03	ISO MEDIUM	37-105mm	16.81	6/27/2021	1	Cultural Feature	Structure	shared with 24; Buried Pipe		NA	15.00	1.81	30.00	82.00	Yes	538906.56	4115948.07	0.04	Yes	101-0308; 101-0309	LIP	6/27/2021	SB
GR02	GR02-20	Verification	538893.17	4115923.18	ISO SMALL	<=37mm	18.62	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	20.00	1.38	40.00	19.00	Yes	538893.23	4115923.19	0.07	Yes	101-0323; 101-0324	Yes	6/27/2021	SB
GR02	GR02-22	Validation	538905.57	4115939.31	ISO MEDIUM	37-105mm	36.93	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	33.00	3.93	0.00	0.00	Yes	538905.57	4115939.31	0.00	Yes	101-0263; 101-0264	LIP	6/26/2021	SB
GR02	GR02-24	TOI	538906.14	4115947.88	ISO MEDIUM	37-105mm	17.90	6/27/2021	1	Duplicate Target	NA	shared with 18		NA	15.00	2.90	30.00	82.00	Yes	538906.14	4115947.87	0.02	Yes	101-0308; 101-0310	Yes	6/27/2021	SB
GR02	GR02-27	TOI	538899.32	4115929.78	ISO SMALL	<=37mm	4.92	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		NA	5.00	0.08	25.00	10.00	Yes	538899.31	4115929.73	0.05	Yes	101-0227; 101-0228	LIP	6/26/2021	SB
GR02	GR02-29	Verification	538921.04	4115932.13	ISO MEDIUM	37-105mm	17.43	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	18.00	0.57	40.00	16.00	Yes	538921.04	4115932.15	0.02	Yes	101-0249; 101-0250	LIP	6/26/2021	SB
GR02	GR02-31	Validation	538920.92	4115934.88	100-lb GP Bomb	>105mm	114.15	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	115.00	0.85	150.00	0.00	Yes	538921.13	4115935.42	0.58	No	101-0331; 101-0332	LIP	6/27/2021	SB
GR02	GR02-35	Verification	538916.70	4115936.63	ISO SMALL	<=37mm	9.74	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	10.00	0.26	30.00	9.00	Yes	538916.71	4115936.63	0.01	Yes	101-0243; 101-0244	LIP	6/26/2021	SB
GR02	GR02-36	TOI	538911.18	4115919.95	ISO SMALL	<=37mm	14.89	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	15.00	0.11	50.00	17.00	Yes	538911.16	4115919.98	0.03	Yes	101-0204; 101-0205	Yes	6/26/2021	SB
GR02	GR02-38	TOI	538921.39	4115940.06	ISO MEDIUM	37-105mm	21.27	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		NA	20.00	1.27	30.00	34.00	Yes	538921.36	4115940.06	0.03	Yes	101-0255; 101-0256	LIP	6/26/2021	SB
GR02	GR02-39	Verification	538922.44	4115921.92	ISO SMALL	<=37mm	8.11	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Metal Scrap		Yes	6.00	2.11	40.00	14.00	Yes	538922.40	4115921.91	0.04	Yes	101-0315; 101-0316	Yes	6/27/2021	SB
GR02	GR02-42	Verification	538912.53	4115920.70	ISO MEDIUM	37-105mm	53.39	6/26/2021	1	Cultural Feature	Structure	Reinforced concrete with rebar		Yes	56.00	2.61	0.00	0.00	Yes	538912.55	4115920.69	0.02	Yes	101-0202; 101-0203	LIP	6/26/2021	SB
GR02	GR02-44	Cannot Analyze	538893.63	4115922.96	ISO LARGE	>105mm	-7.13	6/27/2021	1	No Contact	NA			NA	28.00		0.00	0.00	NA	538893.63	4115922.97	0.01	Yes	101-0325; 101-0326	NA	6/27/2021	SB
GR02	GR02-46	Validation	538920.43	4115934.12	ISO MEDIUM	37-105mm	10.08	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	11.00	0.92	20.00	51.00	Yes	538920.46	4115934.11	0.03	Yes	101-0247; 101-0248	LIP	6/26/2021	SB
GR02	GR02-50	Validation	538916.03	4115944.80	ISO LARGE	>105mm	68.29	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	111.00	42.71	100.00	0.00	Yes				Yes	101-0329; 101-0330	LIP	6/27/2021	SB
GR02	GR02-52	TOI	538922.87	4115938.60	ISO MEDIUM	37-105mm	22.58	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	22.00	0.58	15.00	0.00	Yes	538922.83	4115938.52	0.08	Yes	101-0253; 101-0254	Yes	6/26/2021	SB
GR02	GR02-53	TOI	538907.69	4115926.31	ISO MEDIUM	37-105mm	26.56	6/26/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	27.00	0.44	50.00	17.00	Yes	538907.73	4115926.27	0.06	Yes	101-0214; 101-0215	Yes	6/26/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR02	GR02-54	Validation	538903.30	4115925.78	ISO SMALL	<=37mm	4.23	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	5.00	0.77	40.00	11.00	Yes	538903.31	4115925.74	0.04	Yes	101-0200; 101-0201	Yes	6/26/2021	SB
GR02	GR02-55	Validation	538913.74	4115918.30	ISO SMALL	<=37mm	22.00	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	23.00	1.00	0.00	0.00	Yes	538913.73	4115918.30	0.01	Yes	101-0200; 101-0201	LIP	6/26/2021	SB
GR02	GR02-60	TOI	538909.42	4115945.34	100-lb GP Bomb	>105mm	73.18	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		NA	74.00	0.82	60.00	0.00	Yes	538909.40	4115945.34	0.02	Yes	101-0274; 101-0275	LIP	6/27/2021	SB
GR02	GR02-66	Validation	538907.67	4115924.26	ISO LARGE	>105mm	45.64	6/26/2021	1	Cultural Feature	Structure	shared with 2; Buried Pipe		Yes	46.00	0.36	40.00	143.00	Yes	538907.68	4115924.26	0.01	Yes	101-0219; 101-0220	LIP	6/26/2021	SB
GR02	GR02-69	Validation	538895.23	4115938.22	ISO MEDIUM	37-105mm	36.27	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	nail		Yes	32.00	4.27	10.00	10.00	Yes	538895.23	4115938.21	0.02	Yes	101-0233; 101-0234	Yes	6/26/2021	SB
GR02	GR02-74	TOI	538922.63	4115938.17	ISO MEDIUM	37-105mm	26.99	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	31.00	4.01	30.00	5.00	Yes	538922.61	4115938.20	0.04	Yes	101-0251; 101-0252	Yes	6/26/2021	SB
GR02	GR02-77	Verification	538906.19	4115940.60	ISO MEDIUM	37-105mm	33.45	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	33.00	0.45	60.00	0.00	Yes	538906.18	4115940.61	0.01	Yes	101-0265; 101-0266	LIP	6/26/2021	SB
GR02	GR02-79	Verification	538909.00	4115944.86	100-lb GP Bomb	>105mm	65.13	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	68.00	2.87	60.00	0.00	Yes	538909.03	4115944.87	0.03	Yes	101-0271; 101-0272	LIP	6/26/2021	SB
GR02	GR02-80	Validation	538914.03	4115931.83	ISO MEDIUM	37-105mm	35.54	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	braided wire		Yes	34.00	1.54	10.00	62.00	Yes	538913.97	4115931.80	0.06	Yes	101-0313; 101-0314	LIP	6/27/2021	SB
GR02	GR02-86	Validation	538897.05	4115934.60	ISO SMALL	<=37mm	27.01	6/26/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	26.00	1.01	20.00	16.00	Yes	538897.06	4115934.61	0.01	Yes	101-0231; 101-0232	Yes	6/26/2021	SB
GR02	GR02-87	TOI	538913.30	4115931.39	ISO MEDIUM	37-105mm	49.67	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		NA	50.00	0.33	30.00	0.00	Yes	538913.33	4115931.34	0.06	Yes	101-0311; 101-0312	LIP	6/27/2021	SB
GR02	GR02-95	TOI	538919.28	4115939.23	100-lb GP Bomb	>105mm	91.40	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		NA	99.00	7.60	150.00	0.00	Yes	538919.15	4115938.85	0.40	No	101-0327; 101-0328	LIP	6/27/2021	SB
GR02	GR02-97	Cannot Analyze	538902.69	4115918.86	ISO LARGE	>105mm	29.23	6/27/2021	1	Cultural Feature	Structure	Fence		NA	29.00	0.23	75.00	170.00	NA	538902.62	4115918.87	0.08	Yes	101-0319; 101-0320	LIP	6/27/2021	SB
GR02	GR02-105	TOI	538910.35	4115939.18	ISO SMALL	<=37mm	4.07	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	7.00	2.93	20.00	15.00	Yes	538910.37	4115939.19	0.02	Yes	101-0241; 101-0242	Yes	6/26/2021	SB
GR02	GR02-106	Verification	538908.21	4115944.83	100-lb GP Bomb	>105mm	62.87	6/26/2021	1	Cultural Feature	Structure	Buried Pipe and wire		Yes	62.00	0.87	80.00	0.00	Yes	538908.18	4115944.85	0.03	Yes	101-0269; 101-0270	LIP	6/26/2021	SB
GR02	GR02-108	Verification	538909.15	4115944.66	100-lb GP Bomb	>105mm	65.71	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	68.00	2.29	60.00	0.00	Yes	538909.12	4115944.66	0.03	Yes	101-0280; 101-0281	LIP	6/26/2021	SB
GR02	GR02-110	Validation	538906.20	4115943.42	ISO MEDIUM	37-105mm	49.12	6/27/2021	6	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	47.00	2.12	30.00	14.00	Yes	538906.19	4115943.39	0.03	Yes	101-0334; 101-0335	Yes	6/27/2021	SB
GR02	GR02-113	Validation	538920.25	4115919.79	ISO LARGE	>105mm	22.79	6/27/2021	20	Non-Munitions Related Debris	Non-MD Scrap Metal	Nails		Yes	23.00	0.21	10.00	10.00	Yes	538920.24	4115919.79	0.01	Yes	101-0317; 101-0318	Yes	6/27/2021	SB
GR02	GR02-123	TOI	538912.13	4115931.07	ISO MEDIUM	37-105mm	23.58	6/26/2021	1	Duplicate Target	NA	same a 13		NA					NA				NA		Yes	6/26/2021	SB
GR02	GR02-136	TOI	538908.58	4115944.34	ISO MEDIUM	37-105mm	28.29	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		NA	31.00	2.71	80.00	0.00	Yes	538908.60	4115944.38	0.05	Yes	101-0267; 101-0268	LIP	6/26/2021	SB
GR02	GR02-137	Validation	538901.19	4115925.75	ISO SMALL	<=37mm	28.96	6/26/2021	4	Non-Munitions Related Debris	Non-MD Scrap Metal	Nails		Yes	30.00	1.04	10.00	9.00	Yes	538901.18	4115925.77	0.01	Yes	101-0223; 101-0224	Yes	6/26/2021	SB
GR02	GR02-160	Validation	538907.54	4115937.74	ISO SMALL	<=37mm	5.92	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	8.00	2.08	30.00	5.00	Yes	538907.56	4115937.70	0.04	Yes	101-0239; 101-0240	Yes	6/26/2021	SB
GR02	GR02-163	Validation	538900.54	4115924.79	ISO SMALL	<=37mm	25.40	6/26/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	Nails		Yes	27.00	1.60	10.00	9.00	Yes	538900.54	4115924.80	0.01	Yes	101-0225; 101-0226	Yes	6/26/2021	SB
GR02	GR02-170	TOI	538905.04	4115943.42	ISO SMALL	<=37mm	15.91	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	16.00	0.09	10.00	11.00	Yes	538905.01	4115943.40	0.04	Yes	101-0282; 101-0283	Yes	6/26/2021	SB
GR02	GR02-182	Validation	538910.37	4115925.26	ISO SMALL	<=37mm	15.03	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	14.00	1.03	10.00	8.00	Yes	538910.34	4115925.20	0.07	Yes	101-0208; 101-0209	Yes	6/26/2021	SB
GR02	GR02-184	Validation	538908.40	4115930.11	No Match	37-105mm	29.05	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	29.00	0.05	10.00	8.00	Yes	538908.42	4115930.08	0.04	Yes	101-0212; 100-0213	Yes	6/26/2021	SB
GR02	GR02-196	Validation	538895.32	4115942.04	ISO SMALL	<=37mm	28.96	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	washer		Yes	29.00	0.04	2.00	3.00	Yes	538895.29	4115942.01	0.05	Yes	101-0237; 101-0238	Yes	6/26/2021	SB
GR03	GR03-1	TOI	539002.15	4115909.44	ISO MEDIUM	37-105mm	14.04	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	13.00	1.04	30.00	52.00	Yes	539002.17	4115909.47	0.03	Yes	101-0078; 101-0079	Yes	6/24/2021	SB
GR03	GR03-2	TOI	539004.99	4115914.49	ISO MEDIUM	37-105mm	22.38	6/24/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-03		NA	22.00	0.38	60.00	20.00	Yes	539005.01	4115914.49	0.02	Yes	101-0076; 100-077	Yes	6/24/2021	SB
GR03	GR03-8	Validation	539012.07	4115936.86	ISO LARGE	>105mm	60.85	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	63.00	2.15	40.00	151.00	Yes	539012.07	4115936.85	0.01	Yes	101-0088; 101-0089	Yes	6/24/2021	SB
GR03	GR03-10	Verification	539007.51	4115912.78	No Match	>105mm	40.78	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	rebar		Yes	36.00	4.78	20.00	122.00	Yes	539007.56	4115912.73	0.07	Yes	101-0070; 101-0071	Yes	6/24/2021	SB
GR03	GR03-11	Validation	539007.56	4115912.73	ISO MEDIUM	37-105mm	36.43	6/24/2021	1	Duplicate Target	NA	same as 10; rebar		Yes					NA				NA		Yes	6/24/2021	SB
GR03	GR03-12	Validation	539008.41	4115912.19	ISO SMALL	<=37mm	3.09	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	5.00	1.91	20.00	17.00	Yes	539008.40	4115912.21	0.02	Yes	101-0074; 101-0075	Yes	6/24/2021	SB
GR03	GR03-20	Verification	538993.71	4115935.35	ISO MEDIUM	37-105mm	19.17	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	18.00	1.17	25.00	41.00	Yes	538993.75	4115935.36	0.04	Yes	101-0086; 101-0087	Yes	6/24/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR03	GR03-22	TOI	539005.01	4115914.51	ISO MEDIUM	37-105mm	20.86	6/24/2021	1	Duplicate Target	NA	same as 2; seed		Yes					NA				NA		Yes	6/24/2021	SB
GR03	GR03-28	Validation	538996.84	4115914.08	ISO LARGE	>105mm	57.16	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	58.00	0.84	1.00	9.00	Yes	538996.85	4115914.07	0.01	Yes	101-0084; 101-0085	Yes	6/24/2021	SB
GR03	GR03-33	Validation	538991.56	4115920.92	ISO SMALL	<=37mm	37.35	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	washer		Yes	36.00	1.35	1.00	19.00	Yes	538991.57	4115920.95	0.03	Yes	101-0082; 101-0083	Yes	6/24/2021	SB
GR03	GR03-37	Validation	538987.00	4115917.71	ISO MEDIUM	37-105mm	30.82	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	26.00	4.82	30.00	5.00	Yes	538987.07	4115917.75	0.08	Yes	101-0080; 101-0081	Yes	6/24/2021	SB
GR03	GR03-50	Validation	539009.73	4115938.61	ISO SMALL	<=37mm	42.93	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	49.00	6.07	30.00	26.00	Yes	539009.71	4115938.57	0.04	Yes	101-0090; 101-0091	Yes	6/24/2021	SB
GR04	GR04-1	TOI	539033.15	4115941.24	ISO SMALL	<=37mm	8.65	6/3/2021	1	Seed	QA 1" x 4" pipe	QA Seed #NAB-173		NA	14.00	5.35	30.00	10.00	Yes	539033.11	4115941.25	0.04	Yes	100-0050; 100-0051	Yes	6/3/2021	SB
GR04	GR04-2	TOI	539035.21	4115942.92	ISO MEDIUM	37-105mm	18.31	6/3/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-4		NA	23.00	4.69	60.00	20.00	Yes	539035.14	4115942.93	0.07	Yes	100-0048; 100-0049	Yes	6/3/2021	SB
GR04	GR04-3	TOI	539046.43	4115956.98	ISO LARGE	>105mm	34.47	6/3/2021	1	MPPEH	Mortar	81mm, fuzed	M-56	NA	36.00	1.53	81.00	56.00	Yes	539046.43	4115957.00	0.02	Yes	100-0038; 100-0039	Yes	6/3/2021	SB
GR04	GR04-4	TOI	539047.91	4115940.81	ISO LARGE	>105mm	31.40	6/3/2021	1	MPPEH	Mortar	81mm tail boom	M-56	NA	21.00	10.40	81.00	15.00	Yes	539047.98	4115941.05	0.24	Yes	100-0042	Yes	6/3/2021	SB
GR04	GR04-4	TOI	539047.91	4115940.81	ISO LARGE	>105mm	31.40	6/3/2021	2	MPPEH	Mortar	81mm, fuzed, tail-boom seperated	M-56	NA	41.00	9.60	81.00	66.00	Yes	539047.84	4115940.75	0.10	Yes	100-0040; 100-0041 100-0042	Yes	6/3/2021	SB
GR04	GR04-5	TOI	539055.80	4115938.09	ISO SMALL	<=37mm	3.90	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	7.00	3.10	28.00	11.50	Yes	539055.80	4115938.08	0.02	Yes	100-0046; 100-0047	Yes	6/3/2021	SB
GR04	GR04-6	TOI	539045.98	4115939.65	ISO LARGE	>105mm	45.24	6/3/2021	1	MPPEH	Mortar	81mm, fuzed	M-56	NA	50.00	4.76	81.00	56.00	Yes	539046.02	4115940.02	0.37	No	100-0043; 100-0045	Yes	6/3/2021	SB
GR04	GR04-6	TOI	539045.98	4115939.65	ISO LARGE	>105mm	45.24	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	steel ring		NA	11.00	34.24	10.00	1.00	Yes	539045.93	4115939.39	0.26	No	100-0044	Yes	6/3/2021	SB
GR05	GR05-1	TOI	538902.65	4115887.03	ISO MEDIUM	37-105mm	12.83	6/27/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-5		NA	15.00	2.17	60.00	20.00	Yes	538902.64	4115887.01	0.02	Yes	101-0366; 101-0367	Yes	6/27/2021	SB
GR05	GR05-2	TOI	538905.38	4115871.37	ISO SMALL	<=37mm	7.31	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	11.00	3.69	35.00	7.00	Yes	538905.35	4115871.38	0.03	Yes	101-0375; 100-0376	Yes	6/27/2021	SB
GR05	GR05-3	TOI	538905.70	4115898.08	ISO MEDIUM	37-105mm	23.15	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	25.00	1.85	30.00	56.00	Yes	538905.64	4115898.02	0.09	Yes	101-0351; 101-0352	Yes	6/27/2021	SB
GR05	GR05-4	TOI	538916.17	4115886.68	ISO SMALL	<=37mm	13.85	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	13.00	0.85	35.00	21.00	Yes	538916.20	4115886.71	0.04	Yes	101-0345; 101-0346	Yes	6/27/2021	SB
GR05	GR05-9	TOI	538900.71	4115902.75	ISO SMALL	<=37mm	5.75	6/27/2021	1	Cultural Feature	Structure	anchor		NA	10.00	4.25	40.00	0.00	Yes	538900.67	4115902.72	0.05	Yes	101-0354; 101-0355	LIP	6/27/2021	SB
GR05	GR05-12	Validation	538899.07	4115892.90	ISO MEDIUM	37-105mm	6.56	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	7.00	0.44	50.00	14.00	Yes	538899.05	4115892.90	0.02	Yes	101-0364; 101-0365	Yes	6/27/2021	SB
GR05	GR05-18	Verification	538888.37	4115889.07	ISO SMALL	<=37mm	16.91	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	12.00	4.91	35.00	7.00	Yes	538888.32	4115889.02	0.07	Yes	101-0380; 101-0381	Yes	6/27/2021	SB
GR05	GR05-19	Validation	538912.42	4115881.45	ISO MEDIUM	37-105mm	10.49	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	10.00	0.49	20.00	91.00	Yes	538912.45	4115881.47	0.04	Yes	101-0347; 101-0348	Yes	6/27/2021	SB
GR05	GR05-30	Verification	538916.80	4115893.16	ISO SMALL	<=37mm	18.83	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	50.00	31.17	100.00	0.00	Yes	538916.80	4115893.14	0.01	Yes	101-0372; 101-0374	LIP	6/27/2021	SB
GR05	GR05-37	TOI	538896.76	4115898.81	ISO SMALL	<=37mm	14.79	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	17.00	2.21	20.00	10.00	Yes	538896.75	4115898.80	0.02	Yes	101-0358; 101-0359	Yes	6/27/2021	SB
GR05	GR05-45	Validation	538913.36	4115889.66	ISO MEDIUM	37-105mm	11.28	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	10.00	1.28	15.00	22.00	Yes	538913.39	4115889.69	0.04	Yes	101-0349; 101-0350	Yes	6/27/2021	SB
GR05	GR05-49	Validation	538914.84	4115891.29	100-lb GP Bomb	>105mm	42.99	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	43.00	0.01	100.00	0.00	Yes	538914.83	4115891.29	0.01	Yes	101-0368; 101-0369	LIP	6/27/2021	SB
GR05	GR05-53	Validation	538915.61	4115892.03	100-lb GP Bomb	>105mm	47.18	6/27/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	47.00	0.18	100.00	0.00	Yes	538915.61	4115892.06	0.04	Yes	101-0370; 101-0371	LIP	6/27/2021	SB
GR05	GR05-69	Validation	538895.15	4115897.01	ISO SMALL	<=37mm	7.55	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	11.00	3.45	40.00	5.00	Yes	538895.17	4115897.02	0.01	Yes	101-0362; 101-0363	Yes	6/27/2021	SB
GR05	GR05-94	TOI	538905.39	4115871.38	ISO SMALL	<=37mm	7.99	6/27/2021	1	Duplicate Target	NA	same as 2		NA					NA				NA		Yes	6/27/2021	SB
GR05	GR05-97	Validation	538897.62	4115899.32	ISO SMALL	<=37mm	18.44	6/27/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	18.00	0.44	2.00	0.00	Yes	538897.68	4115899.30	0.07	Yes	101-0356; 101-0357	LIP	6/27/2021	SB
GR05	GR05-100	TOI	538893.48	4115899.66	ISO SMALL	<=37mm	9.07	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	12.00	2.93	30.00	17.00	Yes	538893.48	4115899.64	0.02	Yes	101-0360; 101-361	Yes	6/27/2021	SB
GR05	GR05-101	Cannot Analyze	538911.30	4115871.02	ISO LARGE	>105mm	37.43	6/27/2021	1	No Contact	NA			NA	54.00		0.00	0.00	NA	538911.30	4115871.01	0.01	Yes	101-0377; 101-0378	NA	6/27/2021	SB
GR08	GR08-1	TOI	539117.00	4115917.79	ISO MEDIUM	37-105mm	18.08	6/3/2021	1	Seed	QA 2" x 8" pipe	Blind QC Seed #GR-8		NA	19.00	0.92	20.00	60.00	Yes	539116.97	4115917.82	0.05	Yes	100-0061; 100-0062	Yes	6/3/2021	SB
GR08	GR08-2	TOI	539124.66	4115916.67	ISO LARGE	>105mm	14.14	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		NA	5.00	9.14	11.00	96.00	Yes	539124.63	4115916.58	0.09	Yes	100-0071; 100-0074	Yes	6/3/2021	SB
GR08	GR08-3	TOI	539118.28	4115921.53	ISO LARGE	>105mm	20.20	6/7/2021	1	MPPEH	Mortar	4.2 in mortar, not fuzed	M-3	NA	18.00	2.20	106.00	51.00	Yes	539118.26	4115921.52	0.02	Yes	100-0231; 100-0232	Yes	6/7/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR08	GR08-4	TOI	539115.88	4115929.46	ISO MEDIUM	37-105mm	18.02	6/4/2021	7	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, bolts, scrap		NA	19.00	0.98	1.00	43.00	No	539115.86	4115929.48	0.03	Yes	100-0152; 100-0153	Yes	6/4/2021	SB
GR08	GR08-4	TOI	539115.88	4115929.46	ISO MEDIUM	37-105mm	18.02	7/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		NA	35.00	16.98	5.00	18.00	Yes	539115.95	4115929.49	0.07	Yes	101-0755; 101-0756	Yes	7/8/2021	SB
GR08	GR08-5	TOI	539122.43	4115921.51	100-lb GP Bomb	>105mm	19.02	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		NA	16.00	3.02	10.00	62.00	Yes	539122.35	4115921.54	0.08	Yes	100-0052; 100-0053	Yes	6/3/2021	SB
GR08	GR08-7	TOI	539119.30	4115930.55	ISO SMALL	<=37mm	18.02	6/7/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	nails; scrap		NA	17.00	1.02	10.00	14.00	Yes	539119.29	4115930.55	0.01	Yes	100-0165; 100-0166	Yes	6/7/2021	SB
GR08	GR08-8	TOI	539117.01	4115917.79	ISO MEDIUM	37-105mm	18.74	6/3/2021	1	Duplicate Target	NA	Shared contact with 1		NA					NA				NA	100-0061; 100-0062	Yes	6/3/2021	SB
GR08	GR08-12	Verification	539106.11	4115923.78	ISO MEDIUM	37-105mm	5.99	6/4/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, banding		Yes	6.00	0.01	50.00	101.00	Yes	539106.04	4115923.85	0.11	Yes	100-0106; 100-0107	Yes	6/4/2021	SB
GR08	GR08-13	Verification	539127.50	4115919.46	ISO MEDIUM	37-105mm	30.93	6/4/2021	1	MPPEH	Mortar	81mm, fuzed	M-56	No	28.00	2.93	81.00	43.00	No	539127.53	4115919.36	0.11	Yes	100-0086; 100-0087	Yes	6/4/2021	SB
GR08	GR08-15	Validation	539111.68	4115923.45	ISO MEDIUM	37-105mm	10.38	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		Yes	10.00	0.38	10.00	59.00	Yes	539111.65	4115923.43	0.04	Yes	0132;100-0133	Yes	6/4/2021	SB
GR08	GR08-17	Verification	539108.25	4115914.26	100-lb GP Bomb	>105mm	17.78	6/4/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	17.00	0.78	35.00	148.00	Yes	539108.35	4115914.16	0.14	Yes	100-0098; 100-0099	Yes	6/4/2021	SB
GR08	GR08-18	TOI	539125.26	4115929.25	ISO MEDIUM	37-105mm	44.80	7/7/2021	1	MPPEH	Mortar	81mm, plugged	M-56	NA	60.00	15.20	81.00	53.00	Yes	539125.14	4115929.12	0.17	Yes	101-0741; 101-0742	Yes	7/7/2021	SB
GR08	GR08-18	TOI	539125.26	4115929.25	ISO MEDIUM	37-105mm	44.80	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		NA	22.00	22.80	10.00	15.00	No	539125.25	4115929.21	0.04	Yes	100-0215; 100-0216	Yes	6/7/2021	SB
GR08	GR08-20	Verification	539125.20	4115932.66	ISO MEDIUM	37-105mm	21.07	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	17.00	4.07	70.00	18.00	Yes	539125.09	4115932.81	0.18	Yes	100-0213; 100-0214	Yes	6/7/2021	SB
GR08	GR08-21	TOI	539109.79	4115939.38	ISO MEDIUM	37-105mm	20.53	6/7/2021	7	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, nails, wire		NA	10.00	10.53	20.00	40.00	Yes	539109.84	4115939.47	0.11	Yes	100-0227; 100-0228	Yes	6/7/2021	SB
GR08	GR08-22	TOI	539127.28	4115934.77	100-lb GP Bomb	>105mm	7.55	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	7.00	0.55	60.00	305.00	Yes	539127.35	4115934.77	0.07	Yes	100-0211; 100-0212	Yes	6/7/2021	SB
GR08	GR08-23	TOI	539122.17	4115924.98	ISO MEDIUM	37-105mm	19.14	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		NA	14.00	5.14	35.00	20.00	Yes	539122.18	4115924.98	0.01	Yes	100-0174; 100-0175	Yes	6/7/2021	SB
GR08	GR08-24	TOI	539115.32	4115928.47	ISO LARGE	>105mm	27.10	6/4/2021	16	Non-Munitions Related Debris	Non-MD Scrap Metal	bolts, wire, washer, nails, pipe		NA	25.00	2.10	25.00	97.00	Yes	539115.31	4115928.44	0.03	Yes	100-0148; 100-0149	Yes	6/4/2021	SB
GR08	GR08-26	Verification	539108.61	4115914.52	100-lb GP Bomb	>105mm	21.71	6/4/2021	1	Duplicate Target	NA	shared, intersect with 17		NA					NA				NA	100-0100; 100-0101	Yes	6/4/2021	SB
GR08	GR08-27	Verification	539107.47	4115910.94	ISO LARGE	>105mm	4.77	6/4/2021	6	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	5.00	0.23	30.00	97.00	Yes	539107.40	4115911.05	0.13	Yes	100-0118; 100-0119	Yes	6/4/2021	SB
GR08	GR08-30	TOI	539128.83	4115936.55	ISO MEDIUM	37-105mm	7.52	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	steel plate		NA	9.00	1.48	10.00	31.00	Yes	539128.77	4115936.63	0.10	Yes	100-0207; 100-0208	Yes	6/7/2021	SB
GR08	GR08-31	TOI	539131.65	4115929.63	100-lb GP Bomb	>105mm	21.92	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	7.00	14.92	80.00	81.00	Yes	539131.57	4115929.56	0.10	Yes	100-0200; 100-0201	Yes	6/7/2021	SB
GR08	GR08-33	Validation	539134.07	4115930.33	ISO SMALL	<=37mm	12.56	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	14.00	1.44	20.00	74.00	Yes	539134.05	4115930.35	0.02	Yes	100-0196; 100-0197	Yes	6/7/2021	SB
GR08	GR08-34	TOI	539121.42	4115910.19	100-lb GP Bomb	>105mm	22.65	6/3/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	16.00	6.65	33.00	248.00	Yes	539121.48	4115910.24	0.07	Yes	100-0067; 100-0069	Yes	6/3/2021	SB
GR08	GR08-35	TOI	539124.59	4115917.88	100-lb GP Bomb	>105mm	31.86	6/3/2021	1	MPPEH	Mortar	4.2 inch mortar	M-3	NA	29.00	2.86	106.00	52.00	Yes	539124.59	4115917.82	0.07	Yes	100-0079; 100-0080	Yes	6/3/2021	SB
GR08	GR08-35	TOI	539124.59	4115917.88	100-lb GP Bomb	>105mm	31.86	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	26.00	5.86	10.00	83.00	Yes	539124.68	4115917.64	0.26	No	100-0077; 100-78	Yes	6/3/2021	SB
GR08	GR08-36	TOI	539106.38	4115922.20	ISO MEDIUM	37-105mm	10.47	6/4/2021	1	MPPEH	Mortar	81mm fuzed	M-56	NA	13.00	2.53	81.00	55.00	Yes	539106.36	4115922.19	0.03	Yes	100-0110; 100-0111	Yes	6/4/2021	SB
GR08	GR08-38	Verification	539127.24	4115935.16	100-lb GP Bomb	>105mm	4.45	6/7/2021	1	Duplicate Target	NA	same as 22		NA					NA				NA		Yes	6/7/2021	SB
GR08	GR08-39	TOI	539125.86	4115916.93	ISO MEDIUM	37-105mm	19.11	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	8.00	11.11	10.00	36.00	Yes	539125.92	4115916.87	0.09	Yes	100-0075; 100-0076	Yes	6/3/2021	SB
GR08	GR08-40	TOI	539122.43	4115929.48	ISO LARGE	>105mm	29.89	6/7/2021	1	MPPEH	Mortar	4.2 inch mortar, not fuzed	M-3	NA	48.00	18.11	106.00	52.00	Yes	539122.45	4115929.51	0.04	Yes	100-0172; 100-0173	Yes	6/7/2021	SB
GR08	GR08-40	TOI	539122.43	4115929.48	ISO LARGE	>105mm	29.89	6/7/2021	8	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, washer		NA	18.00	11.89	2.00	35.00	Yes	539122.45	4115929.51	0.04	Yes	100-0172; 100-0173	Yes	6/7/2021	SB
GR08	GR08-41	Verification	539108.23	4115927.81	ISO LARGE	>105mm	10.71	6/4/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, metal ring, wire		Yes	11.00	0.29	25.00	68.00	Yes	539108.26	4115927.83	0.03	Yes	100-0104; 100-0105	Yes	6/4/2021	SB
GR08	GR08-42	Validation	539134.77	4115933.73	ISO SMALL	<=37mm	9.21	6/7/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, wire		Yes	24.00	14.79	10.00	25.00	Yes	539134.72	4115933.63	0.11	Yes	100-0198; 100-0199	Yes	6/7/2021	SB
GR08	GR08-44	Verification	539132.95	4115913.67	ISO MEDIUM	37-105mm	5.11	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe clamp		Yes	10.00	4.89	10.00	56.00	Yes	539132.92	4115913.61	0.07	Yes	100-0188; 100-0189	Yes	6/7/2021	SB
GR08	GR08-45	TOI	539106.01	4115913.83	ISO SMALL	<=37mm	5.71	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		NA	12.00	6.29	50.00	18.00	Yes	539105.97	4115913.80	0.05	Yes	100-0116; 100-0117	Yes	6/4/2021	SB
GR08	GR08-48	TOI	539129.47	4115935.14	ISO MEDIUM	37-105mm	7.07	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	steel plate		NA	11.00	3.93	10.00	31.00	Yes	539129.50	4115935.08	0.07	Yes	100-0209; 100-0210	Yes	6/7/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR08	GR08-51	TOI	539108.56	4115912.76	ISO LARGE	>105mm	15.01	6/4/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		NA	15.00	0.01	30.00	93.00	Yes	539108.57	4115912.75	0.02	Yes	100-0122; 100-0123	Yes	6/4/2021	SB
GR08	GR08-52	TOI	539124.19	4115916.81	100-lb GP Bomb	>105mm	26.09	6/3/2021	1	Duplicate Target	NA	shared contact with 2		NA					NA				NA	100-0071; 100-0074	Yes	6/3/2021	SB
GR08	GR08-54	TOI	539106.07	4115923.40	ISO LARGE	>105mm	8.98	6/4/2021	2	Duplicate Target	NA	Shared contact with 12		NA					NA				NA	100-0108; 100-0109	Yes	6/4/2021	SB
GR08	GR08-58	TOI	539106.32	4115917.45	ISO MEDIUM	37-105mm	7.81	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		NA	8.00	0.19	60.00	29.00	Yes	539106.32	4115917.38	0.07	Yes	100-0114; 100-0115	Yes	6/4/2021	SB
GR08	GR08-59	Verification	539113.99	4115931.04	ISO SMALL	<=37mm	9.50	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	nails, bolt, wire washer		Yes	13.00	3.50	20.00	39.00	Yes	539113.89	4115931.10	0.12	Yes	100-0150; 100-0151	Yes	6/4/2021	SB
GR08	GR08-60	TOI	539109.55	4115919.41	ISO LARGE	>105mm	12.12	6/4/2021	1	MPPEH	Mortar	81mm fuzed	M-56	NA	11.00	1.12	81.00	59.00	Yes	539109.57	4115919.43	0.03	Yes	100-0128; 100-0129	Yes	6/4/2021	SB
GR08	GR08-60	TOI	539109.55	4115919.41	ISO LARGE	>105mm	12.12	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		NA	11.00	1.12	29.00	137.00	Yes	539109.57	4115919.43	0.03	Yes	100-0128; 100-0129	Yes	6/4/2021	SB
GR08	GR08-61	Verification	539111.00	4115939.19	ISO SMALL	<=37mm	6.92	6/7/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, nails, scrap, drill bit		Yes	15.00	8.08	29.00	15.00	Yes	539110.85	4115939.13	0.17	Yes	100-0225; 100-0226	Yes	6/7/2021	SB
GR08	GR08-63	TOI	539112.30	4115938.53	ISO LARGE	>105mm	15.76	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, wire		NA	9.00	6.76	30.00	9.00	Yes	539112.31	4115938.58	0.06	Yes	100-0223; 100-0224	Yes	6/7/2021	SB
GR08	GR08-65	Validation	539129.41	4115923.96	ISO SMALL	<=37mm	-6.69	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	0.00	6.69	55.00	25.00	Yes	539129.38	4115923.95	0.03	Yes	100-0092; 100-0093	Yes	6/4/2021	SB
GR08	GR08-66	Verification	539112.05	4115929.95	ISO MEDIUM	37-105mm	13.74	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap, pipe, rebar		Yes	11.00	2.74	30.00	19.00	Yes	539112.10	4115929.95	0.05	Yes	100-0138; 100-0139	Yes	6/4/2021	SB
GR08	GR08-68	Validation	539104.86	4115921.10	ISO LARGE	>105mm	11.84	6/4/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap metal, pipe, bolt		Yes	7.00	4.84	30.00	110.00	Yes	539104.91	4115921.00	0.12	Yes	100-0112; 100-0113	Yes	6/4/2021	SB
GR08	GR08-70	Verification	539113.53	4115937.75	ISO MEDIUM	37-105mm	3.88	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	3.00	0.88	50.00	184.00	Yes	539113.50	4115937.85	0.11	Yes	100-0221; 100-0222	Yes	6/7/2021	SB
GR08	GR08-72	TOI	539131.44	4115929.62	100-lb GP Bomb	>105mm	15.39	6/7/2021	1	Duplicate Target	NA	same as 31		NA					NA				NA		Yes	6/7/2021	SB
GR08	GR08-73	Validation	539131.50	4115917.98	ISO SMALL	<=37mm	16.49	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	13.00	3.49	20.00	15.00	Yes	539131.57	4115917.91	0.10	Yes	100-0192; 100-0193	Yes	6/7/2021	SB
GR08	GR08-74	TOI	539115.89	4115929.42	ISO MEDIUM	37-105mm	15.60	6/4/2021	1	Duplicate Target	NA	same as 4		NA					NA				NA		Yes	6/4/2021	SB
GR08	GR08-76	Verification	539119.56	4115910.40	ISO MEDIUM	37-105mm	9.97	6/3/2021	2	Duplicate Target	NA	shared contact with 34		NA					NA				NA	100-0068; 100-0070	Yes	6/3/2021	SB
GR08	GR08-78	Validation	539130.43	4115937.72	ISO LARGE	>105mm	19.07	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	rod		Yes	10.00	9.07	20.00	168.00	Yes	539130.44	4115937.63	0.09	Yes	100-0202; 100-0204	Yes	6/7/2021	SB
GR08	GR08-79	Validation	539110.33	4115912.19	ISO SMALL	<=37mm	8.20	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	9.00	0.80	40.00	34.00	Yes	539110.32	4115912.14	0.06	Yes	100-0124; 100-0125	Yes	6/4/2021	SB
GR08	GR08-82	TOI	539113.57	4115933.04	ISO SMALL	<=37mm	6.49	6/7/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	nails		NA	11.00	4.51	2.00	25.00	Yes	539113.58	4115933.03	0.02	Yes	100-0159; 100-0160	Yes	6/7/2021	SB
GR08	GR08-84	Verification	539135.40	4115929.06	ISO MEDIUM	37-105mm	25.12	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	24.00	1.12	20.00	102.00	Yes	539135.30	4115928.98	0.13	Yes	100-0194; 100-0195	Yes	6/7/2021	SB
GR08	GR08-85	Verification	539122.18	4115925.05	ISO MEDIUM	37-105mm	11.43	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	18.00	6.57	49.00	22.00	Yes	539122.32	4115925.12	0.15	Yes	100-0176; 100-0177	Yes	6/7/2021	SB
GR08	GR08-87	Validation	539106.05	4115936.58	ISO SMALL	<=37mm	12.16	6/7/2021	8	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, nail		Yes	16.00	3.84	3.00	23.00	Yes	539106.07	4115936.59	0.02	Yes	100-0155; 100-0156	Yes	6/7/2021	SB
GR08	GR08-89	TOI	539120.18	4115910.24	100-lb GP Bomb	>105mm	14.62	6/3/2021	1	Duplicate Target	NA	shared contact with 34		NA					NA				NA	100-0067; 100-0068; 100-0069	Yes	6/3/2021	SB
GR08	GR08-91	Verification	539114.38	4115932.54	No Match	<=37mm	7.45	6/7/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	nail, metal plate		Yes	8.00	0.55	2.00	25.00	Yes	539114.43	4115932.58	0.06	Yes	100-0161; 100-0162	Yes	6/7/2021	SB
GR08	GR08-92	Validation	539124.92	4115925.58	No Match	>105mm	30.29	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	rebar		Yes	15.00	15.29	30.00	143.00	Yes	539125.09	4115925.47	0.21	Yes	100-0182; 100-0183	Yes	6/7/2021	SB
GR08	GR08-93	Verification	539108.83	4115915.22	ISO MEDIUM	37-105mm	0.71	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	4.00	3.29	35.00	103.00	Yes	539108.58	4115915.30	0.26	No	100-0096; 100-0097	Yes	6/4/2021	SB
GR08	GR08-94	TOI	539112.06	4115938.54	ISO LARGE	>105mm	24.40	6/7/2021	1	Duplicate Target	NA	same as 63		NA					NA				NA		Yes	6/7/2021	SB
GR08	GR08-95	Validation	539126.50	4115913.33	ISO MEDIUM	37-105mm	12.69	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	12.00	0.69	10.00	42.00	Yes	539126.49	4115913.36	0.04	Yes	100-0081; 100-0082	Yes	6/3/2021	SB
GR08	GR08-96	Verification	539113.57	4115937.70	ISO MEDIUM	37-105mm	6.48	6/7/2021	1	Duplicate Target	NA	same as 70		NA					NA				NA		Yes	6/7/2021	SB
GR08	GR08-97	TOI	539105.19	4115938.84	ISO SMALL	<=37mm	9.89	7/7/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	nail		NA	25.00	15.11	5.00	9.00	Yes	539105.24	4115938.83	0.06	Yes	101-0743; 101-0744	Yes	7/7/2021	SB
GR08	GR08-97	TOI	539105.19	4115938.84	ISO SMALL	<=37mm	9.89	6/7/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, nail		NA	13.00	3.11	2.00	16.00	No	539105.19	4115938.84	0.01	Yes	100-0157; 100-0158	Yes	6/7/2021	SB
GR08	GR08-99	Verification	539108.56	4115920.45	ISO SMALL	<=37mm	0.79	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	4.00	3.21	30.00	23.00	Yes	539108.53	4115920.44	0.03	Yes	100-0130; 100-0131	Yes	6/4/2021	SB
GR08	GR08-101	Verification	539118.79	4115910.94	ISO MEDIUM	37-105mm	3.58	6/3/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	metal pipe, steel cable		Yes	6.00	2.42	30.00	76.00	Yes	539118.81	4115910.92	0.03	Yes	100-0065; 100-0066	Yes	6/3/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR08	GR08-103	Verification	539115.42	4115913.85	ISO SMALL	<=37mm	6.05	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Metal Plate		Yes	10.00	3.95	10.00	16.00	Yes	539115.42	4115913.77	0.09	Yes	100-0063; 100-64	Yes	6/3/2021	SB
GR08	GR08-105	TOI	539132.82	4115913.63	ISO MEDIUM	37-105mm	9.82	6/7/2021	1	Duplicate Target	NA	Same as 44		NA					NA				NA		Yes	6/7/2021	SB
GR08	GR08-113	Verification	539112.37	4115930.76	ISO MEDIUM	37-105mm	10.75	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, hook		Yes	10.00	0.75	20.00	24.00	Yes	539112.36	4115930.74	0.03	Yes	100-0140; 0141	Yes	6/4/2021	SB
GR08	GR08-115	Verification	539123.40	4115924.55	ISO MEDIUM	37-105mm	15.83	6/7/2021	8	Non-Munitions Related Debris	Non-MD Scrap Metal	pipes, nails		Yes	12.00	3.83	20.00	44.00	Yes	539123.39	4115924.54	0.01	Yes	100-0178; 100-0179 =	Yes	6/7/2021	SB
GR08	GR08-118	Validation	539107.07	4115912.03	ISO MEDIUM	37-105mm	0.30	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	20.00	19.70	40.00	112.00	Yes	539107.23	4115911.91	0.20	Yes	100-0120; 100-0121	Yes	6/4/2021	SB
GR08	GR08-122	TOI	539118.28	4115921.41	ISO LARGE	>105mm	18.43	6/7/2021	1	Duplicate Target	NA	same as 3		NA					NA				NA		Yes	6/7/2021	SB
GR08	GR08-127	TOI	539122.26	4115918.61	ISO MEDIUM	37-105mm	17.15	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	rebar, washers, total depth 33cm		NA	17.00	0.15	50.00	41.00	Yes	539122.19	4115918.57	0.08	Yes	100-0056; 100-0057	Yes	6/3/2021	SB
GR08	GR08-130	Validation	539116.57	4115924.45	ISO SMALL	<=37mm	51.63	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		Yes	50.00	1.63	4.00	10.00	Yes	539116.61	4115924.43	0.04	Yes	100-0146; 100-0147	Yes	6/4/2021	SB
GR08	GR08-132	Validation	539129.08	4115936.35	ISO LARGE	>105mm	11.07	6/7/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	steel plates		Yes	11.00	0.07	10.00	31.00	Yes	539129.16	4115936.31	0.09	Yes	100-0205; 100-0206	Yes	6/7/2021	SB
GR08	GR08-147	Validation	539120.30	4115918.15	ISO LARGE	>105mm	33.89	6/3/2021	8	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plates, wire		Yes	40.00	6.11	10.00		Yes	539120.32	4115918.14	0.02	Yes	100-0054; 100-0055	Yes	6/3/2021	SB
GR08	GR08-156	Verification	539126.82	4115924.44	ISO LARGE	>105mm	10.98	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	5.00	5.98	30.00	81.00	Yes	539126.87	4115924.47	0.06	Yes	100-0184; 100-0185	Yes	6/7/2021	SB
GR08	GR08-160	Validation	539111.71	4115929.18	ISO MEDIUM	37-105mm	8.60	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, wire, bracket		Yes	11.00	2.40	19.00	59.00	Yes	539111.87	4115929.02	0.23	Yes	100-0136; 100-0137	Yes	6/4/2021	SB
GR08	GR08-163	Verification	539117.22	4115934.78	ISO SMALL	<=37mm	15.86	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	steel plate		Yes	17.00	1.14	3.00	13.00	Yes	539117.35	4115934.67	0.17	Yes	100-0217; 100-0218	Yes	6/7/2021	SB
GR08	GR08-166	TOI	539120.09	4115929.16	ISO SMALL	<=37mm	14.16	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	nail, wire, scrap. same as 169 and 170		NA	14.00	0.16	20.00	39.00	Yes	539120.06	4115929.18	0.04	Yes	100-0169; 100-0171	Yes	6/7/2021	SB
GR08	GR08-169	TOI	539120.17	4115929.15	ISO SMALL	<=37mm	12.40	6/7/2021	3	Duplicate Target	NA	same as 166 and 170		NA					NA				NA		Yes	6/7/2021	SB
GR08	GR08-170	TOI	539120.00	4115929.11	ISO SMALL	<=37mm	13.31	6/7/2021	3	Duplicate Target	NA	same as 166 and 169		NA					NA				NA		Yes	6/7/2021	SB
GR08	GR08-182	Verification	539132.37	4115915.88	ISO SMALL	<=37mm	8.10	6/7/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, nails		Yes	12.00	3.90	30.00	9.00	Yes	539132.43	4115915.92	0.07	Yes	100-0190; 100-0191	Yes	6/7/2021	SB
GR08	GR08-183	Verification	539109.21	4115914.49	100-lb GP Bomb	>105mm	37.90	6/4/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, sheet metal		Yes	18.00	19.90	30.00	143.00	Yes	539109.33	4115914.43	0.13	Yes	100-0094; 100-0095	Yes	6/4/2021	SB
GR08	GR08-188	Validation	539111.22	4115918.16	100-lb GP Bomb	>105mm	14.65	6/4/2021	4	Non-Munitions Related Debris	Non-MD Scrap Metal	3 pipes, metal ring		Yes	13.00	1.65	78.00	155.00	Yes	539111.26	4115918.16	0.05	Yes	100-0126; 100-0127	Yes	6/4/2021	SB
GR08	GR08-202	Validation	539114.63	4115930.81	ISO LARGE	>105mm	32.41	6/4/2021	1	Duplicate Target	NA	Shared contact with 59		NA					NA				NA		Yes	6/4/2021	SB
GR08	GR08-204	Validation	539126.66	4115912.92	ISO SMALL	<=37mm	6.49	6/3/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	13.00	6.51	10.00	36.00	Yes	539126.68	4115912.88	0.04	Yes	100-0083; 100-0084	Yes	6/3/2021	SB
GR08	GR08-205	Validation	539128.86	4115919.71	ISO SMALL	<=37mm	28.34	6/4/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	banding, wire		Yes	20.00	8.34	4.00	32.00	Yes	539128.89	4115919.63	0.08	Yes	100-0088; 100-0089	Yes	6/4/2021	SB
GR08	GR08-206	Verification	539129.13	4115921.39	ISO SMALL	<=37mm	9.77	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	14.00	4.23	10.00	11.00	Yes	539129.13	4115921.46	0.07	Yes	100-0090; 100-0091	Yes	6/4/2021	SB
GR08	GR08-215	Validation	539106.74	4115930.52	ISO SMALL	<=37mm	3.61	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		Yes	5.00	1.39	10.00	11.00	Yes	539106.67	4115930.50	0.07	Yes	100-0102; 100-0103	Yes	6/4/2021	SB
GR08	GR08-216	Validation	539110.78	4115934.58	ISO LARGE	>105mm	24.47	6/7/2021	27	Non-Munitions Related Debris	Non-MD Scrap Metal	nail, bolts		Yes	44.00	19.53	15.00	16.00	Yes	539110.74	4115934.50	0.08	Yes	100-0154; 100-0154-02	Yes	6/7/2021	SB
GR08	GR08-217	TOI	539124.82	4115925.15	ISO SMALL	<=37mm	6.43	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pin		NA	18.00	11.57	20.00	17.00	Yes	539124.80	4115925.08	0.07	Yes	100-0180; 100-0181	Yes	6/7/2021	SB
GR08	GR08-220	Verification	539126.76	4115924.29	ISO LARGE	>105mm	15.20	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	7.00	8.20	30.00	37.00	Yes	539126.76	4115924.30	0.02	Yes	100-0186; 100-0187	Yes	6/7/2021	SB
GR08	GR08-221	Verification	539109.58	4115919.39	ISO LARGE	>105mm	11.48	6/4/2021	1	Duplicate Target	NA	Same as TOI as 60		NA					NA				NA		Yes	6/4/2021	SB
GR08	GR08-221	Verification	539109.58	4115919.39	ISO LARGE	>105mm	11.48	6/4/2021	1	Duplicate Target	NA	Same contact as TOI 60		NA					NA				NA		Yes	6/4/2021	SB
GR08	GR08-232	Validation	539115.38	4115923.10	ISO SMALL	<=37mm	30.08	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	nail, wire, scrap		Yes	30.00	0.08	10.00	10.00	Yes	539115.35	4115923.02	0.08	Yes	100-0142; 100-0143	Yes	6/4/2021	SB
GR08	GR08-237	TOI	539115.10	4115928.76	ISO SMALL	<=37mm	13.05	6/4/2021	16	Duplicate Target	NA	Shared with 24		NA					NA				NA		Yes	6/4/2021	SB
GR08	GR08-245	Validation	539115.88	4115923.64	ISO SMALL	<=37mm	28.84	6/4/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap		Yes	30.00	1.16	10.00	10.00	Yes	539115.85	4115923.62	0.04	Yes	100-0144; 100-0145	Yes	6/4/2021	SB
GR08	GR08-246	Validation	539121.31	4115919.61	ISO LARGE	>105mm	35.80	6/3/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plates		Yes	16.00	19.80	20.00	16.00	Yes	539121.41	4115919.63	0.11	Yes	100-0058; 100-0059	Yes	6/3/2021	SB
GR08	GR08-251	Validation	539111.90	4115926.45	ISO LARGE	>105mm	13.73	6/4/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron, bolt, hook		Yes	13.00	0.73	10.00	12.00	Yes	539111.88	4115926.41	0.05	Yes	100-0134; 100-0135	Yes	6/4/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR08	GR08-257	Validation	539119.02	4115928.92	No Match	<=37mm	10.77	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		Yes	11.00	0.23	4.00	21.00	Yes	539119.02	4115928.92	0.01	Yes	100-0167; 100-0168	Yes	6/7/2021	SB
GR08	GR08-268	Validation	539107.17	4115938.71	ISO MEDIUM	37-105mm	15.55	6/7/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	sheet metal		Yes	18.00	2.45	1.00	7.00	Yes	539107.21	4115938.75	0.06	Yes	100-0229; 100-0230	Yes	6/7/2021	SB
GR08	GR08-280	Validation	539118.69	4115932.08	ISO MEDIUM	37-105mm	28.56	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	nails, wire		Yes	24.00	4.56	3.00	17.00	Yes	539118.72	4115932.07	0.03	Yes	100-0163; 100-0164	Yes	6/7/2021	SB
GR08	GR08-291	Validation	539118.85	4115939.49	No Match	37-105mm	42.67	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe, total depth 49 cm		Yes	14.00	28.67	45.00	5.00	Yes	539118.93	4115939.48	0.08	Yes	100-0219; 100-0220; 101-0740	Yes	6/7/2021	SB
GR08	GR08-303	TOI	539116.98	4115917.84	ISO MEDIUM	37-105mm	16.08	6/3/2021	1	Duplicate Target	NA	Shared contact with 1		NA					NA				NA	100-0061; 100-0062	Yes	6/3/2021	SB
GR09	GR09-1	TOI	538882.00	4115853.25	ISO MEDIUM	37-105mm	22.03	6/27/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-9		NA	22.00	0.03	60.00	20.00	Yes	538882.03	4115853.26	0.03	Yes	101-0384; 101-0385	Yes	6/27/2021	SB
GR09	GR09-2	TOI	538890.32	4115854.29	ISO MEDIUM	37-105mm	20.09	6/27/2021	1	Seed	QA 2" x 8" pipe	QA Seed #NAB 1528		NA	22.00	1.91	60.00	20.00	Yes	538890.33	4115854.30	0.02	Yes	101-0388; 101-0389	Yes	6/27/2021	SB
GR09	GR09-4	TOI	538894.76	4115838.08	ISO MEDIUM	37-105mm	7.90	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	8.00	0.10	40.00	71.00	Yes	538894.81	4115838.08	0.05	Yes	101-0390; 101-0391	Yes	6/27/2021	SB
GR09	GR09-5	TOI	538878.80	4115843.44	ISO MEDIUM	37-105mm	29.88	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	31.00	1.12	40.00	25.00	Yes	538878.83	4115843.45	0.03	Yes	101-386; 101-0387	Yes	6/27/2021	SB
GR09	GR09-6	Validation	538880.68	4115864.34	ISO SMALL	<=37mm	15.61	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	16.00	0.39	50.00	10.00	Yes	538880.68	4115864.31	0.03	Yes	101-0382; 101-0383	Yes	6/27/2021	SB
GR09	GR09-14	TOI	538882.01	4115853.28	ISO MEDIUM	37-105mm	24.33	6/27/2021	1	Duplicate Target	NA	same as 1		NA					NA				NA		Yes	6/27/2021	SB
GR10	GR10-1	TOI	538951.48	4115836.20	ISO MEDIUM	37-105mm	30.77	6/27/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-10		NA	29.00	1.77	60.00	20.00	Yes	538951.41	4115836.16	0.08	Yes	101-0339; 101-0340	Yes	6/27/2021	SB
GR10	GR10-4	TOI	538952.20	4115848.57	ISO SMALL	<=37mm	16.78	6/27/2021	1	Seed	QA 1" x 4" pipe	QA Seed #NAB 166		NA	16.00	0.78	30.00	10.00	Yes	538952.17	4115848.54	0.04	Yes	101-0343; 101-0344	Yes	6/27/2021	SB
GR10	GR10-7	Verification	538970.62	4115839.13	ISO SMALL	<=37mm	8.00	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal			Yes	8.00	0.00	25.00	11.50	Yes	538970.62	4115839.12	0.01	Yes	101-0337; 101-0338	Yes	6/27/2021	SB
GR10	GR10-15	TOI	538969.94	4115841.93	ISO MEDIUM	37-105mm	12.25	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal			NA	13.00	0.75	20.00	48.00	Yes	538969.91	4115841.89	0.05	Yes	101-0341; 101-0342	Yes	6/27/2021	SB
GR10	GR10-21	TOI	538951.44	4115836.18	ISO MEDIUM	37-105mm	19.33	6/27/2021	1	Duplicate Target	NA	same as 1		NA					NA				NA		Yes	6/27/2021	SB
GR10	GR10-33	Cannot Analyze	538962.52	4115841.60	ISO LARGE	>105mm	0.64	6/27/2021	1	Cultural Feature	Inacessible	hardscape		NA	0.00	0.64	0.00	0.00	NA	538962.52	4115841.61	0.01	Yes	101-0336	LIP	6/27/2021	SB
GR11	GR11-1	TOI	539106.35	4115856.94	ISO MEDIUM	37-105mm	18.50	6/7/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-11		NA	16.00	2.50	60.00	20.00	Yes	539106.34	4115856.91	0.03	Yes	100-0233; 100-0234	Yes	6/7/2021	SB
GR11	GR11-2	TOI	539102.28	4115859.29	ISO MEDIUM	37-105mm	7.46	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	12.00	4.54	40.00	22.00	Yes	539102.24	4115859.23	0.07	Yes	100-0235; 100-0236	Yes	6/7/2021	SB
GR11	GR11-3	TOI	539110.26	4115857.52	ISO LARGE	>105mm	33.30	6/7/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	31.00	2.30	106.00	51.00	Yes	539110.30	4115857.47	0.06	Yes	100-0237; 100-0238	Yes	6/7/2021	SB
GR11	GR11-4	TOI	539114.50	4115857.88	ISO LARGE	>105mm	34.34	6/7/2021	1	MPPEH	Mortar	81mm, fuzed	M-56	NA	28.00	6.34	81.00	55.00	Yes	539114.54	4115857.85	0.04	Yes	100-0242; 100-0243	Yes	6/7/2021	SB
GR11	GR11-7	TOI	539102.31	4115859.32	ISO MEDIUM	37-105mm	7.20	6/7/2021	1	Duplicate Target	NA	same as 2		NA					NA				NA		Yes	6/7/2021	SB
GR11	GR11-47	TOI	539114.53	4115857.95	ISO MEDIUM	37-105mm	26.66	6/7/2021	1	Duplicate Target	NA	same as 4		NA					NA				NA		Yes	6/7/2021	SB
GR11	GR11-66	TOI	539110.27	4115857.48	ISO LARGE	>105mm	32.56	6/7/2021	1	Duplicate Target	NA	same as 3		NA					NA				NA		Yes	6/7/2021	SB
GR11	GR11-68	Validation	539100.59	4115843.65	ISO SMALL	<=37mm	12.85	6/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	15.00	2.15	10.00	13.00	Yes	539100.53	4115843.57	0.09	Yes	100-0239; 100-0240	Yes	6/7/2021	SB
GR13	GR13-1	TOI	538903.63	4115812.55	ISO MEDIUM	37-105mm	14.98	6/27/2021	1	Seed	QA 2" x 8" pipe	QA Seed #NAB 1527		NA	15.00	0.02	60.00	20.00	Yes	538903.56	4115812.54	0.07	Yes	101-0397; 101-0398	Yes	6/27/2021	SB
GR13	GR13-5	Verification	538904.42	4115819.21	ISO MEDIUM	37-105mm	6.78	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	6.00	0.78	60.00	19.00	Yes	538904.44	4115819.21	0.02	Yes	101-0398; 101-0399	Yes	6/27/2021	SB
GR13	GR13-22	Validation	538905.36	4115800.60	ISO LARGE	>105mm	93.37	6/27/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	96.00	2.63	0.00	0.00	Yes	538905.36	4115800.63	0.03	Yes	101-0394; 101-0395	LIP	6/27/2021	SB
GR13	GR13-35	Validation	538919.37	4115791.18	ISO SMALL	<=37mm	24.03	6/27/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	18.00	6.03	15.00	7.00	Yes	538919.41	4115791.20	0.04	Yes	101-0400; 101-0401	Yes	6/27/2021	SB
GR14	GR14-1	TOI	538988.66	4115789.24	ISO SMALL	<=37mm	8.94	6/29/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #GR-14, same as 60		NA	14.00	5.06	30.00	10.00	Yes	538988.63	4115789.22	0.04	Yes	101-0447; 101-0448	Yes	6/29/2021	SB
GR14	GR14-2	TOI	538997.86	4115780.15	ISO MEDIUM	37-105mm	13.86	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	12.00	1.86	40.00	47.00	Yes	538997.80	4115780.11	0.07	Yes	101-0463; 101-0464	Yes	6/29/2021	SB
GR14	GR14-3	TOI	538982.91	4115795.80	ISO SMALL	<=37mm	8.49	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	12.00	3.51	25.00	13.00	Yes	538982.91	4115795.82	0.02	Yes	101-0443; 101-0444	Yes	6/29/2021	SB
GR14	GR14-5	TOI	538988.66	4115772.86	ISO SMALL	<=37mm	8.13	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	10.00	1.87	10.00	14.50	Yes	538988.68	4115772.90	0.04	Yes	101-0457; 101-0458	Yes	6/29/2021	SB
GR14	GR14-9	TOI	538988.06	4115773.08	ISO MEDIUM	37-105mm	12.88	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	12.00	0.88	30.00	13.00	Yes	538988.08	4115773.11	0.04	Yes	101-0455; 101-0456	Yes	6/29/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR14	GR14-10	Verification	538990.32	4115784.02	100-lb GP Bomb	>105mm	23.69	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Metal Plate		Yes	19.00	4.69	30.00	41.00	Yes	538990.32	4115784.02	0.00	Yes	101-0475; 101-0476	Yes	6/29/2021	SB
GR14	GR14-11	TOI	538989.71	4115785.57	ISO MEDIUM	37-105mm	15.14	6/29/2021	1	Seed	QA 2" x 8" pipe	QA Seed #NAB 1574		NA	10.00	5.14	60.00	20.00	Yes	538989.72	4115785.54	0.03	Yes	101-0471; 101-0472	Yes	6/29/2021	SB
GR14	GR14-12	TOI	538989.11	4115775.41	ISO LARGE	>105mm	41.06	6/29/2021	1	Cultural Feature	Structure	Buried Pipe		NA	39.00	2.06	30.00	65.00	Yes	538989.11	4115775.39	0.02	Yes	101-0459; 101-0460	LIP	6/29/2021	SB
GR14	GR14-14	TOI	538984.97	4115799.51	ISO SMALL	<=37mm	5.79	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	8.00	2.21	25.00	10.50	Yes	538984.99	4115799.52	0.02	Yes	101-0445; 101-0446	Yes	6/29/2021	SB
GR14	GR14-19	Validation	538992.42	4115780.81	ISO LARGE	>105mm	31.81	6/29/2021	1	Cultural Feature	Structure	pipe in concrete		Yes	22.00	9.81	50.00	0.00	Yes	538992.37	4115780.81	0.05	Yes	101-0461; 101-0462	LIP	6/29/2021	SB
GR14	GR14-20	Validation	538987.87	4115783.25	ISO LARGE	>105mm	53.65	6/29/2021	1	Target Not Investigated	Inaccessible	Under hardscape		Yes	0.00	53.65	0.00	0.00	NA	538987.86	4115783.26	0.01	Yes	101-0480	LIP	6/29/2021	SB
GR14	GR14-23	Verification	538987.00	4115773.61	ISO SMALL	<=37mm	9.48	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	12.00	2.52	3.00	9.00	Yes	538986.99	4115773.62	0.01	Yes	101-0481; 101-0482	Yes	6/29/2021	SB
GR14	GR14-32	Validation	538999.31	4115780.97	ISO MEDIUM	37-105mm	10.08	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	12.00	1.92	12.00	14.00	Yes	538999.28	4115780.99	0.04	Yes	101-0465; 101-0466	Yes	6/29/2021	SB
GR14	GR14-33	Validation	538981.39	4115776.98	ISO SMALL	<=37mm	10.85	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	8.00	2.85	20.00	9.00	Yes	538981.41	4115777.00	0.03	Yes	101-0453; 101-0454	Yes	6/29/2021	SB
GR14	GR14-34	TOI	538993.00	4115786.42	ISO MEDIUM	37-105mm	30.67	6/29/2021	1	Cultural Feature	Structure	reinforced concrete		NA	26.00	4.67	0.00	0.00	Yes	538992.98	4115786.44	0.03	Yes	101-0469; 101-0470	LIP	6/29/2021	SB
GR14	GR14-38	Validation	538987.89	4115785.40	ISO LARGE	>105mm	62.25	6/29/2021	1	No Contact	NA	NA		Yes	82.00		0.00	0.00	NA	538987.90	4115785.40	0.00	Yes	101-0477; 101-0478; 101-0479;	NA	6/29/2021	SB
GR14	GR14-39	Validation	538978.89	4115783.59	ISO SMALL	<=37mm	25.62	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	30.00	4.38	26.00	5.00	Yes	538978.88	4115783.58	0.02	Yes	101-0449; 101-0450	Yes	6/29/2021	SB
GR14	GR14-40	Verification	538995.97	4115784.00	ISO SMALL	<=37mm	9.39	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	9.00	0.39	30.00	14.00	Yes	538996.00	4115784.02	0.04	Yes	101-0467; 101-0468	Yes	6/29/2021	SB
GR14	GR14-46	Verification	538978.81	4115780.59	ISO MEDIUM	37-105mm	26.42	6/29/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	34.00	7.58	40.00	0.00	Yes	538978.82	4115780.60	0.01	Yes	101-0451; 101-0452	LIP	6/29/2021	SB
GR14	GR14-58	TOI	538989.23	4115785.29	100-lb GP Bomb	>105mm	66.32	6/29/2021	1	Cultural Feature	Structure	reinforced concrete		NA	54.00	12.32	0.00	0.00	Yes	538989.21	4115785.29	0.02	Yes	101-0473; 101-0474	LIP	6/29/2021	SB
GR14	GR14-59	TOI	538984.99	4115799.52	ISO SMALL	<=37mm	4.98	6/29/2021	1	Duplicate Target	NA	same 14		NA					NA				NA		Yes	6/29/2021	SB
GR14	GR14-60	TOI	538988.64	4115789.26	ISO SMALL	<=37mm	8.96	6/29/2021	1	Duplicate Target	NA	same as 1		NA					NA				NA		Yes	6/29/2021	SB
GR15	GR15-1	TOI	538933.16	4115764.49	ISO MEDIUM	37-105mm	13.98	6/26/2021	1	Seed	Blind QC 2" x 8" pipe	QA Seed #NAB 133		NA	14.00	0.02	60.00	20.00	Yes	538933.17	4115764.47	0.02	Yes	101-0306; 101-0307	Yes	6/26/2021	SB
GR15	GR15-2	TOI	538929.32	4115747.94	ISO MEDIUM	37-105mm	25.49	6/26/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-15		NA	26.00	0.51	60.00	20.00	Yes	538929.31	4115747.90	0.03	Yes	101-0302; 101-0303	Yes	6/26/2021	SB
GR15	GR15-4	TOI	538924.06	4115759.38	ISO MEDIUM	37-105mm	20.46	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	17.00	3.46	50.00	28.00	Yes	538924.08	4115759.41	0.04	Yes	101-0304; 101-0305	Yes	6/26/2021	SB
GR15	GR15-5	Validation	538949.30	4115768.69	No Match	>105mm	10.03	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	10.00	0.03	30.00	122.00	Yes	538949.27	4115768.69	0.03	Yes	101-0286; 101-0287	Yes	6/26/2021	SB
GR15	GR15-6	Verification	538951.63	4115755.57	ISO SMALL	<=37mm	2.47	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	3.00	0.53	30.00	38.00	Yes	538951.60	4115755.57	0.03	Yes	101-0294; 101-0295	Yes	6/26/2021	SB
GR15	GR15-7	Verification	538949.39	4115744.15	ISO MEDIUM	37-105mm	23.07	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	23.00	0.07	8.00	26.00	Yes	538949.49	4115744.19	0.11	Yes	101-0298; 101-0299	Yes	6/26/2021	SB
GR15	GR15-8	TOI	538949.94	4115756.23	ISO SMALL	<=37mm	4.91	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	6.00	1.09	15.00	15.00	Yes	538949.92	4115756.19	0.04	Yes	101-0292; 101-0293	Yes	6/26/2021	SB
GR15	GR15-10	Verification	538949.60	4115744.19	ISO MEDIUM	37-105mm	23.50	6/26/2021	1	Duplicate Target	NA	same as 7		NA					NA				NA		Yes	6/26/2021	SB
GR15	GR15-16	TOI	538948.81	4115761.47	ISO SMALL	<=37mm	7.54	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		NA	9.00	1.46	15.00	16.00	Yes	538948.80	4115761.45	0.02	Yes	101-0290; 101-0291	Yes	6/26/2021	SB
GR15	GR15-22	Validation	538951.97	4115764.67	ISO SMALL	<=37mm	14.08	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	12.00	2.08	10.00	11.00	Yes	538951.94	4115764.65	0.04	Yes	101-0288; 101-0289	Yes	6/26/2021	SB
GR15	GR15-75	Verification	538941.83	4115741.55	100-lb GP Bomb	>105mm	56.79	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	57.00	0.21	0.00	0.00	Yes	538941.86	4115741.58	0.05	Yes	101-0300; 101-0301	LIP	6/26/2021	SB
GR15	GR15-79	Validation	538952.21	4115748.68	ISO SMALL	<=37mm	17.02	6/26/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	23.00	5.98	35.00	16.00	Yes	538952.21	4115748.69	0.01	Yes	101-0296; 101-0297	Yes	6/26/2021	SB
GR16	GR16-1	TOI	539024.19	4115737.83	ISO MEDIUM	37-105mm	22.84	6/25/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-16		NA	23.00	0.16	60.00	20.00	Yes	539024.23	4115737.85	0.05	Yes	101-0145; 101-0146	Yes	6/25/2021	SB
GR16	GR16-3	Validation	539027.33	4115735.90	100-lb GP Bomb	>105mm	60.20	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	61.00	0.80	0.00	0.00	Yes	539027.32	4115735.91	0.02	Yes	101-0174; 101-0175	LIP	6/26/2021	SB
GR16	GR16-5	TOI	539032.18	4115742.50	ISO MEDIUM	37-105mm	44.24	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		NA	41.00	3.24	0.00	0.00	Yes	539032.19	4115742.49	0.01	Yes	101-0284	LIP	6/26/2021	SB
GR16	GR16-6	TOI	539011.72	4115744.22	100-lb GP Bomb	>105mm	68.84	6/25/2021	1	Cultural Feature	Structure	Buried Pipe		NA	90.00	21.16	150.00	0.00	Yes	539011.67	4115744.24	0.06	Yes	101-0168	LIP	6/25/2021	SB
GR16	GR16-8	TOI	539026.20	4115745.92	ISO MEDIUM	37-105mm	14.08	6/25/2021	1	Seed	QA 2" x 8" pipe	QA Seed #NAB 1567		NA	35.00	20.92	60.00	20.00	Yes	539026.20	4115745.90	0.02	Yes	101-0161; 101-0162	Yes	6/25/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR16	GR16-10	Validation	539004.73	4115734.64	100-lb GP Bomb	>105mm	64.52	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	58.00	6.52	50.00	0.00	Yes	539004.75	4115734.66	0.03	Yes	101-0186; 101-0187	LIP	6/26/2021	SB
GR16	GR16-17	Verification	539010.04	4115733.90	100-lb GP Bomb	>105mm	75.24	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	68.00	7.24	50.00	0.00	Yes	539010.01	4115733.91	0.03	Yes	101-0194; 101-0195	LIP	6/26/2021	SB
GR16	GR16-19	Validation	539023.12	4115733.27	ISO MEDIUM	37-105mm	12.66	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	9.00	3.66	20.00	132.00	Yes	539023.12	4115733.24	0.03	Yes	101-0142; 101-0143	Yes	6/25/2021	SB
GR16	GR16-21	TOI	539007.81	4115736.90	ISO LARGE	>105mm	27.05	6/25/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar and pipe		NA	27.00	0.05	15.00	25.00	Yes	539007.80	4115736.98	0.08	Yes	101-0140; 101-0141	Yes	6/25/2021	SB
GR16	GR16-25	Validation	539005.72	4115733.93	ISO LARGE	>105mm	65.79	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	63.00	2.79	50.00	0.00	Yes	539005.68	4115733.91	0.04	Yes	101-0188; 101-0189	LIP	6/26/2021	SB
GR16	GR16-28	TOI	539024.19	4115737.90	ISO MEDIUM	37-105mm	26.81	6/25/2021	1	Duplicate Target	NA	same as 1		NA					NA				NA		Yes	6/25/2021	SB
GR16	GR16-34	Validation	539022.89	4115733.78	ISO MEDIUM	37-105mm	13.63	6/25/2021	1	Duplicate Target	NA	shared with 19		NA					NA				NA	101-0142; 101-0144	Yes	6/25/2021	SB
GR16	GR16-44	TOI	539025.18	4115732.73	ISO MEDIUM	37-105mm	47.75	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		NA	51.00	3.25	0.00	0.00	Yes	539025.18	4115732.76	0.03	Yes	101-0171	LIP	6/26/2021	SB
GR16	GR16-46	Validation	539018.56	4115723.56	ISO LARGE	>105mm	45.75	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	36.00	9.75	0.00	0.00	Yes	539018.55	4115723.58	0.02	Yes	101-0285	LIP	6/26/2021	SB
GR16	GR16-50	Verification	539011.18	4115751.29	ISO LARGE	>105mm	29.79	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Cable		Yes	19.00	10.79	15.00	0.00	Yes	539011.20	4115751.30	0.02	Yes	101-0153; 101-0154	Yes	6/25/2021	SB
GR16	GR16-54	TOI	539020.78	4115743.92	ISO SMALL	<=37mm	6.29	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	7.00	0.71	20.00	108.00	Yes	539020.77	4115743.86	0.06	Yes	101-0147; 101-0148	Yes	6/25/2021	SB
GR16	GR16-55	TOI	539011.06	4115751.15	ISO MEDIUM	37-105mm	22.85	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	22.00	0.85	20.00	21.00	Yes	539011.07	4115751.12	0.03	Yes	101-0151; 101-0152	Yes	6/25/2021	SB
GR16	GR16-63	Validation	539005.72	4115738.31	ISO MEDIUM	37-105mm	18.69	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	14.00	4.69	25.00	20.00	Yes	539005.75	4115738.26	0.06	Yes	101-0138; 101-0139	Yes	6/25/2021	SB
GR16	GR16-64	Validation	539011.72	4115744.02	No Match	>105mm	55.53	6/25/2021	1	Duplicate Target	NA	same as 6		NA					NA				NA	101-0169	Yes	6/25/2021	SB
GR16	GR16-65	TOI	539025.15	4115732.68	ISO LARGE	>105mm	52.75	6/26/2021	1	Duplicate Target	NA	same as 44		NA					NA				NA		Yes	6/26/2021	SB
GR16	GR16-68	Validation	539034.99	4115746.36	100-lb GP Bomb	>105mm	67.49	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	68.00	0.51	0.00	0.00	Yes				Yes	101-0183; 101-0184	LIP	6/26/2021	SB
GR16	GR16-72	Verification	539010.67	4115743.20	100-lb GP Bomb	>105mm	70.03	6/25/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	71.00	0.97	150.00	0.00	Yes	539010.75	4115743.20	0.08	Yes	101-0170	LIP	6/25/2021	SB
GR16	GR16-73	TOI	539009.39	4115727.44	ISO SMALL	<=37mm	17.72	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	18.00	0.28	10.00	9.00	Yes	539009.39	4115727.41	0.03	Yes	101-0134; 101-0135	Yes	6/25/2021	SB
GR16	GR16-74	Verification	539026.05	4115734.24	ISO LARGE	>105mm	61.63	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	58.00	3.63	0.00	0.00	Yes	539026.06	4115734.24	0.01	Yes	101-0172; 101-0173	LIP	6/26/2021	SB
GR16	GR16-91	TOI	539017.16	4115746.51	ISO LARGE	>105mm	9.48	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	11.00	1.52	45.00	127.00	Yes	539017.17	4115746.50	0.01	Yes	101-0149; 101-0150	Yes	6/25/2021	SB
GR16	GR16-94	Validation	539012.04	4115753.74	ISO SMALL	<=37mm	20.98	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	21.00	0.02	10.00	8.00	Yes	539012.09	4115753.76	0.05	Yes	101-0155; 101-0156	Yes	6/25/2021	SB
GR16	GR16-96	Validation	539022.41	4115750.60	100-lb GP Bomb	>105mm	90.73	6/25/2021	1	Cultural Feature	Structure	water line		Yes	111.00	20.27	40.00	0.00	Yes	539022.45	4115750.59	0.04	Yes	101-0158; 101-0159	LIP	6/25/2021	SB
GR16	GR16-101	Verification	539005.40	4115737.57	No Match	37-105mm	14.69	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	15.00	0.31	20.00	28.00	Yes	539005.43	4115737.59	0.04	Yes	101-0136; 101-0137	Yes	6/25/2021	SB
GR16	GR16-103	Validation	539012.50	4115727.88	ISO MEDIUM	37-105mm	41.25	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	42.00	0.75	0.00	21.00	Yes	539012.50	4115727.88	0.00	Yes	101-0165; 101-0166	Yes	6/25/2021	SB
GR16	GR16-105	Validation	539018.04	4115750.61	No Match	>105mm	29.59	6/25/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	30.00	0.41	3.00	18.00	Yes	539018.05	4115750.62	0.01	Yes	101-0163; 101-0164	Yes	6/25/2021	SB
GR16	GR16-106	Validation	539030.36	4115740.00	100-lb GP Bomb	>105mm	72.50	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	72.00	0.50	0.00	0.00	Yes	539030.36	4115740.01	0.01	Yes	101-0178; 101179	LIP	6/26/2021	SB
GR16	GR16-111	Validation	539029.36	4115738.72	ISO LARGE	>105mm	48.27	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	48.00	0.27	0.00	0.00	Yes	539029.37	4115738.72	0.01	Yes	101-0176; 101-0177	LIP	6/26/2021	SB
GR16	GR16-116	Validation	539034.24	4115745.35	ISO LARGE	>105mm	63.39	6/26/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	63.00	0.39	0.00	0.00	Yes				Yes	101-0180; 101-0181	LIP	6/26/2021	SB
GR16	GR16-129	Validation	539005.93	4115733.71	100-lb GP Bomb	>105mm	65.53	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	66.00	0.47	50.00	0.00	Yes	539005.95	4115733.67	0.04	Yes	101-0192; 101-0193	LIP	6/26/2021	SB
GR16	GR16-137	Validation	539006.30	4115733.39	100-lb GP Bomb	>105mm	63.75	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		Yes	61.00	2.75	50.00	0.00	Yes	539006.29	4115733.42	0.03	Yes	101-0190; 101-0191	LIP	6/26/2021	SB
GR16	GR16-144	TOI	539006.66	4115737.27	100-lb GP Bomb	>105mm	61.07	6/26/2021	1	Cultural Feature	Structure	Buried Pipe		NA	64.00	2.93	150.00	0.00	Yes	539006.65	4115737.28	0.01	Yes	101-0184; 101-0185	LIP	6/26/2021	SB
GR17	GR17-1	TOI	539063.18	4115767.15	ISO MEDIUM	37-105mm	15.26	6/24/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-17		NA	14.00	1.26	60.00	20.00	Yes	539063.15	4115767.07	0.09	Yes	101-0053; 101-0054	Yes	6/24/2021	SB
GR17	GR17-2	TOI	539086.75	4115761.63	ISO MEDIUM	37-105mm	25.84	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	25.00	0.84	60.00	45.00	Yes	539086.72	4115761.68	0.05	Yes	101_0061; 101_0062	Yes	6/24/2021	SB
GR17	GR17-3	Verification	539069.22	4115754.28	ISO MEDIUM	37-105mm	6.16	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	6.00	0.16	3.50	22.00	Yes	539069.21	4115754.25	0.03	Yes	101-0059; 101-0060	Yes	6/24/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
GR17	GR17-5	Verification	539088.14	4115760.77	100-lb GP Bomb	>105mm	46.61	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe; shared with 100015		Yes	30.00	16.61			Yes	539088.15	4115760.77	0.01	Yes	101_0063; 101_0064	Yes	6/24/2021	SB
GR17	GR17-6	Verification	539063.78	4115780.37	No Match	<=37mm	2.76	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	5.00	2.24	40.00	13.00	Yes	539063.80	4115780.33	0.04	Yes	101-0055; 101-0056	Yes	6/24/2021	SB
GR17	GR17-15	TOI	539087.97	4115760.65	100-lb GP Bomb	>105mm	47.36	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	47.00	0.36	100.00	59.00	Yes	539087.98	4115760.64	0.01	Yes	101_0065; 101_0066	Yes	6/24/2021	SB
GR17	GR17-17	Validation	539084.11	4115757.64	ISO LARGE	>105mm	58.08	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	grounding rod		Yes	50.00	8.08			Yes				Yes	101_0068; 101_0069	LIP	6/24/2021	SB
GR17	GR17-31	Validation	539083.40	4115776.95	No Match	>105mm	16.90	6/24/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire, Max Depth 40 cm		Yes	17.00	0.10	1.50	19.00	Yes	539083.39	4115776.96	0.01	Yes	101-0057; 101-0058; 101-0745	Yes	6/24/2021	SB
GR17	GR17-100015	TOI	539087.94	4115760.80	ISO LARGE	>105mm	28.88	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	30.00	1.12	70.00	56.00	Yes	539087.94	4115760.81	0.01	Yes	101_0063; 101_0064	Yes	6/24/2021	SB
GR18	GR18-1	TOI	538853.39	4115800.11	ISO SMALL	<=37mm	8.52	6/27/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #GR-18		NA	10.00	1.48	30.00	10.00	Yes	538853.46	4115800.15	0.07	Yes	101-0392; 101-0393	Yes	6/27/2021	SB
TM01	TM01-1	TOI	539755.51	4116563.01	4.2-in Mortar	>105mm	23.89	6/22/2021	1	MPPEH	Mortar	4.2 inch mortar	M-3	NA	27.00	3.11	106.00	48.00	Yes	539755.52	4116563.01	0.01	Yes	101-0017; 101-0018	Yes	6/22/2021	SB
TM01	TM01-2	TOI	539759.52	4116574.42	ISO MEDIUM	37-105mm	2.11	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	4.00	1.89	5.00	19.00	Yes	539759.53	4116574.40	0.03	Yes	100-1168; 100-1169	Yes	6/22/2021	SB
TM01	TM01-3	TOI	539762.62	4116572.24	81mm Mortar	37-105mm	19.12	6/22/2021	4	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	16.00	3.12	30.00	31.00	Yes	539762.61	4116572.21	0.03	Yes	100-1145; 100-1146	Yes	6/22/2021	SB
TM01	TM01-4	TOI	539749.27	4116566.62	4.2-in Mortar	>105mm	24.06	6/22/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	24.00	0.06	106.00	47.00	Yes	539749.27	4116566.55	0.08	Yes	101-0009; 101-0010	Yes	6/22/2021	SB
TM01	TM01-5	TOI	539750.91	4116565.57	4.2-in Mortar	>105mm	50.26	6/22/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	50.00	0.26	106.00	55.00	Yes	539750.92	4116565.56	0.01	Yes	101-0013; 101-0014	Yes	6/22/2021	SB
TM01	TM01-6	TOI	539747.47	4116564.44	ISO MEDIUM	37-105mm	38.71	6/22/2021	1	MPPEH	Mortar	81mm, fuze sheared	M-56	NA	39.00	0.29	81.00	27.00	Yes	539747.50	4116564.38	0.07	Yes	101-0011; 101-0012	Yes	6/22/2021	SB
TM01	TM01-7	TOI	539753.34	4116559.73	ISO LARGE	>105mm	22.48	6/22/2021	1	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	20.00	2.48	106.00	49.00	Yes	539753.34	4116559.67	0.06	Yes	101-0019; 101-0020	Yes	6/22/2021	SB
TM01	TM01-8	TOI	539760.51	4116585.04	60mm Mortar	37-105mm	9.92	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	0.92	10.00	13.00	Yes	539760.50	4116585.04	0.01	Yes	100-1189; 100-1190	Yes	6/22/2021	SB
TM01	TM01-9	TOI	539738.26	4116583.06	ISO MEDIUM	37-105mm	1.66	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	5.00	3.34	40.00	33.00	Yes	539738.28	4116583.02	0.05	Yes	100-1210; 100-1211	Yes	6/22/2021	SB
TM01	TM01-10	TOI	539755.81	4116575.26	81mm Mortar	37-105mm	13.10	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	14.00	0.90	30.00	57.00	Yes	539755.78	4116575.24	0.03	Yes	100-1179; 100-1180	Yes	6/22/2021	SB
TM01	TM01-11	TOI	539744.08	4116561.54	60mm Mortar	37-105mm	24.48	6/22/2021	8	Non-Munitions Related Debris	Non-MD Scrap Metal	metal banding		NA	23.00	1.48	30.00	57.00	Yes	539744.05	4116561.53	0.03	Yes	101-0023; 101-0024	Yes	6/22/2021	SB
TM01	TM01-12	TOI	539750.92	4116561.91	4.2-in Mortar	>105mm	53.57	6/22/2021	1	MPPEH	Mortar	4.2 inch, fuze	M-3	NA	53.00	0.57	106.00	49.00	Yes	539750.91	4116561.90	0.01	Yes	101-0015; 101-0016	Yes	6/22/2021	SB
TM01	TM01-13	TOI	539741.36	4116581.15	60mm Mortar	37-105mm	4.86	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	7.00	2.14	10.00	15.00	Yes	539741.31	4116581.12	0.06	Yes	100-1212; 100-1213	Yes	6/22/2021	SB
TM01	TM01-14	TOI	539753.09	4116583.90	60mm Mortar	37-105mm	10.04	6/22/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	1.04	40.00	27.00	Yes	539753.15	4116583.89	0.06	Yes	100-1203; 100-1204	Yes	6/22/2021	SB
TM01	TM01-15	TOI	539747.47	4116564.44	ISO MEDIUM	37-105mm	39.08	6/22/2021	1	Duplicate Target	NA	same as 6		NA					NA				NA		Yes	6/22/2021	SB
TM01	TM01-16	TOI	539753.49	4116585.16	60mm Illumination Candle Housing	37-105mm	8.14	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	7.00	1.14	50.00	46.00	Yes	539753.46	4116585.14	0.03	Yes	100-1201; 100-1202	Yes	6/22/2021	SB
TM01	TM01-17	TOI	539762.64	4116577.09	60mm Mortar	37-105mm	3.24	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	4.00	0.76	80.00	10.00	Yes	539762.68	4116577.10	0.04	Yes	100-1164; 100-1165	Yes	6/22/2021	SB
TM01	TM01-21	TOI	539760.69	4116588.12	81mm Mortar	37-105mm	14.76	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	15.00	0.24	105.00	53.00	Yes	539760.67	4116588.14	0.03	Yes	100-1187; 109-1188	Yes	6/22/2021	SB
TM01	TM01-23	TOI	539766.92	4116573.14	ISO SMALL	<=37mm	2.19	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	3.00	0.81	30.00	11.00	Yes	539766.92	4116573.16	0.02	Yes	100-1139; 100-1140	Yes	6/22/2021	SB
TM01	TM01-24	TOI	539757.69	4116578.93	ISO SMALL	<=37mm	1.00	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	7.00	6.00	40.00	15.00	Yes	539757.64	4116578.85	0.10	Yes	100-1135; 100-1136	Yes	6/22/2021	SB
TM01	TM01-25	TOI	539760.38	4116578.46	ISO SMALL	<=37mm	6.30	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	7.00	0.70	10.00	13.00	Yes	539760.39	4116578.41	0.05	Yes	100-1166; 100-1167	Yes	6/22/2021	SB
TM01	TM01-27	Verification	539758.45	4116575.01	60mm Illumination Candle Housing	37-105mm	3.22	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	5.00	1.78	25.00	21.00	Yes	539758.51	4116575.06	0.08	Yes	100-1175; 100-1176	Yes	6/22/2021	SB
TM01	TM01-30	Verification	539767.87	4116578.31	81mm Mortar	37-105mm	10.90	6/22/2021	1	Cultural Feature	Structure	anchor		Yes	10.00	0.90	40.00	0.00	Yes	539767.87	4116578.33	0.02	Yes	100-1200	LIP	6/22/2021	SB
TM01	TM01-32	Verification	539742.48	4116581.88	No Match	37-105mm	4.91	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	4.00	0.91	15.00	0.00	Yes	539742.48	4116581.86	0.02	Yes	100-1214; 100-1215	Yes	6/22/2021	SB
TM01	TM01-33	TOI	539758.99	4116582.78	60mm Mortar	37-105mm	11.42	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	can, wire		NA	10.00	1.42	10.00	11.00	Yes	539758.99	4116582.78	0.00	Yes	100-1232; 100-1233	Yes	6/22/2021	SB
TM01	TM01-34	TOI	539746.19	4116579.43	60mm Mortar	37-105mm	7.67	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	7.00	0.67	50.00	35.00	Yes	539746.18	4116579.46	0.03	Yes	100-1218; 100-1219	Yes	6/22/2021	SB
TM01	TM01-35	TOI	539760.84	4116576.41	81mm Mortar	37-105mm	6.73	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	6.00	0.73	1.00	17.00	Yes	539760.78	4116576.43	0.06	Yes	100-1162; 100-1163	Yes	6/22/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM01	TM01-36	TOI	539751.76	4116584.24	60mm Mortar	37-105mm	1.97	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	2.00	0.03	6.00	6.50	Yes	539751.76	4116584.24	0.00	Yes	100-1220; 100-1221	Yes	6/22/2021	SB
TM01	TM01-37	TOI	539762.95	4116572.19	81mm Mortar	37-105mm	21.43	6/22/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	20.00	1.43	30.00	11.50	Yes	539762.97	4116572.15	0.05	Yes	100-1143; 100-1144	Yes	6/22/2021	SB
TM01	TM01-38	TOI	539754.91	4116580.49	ISO SMALL	<=37mm	12.19	6/22/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #TM-01		NA	11.00	1.19	30.00	10.00	Yes	539754.90	4116580.50	0.01	Yes	100-1131; 100-1132	Yes	6/22/2021	SB
TM01	TM01-39	TOI	539753.91	4116575.47	81mm Mortar	37-105mm	29.28	6/22/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	31.00	1.72	40.00	39.00	Yes	539753.92	4116575.46	0.01	Yes	101-0005; 101-0006	Yes	6/22/2021	SB
TM01	TM01-40	TOI	539757.74	4116574.64	81mm Mortar	37-105mm	16.32	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	16.00	0.32	30.00	31.00	Yes	539757.70	4116574.60	0.05	Yes	100-1177; 100-1178	Yes	6/22/2021	SB
TM01	TM01-41	TOI	539754.91	4116574.14	81mm Mortar	37-105mm	9.72	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	10.00	0.28	70.00	215.00	Yes	539754.87	4116574.12	0.05	Yes	100-1181; 100-1182	Yes	6/22/2021	SB
TM01	TM01-42	Verification	539739.52	4116588.72	81mm Mortar	37-105mm	7.37	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	7.00	0.37	30.00	27.00	Yes	539739.61	4116588.76	0.10	Yes	100-1208; 100-1209	Yes	6/22/2021	SB
TM01	TM01-43	TOI	539761.43	4116573.95	60mm Mortar	37-105mm	30.02	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	29.00	1.02	40.00	13.00	Yes	539761.44	4116574.00	0.05	Yes	100-1158; 100-1159	Yes	6/22/2021	SB
TM01	TM01-44	TOI	539752.84	4116575.71	ISO MEDIUM	37-105mm	26.72	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	28.00	1.28	40.00	19.00	Yes	539752.84	4116575.73	0.02	Yes	101-0003; 101-0004	Yes	6/22/2021	SB
TM01	TM01-45	TOI	539756.73	4116582.01	60mm Mortar	37-105mm	2.03	6/22/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	aluminum , nail. Total depth: 16 cm		NA	5.00	2.97	2.00	9.00	Yes	539756.73	4116582.00	0.01	Yes	100-1236; 100-1237; 101-0761	Yes	6/22/2021	SB
TM01	TM01-48	TOI	539760.93	4116572.39	81mm Mortar	37-105mm	10.07	6/22/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	11.00	0.93	10.00	19.00	Yes	539760.85	4116572.37	0.08	Yes	100-1150; 100-1151	Yes	6/22/2021	SB
TM01	TM01-49	Verification	539761.26	4116589.50	No Match	37-105mm	11.60	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	11.00	0.60	40.00	0.00	Yes	539761.27	4116589.51	0.02	Yes	100-1198	Yes	6/22/2021	SB
TM01	TM01-53	TOI	539753.46	4116585.14	60mm Mortar	37-105mm	12.97	6/22/2021	1	Duplicate Target	NA	same as 16		NA					NA				NA		Yes	6/22/2021	SB
TM01	TM01-54	Verification	539753.66	4116584.89	60mm Mortar	37-105mm	21.05	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	22.00	0.95	30.00	31.00	Yes	539753.66	4116584.91	0.02	Yes	100-1226; 100-1227	Yes	6/22/2021	SB
TM01	TM01-56	TOI	539755.81	4116575.28	81mm Mortar	37-105mm	17.67	6/22/2021	1	Duplicate Target	NA	same as 10		NA					NA				NA		Yes	6/22/2021	SB
TM01	TM01-57	TOI	539761.69	4116571.78	81mm Mortar	37-105mm	19.47	6/22/2021	6	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	18.00	1.47	70.00	24.00	Yes	539761.70	4116571.82	0.05	Yes	100-1147; 100-1148	Yes	6/22/2021	SB
TM01	TM01-60	TOI	539744.47	4116561.08	81mm Mortar	37-105mm	29.63	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal banding		NA	28.00	1.63	30.00	48.00	Yes	539744.48	4116561.09	0.02	Yes	101-0021; 101-0022	Yes	6/22/2021	SB
TM01	TM01-63	TOI	539755.48	4116563.04	4.2-in Mortar	>105mm	26.54	6/22/2021	1	Duplicate Target	NA	same as 1		NA					NA				NA		Yes	6/22/2021	SB
TM01	TM01-64	TOI	539758.51	4116582.29	60mm Mortar	37-105mm	2.02	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Aluminum		NA	4.00	1.98	2.00	24.00	Yes	539758.47	4116582.32	0.06	Yes	100-1234; 100-1235	Yes	6/22/2021	SB
TM01	TM01-66	TOI	539764.95	4116585.88	81mm Mortar	37-105mm	12.05	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	11.00	1.05	15.00	0.00	Yes	539764.96	4116585.90	0.03	Yes	100-1195; 100-1196	Yes	6/22/2021	SB
TM01	TM01-67	TOI	539761.37	4116574.19	81mm Mortar	37-105mm	19.87	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	20.00	0.13	70.00	12.00	Yes	539761.36	4116574.21	0.02	Yes	100-1156; 100-1157	Yes	6/22/2021	SB
TM01	TM01-68	TOI	539760.12	4116571.18	81mm Mortar	37-105mm	6.59	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	5.00	1.59	180.00		Yes	539760.12	4116571.15	0.03	Yes	100-1149	Yes	6/22/2021	SB
TM01	TM01-72	Verification	539759.06	4116576.16	ISO SMALL	<=37mm	6.37	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	7.00	0.63	10.00	22.00	Yes	539759.04	4116576.17	0.01	Yes	100-1173; 100-1174	Yes	6/22/2021	SB
TM01	TM01-74	Verification	539748.37	4116589.49	60mm Mortar	37-105mm	5.85	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	6.00	0.15	40.00	9.00	Yes	539748.41	4116589.53	0.06	Yes	100-1224; 100-1225	Yes	6/22/2021	SB
TM01	TM01-75	Validation	539739.51	4116576.06	60mm Mortar	37-105mm	11.83	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	11.00	0.83	2.00	16.00	Yes	539739.49	4116576.02	0.04	Yes	101-0007; 101-0008	Yes	6/22/2021	SB
TM01	TM01-76	TOI	539760.96	4116575.57	60mm Mortar	37-105mm	32.43	6/22/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	rebar, wire		NA	38.00	5.57	10.00	20.00	Yes	539760.92	4116575.59	0.04	Yes	100-1160; 100-1161	Yes	6/22/2021	SB
TM01	TM01-77	Verification	539753.82	4116587.47	No Match	37-105mm	7.36	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	6.00	1.36	1.00	25.00	Yes	539753.83	4116587.44	0.03	Yes	100-1205; 100-1206	Yes	6/22/2021	SB
TM01	TM01-81	TOI	539754.71	4116585.72	ISO SMALL	<=37mm	19.26	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	18.00	1.26	30.00	8.00	Yes	539754.70	4116585.71	0.01	Yes	100-1228; 100-1229	Yes	6/22/2021	SB
TM01	TM01-87	TOI	539754.48	4116576.84	ISO SMALL	<=37mm	3.84	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	10.00	6.16	40.00	12.00	Yes	539754.49	4116576.88	0.04	Yes	100-1137; 100-1138	Yes	6/22/2021	SB
TM01	TM01-90	TOI	539745.28	4116579.39	81mm Mortar	37-105mm	9.08	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	0.08	30.00	9.00	Yes	539745.30	4116579.37	0.04	Yes	100-1216; 100-1217	Yes	6/22/2021	SB
TM01	TM01-96	TOI	539759.96	4116572.75	60mm Mortar	37-105mm	12.30	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	11.00	1.30	15.00	52.00	Yes	539759.89	4116572.75	0.07	Yes	100-1152; 100-1153	Yes	6/22/2021	SB
TM01	TM01-103	Validation	539757.45	4116586.36	ISO SMALL	<=37mm	24.13	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	23.00	1.13	2.00	25.00	Yes	539757.43	4116586.32	0.04	Yes	100-1183; 100-1184	Yes	6/22/2021	SB
TM01	TM01-109	Validation	539759.25	4116576.17	ISO SMALL	<=37mm	12.91	6/22/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	shared with 114		Yes	13.00	0.09	1.00	57.00	Yes	539759.28	4116576.18	0.03	Yes	100-1170; 100-1171	Yes	6/22/2021	SB
TM01	TM01-114	Validation	539759.26	4116576.31	60mm Mortar	37-105mm	11.41	6/22/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	shared with 109		Yes	13.00	1.59	1.00	57.00	Yes	539759.26	4116576.30	0.01	Yes	100-1170; 100-1172	Yes	6/22/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM01	TM01-115	TOI	539763.23	4116575.88	81mm Mortar	37-105mm	17.14	6/22/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	17.00	0.14	15.00	18.00	Yes	539763.28	4116575.85	0.06	Yes	100-1141; 100-1142	Yes	6/22/2021	SB
TM01	TM01-117	Verification	539760.08	4116588.97	4.2-in Mortar	>105mm	27.88	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	29.00	1.12	10.00	230.00	Yes	539760.04	4116588.95	0.04	Yes	100-1185; 100-1186	Yes	6/22/2021	SB
TM01	TM01-119	TOI	539750.99	4116565.43	4.2-in Mortar	>105mm	49.84	6/22/2021	1	Duplicate Target	NA	same as 5		NA					NA				NA		Yes	6/22/2021	SB
TM01	TM01-125	Verification	539763.16	4116585.75	60mm Mortar	37-105mm	-0.13	7/8/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	9.00	9.13	0.00	0.00	Yes	539763.17	4116585.74	0.01	Yes	101-0760	LIP	7/8/2021	SB
TM01	TM01-126	Verification	539763.14	4116585.61	81mm Mortar	37-105mm	14.65	6/22/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	2.00	12.65	0.00	0.00	Yes	539763.13	4116585.60	0.02	Yes	100-1194	LIP	6/22/2021	SB
TM01	TM01-132	Validation	539753.91	4116579.05	60mm Mortar	37-105mm	1.48	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	5.00	3.52	1.00	9.50	Yes	539753.90	4116579.11	0.06	Yes	100-1133; 100-1134	Yes	6/22/2021	SB
TM01	TM01-142	Verification	539764.21	4116584.26	81mm Mortar	37-105mm	16.14	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	13.00	3.14	10.00	0.00	Yes	539764.13	4116584.23	0.09	Yes	100-1197	Yes	6/22/2021	SB
TM01	TM01-145	Validation	539764.68	4116581.77	4.2-in Mortar	>105mm	40.03	6/22/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	44.00	3.97	0.00	0.00	Yes	539764.68	4116581.77	0.01	Yes	100-1199	LIP	6/22/2021	SB
TM01	TM01-151	Cannot Analyze	539751.81	4116585.06	ISO LARGE	>105mm	-7.27	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	0.00	7.27	60.00	239.00	NA	539751.81	4116585.08	0.02	Yes	100-1222; 100-1223	Yes	6/22/2021	SB
TM01	TM01-160	TOI	539761.34	4116573.49	60mm Mortar	37-105mm	16.74	6/22/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	15.00	1.74	45.00	13.00	Yes	539761.28	4116573.55	0.08	Yes	100-1154; 100-1155	Yes	6/22/2021	SB
TM05	TM05-1	TOI	539825.34	4116567.82	4.2-in Mortar	>105mm	20.42	6/18/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	20.00	0.42	106.00	53.00	Yes	539825.28	4116567.81	0.06	Yes	100-1027; 100-1028	Yes	6/18/2021	SB
TM05	TM05-2	TOI	539836.81	4116570.02	60mm Mortar	37-105mm	23.68	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	32.00	8.32	106.00	52.00	Yes	539836.58	4116570.11	0.24	Yes	100-1035; 100-1036	Yes	6/21/2021	SB
TM05	TM05-3	TOI	539841.73	4116570.32	4.2-in Mortar	>105mm	18.14	6/18/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	21.00	2.86	106.00	53.00	Yes	539841.74	4116570.34	0.02	Yes	100-1041; 100-1042	Yes	6/18/2021	SB
TM05	TM05-4	TOI	539818.94	4116558.92	ISO MEDIUM	37-105mm	12.77	6/18/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #TM-05		NA	10.00	2.77	60.00	20.00	Yes	539818.93	4116558.89	0.04	Yes	100-1015; 100-1016	Yes	6/18/2021	SB
TM05	TM05-5	TOI	539821.53	4116571.42	ISO LARGE	>105mm	35.95	6/18/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	41.00	5.05	106.00	45.00	Yes	539821.53	4116571.36	0.06	Yes	100-1025; 100-1026	Yes	6/18/2021	SB
TM05	TM05-6	TOI	539819.73	4116568.21	60mm Mortar	37-105mm	22.11	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	26.00	22.11	50.00	19.00	Yes	539819.79	4116568.25	0.07	Yes	100-1104; 100-1105	Yes	6/21/2021	SB
TM05	TM05-7	TOI	539840.19	4116569.51	4.2-in Mortar	>105mm	29.39	6/18/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	23.00	6.39	106.00	53.00	Yes	539840.18	4116569.51	0.01	Yes	100-1039; 100-1040	Yes	6/18/2021	SB
TM05	TM05-8	TOI	539833.37	4116575.89	4.2-in Mortar	>105mm	26.26	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	23.00	3.26	106.00	54.00	Yes	539833.33	4116575.90	0.04	Yes	100-1129; 100-1130	Yes	6/21/2021	SB
TM05	TM05-8	TOI	539833.37	4116575.89	4.2-in Mortar	>105mm	26.26	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	20.00	6.26	106.00	44.00	Yes				NA	100-1127; 1128	Yes	6/21/2021	SB
TM05	TM05-9	TOI	539845.70	4116561.75	ISO LARGE	>105mm	35.63	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed sheared	M-3	NA	37.00	1.37	106.00	50.00	Yes	539845.65	4116561.71	0.05	Yes	100-1085; 100-1086	Yes	6/21/2021	SB
TM05	TM05-11	TOI	539838.16	4116573.62	ISO LARGE	>105mm	54.89	6/21/2021	1	MPPEH	Mortar	4.2 inch fuzed	M-3	NA	54.00	0.89	106.00	55.00	Yes	539838.14	4116573.68	0.07	Yes	100-1071; 100-1072	Yes	6/21/2021	SB
TM05	TM05-12	TOI	539845.71	4116561.71	ISO LARGE	>105mm	39.88	6/21/2021	1	Duplicate Target	NA	same as 9		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-13	TOI	539837.14	4116566.17	81mm Mortar	37-105mm	39.34	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	38.00	1.34	106.00	40.00	Yes	539837.12	4116566.18	0.02	Yes	100-1061; 100-1062	Yes	6/21/2021	SB
TM05	TM05-14	Verification	539824.65	4116562.85	60mm Mortar	37-105mm	25.87	6/21/2021	1	Munitions Debris	Mortar	4.2 inch tail boom		Yes	26.00	0.13	50.00	8.50	Yes	539824.65	4116562.80	0.05	Yes	100-1043; 100-1044	Yes	6/21/2021	SB
TM05	TM05-15	TOI	539840.19	4116571.62	ISO LARGE	>105mm	33.03	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	32.00	1.03	106.00	43.00	Yes	539840.17	4116571.62	0.02	Yes	100-1069; 100-1070	Yes	6/21/2021	SB
TM05	TM05-16	TOI	539824.32	4116570.73	81mm Mortar	37-105mm	36.65	6/21/2021	1	Munitions Debris	Mortar	4.2 inch mortar tail boom		NA	34.00	2.65	15.00	11.00	Yes	539824.35	4116570.78	0.05	Yes	100-1123; 100-1124	Yes	6/21/2021	SB
TM05	TM05-17	TOI	539837.66	4116570.73	4.2-in Mortar	>105mm	61.68	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	51.00	10.68	106.00	54.00	Yes	539837.61	4116570.74	0.05	Yes	100-1089; 100-1090	Yes	6/21/2021	SB
TM05	TM05-18	TOI	539836.59	4116570.09	4.2-in Mortar	>105mm	32.60	6/19/2021	1	Duplicate Target	NA	same as 2, 136, 145		NA					NA				NA		Yes	6/19/2021	SB
TM05	TM05-19	Verification	539818.67	4116569.48	81mm Mortar	37-105mm	25.14	6/21/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	25.00	0.14	10.00	24.00	Yes	539818.71	4116569.43	0.06	Yes	100-1101; 100-1102	Yes	6/21/2021	SB
TM05	TM05-20	Validation	539815.94	4116575.34	No Match	<=37mm	10.64	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	11.00	0.36	30.00	22.00	Yes	539816.01	4116575.34	0.07	Yes	100-1119; 1120	Yes	6/21/2021	SB
TM05	TM05-22	Validation	539822.16	4116562.89	81mm Mortar	37-105mm	17.25	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	18.00	0.75	25.00	73.00	Yes	539822.14	4116562.89	0.02	Yes	100-1045; 100-1046	Yes	6/21/2021	SB
TM05	TM05-24	Verification	539818.09	4116570.65	81mm Mortar	37-105mm	18.08	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		Yes	17.00	1.08	10.00	17.00	Yes	539818.13	4116570.61	0.05	Yes	100-1111; 100-1112	Yes	6/21/2021	SB
TM05	TM05-25	TOI	539845.34	4116549.14	ISO LARGE	>105mm	42.39	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	43.00	0.61	106.00	41.00	Yes	539845.37	4116549.12	0.03	Yes	100-1083; 100-1084	Yes	6/21/2021	SB
TM05	TM05-26	TOI	539822.66	4116560.60	81mm Mortar	37-105mm	18.59	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	18.00	0.59	20.00	61.00	Yes	539822.63	4116560.58	0.03	Yes	100-1049; 100-1051	Yes	6/21/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM05	TM05-27	TOI	539824.05	4116570.29	60mm Mortar	37-105mm	28.52	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	29.00	0.48	10.00	41.00	Yes	539824.01	4116570.31	0.04	Yes	100-1125; 100-1126	Yes	6/21/2021	SB
TM05	TM05-29	TOI	539818.09	4116572.69	ISO SMALL	<=37mm	12.43	6/21/2021	1	Seed	QA 1" x 4" pipe	QA Seed #NAB 153		NA	12.00	0.43	30.00	10.00	Yes	539818.06	4116572.64	0.06	Yes	100-1115; 100-1116	Yes	6/21/2021	SB
TM05	TM05-32	TOI	539843.73	4116571.33	81mm Mortar	37-105mm	38.49	6/21/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	37.00	1.49	81.00	33.00	Yes	539843.72	4116571.34	0.02	Yes	100-1077; 100-1078	Yes	6/21/2021	SB
TM05	TM05-33	TOI	539836.88	4116568.95	60mm Mortar	37-105mm	12.19	6/18/2021	1	Munitions Debris	Mortar	4.2 in mortar base plate		NA	12.00	0.19	10.00	10.50	Yes	539836.92	4116569.05	0.11	Yes	100-1037; 100-1038	Yes	6/18/2021	SB
TM05	TM05-35	TOI	539833.34	4116548.48	60mm Mortar	37-105mm	16.97	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		NA	19.00	2.03	10.00	12.00	Yes	539833.37	4116548.44	0.05	Yes	100-1053; 100-1054	Yes	6/21/2021	SB
TM05	TM05-38	TOI	539825.97	4116552.94	81mm Mortar	37-105mm	17.55	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		NA	16.00	1.55	50.00	44.00	Yes	539825.92	4116552.97	0.05	Yes	100-1055; 100-1056	Yes	6/21/2021	SB
TM05	TM05-39	TOI	539841.84	4116576.96	ISO LARGE	>105mm	65.10	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	60.00	5.10	106.00	51.00	Yes	539841.80	4116577.02	0.06	Yes	100-1073; 100-1074	Yes	6/21/2021	SB
TM05	TM05-40	TOI	539841.66	4116570.48	81mm Mortar	37-105mm	13.96	6/19/2021	1	Duplicate Target	NA	same as 3		NA					NA				NA		Yes	6/19/2021	SB
TM05	TM05-42	TOI	539840.16	4116569.49	ISO LARGE	>105mm	27.66	6/19/2021	1	Duplicate Target	NA	same as 7		NA					NA				NA		Yes	6/19/2021	SB
TM05	TM05-43	TOI	539831.19	4116548.61	4.2-in Mortar	>105mm	33.51	6/21/2021	1	MPPEH	Mortar	4.2 inch mortar	M-3	NA	32.00	1.51	106.00	51.00	Yes	539831.19	4116548.53	0.08	Yes	100-1092; 100-1091	Yes	6/21/2021	SB
TM05	TM05-44	TOI	539818.56	4116549.54	60mm Mortar	37-105mm	1.19	6/19/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		NA	4.00	2.81	10.00	11.50	Yes	539818.55	4116549.53	0.02	Yes	100-1011; 100-1012	Yes	6/19/2021	SB
TM05	TM05-45	TOI	539843.73	4116571.35	ISO MEDIUM	37-105mm	38.28	6/21/2021	1	Duplicate Target	NA	same as 32		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-46	TOI	539825.70	4116550.31	81mm Mortar	37-105mm	58.17	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	52.00	6.17	2.00	31.00	Yes	539825.67	4116550.34	0.04	Yes	100-1093; 100-1094	Yes	6/21/2021	SB
TM05	TM05-47	TOI	539840.08	4116571.58	ISO LARGE	>105mm	30.04	6/21/2021	1	Duplicate Target	NA	same as 15		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-48	TOI	539822.77	4116560.81	81mm Mortar	37-105mm	22.36	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	same as 26		NA	18.00	4.36	20.00	61.00	NA				NA		Yes	6/21/2021	SB
TM05	TM05-51	TOI	539816.64	4116568.86	60mm Mortar	37-105mm	1.34	6/21/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	10.00	8.66	20.00	13.00	Yes	539816.65	4116568.86	0.01	Yes	100-1107; 100-1108	Yes	6/21/2021	SB
TM05	TM05-54	Validation	539826.37	4116565.83	60mm Mortar	37-105mm	21.13	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	banding		Yes	9.00	12.13	2.00	25.00	Yes	539826.42	4116565.83	0.05	Yes	100-1033; 100-1034	Yes	6/18/2021	SB
TM05	TM05-55	TOI	539841.35	4116576.80	4.2-in Mortar	>105mm	88.82	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	108.00	19.18	20.00	22.00	Yes	539841.33	4116576.76	0.05	Yes	100-1079; 100-1080; 101-0762	Yes	6/21/2021	SB
TM05	TM05-58	Verification	539830.29	4116554.74	81mm Mortar	37-105mm	15.21	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	14.00	1.21	20.00	23.00	Yes	539830.27	4116554.67	0.07	Yes	100-1057; 100-1058	Yes	6/21/2021	SB
TM05	TM05-59	TOI	539838.17	4116573.65	ISO LARGE	>105mm	53.98	6/21/2021	1	Duplicate Target	NA	same as 11		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-61	Validation	539821.25	4116558.35	ISO SMALL	<=37mm	2.83	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	4.00	1.17	30.00	19.00	Yes	539821.26	4116558.37	0.03	Yes	100-1021; 100-1022	Yes	6/18/2021	SB
TM05	TM05-62	Verification	539822.57	4116556.72	ISO SMALL	<=37mm	1.58	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	8.00	6.42	3.00	7.50	Yes	539822.52	4116556.70	0.05	Yes	100-1019; 1020	Yes	6/18/2021	SB
TM05	TM05-63	Verification	539818.74	4116568.97	60mm Mortar	37-105mm	37.29	6/21/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	31.00	6.29	10.00	4.00	Yes	539818.77	4116568.96	0.03	Yes	100-1099; 100-1100	Yes	6/21/2021	SB
TM05	TM05-65	TOI	539821.34	4116562.15	ISO SMALL	<=37mm	7.01	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	8.00	0.99	30.00	7.00	Yes	539821.35	4116562.11	0.05	Yes	100-1047; 100-1048	Yes	6/21/2021	SB
TM05	TM05-71	TOI	539825.93	4116553.01	ISO MEDIUM	37-105mm	18.49	6/21/2021	1	Duplicate Target	NA	same as 38		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-73	TOI	539835.80	4116567.86	4.2-in Mortar	>105mm	59.62	6/21/2021	1	MPPEH	Mortar	4.2 inch fuzed	M-3	NA	81.00	21.38	106.00	53.00	Yes	539835.75	4116567.95	0.10	Yes	100-1066; 1068	Yes	6/21/2021	SB
TM05	TM05-73	TOI	539835.80	4116567.86	4.2-in Mortar	>105mm	59.62	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	65.00	5.38	106.00	54.00	Yes	539835.77	4116567.82	0.04	Yes	100-1065; 100-1067	Yes	6/21/2021	SB
TM05	TM05-74	Verification	539815.59	4116571.11	60mm Illumination Candle Housing	37-105mm	16.46	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	13.00	3.46	15.00	12.00	Yes	539815.54	4116571.09	0.05	Yes	100-1113; 100-1114	Yes	6/21/2021	SB
TM05	TM05-75	TOI	539817.17	4116575.90	81mm Mortar	37-105mm	24.80	6/21/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	28.00	3.20	3.00	29.00	Yes	539817.19	4116575.92	0.03	Yes	100-1121; 100-1122	Yes	6/21/2021	SB
TM05	TM05-82	TOI	539825.33	4116550.14	60mm Mortar	37-105mm	49.20	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, nail		NA	49.00	0.20	20.00	6.00	Yes	539825.32	4116550.15	0.01	Yes	100-1095; 100-1096	Yes	6/21/2021	SB
TM05	TM05-94	Verification	539822.33	4116560.38	No Match	>105mm	10.47	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	10.00	0.47	20.00	14.00	Yes	539822.27	4116560.36	0.07	Yes	100-1023; 100-1024	Yes	6/18/2021	SB
TM05	TM05-95	Verification	539835.17	4116557.35	60mm Mortar	37-105mm	16.52	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron, wire		Yes	10.00	6.52	4.00	73.50	Yes	539835.20	4116557.33	0.04	Yes	100-1059; 100-1060	Yes	6/21/2021	SB
TM05	TM05-99	Verification	539821.52	4116551.42	No Match	37-105mm	12.74	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	13.00	0.26	50.00	10.00	Yes	539821.53	4116551.41	0.01	Yes	100-1013; 100-1014	Yes	6/18/2021	SB
TM05	TM05-100	Validation	539818.02	4116555.91	No Match	37-105mm	8.08	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	6.00	2.08	3.00	8.00	Yes	539818.03	4116555.91	0.01	Yes	100-1017; 1018	Yes	6/18/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM05	TM05-104	TOI	539833.33	4116548.44	60mm Mortar	37-105mm	16.13	6/21/2021	1	Duplicate Target	NA	same as 35		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-106	TOI	539822.17	4116562.82	81mm Mortar	37-105mm	19.91	6/21/2021	1	Duplicate Target	NA	same as 22		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-113	TOI	539825.77	4116565.87	60mm Mortar	37-105mm	27.35	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	28.00	0.65	10.00	19.00	Yes	539825.82	4116565.93	0.09	Yes	100-1029; 100-1030	Yes	6/18/2021	SB
TM05	TM05-114	Verification	539817.65	4116570.41	81mm Mortar	37-105mm	16.78	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	reinforced concrete		Yes	16.00	0.78	50.00	25.00	Yes	539817.60	4116570.37	0.06	Yes	100-1109; 100-1110	LIP	6/21/2021	SB
TM05	TM05-115	Validation	539824.85	4116551.35	81mm Mortar	37-105mm	63.34	6/21/2021	4	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	60.00	3.34	2.00	18.00	Yes	539824.82	4116551.35	0.03	Yes	100-1097; 100-1098	Yes	6/21/2021	SB
TM05	TM05-120	Verification	539816.16	4116574.86	60mm Mortar	37-105mm	16.72	6/21/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Aluminum can		Yes	14.00	2.72	2.00	9.00	Yes	539816.21	4116574.91	0.07	Yes	100-1117; 100-1118	Yes	6/21/2021	SB
TM05	TM05-124	TOI	539831.15	4116548.53	4.2-in Mortar	>105mm	35.41	6/21/2021	1	Duplicate Target	NA	same as 43		NA					NA				NA	100-1092; 100-1091	Yes	6/21/2021	SB
TM05	TM05-125	Validation	539843.56	4116561.15	60mm Mortar	37-105mm	27.43	6/21/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	45.00	17.57	3.00	9.50	Yes	539843.58	4116561.18	0.04	Yes	100-1087; 100-1088	Yes	6/21/2021	SB
TM05	TM05-130	Validation	539837.51	4116566.37	81mm Mortar	37-105mm	80.49	6/21/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	No	75.00	5.49	106.00	54.00	No	539837.51	4116566.38	0.01	Yes	100-1063; 100-1064	Yes	6/21/2021	SB
TM05	TM05-131	TOI	539841.07	4116576.63	81mm Mortar	37-105mm	66.74	6/21/2021	1	MPPEH	Mortar	4.2 inch fuzed	M-3	NA	81.00	14.26	106.00	54.00	Yes	539841.00	4116576.56	0.10	Yes	100-1081; 100-1082	Yes	6/21/2021	SB
TM05	TM05-136	TOI	539836.58	4116570.16	ISO LARGE	>105mm	30.27	6/19/2021	1	Duplicate Target	NA	same as 2, 18, 145		NA					NA				NA		Yes	6/19/2021	SB
TM05	TM05-145	TOI	539836.64	4116570.09	4.2-in Mortar	>105mm	32.28	6/19/2021	1	Duplicate Target	NA	same as 2, 18, 136		NA					NA				NA		Yes	6/19/2021	SB
TM05	TM05-150	TOI	539841.83	4116577.00	ISO LARGE	>105mm	57.60	6/21/2021	1	Duplicate Target	NA	same as 39		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-10006	TOI	539819.30	4116568.17	60mm Mortar	37-105mm	27.98	6/21/2021	1	Duplicate Target	NA	shared with 6		NA					NA				NA		Yes	6/21/2021	SB
TM05	TM05-1000113	TOI	539826.19	4116565.94	81mm Mortar	37-105mm	27.65	6/19/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	27.00	0.65	10.00	10.00	Yes	539826.20	4116565.93	0.02	Yes	100-1031; 100-1032	Yes	6/19/2021	SB
TM07	TM07-1	TOI	539888.30	4116466.15	60mm Mortar	37-105mm	43.62	6/19/2021	1	Target Not Investigated	Inaccessible	Under hardscape		NA	0.00	43.62	0.00	0.00	NA	539888.29	4116466.14	0.01	Yes	100-1005	LIP	6/19/2021	SB
TM07	TM07-3	TOI	539894.06	4116462.22	60mm Mortar	37-105mm	41.79	6/18/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	43.00	1.21	2.00	26.00	Yes	539894.05	4116462.24	0.02	Yes	100-0994; 100-0995	Yes	6/18/2021	SB
TM07	TM07-4	TOI	539895.18	4116471.01	81mm Mortar	37-105mm	23.90	6/19/2021	1	Target Not Investigated	Inaccessible	under hardscape		NA	0.00	23.90	0.00	0.00	NA	539895.19	4116471.01	0.01	Yes	100-1002	LIP	6/19/2021	SB
TM07	TM07-6	TOI	539906.76	4116480.18	60mm Mortar	37-105mm	22.74	6/19/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	28.00	5.26	8.00	6.00	Yes	539906.81	4116480.14	0.06	Yes	100-0972-0973	Yes	6/19/2021	SB
TM07	TM07-9	TOI	539880.51	4116484.52	60mm Mortar	37-105mm	20.67	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	21.00	0.33	20.00	10.00	Yes	539880.47	4116484.54	0.04	Yes	100-0988; 100-0989	Yes	6/18/2021	SB
TM07	TM07-10	TOI	539895.79	4116458.95	ISO SMALL	<=37mm	5.57	6/18/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #TM-07		NA	9.00	3.43	30.00	10.00	Yes	539895.78	4116458.91	0.05	Yes	100-0962; 100-0963	Yes	6/18/2021	SB
TM07	TM07-15	TOI	539897.77	4116463.16	81mm Mortar	37-105mm	32.11	6/18/2021	8	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		NA	29.00	3.11	6.00	14.50	Yes	539897.79	4116463.10	0.06	Yes	100-0996; 100-0997	Yes	6/18/2021	SB
TM07	TM07-15	TOI	539897.77	4116463.16	81mm Mortar	37-105mm	32.11	7/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, nail		NA	40.00	7.89	30.00	10.00	Yes	539897.69	4116463.07	0.12	Yes	101-0753; 101-0754	Yes	7/7/2021	SB
TM07	TM07-16	TOI	539886.17	4116486.57	60mm Mortar	37-105mm	7.80	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	12.00	4.20	30.00	49.00	Yes	539886.12	4116486.58	0.05	Yes	100-0980; 100-0981	Yes	6/18/2021	SB
TM07	TM07-17	Validation	539890.95	4116460.74	No Match	37-105mm	7.57	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	6.00	1.57	20.00	70.00	Yes	539891.02	4116460.76	0.08	Yes	100-0964; 100-0965	Yes	6/18/2021	SB
TM07	TM07-18	TOI	539911.42	4116455.86	60mm Mortar	37-105mm	34.77	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	39.00	4.23	10.00	46.00	Yes	539911.38	4116455.88	0.04	Yes	100-1009; 1010	Yes	6/18/2021	SB
TM07	TM07-19	TOI	539880.75	4116484.12	60mm Mortar	37-105mm	22.04	6/18/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, wires		NA	20.00	2.04	45.00	5.00	Yes	539880.77	4116484.13	0.03	Yes	100-0986; 100-0987	Yes	6/18/2021	SB
TM07	TM07-22	TOI	539890.48	4116468.41	81mm Mortar	37-105mm	39.48	6/19/2021	1	Target Not Investigated	Inaccessible	under hardscape		NA	0.00	39.48	0.00	0.00	NA	539890.48	4116468.41	0.00	Yes	100-1004	LIP	6/19/2021	SB
TM07	TM07-25	Verification	539908.05	4116477.64	60mm Mortar	37-105mm	22.83	7/7/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	23.00	0.17	25.00	9.00	Yes	539908.09	4116477.61	0.05	Yes	100-0970; 100-0971	Yes	7/7/2021	SB
TM07	TM07-27	Verification	539889.77	4116484.90	81mm Mortar	37-105mm	8.54	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	10.00	1.46	2.00	29.00	Yes	539889.79	4116484.87	0.03	Yes	100-0978; 100-0979	Yes	6/18/2021	SB
TM07	TM07-29	Verification	539893.06	4116461.62	60mm Mortar	37-105mm	27.93	6/18/2021	7	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	29.00	1.07	1.00	9.50	Yes	539893.02	4116461.60	0.05	Yes	100-0959; 100-0960	Yes	6/18/2021	SB
TM07	TM07-31	Verification	539902.18	4116484.69	60mm Mortar	37-105mm	22.72	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	23.00	0.28	3.00	19.00	Yes	539902.15	4116484.70	0.03	Yes	100-0976; 100-0977	Yes	6/18/2021	SB
TM07	TM07-35	TOI	539888.22	4116465.84	60mm Mortar	37-105mm	43.09	6/19/2021	1	Target Not Investigated	Inaccessible	Under hardsdape		NA	0.00	43.09	0.00	0.00	NA	539888.22	4116465.85	0.02	Yes	100-1006	LIP	6/19/2021	SB
TM07	TM07-37	TOI	539888.05	4116459.97	ISO LARGE	>105mm	57.18	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	54.00	3.18	25.00	55.00	Yes	539888.02	4116459.95	0.04	Yes	100-0992; 100-0993	Yes	6/18/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM07	TM07-47	Validation	539892.24	4116475.81	ISO SMALL	<=37mm	16.73	6/19/2021	1	Target Not Investigated	Inaccessible	under hardscape		Yes	0.00	16.73	0.00	0.00	NA	539892.23	4116475.81	0.01	Yes	100-1003	LIP	6/19/2021	SB
TM07	TM07-54	Validation	539904.36	4116466.06	60mm Mortar	37-105mm	17.35	6/18/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Aluminum scrap metal		Yes	20.00	2.65	4.00	14.00	Yes	539904.40	4116466.05	0.04	Yes	100-0966; 100-0967	Yes	6/18/2021	SB
TM07	TM07-58	TOI	539883.54	4116485.01	60mm Mortar	37-105mm	9.66	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	0.66	2.00	28.00	Yes	539883.53	4116485.01	0.01	Yes	100-0982; 100-0983	Yes	6/18/2021	SB
TM07	TM07-61	Verification	539895.18	4116471.01	81mm Mortar	37-105mm	22.98	6/19/2021	1	Duplicate Target	NA	same as 4		NA					NA				NA		Yes	6/19/2021	SB
TM07	TM07-88	TOI	539904.56	4116485.91	81mm Mortar	37-105mm	40.56	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	42.00	1.44	2.00	29.00	Yes	539904.56	4116485.91	0.01	Yes	100-1000; 100-1001	Yes	6/18/2021	SB
TM07	TM07-97	Verification	539883.63	4116484.92	60mm Mortar	37-105mm	10.37	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	11.00	0.63	15.00	4.50	Yes	539883.61	4116484.92	0.01	Yes	100-0984; 100-0985	Yes	6/18/2021	SB
TM07	TM07-101	Validation	539910.26	4116470.50	81mm Mortar	37-105mm	16.57	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	15.00	1.57	3.00	28.00	Yes	539910.26	4116470.47	0.03	Yes	100-0968; 100-0969	Yes	6/18/2021	SB
TM07	TM07-108	Validation	539885.26	4116468.24	ISO SMALL	<=37mm	26.68	6/19/2021	1	Target Not Investigated	Inaccessible	under hardscape		Yes	0.00	26.68	0.00	0.00	NA	539885.26	4116468.23	0.01	Yes	100-1008	LIP	6/19/2021	SB
TM07	TM07-110	Validation	539881.53	4116460.96	60mm Mortar	37-105mm	17.39	6/19/2021	1	Target Not Investigated	Inaccessible	under hardscape		Yes	0.00	17.39	0.00	0.00	NA	539881.54	4116460.95	0.01	Yes	100-1007	LIP	6/19/2021	SB
TM07	TM07-122	Validation	539889.27	4116458.39	ISO MEDIUM	37-105mm	43.47	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	44.00	0.53	2.00	9.00	Yes	539889.28	4116458.39	0.01	Yes	100-0990; 100-0991	Yes	6/18/2021	SB
TM07	TM07-124	TOI	539910.48	4116482.15	81mm Mortar	37-105mm	24.47	6/18/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	25.00	0.53	10.00	36.00	Yes	539910.45	4116482.13	0.04	Yes	100-0974; 100-0975	Yes	6/18/2021	SB
TM10	TM10-1	TOI	539099.28	4116063.06	60mm Mortar	37-105mm	6.12	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	6.00	0.12	70.00	17.00	Yes	539099.22	4116063.07	0.06	Yes	101-0631; 101-0632	Yes	7/1/2021	SB
TM10	TM10-2	TOI	539106.43	4116063.20	81mm Mortar	37-105mm	13.10	7/1/2021	1	Munitions Debris	Mortar	81mm fuzed	M-43	NA	13.00	0.10	81.00	59.00	Yes	539106.39	4116063.12	0.08	Yes	101-0629; 101-0630	Yes	7/1/2021	SB
TM10	TM10-3	TOI	539118.24	4116082.71	60mm Mortar	37-105mm	12.65	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	13.00	0.35	60.00	9.00	Yes	539118.24	4116082.71	0.01	Yes	101-0643; 101-0644	Yes	7/1/2021	SB
TM10	TM10-5	TOI	539122.99	4116056.06	81mm Mortar	37-105mm	8.47	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	8.00	0.47	40.00	30.00	Yes	539122.93	4116056.00	0.08	Yes	101-0627; 101-0628	Yes	7/1/2021	SB
TM10	TM10-6	TOI	539121.82	4116060.02	81mm Mortar	37-105mm	9.79	7/1/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	8.00	1.79	30.00	34.00	Yes	539121.79	4116060.01	0.03	Yes	101-0625; 101-0626	Yes	7/1/2021	SB
TM10	TM10-9	TOI	539100.04	4116065.69	ISO SMALL	<=37mm	16.11	7/1/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC 1" x 4" pipe		NA	17.00	0.89	30.00	10.00	Yes	539100.01	4116065.70	0.03	Yes	101-0633; 101-0634	Yes	7/1/2021	SB
TM10	TM10-10	TOI	539104.37	4116080.24	ISO SMALL	<=37mm	6.49	7/1/2021	1	Seed	QA 1" x 4" pipe	QA Seed #NAB 162		NA	10.00	3.51	30.00	10.00	Yes	539104.35	4116080.23	0.02	Yes	101-0639; 101-0640	Yes	7/1/2021	SB
TM10	TM10-11	TOI	539118.49	4116060.01	60mm Mortar	37-105mm	10.82	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	12.00	1.18	30.00	118.00	Yes	539118.51	4116059.99	0.03	Yes	101-0623; 101-0624	Yes	7/1/2021	SB
TM10	TM10-16	TOI	539108.40	4116067.73	ISO SMALL	<=37mm	6.07	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	10.00	3.93	8.00	16.00	Yes	539108.41	4116067.74	0.01	Yes	101-0641; 101-0642	Yes	7/1/2021	SB
TM10	TM10-19	TOI	539106.36	4116063.06	81mm Mortar	37-105mm	11.88	7/1/2021	1	Duplicate Target	NA	same as 2		NA					NA				NA		Yes	7/1/2021	SB
TM10	TM10-21	Validation	539095.90	4116066.20	60mm Mortar	37-105mm	14.90	7/1/2021	16	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	13.00	1.90	10.00	9.00	Yes	539095.92	4116066.22	0.03	Yes	101-0637; 101-0638	Yes	7/1/2021	SB
TM10	TM10-26	Verification	539096.04	4116066.29	60mm Mortar	37-105mm	14.79	7/1/2021	10	Non-Munitions Related Debris	Non-MD Scrap Metal	nails, washers, nuts		Yes	15.00	0.21	20.00	3.00	Yes	539096.06	4116066.28	0.02	Yes	101-0635; 101-0636	Yes	7/1/2021	SB
TM10	TM10-37	TOI	539122.90	4116056.06	81mm Mortar	37-105mm	5.98	7/1/2021	1	Duplicate Target	NA	same as 5		NA					NA				NA		Yes	7/1/2021	SB
TM11	TM11-2	Verification	539040.10	4115999.05	60mm Mortar	37-105mm	17.26	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	20.00	2.74	10.00	6.00	Yes	539040.07	4115999.02	0.05	Yes	101-0029; 101-0030	Yes	6/24/2021	SB
TM11	TM11-4	TOI	539036.14	4116000.68	ISO SMALL	<=37mm	6.82	6/24/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #TM-11		NA	7.00	0.18	30.00	10.00	Yes	539036.14	4116000.72	0.04	Yes	101-0031; 101-0032	Yes	6/24/2021	SB
TM11	TM11-8	Verification	539015.95	4116013.37	60mm Mortar	37-105mm	9.72	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	9.00	0.72	70.00	15.00	Yes	539015.95	4116013.37	0.01	Yes	101-0041; 101-0042	Yes	6/24/2021	SB
TM11	TM11-9	Verification	539015.57	4116010.44	No Match	<=37mm	-8.35	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	0.00	8.35	35.00	148.00	Yes	539015.54	4116010.40	0.06	Yes	101-0039; 101-0040	Yes	6/24/2021	SB
TM11	TM11-10	TOI	539030.47	4116002.77	ISO SMALL	<=37mm	14.39	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	13.00	1.39	40.00	16.00	Yes	539030.50	4116002.80	0.04	Yes	101-0033; 101-0034	Yes	6/24/2021	SB
TM11	TM11-11	TOI	539014.78	4116014.73	60mm Mortar	37-105mm	6.76	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	8.00	1.24	65.00	16.00	Yes	539014.81	4116014.71	0.04	Yes	101-0043, 101-0044	Yes	6/24/2021	SB
TM11	TM11-12	Verification	539022.46	4116006.68	ISO SMALL	<=37mm	6.95	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	7.00	0.05	25.00	40.00	Yes	539022.50	4116006.70	0.05	Yes	101-0037; 101-0038	Yes	6/24/2021	SB
TM11	TM11-14	Verification	539014.07	4116014.31	81mm Mortar	37-105mm	9.94	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	10.00	0.06	20.00	40.00	Yes	539014.05	4116014.31	0.02	Yes	101-0045; 101-0046	Yes	6/24/2021	SB
TM11	TM11-15	TOI	539014.15	4116013.42	60mm Mortar	37-105mm	10.50	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	12.00	1.50	65.00	16.00	Yes	539014.16	4116013.39	0.03	Yes	101-0047; 101-0048	Yes	6/24/2021	SB
TM11	TM11-17	Validation	539027.74	4115999.75	ISO SMALL	<=37mm	10.06	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	13.00	2.94	30.00	11.00	Yes	539027.70	4115999.76	0.04	Yes	101-0035; 101-0036	Yes	6/24/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM11	TM11-18	Verification	539041.10	4116001.01	No Match	37-105mm	20.52	6/24/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	25.00	4.48	1.00	4.00	Yes	539041.07	4116001.01	0.02	Yes	101-0027; 101-0028	Yes	6/24/2021	SB
TM11	TM11-21	TOI	539036.12	4116000.68	ISO SMALL	<=37mm	5.42	6/24/2021	1	No Contact	NA	same as 4		NA					Yes				NA		NA	6/24/2021	SB
TM12	TM12-3	TOI	539167.46	4115984.94	ISO MEDIUM	37-105mm	10.25	6/29/2021	1	Seed	QA 2" x 8" pipe	QA Seed #NAB 129		NA	10.00	0.25	60.00	20.00	Yes	539167.48	4115984.93	0.02	Yes	101-0102; 101-0103	Yes	6/29/2021	SB
TM12	TM12-6	TOI	539167.21	4115980.25	81mm Mortar	37-105mm	20.15	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	17.00	3.15	20.00	75.00	Yes	539167.17	4115980.26	0.04	Yes	101-0420; 101-0421	Yes	6/29/2021	SB
TM12	TM12-15	TOI	539158.71	4115972.55	81mm Mortar	37-105mm	22.25	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	24.00	1.75	5.00	14.00	Yes	539158.71	4115972.55	0.01	Yes	101-0414; 101-0415		6/29/2021	SB
TM12	TM12-18	Validation	539171.83	4115983.41	60mm Mortar	37-105mm	25.36	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	23.00	2.36	30.00	8.00	Yes	539171.89	4115983.39	0.06	Yes	101-0126; 101-0127	Yes	6/29/2021	SB
TM12	TM12-24	TOI	539157.15	4115972.60	81mm Mortar	37-105mm	10.75	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	influenced by cable		NA	11.00	0.25	20.00	33.00	Yes	539157.15	4115972.60	0.01	Yes	101-0412; 101-0413	Yes	6/29/2021	SB
TM12	TM12-26	Verification	539179.60	4115989.57	4.2-in Mortar	>105mm	33.83	6/29/2021	1	MPPEH	Mortar	81mm, fuzed	M-56	No	38.00	4.17	81.00	57.00	No	539179.67	4115989.50	0.10	Yes	101-0441; 101-0442	Yes	6/29/2021	SB
TM12	TM12-1	TOI	539167.22	4115963.84	81mm Mortar	37-105mm	27.01	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	19.00	8.01	65.00	47.00	Yes	539167.20	4115963.78	0.06	Yes	101-0547; 101-0548	Yes	6/30/2021	SB
TM12	TM12-2	TOI	539171.36	4115963.44	81mm Mortar	37-105mm	8.10	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	plate		NA	8.00	0.10	10.00	40.00	Yes	539171.37	4115963.41	0.03	Yes	101-0543; 101-0544	Yes	6/30/2021	SB
TM12	TM12-5	TOI	539183.43	4115963.95	ISO MEDIUM	37-105mm	8.65	6/30/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #TM-12		NA	9.00	0.35	60.00	20.00	Yes	539183.42	4115963.96	0.01	Yes	101-0533; 101-0534	Yes	6/30/2021	SB
TM12	TM12-33	TOI	539187.17	4115980.45	4.2-in Mortar	>105mm	36.82	7/2/2021	1	MPPEH	Mortar	81mm fuze sheared	M-56	NA	30.00	6.82	81.00	53.00	Yes	539187.22	4115980.36	0.10	Yes	101-0439; 101-0440	Yes	7/2/2021	SB
TM12	TM12-13	TOI	539185.37	4115966.14	81mm Mortar	37-105mm	64.44	6/30/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	69.00	4.56	10.00	26.00	Yes	539185.34	4115966.13	0.03	Yes	101-0531; 101-0532	Yes	6/30/2021	SB
TM12	TM12-19	Verification	539183.26	4115969.30	60mm Mortar	37-105mm	51.41	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	61.00	9.59	25.00	31.00	Yes	539183.27	4115969.30	0.01	Yes	101-0490; 101-0491	Yes	6/30/2021	SB
TM12	TM12-21	TOI	539170.30	4115965.84	81mm Mortar	37-105mm	29.88	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	braided cable		NA	27.00	2.88	30.00	0.00	Yes	539170.27	4115965.83	0.03	Yes	101-0545; 101-0546	Yes	6/30/2021	SB
TM12	TM12-27	Verification	539183.73	4115960.82	81mm Mortar	37-105mm	25.37	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	23.00	2.37	10.00	18.00	Yes	539183.75	4115960.78	0.05	Yes	101-0541; 101-0542	Yes	6/30/2021	SB
TM12	TM12-32	TOI	539187.12	4115960.36	81mm Mortar	37-105mm	19.80	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	19.00	0.80	40.00	0.00	Yes	539187.10	4115960.39	0.03	Yes	101-0539; 101-0540	Yes	6/30/2021	SB
TM12	TM12-35	Verification	539180.39	4115968.74	60mm Mortar	37-105mm	14.60	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	13.00	1.60	15.00	111.00	Yes	539180.41	4115968.75	0.02	Yes	101-0521; 101-0524	Yes	6/30/2021	SB
TM12	TM12-41	Verification	539180.63	4115970.30	81mm Mortar	37-105mm	16.89	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	14.00	2.89	15.00	68.00	Yes	539180.61	4115970.31	0.02	Yes	101-0519; 101-0520	Yes	6/30/2021	SB
TM12	TM12-49	Verification	539179.94	4115968.84	81mm Mortar	37-105mm	13.10	6/30/2021	1	Duplicate Target	NA	shared with 35 and 79		NA					NA				NA	101-0523; 101-0525	Yes	6/30/2021	SB
TM12	TM12-52	TOI	539187.06	4115960.33	81mm Mortar	37-105mm	17.70	6/30/2021	1	Duplicate Target	NA	same as 32		NA					NA				NA		Yes	6/30/2021	SB
TM12	TM12-54	Verification	539187.28	4115985.55	No Match	37-105mm	11.28	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	11.00	0.28	10.00	0.00	Yes	539187.19	4115985.55	0.09	Yes	101-0516; 101-0517	Yes	6/30/2021	SB
TM12	TM12-56	TOI	539179.82	4115972.93	4.2-in Mortar	>105mm	75.07	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	shared with 154		NA	48.00	27.07	20.00	32.00	Yes	539179.82	4115972.96	0.03	Yes	101-0551; 101-0553	Yes	6/30/2021	SB
TM12	TM12-71	Verification	539187.06	4115982.63	No Match	37-105mm	9.08	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	9.00	0.08	10.00	107.00	Yes	539187.07	4115982.65	0.03	Yes	101-0512; 101-0513	Yes	6/30/2021	SB
TM12	TM12-72	TOI	539180.06	4115968.84	81mm Mortar	37-105mm	8.06	6/30/2021	1	Duplicate Target	NA	shared with 35 and 49		NA					NA				NA	101-0522; 101-0526	Yes	6/30/2021	SB
TM12	TM12-82	TOI	539184.42	4115966.73	ISO SMALL	<=37mm	2.77	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	9.00	6.23	30.00	8.00	Yes	539184.44	4115966.72	0.03	Yes	101-529; 101-0530	Yes	6/30/2021	SB
TM12	TM12-83	TOI	539185.72	4115973.15	81mm Mortar	37-105mm	73.41	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	70.00	3.41	50.00	30.00	Yes	539185.72	4115973.17	0.02	Yes	101-0537; 101-0538	Yes	6/30/2021	SB
TM12	TM12-84	TOI	539177.86	4115973.53	81mm Mortar	37-105mm	51.58	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Barbed-wire		NA	33.00	18.58	15.00	22.00	Yes	539177.83	4115973.54	0.03	Yes	101-0558; 101-0559; 101-0736	Yes	6/30/2021	SB
TM12	TM12-105	TOI	539187.69	4115974.86	4.2-in Mortar	>105mm	85.87	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	73.00	12.87	20.00	0.00	Yes	539187.77	4115974.90	0.09	Yes	101-0492; 101-0493	Yes	6/30/2021	SB
TM12	TM12-106	TOI	539188.29	4115981.90	81mm Mortar	37-105mm	20.75	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	braided cable		NA	14.00	6.75	30.00	0.00	Yes	539188.29	4115981.90	0.01	Yes	101-0507; 101-0508	Yes	6/30/2021	SB
TM12	TM12-112	TOI	539183.70	4115974.60	60mm Mortar	37-105mm	41.30	6/30/2021	1	Cultural Feature	Structure	Buried Pipe		NA	78.00	36.70	100.00	0.00	Yes	539183.75	4115974.62	0.05	Yes	101-0503; 101-0504	LIP	6/30/2021	SB
TM12	TM12-116	Verification	539187.78	4115981.97	81mm Mortar	37-105mm	20.19	6/30/2021	1	Duplicate Target	NA	Shared with 106		NA					NA				NA	101-0509; 101-0511	Yes	6/30/2021	SB
TM12	TM12-123	TOI	539182.42	4115973.57	60mm Mortar	37-105mm	46.38	6/30/2021	1	Cultural Feature	Structure	reinforced concrete		NA	60.00	13.62	0.00	0.00	Yes	539182.44	4115973.56	0.02	Yes	101-0498; 101499	LIP	6/30/2021	SB
TM12	TM12-128	TOI	539183.46	4115969.08	4.2-in Mortar	>105mm	79.80	6/30/2021	1	Cultural Feature	Structure	reinforced concrete		NA	112.00	32.20	0.00	0.00	Yes	539183.47	4115969.10	0.02	Yes	101-0488; 101-0489	LIP	6/30/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM12	TM12-149	Validation	539173.13	4115974.20	60mm Mortar	37-105mm	22.38	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	17.00	5.38	3.00	32.00	No	539173.14	4115974.18	0.02	Yes	101-0486; 101-0487	Yes	6/30/2021	SB
TM12	TM12-154	TOI	539179.61	4115973.03	81mm Mortar	37-105mm	57.75	6/30/2021	1	Duplicate Target	NA	shared with 56		NA					NA				NA	101-0554; 101-0555	Yes	6/30/2021	SB
TM12	TM12-166	Verification	539183.86	4115984.28	81mm Mortar	37-105mm	19.80	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	19.00	0.80	10.00	53.00	Yes	539183.86	4115984.31	0.04	Yes	101-0514; 101-0515	Yes	6/30/2021	SB
TM12	TM12-173	TOI	539177.41	4115970.04	60mm Mortar	37-105mm	1.30	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Can, total depth 19 cm		NA	10.00	8.70	10.00	11.00	Yes	539177.40	4115970.03	0.02	Yes	101-0527; 101-0528; 101-0735	Yes	6/30/2021	SB
TM12	TM12-175	TOI	539183.52	4115974.30	81mm Mortar	37-105mm	64.97	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	69.00	4.03	15.00	20.00	Yes	539183.50	4115974.30	0.02	Yes	101-0500; 101-0502	Yes	6/30/2021	SB
TM12	TM12-176	TOI	539183.42	4115974.33	81mm Mortar	37-105mm	68.19	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	69.00	0.81	15.00	20.00	Yes	539183.44	4115974.33	0.02	Yes	101-0500; 101-0501	Yes	6/30/2021	SB
TM12	TM12-180	TOI	539178.25	4115973.52	81mm Mortar	37-105mm	46.87	6/30/2021	1	Cultural Feature	Structure	reinforced concrete; total depth = 68 cm		NA	68.00	21.13	0.00	0.00	Yes	539177.28	4115973.52	0.97	No	101-0556; 101-0557; 101-0737;	LIP	6/30/2021	SB
TM12	TM12-181	TOI	539182.56	4115973.75	4.2-in Mortar	>105mm	85.03	6/30/2021	1	Cultural Feature	Structure	reinforced concrete		NA	87.00	1.97	0.00	0.00	Yes	539182.57	4115973.76	0.01	Yes	101-0496; 101-0497	LIP	6/30/2021	SB
TM12	TM12-188	TOI	539187.24	4115969.48	4.2-in Mortar	>105mm	95.69	6/30/2021	1	Cultural Feature	Structure	Buried Pipe		NA	103.00	7.31	200.00	0.00	Yes	539187.25	4115969.47	0.02	Yes	101-0535; 101-0536	LIP	6/30/2021	SB
TM12	TM12-198	TOI	539186.32	4115978.10	81mm Mortar	37-105mm	45.98	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	44.00	1.98	15.00	7.50	Yes	539186.31	4115978.10	0.01	Yes	101-0494; 101-0495	Yes	6/30/2021	SB
TM12	TM12-4	Verification	539176.80	4115985.46	60mm Mortar	37-105mm	3.29	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	10.00	6.71	20.00	138.00	Yes				Yes	101-0122; 101-0123	Yes	7/1/2021	SB
TM12	TM12-9	TOI	539167.65	4115971.92	81mm Mortar	37-105mm	48.50	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	44.00	4.50	20.00	62.00	Yes	539167.66	4115971.92	0.01	Yes	101-0602; 101-0603	Yes	7/1/2021	SB
TM12	TM12-17	Verification	539163.99	4115971.24	4.2-in Mortar	>105mm	75.61	7/1/2021	1	Cultural Feature	Structure	reinforced concrete		Yes	72.00	3.61	0.00	0.00	Yes	539164.01	4115971.23	0.02	Yes	101-0609; 101-0610	LIP	7/1/2021	SB
TM12	TM12-25	TOI	539166.66	4115967.07	81mm Mortar	37-105mm	48.53	7/1/2021	1	Cultural Feature	Structure	reinforced concrete		NA	47.00	1.53	0.00	0.00	Yes	539166.64	4115967.06	0.02	Yes	101-0604; 101-0605	LIP	7/1/2021	SB
TM12	TM12-75	TOI	539164.61	4115968.76	ISO MEDIUM	37-105mm	31.21	7/1/2021	1	Duplicate Target	NA	same as 7		NA					NA				NA	101-0608	Yes	7/1/2021	SB
TM12	TM12-115	TOI	539166.72	4115966.96	81mm Mortar	37-105mm	44.44	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	46.00	1.56	20.00	0.00	Yes	539166.73	4115966.95	0.02	Yes	101-0606; 101-0607	Yes	7/1/2021	SB
TM12	TM12-23	TOI	539160.17	4115979.60	60mm Mortar	37-105mm	15.25	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	16.00	0.75	40.00	13.00	Yes	539160.19	4115979.58	0.02	Yes	101-0404; 101-0405	Yes	7/2/2021	SB
TM12	TM12-28	TOI	539177.44	4115989.61	81mm Mortar	37-105mm	15.35	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	13.00	2.35	3.00	19.00	Yes				NA	101-0120; 101-0121	Yes	7/2/2021	SB
TM12	TM12-29	TOI	539162.41	4115963.21	60mm Mortar	37-105mm	8.95	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	10.00	1.05	15.00	32.00	Yes				NA	101-0132; 101-0133	Yes	7/2/2021	SB
TM12	TM12-7	TOI	539164.55	4115968.77	81mm Mortar	37-105mm	42.33	6/30/2021	1	MPPEH	Mortar	60mm, fuze sheared	M-49	NA	42.00	0.33	60.00	19.00	Yes	539164.55	4115968.77	0.01	Yes	101-0600; 101-0601	Yes	6/30/2021	SB
TM12	TM12-38	TOI	539171.58	4115967.81	4.2-in Mortar	>105mm	55.28	7/2/2021	1	Cultural Feature	Structure	reinforced concrete		NA	40.00	15.28	0.00	0.00	Yes	539171.58	4115967.78	0.03	Yes	101-0677; 101-0678	LIP	7/2/2021	SB
TM12	TM12-42	TOI	539164.11	4115983.19	60mm Mortar	37-105mm	24.48	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	23.00	1.48	10.00	19.00	Yes				NA	101-0100; 101-0101	Yes	7/2/2021	SB
TM12	TM12-43	TOI	539175.81	4115965.27	60mm Mortar	37-105mm	28.30	7/2/2021	1	Cultural Feature	Structure	reinforced concrete		NA	37.00	8.70	0.00	0.00	Yes	539175.82	4115965.28	0.01	Yes	101-0679; 101-0680	LIP	7/2/2021	SB
TM12	TM12-44	TOI	539186.90	4115980.44	81mm Mortar	37-105mm	16.08	7/2/2021	1	Cultural Feature	Structure	reinforced concrete		NA	12.00	4.08	0.00	0.00	Yes	539186.90	4115980.44	0.00	Yes	101-0505; 101-0506	LIP	7/2/2021	SB
TM12	TM12-45	Verification	539170.76	4115989.43	ISO SMALL	<=37mm	6.70	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	7.00	0.30	25.00	32.00	Yes	539170.78	4115989.43	0.02	Yes	101-0110; 101-0111	Yes	7/2/2021	SB
TM12	TM12-46	TOI	539168.11	4115987.19	81mm Mortar	37-105mm	9.62	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	0.62	25.00	10.00	Yes				NA	101-0104; 101-0105	Yes	7/2/2021	SB
TM12	TM12-50	TOI	539169.54	4115989.60	81mm Mortar	37-105mm	12.50	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	12.00	0.50	10.00	35.00	Yes				NA	101-0108; 101-0109	Yes	7/2/2021	SB
TM12	TM12-53	Verification	539165.64	4115970.38	81mm Mortar	37-105mm	21.87	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	20.00	1.87	25.00	0.00	Yes	539165.63	4115970.36	0.02	Yes	101-0128; 101-0129	Yes	7/2/2021	SB
TM12	TM12-62	TOI	539159.76	4115973.83	60mm Mortar	37-105mm	27.58	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	29.00	1.42	6.00	50.00	No	539159.75	4115973.80	0.03	Yes	101-0416; 101-0417	Yes	7/2/2021	SB
TM12	TM12-63	TOI	539169.36	4115985.29	60mm Mortar	37-105mm	9.67	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	10.00	0.33	35.00	8.00	Yes	539169.32	4115985.32	0.05	Yes	101-0112; 101-0113	Yes	7/2/2021	SB
TM12	TM12-65	TOI	539168.30	4115969.57	ISO SMALL	<=37mm	16.27	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Cable		NA	19.00	2.73	50.00	0.00	Yes	539168.26	4115969.50	0.07	Yes	101-0130; 101-0131	Yes	7/2/2021	SB
TM12	TM12-67	TOI	539180.81	4115983.06	81mm Mortar	37-105mm	15.12	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	16.00	0.88	10.00	0.00	Yes	539180.78	4115983.08	0.04	Yes	101-0427; 101-0428	Yes	7/2/2021	SB
TM12	TM12-74	Validation	539162.33	4115986.32	81mm Mortar	37-105mm	8.18	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	9.00	0.82	15.00	10.50	Yes	539162.32	4115986.30	0.02	Yes	101-0094; 101-0095	Yes	7/2/2021	SB
TM12	TM12-76	TOI	539185.42	4115979.88	60mm Mortar	37-105mm	15.26	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	12.00	3.26	10.00	37.00	Yes	539185.38	4115979.92	0.06	Yes	101-0437; 101-0438	Yes	7/2/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM12	TM12-77	TOI	539170.66	4115985.34	ISO SMALL	<=37mm	13.32	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	15.00	1.68	30.00	8.00	Yes	539170.65	4115985.35	0.01	Yes	101-0114; 101-115	Yes	7/2/2021	SB
TM12	TM12-87	TOI	539161.56	4115983.15	ISO SMALL	<=37mm	14.01	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	13.00	1.01	25.00	8.00	Yes	539161.59	4115983.13	0.04	Yes	101-0098; 101-0099	Yes	7/2/2021	SB
TM12	TM12-89	TOI	539181.40	4115960.56	81mm Mortar	37-105mm	86.31	7/2/2021	1	Cultural Feature	Structure	reinforced concrete		NA	64.00	22.31	0.00	0.00	Yes	539181.39	4115960.54	0.02	Yes	101-0683; 101-0684	Yes	7/2/2021	SB
TM12	TM12-79	TOI	539180.16	4115962.20	60mm Mortar	37-105mm	35.99	7/6/2021	1	Munitions Debris	Mortar	81mm, tail boom		NA	47.00	11.01	40.00	14.00	Yes	539180.18	4115962.22	0.03	Yes	101-0700; 101-0701	Yes	7/6/2021	SB
TM12	TM12-96	TOI	539168.28	4115969.53	81mm Mortar	37-105mm	22.75	7/2/2021	1	Duplicate Target	NA	same as 65		NA					NA				NA		Yes	7/2/2021	SB
TM12	TM12-108	TOI	539177.30	4115989.46	81mm Mortar	37-105mm	11.33	7/2/2021	1	Duplicate Target	NA	same a 28		NA					NA				NA		Yes	7/2/2021	SB
TM12	TM12-117	Verification	539174.93	4115987.49	No Match	37-105mm	13.61	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	14.00	0.39	20.00	27.00	Yes	539174.94	4115987.49	0.02	Yes	101-0118; 101-0119	Yes	7/2/2021	SB
TM12	TM12-119	TOI	539175.30	4115984.19	ISO SMALL	<=37mm	11.94	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	20.00	8.06	20.00	10.00	Yes	539175.33	4115984.21	0.04	Yes	101-0124; 101-0125	Yes	7/2/2021	SB
TM12	TM12-124	Validation	539170.12	4115979.15	81mm Mortar	37-105mm	5.61	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	10.00	4.39	30.00	23.00	No	539170.14	4115979.13	0.03	Yes	101-0433; 101-034	Yes	7/2/2021	SB
TM12	TM12-130	TOI	539181.59	4115964.65	81mm Mortar	37-105mm	53.69	7/2/2021	1	Cultural Feature	Structure	reinforced concrete		NA	84.00	30.31	0.00	0.00	Yes	539181.59	4115964.66	0.01	Yes	101-0681; 101-0682	LIP	7/2/2021	SB
TM12	TM12-136	Validation	539161.37	4115965.77	81mm Mortar	37-105mm	18.84	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Barbed-wire		Yes	18.00	0.84	10.00	14.00	No	539161.37	4115965.76	0.01	Yes	101-0549; 101-0550	Yes	7/2/2021	SB
TM12	TM12-139	TOI	539171.25	4115978.50	60mm Mortar	37-105mm	10.59	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	11.00	0.41	10.00	50.00	No	539171.22	4115978.57	0.08	Yes	101-0431; 101-0432	Yes	7/2/2021	SB
TM12	TM12-140	Verification	539176.84	4115985.41	81mm Mortar	37-105mm	12.85	7/2/2021	1	Duplicate Target	NA	same as 4		Yes					NA				NA		Yes	7/2/2021	SB
TM12	TM12-141	TOI	539169.48	4115984.98	81mm Mortar	37-105mm	29.36	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Can		NA	29.00	0.36	10.00	13.00	Yes	539169.50	4115984.95	0.04	Yes	101-0422; 101-0423	Yes	7/2/2021	SB
TM12	TM12-144	TOI	539159.39	4115976.44	60mm Mortar	37-105mm	8.93	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap metal, total depth: 24 cm		NA	10.00	1.07	15.00	12.00	Yes	539159.36	4115976.45	0.03	Yes	101-0408; 101-0409; 101-0734	Yes	7/2/2021	SB
TM12	TM12-147	TOI	539183.67	4115980.04	81mm Mortar	37-105mm	18.11	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	17.00	1.11	10.00	9.00	Yes	539183.64	4115980.03	0.03	Yes	101-0435; 101-0436	Yes	7/2/2021	SB
TM12	TM12-150	Validation	539157.92	4115977.04	ISO SMALL	<=37mm	10.81	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	14.00	3.19	15.00	12.00	Yes	539157.92	4115977.05	0.02	Yes	101-0406; 101-0407	Yes	7/2/2021	SB
TM12	TM12-153	Validation	539159.46	4115987.86	No Match	37-105mm	13.29	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	15.00	1.71	1.00	14.00	Yes	539159.49	4115987.85	0.03	Yes	101-0402; 101-0403	Yes	7/2/2021	SB
TM12	TM12-161	Validation	539167.43	4115990.34	ISO SMALL	<=37mm	17.14	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	17.00	0.14	2.00	33.00	Yes				Yes	101-0106; 101-0107	Yes	7/2/2021	SB
TM12	TM12-164	Validation	539172.49	4115987.35	ISO SMALL	<=37mm	7.56	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	8.00	0.44	20.00	31.00	Yes				Yes	101-0116; 101-0117	Yes	7/2/2021	SB
TM12	TM12-171	Validation	539157.87	4115974.06	60mm Mortar	37-105mm	16.64	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Can		Yes	15.00	1.64	10.00	13.00	Yes	539157.91	4115974.06	0.05	Yes	101-0410; 101-0411	Yes	7/2/2021	SB
TM12	TM12-179	Validation	539161.42	4115984.92	60mm Mortar	37-105mm	13.51	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	13.00	0.51	2.00	25.00	No				Yes	101-0096; 101-0097	Yes	7/2/2021	SB
TM12	TM12-189	TOI	539170.51	4115968.97	81mm Mortar	37-105mm	39.59	7/2/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	49.00	9.41	40.00	26.00	Yes	539170.51	4115968.97	0.00	Yes	101-0675; 101-0676	Yes	7/2/2021	SB
TM12	TM12-214	TOI	539160.03	4115973.70	81mm Mortar	37-105mm	41.72	7/2/2021	1	Duplicate Target	NA	Shared with 62		NA					NA				NA	101-0418; 101-0419	Yes	7/2/2021	SB
TM12	TM12-8	TOI	539169.01	4115963.02	81mm Mortar	37-105mm	38.52	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	42.00	3.48	110.00	61.00	Yes	539169.01	4115963.00	0.02	Yes	101-0716; 101-0717	Yes	7/6/2021	SB
TM12	TM12-14	TOI	539174.54	4115962.50	60mm Mortar	37-105mm	35.82	7/6/2021	2	Cultural Feature	Structure	rebar in concrete		NA	66.00	30.18	10.00	4.00	Yes	539174.52	4115962.49	0.02	Yes	101-0706; 101-0707	LIP	7/6/2021	SB
TM12	TM12-47	TOI	539183.63	4115983.09	4.2-in Mortar	>105mm	18.87	7/6/2021	1	Cultural Feature	Structure	Buried Pipe		NA	16.00	2.87	70.00	0.00	Yes	539183.62	4115983.11	0.02	Yes	101-0429; 101--0430	LIP	7/6/2021	SB
TM12	TM12-55	TOI	539179.94	4115963.42	81mm Mortar	37-105mm	58.55	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	47.00	11.55	20.00	43.00	Yes	539179.89	4115963.41	0.05	Yes	101-0696; 101-0697	Yes	7/6/2021	SB
TM12	TM12-68	TOI	539159.29	4115963.07	ISO SMALL	<=37mm	13.17	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	29.00	15.83	10.00	54.00	Yes	539159.27	4115963.03	0.04	Yes	101-0718; 101-0719	Yes	7/6/2021	SB
TM12	TM12-91	TOI	539170.95	4115986.15	81mm Mortar	37-105mm	61.92	7/2/2021	1	MPPEH	Mortar	81mm, fuzed	M-56	NA	50.00	11.92	81.00	42.00	Yes	539171.01	4115986.16	0.07	Yes	101-0424; 101-0426	Yes	7/2/2021	SB
TM12	TM12-107	TOI	539180.56	4115963.84	81mm Mortar	37-105mm	38.91	7/6/2021	1	Cultural Feature	Structure	reinforced concrete		NA	44.00	5.09	80.00	18.00	Yes	539180.56	4115963.85	0.02	Yes	101-0694; 101-0695	LIP	7/6/2021	SB
TM12	TM12-111	Verification	539177.50	4115962.39	4.2-in Mortar	>105mm	72.60	7/6/2021	1	Cultural Feature	Structure	rebar in concrete		Yes	83.00	10.40	15.00	100.00	Yes	539177.47	4115962.38	0.03	Yes	101-0704; 101-0705	LIP	7/6/2021	SB
TM12	TM12-118	TOI	539172.09	4115961.98	4.2-in Mortar	>105mm	65.69	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	32.00	33.69	40.00	96.00	Yes	539172.07	4115961.94	0.05	Yes	101-0714; 101-0715	Yes	7/6/2021	SB
TM12	TM12-120	Validation	539185.76	4115973.57	4.2-in Mortar	>105mm	96.31	7/6/2021	1	Cultural Feature	Structure	Rebar in concrete		Yes	74.00	22.31	10.00	10.00	Yes	539185.75	4115973.55	0.02	Yes	101-0698; 101-0699	LIP	7/6/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM12	TM12-132	Verification	539160.89	4115969.89	81mm Mortar	37-105mm	26.78	7/6/2021	1	Cultural Feature	Structure	influenced by gas line		Yes	27.00	0.22	3.00	34.00	Yes	539160.95	4115969.92	0.07	Yes	101-0685; 101-0686	LIP	7/6/2021	SB
TM12	TM12-137	TOI	539172.38	4115963.21	81mm Mortar	37-105mm	53.59	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	47.00	6.59	40.00	41.00	Yes	539172.36	4115963.22	0.02	Yes	101-0710; 101-0711	Yes	7/6/2021	SB
TM12	TM12-157	Verification	539158.88	4115962.90	No Match	<=37mm	15.56	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal, total depth: 32 cm		Yes	11.00	4.56	1.00	16.00	Yes	539158.89	4115962.90	0.01	Yes	101-0712; 101-0713; 101-0768	Yes	7/6/2021	SB
TM12	TM12-160	Validation	539177.70	4115962.41	81mm Mortar	37-105mm	51.70	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	54.00	2.30	15.00	123.00	Yes	539177.67	4115962.44	0.05	Yes	101-0702; 101-0703	Yes	7/6/2021	SB
TM12	TM12-165	TOI	539173.45	4115963.15	81mm Mortar	37-105mm	47.05	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	braided cable		NA	45.00	2.05	40.00	204.00	Yes	539173.43	4115963.16	0.03	Yes	101-0708; 101-0709	Yes	7/6/2021	SB
TM12	TM12-184	Validation	539185.06	4115989.59	81mm Mortar	37-105mm	51.93	7/6/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	40.00	11.93	40.00	375.00	Yes	539185.03	4115989.54	0.05	Yes	101-0721; 101-0724	Yes	7/6/2021	SB
TM12	TM12-190	TOI	539180.79	4115964.54	4.2-in Mortar	>105mm	75.86	7/6/2021	1	Cultural Feature	Structure	reinforced concrete		NA	87.00	11.14	0.00	0.00	Yes	539180.79	4115964.53	0.01	Yes	101-0692; 101-0693	LIP	7/6/2021	SB
TM12	TM12-191	TOI	539185.09	4115964.96	ISO MEDIUM	37-105mm	35.63	7/6/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	79.00	43.37	20.00	32.00	Yes	539185.06	4115964.98	0.04	Yes	101-0687; 101-0688	Yes	7/6/2021	SB
TM12	TM12-20	TOI	539160.05	4115968.99	4.2-in Mortar	>105mm	40.02	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	40.02	0.00	0.00	NA	539160.05	4115968.98	0.01	Yes	101-0726	LIP	7/7/2021	SB
TM12	TM12-40	TOI	539164.47	4115965.13	4.2-in Mortar	>105mm	46.25	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	46.25	0.00	0.00	NA	539164.47	4115965.13	0.00	Yes	101-0731	LIP	7/7/2021	SB
TM12	TM12-48	TOI	539160.68	4115969.48	ISO LARGE	>105mm	51.53	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	51.53	0.00	0.00	NA	539160.67	4115969.47	0.01	Yes	101-0725	LIP	7/7/2021	SB
TM12	TM12-88	TOI	539161.35	4115967.43	81mm Mortar	37-105mm	52.59	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	52.59	0.00	0.00	NA	539161.35	4115967.44	0.00	Yes	101-0728	LIP	7/7/2021	SB
TM12	TM12-93	TOI	539164.05	4115964.69	81mm Mortar	37-105mm	49.24	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	49.24	0.00	0.00	NA	539164.04	4115964.69	0.01	Yes	101-0730	LIP	7/7/2021	SB
TM12	TM12-113	TOI	539166.05	4115964.66	81mm Mortar	37-105mm	35.05	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	35.05	0.00	0.00	NA	539166.05	4115964.66	0.00	Yes	101-0733	LIP	7/7/2021	SB
TM12	TM12-138	TOI	539159.96	4115969.07	81mm Mortar	37-105mm	42.15	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	42.15	0.00	0.00	NA	539159.97	4115969.06	0.01	Yes	101-0727	LIP	7/7/2021	SB
TM12	TM12-152	TOI	539164.93	4115964.90	60mm Mortar	37-105mm	35.38	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	35.38	0.00	0.00	NA	539164.94	4115964.90	0.01	Yes	101-0732	LIP	7/7/2021	SB
TM12	TM12-202	TOI	539161.06	4115967.24	81mm Mortar	37-105mm	54.79	7/7/2021	1	Target Not Investigated	Structure	adjacent to gas line		NA	0.00	54.79	0.00	0.00	NA	539161.06	4115967.24	0.01	Yes	101-0729	LIP	7/7/2021	SB
TM13	TM13-1	TOI	539151.76	4116016.23	ISO MEDIUM	37-105mm	21.09	6/29/2021	1	Seed	QA 2" x 8" pipe	Blind QC Seed #TM-13		NA	22.00	0.91	60.00	20.00	Yes	539151.77	4116016.20	0.03	Yes	101-0566; 101-0567	Yes	6/29/2021	SB
TM13	TM13-9	Validation	539158.34	4116018.66	60mm Mortar	37-105mm	19.38	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	21.00	1.62	30.00	6.50	Yes	539158.35	4116018.64	0.02	Yes	101-0572; 101-0573	Yes	6/29/2021	SB
TM13	TM13-11	Verification	539158.86	4116016.13	60mm Mortar	37-105mm	16.15	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	15.00	1.15	40.00	12.00	Yes	539158.88	4116016.12	0.03	Yes	101-0570; 101-0571	Yes	6/29/2021	SB
TM13	TM13-24	TOI	539153.55	4116014.39	60mm Mortar	37-105mm	11.76	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	12.00	0.24	30.00	29.00	Yes	539153.58	4116014.38	0.02	Yes	101-0564; 101-0565	Yes	6/29/2021	SB
TM13	TM13-26	TOI	539152.65	4116011.37	81mm Mortar	37-105mm	9.19	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	13.00	3.81	20.00	153.00	Yes	539152.61	4116011.36	0.04	Yes	101-0562; 101-0563	Yes	6/29/2021	SB
TM13	TM13-31	Verification	539156.55	4116009.89	60mm Mortar	37-105mm	13.97	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Can		Yes	14.00	0.03	10.00	15.00	Yes	539156.57	4116009.89	0.02	Yes	101-0560; 101-0561	Yes	6/29/2021	SB
TM13	TM13-65	TOI	539153.63	4116014.46	ISO MEDIUM	37-105mm	9.70	6/29/2021	1	Duplicate Target	NA	same as 24		NA					NA				NA		Yes	6/29/2021	SB
TM13	TM13-92	Validation	539158.10	4116014.74	60mm Mortar	37-105mm	19.61	6/29/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	24.00	4.39	10.00	14.00	Yes	539158.11	4116014.74	0.01	Yes	101-0568; 101-0569	Yes	6/29/2021	SB
TM13	TM13-10	TOI	539141.08	4116035.83	60mm Mortar	37-105mm	20.51	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	11.51	30.00	58.00	Yes	539141.10	4116035.84	0.02	Yes	101-0586;101-0587	Yes	6/30/2021	SB
TM13	TM13-22	TOI	539132.86	4116037.85	81mm Mortar	37-105mm	21.52	6/30/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	20.00	1.52	30.00	50.00	Yes	539132.92	4116037.88	0.07	Yes	101-0596; 101-0597	Yes	6/30/2021	SB
TM13	TM13-30	Verification	539135.47	4116037.12	60mm Mortar	37-105mm	14.19	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	13.00	1.19	30.00	51.00	Yes	539135.54	4116037.27	0.16	Yes	101-0588; 101-0589	Yes	6/30/2021	SB
TM13	TM13-33	Verification	539135.30	4116037.10	60mm Mortar	37-105mm	13.64	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	10.00	3.64	30.00	51.00	Yes	539135.32	4116037.09	0.02	Yes	101-0590; 101-0591	Yes	6/30/2021	SB
TM13	TM13-36	Verification	539154.27	4116033.23	81mm Mortar	37-105mm	22.78	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	22.00	0.78	30.00	43.00	Yes	539154.28	4116033.19	0.03	Yes	101-0576; 101-0577	Yes	6/30/2021	SB
TM13	TM13-38	TOI	539132.60	4116037.94	81mm Mortar	37-105mm	22.47	6/30/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	17.00	5.47	30.00	50.00	Yes	539132.60	4116037.93	0.02	Yes	101-0598; 101-0599	Yes	6/30/2021	SB
TM13	TM13-12	TOI	539156.41	4116016.16	ISO MEDIUM	37-105mm	47.33	7/1/2021	1	MPEH	Mortar	81mm, fuzed	M-43	NA	50.00	2.67	81.00	33.00	Yes	539156.40	4116016.11	0.05	Yes	101-0659; 101660	Yes	7/1/2021	SB
TM13	TM13-41	Validation	539148.24	4116034.54	No Match	37-105mm	9.73	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	8.00	1.73	30.00	49.00	Yes	539148.25	4116034.51	0.03	Yes	101-0584; 101585	Yes	6/30/2021	SB
TM13	TM13-49	Validation	539151.32	4116035.68	No Match	37-105mm	15.64	6/30/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	15.00	0.64	2.00	20.00	Yes	539151.36	4116035.68	0.04	Yes	101-0580; 101-0581	Yes	6/30/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM13	TM13-55	Validation	539150.84	4116036.96	60mm Mortar	37-105mm	14.43	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	16.00	1.57	20.00	18.00	Yes	539150.82	4116036.94	0.02	Yes	101-0582; 101-0583	Yes	6/30/2021	SB
TM13	TM13-58	Validation	539134.43	4116037.72	60mm Mortar	37-105mm	13.71	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Can		Yes	17.00	3.29	10.00	12.00	Yes	539134.43	4116037.72	0.01	Yes	101-0594; 101-0595	Yes	6/30/2021	SB
TM13	TM13-72	Validation	539159.72	4116025.25	81mm Mortar	37-105mm	20.33	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	20.00	0.33	20.00	35.00	Yes	539159.73	4116025.24	0.02	Yes	101-0574; 101-0575	Yes	6/30/2021	SB
TM13	TM13-73	Verification	539134.81	4116037.32	No Match	>105mm	21.26	6/30/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	14.00	7.26	30.00	47.00	Yes	539134.84	4116037.31	0.03	Yes	101-0592; 101-0593	Yes	6/30/2021	SB
TM13	TM13-19	TOI	539135.71	4116009.10	60mm Mortar	37-105mm	6.90	7/1/2021	1	MPEH	Mortar	60mm, fuze sheared	M-49	NA	13.00	6.10	60.00	19.00	Yes	539135.73	4116009.09	0.02	Yes	101-0663; 101-0664	Blown in Place	7/1/2021	SB
TM13	TM13-2	TOI	539158.91	4116028.01	60mm Mortar	37-105mm	27.75	7/1/2021	1	MPEH	Mortar	60mm, fuzed	M-49	NA	38.00	10.25	60.00	22.00	Yes	539158.93	4116028.09	0.08	Yes	101-0647; 101-0648	Yes	7/1/2021	SB
TM13	TM13-3	TOI	539152.09	4116023.80	81mm Mortar	37-105mm	42.15	7/1/2021	1	MPEH	Mortar	81mm, fuzed	M-56	NA	38.00	4.15	81.00	58.00	Yes	539152.10	4116023.84	0.04	Yes	101-0655; 101-0656	Yes	7/1/2021	SB
TM13	TM13-5	TOI	539152.05	4116023.80	81mm Mortar	37-105mm	42.08	7/1/2021	1	Duplicate Target	NA	same as 3		NA					NA				NA		Yes	7/1/2021	SB
TM13	TM13-6	TOI	539154.67	4116010.87	81mm Mortar	37-105mm	49.92	7/1/2021	1	Cultural Feature	Structure	reinforced concrete		NA	40.00	9.92	0.00	0.00	Yes	539154.67	4116010.90	0.03	Yes	101-0661; 101-0662	LIP	7/1/2021	SB
TM13	TM13-39	TOI	539150.14	4116032.99	60mm Mortar	37-105mm	19.44	6/30/2021	1	Munitions Debris	Mortar	81mm fin		NA	22.00	2.56	70.00	14.00	Yes	539150.13	4116033.00	0.01	Yes	101-0578; 101-0579	Yes	6/30/2021	SB
TM13	TM13-13	TOI	539149.90	4116030.85	60mm Mortar	37-105mm	35.35	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	36.00	0.65	25.00	141.00	Yes	539149.93	4116030.92	0.08	Yes	101-0652; 101-0653	Yes	7/1/2021	SB
TM13	TM13-16	TOI	539150.24	4116030.46	81mm Mortar	37-105mm	43.01	7/1/2021	1	Duplicate Target	NA	shared with 13		NA					NA				NA	101-0651; 101-0654	Yes	7/1/2021	SB
TM13	TM13-17	Cannot Analyze	539158.61	4116039.26	ISO LARGE	>105mm	-3.22	7/1/2021	1	Cultural Feature	Structure	influenced by nearby pipe		NA	18.00	21.22	0.00	0.00	NA	539158.60	4116039.26	0.02	Yes	101-0670; 101-0671; 101-0672	LIP	7/1/2021	SB
TM13	TM13-4	TOI	539139.09	4116011.32	60mm Mortar	37-105mm	35.89	7/1/2021	1	MPEH	Mortar	81mm, fuzed	M-43	NA	30.00	5.89	81.00	29.00	Yes	539139.03	4116011.24	0.10	Yes	101-0673; 101-0674	Yes	7/1/2021	SB
TM13	TM13-21	TOI	539136.59	4116016.55	ISO SMALL	<=37mm	8.10	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	9.00	0.90	40.00	23.00	Yes	539136.60	4116016.55	0.02	Yes	101-0665; 101-0666	Yes	7/1/2021	SB
TM13	TM13-23	Verification	539153.35	4116022.85	ISO SMALL	<=37mm	40.88	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	44.00	3.12	20.00	30.00	Yes	539153.38	4116022.80	0.06	Yes	101-0657; 101-0658	Yes	7/1/2021	SB
TM13	TM13-32	TOI	539158.02	4116010.61	81mm Mortar	37-105mm	38.23	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	28.00	10.23	15.00	61.00	Yes	539157.99	4116010.60	0.03	Yes	101-0613; 101-0614	Yes	7/1/2021	SB
TM13	TM13-35	TOI	539139.05	4116011.26	60mm Mortar	37-105mm	29.83	7/1/2021	1	Duplicate Target	NA	same as 4		NA					NA				NA		Yes	7/1/2021	SB
TM13	TM13-37	TOI	539159.87	4116020.00	60mm Mortar	37-105mm	38.69	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	39.00	0.31	10.00	75.00	Yes	539159.89	4116020.00	0.03	Yes	101-0645; 101-0646	Yes	7/1/2021	SB
TM13	TM13-43	TOI	539135.72	4116009.10	60mm Mortar	37-105mm	9.63	7/1/2021	1	Duplicate Target	NA	same as 19		NA					NA				NA		Yes	7/1/2021	SB
TM13	TM13-46	Verification	539131.64	4116038.22	60mm Mortar	37-105mm	23.38	7/1/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	19.00	4.38	30.00	47.00	Yes	539131.62	4116038.22	0.02	Yes	101-0615; 101-0616	Yes	7/1/2021	SB
TM13	TM13-52	Validation	539132.89	4116035.94	ISO SMALL	<=37mm	15.80	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	15.00	0.80	30.00	12.00	Yes	539132.90	4116035.97	0.03	Yes	101-0619; 101-0620	Yes	7/1/2021	SB
TM13	TM13-61	TOI	539131.73	4116037.43	60mm Mortar	37-105mm	22.18	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	16.00	6.18	30.00	51.00	No	539131.74	4116037.44	0.02	Yes	101-0617; 101-0618	Yes	7/1/2021	SB
TM13	TM13-76	TOI	539130.99	4116031.75	ISO SMALL	<=37mm	5.57	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	13.00	7.43	50.00	22.00	Yes	539130.99	4116031.73	0.02	Yes	101-0621; 101-0622	Yes	7/1/2021	SB
TM13	TM13-77	Verification	539150.92	4116032.09	60mm Mortar	37-105mm	45.01	7/1/2021	1	MPEH	Mortar	81mm, fuzed	M-56	No	63.00	17.99	81.00	57.00	No	539150.90	4116032.10	0.02	Yes	101-0649; 101-0650	Yes	7/1/2021	SB
TM13	TM13-91	TOI	539158.35	4116038.26	4.2-in Mortar	>105mm	12.68	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	12.00	0.68	30.00	72.00	Yes	539158.33	4116038.26	0.02	Yes	101-0667; 101-0668	Yes	7/1/2021	SB
TM13	TM13-105	TOI	539158.92	4116028.14	60mm Mortar	37-105mm	25.82	7/1/2021	1	Duplicate Target	NA	same as 2		NA					NA				NA		Yes	7/1/2021	SB
TM13	TM13-109	TOI	539156.74	4116009.28	81mm Mortar	37-105mm	41.51	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	40.00	1.51	20.00	0.00	Yes	539156.74	4116009.29	0.01	Yes	101-0611; 101-0612	Yes	7/1/2021	SB
TM13	TM13-111	TOI	539156.38	4116016.07	81mm Mortar	37-105mm	50.03	7/1/2021	1	Duplicate Target	NA	same as 12		NA					NA				NA		Yes	7/1/2021	SB
TM13	TM13-100091	TOI	539158.08	4116038.43	81mm Mortar	37-105mm	8.38	7/1/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	shared with 91		NA	12.00	3.62	30.00	72.00	NA				NA		Yes	7/1/2021	SB
TM13	TM13-61	TOI	539131.73	4116037.43	60mm Mortar	37-105mm	22.18	7/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	16.00	6.18	25.00	48.00	Yes	539131.75	4116037.56	0.13	Yes	101-0758; 101-0759	Yes	7/8/2021	SB
TM14	TM14-2	TOI	539856.58	4116544.03	4.2-in Mortar	>105mm	24.62	6/10/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	23.00	1.62	106.00	56.00	Yes	539856.68	4116544.08	0.11	Yes	100-0432; 100-0433	Yes	6/10/2021	SB
TM14	TM14-3	TOI	539858.67	4116560.24	ISO LARGE	>105mm	16.33	6/10/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	15.00	1.33	106.00	53.00	Yes	539858.69	4116560.27	0.03	Yes	100-0430; 100-0431	Yes	6/10/2021	SB
TM14	TM14-6	TOI	539849.21	4116574.10	4.2-in Mortar	>105mm	30.99	6/10/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	30.00	0.99	106.00	52.00	Yes	539849.15	4116574.07	0.07	Yes	100-0422; 100-0423	Yes	6/10/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM14	TM14-8	TOI	539856.04	4116537.46	ISO LARGE	>105mm	12.86	6/10/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	12.00	0.86	106.00	51.00	Yes	539855.97	4116537.40	0.09	Yes	100-0436; 100-0437	Yes	6/10/2021	SB
TM14	TM14-9	TOI	539857.09	4116565.03	ISO SMALL	<=37mm	8.67	6/10/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #TM-14		NA	13.00	4.33	30.00	10.00	Yes	539857.08	4116564.95	0.08	Yes	100-0428; 100-0429	Yes	6/10/2021	SB
TM14	TM14-12	TOI	539852.99	4116562.37	81mm Mortar	37-105mm	13.93	6/10/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	13.00	0.93	106.00	50.00	Yes	539852.85	4116562.30	0.16	Yes	100-0426; 100-0427	Yes	6/10/2021	SB
TM14	TM14-16	TOI	539858.25	4116535.68	ISO SMALL	<=37mm	5.50	6/10/2021	1	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #TM-14		NA	13.00	7.50	30.00	10.00	Yes	539858.30	4116535.71	0.06	Yes	100-0438; 100-0439	Yes	6/10/2021	SB
TM14	TM14-17	TOI	539855.86	4116538.03	ISO LARGE	>105mm	12.82	6/10/2021	1	MPPEH	Mortar	4.2 inch	M-3	NA	13.00	0.18	106.00	50.00	Yes	539855.80	4116538.10	0.09	Yes	100-0434; 100-0435	Yes	6/10/2021	SB
TM14	TM14-54	TOI	539849.20	4116574.10	4.2-in Mortar	>105mm	27.18	6/10/2021	1	Duplicate Target	NA	same as 6		NA					NA				NA		Yes	6/10/2021	SB
TM14	TM14-61	TOI	539852.95	4116562.39	ISO LARGE	>105mm	17.70	6/10/2021	1	Duplicate Target	NA	same as 12		NA					NA				NA		Yes	6/10/2021	SB
TM14	TM14-67	TOI	539856.55	4116544.11	ISO LARGE	>105mm	24.89	6/10/2021	1	Duplicate Target	NA	same as 2		NA					NA				NA		Yes	6/10/2021	SB
TM14	TM14-1	TOI	539868.99	4116533.69	ISO LARGE	>105mm	38.99	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	33.00	5.99	106.00	49.00	Yes	539868.93	4116533.64	0.07	Yes	100-0491; 100-0492	Yes	6/11/2021	SB
TM14	TM14-4	TOI	539851.46	4116571.94	60mm Mortar	37-105mm	14.58	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	14.00	0.58	106.00	51.00	Yes	539851.23	4116571.89	0.23	Yes	100-0424; 100-0530	Yes	6/11/2021	SB
TM14	TM14-5	TOI	539867.17	4116531.27	4.2-in Mortar	>105mm	13.58	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuzed sheared	M-3	NA	14.00	0.42	106.00	48.00	Yes	539867.13	4116531.23	0.06	Yes	100-0482; 100-0483	Yes	6/11/2021	SB
TM14	TM14-10	TOI	539866.46	4116528.32	ISO LARGE	>105mm	43.68	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	42.00	1.68	106.00	40.00	Yes	539866.46	4116528.25	0.07	Yes	100_0478; 100_0479	Yes	6/11/2021	SB
TM14	TM14-11	TOI	539861.36	4116530.04	4.2-in Mortar	>105mm	29.08	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	29.00	0.08	106.00	49.00	Yes	539861.37	4116529.99	0.05	Yes	100-0480; 100-0481	Yes	6/11/2021	SB
TM14	TM14-13	TOI	539850.04	4116574.83	4.2-in Mortar	>105mm	50.88	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	51.00	0.12	106.00	56.00	Yes	539850.07	4116574.86	0.05	Yes	100-0420; 100-0421	Yes	6/11/2021	SB
TM14	TM14-14	TOI	539848.07	4116547.02	81mm Mortar	37-105mm	43.48	6/11/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	44.00	0.52	81.00	31.00	Yes	539848.08	4116547.02	0.02	Yes	100-0519; 100-0520	Yes	6/11/2021	SB
TM14	TM14-15	TOI	539859.81	4116553.03	60mm Mortar	37-105mm	13.82	6/11/2021	1	MPPEH	Mortar	4.2 inch, not fuzed	M-3	NA	14.00	0.18	106.00	30.00	Yes	539859.75	4116553.02	0.05	Yes	100-0505; 100-0506	Yes	6/11/2021	SB
TM14	TM14-20	TOI	539860.12	4116557.66	4.2-in Mortar	>105mm	28.70	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	31.00	2.30	106.00	54.00	Yes	539860.06	4116557.63	0.06	Yes	100-0507; 100-0508	Yes	6/11/2021	SB
TM14	TM14-21	TOI	539864.48	4116539.50	60mm Mortar	37-105mm	6.82	6/11/2021	1	Munitions Debris	Mortar	4.2 inch base plate		NA	14.00	7.18	106.00	20.00	Yes	539864.50	4116539.46	0.05	Yes	100-0495; 100-0496	Yes	6/11/2021	SB
TM14	TM14-23	TOI	539831.67	4116581.56	4.2-in Mortar	>105mm	38.70	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	43.00	4.30	106.00	56.00	Yes	539831.65	4116581.55	0.02	Yes	100-0522; 100-0523	Yes	6/11/2021	SB
TM14	TM14-24	TOI	539870.24	4116527.07	81mm Mortar	37-105mm	17.84	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		NA	18.00	0.16	90.00	22.50	Yes	539870.18	4116526.96	0.12	Yes	100-0486; 100-0531	Yes	6/11/2021	SB
TM14	TM14-25	TOI	539854.62	4116525.78	60mm Mortar	37-105mm	25.96	6/11/2021	1	Munitions Debris	Mortar	4.2" base plate and boom		NA	23.00	2.96	110.00	9.00	Yes	539854.66	4116525.70	0.09	Yes	100-0474; 100-0475	Yes	6/11/2021	SB
TM14	TM14-31	Verification	539866.05	4116545.25	81mm Mortar	37-105mm	5.58	6/11/2021	1	Cultural Feature	Structure	bolts in concrete		Yes	6.00	0.42	24.00	0.00	Yes	539866.00	4116545.27	0.05	Yes	100-0499; 100-500	LIP	6/11/2021	SB
TM14	TM14-26	TOI	539864.86	4116541.51	ISO MEDIUM	37-105mm	22.17	6/11/2021	1	MPPEH	Mortar	81mm, fuzed sheared. same as 125	M-43	NA	50.00	27.83	81.00	27.00	Yes	539864.73	4116541.53	0.14	Yes	100-0497; 100-0498	Yes	6/11/2021	SB
TM14	TM14-32	TOI	539858.45	4116545.25	ISO MEDIUM	37-105mm	38.66	6/11/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	42.00	3.34	81.00	30.00	Yes	539858.49	4116545.22	0.04	Yes	100-0460; 100-0461	Yes	6/11/2021	SB
TM14	TM14-33	TOI	539850.63	4116560.80	ISO MEDIUM	37-105mm	19.92	6/11/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	19.00	0.92	81.00	33.00	Yes	539850.64	4116560.80	0.01	Yes	100-0513; 100-0514	Yes	6/11/2021	SB
TM14	TM14-35	TOI	539837.34	4116586.63	60mm Mortar	37-105mm	12.86	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		NA	18.00	5.14	40.00	9.50	Yes	539837.32	4116586.58	0.06	Yes	100-0528; 100-0529	Yes	6/11/2021	SB
TM14	TM14-36	TOI	539869.70	4116524.38	60mm Mortar	37-105mm	15.86	6/11/2021	1	Munitions Debris	Mortar	4.2 inch base plate and boom		NA	18.00	2.14	104.00	9.00	Yes	539869.71	4116524.37	0.02	Yes	100-0484; 100-0485	Yes	6/11/2021	SB
TM14	TM14-38	TOI	539846.85	4116559.66	ISO LARGE	>105mm	45.23	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	49.00	3.77	106.00	49.00	Yes	539846.77	4116559.63	0.08	Yes	100-0515; 100-0516	Yes	6/11/2021	SB
TM14	TM14-39	TOI	539855.11	4116541.47	ISO MEDIUM	37-105mm	31.76	6/11/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	31.00	0.76	81.00	31.00	Yes	539855.11	4116541.44	0.03	Yes	100-0468; 100-0469	Yes	6/11/2021	SB
TM14	TM14-41	TOI	539863.91	4116532.65	ISO LARGE	>105mm	51.78	6/11/2021	1	MPPEH	Mortar	4.2 inch, sheard fuze	M-3	NA	59.00	7.22	106.00	50.00	Yes	539863.92	4116532.67	0.02	Yes	100-0476; 100-0477	Yes	6/11/2021	SB
TM14	TM14-46	TOI	539869.20	4116556.13	60mm Mortar	37-105mm	7.45	6/11/2021	1	Munitions Debris	Mortar	4.2" base plate and boom		NA	10.00	2.55	106.00	9.00	Yes	539869.18	4116556.09	0.05	Yes	100-0503; 100-0504	Yes	6/11/2021	SB
TM14	TM14-48	Verification	539852.26	4116569.05	60mm Mortar	37-105mm	22.26	6/11/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	18.00	4.26	3.00	29.00	Yes	539852.28	4116569.06	0.02	Yes	100-0517; 100-0518	Yes	6/11/2021	SB
TM14	TM14-51	TOI	539858.46	4116540.75	81mm Mortar	37-105mm	8.96	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	10.00	1.04	20.00	40.00	Yes	539858.50	4116540.66	0.10	Yes	100-0464; 100-0465	Yes	6/11/2021	SB
TM14	TM14-53	TOI	539869.04	4116533.75	81mm Mortar	37-105mm	40.00	6/11/2021	1	Duplicate Target	NA	same as 1		NA					NA	539868.93	4116533.64	0.15	NA		Yes	6/11/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM14	TM14-55	TOI	539861.30	4116530.02	4.2-in Mortar	>105mm	30.02	6/11/2021	1	Duplicate Target	NA	same as 11		NA					NA	539861.37	4116529.99	0.08	NA		Yes	6/11/2021	SB
TM14	TM14-56	TOI	539866.49	4116528.38	4.2-in Mortar	>105mm	49.15	6/11/2021	1	Duplicate Target	NA	same as 10, 122		NA					NA	539866.46	4116528.25	0.13	NA		Yes	6/11/2021	SB
TM14	TM14-62	TOI	539833.88	4116583.52	ISO MEDIUM	37-105mm	32.11	6/11/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	38.00	5.89	81.00	33.00	Yes	539833.87	4116583.51	0.01	Yes	100-0524; 100-0525	Yes	6/11/2021	SB
TM14	TM14-64	TOI	539863.99	4116532.86	ISO LARGE	>105mm	54.27	6/11/2021	1	Duplicate Target	NA	same as 41		NA					NA	539863.92	4116532.68	0.19	NA		Yes	6/11/2021	SB
TM14	TM14-66	Verification	539834.75	4116583.18	No Match	37-105mm	3.69	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	clamp		Yes	6.00	2.31	30.00	25.00	Yes	539834.79	4116583.16	0.04	Yes	100-0526; 100-0527	Yes	6/11/2021	SB
TM14	TM14-68	Verification	539869.85	4116553.62	No Match	37-105mm	2.68	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	threaded rod		Yes	7.00	4.32	4.00	80.00	Yes	539869.90	4116553.67	0.07	Yes	100-0501; 100-0502	Yes	6/11/2021	SB
TM14	TM14-77	TOI	539855.14	4116541.41	60mm Mortar	37-105mm	32.22	6/11/2021	1	Duplicate Target	NA	same as 39		NA					NA	539855.11	4116541.43	0.04	NA		Yes	6/11/2021	SB
TM14	TM14-81	TOI	539851.06	4116571.91	81mm Mortar	37-105mm	18.81	6/11/2021	1	Duplicate Target	NA	same as 4		NA					NA				NA		Yes	6/11/2021	SB
TM14	TM14-83	TOI	539858.45	4116541.37	81mm Mortar	37-105mm	15.03	6/11/2021	1	Cultural Feature	Structure	bolts in concrete		NA	30.00	14.97	24.00	0.00	Yes	539858.38	4116541.38	0.07	Yes	100-0462	LIP	6/11/2021	SB
TM14	TM14-84	TOI	539853.83	4116549.99	60mm Mortar	37-105mm	23.92	6/11/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	29.00	5.08	81.00	25.00	Yes	539853.80	4116550.06	0.08	Yes	100-0509; 100-0510	Yes	6/11/2021	SB
TM14	TM14-89	Verification	539858.64	4116541.32	No Match	37-105mm	-27.12	6/11/2021	1	Cultural Feature	Structure	bolts in concrete		Yes	-30.00	2.88	24.00	0.00	Yes	539858.59	4116541.25	0.09	Yes	100-0463	LIP	6/11/2021	SB
TM14	TM14-110	Validation	539859.15	4116532.56	No Match	37-105mm	23.69	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	22.00	1.69	4.00	13.00	Yes	539859.20	4116532.60	0.06	Yes	100-0472; 100-0473	Yes	6/11/2021	SB
TM14	TM14-111	Validation	539856.65	4116540.98	60mm Mortar	37-105mm	5.80	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	10.00	4.20	30.00	9.50	Yes	539856.68	4116540.90	0.09	Yes	100-0466; 100-0467	Yes	6/11/2021	SB
TM14	TM14-113	Validation	539872.26	4116530.31	No Match	37-105mm	13.78	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	13.00	0.78	30.00	2.00	Yes	539872.34	4116530.25	0.10	Yes	100-0489; 100-0490	Yes	6/11/2021	SB
TM14	TM14-120	Validation	539856.29	4116532.16	No Match	37-105mm	11.57	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	14.00	2.43	3.00	10.00	Yes	539856.38	4116532.13	0.09	Yes	100-0470; 100-0471	Yes	6/11/2021	SB
TM14	TM14-121	TOI	539870.24	4116527.07	81mm Mortar	37-105mm	17.84	6/11/2021	1	Duplicate Target	NA	Same as 24		NA					NA				NA	100-0486; 100-0531	Yes	6/11/2021	SB
TM14	TM14-122	TOI	539866.41	4116528.37	4.2-in Mortar	>105mm	47.77	6/11/2021	1	Duplicate Target	NA	same as 10, 56		NA					NA	539866.47	4116528.26	0.12	NA		Yes	6/11/2021	SB
TM14	TM14-40	TOI	539850.89	4116558.30	60mm Mortar	37-105mm	36.44	6/11/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	47.00	10.56	106.00	55.00	Yes	539850.82	4116558.32	0.07	Yes	100-0511; 100-0521	Yes	6/11/2021	SB
TM14	TM14-123	TOI	539850.89	4116558.30	60mm Mortar	37-105mm	36.44	6/11/2021	1	Duplicate Target	NA	Same as 40		NA					NA				NA	100-0511; 100-0521	Yes	6/11/2021	SB
TM14	TM14-124	TOI	539866.85	4116537.67	ISO LARGE	>105mm	14.11	6/11/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	15.00	0.89	30.00	14.00	Yes	539866.78	4116537.59	0.10	Yes	100-0493; 100-0494	Yes	6/11/2021	SB
TM14	TM14-125	TOI	539864.73	4116541.46	81mm Mortar	37-105mm	51.92	6/11/2021	1	Duplicate Target	NA	same as 26		NA					NA	539864.73	4116541.54	0.08	NA		Yes	6/11/2021	SB
TM14	TM14-18	TOI	539863.49	4116557.72	4.2-in Mortar	>105mm	70.37	6/17/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	63.00	7.37	106.00	55.00	Yes	539863.45	4116557.78	0.08	Yes	100-0941; 100-0942	Yes	6/17/2021	SB
TM14	TM14-18	TOI	539863.49	4116557.72	4.2-in Mortar	>105mm	70.37	6/17/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	67.00	3.37	81.00	31.00	Yes	539863.27	4116557.51	0.31	No	100-0943; 100-0944	Yes	6/17/2021	SB
TM14	TM14-19	TOI	539852.65	4116559.13	81mm Mortar	37-105mm	51.45	6/17/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	52.00	0.55	81.00	31.00	Yes	539852.60	4116559.16	0.06	Yes	100_0938; 100_0939	Yes	6/17/2021	SB
TM14	TM14-22	TOI	539858.76	4116556.14	4.2-in Mortar	>105mm	51.93	6/17/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	58.00	6.07	106.00	55.00	Yes	539858.75	4116556.15	0.02	Yes	100-0950; 100-0951	Yes	6/17/2021	SB
TM14	TM14-28	TOI	539866.78	4116557.42	81mm Mortar	37-105mm	75.24	6/17/2021	1	Duplicate Target	NA	Same as 29		NA					NA				NA	100-0956; 100-0958	Yes	6/17/2021	SB
TM14	TM14-29	TOI	539866.94	4116557.12	60mm Mortar	37-105mm	60.82	6/17/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	85.00	24.18	106.00	55.00	Yes	539866.89	4116557.12	0.05	Yes	100-0945; 100-0947	Yes	6/17/2021	SB
TM14	TM14-30	TOI	539848.47	4116568.55	4.2-in Mortar	>105mm	83.99	6/17/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	90.00	6.01	106.00	55.00	Yes	539848.52	4116568.48	0.09	Yes	100-0932; 100-0933	Yes	6/17/2021	SB
TM14	TM14-34	TOI	539847.10	4116554.80	81mm Mortar	37-105mm	60.25	6/17/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	68.00	7.75	106.00	52.00	Yes	539847.07	4116554.79	0.03	Yes	100-0952; 100-0953	Yes	6/17/2021	SB
TM14	TM14-42	TOI	539864.19	4116552.94	81mm Mortar	37-105mm	89.47	6/17/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	92.00	2.53	106.00	55.00	Yes	539864.22	4116552.95	0.03	Yes	100-0948; 100-0949	Yes	6/17/2021	SB
TM14	TM14-45	TOI	539849.98	4116568.78	ISO MEDIUM	37-105mm	43.60	6/17/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	53.00	9.40	81.00	33.00	Yes	539850.03	4116568.70	0.09	Yes	100-0930; 100-0931	Yes	6/17/2021	SB
TM14	TM14-52	TOI	539849.55	4116545.61	81mm Mortar	37-105mm	69.18	6/17/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	80.00	10.82	106.00	55.00	Yes	539849.61	4116545.65	0.07	Yes	100-0954; 100-0955	Yes	6/17/2021	SB
TM14	TM14-71	TOI	539847.11	4116554.87	ISO LARGE	>105mm	62.66	6/17/2021	1	Duplicate Target	NA	same as 34		NA					NA				NA		Yes	6/17/2021	SB
TM14	TM14-72	TOI	539858.79	4116556.11	81mm Mortar	37-105mm	53.77	6/17/2021	1	Duplicate Target	NA	same as 22		NA					NA				NA		Yes	6/17/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM14	TM14-73	TOI	539847.29	4116561.85	81mm Mortar	37-105mm	55.59	6/17/2021	1	MPPEH	Mortar	4.2 inch, not fuzed	M-3	NA	102.00	46.41	106.00	48.00	Yes	539847.22	4116562.19	0.35	No	100-0936; 100937	Yes	6/17/2021	SB
TM14	TM14-73	TOI	539847.29	4116561.85	81mm Mortar	37-105mm	55.59	6/17/2021	1	MPPEH	Mortar	81mm, fuzed	M-43	NA	63.00	7.41	81.00	32.00	Yes	539847.27	4116561.85	0.02	Yes	100-0934; 100-0935	Yes	6/17/2021	SB
TM15	TM15-4	TOI	539829.74	4116488.70	4.2-in Mortar	>105mm	27.73	6/14/2021	1	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	31.00	3.27	106.00	48.00	Yes	539829.71	4116488.74	0.05	Yes	100-0564; 100-0565	Yes	6/14/2021	SB
TM15	TM15-9	TOI	539832.68	4116489.79	81mm Mortar	37-105mm	2.18	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	4.00	1.82	50.00	31.00	Yes	539832.63	4116489.81	0.06	Yes	100-0566; 100-0567	Yes	6/14/2021	SB
TM15	TM15-11	TOI	539824.30	4116505.67	ISO LARGE	>105mm	9.00	6/14/2021	1	Cultural Feature	Structure	pipe encased in concrete		NA	0.00	9.00	110.00	0.00	Yes	539824.31	4116505.70	0.03	Yes	100-0614; 100-0615	LIP	6/14/2021	SB
TM15	TM15-22	TOI	539817.29	4116505.99	81mm Mortar	37-105mm	25.90	6/14/2021	1	Cultural Feature	Structure	influenced by electrical line		NA	31.00	5.10	0.00	0.00	NA	539817.29	4116506.04	0.05	Yes	100-0613	LIP	6/14/2021	SB
TM15	TM15-30	TOI	539827.19	4116479.69	60mm Mortar	37-105mm	41.82	6/14/2021	1	Cultural Feature	Structure	influenced by manhole cover		NA	56.00	14.18	10.00	18.00	Yes	539827.16	4116479.64	0.06	Yes	100-556; 100-0557	LIP	6/14/2021	SB
TM15	TM15-32	TOI	539818.42	4116503.25	81mm Mortar	37-105mm	47.72	6/14/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	53.00	5.28	0.00	0.00	Yes	539818.44	4116503.27	0.03	Yes	100-0598	LIP	6/14/2021	SB
TM15	TM15-37	Validation	539820.91	4116504.28	ISO SMALL	<=37mm	0.49	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	6.00	5.51	30.00	7.00	Yes	539820.94	4116504.35	0.08	Yes	100-0599; 100-0600	Yes	6/14/2021	SB
TM15	TM15-43	TOI	539827.90	4116507.17	4.2-in Mortar	>105mm	13.84	6/14/2021	1	Cultural Feature	Structure	pipe encased in concrete		NA	14.00	0.16	120.00	100.00	Yes	539827.83	4116507.13	0.07	Yes	100-0574; 100-0576	LIP	6/14/2021	SB
TM15	TM15-44	TOI	539828.08	4116508.58	4.2-in Mortar	>105mm	70.31	6/14/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	74.00	3.69	106.00	53.00	Yes	539828.11	4116508.70	0.12	Yes	100-0592; 100-0593	Yes	6/14/2021	SB
TM15	TM15-48	Verification	539825.48	4116475.69	ISO SMALL	<=37mm	1.72	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	4.00	2.28	30.00	15.00	Yes	539825.51	4116475.62	0.08	Yes	100-0553; 100-0554	Yes	6/14/2021	SB
TM15	TM15-49	Verification	539817.50	4116505.11	81mm Mortar	37-105mm	50.10	6/14/2021	1	No Contact	NA	same as 189		Yes	49.00		0.00	0.00	NA	539817.50	4116505.11	0.01	Yes	100-0610	NA	6/14/2021	SB
TM15	TM15-54	TOI	539832.90	4116504.35	4.2-in Mortar	>105mm	55.81	6/14/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	60.00	4.19	106.00	55.00	Yes	539832.93	4116504.36	0.04	Yes	100-0618; 100-0619	Yes	6/14/2021	SB
TM15	TM15-63	Verification	539833.25	4116498.91	ISO SMALL	<=37mm	2.27	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	8.00	5.73	25.00	11.00	Yes	539833.32	4116498.86	0.09	Yes	100-0587; 100-0588	Yes	6/14/2021	SB
TM15	TM15-78	TOI	539832.90	4116502.22	4.2-in Mortar	>105mm	55.83	6/14/2021	1	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	53.00	2.83	106.00	50.00	Yes	539832.96	4116502.16	0.10	Yes	100-0585; 100-0586	Yes	6/14/2021	SB
TM15	TM15-80	TOI	539832.41	4116507.85	ISO SMALL	<=37mm	1.13	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	6.00	4.87	30.00	25.00	Yes	539832.47	4116507.90	0.08	Yes	100-0594; 100-0595	Yes	6/14/2021	SB
TM15	TM15-84	Verification	539822.04	4116503.27	60mm Mortar	37-105mm	1.21	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	4.00	2.79	7.00	9.00	Yes	539822.02	4116503.26	0.02	Yes	100-0603; 100-0604	Yes	6/14/2021	SB
TM15	TM15-95	TOI	539835.57	4116490.56	81mm Mortar	37-105mm	2.66	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		NA	6.00	3.34	15.00	6.00	Yes	539835.50	4116490.55	0.07	Yes	100-0570; 100-0571	Yes	6/14/2021	SB
TM15	TM15-110	TOI	539815.40	4116504.13	ISO SMALL	<=37mm	1.72	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	2.00	0.28	30.00	14.00	Yes	539815.33	4116504.15	0.08	Yes	100-0606; 100-0607	Yes	6/14/2021	SB
TM15	TM15-156	TOI	539829.04	4116504.42	60mm Mortar	37-105mm	-4.30	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	aluminum		NA	0.00	4.30	3.00	44.00	Yes	539829.03	4116504.40	0.03	Yes	100-0591	Yes	6/14/2021	SB
TM15	TM15-181	Verification	539839.00	4116491.79	81mm Mortar	37-105mm	6.86	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	7.00	0.14	30.00	8.50	Yes	539839.04	4116491.73	0.07	Yes	100-0577; 100-0578	Yes	6/14/2021	SB
TM15	TM15-185	TOI	539829.49	4116486.28	ISO SMALL	<=37mm	9.28	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	10.00	0.72	35.00	9.50	Yes	539829.48	4116486.25	0.03	Yes	100-0562; 100-0563	Yes	6/14/2021	SB
TM15	TM15-187	Verification	539833.53	4116494.82	ISO SMALL	<=37mm	-1.36	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	5.00	6.36	40.00	9.00	Yes	539833.57	4116494.76	0.07	Yes	100-0583; 100-0584	Yes	6/14/2021	SB
TM15	TM15-189	TOI	539817.37	4116504.93	81mm Mortar	37-105mm	48.06	6/14/2021	1	Cultural Feature	Structure	concrete with electronical influence		NA	49.00	0.94	0.00	0.00	NA	539817.37	4116504.91	0.02	Yes	100-0612	LIP	6/14/2021	SB
TM15	TM15-247	Verification	539832.49	4116503.87	81mm Mortar	37-105mm	41.39	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire total depth : 60 cm		Yes	19.00	22.39	2.00	34.00	Yes	539832.44	4116503.87	0.05	Yes	100-0589; 100-0590; 101-0749	Yes	6/14/2021	SB
TM15	TM15-258	TOI	539816.80	4116503.84	ISO SMALL	<=37mm	5.68	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	4.00	1.68	30.00	9.00	Yes	539816.76	4116503.91	0.08	Yes	100-0608; 100-0609	Yes	6/14/2021	SB
TM15	TM15-259	TOI	539832.53	4116483.66	ISO SMALL	<=37mm	10.29	6/14/2021	1	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #TM-15		NA	10.00	0.29	30.00	10.00	Yes	539832.54	4116483.67	0.01	Yes	100-0560; 100-0561	Yes	6/14/2021	SB
TM15	TM15-269	Verification	539833.31	4116498.91	ISO SMALL	<=37mm	4.01	6/14/2021	1	Duplicate Target	NA	same as 63		Yes					NA				NA		Yes	6/14/2021	SB
TM15	TM15-278	TOI	539822.28	4116503.24	81mm Mortar	37-105mm	16.39	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	13.00	3.39	2.00	8.00	Yes	539822.36	4116503.27	0.09	Yes	100-0601; 100-0602	Yes	6/14/2021	SB
TM15	TM15-279	TOI	539822.94	4116478.78	60mm Mortar	37-105mm	13.22	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	11.00	2.22	30.00	50.00	Yes	539822.96	4116478.80	0.03	Yes	100-0551; 100-0552	Yes	6/14/2021	SB
TM15	TM15-289	Verification	539836.45	4116495.58	No Match	<=37mm	15.70	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	14.00	1.70	10.00	15.00	Yes	539836.42	4116495.53	0.06	Yes	100-0581; 100-0582	Yes	6/14/2021	SB
TM15	TM15-299	Verification	539838.39	4116494.68	60mm Mortar	37-105mm	41.54	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe elbow		Yes	43.00	1.46	50.00	9.00	Yes	539838.44	4116494.63	0.07	Yes	100-0579; 100-0580	Yes	6/14/2021	SB
TM15	TM15-313	Validation	539820.92	4116502.60	ISO SMALL	<=37mm	12.16	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	4.00	8.16	2.00	24.00	Yes	539820.85	4116502.62	0.07	Yes	100-0596, 100-0597	Yes	6/14/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM15	TM15-362	Validation	539838.68	4116489.08	ISO SMALL	<=37mm	5.72	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	10.00	4.28	20.00	6.50	Yes	539838.63	4116489.00	0.09	Yes	100-572; 100-0573	Yes	6/14/2021	SB
TM15	TM15-452	Validation	539834.27	4116488.86	81mm Mortar	37-105mm	6.00	6/14/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	10.00	4.00	15.00	5.00	Yes	539834.22	4116488.82	0.06	Yes	100-0568; 100-0569	Yes	6/14/2021	SB
TM15	TM15-455	Verification	539829.76	4116481.22	No Match	37-105mm	-4.73	6/14/2021	1	Cultural Feature	Structure	manhole cover		Yes	0.00	4.73	0.00	70.00	Yes	539829.88	4116481.17	0.13	Yes	100-0559	LIP	6/14/2021	SB
TM15	TM15-503	TOI	539832.93	4116503.51	4.2-in Mortar	>105mm	69.14	6/14/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	60.00	9.14	106.00	57.00	Yes	539832.94	4116503.55	0.04	Yes	100-0616; 100-0617	Yes	6/14/2021	SB
TM15	TM15-512	TOI	539816.78	4116503.83	ISO SMALL	<=37mm	1.40	6/14/2021	1	Duplicate Target	NA	same as 258		NA					NA				NA		Yes	6/14/2021	SB
TM15	TM15-3	TOI	539827.22	4116454.54	60mm Mortar	37-105mm	2.80	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	9.00	6.20	60.00	10.00	Yes	539827.28	4116454.54	0.06	Yes	100-0728; 100-0729	Yes	6/15/2021	SB
TM15	TM15-5	TOI	539807.78	4116482.64	81mm Mortar	37-105mm	20.89	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	11.00	9.89	30.00	6.50	Yes	539807.85	4116482.62	0.07	Yes	100-0662; 100-0663	Yes	6/15/2021	SB
TM15	TM15-8	TOI	539816.13	4116465.73	ISO LARGE	>105mm	45.81	6/15/2021	1	MPPEH	Mortar	4.2 inch, fuze shared	M-3	NA	38.00	7.81	106.00	52.00	Yes	539816.16	4116465.78	0.06	Yes	100-0710; 100-0711	Yes	6/15/2021	SB
TM15	TM15-12	TOI	539816.42	4116463.35	81mm Mortar	37-105mm	5.02	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	5.00	0.02	40.00	28.00	Yes	539816.45	4116463.29	0.06	Yes	100-0628; 100-0629	Yes	6/15/2021	SB
TM15	TM15-25	TOI	539816.15	4116466.36	60mm Mortar	37-105mm	12.88	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe, total depth: 36 cm		NA	15.00	2.12	30.00	8.00	Yes	539816.17	4116466.42	0.07	Yes	100-0712; 100-0713; 101-0747	Yes	6/15/2021	SB
TM15	TM15-26	TOI	539832.76	4116460.63	ISO SMALL	<=37mm	5.72	6/15/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, metal plate		NA	4.00	1.72	30.00	9.00	Yes	539832.73	4116460.60	0.04	Yes	100-0742; 100-0743	Yes	6/15/2021	SB
TM15	TM15-27	TOI	539836.58	4116462.27	81mm Mortar	37-105mm	11.12	6/15/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	10.00	1.12	3.00	31.00	Yes	539836.59	4116462.27	0.01	Yes	100-0748; 100-0749	Yes	6/15/2021	SB
TM15	TM15-28	TOI	539830.95	4116459.25	60mm Mortar	37-105mm	11.18	6/15/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	11.00	0.18	25.00	8.00	Yes	539830.90	4116459.23	0.05	Yes	100-0738; 100-0739	Yes	6/15/2021	SB
TM15	TM15-31	TOI	539825.35	4116455.01	81mm Mortar	37-105mm	20.09	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	18.00	2.09	50.00	14.00	Yes	539825.31	4116455.06	0.06	Yes	100-0726; 100-0727	Yes	6/15/2021	SB
TM15	TM15-33	TOI	539814.92	4116472.36	ISO LARGE	>105mm	26.63	6/15/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	29.00	2.37	106.00	53.00	Yes	539814.90	4116472.36	0.02	Yes	100-0636; 100-0637	Yes	6/15/2021	SB
TM15	TM15-39	TOI	539802.18	4116491.48	81mm Mortar	37-105mm	16.35	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	threaded rod		NA	14.00	2.35	10.00	53.00	Yes	539802.20	4116491.46	0.02	Yes	100-0691; 100-0692	Yes	6/15/2021	SB
TM15	TM15-45	Verification	539818.36	4116451.44	ISO SMALL	<=37mm	5.09	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	9.00	3.91	30.00	12.00	Yes	539818.35	4116451.43	0.01	Yes	100-0720; 100-0721	Yes	6/15/2021	SB
TM15	TM15-50	TOI	539815.28	4116462.50	4.2-in Mortar	>105mm	10.42	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	8.00	2.42	25.00	43.00	Yes	539815.23	4116462.44	0.07	Yes	100-0626; 100-0627	Yes	6/15/2021	SB
TM15	TM15-52	Verification	539821.25	4116452.01	81mm Mortar	37-105mm	3.58	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		Yes	7.00	3.42	30.00	9.00	Yes	539821.22	4116451.98	0.05	Yes	100-0722; 100-0723	Yes	6/15/2021	SB
TM15	TM15-57	TOI	539804.52	4116489.97	60mm Mortar	37-105mm	9.97	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	20.00	10.03	10.00	10.00	Yes	539804.53	4116489.96	0.01	Yes	100-0685; 100-0686	Yes	6/15/2021	SB
TM15	TM15-62	TOI	539816.49	4116464.33	60mm Mortar	37-105mm	2.60	6/15/2021	1	Duplicate Target	NA	same as 61		NA					NA	539816.54	4116464.29	0.06	NA		Yes	6/15/2021	SB
TM15	TM15-64	Verification	539817.35	4116454.02	81mm Mortar	37-105mm	9.30	6/15/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	9.00	0.30	10.00	50.00	Yes	539817.36	4116454.06	0.03	Yes	100-0718; 100-719	Yes	6/15/2021	SB
TM15	TM15-70	TOI	539819.13	4116459.37	60mm Mortar	37-105mm	2.02	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	12.00	9.98	50.00	8.00	Yes	539819.09	4116459.32	0.06	Yes	100-0622; 100-0623	Yes	6/15/2021	SB
TM15	TM15-72	TOI	539837.03	4116462.37	81mm Mortar	37-105mm	8.21	6/15/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	7.00	1.21	7.00	24.00	Yes	539836.98	4116462.35	0.05	Yes	100-0750; 100-0751	Yes	6/15/2021	SB
TM15	TM15-74	TOI	539817.35	4116454.02	81mm Mortar	37-105mm	8.33	6/15/2021	1	Duplicate Target	NA	Same as 64, 231		NA					NA				NA		Yes	6/15/2021	SB
TM15	TM15-79	Verification	539826.46	4116458.80	60mm Mortar	37-105mm	5.27	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	7.00	1.73	10.00	12.00	Yes	539826.44	4116458.84	0.04	Yes	100-0730; 100-0731	Yes	6/15/2021	SB
TM15	TM15-89	TOI	539807.00	4116498.37	60mm Mortar	37-105mm	3.41	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	5.59	60.00	20.00	Yes	539807.03	4116498.36	0.03	Yes	100-0700; 100-0701	Yes	6/15/2021	SB
TM15	TM15-90	TOI	539805.05	4116485.39	60mm Mortar	37-105mm	16.08	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	18.00	1.92	3.00	9.00	Yes	539805.08	4116485.36	0.05	Yes	100-0675; 100-0676	Yes	6/15/2021	SB
TM15	TM15-91	Validation	539814.73	4116465.21	ISO SMALL	<=37mm	5.38	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	10.00	4.62	25.00	26.50	Yes	539814.78	4116465.23	0.05	Yes	100-0632; 100-0633	Yes	6/15/2021	SB
TM15	TM15-97	TOI	539831.04	4116458.98	ISO MEDIUM	37-105mm	10.87	6/15/2021	4	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	1.87	15.00	5.00	Yes	539831.04	4116458.99	0.02	Yes	100-0740; 100-0741	Yes	6/15/2021	SB
TM15	TM15-100	TOI	539816.39	4116463.34	81mm Mortar	37-105mm	4.51	6/15/2021	1	Duplicate Target	NA	same as 12 and 288		NA					NA				NA		Yes	6/15/2021	SB
TM15	TM15-111	TOI	539816.50	4116507.24	60mm Mortar	37-105mm	18.63	6/15/2021	1	Cultural Feature	Structure	concrete pad, electronical influencer		NA	59.00	40.37	0.00	0.00	NA	539816.48	4116507.26	0.03	Yes	100-0753	LIP	6/15/2021	SB
TM15	TM15-114	TOI	539804.05	4116489.28	81mm Mortar	37-105mm	8.16	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		NA	12.00	3.84	10.00	11.50	Yes	539804.07	4116489.25	0.04	Yes	100-0683; 100-0684	Yes	6/15/2021	SB
TM15	TM15-118	TOI	539804.00	4116489.28	60mm Mortar	37-105mm	4.82	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	18.00	13.18	6.00	11.00	Yes	539804.01	4116489.22	0.07	Yes	100-0681; 100-0682	Yes	6/15/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM15	TM15-126	TOI	539808.03	4116482.57	60mm Mortar	37-105mm	14.88	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	10.00	4.88	30.00	14.50	Yes	539808.06	4116482.63	0.07	Yes	100-0664; 100-0665	Yes	6/15/2021	SB
TM15	TM15-132	TOI	539809.34	4116484.20	81mm Mortar	37-105mm	19.64	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	12.00	7.64	40.00	10.00	Yes	539809.40	4116484.19	0.06	Yes	100-0660; 100-0661	Yes	6/15/2021	SB
TM15	TM15-145	TOI	539804.10	4116487.31	ISO SMALL	<=37mm	1.85	6/15/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	3.00	1.15	50.00	25.00	Yes	539804.06	4116487.21	0.11	Yes	100-0679; 100-0680	Yes	6/15/2021	SB
TM15	TM15-150	TOI	539817.22	4116506.92	81mm Mortar	37-105mm	30.72	6/15/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	46.00	15.28	0.00	0.00	NA	539817.23	4116506.95	0.03	Yes	100-0754	LIP	6/15/2021	SB
TM15	TM15-157	TOI	539815.41	4116504.14	ISO SMALL	<=37mm	1.56	6/15/2021	1	Duplicate Target	NA	same as 110		NA					NA				NA		Yes	6/15/2021	SB
TM15	TM15-160	TOI	539805.17	4116485.25	60mm Mortar	37-105mm	23.08	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	23.00	0.08	6.00	14.00	Yes	539805.09	4116485.21	0.09	Yes	100-0673; 100-0674	Yes	6/15/2021	SB
TM15	TM15-170	TOI	539802.41	4116489.30	60mm Mortar	37-105mm	13.82	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	10.00	3.82	4.00	60.00	Yes	539802.33	4116489.23	0.10	Yes	100-0689; 100-0690	Yes	6/15/2021	SB
TM15	TM15-171	TOI	539810.62	4116477.35	81mm Mortar	37-105mm	9.12	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		NA	8.00	1.12	20.00	9.00	Yes	539810.56	4116477.28	0.09	Yes	100-9644; 100-0645	Yes	6/15/2021	SB
TM15	TM15-179	TOI	539818.95	4116460.31	60mm Mortar	37-105mm	3.92	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	10.00	6.08	50.00	7.00	Yes	539818.99	4116460.24	0.08	Yes	100-0624; 100-0625	Yes	6/15/2021	SB
TM15	TM15-182	Verification	539814.23	4116474.10	81mm Mortar	37-105mm	13.57	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	6.00	7.57	30.00	13.00	Yes	539814.25	4116474.02	0.08	Yes	100-0642; 100-0643	Yes	6/15/2021	SB
TM15	TM15-190	TOI	539807.38	4116482.93	81mm Mortar	37-105mm	6.24	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	7.00	0.76	35.00	9.00	Yes	539807.39	4116482.98	0.05	Yes	100-0666; 100-0667	Yes	6/15/2021	SB
TM15	TM15-191	TOI	539832.83	4116460.48	ISO SMALL	<=37mm	2.12	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	7.00	4.88	20.00	10.00	Yes	539832.87	4116460.44	0.05	Yes	100-0744; 100-0745	Yes	6/15/2021	SB
TM15	TM15-193	TOI	539808.53	4116481.81	60mm Mortar	37-105mm	8.71	6/15/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe and bolt		NA	7.00	1.71	40.00	9.00	Yes	539808.57	4116481.74	0.07	Yes	100-0650; 100-0651	Yes	6/15/2021	SB
TM15	TM15-202	Verification	539828.84	4116460.63	ISO SMALL	<=37mm	2.80	6/15/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap and nut		Yes	7.00	4.20	20.00	15.00	Yes	539828.78	4116460.66	0.07	Yes	100-0734; 100-0735	Yes	6/15/2021	SB
TM15	TM15-208	Verification	539809.45	4116484.44	60mm Mortar	37-105mm	13.97	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	9.00	4.97	30.00	13.00	Yes	539809.38	4116484.36	0.10	Yes	100-0656; 100-0657	Yes	6/15/2021	SB
TM15	TM15-213	Validation	539809.23	4116483.16	60mm Mortar	37-105mm	25.27	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, bolt, wire		Yes	13.00	12.27	30.00	15.00	Yes	539809.22	4116483.15	0.01	Yes	100-0652; 100-0653	Yes	6/15/2021	SB
TM15	TM15-226	Validation	539802.04	4116503.27	81mm Mortar	37-105mm	0.99	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	3.00	2.01	6.00	13.00	Yes	539802.03	4116503.25	0.02	Yes	100-0704; 100-0705	Yes	6/15/2021	SB
TM15	TM15-230	TOI	539806.67	4116484.21	ISO SMALL	<=37mm	4.05	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	3.00	1.05	10.00	26.50	Yes	539806.70	4116484.24	0.04	Yes	100-0670; 100-0671	Yes	6/15/2021	SB
TM15	TM15-231	TOI	539817.44	4116454.10	60mm Mortar	37-105mm	10.37	6/15/2021	1	Duplicate Target	NA	same as 64 and 74		NA					NA				NA		Yes	6/15/2021	SB
TM15	TM15-234	TOI	539805.86	4116490.55	ISO SMALL	<=37mm	3.22	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	10.00	6.78	30.00	11.00	Yes	539805.87	4116490.55	0.00	Yes	100-0687; 100-0688	Yes	6/15/2021	SB
TM15	TM15-240	Validation	539827.97	4116460.65	ISO SMALL	<=37mm	1.77	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	7.00	5.23	20.00	15.00	Yes	539827.99	4116460.63	0.03	Yes	100-0732; 100-733	Yes	6/15/2021	SB
TM15	TM15-249	TOI	539835.38	4116462.51	60mm Mortar	37-105mm	0.37	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	elbow		NA	4.00	3.63	50.00	8.00	Yes	539835.39	4116462.56	0.05	Yes	100-0746; 100-0747	Yes	6/15/2021	SB
TM15	TM15-257	TOI	539803.44	4116490.68	81mm Mortar	37-105mm	19.44	6/15/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	threaded rod		NA	20.00	0.56	10.00	16.50	Yes	539803.44	4116490.71	0.03	Yes	100-0756; 100-0757	Yes	6/15/2021	SB
TM15	TM15-261	TOI	539813.36	4116507.15	60mm Mortar	37-105mm	25.28	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	21.00	4.28	10.00	19.00	Yes	539813.34	4116507.19	0.05	Yes	100-0708; 100-0709	Yes	6/15/2021	SB
TM15	TM15-263	Validation	539811.96	4116509.28	No Match	<=37mm	5.85	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	17.00	11.15	3.00	35.00	Yes	539811.92	4116509.27	0.04	Yes	100-0706; 100-0707	Yes	6/15/2021	SB
TM15	TM15-264	TOI	539814.93	4116472.40	ISO LARGE	>105mm	27.99	6/15/2021	1	Duplicate Target	NA	same as 33		NA					NA				NA		Yes	6/15/2021	SB
TM15	TM15-273	Verification	539825.34	4116455.00	81mm Mortar	37-105mm	18.60	6/15/2021	1	Duplicate Target	NA	same as 31		Yes					NA				NA		Yes	6/15/2021	SB
TM15	TM15-274	Validation	539812.27	4116473.55	60mm Mortar	37-105mm	-0.56	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	6.00	6.56	30.00	6.00	Yes	539812.29	4116473.59	0.05	Yes	100-0640; 100-0641	Yes	6/15/2021	SB
TM15	TM15-288	TOI	539816.48	4116463.33	81mm Mortar	37-105mm	5.34	6/15/2021	1	Duplicate Target	NA	same as 12 and 100		NA					NA				NA		Yes	6/15/2021	SB
TM15	TM15-293	TOI	539806.49	4116492.37	ISO SMALL	<=37mm	3.08	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	8.00	4.92	30.00	10.50	Yes	539806.46	4116492.40	0.04	Yes	100-0695; 100-0696	Yes	6/15/2021	SB
TM15	TM15-294	TOI	539809.96	4116478.11	60mm Mortar	37-105mm	15.63	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	13.00	2.63	10.00	7.00	Yes	539809.96	4116478.07	0.04	Yes	100-0646; 100-0647	Yes	6/15/2021	SB
TM15	TM15-298	TOI	539816.03	4116461.78	ISO LARGE	>105mm	52.82	6/15/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	58.00	5.18	106.00	46.00	Yes	539815.98	4116461.79	0.05	Yes	100-0714; 100-0715	Yes	6/15/2021	SB
TM15	TM15-301	TOI	539805.86	4116490.56	ISO SMALL	<=37mm	6.41	6/15/2021	1	No Contact	NA	same as 234		NA					Yes				NA		NA	6/15/2021	SB
TM15	TM15-303	TOI	539807.11	4116483.44	60mm Mortar	37-105mm	12.58	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	12.00	0.58	30.00	18.00	Yes	539807.09	4116483.41	0.04	Yes	100-0668; 100-0669	Yes	6/15/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM15	TM15-365	TOI	539805.82	4116486.36	81mm Mortar	37-105mm	19.22	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	18.00	1.22	3.00	8.00	Yes	539805.78	4116486.32	0.06	Yes	100-0677; 100-0678	Yes	6/15/2021	SB
TM15	TM15-393	TOI	539815.84	4116473.67	4.2-in Mortar	>105mm	41.06	6/15/2021	1	Cultural Feature	Structure	reinforced concrete		NA	25.00	16.06	0.00	0.00	Yes	539815.86	4116473.67	0.02	Yes	100-0638; 100-0639	LIP	6/15/2021	SB
TM15	TM15-395	Verification	539802.37	4116491.32	81mm Mortar	37-105mm	12.43	6/15/2021	2	Duplicate Target	NA	Shared with 39		Yes					NA	539802.37	4116491.29	0.03	NA	100-0693; 100-0694	Yes	6/15/2021	SB
TM15	TM15-399	TOI	539828.88	4116460.02	60mm Mortar	37-105mm	6.07	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	6.00	0.07	10.00	8.00	Yes	539828.88	4116460.06	0.04	Yes	100-0736; 100-0737	Yes	6/15/2021	SB
TM15	TM15-417	Validation	539808.21	4116495.67	81mm Mortar	37-105mm	0.63	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	aluminum		Yes	7.00	6.37	3.00	90.00	Yes	539808.21	4116495.65	0.02	Yes	100-0697; 100-0698	Yes	6/15/2021	SB
TM15	TM15-446	TOI	539815.39	4116509.72	81mm Mortar	37-105mm	28.69	6/15/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	59.00	30.31	0.00	0.00	Yes	539815.39	4116509.71	0.01	Yes	100-0752	LIP	6/15/2021	SB
TM15	TM15-447	TOI	539808.23	4116495.46	60mm Mortar	37-105mm	-7.87	6/15/2021	1	Duplicate Target	NA	Shared with 417		NA					NA	539808.25	4116495.46	0.02	NA	100-697; 100-0699	Yes	6/15/2021	SB
TM15	TM15-494	Validation	539811.50	4116465.78	60mm Mortar	37-105mm	6.61	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail and influenced by fence		Yes	13.00	6.39	4.00	5.50	Yes	539811.52	4116465.78	0.03	Yes	100-0634; 100-0635	Yes	6/15/2021	SB
TM15	TM15-498	Verification	539800.09	4116499.16	ISO SMALL	<=37mm	9.32	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	8.00	1.32	2.00	24.00	Yes	539800.15	4116499.14	0.06	Yes	100-0702; 100-0703	Yes	6/15/2021	SB
TM15	TM15-502	TOI	539821.36	4116454.14	ISO SMALL	<=37mm	12.50	6/15/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	10.00	2.50	20.00	30.00	Yes	539821.38	4116454.15	0.02	Yes	100-0724; 100-0725	Yes	6/15/2021	SB
TM15	TM15-508	Validation	539819.39	4116456.93	60mm Mortar	37-105mm	9.79	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		Yes	11.00	1.21	10.00	9.00	Yes	539819.37	4116456.92	0.03	Yes	100-0620; 100-0621	Yes	6/15/2021	SB
TM15	TM15-510	TOI	539828.84	4116460.68	ISO SMALL	<=37mm	3.32	6/15/2021	1	Duplicate Target	NA	same as 202		NA					NA				NA		Yes	6/15/2021	SB
TM15	TM15-517	Validation	539816.69	4116457.21	ISO SMALL	<=37mm	-1.54	6/15/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	7.00	8.54	20.00	9.50	Yes	539816.75	4116457.24	0.06	Yes	100-0716; 100-0717	Yes	6/15/2021	SB
TM15	TM15-529	Validation	539809.72	4116484.55	81mm Mortar	37-105mm	6.55	6/15/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe and nail		Yes	6.00	0.55	35.00	21.00	Yes	539809.71	4116484.49	0.05	Yes	100-0658; 100-0659	Yes	6/15/2021	SB
TM15	TM15-539	Verification	539818.37	4116451.48	ISO SMALL	<=37mm	4.51	6/15/2021	1	Duplicate Target	NA	same as 45		Yes					NA				NA		Yes	6/15/2021	SB
TM15	TM15-554	Validation	539838.67	4116489.11	ISO SMALL	<=37mm	7.08	6/15/2021	1	Duplicate Target	NA	same as 362		Yes					NA				NA		Yes	6/15/2021	SB
TM15	TM15-1	TOI	539829.73	4116477.33	81mm Mortar	37-105mm	19.76	6/16/2021	1	MPPEH	Mortar	4.2 inch, fused	M-3	NA	18.00	1.76	106.00	51.00	Yes	539829.74	4116477.38	0.05	Yes	100-0856; 100-0857	Yes	6/16/2021	SB
TM15	TM15-2	TOI	539845.52	4116470.49	81mm Mortar	37-105mm	14.91	6/16/2021	1	MPPEH	Mortar	81mm, fuzed. same as 101	M-43	NA	14.00	0.91	81.00	31.00	Yes	539845.45	4116470.51	0.08	Yes	100-0836; 100-0837	Yes	6/16/2021	SB
TM15	TM15-7	TOI	539847.45	4116472.89	ISO SMALL	<=37mm	5.83	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	6.00	0.17	30.00	29.00	Yes	539847.35	4116472.95	0.11	Yes	100-0840; 100-0841	Yes	6/16/2021	SB
TM15	TM15-14	TOI	539836.86	4116460.90	4.2-in Mortar	>105mm	62.38	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	44.00	18.38	20.00	265.00	Yes	539836.86	4116460.90	0.00	Yes	100-0832; 100-0833	Yes	6/16/2021	SB
TM15	TM15-16	Validation	539829.62	4116464.99	No Match	<=37mm	-0.57	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	0.00	0.57	10.00	19.00	Yes	539829.64	4116464.99	0.02	Yes	100-0789; 100-0790	Yes	6/16/2021	SB
TM15	TM15-17	TOI	539839.81	4116462.75	81mm Mortar	37-105mm	36.59	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt and pipe		NA	10.00	26.59	30.00	13.00	Yes	539839.80	4116462.74	0.01	Yes	100-0821; 100-0822	Yes	6/16/2021	SB
TM15	TM15-19	Verification	539847.44	4116469.37	81mm Mortar	37-105mm	3.61	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	0.00	3.61	30.00	31.00	Yes	539847.44	4116469.35	0.01	Yes	100-0838; 100-0839	Yes	6/16/2021	SB
TM15	TM15-24	TOI	539817.09	4116470.66	60mm Illumination Candle Housing	37-105mm	3.82	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe and rod		NA	5.00	1.18	45.00	15.00	Yes	539817.02	4116470.58	0.10	Yes	100-0762; 100-0763	Yes	6/16/2021	SB
TM15	TM15-35	TOI	539839.41	4116502.47	4.2-in Mortar	>105mm	69.21	6/16/2021	1	MPPEH	Mortar	4.2 inch. same as 209 and 466	M-3	NA	59.00	10.21	106.00	55.00	Yes	539839.47	4116502.46	0.05	Yes	100-0877; 100-0878	Yes	6/16/2021	SB
TM15	TM15-36	TOI	539835.75	4116466.96	81mm Mortar	37-105mm	13.13	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		NA	4.00	9.13	10.00	24.00	Yes	539835.65	4116466.93	0.10	Yes	100-0809; 100-0810	Yes	6/16/2021	SB
TM15	TM15-46	Verification	539836.28	4116471.89	No Match	<=37mm	20.59	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	15.00	5.59	20.00	5.00	Yes	539836.28	4116471.82	0.07	Yes	100-0846; 100-0847	Yes	6/16/2021	SB
TM15	TM15-47	Verification	539835.50	4116478.03	60mm Mortar	37-105mm	4.96	6/16/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	7.00	2.04	4.00	49.00	Yes	539835.47	4116478.03	0.02	Yes	100-0852; 100-0853	Yes	6/16/2021	SB
TM15	TM15-51	TOI	539835.67	4116469.34	81mm Mortar	37-105mm	27.15	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	24.00	3.15	20.00	10.00	Yes	539835.66	4116469.40	0.06	Yes	100-0803; 100-0804	Yes	6/16/2021	SB
TM15	TM15-61	TOI	539816.54	4116464.31	60mm Mortar	37-105mm	10.34	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		NA	8.00	2.34	10.00	9.50	Yes	539816.54	4116464.30	0.01	Yes	100-0630; 100-0631	Yes	6/16/2021	SB
TM15	TM15-65	TOI	539835.48	4116468.55	ISO SMALL	<=37mm	6.64	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	6.00	0.64	30.00	12.00	Yes	539835.43	4116468.49	0.08	Yes	100-0801; 100-0802	Yes	6/16/2021	SB
TM15	TM15-68	TOI	539824.77	4116469.89	ISO SMALL	<=37mm	0.05	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	same as 136		NA	0.00	0.05	25.00	10.00	Yes	539824.77	4116469.90	0.01	Yes	100-0781; 100-0782	Yes	6/16/2021	SB
TM15	TM15-83	TOI	539832.81	4116475.86	ISO LARGE	>105mm	51.86	6/16/2021	1	Cultural Feature	Structure	concrete with electronical influence		NA	48.00	3.86	0.00	0.00	NA	539832.78	4116475.85	0.02	Yes	100-0865	LIP	6/16/2021	SB
TM15	TM15-86	TOI	539840.68	4116466.24	60mm Mortar	37-105mm	-13.43	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	-13.00	0.43	50.00	43.00	Yes	539840.67	4116466.26	0.02	Yes	100-0815; 100-0816	Yes	6/16/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM15	TM15-87	Verification	539836.36	4116465.60	60mm Mortar	37-105mm	2.53	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate, bolt, ring		Yes	3.00	0.47	10.00	17.00	Yes	539836.29	4116465.55	0.09	Yes	100-0811; 100-0812	Yes	6/16/2021	SB
TM15	TM15-88	TOI	539845.25	4116497.66	81mm Mortar	37-105mm	1.41	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	4.00	2.59	10.00	10.00	Yes	539845.28	4116497.61	0.06	Yes	100-0873; 100-0874	Yes	6/16/2021	SB
TM15	TM15-96	TOI	539840.87	4116461.14	ISO LARGE	>105mm	25.19	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		NA	13.00	12.19	10.00	7.00	Yes	539840.90	4116461.13	0.03	Yes	100-0819; 100-0820	Yes	6/16/2021	SB
TM15	TM15-101	TOI	539845.47	4116470.55	81mm Mortar	37-105mm	16.23	6/16/2021	1	Duplicate Target	NA	same as 2		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-102	Verification	539840.92	4116461.19	81mm Mortar	37-105mm	17.15	6/16/2021	1	Duplicate Target	NA	same as 96		Yes					NA				NA		Yes	6/16/2021	SB
TM15	TM15-103	Verification	539829.76	4116469.49	ISO SMALL	<=37mm	1.29	6/16/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	0.00	1.29	20.00	13.00	Yes	539829.75	4116469.47	0.02	Yes	100-0795; 100-0796	Yes	6/16/2021	SB
TM15	TM15-104	TOI	539836.35	4116459.02	81mm Mortar	37-105mm	41.30	6/16/2021	1	MPPEH	Mortar	81mm, fuzed. same as 175	M-43	NA	37.00	4.30	81.00	30.00	Yes	539836.36	4116458.92	0.10	Yes	100-0834; 100-0835	Yes	6/16/2021	SB
TM15	TM15-105	TOI	539847.37	4116469.38	81mm Mortar	37-105mm	4.40	6/16/2021	1	Duplicate Target	NA	same as 19		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-109	TOI	539835.64	4116466.98	81mm Mortar	37-105mm	7.82	6/16/2021	1	Duplicate Target	NA	same as 36		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-112	TOI	539819.35	4116467.74	60mm Mortar	37-105mm	1.50	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	2.00	0.50	7.00	19.00	Yes	539819.30	4116467.70	0.07	Yes	100-0764; 100-0765	Yes	6/16/2021	SB
TM15	TM15-113	TOI	539821.41	4116466.26	ISO SMALL	<=37mm	2.76	6/16/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, nut		NA	9.00	6.24	30.00	11.00	Yes	539821.46	4116466.23	0.05	Yes	100-768; 100-0769	Yes	6/16/2021	SB
TM15	TM15-120	Verification	539836.25	4116468.50	60mm Mortar	37-105mm	18.29	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	18.00	0.29	30.00	9.00	Yes	539836.31	4116468.43	0.09	Yes	100-0807; 100-0808	Yes	6/16/2021	SB
TM15	TM15-122	Validation	539824.53	4116467.26	ISO SMALL	<=37mm	9.31	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	8.00	1.31	10.00	22.00	Yes	539824.55	4116467.28	0.03	Yes	100-0770; 100-0772	Yes	6/16/2021	SB
TM15	TM15-127	TOI	539833.28	4116474.01	81mm Mortar	37-105mm	19.41	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	rod		NA	18.00	1.41	20.00	36.00	Yes	539833.25	4116474.02	0.04	Yes	100-0848; 100-0849	Yes	6/16/2021	SB
TM15	TM15-129	TOI	539823.98	4116472.21	ISO SMALL	<=37mm	4.46	6/16/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, metal plate		NA	8.00	3.54	25.00	12.50	Yes	539823.94	4116472.17	0.05	Yes	100-0779; 100-0780	Yes	6/16/2021	SB
TM15	TM15-131	TOI	539842.12	4116496.06	4.2-in Mortar	>105mm	17.01	6/16/2021	1	Cultural Feature	Structure	metal pole incased in concrete		NA	0.00	17.01	120.00	0.00	Yes	539842.08	4116496.02	0.06	Yes	100-0868	LIP	6/16/2021	SB
TM15	TM15-135	TOI	539832.80	4116475.83	81mm Mortar	37-105mm	55.38	6/16/2021	1	Duplicate Target	NA	same as 83		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-136	TOI	539824.76	4116469.90	ISO SMALL	<=37mm	0.22	6/16/2021	1	Duplicate Target	NA	same as 68		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-140	TOI	539831.23	4116468.23	ISO SMALL	<=37mm	4.84	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, pipe		NA	6.00	1.16	30.00	15.00	Yes	539831.15	4116468.20	0.08	Yes	100-0797; 100-0798	Yes	6/16/2021	SB
TM15	TM15-144	TOI	539841.57	4116496.69	81mm Mortar	37-105mm	32.19	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	influenced by 131		NA	62.00	29.81	1.00	6.00	Yes	539841.55	4116496.67	0.03	Yes	100-0866; 100-0867	Yes	6/16/2021	SB
TM15	TM15-158	TOI	539829.28	4116464.95	ISO SMALL	<=37mm	-0.24	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	5.00	5.24	30.00	9.50	Yes	539829.25	4116464.92	0.04	Yes	100-0787; 100-0788	Yes	6/16/2021	SB
TM15	TM15-159	Validation	539821.68	4116470.98	60mm Mortar	37-105mm	18.89	6/16/2021	4	Duplicate Target	NA	same as 214		Yes					NA	539821.65	4116470.91	0.08	NA	100-0775; 100-0776	Yes	6/16/2021	SB
TM15	TM15-167	TOI	539819.35	4116467.74	60mm Mortar	37-105mm	1.61	6/16/2021	1	Duplicate Target	NA	same as 112		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-169	Validation	539833.46	4116469.56	60mm Mortar	37-105mm	2.89	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	0.00	2.89	10.00	4.50	Yes	539833.41	4116469.60	0.06	Yes	100-0799; 100-0800	Yes	6/16/2021	SB
TM15	TM15-174	Validation	539821.67	4116471.51	60mm Mortar	37-105mm	14.83	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	14.00	0.83	2.00	11.50	Yes	539821.64	4116471.53	0.04	Yes	100-0777; 100-0778	Yes	6/16/2021	SB
TM15	TM15-175	TOI	539836.33	4116458.98	ISO MEDIUM	37-105mm	37.28	6/16/2021	1	Duplicate Target	NA	same as 104		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-176	Verification	539838.08	4116464.45	81mm Mortar	37-105mm	12.36	6/16/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	10.00	2.36	40.00	32.00	Yes	539838.07	4116464.47	0.02	Yes	100-0826; 100-0827	Yes	6/16/2021	SB
TM15	TM15-178	TOI	539839.34	4116464.61	81mm Mortar	37-105mm	13.37	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	12.00	1.37	10.00	35.00	Yes	539839.35	4116464.61	0.02	Yes	100-0823; 100-0825	Yes	6/16/2021	SB
TM15	TM15-200	Verification	539835.35	4116476.93	81mm Mortar	37-105mm	5.26	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		Yes	8.00	2.74	15.00	9.00	Yes	539835.38	4116476.95	0.03	Yes	100-0850; 100-0851	Yes	6/16/2021	SB
TM15	TM15-201	TOI	539838.45	4116467.49	60mm Mortar	37-105mm	21.52	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	20.00	1.52	20.00	5.00	Yes	539838.52	4116467.45	0.09	Yes	100-0813; 100-0814	Yes	6/16/2021	SB
TM15	TM15-209	TOI	539839.54	4116502.52	4.2-in Mortar	>105mm	62.49	6/16/2021	1	Duplicate Target	NA	same as 35 and 466		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-210	Validation	539823.57	4116469.35	ISO SMALL	<=37mm	-1.15	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	3.00	4.15	10.00	5.00	Yes	539823.53	4116469.29	0.07	Yes	100-0773; 100-0774	Yes	6/16/2021	SB
TM15	TM15-214	Verification	539821.67	4116470.87	60mm Mortar	37-105mm	18.02	6/16/2021	1	Duplicate Target	NA	same as 159		Yes					NA				NA		Yes	6/16/2021	SB
TM15	TM15-216	TOI	539838.58	4116463.90	60mm Mortar	37-105mm	11.93	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	10.00	1.93	4.50	9.00	Yes	539838.53	4116463.91	0.05	Yes	100-0830; 100-0831	Yes	6/16/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM15	TM15-219	TOI	539845.78	4116495.67	ISO SMALL	<=37mm	1.74	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	4.00	2.26	30.00	14.00	Yes	539845.82	4116495.68	0.04	Yes	100-0869; 100-0870	Yes	6/16/2021	SB
TM15	TM15-220	Verification	539836.19	4116480.73	60mm Mortar	37-105mm	4.21	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	7.00	2.79	40.00	20.00	Yes	539836.19	4116480.70	0.03	Yes	100-0863; 100-0864	Yes	6/16/2021	SB
TM15	TM15-275	TOI	539829.93	4116467.36	ISO SMALL	<=37mm	8.22	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt and nail		NA	8.00	0.22	20.00	11.00	Yes	539829.86	4116467.29	0.09	Yes	100-0791; 100-0792	Yes	6/16/2021	SB
TM15	TM15-287	Validation	539847.07	4116497.33	81mm Mortar	37-105mm	13.55	6/16/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	14.00	0.45	2.00	5.00	Yes	539847.04	4116497.34	0.03	Yes	100-0871; 100-0872	Yes	6/16/2021	SB
TM15	TM15-295	Validation	539845.59	4116502.04	ISO SMALL	<=37mm	4.36	6/16/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt and washer		Yes	8.00	3.64	25.00	8.00	Yes	539845.54	4116502.07	0.06	Yes	100875; 100-0876	Yes	6/16/2021	SB
TM15	TM15-310	TOI	539817.09	4116470.65	60mm Mortar	37-105mm	3.96	6/16/2021	1	Duplicate Target	NA	same as 24		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-311	TOI	539823.89	4116472.16	60mm Mortar	37-105mm	7.46	6/16/2021	1	Duplicate Target	NA	same as 129		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-336	TOI	539844.50	4116474.69	60mm Illumination Candle Housing	37-105mm	5.88	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	8.00	2.12	2.50	15.00	Yes	539844.54	4116474.74	0.06	Yes	100-0842; 100-0843	Yes	6/16/2021	SB
TM15	TM15-337	Validation	539826.57	4116468.93	60mm Mortar	37-105mm	7.86	6/16/2021	7	Non-Munitions Related Debris	Non-MD Scrap Metal	wire and bolt		Yes	8.00	0.14	2.00	20.00	Yes				Yes	100-0783; 100-0784	Yes	6/16/2021	SB
TM15	TM15-340	Validation	539840.91	4116464.63	ISO SMALL	<=37mm	12.41	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	13.00	0.59	20.00	7.00	Yes	539840.98	4116464.70	0.10	Yes	100-0817; 100-0818	Yes	6/16/2021	SB
TM15	TM15-342	Validation	539836.36	4116476.75	ISO SMALL	<=37mm	3.91	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	4.00	0.09	20.00	12.00	Yes	539836.32	4116476.73	0.04	Yes	100-0854; 100-0855	Yes	6/16/2021	SB
TM15	TM15-351	Validation	539836.30	4116472.28	81mm Mortar	37-105mm	15.06	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	washer		Yes	13.00	2.06	3.00	4.50	Yes	539836.33	4116472.18	0.10	Yes	100-0844; 100-0845	Yes	6/16/2021	SB
TM15	TM15-363	Verification	539837.00	4116469.87	60mm Mortar	37-105mm	13.39	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	6.00	7.39	3.00	5.00	Yes	539836.91	4116469.86	0.09	Yes	100-0805; 100-0806	Yes	6/16/2021	SB
TM15	TM15-377	TOI	539817.70	4116474.10	60mm Mortar	37-105mm	21.79	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	20.00	1.79	30.00	5.00	Yes	539817.76	4116474.13	0.07	Yes	100-0760; 100-0761	Yes	6/16/2021	SB
TM15	TM15-383	Verification	539836.39	4116480.82	60mm Mortar	37-105mm	5.81	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	7.00	1.19	20.00	16.00	Yes	539836.37	4116480.78	0.04	Yes	100-0861; 100-0862	Yes	6/16/2021	SB
TM15	TM15-391	Verification	539829.86	4116467.67	ISO SMALL	<=37mm	12.66	6/16/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, plug		Yes	13.00	0.34	2.00	15.00	Yes	539829.75	4116467.62	0.12	Yes	100-0793; 100-0794	Yes	6/16/2021	SB
TM15	TM15-394	TOI	539836.79	4116463.74	60mm Mortar	37-105mm	14.09	6/16/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	15.00	0.91	30.00	6.50	Yes	539836.76	4116463.78	0.05	Yes	100-0828; 100-0829	Yes	6/16/2021	SB
TM15	TM15-466	TOI	539839.44	4116502.55	4.2-in Mortar	>105mm	63.99	6/16/2021	1	Duplicate Target	NA	same as 35 and 209		NA					NA				NA		Yes	6/16/2021	SB
TM15	TM15-468	TOI	539821.44	4116467.11	81mm Mortar	37-105mm	19.85	6/16/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal, total depth: 35 cm		NA	18.00	1.85	20.00	5.00	Yes	539821.41	4116467.18	0.07	Yes	100-0766; 100-0767; 101-0746	Yes	6/16/2021	SB
TM15	TM15-476	TOI	539818.66	4116476.71	60mm Mortar	37-105mm	13.70	6/16/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal, total depth: 33 cm		NA	14.00	0.30	10.00	3.50	Yes	539818.66	4116476.62	0.10	Yes	100-0758; 100-0759; 101-0748	Yes	6/16/2021	SB
TM15	TM15-534	Verification	539826.60	4116466.11	60mm Mortar	37-105mm	9.62	6/16/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	9.00	0.62	20.00	4.00	Yes	539826.61	4116466.09	0.02	Yes	100-0785; 100-0786	Yes	6/16/2021	SB
TM15	TM15-1000178	TOI	539839.04	4116464.44	60mm Mortar	37-105mm	86.36	6/16/2021	1	Cultural Feature	Structure	concrete, electronical influencer		NA	5.64	80.72	0.00	0.00	NA	539839.03	4116464.43	0.01	Yes	100-0859; 100-0860	LIP	6/16/2021	SB
TM15	TM15-10	TOI	539849.29	4116465.48	60mm Mortar	37-105mm	26.18	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	elbow		NA	28.00	1.82	80.00	13.00	Yes	539849.34	4116465.56	0.09	Yes	100-0923; 100-0925	Yes	6/17/2021	SB
TM15	TM15-15	TOI	539824.13	4116496.74	4.2-in Mortar	>105mm	15.31	6/17/2021	1	Cultural Feature	Structure	pipe incased in concrete		NA	5.00	10.31	120.00	0.00	Yes	539824.11	4116496.66	0.09	Yes	100-0898	LIP	6/17/2021	SB
TM15	TM15-21	TOI	539818.00	4116501.70	60mm Mortar	37-105mm	1.12	6/17/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	same as 528		NA	38.00	36.88	7.00	6.00	Yes	539817.99	4116501.72	0.02	Yes	100-0886; 100-0887	Yes	6/17/2021	SB
TM15	TM15-38	TOI	539838.21	4116504.98	4.2-in Mortar	>105mm	17.40	6/17/2021	1	Cultural Feature	Structure	pipe incased in concrete		NA	12.00	5.40	120.00	11270.00	Yes	539838.26	4116505.02	0.06	Yes	100-0914	LIP	6/17/2021	SB
TM15	TM15-66	Validation	539839.90	4116510.73	No Match	37-105mm	31.42	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	33.00	1.58	10.00	9.00	Yes	539839.92	4116510.81	0.09	Yes	100-0906; 100-0907	Yes	6/17/2021	SB
TM15	TM15-76	TOI	539806.33	4116480.25	60mm Mortar	37-105mm	3.25	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	8.00	4.75	10.00	18.00	Yes	539806.28	4116480.29	0.07	Yes	100-0648; 100-0649	Yes	6/17/2021	SB
TM15	TM15-77	TOI	539819.18	4116500.75	81mm Mortar	37-105mm	28.66	6/17/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	concrete with electronical influencer		NA	48.00	19.34	1.00	13.00	Yes	539819.18	4116500.76	0.01	Yes	100-0888; 100-0889	Yes	6/17/2021	SB
TM15	TM15-92	Validation	539840.87	4116502.19	81mm Mortar	37-105mm	19.75	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	22.00	2.25	30.00	0.00	Yes	539840.89	4116502.17	0.03	Yes	100-0912; 100-0913	Yes	6/17/2021	SB
TM15	TM15-107	TOI	539854.20	4116478.45	81mm Mortar	37-105mm	4.31	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	5.00	0.69	10.00	9.00	Yes	539854.21	4116478.48	0.04	Yes	100-919; 100-0920	Yes	6/17/2021	SB
TM15	TM15-123	Verification	539828.91	4116498.78	81mm Mortar	37-105mm	27.18	6/17/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	No	32.00	4.82	106.00	44.00	No	539828.94	4116498.80	0.03	Yes	100-0901; 100-0902	Yes	6/17/2021	SB
TM15	TM15-134	TOI	539818.32	4116507.06	60mm Mortar	37-105mm	18.13	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	46.00	27.87	25.00	8.00	Yes	539818.35	4116507.05	0.03	Yes	100-0884; 100-0885	Yes	6/17/2021	SB
TM15	TM15-147	Validation	539823.29	4116501.65	ISO SMALL	<=37mm	9.62	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	12.00	2.38	3.00	29.00	Yes	539823.32	4116501.64	0.02	Yes	100-0896; 100-0897	Yes	6/17/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM15	TM15-177	Verification	539817.32	4116506.08	81mm Mortar	37-105mm	18.91	6/17/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap and bolts		Yes	28.00	9.09	10.00	11.00	Yes	539817.26	4116506.02	0.08	Yes	100-0879; 100-0881	Yes	6/17/2021	SB
TM15	TM15-195	Validation	539852.95	4116478.79	ISO SMALL	<=37mm	7.08	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	12.00	4.92	20.00	8.00	Yes	539852.95	4116478.74	0.05	Yes	100-0915; 100-0916	Yes	6/17/2021	SB
TM15	TM15-225	TOI	539851.84	4116477.56	ISO SMALL	<=37mm	1.55	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	4.00	2.45	30.00	11.00	Yes	539851.87	4116477.56	0.03	Yes	100-0917; 100-0918	Yes	6/17/2021	SB
TM15	TM15-244	TOI	539820.74	4116500.88	60mm Mortar	37-105mm	14.71	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	elbow		NA	13.00	1.71	10.00	8.00	Yes	539820.80	4116500.86	0.06	Yes	100-0894; 100-0895	Yes	6/17/2021	SB
TM15	TM15-305	TOI	539818.39	4116508.09	60mm Mortar	37-105mm	2.95	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	6.00	3.05	30.00	4.00	Yes	539818.39	4116508.08	0.02	Yes	100-0882; 100-0883	Yes	6/17/2021	SB
TM15	TM15-315	Validation	539853.83	4116467.64	ISO SMALL	<=37mm	8.39	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	9.00	0.61	30.00	15.00	Yes	539853.87	4116467.64	0.03	Yes	100-0921; 100-0922	Yes	6/17/2021	SB
TM15	TM15-316	TOI	539829.95	4116498.22	60mm Mortar	37-105mm	28.69	6/17/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	34.00	5.31	110.00	19.00	Yes	539829.97	4116498.24	0.03	Yes	100-0899; 100-0900	Yes	6/17/2021	SB
TM15	TM15-323	Verification	539841.54	4116473.97	ISO SMALL	<=37mm	23.09	6/17/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	20.00	3.09	30.00	8.00	Yes				Yes	100-0928; 100-0929	Yes	6/17/2021	SB
TM15	TM15-343	Validation	539828.92	4116498.88	81mm Mortar	37-105mm	29.88	6/17/2021	1	Duplicate Target	NA	same as 123		Yes					NA				NA		Yes	6/17/2021	SB
TM15	TM15-348	TOI	539819.48	4116497.35	81mm Mortar	37-105mm	33.75	6/17/2021	1	Cultural Feature	Structure	metal plate in wood		NA	79.00	45.25	15.00	11.00	Yes	539819.45	4116497.27	0.09	Yes	100-0903; 100-0904	LIP	6/17/2021	SB
TM15	TM15-357	TOI	539848.99	4116464.91	60mm Mortar	37-105mm	27.49	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	can		NA	20.00	7.49	10.00	9.00	Yes	539848.98	4116464.89	0.02	Yes	100-0926; 100-0927	Yes	6/17/2021	SB
TM15	TM15-384	TOI	539818.74	4116497.88	81mm Mortar	37-105mm	31.26	6/17/2021	1	Cultural Feature	Structure	concrete with electronical influencer		NA	80.00	48.74	0.00	0.00	NA	539818.74	4116497.88	0.00	Yes	100-0890; 100-0893	LIP	6/17/2021	SB
TM15	TM15-419	Validation	539838.99	4116501.86	60mm Mortar	37-105mm	43.93	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	banding		Yes	44.00	0.07	1.00	17.00	Yes	539838.97	4116501.87	0.02	Yes	100-0910; 100-0911	Yes	6/17/2021	SB
TM15	TM15-459	Validation	539828.55	4116492.79	No Match	37-105mm	74.14	6/17/2021	1	No Contact	NA	no contact		Yes	94.00		0.00	0.00	NA	539828.55	4116492.78	0.01	Yes	100-0905	NA	6/17/2021	SB
TM15	TM15-479	Validation	539842.73	4116510.45	60mm Mortar	37-105mm	9.97	6/17/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	nut		Yes	10.00	0.03	20.00	4.00	Yes	539842.76	4116510.42	0.04	Yes	100-0908; 100-0909	Yes	6/17/2021	SB
TM15	TM15-528	TOI	539818.01	4116501.72	81mm Mortar	37-105mm	12.26	6/17/2021	1	Duplicate Target	NA	same as 21		NA					NA				NA		Yes	6/17/2021	SB
TM15	TM15-541	TOI	539853.85	4116467.65	ISO SMALL	<=37mm	8.46	6/17/2021	1	Duplicate Target	NA	same as 315		NA					NA				NA		Yes	6/17/2021	SB
TM16	TM16-1	TOI	539870.03	4116408.82	ISO LARGE	>105mm	20.08	6/8/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	12.00	8.08	106.00	53.00	Yes	539870.03	4116408.74	0.08	Yes	100-0244; 100-0245	Yes	6/8/2021	SB
TM16	TM16-11	TOI	539852.30	4116439.39	ISO MEDIUM	37-105mm	35.89	6/8/2021	1	MPPEH	Mortar	81mm fuzed	M-43	NA	36.00	0.11	81.00	29.00	Yes	539852.25	4116439.26	0.15	Yes	100-0300; 100-0301	Yes	6/8/2021	SB
TM16	TM16-19	TOI	539874.86	4116420.57	60mm Mortar	37-105mm	9.51	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	8.00	1.51	10.00	28.00	Yes	539874.87	4116420.58	0.01	Yes	100-0257; 100-0258	Yes	6/8/2021	SB
TM16	TM16-21	TOI	539856.63	4116433.30	81mm Mortar	37-105mm	22.11	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	27.00	4.89	40.00	50.00	Yes	539856.62	4116433.33	0.03	Yes	100-0286; 100-0287	Yes	6/8/2021	SB
TM16	TM16-27	TOI	539862.14	4116430.43	ISO SMALL	<=37mm	2.90	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	9.00	6.10	45.00	19.00	Yes	539862.11	4116430.40	0.04	Yes	100-0284; 100-0285	Yes	6/8/2021	SB
TM16	TM16-31	TOI	539858.06	4116426.40	ISO SMALL	<=37mm	18.58	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	10.00	8.58	20.00	9.00	Yes	539858.06	4116426.38	0.02	Yes	100-0276; 100-0277	Yes	6/8/2021	SB
TM16	TM16-34	TOI	539857.98	4116430.77	81mm Mortar	37-105mm	36.68	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	23.00	13.68	20.00	24.00	Yes	539858.10	4116430.72	0.12	Yes	100-0280; 100-0281	Yes	6/8/2021	SB
TM16	TM16-40	TOI	539862.84	4116435.58	ISO MEDIUM	37-105mm	16.10	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Anchor		NA	18.00	1.90	50.00	0.00	Yes	539862.86	4116435.62	0.05	Yes	100-0306; 100-0307	LIP	6/8/2021	SB
TM16	TM16-43	TOI	539856.38	4116435.55	81mm Mortar	37-105mm	49.13	6/8/2021	1	Cultural Feature	Structure	concrete pad with electronical influence		NA	52.00	2.87	0.00	0.00	NA	539856.38	4116435.52	0.03	Yes	100-0314	LIP	6/8/2021	SB
TM16	TM16-44	TOI	539866.95	4116413.74	60mm Mortar	37-105mm	17.35	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	18.00	0.65	50.00	8.00	Yes	539866.88	4116413.68	0.09	Yes	100-0268; 100-0269	Yes	6/8/2021	SB
TM16	TM16-49	TOI	539874.51	4116421.36	60mm Mortar	37-105mm	14.52	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	17.00	2.48	10.00	48.00	Yes	539874.52	4116421.49	0.12	Yes	100-0259; 100-0260	Yes	6/8/2021	SB
TM16	TM16-53	TOI	539873.67	4116415.32	4.2-in Mortar	>105mm	59.16	6/8/2021	1	Cultural Feature	Structure	concrete pad, electronical influencer		NA	74.00	14.84	0.00	0.00	NA	539873.71	4116415.23	0.10	Yes	100-0264; 100-0265	LIP	6/8/2021	SB
TM16	TM16-59	TOI	539869.92	4116408.82	4.2-in Mortar	>105mm	20.94	6/8/2021	1	Duplicate Target	NA	same as 1		NA					NA	539870.03	4116408.75	0.13	NA		Yes	6/8/2021	SB
TM16	TM16-67	TOI	539854.81	4116435.49	81mm Mortar	37-105mm	35.66	6/8/2021	1	MPPEH	Mortar	81mm, not fuzed	M-43	NA	39.00	3.34	81.00	29.00	Yes	539854.81	4116435.47	0.02	Yes	100-0312; 100-0313	Yes	6/8/2021	SB
TM16	TM16-69	Verification	539877.15	4116422.11	No Match	37-105mm	11.97	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	anchor		Yes	13.00	1.03	40.00	0.00	Yes	539877.04	4116422.18	0.12	Yes	100-0261; 100-0262	LIP	6/8/2021	SB
TM16	TM16-73	Verification	539865.29	4116419.79	60mm Mortar	37-105mm	27.58	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	29.00	1.42	12.00	14.00	Yes	539865.34	4116419.71	0.09	Yes	100-0270;100-0271	Yes	6/8/2021	SB
TM16	TM16-76	TOI	539875.85	4116413.83	60mm Mortar	37-105mm	14.28	6/8/2021	1	Cultural Feature	Structure	buried electronic line influencer		NA	25.00	10.72	4.00	6.00	Yes	539875.79	4116413.86	0.07	Yes	100-0248; 100-0249	LIP	6/8/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM16	TM16-77	TOI	539876.97	4116418.51	60mm Mortar	37-105mm	17.06	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	16.00	1.06	30.00	36.00	Yes	539876.99	4116418.44	0.07	Yes	100-0255; 100-0256	Yes	6/8/2021	SB
TM16	TM16-85	TOI	539873.68	4116415.27	4.2-in Mortar	>105mm	58.16	6/8/2021	1	Duplicate Target	NA	same as 53 and 281		NA					NA	539873.72	4116415.23	0.05	NA		Yes	6/8/2021	SB
TM16	TM16-93	TOI	539863.20	4116419.85	81mm Mortar	37-105mm	22.14	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	18.00	4.14	20.00	26.00	Yes	539863.24	4116419.85	0.04	Yes	100-0272; 100-0273	Yes	6/8/2021	SB
TM16	TM16-99	Verification	539857.60	4116432.61	81mm Mortar	37-105mm	32.97	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	13.00	19.97	13.00	33.00	Yes	539857.60	4116432.67	0.06	Yes	100-0302; 100-0303	Yes	6/8/2021	SB
TM16	TM16-104	TOI	539878.09	4116414.65	81mm Mortar	37-105mm	11.67	6/8/2021	1	Cultural Feature	Structure	electronical line influencer		NA	13.00	1.33	4.00	8.00	Yes	539878.03	4116414.65	0.06	Yes	100-0252; 100-0254	LIP	6/8/2021	SB
TM16	TM16-109	Cannot Analyze	539873.65	4116411.55	ISO SMALL	<=37mm	-1.67	6/8/2021	1	Cultural Feature	Structure	Utility pole powerline anchor		NA	0.00	1.67	20.00	38.00	NA	539873.76	4116411.43	0.16	Yes	100-0246; 100-0247	LIP	6/8/2021	SB
TM16	TM16-116	TOI	539859.57	4116429.98	60mm Mortar	37-105mm	35.06	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	29.00	6.06	20.00	55.00	Yes	539859.54	4116429.96	0.04	Yes	100-0278; 100-0279	Yes	6/8/2021	SB
TM16	TM16-118	Validation	539869.19	4116413.88	ISO SMALL	<=37mm	19.86	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	10.00	9.86	2.00	12.00	Yes	539869.24	4116413.83	0.07	Yes	100-0266; 100-0267	Yes	6/8/2021	SB
TM16	TM16-138	Verification	539861.47	4116429.26	60mm Mortar	37-105mm	15.62	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	15.00	0.62	20.00	7.00	Yes	539861.45	4116429.24	0.03	Yes	100-0282; 100-0283	Yes	6/8/2021	SB
TM16	TM16-175	TOI	539854.81	4116429.77	ISO MEDIUM	37-105mm	12.96	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	6.00	6.96	15.00	10.50	Yes	539854.71	4116429.74	0.10	Yes	100-0294; 100-0295	Yes	6/8/2021	SB
TM16	TM16-184	TOI	539858.59	4116435.99	ISO SMALL	<=37mm	9.13	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	10.00	0.87	2.00	10.00	Yes	539858.60	4116436.03	0.04	Yes	100-0288; 100-0289	Yes	6/8/2021	SB
TM16	TM16-215	TOI	539852.42	4116439.34	81mm Mortar	37-105mm	41.11	6/8/2021	1	Duplicate Target	NA	same as 11		NA					NA	539852.25	4116439.26	0.18	NA		Yes	6/8/2021	SB
TM16	TM16-228	Verification	539851.72	4116432.64	No Match	>105mm	11.45	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	10.00	1.45	20.00	6.00	Yes	539851.57	4116432.71	0.16	Yes	100-0298; 100-0299	Yes	6/8/2021	SB
TM16	TM16-231	TOI	539859.25	4116426.36	81mm Mortar	37-105mm	24.57	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	24.00	0.57	4.00	30.00	Yes	539859.13	4116426.31	0.14	Yes	100-0274; 100-0275	Yes	6/8/2021	SB
TM16	TM16-233	Verification	539852.33	4116428.85	60mm Mortar	37-105mm	22.66	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		Yes	9.00	13.66	3.00	35.00	Yes	539852.71	4116428.79	0.39	No	100-0296; 100-0297	Yes	6/8/2021	SB
TM16	TM16-246	Validation	539852.46	4116430.24	60mm Mortar	37-105mm	28.21	6/8/2021	1	No Contact	NA	NA		Yes	44.00		0.00	0.00	NA	539852.47	4116430.26	0.02	Yes	100-0292; 100-0293	NA	6/8/2021	SB
TM16	TM16-250	Validation	539862.88	4116434.26	81mm Mortar	37-105mm	11.45	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	7.00	4.45	20.00	13.00	Yes	539862.88	4116434.24	0.02	Yes	100-0304; 100-0305	Yes	6/8/2021	SB
TM16	TM16-261	TOI	539862.16	4116430.42	ISO SMALL	<=37mm	5.26	6/8/2021	1	Duplicate Target	NA	same as 27		NA					NA	539862.11	4116430.40	0.05	NA		Yes	6/8/2021	SB
TM16	TM16-269	TOI	539857.95	4116430.81	81mm Mortar	37-105mm	13.38	6/8/2021	1	Duplicate Target	NA	same as 34		NA					NA	539858.10	4116430.72	0.17	NA		Yes	6/8/2021	SB
TM16	TM16-270	TOI	539877.14	4116414.87	60mm Mortar	37-105mm	22.87	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	aluminum can. Total depth: 45 cm		NA	11.00	11.87	60.00	11.00	Yes	539877.21	4116414.80	0.10	Yes	100-0250; 100-0251; 101-0752	Yes	6/8/2021	SB
TM16	TM16-274	TOI	539859.15	4116426.28	81mm Mortar	37-105mm	25.87	6/8/2021	1	Duplicate Target	NA	shared with 231		NA					NA	539859.17	4116426.29	0.02	NA	100-0274; 100-0275	Yes	6/8/2021	SB
TM16	TM16-280	Validation	539861.21	4116441.39	81mm Mortar	37-105mm	18.96	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	cotter pin		Yes	11.00	7.96	10.00	11.00	Yes	539861.20	4116441.39	0.01	Yes	100-0308; 100-0309	Yes	6/8/2021	SB
TM16	TM16-281	TOI	539873.84	4116415.24	4.2-in Mortar	>105mm	64.38	6/8/2021	1	Duplicate Target	NA	same as 53, 85		NA					NA	539873.72	4116415.23	0.12	NA		Yes	6/8/2021	SB
TM16	TM16-290	Validation	539859.94	4116442.22	60mm Mortar	37-105mm	11.12	6/8/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		Yes	14.00	2.88	2.00	16.00	Yes	539859.97	4116442.19	0.04	Yes	100-0310; 100-0311	Yes	6/8/2021	SB
TM16	TM16-2	TOI	539861.55	4116444.41	4.2-in Mortar	>105mm	32.33	6/9/2021	1	MPPEH	Mortar	4.2 inch fused, same as 133	M-3	NA	32.00	0.33	106.00	53.00	Yes	539861.56	4116444.44	0.02	Yes	100-0315; 100-0316	Yes	6/9/2021	SB
TM16	TM16-3	TOI	539868.54	4116427.90	ISO MEDIUM	37-105mm	16.55	6/9/2021	1	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #TM-16		NA	17.00	0.45	60.00	20.00	Yes	539868.53	4116427.95	0.05	Yes	100-0360; 100-0361	Yes	6/9/2021	SB
TM16	TM16-4	TOI	539865.53	4116432.43	ISO LARGE	>105mm	17.19	6/9/2021	1	MPPEH	Mortar	4.2 inch, sheard fuze	M-3	NA	20.00	2.81	106.00	48.00	Yes	539865.50	4116432.47	0.06	Yes	100-0355; 100-0356	Yes	6/9/2021	SB
TM16	TM16-5	TOI	539869.13	4116423.60	4.2-in Mortar	>105mm	13.16	6/9/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	15.00	1.84	106.00	51.00	Yes	539869.12	4116423.58	0.02	Yes	100-0367; 100-0368	Yes	6/9/2021	SB
TM16	TM16-6	TOI	539862.08	4116437.15	4.2-in Mortar	>105mm	25.13	6/9/2021	1	MPPEH	Mortar	4.2 inch fuzed	M-3	NA	26.00	0.87	106.00	53.00	Yes	539862.08	4116437.15	0.00	Yes	100-0318; 100-0319	Yes	6/9/2021	SB
TM16	TM16-7	TOI	539863.21	4116454.67	4.2-in Mortar	>105mm	44.77	6/9/2021	1	MPPEH	Mortar	4.2 inch, sheared fuze	M-3	NA	43.00	1.77	106.00	49.00	Yes	539863.23	4116454.74	0.07	Yes	100-0418; 100-0419	Yes	6/9/2021	SB
TM16	TM16-8	TOI	539866.16	4116443.22	ISO LARGE	>105mm	52.54	6/9/2021	1	MPPEH	Mortar	4.2 inch fuze sheard	M-3	NA	58.00	5.46	106.00	48.00	Yes	539866.14	4116443.18	0.04	Yes	100-0350; 100-0352	Yes	6/9/2021	SB
TM16	TM16-9	TOI	539864.68	4116436.81	60mm Mortar	37-105mm	19.15	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	anchor		NA	13.00	6.15	30.00	0.00	Yes	539864.63	4116436.72	0.11	Yes	100-0375; 100-0376; 101-0750	LIP	6/9/2021	SB
TM16	TM16-10	TOI	539866.09	4116429.34	60mm Mortar	37-105mm	15.31	6/9/2021	6	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	8.00	7.31	10.00	51.00	Yes	539866.14	4116429.30	0.06	Yes	100-0358; 100-0359	Yes	6/9/2021	SB
TM16	TM16-13	TOI	539873.29	4116431.64	ISO LARGE	>105mm	56.54	6/9/2021	1	MPPEH	Mortar	4.2 inch, sheard fuze	M-3	NA	55.00	1.54	106.00	40.00	Yes	539873.30	4116431.67	0.03	Yes	100-0400; 100-401	Yes	6/9/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM16	TM16-14	TOI	539858.64	4116451.60	81mm Mortar	37-105mm	19.75	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, rebar. shared with 16, 26 165		NA	25.00	5.25	30.00	64.00	Yes	539858.62	4116451.59	0.02	Yes	100-0348; 100-0349	Yes	6/9/2021	SB
TM16	TM16-15	TOI	539868.06	4116446.89	ISO LARGE	>105mm	50.12	6/9/2021	1	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	56.00	5.88	106.00	40.00	Yes	539868.10	4116446.93	0.06	Yes	100-0398; 100-0399	Yes	6/9/2021	SB
TM16	TM16-16	TOI	539858.65	4116451.52	4.2-in Mortar	>105mm	25.01	6/9/2021	1	Duplicate Target	NA	Shared with 14, 26, 165		NA					NA	539858.58	4116451.44	0.11	NA	100-0348; 100-0349	Yes	6/9/2021	SB
TM16	TM16-17	TOI	539859.84	4116447.72	60mm Mortar	37-105mm	20.54	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	21.00	0.46	10.00	83.00	Yes	539859.80	4116447.67	0.06	Yes	100-0338; 100-340	Yes	6/9/2021	SB
TM16	TM16-22	TOI	539868.11	4116446.83	4.2-in Mortar	>105mm	55.69	6/9/2021	1	Duplicate Target	NA	same as 15, 112		NA					NA	539868.10	4116446.94	0.10	NA		Yes	6/9/2021	SB
TM16	TM16-26	TOI	539858.42	4116450.76	81mm Mortar	37-105mm	21.30	6/9/2021	1	Duplicate Target	NA	Shared with 14, 16, 165		NA					NA	539858.46	4116450.82	0.07	NA	100-348; 100-0349	Yes	6/9/2021	SB
TM16	TM16-29	Validation	539861.63	4116447.85	ISO SMALL	<=37mm	37.04	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	21.00	16.04	40.00	3.00	Yes	539861.64	4116447.90	0.05	Yes	100-0336; 100-0337	Yes	6/9/2021	SB
TM16	TM16-30	TOI	539885.52	4116426.56	ISO SMALL	<=37mm	10.86	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	15.00	4.14	10.00	16.00	Yes	539885.56	4116426.63	0.08	Yes	100-0411; 100-0412	Yes	6/9/2021	SB
TM16	TM16-33	Verification	539879.24	4116417.83	60mm Mortar	37-105mm	18.50	6/9/2021	5	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	27.00	8.50	3.00	10.00	Yes	539879.31	4116417.84	0.07	Yes	100-0379; 100-0380	Yes	6/9/2021	SB
TM16	TM16-35	TOI	539872.84	4116425.81	60mm Mortar	37-105mm	13.98	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		NA	10.00	3.98	10.00	77.00	Yes	539872.78	4116425.80	0.06	Yes	100-0364; 100-0365	Yes	6/9/2021	SB
TM16	TM16-36	Verification	539889.92	4116430.19	ISO SMALL	<=37mm	5.81	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe and nail		Yes	14.00	8.19	20.00	10.00	Yes	539889.90	4116430.16	0.04	Yes	100-0415; 100-0417;	Yes	6/9/2021	SB
TM16	TM16-37	Verification	539865.47	4116430.10	60mm Mortar	37-105mm	29.41	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	anchor		Yes	12.00	17.41	30.00	0.00	Yes	539865.48	4116430.18	0.07	Yes	100-0357; 101-0751	LIP	6/9/2021	SB
TM16	TM16-38	Verification	539872.55	4116425.09	No Match	37-105mm	24.41	6/9/2021	1	Duplicate Target	NA	shared with 35		Yes					NA	539872.54	4116425.14	0.05	NA	100-0364; 100-0366	Yes	6/9/2021	SB
TM16	TM16-42	TOI	539858.05	4116445.38	4.2-in Mortar	>105mm	18.02	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	I-beam		NA	17.00	1.02	210.00	42.00	Yes	539858.09	4116445.37	0.04	Yes	100-0332; 100-0333	Yes	6/9/2021	SB
TM16	TM16-46	TOI	539887.88	4116422.87	ISO SMALL	<=37mm	2.82	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	9.00	6.18	20.00	22.00	Yes	539887.85	4116422.83	0.05	Yes	100-0388; 100-0389	Yes	6/9/2021	SB
TM16	TM16-50	TOI	539889.68	4116427.47	60mm Mortar	37-105mm	18.49	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	18.00	0.49	2.00	20.00	Yes	539889.73	4116427.52	0.07	Yes	100-0394; 100-0395	Yes	6/9/2021	SB
TM16	TM16-51	TOI	539871.42	4116428.81	ISO SMALL	<=37mm	7.90	6/9/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	10.00	2.10	30.00	16.00	Yes	539871.38	4116428.76	0.07	Yes	100-0362; 100-0363	Yes	6/9/2021	SB
TM16	TM16-54	Verification	539852.07	4116443.12	60mm Mortar	37-105mm	13.07	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	bracket		Yes	21.00	7.93	3.00	20.00	Yes	539851.99	4116443.11	0.07	Yes	100-0326; 100-0327	Yes	6/9/2021	SB
TM16	TM16-58	TOI	539886.92	4116428.58	60mm Mortar	37-105mm	11.64	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	10.00	1.64	35.00	19.50	Yes	539886.89	4116428.61	0.04	Yes	100-0404; 100-405	Yes	6/9/2021	SB
TM16	TM16-61	TOI	539884.00	4116423.73	ISO SMALL	<=37mm	5.39	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	7.00	1.61	30.00	16.00	Yes	539883.96	4116423.69	0.06	Yes	100-386; 100-0387	Yes	6/9/2021	SB
TM16	TM16-63	Verification	539869.10	4116424.63	ISO SMALL	<=37mm	5.24	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	6.00	0.76	50.00	27.00	Yes	539869.07	4116424.59	0.04	Yes	100-0369; 100-0370	Yes	6/9/2021	SB
TM16	TM16-66	TOI	539878.91	4116417.75	60mm Mortar	37-105mm	24.09	6/9/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	17.00	7.09	3.00	9.00	Yes	539878.86	4116417.81	0.08	Yes	100-0373; 100-0374	Yes	6/9/2021	SB
TM16	TM16-71	Verification	539858.25	4116446.65	81mm Mortar	37-105mm	12.27	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	8.00	4.27	15.00	20.00	Yes	539858.19	4116446.56	0.10	Yes	100-334; 100-335	Yes	6/9/2021	SB
TM16	TM16-74	TOI	539883.97	4116423.73	ISO SMALL	<=37mm	3.55	6/9/2021	1	Duplicate Target	NA	same as 61		NA					NA	539883.98	4116423.67	0.05	NA		Yes	6/9/2021	SB
TM16	TM16-79	Verification	539863.34	4116436.40	81mm Mortar	37-105mm	27.41	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	7.00	20.41	10.00	25.00	Yes	539863.33	4116436.42	0.03	Yes	100-0377; 100-0378	Yes	6/9/2021	SB
TM16	TM16-82	TOI	539879.69	4116418.17	60mm Mortar	37-105mm	25.84	6/9/2021	1	Duplicate Target	NA	shared contact with 33		NA					NA	539879.70	4116418.16	0.01	NA	100-0379; 100-0380	Yes	6/9/2021	SB
TM16	TM16-91	TOI	539866.18	4116443.12	81mm Mortar	37-105mm	57.68	6/9/2021	1	Duplicate Target	NA	same as 8		NA					NA	539866.14	4116443.18	0.08	NA		Yes	6/9/2021	SB
TM16	TM16-101	TOI	539860.09	4116447.67	60mm Mortar	37-105mm	22.80	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Reber; shared with 17, 167		NA	21.00	1.80	10.00	83.00	Yes	539860.02	4116447.77	0.12	Yes	100-0338; 100-0340	Yes	6/9/2021	SB
TM16	TM16-102	TOI	539866.77	4116435.54	60mm Mortar	37-105mm	31.16	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	32.00	0.84	20.00	6.00	Yes	539866.71	4116435.46	0.10	Yes	100-0353; 100-0354	Yes	6/9/2021	SB
TM16	TM16-107	Verification	539886.31	4116427.14	ISO SMALL	<=37mm	15.32	6/9/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	15.00	0.32	5.00	8.00	Yes	539886.36	4116427.10	0.06	Yes	100-0409; 100-0410	Yes	6/9/2021	SB
TM16	TM16-111	TOI	539859.77	4116448.82	60mm Mortar	37-105mm	25.16	6/9/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	banding		NA	18.00	7.16	20.00	26.00	Yes	539859.85	4116448.78	0.09	Yes	100-0341; 100-342	Yes	6/9/2021	SB
TM16	TM16-112	TOI	539868.07	4116447.01	ISO LARGE	>105mm	49.16	6/9/2021	1	Duplicate Target	NA	same as 15, 22		NA					NA	539868.10	4116446.94	0.08	NA		Yes	6/9/2021	SB
TM16	TM16-117	TOI	539852.80	4116447.21	60mm Mortar	37-105mm	27.96	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		NA	24.00	3.96	50.00	30.00	Yes	539852.89	4116447.15	0.11	Yes	100-0330; 100-331	Yes	6/9/2021	SB
TM16	TM16-121	Validation	539849.47	4116442.19	ISO SMALL	<=37mm	13.57	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	21.00	7.43	3.00	21.00	Yes	539849.50	4116442.26	0.07	Yes	100-0323; 100-0324	Yes	6/9/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM16	TM16-126	TOI	539884.67	4116420.79	ISO SMALL	<=37mm	4.98	6/9/2021	6	Non-Munitions Related Debris	Non-MD Scrap Metal	screw, nail, wire		NA	9.00	4.02	4.00	31.00	Yes	539884.67	4116420.78	0.01	Yes	100-0383; 100-0385	Yes	6/9/2021	SB
TM16	TM16-133	TOI	539861.57	4116444.40	4.2-in Mortar	>105mm	32.05	6/9/2021	1	Duplicate Target	NA	same as 2		NA					NA	539861.55	4116444.44	0.04	NA		Yes	6/9/2021	SB
TM16	TM16-165	Verification	539858.88	4116451.78	81mm Mortar	37-105mm	24.84	6/9/2021	1	Duplicate Target	NA	Shared with 14, 16, 26		Yes					NA	539858.70	4116451.70	0.19	NA	100-0348; 100-0349	Yes	6/9/2021	SB
TM16	TM16-167	TOI	539859.28	4116447.80	60mm Mortar	37-105mm	28.59	6/9/2021	1	Duplicate Target	NA	shared with 17		NA					NA	539859.38	4116447.76	0.11	NA	100-0338; 100-0340	Yes	6/9/2021	SB
TM16	TM16-174	TOI	539875.40	4116415.51	81mm Mortar	37-105mm	16.67	6/9/2021	1	Cultural Feature	Structure	buried electronical line influencer		NA	34.00	17.33	0.00	0.00	NA	539875.41	4116415.46	0.06	Yes	100-0381; 100-0382	LIP	6/9/2021	SB
TM16	TM16-182	Validation	539862.17	4116452.09	No Match	<=37mm	22.78	6/9/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	9.00	13.78	3.00	30.00	Yes	539862.18	4116452.05	0.04	Yes	100-0346; 100-0347	Yes	6/9/2021	SB
TM16	TM16-187	TOI	539873.38	4116431.69	81mm Mortar	37-105mm	58.67	6/9/2021	1	Duplicate Target	NA	same as 13		NA					NA	539873.30	4116431.66	0.08	NA		Yes	6/9/2021	SB
TM16	TM16-188	Validation	539857.29	4116442.17	60mm Mortar	37-105mm	19.55	6/9/2021	3	Non-Munitions Related Debris	Non-MD Scrap Metal	bolts, steel plate		Yes	10.00	9.55	10.00	10.00	Yes	539857.32	4116442.15	0.03	Yes	100-0320; 100-0321	Yes	6/9/2021	SB
TM16	TM16-190	TOI	539853.96	4116442.52	81mm Mortar	37-105mm	34.22	6/9/2021	1	Cultural Feature	Structure	concrete pad with electrical influence		NA	45.00	10.78	0.00	0.00	NA	539854.01	4116442.56	0.07	Yes	100-0322	LIP	6/9/2021	SB
TM16	TM16-192	Verification	539886.75	4116427.15	No Match	37-105mm	34.65	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	25.00	9.65	3.00	9.00	Yes	539886.76	4116427.17	0.03	Yes	100-0406; 100-0408	Yes	6/9/2021	SB
TM16	TM16-195	Verification	539848.53	4116443.04	81mm Mortar	37-105mm	40.94	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	40.00	0.94	3.00	5.00	Yes	539848.46	4116443.05	0.07	Yes	100-0328; 100-0329	Yes	6/9/2021	SB
TM16	TM16-203	Verification	539889.38	4116427.53	60mm Mortar	37-105mm	13.31	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	13.00	0.31	10.00	79.00	Yes	539889.30	4116427.50	0.09	Yes	100-0396; 100-0397	Yes	6/9/2021	SB
TM16	TM16-209	Validation	539887.31	4116426.34	No Match	37-105mm	5.91	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	9.00	3.09	2.00	6.00	Yes	539887.30	4116426.39	0.05	Yes	100-0390; 100-0391	Yes	6/9/2021	SB
TM16	TM16-213	TOI	539890.23	4116426.49	ISO SMALL	<=37mm	12.28	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	9.00	3.28	20.00	8.00	Yes	539890.22	4116426.48	0.01	Yes	100-0392; 100-0393	Yes	6/9/2021	SB
TM16	TM16-214	Validation	539883.67	4116428.02	ISO SMALL	<=37mm	25.35	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	15.00	10.35	20.00	6.00	Yes	539883.60	4116428.05	0.08	Yes	100-0402; 100-0403	Yes	6/9/2021	SB
TM16	TM16-254	Validation	539853.57	4116434.70	60mm Mortar	37-105mm	6.76	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	staple		Yes	10.00	3.24	3.00	5.00	Yes	539853.62	4116434.66	0.07	Yes	100-0290; 100-0291	Yes	6/9/2021	SB
TM16	TM16-263	Validation	539885.51	4116426.18	ISO SMALL	<=37mm	6.80	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	9.00	2.20	25.00	8.00	Yes	539885.45	4116426.13	0.08	Yes	100-0413; 100-0414	Yes	6/9/2021	SB
TM16	TM16-265	Verification	539877.22	4116424.39	60mm Mortar	37-105mm	18.12	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	10.00	8.12	30.00	5.50	Yes	539877.24	4116424.41	0.02	Yes	100-0371; 100-0372	Yes	6/9/2021	SB
TM16	TM16-268	Verification	539863.50	4116442.81	ISO SMALL	<=37mm	8.95	6/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	13.00	4.05	40.00	0.00	Yes	539863.44	4116442.78	0.07	Yes	100-0317	Yes	6/9/2021	SB
TM16	TM16-24	TOI	539858.13	4116429.64	4.2-in Mortar	>105mm	62.48	6/10/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	55.00	7.48	0.00	0.00	NA	539858.12	4116429.63	0.01	Yes	100-0444	LIP	6/10/2021	SB
TM16	TM16-25	TOI	539858.39	4116429.26	4.2-in Mortar	>105mm	59.80	6/10/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	56.00	3.80	0.00	0.00	NA	539858.38	4116429.29	0.03	Yes	100-0445	LIP	6/10/2021	SB
TM16	TM16-39	TOI	539850.08	4116444.41	81mm Mortar	37-105mm	19.75	6/10/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	anchor		NA	9.00	10.75	30.00	0.00	Yes	539850.07	4116444.42	0.01	Yes	100-0325	LIP	6/10/2021	SB
TM16	TM16-70	TOI	539858.52	4116428.81	81mm Mortar	37-105mm	37.24	6/10/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	47.00	9.76	0.00	0.00	No	539858.52	4116428.80	0.01	Yes	100-0446	LIP	6/10/2021	SB
TM16	TM16-87	TOI	539859.27	4116427.21	4.2-in Mortar	>105mm	64.59	6/10/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	87.00	22.41	0.00	0.00	NA	539859.26	4116427.21	0.01	Yes	100-0451	LIP	6/10/2021	SB
TM16	TM16-94	TOI	539858.67	4116428.64	4.2-in Mortar	>105mm	65.39	6/10/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	45.00	20.39	0.00	0.00	NA	539858.66	4116428.66	0.02	Yes	100-0447	LIP	6/10/2021	SB
TM16	TM16-98	TOI	539861.51	4116420.91	4.2-in Mortar	>105mm	61.46	6/10/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	45.00	16.46	0.00	0.00	NA	539861.51	4116420.92	0.01	Yes	100-0457	LIP	6/10/2021	SB
TM16	TM16-106	Validation	539861.06	4116422.47	4.2-in Mortar	>105mm	72.00	6/10/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		Yes	46.00	26.00	0.00	0.00	NA	539861.06	4116422.48	0.00	Yes	100-0456	LIP	6/10/2021	SB
TM16	TM16-130	Verification	539859.78	4116428.17	81mm Mortar	37-105mm	57.26	6/10/2021	1	No Contact	NA			Yes	53.00		0.00	0.00	NA	539859.81	4116428.15	0.04	Yes	100-0452	NA	6/10/2021	SB
TM16	TM16-140	Verification	539860.53	4116423.70	4.2-in Mortar	>105mm	69.82	6/10/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		Yes	52.00	17.82	0.00	0.00	NA	539860.52	4116429.24	5.53	No	100-0454	LIP	6/10/2021	SB
TM16	TM16-193	TOI	539874.24	4116444.97	81mm Mortar	37-105mm	28.02	6/10/2021	1	Cultural Feature	Structure	influenced by ground ing rod		NA	28.00	0.02	0.00	0.00	NA	539874.25	4116444.98	0.01	Yes	100-0459	LIP	6/10/2021	SB
TM16	TM16-221	TOI	539852.53	4116444.87	81mm Mortar	37-105mm	50.50	6/10/2021	1	Cultural Feature	Structure	Concrete influenced by electrical line		NA	40.00	10.50	0.00	0.00	NA	539852.53	4116444.87	0.00	Yes	100-0441	LIP	6/10/2021	SB
TM16	TM16-141	Validation	539868.22	4116436.57	No Match	<=37mm	7.50	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	11.00	3.50	30.00	28.00	Yes	539868.16	4116436.53	0.07	Yes	100-0532; 100-0533	Yes	6/11/2021	SB
TM16	TM16-143	TOI	539856.78	4116450.73	60mm Mortar	37-105mm	32.24	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	grounding rod		NA	34.00	1.76	4.00	0.00	Yes	539856.76	4116450.69	0.04	Yes	100-0537; 100-0538	Yes	6/11/2021	SB
TM16	TM16-144	TOI	539863.25	4116439.48	ISO SMALL	<=37mm	3.88	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		NA	6.00	2.12	10.00	20.00	Yes	539863.22	4116439.52	0.05	Yes	100-0534; 100-0535	Yes	6/11/2021	SB

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	Nomenclature	MET TOI/NON-TOI THRESHOLD[1]	DEPTH (cm)	DEPTH OFFSET (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	MET SIZE/SHAPE THRESHOLD[2,3]	EASTING	NORTHING	POSITION OFFSET (m)	MET POSITION THRESHOLD[4]	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
TM16	TM16-147	TOI	539874.81	4116421.31	81mm Mortar	37-105mm	14.00	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		NA	16.00	2.00	35.00	7.00	Yes	539874.80	4116421.30	0.01	Yes	100-0547; 100-0548	Yes	6/11/2021	SB
TM16	TM16-151	TOI	539889.58	4116427.52	60mm Mortar	37-105mm	17.03	6/11/2021	2	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, nail		NA	19.00	1.97	2.00	10.00	Yes	539889.50	4116427.57	0.10	Yes	100-0549; 100-0550	Yes	6/11/2021	SB
TM16	TM16-153	Validation	539862.78	4116434.25	ISO SMALL	<=37mm	6.34	6/11/2021	1	Duplicate Target	NA	same as 250		Yes					NA	539862.88	4116434.24	0.09	NA		Yes	6/11/2021	SB
TM16	TM16-154	Verification	539865.40	4116430.29	81mm Mortar	37-105mm	33.86	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	anchor		Yes	12.00	21.86	30.00	0.00	Yes	539865.39	4116430.25	0.04	Yes	100-0544	Yes	6/11/2021	SB
TM16	TM16-155	TOI	539863.05	4116419.62	4.2-in Mortar	>105mm	61.07	6/11/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	63.00	1.93	0.00	0.00	NA	539863.00	4116419.65	0.06	Yes	100-0545; 100-0546	LIP	6/11/2021	SB
TM16	TM16-157	Validation	539851.18	4116443.13	60mm Mortar	37-105mm	9.02	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	12.00	2.98	2.00	16.00	Yes	539851.13	4116443.20	0.09	Yes	100-0539; 100-0540	Yes	6/11/2021	SB
TM16	TM16-159	Verification	539856.05	4116436.18	81mm Mortar	37-105mm	27.91	6/11/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	metal rod		Yes	18.00	9.91	15.00	30.00	Yes	539856.04	4116436.20	0.02	Yes	100-0541; 100-0542	Yes	6/11/2021	SB
TM16	TM16-156	Verification	539863.49	4116442.80	81mm Mortar	37-105mm	13.69	6/13/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	11.00	2.69	35.00	0.00	Yes	539863.48	4116442.73	0.07	Yes	100-0536	Yes	6/13/2021	SB
TM16	TM16-202	TOI	539859.07	4116427.65	4.2-in Mortar	>105mm	57.03	6/13/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	50.00	7.03	0.00	0.00	NA	539859.67	4116427.65	0.60	No	100-0450	LIP	6/13/2021	SB
TM16	TM16-205	Verification	539860.51	4116423.50	4.2-in Mortar	>105mm	65.12	6/13/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		Yes	49.00	16.12	0.00	0.00	NA	539860.53	4116423.51	0.01	Yes	100-0455	LIP	6/13/2021	SB
TM16	TM16-220	TOI	539859.37	4116426.85	81mm Mortar	37-105mm	55.71	6/13/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	55.00	0.71	0.00	0.00	NA	539859.36	4116426.85	0.01	Yes	100-0453	LIP	6/13/2021	SB
TM16	TM16-271	TOI	539859.16	4116427.89	4.2-in Mortar	>105mm	70.43	6/13/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	57.00	13.43	0.00	0.00	NA	539859.17	4116427.88	0.01	Yes	100-0448	LIP	6/13/2021	SB
TM16	TM16-1000202	TOI	539858.67	4116428.08	4.2-in Mortar	>105mm	68.63	6/13/2021	1	Cultural Feature	Structure	concrete pad, electronical influence		NA	51.00	17.63	0.00	0.00	NA	539858.67	4116428.07	0.01	Yes	100-0499	LIP	6/13/2021	SB
TM16	TM16-12	TOI	539872.54	4116445.87	81mm Mortar	37-105mm	8.46	7/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	copperwire wire, metal plates, wire		NA	17.00	8.54	8.00	107.00	Yes	539872.56	4116445.90	0.03	Yes	101-0776; 101-0777	Yes	7/9/2021	SB
TM16	TM16-72	TOI	539872.34	4116445.88	60mm Mortar	37-105mm	13.23	7/9/2021	1	Duplicate Target	NA	Shared with 12, 84		NA					NA	539872.32	4116445.88	0.02	NA	100-0775; 101-0777	Yes	7/9/2021	SB
TM16	TM16-84	TOI	539872.85	4116445.41	60mm Mortar	37-105mm	13.69	7/9/2021	1	Non-Munitions Related Debris	Non-MD Scrap Metal	grounding rod, copperwire		NA	15.00	1.31	50.00	0.00	Yes	539872.93	4116445.41	0.09	Yes	101-0773; 101-0774	Yes	7/9/2021	SB

PROJECT: Radford AAP RFI | DIG TEAM NO.: 1

GRID/PROPERTY ID: All | QC GEOPHYSICIST: S. Takata

AGC SURVEY RESULTS															
GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	NOMENCLATURE	MET TOI/NON-TOI THRESHOLD[1]	MET SIZE/SHAPE THRESHOLD[2,3]	MET POSITION THRESHOLD[4]	Threshold Resolution Comment
GR01	GR01-2	TOI	538972.02	4115962.38	ISO SMALL	<=37mm	16.62	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #GR-1		NA	Yes	Yes	
GR01	GR01-5	Validation	538972.49	4115961.01	ISO SMALL	<=37mm	7.39	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
GR02	GR02-1	Validation	538915.44	4115924.58	ISO SMALL	<=37mm	14.14	Seed	QA 1″ x 4″ pipe	QA Seed #NAB 160		Yes	No	Yes	Corrective action documented.
GR02	GR02-6	TOI	538917.80	4115937.42	ISO SMALL	<=37mm	10.00	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #GR-2		NA	Yes	Yes	
GR02	GR02-20	Verification	538893.17	4115923.18	ISO SMALL	<=37mm	18.62	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-22	Validation	538905.57	4115939.31	ISO MEDIUM	37-105mm	36.93	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR02	GR02-29	Verification	538921.04	4115932.13	ISO MEDIUM	37-105mm	17.43	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
GR02	GR02-31	Validation	538920.92	4115934.88	100-lb GP Bomb	>105mm	114.15	Cultural Feature	Structure	Buried Pipe		Yes	Yes	No	Confirmed validation report "Wrong Shape." Cultural feature - buried pipe. Left in place. Resolved
GR02	GR02-35	Verification	538916.70	4115936.63	ISO SMALL	<=37mm	9.74	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR02	GR02-39	Verification	538922.44	4115921.92	ISO SMALL	<=37mm	8.11	Non-Munitions Related Debris	Non-MD Scrap Metal	Metal Scrap		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
GR02	GR02-42	Verification	538912.53	4115920.70	ISO MEDIUM	37-105mm	53.39	Cultural Feature	Structure	Reinforced concrete with rebar		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-46	Validation	538920.43	4115934.12	ISO MEDIUM	37-105mm	10.08	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-50	Validation	538916.03	4115944.80	ISO LARGE	>105mm	68.29	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-54	Validation	538903.30	4115925.78	ISO SMALL	<=37mm	4.23	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-55	Validation	538913.74	4115918.30	ISO SMALL	<=37mm	22.00	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-66	Validation	538907.67	4115924.26	ISO LARGE	>105mm	45.64	Cultural Feature	Structure	shared with 2; Buried Pipe		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-69	Validation	538895.23	4115938.22	ISO MEDIUM	37-105mm	36.27	Non-Munitions Related Debris	Non-MD Scrap Metal	nail		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR02	GR02-77	Verification	538906.19	4115940.60	ISO MEDIUM	37-105mm	33.45	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Left in place. Resolved.
GR02	GR02-79	Verification	538909.00	4115944.86	100-lb GP Bomb	>105mm	65.13	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-80	Validation	538914.03	4115931.83	ISO MEDIUM	37-105mm	35.54	Non-Munitions Related Debris	Non-MD Scrap Metal	braided wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
GR02	GR02-86	Validation	538897.05	4115934.60	ISO SMALL	<=37mm	27.01	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple Items. Resolved
GR02	GR02-95	TOI	538919.28	4115939.23	100-lb GP Bomb	>105mm	91.40	Cultural Feature	Structure	Buried Pipe		NA	Yes	No	Cultural feature - buried pipe. Left in place.
GR02	GR02-106	Verification	538908.21	4115944.83	100-lb GP Bomb	>105mm	62.87	Cultural Feature	Structure	Buried Pipe and wire		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-108	Verification	538909.15	4115944.66	100-lb GP Bomb	>105mm	65.71	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
GR02	GR02-110	Validation	538906.20	4115943.42	ISO MEDIUM	37-105mm	49.12	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	NOMENCLATURE	MET TOI/NON-TOI THRESHOLD[1]	MET SIZE/SHAPE THRESHOLD[2,3]	MET POSITION THRESHOLD[4]	Threshold Resolution Comment
GR02	GR02-113	Validation	538920.25	4115919.79	ISO LARGE	>105mm	22.79	Non-Munitions Related Debris	Non-MD Scrap Metal	Nails		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved.
GR02	GR02-137	Validation	538901.19	4115925.75	ISO SMALL	<=37mm	28.96	Non-Munitions Related Debris	Non-MD Scrap Metal	Nails		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved.
GR02	GR02-160	Validation	538907.54	4115937.74	ISO SMALL	<=37mm	5.92	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
GR02	GR02-163	Validation	538900.54	4115924.79	ISO SMALL	<=37mm	25.40	Non-Munitions Related Debris	Non-MD Scrap Metal	Nails		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
GR02	GR02-182	Validation	538910.37	4115925.26	ISO SMALL	<=37mm	15.03	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR02	GR02-184	Validation	538908.40	4115930.11	No Match	37-105mm	29.05	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
GR02	GR02-196	Validation	538895.32	4115942.04	ISO SMALL	<=37mm	28.96	Non-Munitions Related Debris	Non-MD Scrap Metal	washer		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR03	GR03-2	TOI	539004.99	4115914.49	ISO MEDIUM	37-105mm	22.38	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-03		NA	Yes	Yes	
GR03	GR03-8	Validation	539012.07	4115936.86	ISO LARGE	>105mm	60.85	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR03	GR03-10	Verification	539007.51	4115912.78	No Match	>105mm	40.78	Non-Munitions Related Debris	Non-MD Scrap Metal	rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR03	GR03-11	Validation	539007.56	4115912.73	ISO MEDIUM	37-105mm	36.43	Duplicate Target	NA	same as 10; rebar		Yes	NA	NA	Confirmed validation report "Wrong Shape." Resolved.
GR03	GR03-12	Validation	539008.41	4115912.19	ISO SMALL	<=37mm	3.09	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR03	GR03-20	Verification	538993.71	4115935.35	ISO MEDIUM	37-105mm	19.17	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR03	GR03-28	Validation	538996.84	4115914.08	ISO LARGE	>105mm	57.16	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
GR03	GR03-33	Validation	538991.56	4115920.92	ISO SMALL	<=37mm	37.35	Non-Munitions Related Debris	Non-MD Scrap Metal	washer		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR03	GR03-37	Validation	538987.00	4115917.71	ISO MEDIUM	37-105mm	30.82	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR03	GR03-50	Validation	539009.73	4115938.61	ISO SMALL	<=37mm	42.93	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR04	GR04-1	TOI	539033.15	4115941.24	ISO SMALL	<=37mm	8.65	Seed	QA 1" x 4" pipe	QA Seed #NAB-173		NA	Yes	Yes	
GR04	GR04-2	TOI	539035.21	4115942.92	ISO MEDIUM	37-105mm	18.31	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-4		NA	Yes	Yes	
GR08	GR08-3	TOI	539118.28	4115921.53	ISO LARGE	>105mm	20.20	MPPEH	Mortar	4.2 in mortar, not fuzed	M-3	NA	Yes	Yes	
TM14	TM14-17	TOI	539855.86	4116538.03	ISO LARGE	>105mm	12.82	MPPEH	Mortar	4.2 inch	M-3	NA	Yes	Yes	
TM16	TM16-2	TOI	539861.55	4116444.41	4.2-in Mortar	>105mm	32.33	MPPEH	Mortar	4.2 inch fused, same as 133	M-3	NA	Yes	Yes	
TM16	TM16-8	TOI	539866.16	4116443.22	ISO LARGE	>105mm	52.54	MPPEH	Mortar	4.2 inch fuze sheard	M-3	NA	Yes	Yes	
GR04	GR04-6	TOI	539045.98	4115939.65	ISO LARGE	>105mm	45.24	Non-Munitions Related Debris	Non-MD Scrap Metal	steel ring		NA	Yes	No	Additional NMRD recovered. Same target. Resolved.
GR05	GR05-1	TOI	538902.65	4115887.03	ISO MEDIUM	37-105mm	12.83	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-5		NA	Yes	Yes	
GR05	GR05-12	Validation	538899.07	4115892.90	ISO MEDIUM	37-105mm	6.56	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR05	GR05-18	Verification	538888.37	4115889.07	ISO SMALL	<=37mm	16.91	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	NOMENCLATURE	MET TOI/NON-TOI THRESHOLD[1]	MET SIZE/SHAPE THRESHOLD[2,3]	MET POSITION THRESHOLD[4]	Threshold Resolution Comment
GR05	GR05-19	Validation	538912.42	4115881.45	ISO MEDIUM	37-105mm	10.49	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR05	GR05-30	Verification	538916.80	4115893.16	ISO SMALL	<=37mm	18.83	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR05	GR05-45	Validation	538913.36	4115889.66	ISO MEDIUM	37-105mm	11.28	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR05	GR05-49	Validation	538914.84	4115891.29	100-lb GP Bomb	>105mm	42.99	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR05	GR05-53	Validation	538915.61	4115892.03	100-lb GP Bomb	>105mm	47.18	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR05	GR05-69	Validation	538895.15	4115897.01	ISO SMALL	<=37mm	7.55	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR05	GR05-97	Validation	538897.62	4115899.32	ISO SMALL	<=37mm	18.44	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Too Small." Left in place. Resolved.
GR08	GR08-1	TOI	539117.00	4115917.79	ISO MEDIUM	37-105mm	18.08	Seed	QA 2" x 8" pipe	Blind QC Seed #GR-8		NA	Yes	Yes	
TM05	TM05-11	TOI	539838.16	4116573.62	ISO LARGE	>105mm	54.89	MPPEH	Mortar	4.2 inch fuzed	M-3	NA	Yes	Yes	
GR08	GR08-4	TOI	539115.88	4115929.46	ISO MEDIUM	37-105mm	18.02	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, bolts, scrap		NA	No	Yes	Re-dig. Initial items found too small. Additional items recovered. Resolved.
GR08	GR08-12	Verification	539106.11	4115923.78	ISO MEDIUM	37-105mm	5.99	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, banding		Yes	Yes	Yes	Multiple items. Confirmed validation report "Wrong Shape". Resolved.
TM05	TM05-73	TOI	539835.80	4116567.86	4.2-in Mortar	>105mm	59.62	MPPEH	Mortar	4.2 inch fuzed	M-3	NA	Yes	Yes	
GR08	GR08-15	Validation	539111.68	4115923.45	ISO MEDIUM	37-105mm	10.38	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		Yes	Yes	Yes	Photo check showed ~50mm diameter. Confirmed validation report "Wrong Shape". Resolved.
GR08	GR08-17	Verification	539108.25	4115914.26	100-lb GP Bomb	>105mm	17.78	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Multiple items. Resolved.
TM05	TM05-131	TOI	539841.07	4116576.63	81mm Mortar	37-105mm	66.74	MPPEH	Mortar	4.2 inch fuzed	M-3	NA	Yes	Yes	
GR08	GR08-18	TOI	539125.26	4115929.25	ISO MEDIUM	37-105mm	44.80	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		NA	No	Yes	Re-dig. Initial discovery too small. TOI recovered.
GR08	GR08-20	Verification	539125.20	4115932.66	ISO MEDIUM	37-105mm	21.07	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR08	GR08-26	Verification	539108.61	4115914.52	100-lb GP Bomb	>105mm	21.71	Duplicate Target	NA	shared, intersect with 17		NA	NA	NA	Confirmed validation report "Wrong Shape". Shape long and odd cross bar on end. Resolved.
GR08	GR08-27	Verification	539107.47	4115910.94	ISO LARGE	>105mm	4.77	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
GR08	GR08-33	Validation	539134.07	4115930.33	ISO SMALL	<=37mm	12.56	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Long piece of rebar. Resolved.
TM16	TM16-6	TOI	539862.08	4116437.15	4.2-in Mortar	>105mm	25.13	MPPEH	Mortar	4.2 inch fuzed	M-3	NA	Yes	Yes	
GR08	GR08-35	TOI	539124.59	4115917.88	100-lb GP Bomb	>105mm	31.86	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		NA	Yes	No	Large NMRD causing offset. Resolved.
GR08	GR08-35	TOI	539124.59	4115917.88	100-lb GP Bomb	>105mm	31.86	MPPEH	Mortar	4.2 inch mortar	M-3	NA	Yes	Yes	
GR08	GR08-38	Verification	539127.24	4115935.16	100-lb GP Bomb	>105mm	4.45	Duplicate Target	NA	same as 22		NA	NA	NA	Confirmed validation report "Wrong Shape". Left in place. Resolved.
TM01	TM01-1	TOI	539755.51	4116563.01	4.2-in Mortar	>105mm	23.89	MPPEH	Mortar	4.2 inch mortar	M-3	NA	Yes	Yes	
GR08	GR08-41	Verification	539108.23	4115927.81	ISO LARGE	>105mm	10.71	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, metal ring, wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Multiple items. Resolved.
GR08	GR08-42	Validation	539134.77	4115933.73	ISO SMALL	<=37mm	9.21	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, wire		Yes	Yes	Yes	Confirms report "Too Small". Resolved.

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	NOMENCLATURE	MET TOI/NON-TOI THRESHOLD[1]	MET SIZE/SHAPE THRESHOLD[2,3]	MET POSITION THRESHOLD[4]	Threshold Resolution Comment
GR08	GR08-44	Verification	539132.95	4115913.67	ISO MEDIUM	37-105mm	5.11	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe clamp		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR08	GR08-59	Verification	539113.99	4115931.04	ISO SMALL	<=37mm	9.50	Non-Munitions Related Debris	Non-MD Scrap Metal	nails, bolt, wire washer		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Multiple items. Resolved.
TM05	TM05-43	TOI	539831.19	4116548.61	4.2-in Mortar	>105mm	33.51	MPPEH	Mortar	4.2 inch mortar	M-3	NA	Yes	Yes	
GR08	GR08-61	Verification	539111.00	4115939.19	ISO SMALL	<=37mm	6.92	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, nails, scrap, drill bit		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Multiple items. Resolved.
GR08	GR08-65	Validation	539129.41	4115923.96	ISO SMALL	<=37mm	-6.69	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR08	GR08-66	Verification	539112.05	4115929.95	ISO MEDIUM	37-105mm	13.74	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap, pipe, rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Multiple items. Resolved.
GR08	GR08-68	Validation	539104.86	4115921.10	ISO LARGE	>105mm	11.84	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap metal, pipe, bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Multiple items. Resolved.
GR08	GR08-70	Verification	539113.53	4115937.75	ISO MEDIUM	37-105mm	3.88	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Resolved.
GR08	GR08-73	Validation	539131.50	4115917.98	ISO SMALL	<=37mm	16.49	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small". Resolved.
GR08	GR08-76	Verification	539119.56	4115910.40	ISO MEDIUM	37-105mm	9.97	Duplicate Target	NA	shared contact with 34		NA	NA	NA	Confirmed validation report "Wrong Shape." Multiple long items. Shared with other digs. Resolved.
GR08	GR08-78	Validation	539130.43	4115937.72	ISO LARGE	>105mm	19.07	Non-Munitions Related Debris	Non-MD Scrap Metal	rod		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR08	GR08-79	Validation	539110.33	4115912.19	ISO SMALL	<=37mm	8.20	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR08	GR08-84	Verification	539135.40	4115929.06	ISO MEDIUM	37-105mm	25.12	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR08	GR08-85	Verification	539122.18	4115925.05	ISO MEDIUM	37-105mm	11.43	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR08	GR08-87	Validation	539106.05	4115936.58	ISO SMALL	<=37mm	12.16	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, nail		Yes	Yes	Yes	Confirmed validation report "Decays too quickly. Multiple items. Resolved.
GR08	GR08-91	Verification	539114.38	4115932.54	No Match	<=37mm	7.45	Non-Munitions Related Debris	Non-MD Scrap Metal	nail, metal plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
GR08	GR08-92	Validation	539124.92	4115925.58	No Match	>105mm	30.29	Non-Munitions Related Debris	Non-MD Scrap Metal	rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR08	GR08-93	Verification	539108.83	4115915.22	ISO MEDIUM	37-105mm	0.71	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	Yes	No	Confirmed validation report "Wrong Shape." 26 cm XY offset. Resolved.
GR08	GR08-95	Validation	539126.50	4115913.33	ISO MEDIUM	37-105mm	12.69	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
GR08	GR08-96	Verification	539113.57	4115937.70	ISO MEDIUM	37-105mm	6.48	Duplicate Target	NA	same as 70		NA	NA	NA	Confirmed validation report "Wrong Shape." Resolved.
GR08	GR08-97	TOI	539105.19	4115938.84	ISO SMALL	<=37mm	9.89	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, nail		NA	No	Yes	Re-dig. Initial items too small. Additional NMRD recovered. Resolved.
GR08	GR08-99	Verification	539108.56	4115920.45	ISO SMALL	<=37mm	0.79	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR08	GR08-101	Verification	539118.79	4115910.94	ISO MEDIUM	37-105mm	3.58	Non-Munitions Related Debris	Non-MD Scrap Metal	metal pipe, steel cable		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
GR08	GR08-103	Verification	539115.42	4115913.85	ISO SMALL	<=37mm	6.05	Non-Munitions Related Debris	Non-MD Scrap Metal	Metal Plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
GR08	GR08-113	Verification	539112.37	4115930.76	ISO MEDIUM	37-105mm	10.75	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, hook		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
GR08	GR08-115	Verification	539123.40	4115924.55	ISO MEDIUM	37-105mm	15.83	Non-Munitions Related Debris	Non-MD Scrap Metal	pipes, nails		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
GR08	GR08-118	Validation	539107.07	4115912.03	ISO MEDIUM	37-105mm	0.30	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	NOMENCLATURE	MET TOI/NON-TOI THRESHOLD[1]	MET SIZE/SHAPE THRESHOLD[2,3]	MET POSITION THRESHOLD[4]	Threshold Resolution Comment
GR08	GR08-130	Validation	539116.57	4115924.45	ISO SMALL	<=37mm	51.63	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved
GR08	GR08-132	Validation	539129.08	4115936.35	ISO LARGE	>105mm	11.07	Non-Munitions Related Debris	Non-MD Scrap Metal	steel plates		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
GR08	GR08-147	Validation	539120.30	4115918.15	ISO LARGE	>105mm	33.89	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plates, wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
GR08	GR08-156	Verification	539126.82	4115924.44	ISO LARGE	>105mm	10.98	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
GR08	GR08-160	Validation	539111.71	4115929.18	ISO MEDIUM	37-105mm	8.60	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, wire, bracket		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
GR08	GR08-163	Verification	539117.22	4115934.78	ISO SMALL	<=37mm	15.86	Non-Munitions Related Debris	Non-MD Scrap Metal	steel plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
GR08	GR08-182	Verification	539132.37	4115915.88	ISO SMALL	<=37mm	8.10	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt, nails		Yes	Yes	Yes	Confirmed validation report "Too Small." Multiple items. Resolved
GR08	GR08-183	Verification	539109.21	4115914.49	100-lb GP Bomb	>105mm	37.90	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, sheet metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Items dug match what the curves show. Multiple items did match the curves in the multisource solutions. Resolved.
GR08	GR08-188	Validation	539111.22	4115918.16	100-lb GP Bomb	>105mm	14.65	Non-Munitions Related Debris	Non-MD Scrap Metal	3 pipes, metal ring		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
GR08	GR08-202	Validation	539114.63	4115930.81	ISO LARGE	>105mm	32.41	Duplicate Target	NA	Shared contact with 59		NA	NA	NA	Confirmed validation report "Decays too quickly." Multiple items. Resolved.
GR08	GR08-204	Validation	539126.66	4115912.92	ISO SMALL	<=37mm	6.49	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved
GR08	GR08-205	Validation	539128.86	4115919.71	ISO SMALL	<=37mm	28.34	Non-Munitions Related Debris	Non-MD Scrap Metal	banding, wire		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple Items. Resolved
GR08	GR08-206	Verification	539129.13	4115921.39	ISO SMALL	<=37mm	9.77	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved
GR08	GR08-215	Validation	539106.74	4115930.52	ISO SMALL	<=37mm	3.61	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved
GR08	GR08-216	Validation	539110.78	4115934.58	ISO LARGE	>105mm	24.47	Non-Munitions Related Debris	Non-MD Scrap Metal	nail, bolts		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple Items. Resolved
GR08	GR08-220	Verification	539126.76	4115924.29	ISO LARGE	>105mm	15.20	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
GR08	GR08-221	Verification	539109.58	4115919.39	ISO LARGE	>105mm	11.48	Duplicate Target	NA	Same as TOI as 60		NA	NA	NA	Confirmed validation report "Wrong Shape." Multiple items displacing shape. Several LargeISO matches in multisource. Resolved
GR08	GR08-221	Verification	539109.58	4115919.39	ISO LARGE	>105mm	11.48	Duplicate Target	NA	Same contact as TOI 60		NA	NA	NA	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
GR08	GR08-232	Validation	539115.38	4115923.10	ISO SMALL	<=37mm	30.08	Non-Munitions Related Debris	Non-MD Scrap Metal	nail, wire, scrap		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple Items. Resolved
GR08	GR08-245	Validation	539115.88	4115923.64	ISO SMALL	<=37mm	28.84	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
GR08	GR08-246	Validation	539121.31	4115919.61	ISO LARGE	>105mm	35.80	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plates		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Max depth 25cm. Resolved.
GR08	GR08-251	Validation	539111.90	4115926.45	ISO LARGE	>105mm	13.73	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron, bolt, hook		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
GR08	GR08-257	Validation	539119.02	4115928.92	No Match	<=37mm	10.77	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR08	GR08-268	Validation	539107.17	4115938.71	ISO MEDIUM	37-105mm	15.55	Non-Munitions Related Debris	Non-MD Scrap Metal	sheet metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple items. Resolved.
GR08	GR08-280	Validation	539118.69	4115932.08	ISO MEDIUM	37-105mm	28.56	Non-Munitions Related Debris	Non-MD Scrap Metal	nails, wire		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple items. Resolved.
GR08	GR08-291	Validation	539118.85	4115939.49	No Match	37-105mm	42.67	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe, total depth 49 cm		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR09	GR09-1	TOI	538882.00	4115853.25	ISO MEDIUM	37-105mm	22.03	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #GR-9		NA	Yes	Yes	

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GR09	GR09-2	TOI	538890.32	4115854.29	ISO MEDIUM	37-105mm	20.09	Seed	QA 2″ x 8″ pipe	QA Seed #NAB 1528		NA	Yes	Yes	
GR09	GR09-6	Validation	538880.68	4115864.34	ISO SMALL	<=37mm	15.61	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR10	GR10-1	TOI	538951.48	4115836.20	ISO MEDIUM	37-105mm	30.77	Seed	Blind QC 2″ x 8″ pipe	Blind QC Seed #GR-10		NA	Yes	Yes	
GR10	GR10-4	TOI	538952.20	4115848.57	ISO SMALL	<=37mm	16.78	Seed	QA 1″ x 4″ pipe	QA Seed #NAB 166		NA	Yes	Yes	
GR10	GR10-7	Verification	538970.62	4115839.13	ISO SMALL	<=37mm	8.00	Non-Munitions Related Debris	Non-MD Scrap Metal			Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR11	GR11-1	TOI	539106.35	4115856.94	ISO MEDIUM	37-105mm	18.50	Seed	Blind QC 2″ x 8″ pipe	Blind QC Seed #GR-11		NA	Yes	Yes	
GR08	GR08-40	TOI	539122.43	4115929.48	ISO LARGE	>105mm	29.89	MPPEH	Mortar	4.2 inch mortar, not fuzed	M-3	NA	Yes	Yes	
TM05	TM05-14	Verification	539824.65	4116562.85	60mm Mortar	37-105mm	25.87	Munitions Debris	Mortar	4.2 inch tail boom		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR11	GR11-68	Validation	539100.59	4115843.65	ISO SMALL	<=37mm	12.85	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small". Resolved.
GR13	GR13-1	TOI	538903.63	4115812.55	ISO MEDIUM	37-105mm	14.98	Seed	QA 2″ x 8″ pipe	QA Seed #NAB 1527		NA	Yes	Yes	
GR13	GR13-5	Verification	538904.42	4115819.21	ISO MEDIUM	37-105mm	6.78	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR13	GR13-22	Validation	538905.36	4115800.60	ISO LARGE	>105mm	93.37	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Left in place. Resolved.
GR13	GR13-35	Validation	538919.37	4115791.18	ISO SMALL	<=37mm	24.03	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR14	GR14-1	TOI	538988.66	4115789.24	ISO SMALL	<=37mm	8.94	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #GR-14, same as 60		NA	Yes	Yes	
GR14	GR14-10	Verification	538990.32	4115784.02	100-lb GP Bomb	>105mm	23.69	Non-Munitions Related Debris	Non-MD Scrap Metal	Metal Plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR14	GR14-11	TOI	538989.71	4115785.57	ISO MEDIUM	37-105mm	15.14	Seed	QA 2″ x 8″ pipe	QA Seed #NAB 1574		NA	Yes	Yes	
GR14	GR14-19	Validation	538992.42	4115780.81	ISO LARGE	>105mm	31.81	Cultural Feature	Structure	pipe in concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR14	GR14-20	Validation	538987.87	4115783.25	ISO LARGE	>105mm	53.65	Target Not Investigated	Inaccessible	Under hardscape		Yes	NA	Yes	Depth offset outside MQO. Inacessible. Resolved.
GR14	GR14-23	Verification	538987.00	4115773.61	ISO SMALL	<=37mm	9.48	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR14	GR14-32	Validation	538999.31	4115780.97	ISO MEDIUM	37-105mm	10.08	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR14	GR14-33	Validation	538981.39	4115776.98	ISO SMALL	<=37mm	10.85	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
GR14	GR14-38	Validation	538987.89	4115785.40	ISO LARGE	>105mm	62.25	No Contact	NA	NA		Yes	NA	Yes	No contact.
GR14	GR14-39	Validation	538978.89	4115783.59	ISO SMALL	<=37mm	25.62	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR14	GR14-40	Verification	538995.97	4115784.00	ISO SMALL	<=37mm	9.39	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR14	GR14-46	Verification	538978.81	4115780.59	ISO MEDIUM	37-105mm	26.42	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR15	GR15-1	TOI	538933.16	4115764.49	ISO MEDIUM	37-105mm	13.98	Seed	Blind QC 2″ x 8″ pipe	QA Seed #NAB 133		NA	Yes	Yes	
GR15	GR15-2	TOI	538929.32	4115747.94	ISO MEDIUM	37-105mm	25.49	Seed	Blind QC 2″ x 8″ pipe	Blind QC Seed #GR-15		NA	Yes	Yes	

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GR15	GR15-5	Validation	538949.30	4115768.69	No Match	>105mm	10.03	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Large item matches in multisource. Resolved.
GR15	GR15-6	Verification	538951.63	4115755.57	ISO SMALL	<=37mm	2.47	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR15	GR15-7	Verification	538949.39	4115744.15	ISO MEDIUM	37-105mm	23.07	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
GR15	GR15-10	Verification	538949.60	4115744.19	ISO MEDIUM	37-105mm	23.50	Duplicate Target	NA	same as 7		NA	NA	NA	Confirmed validation report "Decays too quickly." Resolved.
GR15	GR15-22	Validation	538951.97	4115764.67	ISO SMALL	<=37mm	14.08	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
GR15	GR15-75	Verification	538941.83	4115741.55	100-lb GP Bomb	>105mm	56.79	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR15	GR15-79	Validation	538952.21	4115748.68	ISO SMALL	<=37mm	17.02	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays too quickly. Resolved.
GR16	GR16-1	TOI	539024.19	4115737.83	ISO MEDIUM	37-105mm	22.84	Seed	Blind QC 2″ x 8″ pipe	Blind QC Seed #GR-16		NA	Yes	Yes	
GR16	GR16-3	Validation	539027.33	4115735.90	100-lb GP Bomb	>105mm	60.20	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-8	TOI	539026.20	4115745.92	ISO MEDIUM	37-105mm	14.08	Seed	QA 2″ x 8″ pipe	QA Seed #NAB 1567		NA	Yes	Yes	
GR16	GR16-10	Validation	539004.73	4115734.64	100-lb GP Bomb	>105mm	64.52	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-17	Verification	539010.04	4115733.90	100-lb GP Bomb	>105mm	75.24	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-19	Validation	539023.12	4115733.27	ISO MEDIUM	37-105mm	12.66	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR16	GR16-25	Validation	539005.72	4115733.93	ISO LARGE	>105mm	65.79	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-34	Validation	539022.89	4115733.78	ISO MEDIUM	37-105mm	13.63	Duplicate Target	NA	shared with 19		NA	NA	NA	Confirmed validation report "Wrong Shape." Resolved.
GR16	GR16-46	Validation	539018.56	4115723.56	ISO LARGE	>105mm	45.75	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-50	Verification	539011.18	4115751.29	ISO LARGE	>105mm	29.79	Non-Munitions Related Debris	Non-MD Scrap Metal	Cable		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-63	Validation	539005.72	4115738.31	ISO MEDIUM	37-105mm	18.69	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR16	GR16-64	Validation	539011.72	4115744.02	No Match	>105mm	55.53	Duplicate Target	NA	same as 6		NA	NA	NA	Confirmed validation report "Decays Too Quickly." Left in place. Resolved.
GR16	GR16-68	Validation	539034.99	4115746.36	100-lb GP Bomb	>105mm	67.49	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-72	Verification	539010.67	4115743.20	100-lb GP Bomb	>105mm	70.03	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-74	Verification	539026.05	4115734.24	ISO LARGE	>105mm	61.63	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-94	Validation	539012.04	4115753.74	ISO SMALL	<=37mm	20.98	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved.
GR16	GR16-96	Validation	539022.41	4115750.60	100-lb GP Bomb	>105mm	90.73	Cultural Feature	Structure	water line		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-101	Verification	539005.40	4115737.57	No Match	37-105mm	14.69	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR16	GR16-103	Validation	539012.50	4115727.88	ISO MEDIUM	37-105mm	41.25	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR16	GR16-105	Validation	539018.04	4115750.61	No Match	>105mm	29.59	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved.

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GR16	GR16-106	Validation	539030.36	4115740.00	100-lb GP Bomb	>105mm	72.50	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-111	Validation	539029.36	4115738.72	ISO LARGE	>105mm	48.27	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-116	Validation	539034.24	4115745.35	ISO LARGE	>105mm	63.39	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-129	Validation	539005.93	4115733.71	100-lb GP Bomb	>105mm	65.53	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR16	GR16-137	Validation	539006.30	4115733.39	100-lb GP Bomb	>105mm	63.75	Cultural Feature	Structure	Buried Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
GR17	GR17-1	TOI	539063.18	4115767.15	ISO MEDIUM	37-105mm	15.26	Seed	Blind QC 2″ x 8″ pipe	Blind QC Seed #GR-17		NA	Yes	Yes	
GR17	GR17-3	Verification	539069.22	4115754.28	ISO MEDIUM	37-105mm	6.16	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Pipe Clamp. Resolved.
GR17	GR17-5	Verification	539088.14	4115760.77	100-lb GP Bomb	>105mm	46.61	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe; shared with 100015		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
GR17	GR17-6	Verification	539063.78	4115780.37	No Match	<=37mm	2.76	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Size." Size close to small ISO. Resolved.
GR17	GR17-17	Validation	539084.11	4115757.64	ISO LARGE	>105mm	58.08	Non-Munitions Related Debris	Non-MD Scrap Metal	grounding rod		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in Place. Resolved.
GR17	GR17-31	Validation	539083.40	4115776.95	No Match	>105mm	16.90	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire, Max Depth 40 cm		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple items. Resolved.
GR18	GR18-1	TOI	538853.39	4115800.11	ISO SMALL	<=37mm	8.52	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #GR-18		NA	Yes	Yes	
TM15	TM15-1	TOI	539829.73	4116477.33	81mm Mortar	37-105mm	19.76	MPPEH	Mortar	4.2 inch, fused	M-3	NA	Yes	Yes	
TM01	TM01-12	TOI	539750.92	4116561.91	4.2-in Mortar	>105mm	53.57	MPPEH	Mortar	4.2 inch, fuze	M-3	NA	Yes	Yes	
TM15	TM15-8	TOI	539816.13	4116465.73	ISO LARGE	>105mm	45.81	MPPEH	Mortar	4.2 inch, fuze shared	M-3	NA	Yes	Yes	
TM01	TM01-7	TOI	539753.34	4116559.73	ISO LARGE	>105mm	22.48	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	Yes	Yes	
TM05	TM05-25	TOI	539845.34	4116549.14	ISO LARGE	>105mm	42.39	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	Yes	Yes	
TM14	TM14-1	TOI	539868.99	4116533.69	ISO LARGE	>105mm	38.99	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	Yes	Yes	
TM01	TM01-27	Verification	539758.45	4116575.01	60mm Illumination Candle Housing	37-105mm	3.22	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM01	TM01-30	Verification	539767.87	4116578.31	81mm Mortar	37-105mm	10.90	Cultural Feature	Structure	anchor		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM01	TM01-32	Verification	539742.48	4116581.88	No Match	37-105mm	4.91	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM01	TM01-38	TOI	539754.91	4116580.49	ISO SMALL	<=37mm	12.19	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #TM-01		NA	Yes	Yes	
TM01	TM01-42	Verification	539739.52	4116588.72	81mm Mortar	37-105mm	7.37	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM01	TM01-49	Verification	539761.26	4116589.50	No Match	37-105mm	11.60	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Anchor - Left in place. Resolved.
TM01	TM01-54	Verification	539753.66	4116584.89	60mm Mortar	37-105mm	21.05	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM01	TM01-72	Verification	539759.06	4116576.16	ISO SMALL	<=37mm	6.37	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM01	TM01-74	Verification	539748.37	4116589.49	60mm Mortar	37-105mm	5.85	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.

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TM01	TM01-75	Validation	539739.51	4116576.06	60mm Mortar	37-105mm	11.83	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
TM01	TM01-77	Verification	539753.82	4116587.47	No Match	37-105mm	7.36	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM01	TM01-103	Validation	539757.45	4116586.36	ISO SMALL	<=37mm	24.13	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM01	TM01-109	Validation	539759.25	4116576.17	ISO SMALL	<=37mm	12.91	Non-Munitions Related Debris	Non-MD Scrap Metal	shared with 114		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
TM01	TM01-114	Validation	539759.26	4116576.31	60mm Mortar	37-105mm	11.41	Non-Munitions Related Debris	Non-MD Scrap Metal	shared with 109		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM01	TM01-117	Verification	539760.08	4116588.97	4.2-in Mortar	>105mm	27.88	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Left in place. Resolved.
TM01	TM01-125	Verification	539763.16	4116585.75	60mm Mortar	37-105mm	-0.13	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM01	TM01-126	Verification	539763.14	4116585.61	81mm Mortar	37-105mm	14.65	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM01	TM01-132	Validation	539753.91	4116579.05	60mm Mortar	37-105mm	1.48	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
TM01	TM01-142	Verification	539764.21	4116584.26	81mm Mortar	37-105mm	16.14	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM01	TM01-145	Validation	539764.68	4116581.77	4.2-in Mortar	>105mm	40.03	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM14	TM14-10	TOI	539866.46	4116528.32	ISO LARGE	>105mm	43.68	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	Yes	Yes	
TM14	TM14-11	TOI	539861.36	4116530.04	4.2-in Mortar	>105mm	29.08	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	Yes	Yes	
TM14	TM14-38	TOI	539846.85	4116559.66	ISO LARGE	>105mm	45.23	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	Yes	Yes	
TM05	TM05-4	TOI	539818.94	4116558.92	ISO MEDIUM	37-105mm	12.77	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #TM-05		NA	Yes	Yes	
TM15	TM15-4	TOI	539829.74	4116488.70	4.2-in Mortar	>105mm	27.73	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	Yes	Yes	
TM15	TM15-78	TOI	539832.90	4116502.22	4.2-in Mortar	>105mm	55.83	MPPEH	Mortar	4.2 inch, fuze sheared	M-3	NA	Yes	Yes	
GR11	GR11-3	TOI	539110.26	4115857.52	ISO LARGE	>105mm	33.30	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM01	TM01-4	TOI	539749.27	4116566.62	4.2-in Mortar	>105mm	24.06	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM01	TM01-5	TOI	539750.91	4116565.57	4.2-in Mortar	>105mm	50.26	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-1	TOI	539825.34	4116567.82	4.2-in Mortar	>105mm	20.42	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-2	TOI	539836.81	4116570.02	60mm Mortar	37-105mm	23.68	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-3	TOI	539841.73	4116570.32	4.2-in Mortar	>105mm	18.14	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-5	TOI	539821.53	4116571.42	ISO LARGE	>105mm	35.95	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-7	TOI	539840.19	4116569.51	4.2-in Mortar	>105mm	29.39	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-19	Verification	539818.67	4116569.48	81mm Mortar	37-105mm	25.14	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM05	TM05-20	Validation	539815.94	4116575.34	No Match	<=37mm	10.64	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.

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TM05	TM05-22	Validation	539822.16	4116562.89	81mm Mortar	37-105mm	17.25	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM05	TM05-24	Verification	539818.09	4116570.65	81mm Mortar	37-105mm	18.08	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM05	TM05-8	TOI	539833.37	4116575.89	4.2-in Mortar	>105mm	26.26	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	No	Second mortar found, same target. Resolved.
TM05	TM05-29	TOI	539818.09	4116572.69	ISO SMALL	<=37mm	12.43	Seed	QA 1" x 4" pipe	QA Seed #NAB 153		NA	Yes	Yes	
TM05	TM05-8	TOI	539833.37	4116575.89	4.2-in Mortar	>105mm	26.26	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-13	TOI	539837.14	4116566.17	81mm Mortar	37-105mm	39.34	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-15	TOI	539840.19	4116571.62	ISO LARGE	>105mm	33.03	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-54	Validation	539826.37	4116565.83	60mm Mortar	37-105mm	21.13	Non-Munitions Related Debris	Non-MD Scrap Metal	banding		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
TM05	TM05-58	Verification	539830.29	4116554.74	81mm Mortar	37-105mm	15.21	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM05	TM05-61	Validation	539821.25	4116558.35	ISO SMALL	<=37mm	2.83	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM05	TM05-62	Verification	539822.57	4116556.72	ISO SMALL	<=37mm	1.58	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM05	TM05-63	Verification	539818.74	4116568.97	60mm Mortar	37-105mm	37.29	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved.
TM05	TM05-17	TOI	539837.66	4116570.73	4.2-in Mortar	>105mm	61.68	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-39	TOI	539841.84	4116576.96	ISO LARGE	>105mm	65.10	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-74	Verification	539815.59	4116571.11	60mm Illumination Candle Housing	37-105mm	16.46	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM05	TM05-94	Verification	539822.33	4116560.38	No Match	>105mm	10.47	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM05	TM05-95	Verification	539835.17	4116557.35	60mm Mortar	37-105mm	16.52	Non-Munitions Related Debris	Non-MD Scrap Metal	angle iron, wire		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved.
TM05	TM05-99	Verification	539821.52	4116551.42	No Match	37-105mm	12.74	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
TM05	TM05-100	Validation	539818.02	4116555.91	No Match	37-105mm	8.08	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM05	TM05-114	Verification	539817.65	4116570.41	81mm Mortar	37-105mm	16.78	Non-Munitions Related Debris	Non-MD Scrap Metal	reinforced concrete		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Resolved.
TM05	TM05-115	Validation	539824.85	4116551.35	81mm Mortar	37-105mm	63.34	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM05	TM05-120	Verification	539816.16	4116574.86	60mm Mortar	37-105mm	16.72	Non-Munitions Related Debris	Non-MD Scrap Metal	Aluminum can		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM05	TM05-125	Validation	539843.56	4116561.15	60mm Mortar	37-105mm	27.43	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Too Small." Multiple items. Resolved.
TM05	TM05-73	TOI	539835.80	4116567.86	4.2-in Mortar	>105mm	59.62	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-130	Validation	539837.51	4116566.37	81mm Mortar	37-105mm	80.49	MPPEH	Mortar	4.2 inch, fuzed	M-3	No	No	Yes	Validation Failure. Depth response model close to max detectable depth for proper classification (model 0.88m for 4.2" mortar. Dug depth 0.75m)
TM07	TM07-1	TOI	539888.30	4116466.15	60mm Mortar	37-105mm	43.62	Target Not Investigated	Inaccessible	Under hardscape		NA	NA	Yes	Depth offset outside MQO. Inacessible.
TM07	TM07-4	TOI	539895.18	4116471.01	81mm Mortar	37-105mm	23.90	Target Not Investigated	Inaccessible	under hardscape		NA	NA	Yes	Depth offset outside MQO. Inacessible. Resolved.

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TM07	TM07-10	TOI	539895.79	4116458.95	ISO SMALL	<=37mm	5.57	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #TM-07		NA	Yes	Yes	
TM07	TM07-17	Validation	539890.95	4116460.74	No Match	37-105mm	7.57	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM07	TM07-22	TOI	539890.48	4116468.41	81mm Mortar	37-105mm	39.48	Target Not Investigated	Inaccessible	under hardscape		NA	NA	Yes	Depth offset outside MQO. Inacessible.
TM07	TM07-25	Verification	539908.05	4116477.64	60mm Mortar	37-105mm	22.83	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple Items. Resolved.
TM07	TM07-27	Verification	539889.77	4116484.90	81mm Mortar	37-105mm	8.54	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
TM07	TM07-29	Verification	539893.06	4116461.62	60mm Mortar	37-105mm	27.93	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple Items. Resolved.
TM07	TM07-31	Verification	539902.18	4116484.69	60mm Mortar	37-105mm	22.72	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM07	TM07-35	TOI	539888.22	4116465.84	60mm Mortar	37-105mm	43.09	Target Not Investigated	Inaccessible	Under hardsdape		NA	NA	Yes	Depth offset outside MQO. Inacessible.
TM07	TM07-47	Validation	539892.24	4116475.81	ISO SMALL	<=37mm	16.73	Target Not Investigated	Inaccessible	under hardscape		Yes	NA	Yes	Depth offset outside MQO. Inacessible. Resolved.
TM07	TM07-54	Validation	539904.36	4116466.06	60mm Mortar	37-105mm	17.35	Non-Munitions Related Debris	Non-MD Scrap Metal	Aluminum scrap metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple Items. Resolved.
TM07	TM07-61	Verification	539895.18	4116471.01	81mm Mortar	37-105mm	22.98	Duplicate Target	NA	same as 4		NA	NA	NA	Inaccessible
TM07	TM07-97	Verification	539883.63	4116484.92	60mm Mortar	37-105mm	10.37	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM07	TM07-101	Validation	539910.26	4116470.50	81mm Mortar	37-105mm	16.57	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM07	TM07-108	Validation	539885.26	4116468.24	ISO SMALL	<=37mm	26.68	Target Not Investigated	Inaccessible	under hardscape		Yes	NA	Yes	Depth offset outside MQO. Inacessible. Resolved.
TM07	TM07-110	Validation	539881.53	4116460.96	60mm Mortar	37-105mm	17.39	Target Not Investigated	Inaccessible	under hardscape		Yes	NA	Yes	Depth offset outside MQO. Inacessible. Resolved.
TM07	TM07-122	Validation	539889.27	4116458.39	ISO MEDIUM	37-105mm	43.47	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM14	TM14-2	TOI	539856.58	4116544.03	4.2-in Mortar	>105mm	24.62	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM10	TM10-9	TOI	539100.04	4116065.69	ISO SMALL	<=37mm	16.11	Seed	Blind QC 1″ x 4″ pipe	Blind QC 1″ x 4″ pipe		NA	Yes	Yes	
TM10	TM10-10	TOI	539104.37	4116080.24	ISO SMALL	<=37mm	6.49	Seed	QA 1″ x 4″ pipe	QA Seed #NAB 162		NA	Yes	Yes	
TM10	TM10-21	Validation	539095.90	4116066.20	60mm Mortar	37-105mm	14.90	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Nail pit - Multiple items. Resolved.
TM10	TM10-26	Verification	539096.04	4116066.29	60mm Mortar	37-105mm	14.79	Non-Munitions Related Debris	Non-MD Scrap Metal	nails, washers, nuts		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple items. Resolved.
TM11	TM11-2	Verification	539040.10	4115999.05	60mm Mortar	37-105mm	17.26	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM11	TM11-4	TOI	539036.14	4116000.68	ISO SMALL	<=37mm	6.82	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #TM-11		NA	Yes	Yes	
TM11	TM11-8	Verification	539015.95	4116013.37	60mm Mortar	37-105mm	9.72	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too quickly." Resolved.
TM11	TM11-9	Verification	539015.57	4116010.44	No Match	<=37mm	-8.35	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM11	TM11-12	Verification	539022.46	4116006.68	ISO SMALL	<=37mm	6.95	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM11	TM11-14	Verification	539014.07	4116014.31	81mm Mortar	37-105mm	9.94	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.

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TM11	TM11-17	Validation	539027.74	4115999.75	ISO SMALL	<=37mm	10.06	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM11	TM11-18	Verification	539041.10	4116001.01	No Match	37-105mm	20.52	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM12	TM12-3	TOI	539167.46	4115984.94	ISO MEDIUM	37-105mm	10.25	Seed	QA 2" x 8" pipe	QA Seed #NAB 129		NA	Yes	Yes	
TM12	TM12-18	Validation	539171.83	4115983.41	60mm Mortar	37-105mm	25.36	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Validation report correctly states "Wrong shape" to be TOI. Resolved.
TM14	TM14-3	TOI	539858.67	4116560.24	ISO LARGE	>105mm	16.33	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM12	TM12-5	TOI	539183.43	4115963.95	ISO MEDIUM	37-105mm	8.65	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #TM-12		NA	Yes	Yes	
TM14	TM14-6	TOI	539849.21	4116574.10	4.2-in Mortar	>105mm	30.99	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM12	TM12-19	Verification	539183.26	4115969.30	60mm Mortar	37-105mm	51.41	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Validation report correctly states "Wrong shape" to be TOI. Length accounts for size. Resolved.
TM12	TM12-27	Verification	539183.73	4115960.82	81mm Mortar	37-105mm	25.37	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Validation report correctly states "Too small" to be TOI.
TM12	TM12-35	Verification	539180.39	4115968.74	60mm Mortar	37-105mm	14.60	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Length contributes to size.
TM12	TM12-41	Verification	539180.63	4115970.30	81mm Mortar	37-105mm	16.89	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Length contributes to size. Validation report correctly states "wrong shape" to be TOI.
TM12	TM12-49	Verification	539179.94	4115968.84	81mm Mortar	37-105mm	13.10	Duplicate Target	NA	shared with 35 and 79		NA	NA	NA	
TM12	TM12-54	Verification	539187.28	4115985.55	No Match	37-105mm	11.28	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Validation report correctly states "Wrong shape" to be TOI.
TM12	TM12-71	Verification	539187.06	4115982.63	No Match	37-105mm	9.08	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Long item contributes to size. Validation report correctly states "Wrong shape" to be TOi.
TM12	TM12-116	Verification	539187.78	4115981.97	81mm Mortar	37-105mm	20.19	Duplicate Target	NA	Shared with 106		NA	NA	NA	
TM12	TM12-149	Validation	539173.13	4115974.20	60mm Mortar	37-105mm	22.38	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	No	Yes	Item size and shape match POL curves. Validation report correctly states "Decays too quickly" for TOI. Resolved.
TM12	TM12-166	Verification	539183.86	4115984.28	81mm Mortar	37-105mm	19.80	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Length contributes to size. Validation report correctly states "Wrong shape" to be TOI.
TM12	TM12-180	TOI	539178.25	4115973.52	81mm Mortar	37-105mm	46.87	Cultural Feature	Structure	reinforced concrete; total depth = 68 cm		NA	Yes	No	Difficulty shooting in centre of concrete. Resolved.
TM12	TM12-4	Verification	539176.80	4115985.46	60mm Mortar	37-105mm	3.29	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM12	TM12-17	Verification	539163.99	4115971.24	4.2-in Mortar	>105mm	75.61	Cultural Feature	Structure	reinforced concrete		Yes	Yes	Yes	Validation report correctly states wrong shape to be TOI. Resolved.
TM14	TM14-8	TOI	539856.04	4116537.46	ISO LARGE	>105mm	12.86	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM12	TM12-45	Verification	539170.76	4115989.43	ISO SMALL	<=37mm	6.70	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Validation report correctly states "Wrong shape" to be TOI.
TM12	TM12-53	Verification	539165.64	4115970.38	81mm Mortar	37-105mm	21.87	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Validation report correctly states "Wrong shape" to be TOI.
TM12	TM12-62	TOI	539159.76	4115973.83	60mm Mortar	37-105mm	27.58	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	No	Yes	Thick gauge coiled wire.Length and coil shape contribute to size estimate. Resolved.
TM12	TM12-74	Validation	539162.33	4115986.32	81mm Mortar	37-105mm	8.18	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Item shape matches Pol curves. Validation report correctly states "Wrong shape" to be TOI. Resolved.
TM14	TM14-12	TOI	539852.99	4116562.37	81mm Mortar	37-105mm	13.93	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM12	TM12-117	Verification	539174.93	4115987.49	No Match	37-105mm	13.61	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Length contributes to size.. Validation report correctly states "Wrong shape" to be TOI.

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TM12	TM12-124	Validation	539170.12	4115979.15	81mm Mortar	37-105mm	5.61	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	No	Yes	Wire has 2inch coil in middle. Validation report correctly states "Too small" to be TOI. Resolved.
TM12	TM12-136	Validation	539161.37	4115965.77	81mm Mortar	37-105mm	18.84	Non-Munitions Related Debris	Non-MD Scrap Metal	Barbed-wire		Yes	No	Yes	Pol curves show much smaller than SISO. Validation report correctly states "Decays too quickly" to be TOI. Resolved.
TM12	TM12-139	TOI	539171.25	4115978.50	60mm Mortar	37-105mm	10.59	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		NA	No	Yes	Heavy gauge wire shaped in "Y". Length is contributing to size estimate. Resolved.
TM12	TM12-140	Verification	539176.84	4115985.41	81mm Mortar	37-105mm	12.85	Duplicate Target	NA	same as 4		Yes	NA	NA	Rebar is item. Validation report correctly states "Wrong shape" to be TOI. Resolved.
TM12	TM12-150	Validation	539157.92	4115977.04	ISO SMALL	<=37mm	10.81	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Validation report correctly states "Too small" to be TOI. Resolved.
TM12	TM12-153	Validation	539159.46	4115987.86	No Match	37-105mm	13.29	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Validation report correctly states "Decays too quickly" to be TOI.
TM12	TM12-161	Validation	539167.43	4115990.34	ISO SMALL	<=37mm	17.14	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Validation report correctly states "decays too quickly" to be TOI. Resolved.
TM12	TM12-164	Validation	539172.49	4115987.35	ISO SMALL	<=37mm	7.56	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Validation report correctly states "wrong shape" to be TOI. Resolved.
TM12	TM12-171	Validation	539157.87	4115974.06	60mm Mortar	37-105mm	16.64	Non-Munitions Related Debris	Non-MD Scrap Metal	Can		Yes	Yes	Yes	Photos shows diameter is large. Validation report correctly states "Decays too quickly" to be TOI. Resolved.
TM12	TM12-179	Validation	539161.42	4115984.92	60mm Mortar	37-105mm	13.51	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	No	Yes	Curves show item considerably smaller than 60mm. Validation report correctly states "Decays too quickly" to be TOI. Resolved.
TM12	TM12-111	Verification	539177.50	4115962.39	4.2-in Mortar	>105mm	72.60	Cultural Feature	Structure	rebar in concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM12	TM12-120	Validation	539185.76	4115973.57	4.2-in Mortar	>105mm	96.31	Cultural Feature	Structure	Rebar in concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM12	TM12-132	Verification	539160.89	4115969.89	81mm Mortar	37-105mm	26.78	Cultural Feature	Structure	influenced by gas line		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM12	TM12-157	Verification	539158.88	4115962.90	No Match	<=37mm	15.56	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal, total depth: 32 cm		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Influenced by steamline. Resolved.
TM12	TM12-160	Validation	539177.70	4115962.41	81mm Mortar	37-105mm	51.70	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
TM12	TM12-184	Validation	539185.06	4115989.59	81mm Mortar	37-105mm	51.93	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM12	TM12-20	TOI	539160.05	4115968.99	4.2-in Mortar	>105mm	40.02	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM12	TM12-40	TOI	539164.47	4115965.13	4.2-in Mortar	>105mm	46.25	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM12	TM12-48	TOI	539160.68	4115969.48	ISO LARGE	>105mm	51.53	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM12	TM12-88	TOI	539161.35	4115967.43	81mm Mortar	37-105mm	52.59	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM12	TM12-93	TOI	539164.05	4115964.69	81mm Mortar	37-105mm	49.24	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM12	TM12-113	TOI	539166.05	4115964.66	81mm Mortar	37-105mm	35.05	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM12	TM12-138	TOI	539159.96	4115969.07	81mm Mortar	37-105mm	42.15	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM12	TM12-152	TOI	539164.93	4115964.90	60mm Mortar	37-105mm	35.38	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM12	TM12-202	TOI	539161.06	4115967.24	81mm Mortar	37-105mm	54.79	Target Not Investigated	Structure	adjacent to gas line		NA	NA	Yes	Depth offset outside MQO. Target not investigated due to adjacent gas line. Resolved.
TM13	TM13-1	TOI	539151.76	4116016.23	ISO MEDIUM	37-105mm	21.09	Seed	QA 2" x 8" pipe	Blind QC Seed #TM-13		NA	Yes	Yes	
TM13	TM13-9	Validation	539158.34	4116018.66	60mm Mortar	37-105mm	19.38	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.

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TM13	TM13-11	Verification	539158.86	4116016.13	60mm Mortar	37-105mm	16.15	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM13	TM13-31	Verification	539156.55	4116009.89	60mm Mortar	37-105mm	13.97	Non-Munitions Related Debris	Non-MD Scrap Metal	Can		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
TM13	TM13-92	Validation	539158.10	4116014.74	60mm Mortar	37-105mm	19.61	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM13	TM13-30	Verification	539135.47	4116037.12	60mm Mortar	37-105mm	14.19	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM13	TM13-33	Verification	539135.30	4116037.10	60mm Mortar	37-105mm	13.64	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM13	TM13-36	Verification	539154.27	4116033.23	81mm Mortar	37-105mm	22.78	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
TM13	TM13-41	Validation	539148.24	4116034.54	No Match	37-105mm	9.73	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Several multisource size matches to Small ISO. Resolved.
TM13	TM13-49	Validation	539151.32	4116035.68	No Match	37-105mm	15.64	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM13	TM13-55	Validation	539150.84	4116036.96	60mm Mortar	37-105mm	14.43	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM13	TM13-58	Validation	539134.43	4116037.72	60mm Mortar	37-105mm	13.71	Non-Munitions Related Debris	Non-MD Scrap Metal	Can		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM13	TM13-72	Validation	539159.72	4116025.25	81mm Mortar	37-105mm	20.33	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Poor Polarizabilities." Resolved.
TM13	TM13-73	Verification	539134.81	4116037.32	No Match	>105mm	21.26	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM14	TM14-4	TOI	539851.46	4116571.94	60mm Mortar	37-105mm	14.58	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-13	TOI	539850.04	4116574.83	4.2-in Mortar	>105mm	50.88	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-20	TOI	539860.12	4116557.66	4.2-in Mortar	>105mm	28.70	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-23	TOI	539831.67	4116581.56	4.2-in Mortar	>105mm	38.70	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-40	TOI	539850.89	4116558.30	60mm Mortar	37-105mm	36.44	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM13	TM13-23	Verification	539153.35	4116022.85	ISO SMALL	<=37mm	40.88	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM13	TM13-46	Verification	539131.64	4116038.22	60mm Mortar	37-105mm	23.38	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM13	TM13-52	Validation	539132.89	4116035.94	ISO SMALL	<=37mm	15.80	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM13	TM13-61	TOI	539131.73	4116037.43	60mm Mortar	37-105mm	22.18	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		NA	No	Yes	Re-dig. Initial finding not aligning with match size/shape.
TM14	TM14-18	TOI	539863.49	4116557.72	4.2-in Mortar	>105mm	70.37	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-22	TOI	539858.76	4116556.14	4.2-in Mortar	>105mm	51.93	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-29	TOI	539866.94	4116557.12	60mm Mortar	37-105mm	60.82	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-30	TOI	539848.47	4116568.55	4.2-in Mortar	>105mm	83.99	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-34	TOI	539847.10	4116554.80	81mm Mortar	37-105mm	60.25	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-9	TOI	539857.09	4116565.03	ISO SMALL	<=37mm	8.67	Seed	Blind QC 1” x 4” pipe	Blind QC Seed #TM-14		NA	Yes	Yes	

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TM14	TM14-42	TOI	539864.19	4116552.94	81mm Mortar	37-105mm	89.47	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM14	TM14-16	TOI	539858.25	4116535.68	ISO SMALL	<=37mm	5.50	Seed	Blind QC 1" x 4" pipe	Blind QC Seed #TM-14		NA	Yes	Yes	
TM14	TM14-52	TOI	539849.55	4116545.61	81mm Mortar	37-105mm	69.18	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM15	TM15-44	TOI	539828.08	4116508.58	4.2-in Mortar	>105mm	70.31	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM15	TM15-54	TOI	539832.90	4116504.35	4.2-in Mortar	>105mm	55.81	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM15	TM15-503	TOI	539832.93	4116503.51	4.2-in Mortar	>105mm	69.14	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM15	TM15-33	TOI	539814.92	4116472.36	ISO LARGE	>105mm	26.63	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM15	TM15-298	TOI	539816.03	4116461.78	ISO LARGE	>105mm	52.82	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM15	TM15-123	Verification	539828.91	4116498.78	81mm Mortar	37-105mm	27.18	MPPEH	Mortar	4.2 inch, fuzed	M-3	No	No	Yes	Verification Failure.
TM16	TM16-1	TOI	539870.03	4116408.82	ISO LARGE	>105mm	20.08	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM16	TM16-5	TOI	539869.13	4116423.60	4.2-in Mortar	>105mm	13.16	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM16	TM16-15	TOI	539868.06	4116446.89	ISO LARGE	>105mm	50.12	MPPEH	Mortar	4.2 inch, fuzed	M-3	NA	Yes	Yes	
TM05	TM05-9	TOI	539845.70	4116561.75	ISO LARGE	>105mm	35.63	MPPEH	Mortar	4.2 inch, fuzed sheared	M-3	NA	Yes	Yes	
TM14	TM14-5	TOI	539867.17	4116531.27	4.2-in Mortar	>105mm	13.58	MPPEH	Mortar	4.2 inch, fuzed sheared	M-3	NA	Yes	Yes	
TM14	TM14-31	Verification	539866.05	4116545.25	81mm Mortar	37-105mm	5.58	Cultural Feature	Structure	bolts in concrete		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
TM14	TM14-15	TOI	539859.81	4116553.03	60mm Mortar	37-105mm	13.82	MPPEH	Mortar	4.2 inch, not fuzed	M-3	NA	Yes	Yes	
TM14	TM14-73	TOI	539847.29	4116561.85	81mm Mortar	37-105mm	55.59	MPPEH	Mortar	4.2 inch, not fuzed	M-3	NA	Yes	No	Second mortar found, same target. Resolved.
TM14	TM14-41	TOI	539863.91	4116532.65	ISO LARGE	>105mm	51.78	MPPEH	Mortar	4.2 inch, sheard fuze	M-3	NA	Yes	Yes	
TM16	TM16-4	TOI	539865.53	4116432.43	ISO LARGE	>105mm	17.19	MPPEH	Mortar	4.2 inch, sheard fuze	M-3	NA	Yes	Yes	
TM16	TM16-13	TOI	539873.29	4116431.64	ISO LARGE	>105mm	56.54	MPPEH	Mortar	4.2 inch, sheard fuze	M-3	NA	Yes	Yes	
TM14	TM14-48	Verification	539852.26	4116569.05	60mm Mortar	37-105mm	22.26	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape". Multiple items. Resolved.
TM16	TM16-7	TOI	539863.21	4116454.67	4.2-in Mortar	>105mm	44.77	MPPEH	Mortar	4.2 inch, sheared fuze	M-3	NA	Yes	Yes	
TM14	TM14-66	Verification	539834.75	4116583.18	No Match	37-105mm	3.69	Non-Munitions Related Debris	Non-MD Scrap Metal	clamp		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM14	TM14-68	Verification	539869.85	4116553.62	No Match	37-105mm	2.68	Non-Munitions Related Debris	Non-MD Scrap Metal	threaded rod		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-35	TOI	539839.41	4116502.47	4.2-in Mortar	>105mm	69.21	MPPEH	Mortar	4.2 inch. same as 209 and 466	M-3	NA	Yes	Yes	
TM14	TM14-89	Verification	539858.64	4116541.32	No Match	37-105mm	-27.12	Cultural Feature	Structure	bolts in concrete		Yes	Yes	Yes	Multiple items. Confirmed validation report "Wrong Shape." Resolved.
TM14	TM14-110	Validation	539859.15	4116532.56	No Match	37-105mm	23.69	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.

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TM14	TM14-111	Validation	539856.65	4116540.98	60mm Mortar	37-105mm	5.80	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM14	TM14-113	Validation	539872.26	4116530.31	No Match	37-105mm	13.78	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "poor polarizabilities. Small metal ring per photo 100-0490. Resolved.
TM14	TM14-120	Validation	539856.29	4116532.16	No Match	37-105mm	11.57	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM12	TM12-7	TOI	539164.55	4115968.77	81mm Mortar	37-105mm	42.33	MPPEH	Mortar	60mm, fuze sheared	M-49	NA	Yes	Yes	
TM13	TM13-19	TOI	539135.71	4116009.10	60mm Mortar	37-105mm	6.90	MPPEH	Mortar	60mm, fuze sheared	M-49	NA	Yes	Yes	
TM13	TM13-2	TOI	539158.91	4116028.01	60mm Mortar	37-105mm	27.75	MPPEH	Mortar	60mm, fuzed	M-49	NA	Yes	Yes	
TM12	TM12-33	TOI	539187.17	4115980.45	4.2-in Mortar	>105mm	36.82	MPPEH	Mortar	81mm fuze sheared	M-56	NA	Yes	Yes	
GR08	GR08-36	TOI	539106.38	4115922.20	ISO MEDIUM	37-105mm	10.47	MPPEH	Mortar	81mm fuzed	M-56	NA	Yes	Yes	
GR08	GR08-60	TOI	539109.55	4115919.41	ISO LARGE	>105mm	12.12	MPPEH	Mortar	81mm fuzed	M-56	NA	Yes	Yes	
TM10	TM10-2	TOI	539106.43	4116063.20	81mm Mortar	37-105mm	13.10	MPPEH	Mortar	81mm fuzed	M-43	NA	Yes	Yes	
TM16	TM16-11	TOI	539852.30	4116439.39	ISO MEDIUM	37-105mm	35.89	MPPEH	Mortar	81mm fuzed	M-43	NA	Yes	Yes	
GR04	GR04-4	TOI	539047.91	4115940.81	ISO LARGE	>105mm	31.40	MPPEH	Mortar	81mm tail boom	M-56	NA	Yes	Yes	
TM01	TM01-6	TOI	539747.47	4116564.44	ISO MEDIUM	37-105mm	38.71	MPPEH	Mortar	81mm, fuze sheared	M-56	NA	Yes	Yes	
GR04	GR04-3	TOI	539046.43	4115956.98	ISO LARGE	>105mm	34.47	MPPEH	Mortar	81mm, fuzed	M-56	NA	Yes	Yes	
GR04	GR04-6	TOI	539045.98	4115939.65	ISO LARGE	>105mm	45.24	MPPEH	Mortar	81mm, fuzed	M-56	NA	Yes	No	Recovered munitions debris. Resolved.
GR08	GR08-13	Verification	539127.50	4115919.46	ISO MEDIUM	37-105mm	30.93	MPPEH	Mortar	81mm, fuzed	M-56	No	No	Yes	Verification Failure.
GR11	GR11-4	TOI	539114.50	4115857.88	ISO LARGE	>105mm	34.34	MPPEH	Mortar	81mm, fuzed	M-56	NA	Yes	Yes	
TM15	TM15-37	Validation	539820.91	4116504.28	ISO SMALL	<=37mm	0.49	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM05	TM05-32	TOI	539843.73	4116571.33	81mm Mortar	37-105mm	38.49	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM15	TM15-48	Verification	539825.48	4116475.69	ISO SMALL	<=37mm	1.72	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-49	Verification	539817.50	4116505.11	81mm Mortar	37-105mm	50.10	No Contact	NA	same as 189		Yes	NA	Yes	Confirmed validation report "Wrong Shape." No contact. Resolved.
TM12	TM12-26	Verification	539179.60	4115989.57	4.2-in Mortar	>105mm	33.83	MPPEH	Mortar	81mm, fuzed	M-56	No	No	Yes	Verification Failure.
TM15	TM15-63	Verification	539833.25	4116498.91	ISO SMALL	<=37mm	2.27	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM12	TM12-91	TOI	539170.95	4115986.15	81mm Mortar	37-105mm	61.92	MPPEH	Mortar	81mm, fuzed	M-56	NA	Yes	Yes	
TM15	TM15-84	Verification	539822.04	4116503.27	60mm Mortar	37-105mm	1.21	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-181	Verification	539839.00	4116491.79	81mm Mortar	37-105mm	6.86	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-187	Verification	539833.53	4116494.82	ISO SMALL	<=37mm	-1.36	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.

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TM15	TM15-247	Verification	539832.49	4116503.87	81mm Mortar	37-105mm	41.39	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire total depth : 60 cm		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-259	TOI	539832.53	4116483.66	ISO SMALL	<=37mm	10.29	Seed	Blind QC 1″ x 4″ pipe	Blind QC Seed #TM-15		NA	Yes	Yes	
TM15	TM15-269	Verification	539833.31	4116498.91	ISO SMALL	<=37mm	4.01	Duplicate Target	NA	same as 63		Yes	NA	NA	Confirmed validation report "Too Small." Resolved.
TM15	TM15-289	Verification	539836.45	4116495.58	No Match	<=37mm	15.70	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-299	Verification	539838.39	4116494.68	60mm Mortar	37-105mm	41.54	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe elbow		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-313	Validation	539820.92	4116502.60	ISO SMALL	<=37mm	12.16	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM15	TM15-362	Validation	539838.68	4116489.08	ISO SMALL	<=37mm	5.72	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM15	TM15-452	Validation	539834.27	4116488.86	81mm Mortar	37-105mm	6.00	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
TM15	TM15-455	Verification	539829.76	4116481.22	No Match	37-105mm	-4.73	Cultural Feature	Structure	manhole cover		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM13	TM13-3	TOI	539152.09	4116023.80	81mm Mortar	37-105mm	42.15	MPPEH	Mortar	81mm, fuzed	M-56	NA	Yes	Yes	
TM13	TM13-4	TOI	539139.09	4116011.32	60mm Mortar	37-105mm	35.89	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM13	TM13-12	TOI	539156.41	4116016.16	ISO MEDIUM	37-105mm	47.33	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM15	TM15-45	Verification	539818.36	4116451.44	ISO SMALL	<=37mm	5.09	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-52	Verification	539821.25	4116452.01	81mm Mortar	37-105mm	3.58	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM15	TM15-64	Verification	539817.35	4116454.02	81mm Mortar	37-105mm	9.30	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
TM15	TM15-79	Verification	539826.46	4116458.80	60mm Mortar	37-105mm	5.27	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-91	Validation	539814.73	4116465.21	ISO SMALL	<=37mm	5.38	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-182	Verification	539814.23	4116474.10	81mm Mortar	37-105mm	13.57	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-202	Verification	539828.84	4116460.63	ISO SMALL	<=37mm	2.80	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap and nut		Yes	Yes	Yes	Confirmed validation report "Too Small." Multiple items. Resolved.
TM15	TM15-208	Verification	539809.45	4116484.44	60mm Mortar	37-105mm	13.97	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-213	Validation	539809.23	4116483.16	60mm Mortar	37-105mm	25.27	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe, bolt, wire		Yes	Yes	Yes	Confirmed validation report "Too Small." Multiple items. Resolved.
TM15	TM15-226	Validation	539802.04	4116503.27	81mm Mortar	37-105mm	0.99	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-240	Validation	539827.97	4116460.65	ISO SMALL	<=37mm	1.77	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM15	TM15-263	Validation	539811.96	4116509.28	No Match	<=37mm	5.85	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM15	TM15-273	Verification	539825.34	4116455.00	81mm Mortar	37-105mm	18.60	Duplicate Target	NA	same as 31		Yes	NA	NA	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-274	Validation	539812.27	4116473.55	60mm Mortar	37-105mm	-0.56	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM13	TM13-77	Verification	539150.92	4116032.09	60mm Mortar	37-105mm	45.01	MPPEH	Mortar	81mm, fuzed	M-56	No	No	Yes	Depth response model at 5RMS is .57m; found at .63m). Outside the depth range for detection/classification capability.

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TM15	TM15-395	Verification	539802.37	4116491.32	81mm Mortar	37-105mm	12.43	Duplicate Target	NA	Shared with 39		Yes	NA	NA	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM15	TM15-417	Validation	539808.21	4116495.67	81mm Mortar	37-105mm	0.63	Non-Munitions Related Debris	Non-MD Scrap Metal	aluminum		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-494	Validation	539811.50	4116465.78	60mm Mortar	37-105mm	6.61	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail and influenced by fence		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Fence influence. Resolved.
TM15	TM15-498	Verification	539800.09	4116499.16	ISO SMALL	<=37mm	9.32	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-508	Validation	539819.39	4116456.93	60mm Mortar	37-105mm	9.79	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-517	Validation	539816.69	4116457.21	ISO SMALL	<=37mm	-1.54	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM15	TM15-529	Validation	539809.72	4116484.55	81mm Mortar	37-105mm	6.55	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe and nail		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-539	Verification	539818.37	4116451.48	ISO SMALL	<=37mm	4.51	Duplicate Target	NA	same as 45		Yes	NA	NA	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-554	Validation	539838.67	4116489.11	ISO SMALL	<=37mm	7.08	Duplicate Target	NA	same as 362		Yes	NA	NA	Confirmed validation report "Wrong Shape." Resolved.
TM14	TM14-14	TOI	539848.07	4116547.02	81mm Mortar	37-105mm	43.48	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM14	TM14-32	TOI	539858.45	4116545.25	ISO MEDIUM	37-105mm	38.66	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM15	TM15-16	Validation	539829.62	4116464.99	No Match	<=37mm	-0.57	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-19	Verification	539847.44	4116469.37	81mm Mortar	37-105mm	3.61	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM14	TM14-33	TOI	539850.63	4116560.80	ISO MEDIUM	37-105mm	19.92	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM15	TM15-46	Verification	539836.28	4116471.89	No Match	<=37mm	20.59	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-47	Verification	539835.50	4116478.03	60mm Mortar	37-105mm	4.96	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM15	TM15-87	Verification	539836.36	4116465.60	60mm Mortar	37-105mm	2.53	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate, bolt, ring		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM15	TM15-102	Verification	539840.92	4116461.19	81mm Mortar	37-105mm	17.15	Duplicate Target	NA	same as 96		Yes	NA	NA	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-103	Verification	539829.76	4116469.49	ISO SMALL	<=37mm	1.29	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
TM14	TM14-39	TOI	539855.11	4116541.47	ISO MEDIUM	37-105mm	31.76	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM15	TM15-120	Verification	539836.25	4116468.50	60mm Mortar	37-105mm	18.29	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-122	Validation	539824.53	4116467.26	ISO SMALL	<=37mm	9.31	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM15	TM15-131	TOI	539842.12	4116496.06	4.2-in Mortar	>105mm	17.01	Cultural Feature	Structure	metal pole incased in concrete		NA	Yes	Yes	Depth offset outside MQO. Vertical pole incased in concrete. LIP. Resolved.
TM15	TM15-159	Validation	539821.68	4116470.98	60mm Mortar	37-105mm	18.89	Duplicate Target	NA	same as 214		Yes	NA	NA	Confirmed validation report "Decays Too Quickly." Multiple items. Resolved.
TM15	TM15-169	Validation	539833.46	4116469.56	60mm Mortar	37-105mm	2.89	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM15	TM15-174	Validation	539821.67	4116471.51	60mm Mortar	37-105mm	14.83	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple Items. Resolved.
TM15	TM15-176	Verification	539838.08	4116464.45	81mm Mortar	37-105mm	12.36	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple Items. Resolved.

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TM15	TM15-200	Verification	539835.35	4116476.93	81mm Mortar	37-105mm	5.26	Non-Munitions Related Debris	Non-MD Scrap Metal	metal ring		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-210	Validation	539823.57	4116469.35	ISO SMALL	<=37mm	-1.15	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM15	TM15-214	Verification	539821.67	4116470.87	60mm Mortar	37-105mm	18.02	Duplicate Target	NA	same as 159		Yes	NA	NA	Confirmed validation report "Decays Too Quickly." Multiple items. Resolved.
TM15	TM15-220	Verification	539836.19	4116480.73	60mm Mortar	37-105mm	4.21	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM15	TM15-287	Validation	539847.07	4116497.33	81mm Mortar	37-105mm	13.55	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved.
TM15	TM15-295	Validation	539845.59	4116502.04	ISO SMALL	<=37mm	4.36	Non-Munitions Related Debris	Non-MD Scrap Metal	bolt and washer		Yes	Yes	Yes	Confirmed validation report "Too Small." Multiple items. Resolved.
TM15	TM15-337	Validation	539826.57	4116468.93	60mm Mortar	37-105mm	7.86	Non-Munitions Related Debris	Non-MD Scrap Metal	wire and bolt		Yes	Yes	Yes	Confirmed validation report "Decays too quickly." Multiple items. Resolved.
TM15	TM15-340	Validation	539840.91	4116464.63	ISO SMALL	<=37mm	12.41	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-342	Validation	539836.36	4116476.75	ISO SMALL	<=37mm	3.91	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-351	Validation	539836.30	4116472.28	81mm Mortar	37-105mm	15.06	Non-Munitions Related Debris	Non-MD Scrap Metal	washer		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-363	Verification	539837.00	4116469.87	60mm Mortar	37-105mm	13.39	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM15	TM15-383	Verification	539836.39	4116480.82	60mm Mortar	37-105mm	5.81	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM15	TM15-391	Verification	539829.86	4116467.67	ISO SMALL	<=37mm	12.66	Non-Munitions Related Debris	Non-MD Scrap Metal	wire, plug		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM15	TM15-534	Verification	539826.60	4116466.11	60mm Mortar	37-105mm	9.62	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Close clutter. Resolved.
TM15	TM15-1000178	TOI	539839.04	4116464.44	60mm Mortar	37-105mm	86.36	Cultural Feature	Structure	concrete, electronical influencer		NA	NA	Yes	Depth offset outside MQO. No contact. Electrical influence on concrete. Resolved.
TM15	TM15-66	Validation	539839.90	4116510.73	No Match	37-105mm	31.42	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-92	Validation	539840.87	4116502.19	81mm Mortar	37-105mm	19.75	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM14	TM14-62	TOI	539833.88	4116583.52	ISO MEDIUM	37-105mm	32.11	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM15	TM15-147	Validation	539823.29	4116501.65	ISO SMALL	<=37mm	9.62	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Decys Too Quickly." Resolved.
TM15	TM15-177	Verification	539817.32	4116506.08	81mm Mortar	37-105mm	18.91	Non-Munitions Related Debris	Non-MD Scrap Metal	scrap and bolts		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple Items. Resolved.
TM15	TM15-195	Validation	539852.95	4116478.79	ISO SMALL	<=37mm	7.08	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved
TM15	TM15-315	Validation	539853.83	4116467.64	ISO SMALL	<=37mm	8.39	Non-Munitions Related Debris	Non-MD Scrap Metal	Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-323	Verification	539841.54	4116473.97	ISO SMALL	<=37mm	23.09	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple Items. Resolved.
TM15	TM15-343	Validation	539828.92	4116498.88	81mm Mortar	37-105mm	29.88	Duplicate Target	NA	same as 123		Yes	NA	NA	Duplicate target.
TM15	TM15-419	Validation	539838.99	4116501.86	60mm Mortar	37-105mm	43.93	Non-Munitions Related Debris	Non-MD Scrap Metal	banding		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM15	TM15-459	Validation	539828.55	4116492.79	No Match	37-105mm	74.14	No Contact	NA	no contact		Yes	NA	Yes	Confirmed validation report "Poor Polarizabilities." No contact. Resolved.
TM15	TM15-479	Validation	539842.73	4116510.45	60mm Mortar	37-105mm	9.97	Non-Munitions Related Debris	Non-MD Scrap Metal	nut		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	NOMENCLATURE	MET TOI/NON-TOI THRESHOLD[1]	MET SIZE/SHAPE THRESHOLD[2,3]	MET POSITION THRESHOLD[4]	Threshold Resolution Comment
TM14	TM14-84	TOI	539853.83	4116549.99	60mm Mortar	37-105mm	23.92	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM14	TM14-18	TOI	539863.49	4116557.72	4.2-in Mortar	>105mm	70.37	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	No	Second mortar found, same target. Resolved.
TM14	TM14-19	TOI	539852.65	4116559.13	81mm Mortar	37-105mm	51.45	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM16	TM16-69	Verification	539877.15	4116422.11	No Match	37-105mm	11.97	Non-Munitions Related Debris	Non-MD Scrap Metal	anchor		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Left in place. Resolved.
TM16	TM16-73	Verification	539865.29	4116419.79	60mm Mortar	37-105mm	27.58	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-99	Verification	539857.60	4116432.61	81mm Mortar	37-105mm	32.97	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-118	Validation	539869.19	4116413.88	ISO SMALL	<=37mm	19.86	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved
TM16	TM16-138	Verification	539861.47	4116429.26	60mm Mortar	37-105mm	15.62	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM16	TM16-228	Verification	539851.72	4116432.64	No Match	>105mm	11.45	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-233	Verification	539852.33	4116428.85	60mm Mortar	37-105mm	22.66	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		Yes	Yes	No	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-246	Validation	539852.46	4116430.24	60mm Mortar	37-105mm	28.21	No Contact	NA	NA		Yes	NA	Yes	No contact. Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-250	Validation	539862.88	4116434.26	81mm Mortar	37-105mm	11.45	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-280	Validation	539861.21	4116441.39	81mm Mortar	37-105mm	18.96	Non-Munitions Related Debris	Non-MD Scrap Metal	cotter pin		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-290	Validation	539859.94	4116442.22	60mm Mortar	37-105mm	11.12	Non-Munitions Related Debris	Non-MD Scrap Metal	wire		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Resolved.
TM14	TM14-45	TOI	539849.98	4116568.78	ISO MEDIUM	37-105mm	43.60	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM16	TM16-3	TOI	539868.54	4116427.90	ISO MEDIUM	37-105mm	16.55	Seed	Blind QC 2" x 8" pipe	Blind QC Seed #TM-16		NA	Yes	Yes	
TM14	TM14-73	TOI	539847.29	4116561.85	81mm Mortar	37-105mm	55.59	MPPEH	Mortar	81mm, fuzed	M-43	NA	Yes	Yes	
TM14	TM14-26	TOI	539864.86	4116541.51	ISO MEDIUM	37-105mm	22.17	MPPEH	Mortar	81mm, fuzed sheared. same as 125	M-43	NA	Yes	Yes	
GR04	GR04-4	TOI	539047.91	4115940.81	ISO LARGE	>105mm	31.40	MPPEH	Mortar	81mm, fuzed, tail-boom seperated	M-56	NA	Yes	Yes	
TM15	TM15-2	TOI	539845.52	4116470.49	81mm Mortar	37-105mm	14.91	MPPEH	Mortar	81mm, fuzed. same as 101	M-43	NA	Yes	Yes	
TM15	TM15-104	TOI	539836.35	4116459.02	81mm Mortar	37-105mm	41.30	MPPEH	Mortar	81mm, fuzed. same as 175	M-43	NA	Yes	Yes	
TM16	TM16-67	TOI	539854.81	4116435.49	81mm Mortar	37-105mm	35.66	MPPEH	Mortar	81mm, not fuzed	M-43	NA	Yes	Yes	
GR08	GR08-18	TOI	539125.26	4115929.25	ISO MEDIUM	37-105mm	44.80	MPPEH	Mortar	81mm, plugged	M-56	NA	Yes	Yes	TOI found on re-dig. Resolved.
TM16	TM16-29	Validation	539861.63	4116447.85	ISO SMALL	<=37mm	37.04	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-33	Verification	539879.24	4116417.83	60mm Mortar	37-105mm	18.50	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple items. Resolved
TM16	TM16-36	Verification	539889.92	4116430.19	ISO SMALL	<=37mm	5.81	Non-Munitions Related Debris	Non-MD Scrap Metal	pipe and nail		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Similar length to Small ISO. Resolved
TM16	TM16-37	Verification	539865.47	4116430.10	60mm Mortar	37-105mm	29.41	Non-Munitions Related Debris	Non-MD Scrap Metal	anchor		Yes	Yes	Yes	Left in place.

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	NOMENCLATURE	MET TOI/NON-TOI THRESHOLD[1]	MET SIZE/SHAPE THRESHOLD[2,3]	MET POSITION THRESHOLD[4]	Threshold Resolution Comment
TM16	TM16-38	Verification	539872.55	4116425.09	No Match	37-105mm	24.41	Duplicate Target	NA	shared with 35		Yes	NA	NA	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-54	Verification	539852.07	4116443.12	60mm Mortar	37-105mm	13.07	Non-Munitions Related Debris	Non-MD Scrap Metal	bracket		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-63	Verification	539869.10	4116424.63	ISO SMALL	<=37mm	5.24	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-71	Verification	539858.25	4116446.65	81mm Mortar	37-105mm	12.27	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-79	Verification	539863.34	4116436.40	81mm Mortar	37-105mm	27.41	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
TM16	TM16-107	Verification	539886.31	4116427.14	ISO SMALL	<=37mm	15.32	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Too small." Multiple items. Resolved.
TM16	TM16-121	Validation	539849.47	4116442.19	ISO SMALL	<=37mm	13.57	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-165	Verification	539858.88	4116451.78	81mm Mortar	37-105mm	24.84	Duplicate Target	NA	Shared with 14, 16, 26		Yes	NA	NA	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM16	TM16-182	Validation	539862.17	4116452.09	No Match	<=37mm	22.78	Non-Munitions Related Debris	Non-MD Scrap Metal	Wire		Yes	Yes	Yes	Confirmed validation report "Decays Too Quickly." Multiple items. Max depth 25cm. Resolved.
TM16	TM16-188	Validation	539857.29	4116442.17	60mm Mortar	37-105mm	19.55	Non-Munitions Related Debris	Non-MD Scrap Metal	bolts, steel plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple items. Resolved.
TM16	TM16-192	Verification	539886.75	4116427.15	No Match	37-105mm	34.65	Non-Munitions Related Debris	Non-MD Scrap Metal	Nail		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Multiple Items. Resolved.
TM16	TM16-195	Verification	539848.53	4116443.04	81mm Mortar	37-105mm	40.94	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-203	Verification	539889.38	4116427.53	60mm Mortar	37-105mm	13.31	Non-Munitions Related Debris	Non-MD Scrap Metal	Rebar		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-209	Validation	539887.31	4116426.34	No Match	37-105mm	5.91	Non-Munitions Related Debris	Non-MD Scrap Metal	Non-MD Scrap Metal		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-214	Validation	539883.67	4116428.02	ISO SMALL	<=37mm	25.35	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved
TM16	TM16-254	Validation	539853.57	4116434.70	60mm Mortar	37-105mm	6.76	Non-Munitions Related Debris	Non-MD Scrap Metal	staple		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-263	Validation	539885.51	4116426.18	ISO SMALL	<=37mm	6.80	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM16	TM16-265	Verification	539877.22	4116424.39	60mm Mortar	37-105mm	18.12	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-268	Verification	539863.50	4116442.81	ISO SMALL	<=37mm	8.95	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-70	TOI	539858.52	4116428.81	81mm Mortar	37-105mm	37.24	Cultural Feature	Structure	concrete pad, electronical influence		NA	No	Yes	No contact. Electronical influence. Resolved.
TM16	TM16-106	Validation	539861.06	4116422.47	4.2-in Mortar	>105mm	72.00	Cultural Feature	Structure	concrete pad, electronical influence		Yes	NA	Yes	No contact. Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-130	Verification	539859.78	4116428.17	81mm Mortar	37-105mm	57.26	No Contact	NA			Yes	NA	Yes	No Contact. Influenced by electrical line. Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-140	Verification	539860.53	4116423.70	4.2-in Mortar	>105mm	69.82	Cultural Feature	Structure	concrete pad, electronical influence		Yes	NA	No	No contact. Confirmed validation report "Wrong Shape." Electrical line influence. Resolved.
TM16	TM16-141	Validation	539868.22	4116436.57	No Match	<=37mm	7.50	Non-Munitions Related Debris	Non-MD Scrap Metal	Bolt		Yes	Yes	Yes	Confirmed validation report "Too Small." Resolved.
TM16	TM16-153	Validation	539862.78	4116434.25	ISO SMALL	<=37mm	6.34	Duplicate Target	NA	same as 250		Yes	NA	NA	Confirmed validation report "Decays Too Quickly." Resolved.
TM16	TM16-154	Verification	539865.40	4116430.29	81mm Mortar	37-105mm	33.86	Non-Munitions Related Debris	Non-MD Scrap Metal	anchor		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-157	Validation	539851.18	4116443.13	60mm Mortar	37-105mm	9.02	Non-Munitions Related Debris	Non-MD Scrap Metal	metal plate		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.

GRID	TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	NOMENCLATURE	MET TOI/NON-TOI THRESHOLD[1]	MET SIZE/SHAPE THRESHOLD[2,3]	MET POSITION THRESHOLD[4]	Threshold Resolution Comment
TM16	TM16-159	Verification	539856.05	4116436.18	81mm Mortar	37-105mm	27.91	Non-Munitions Related Debris	Non-MD Scrap Metal	metal rod		Yes	Yes	Yes	Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-156	Verification	539863.49	4116442.80	81mm Mortar	37-105mm	13.69	Non-Munitions Related Debris	Non-MD Scrap Metal	Pipe		Yes	Yes	Yes	Left in place. Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-202	TOI	539859.07	4116427.65	4.2-in Mortar	>105mm	57.03	Cultural Feature	Structure	concrete pad, electronical influence		NA	NA	No	No Contact. Confirmed validation report "Wrong Shape." Resolved.
TM16	TM16-205	Verification	539860.51	4116423.50	4.2-in Mortar	>105mm	65.12	Cultural Feature	Structure	concrete pad, electronical influence		Yes	NA	Yes	No contact. Confirmed validation report "Wrong Shape." Resolved.

PROJECT: Radford AAP | DIG TEAM NO.: 1 | DATE STARTED: 6/25/2021

GRID/PROPERTY ID: Area A (River) | DIVE TEAM LEADER: Ivan Stubblefield | DATE FINISHED: 6/27/2021

AREA A SURVEY RESULTS

TARGET ID	FLAG EASTING	FLAG NORTHING	REACQUISITION EASTING	REACQUISITION NORTHING	POSITION OFFSET (METERS)	ITEM CATEGORY	DESCRIPTION	NOMENCLATURE	DEPTH (INCHES)	DIG DATE	PHOTO ID
C-1	539570.20	4116153.20	539570.53	4116153.63	0.5	MPPEH	81 mm mortar	M-43	0	6/26/2021	Target 01
C-2	539564.40	4116147.40	539564.73	4116147.47	0.3	MPPEH	81 mm mortar	M-43	1	6/26/2021	Target 02
C-3	539778.70	4116293.20	539778.63	4116293.30	0.1	Munitions Debris	4.2" mortar	M-3	13	6/27/2021	NR
C-4	539535.50	4116060.20	539536.81	4116060.26	1.3	Non-Munitions Related Debris	Cable, 10' length		0	6/26/2021	
C-5	539580.80	4116142.70	539580.06	4116142.89	0.8	MPPEH	4.2" mortar	M-3	13	6/26/2021	Target 05
C-6	540100.00	4116324.90	540100.04	4116324.95	0.1	Non-Munitions Related Debris	Cable		2	6/25/2021	
C-7	539622.60	4116106.60	539622.65	4116106.58	0.0	MPPEH	4.2" mortar	M-3	1	6/27/2021	Target 07
C-8	539818.00	4116189.80	539818.01	4116189.85	0.0	Non-Munitions Related Debris	Aluminum can		2	6/25/2021	
C-9	539677.90	4116101.30	539677.89	4116101.30	0.0	Munitions Debris	4.2" mortar, unfuzed	M-3	1	6/25/2021	NR
C-10	539633.90	4116040.10	539633.95	4116040.03	0.1	Non-Munitions Related Debris	Brass screws, metal chunk		6	6/27/2021	
C-11	539476.10	4115799.70	539476.15	4115799.69	0.1	Non-Munitions Related Debris	Sheet metal, 12x12"		12	6/26/2021	
C-12	540029.00	4116293.80	540028.99	4116293.82	0.0	Non-Munitions Related Debris	Barbed wire		0	6/25/2021	
C-13	539699.30	4116142.70	539699.34	4116142.67	0.0	Non-Munitions Related Debris	Paint can		20	6/26/2021	
C-14	539642.00	4116097.50	539642.00	4116097.48	0.0	Munitions Debris	4.2" mortar, unfuzed	M-3	1	6/25/2021	NR
C-15	539510.00	4115934.80	539509.95	4115934.77	0.1	MPPEH	81 mm mortar	M-56	15	6/26/2021	Target 15
C-16	539448.60	4115955.80	539448.53	4115955.88	0.1	Non-Munitions Related Debris	Railroad tie with spikes		0	6/26/2021	
C-17	540117.50	4116324.50	540117.55	4116324.51	0.0	Non-Munitions Related Debris	Cable		1	6/25/2021	
C-18	539582.80	4116061.50	539583.21	4116060.59	1.0	MPPEH	81 mm mortar	M-56	0	6/26/2021	Target 18
C-19	539517.80	4115962.10	539517.72	4115962.11	0.1	Munitions Debris	4.2" mortar	M-3	10	6/26/2021	NR
C-20	539381.30	4115834.20	539381.49	4115833.95	0.3	MPPEH	4.2" mortar	M-3	0	6/26/2021	Target 20
C-21	539530.30	4116118.10	539530.89	4116118.22	0.6	MPPEH	4.2" mortar	M-3	0	6/26/2021	Target 21
C-22	539535.40	4116124.30	539535.14	4116124.19	0.3	MPPEH	81 mm mortar	M-56	12	6/26/2021	Target 22
C-23	539607.20	4116181.90	539607.05	4116182.44	0.6	Non-Munitions Related Debris	Barbed wire, 9 (unit unclear)		2	6/27/2021	

TARGET ID	FLAG EASTING	FLAG NORTHING	REACQUISITION EASTING	REACQUISITION NORTHING	POSITION OFFSET (METERS)	ITEM CATEGORY	DESCRIPTION	NOMENCLATURE	DEPTH (INCHES)	DIG DATE	PHOTO ID
C-24	539601.90	4116175.30	539602.35	4116174.96	0.6	Non-Munitions Related Debris	Bolts/hardware, 2 lbs		0	6/27/2021	
C-25	539627.80	4116194.20	539627.96	4116193.77	0.5	MPPEH	4.2" mortar and 81 mm mortar	M-3, M-56	0, 0	6/27/2021	Target 25-1, Target 25-2
C-26	539858.20	4116330.10	539858.13	4116330.17	0.1	Munitions Debris	4.2" mortar	M-3	3	6/27/2021	NR
C-27	539852.40	4116317.60	539852.31	4116317.56	0.1	MPPEH	4.2" mortar	M-3	12	6/27/2021	Target 27
C-28	539955.20	4116356.70	539955.24	4116356.73	0.1	MPPEH	4.2" mortar	M-3	10	6/27/2021	Target 28
C-29	540050.90	4116326.30	540051.26	4116325.75	0.7	Non-Munitions Related Debris	Cable, 10' length		0	6/27/2021	
C-30	539889.10	4116232.20	539889.12	4116232.18	0.0	Non-Munitions Related Debris	Pipe 6"		4	6/25/2021	
C-31	539758.20	4116178.70	539758.16	4116178.72	0.0	Non-Munitions Related Debris	NMRD		5	6/25/2021	
C-32	539698.90	4116154.90	539698.85	4116155.30	0.4	MPPEH	4.2" mortar	M-3	8	6/26/2021	Target 32
C-33	539754.20	4116153.70	539754.12	4116153.63	0.1	Non-Munitions Related Debris	Square pipe, 5", 3' length		20	6/26/2021	
C-34	539711.30	4116125.00	539711.34	4116124.98	0.0	Non-Munitions Related Debris	metal, 10 lbs		18	6/26/2021	
C-35	539677.90	4116141.00	539678.07	4116141.35	0.4	MPPEH	4.2" mortar	M-3	6	6/26/2021	Target 35
C-36	539773.90	4116292.00	539773.93	4116292.02	0.0	MPPEH	4.2" mortar	M-3	10	6/27/2021	Target 36
C-37	539732.40	4116139.80	539732.35	4116139.81	0.0	Non-Munitions Related Debris	6x6 sheet metal		3	6/25/2021	

PROJECT	**Radford AAP RFI**	**DIG TEAM NO.**	**1**	**DATE STARTED**	**6/1/2021**
GRID/PROPERTY ID	**ALL ANALOG GRIDS**	**DIG TEAM LEADER**	**S. Bebow**	**DATE FINISHED**	**6/2/2021**

ANALOG GEOPHYSICAL RESULTS

GRID	DIG LOCATIONS	MPPEH RECOVERED	AMOUNT OF NMRD (LB)	QA SEED RECOVERED	QC SEED RECOVERED	START DATE	END DATE
GR06	43	0	7	0	2	6/1/2021	6/2/2021
GR07	NR	2	19	0	2	6/2/2021	6/2/2021
GR12	12	0	6	0	2	6/1/2021	6/1/2021
TM02	209	0	58	0	1	5/28/2021	6/1/2021
TM03	117	0	18	0	1	5/27/2021	5/28/2021
TM04	127	3	16	0	2	5/25/2021	5/26/2021
TM06	182	2	79	1	2	5/26/2021	5/27/2021

PROJECT	Radford AAP RFI	DIG TEAM NO.	1	DATE STARTED	6/1/2021
GRID/PROPERTY ID	ALL ANALOG GRIDS	DIG TEAM LEADER	S. Bebow	DATE FINISHED	6/2/2021

ANALOG GEOPHYSICAL RESULTS

GRID	TARGET ID	EASTING	NORTHING	ITEM CATEGORY	ITEM DESCRIPTION	NOMENCLATURE	DEPTH (INCHES)	DIG DATE	PHOTO ID
GR06	GR06-1	539021.182	4115863.243	QC Seed	Medium ISO		5	6/2/2021	100_0027
GR06	GR06-2	539013.388	4115871.348	QC Seed	Medium ISO		4	6/2/2021	100_0028, 100_0029
GR07	GR07-1	539065.529	4115902.623	MPPEH	81 mm mortar	M-45	8	6/2/2021	100_0032, 100_0033
GR07	GR07-2	539076.755	4115892.221	MPPEH	81 mm mortar	M-45	4	6/2/2021	100_0034
GR07	GR07-3	539066.207	4115899.899	QC Seed	Medium ISO		5	6/2/2021	100_0035
GR07	GR07-4	539065.316	4115894.075	QC Seed	Medium ISO		6	6/2/2021	100_0036
GR12	GR12-01	539038.506	4115808.419	QC Seed	Medium ISO		4	6/1/2021	100_0024
GR12	GR12-02	539039.35	4115815.06	QC Seed	Medium ISO		5	6/1/2021	100_0025
TM02	TM02-01	539990.866	4116673.047	QC Seed	Medium ISO		6	6/1/2021	100_0019
TM03	TM03-01	539904.163	4116611.54	QC Seed	Medium ISO		6	5/28/2021	100_0017
TM04	TM04-01	540103.228	4116629.167	MPPEH	81 mm mortar	M-43	7	5/26/2021	100_0003
TM04	TM04-02	540100.365	4116643.069	MPPEH	4.2 in mortar	M-3	4	5/26/2021	100_0021
TM04	TM04-03	540105.373	4116633.184	QC Seed	Medium ISO		5	5/26/2021	100_0005
TM04	TM04-04	540113.551	4116640.211	QC Seed	Small ISO		6	5/26/2021	100_0006
TM04	TM04-05	540113.33	4116644.124	MPPEH	4.2 in mortar	M-3	5	5/26/2021	100_0022
TM06	TM06-01	539966.936	4116543.992	QC Seed	Medium ISO		4	5/26/2021	100_0009
TM06	TM06-02	539977.52	4116535.462	QC Seed	Medium ISO		6	5/26/2021	100_0010
TM06	TM06-03	539984.968	4116541.999	MPPEH	4.2 in mortar	M-3	12	5/26/2021	100_0023
TM06	TM06-04	539968.873	4116531.286	MPPEH	4.2 in mortar	M-3	5	5/27/2021	100_0013, 100_0014
TM06	TM06-05	539980.89	4116516.875	QA Seed	Small ISO (USACE NAB 178)		4	5/27/2021	100_0015

Notes:
1 - Verification of TOI/non-TOI threshold: 100% of predicted non-TOI intrusively investigated are non-TOI.
2 - Confirm derived features match ground truth (2 of 2): 100% of recovered object size estimates (excluding inconclusive category) qualitatively match predicted size.
3 - Classification validation: 100% of predicted non-TOI qualitatively matches predicted size/shape.
4 - Confirm derived features match ground truth (1 of 2): 100% of recovered (excluding inconclusive category, "Cannot Analyze") item positions ≤ to 0.25 m. From predicted position (x,y).
Gold cells denote munitions debris.
Dark blue cells denote MPPEH
Light blue cells denote QA or QC blind seed items.
Orange cells denote Validation Report QC results.
Depth Offset = Depth (cm) - Predicted Depth (cm); therefore, a negative result indicates the item was encountered at a shallower depth than predicted.
cm - centimeter
m - meter
mm - millimeter
NA - Not Applicable
NMRD - Non-Munitions Related Debris
QA - quality assurance
QC - quality control
TOI - Target of Interest

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/26/21

LOCATION GR_01 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/26/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
2	Likely TOI	538972.02	4115962.38	ISO SMALL	≤37mm	16.62	06/26/21	1	SEED	QC SEED	SMALL ISO GR-01	16	30	10	E 0-30°			101-0196 101-0197	Y		SB
5	Validation	538972.49	4115961.01	ISO SMALL	≤37mm	7.39	06/26/21	1	NMRD	SCRAP METAL	SCRAP	10	40	6	N 0-30°			101-0198 101-0199	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/26/27

LOCATION GR_02 | DIG TEAM LEADER S. Blow | DATE FINISHED 06/27/27

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	DESCRIPTION	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Validation	538915.44	4115924.58	ISO SMALL	≤37mm	14.14	06/26/21	1	SEED	QA SEED	NAB160 SMALL ISO ~~GR-02~~ BAC 06/26/21	12	30	10	N 0-30°			101-0210 101-0211	Y		SB
2	Likely TOI	538907.99	4115923.67	ISO LARGE	≥105mm	34.44	06/26/21	1	NMRD	SCRAP METAL	SHARED W/66 PIPE	33	40	143	S 0-30°			101-0217 101-0218	Y		SB
3	Likely TOI	538896.06	4115939.65	ISO SMALL	≤37mm	20.60	06/26/21	1	NMRD	SCRAP METAL	SCRAP	22	10	20	N 0-30°			101-0235 101-0236	Y		SB
4	Likely TOI	538906.76	4115924.21	ISO MEDIUM	37-105mm	31.85	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	31	35	0	S 60-90°			101-0216 ~~101-02~~ BAC 06/26/21			SB
5	Likely TOI	538920.47	4115938.68	ISO MEDIUM	37-105mm	32.41	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	30	40	0	SW 60-90°			101-0257 101-0258			SB
6	Likely TOI	538917.80	4115937.42	ISO SMALL	≤37mm	10.00	06/26/21	1	SEED	QC SEED	SMALL ISO GR-2	12	30	10	NW 0-30°			101-0245 101-0246	Y		SB
8	Likely TOI	538892.96	4115930.68	ISO MEDIUM	37-105mm	33.74	06/26/21	1	NMRD	SCRAP METAL	SCRAP	33	8	43	SE 0-30°			101-0229 101-0230	Y		SB
11	Likely TOI	538893.07	4115921.32	ISO LARGE	≥105mm	19.75	06/26/21	1	NMRD	SCRAP METAL	PIPE	19	70	114	NW 0-30°			101-0321 101-0322	Y		SB
~~12~~	~~Likely TOI~~	~~538909.37~~	~~4115948.23~~	~~100-lb GP Bomb~~	~~≥105mm~~	~~52.43~~	~~06/26/21~~	~~1~~	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE				~~S~~ BAC						BAC 06/26/21
13	Likely TOI	538912.21	4115931.11	ISO MEDIUM	37-105mm	33.78	06/26/21	1	NMRD	SCRAP METAL	PIPE SAME AS 123	31	40	47	E 0-30			101-0259 101-0260	Y		SB
14	Likely TOI	538909.74	4115947.76	100-lb GP Bomb	≥105mm	45.61	06/26/21	2 BAC 06/26/21	NMRD	SCRAP METAL	PIPE L.I.P. 1 SCRAP	42	20	34	SW 60-90°			101-0276 101-0277			SB
16	Likely TOI	538910.27	4115921.75	ISO SMALL	≤37mm	10.94	06/26/21	1	NMRD	SCRAP METAL	BOLT	11	50	19	SE 0-30°			101-0206 101-0207	Y		SB
17	Likely TOI	538905.30	4115938.62	ISO MEDIUM	37-105mm	20.04	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	19	60	0	SW 0-30°			101-0261 101-0262			SB
18	Likely TOI	538906.55	4115948.03	ISO MEDIUM	37-105mm	16.81	06/27/21	1	NMRD	SCRAP METAL	SHARED W/24 PIPE	15	~~30~~ 15 BAC 06/27/21	82	W 0-30°			101-0308 101-0309	Y		SB
12							06/26/21	1	CULTURAL FEATURE		PIPE L.I.P.	50	150	0	N 60-90°			101-0278 101-0279			SB

PROJECT RADFORD DIG TEAM NO. 1 DATE STARTED 06/26/27

LOCATION GR_02 DIG TEAM LEADER SBebow DATE FINISHED 06/27/27

AGC SURVEY RESULTS							DIG RESULTS														
		POSITION														POSITION					
TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	DESCRIPTION	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	EASTING	NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
20	Verification	538893.17	4115923.18	ISO SMALL	≤37mm	18.62	06/27/21	1	NMRD	SCRAP METAL	SCRAP	20	40	19	N 0-30°			101-0323 101-0324	Y		SB
22	Validation	538905.57	4115939.31	ISO MEDIUM	37-105mm	36.93	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	33	60	0	SW 0-30°			101-0263 101-0264			SB
24	Likely TOI	538906.14	4115947.88	ISO MEDIUM	37-105mm	17.90	06/27/21	1	NMRD	SCRAP METAL	SHARED W/18 PIPE	15	30	82	W 0-30°			101-0308 101-0310	Y		SB
27	Likely TOI	538899.32	4115929.78	ISO SMALL	≤37mm	4.92	06/26/21	1	NMRD	SCRAP METAL	PIPE	5	25	10	NE 0-30°			101-0227 101-0228	Y		SB
29	Verification	538921.04	4115932.13	ISO MEDIUM	37-105mm	17.43	06/26/21	1	NMRD	SCRAP METAL	PIPE	18	40	16	NE 0-30°			101-0249 101-0250	Y		SB
31	Validation	538920.92	4115934.88	100-lb GP Bomb	≥105mm	114.15	06/27/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	115	150	0	N 0-30°			101-0331 101-0332			SB
35	Verification	538916.70	4115936.63	ISO SMALL	≤37mm	9.74	06/26/21	1	NMRD	SCRAP METAL	PIPE	10	30	9	NE 0-30°			101-0243 101-0244	Y		SB
36	Likely TOI	538911.18	4115919.95	ISO SMALL	≤37mm	14.89	06/26/21	1	NMRD	SCRAP METAL	BOLT	15	50	17	NW 0-30°			101-0204 101-0205	Y		SB
38	Likely TOI	538921.39	4115940.06	ISO MEDIUM	37-105mm	21.27	06/26/21	1	NMRD	SCRAP METAL	PIPE	20	30	34	SW 0-30°			101-0255 101-0256	Y		SB
39	Verification	538922.44	4115921.92	ISO SMALL	≤37mm	8.11	06/27/21	1	NMRD	SCRAP METAL	SCRAP	6	40	14	SE 0-30°			101-0315 101-0316	Y		SB
42	Verification	538912.53	4115920.70	ISO MEDIUM	37-105mm	53.39	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE W/ REBAR L.I.P.	56	0	0	N 0-30°			101-0202 101-0203			SB
44	Cannot Analyze	538893.63	4115922.96	ISO LARGE	≥105mm	-7.13	06/27/21	0	NO CONTACT	N/A	N/A	28	0	0	N/A			101-0325 101-0326	Y		SB
46	Validation	538920.43	4115934.12	ISO MEDIUM	37-105mm	10.08	06/26/21	1	NMRD	SCRAP METAL	PIPE	11	20	51	SW 0-30°			101-0247 101-0248	Y		SB
50	Validation	538916.03	4115944.80	ISO LARGE	≥105mm	68.29	06/27/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	111	100	0	N 0-30°			101-0329 101-0330			SB

PROJECT RAOFORD

LOCATION GR_02

DIG TEAM NO. 1

DIG TEAM LEADER S. Bobin

DATE STARTED ~~06/26/21~~ 06/26/21

DATE FINISHED 06/27/21

AGC SURVEY RESULTS							DIG RESULTS															
		POSITION														POSITION						
TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	DESCRIPTION	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	EASTING	NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
52	Likely TOI	538922.87	4115938.60	ISO MEDIUM	37-105mm	22.58	06/26/21	1	NMRD	SCRAP METAL	SCRAP L.I.P.	22	15	0	SW 60-90°			101-0253 101-0254			SB
53	Likely TOI	538907.69	4115926.31	ISO MEDIUM	37-105mm	26.56	06/26/21	3	NMRD	SCRAP METAL	SCRAP	27	50	17	N 0-30°			101-0214 101-0215	Y		SB
54	Validation	538903.30	4115925.78	ISO SMALL	≤37mm	4.23	06/26/21	1	NMRD	SCRAP METAL	SCRAP	5	40	11	N 0-30°			101-0221 101-0222	Y		SB
55	Validation	538913.74	4115918.30	ISO SMALL	≤37mm	22.00	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	23	0	0	N 0-30°			101-0200 101-0201			SB
60	Likely TOI	538909.42	4115945.34	100-lb GP Bomb	≥105mm	73.18	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	74	60	0	NE 0-30°			101-0274 101-0275			SB
66	Validation	538907.67	4115924.26	ISO LARGE	≥105mm	45.64	06/26/21	1	NMRD	SCRAP METAL	SHARED w/2 PIPE	46	40	143	S 0-30°			101-0219 101-0220	Y		SB
69	Validation	538895.23	4115938.22	ISO MEDIUM	37-105mm	36.27	06/26/21	1	NMRD	SCRAP METAL	NAIL	32	10	10	N 0-30°			101-0233 101-0234	Y		SB
74	Likely TOI	538922.63	4115938.17	ISO MEDIUM	37-105mm	26.99	06/26/21	1	NMRD	SCRAP METAL	BOLT	31	30	5	N 0-30°			~~101-05~~ BAC 06/26/21 101-0252 101-0251	Y		SB
77	Verification	538906.19	4115940.60	ISO MEDIUM	37-105mm	33.45	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	33	60	0	SW 0-30°			101-0265 101-0266			SB
79	Verification	538909.00	4115944.86	100-lb GP Bomb	≥105mm	65.13	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	68	60	0	NE 0-30°			101-0271 101-0273			SB
80	Validation	538914.03	4115931.83	ISO MEDIUM	37-105mm	35.54	06/27/21	1	NMRD	SCRAP METAL	BRAIDED WIRE	34	~~6~~ 10 BAC 06/27/21	62	NE 0-30°			101-0313 101-0314	Y		SB
86	Validation	538897.05	4115934.60	ISO SMALL	≤37mm	27.01	06/26/21	2	NMRD	SCRAP METAL	SCRAP	26	20	16	NW 0-30°			101-0231 101-0232	Y		SB
87	Likely TOI	538913.30	4115931.39	ISO MEDIUM	37-105mm	49.67	06/27/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	50	30	0	SE 60-90°			101-0311 101-0312			SB
95	Likely TOI	538919.28	4115939.23	100-lb GP Bomb	≥105mm	91.40	06/27/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	99	150	0	NW 0-30°			101-0327 101-0328			SB

PROJECT RADFORD DIG TEAM NO. 1 DATE STARTED 06/26/21

LOCATION GR_02 DIG TEAM LEADER S. Bebon DATE FINISHED 06/27/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	DESCRIPTION	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
97	Cannot Analyze	538902.69	4115918.86	ISO LARGE	≥105mm	-29.23	06/27/21	1	CULTURAL FEATURE ~~NMRD~~ BAC 06/27/21	STRUCTURE ~~SCRAP METAL~~	FENCE POST L.I.P.	29	75	170	N 60-90°			101-0319 101-0320			SB
105	Likely TOI	538910.35	4115939.18	ISO SMALL	≤37mm	4.07	06/26/21	1	NMRD	SCRAP METAL	SCRAP	7	20	15	SE 0-30°			101-0241 101-0242	Y		SB
106	Verification	538908.21	4115944.83	100-lb GP Bomb	≥105mm	62.87	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	62	80	0	NW 0-30°			101-0269 101-0270			SB
108	Verification	538909.15	4115944.66	100-lb GP Bomb	≥105mm	65.71	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	68	60	0	NW 0-30°			101-0280 101-0281			SB
110	Validation	538906.20	4115943.42	ISO MEDIUM	37-105mm	49.12	06/27/21	6	NMRD	SCRAP METAL	SCRAP	47	30	14	N 0-30°			101-0334 101-0335	Y		SB
113	Validation	538920.25	4115919.79	ISO LARGE	≥105mm	22.79	06/27/21	20	NMRD	SCRAP METAL	NAILS	23	10	10	N 0-30°			101-0317 101-0318	Y		SB
123	Likely TOI	538912.13	4115931.07	ISO MEDIUM	37-105mm	23.58	06/26/21	~~6~~ BAC 06/27/21			SAME AS 13										
136	Likely TOI	538908.58	4115944.34	ISO MEDIUM	37-105mm	28.29	06/26/21	1	NMRD	SCRAP METAL	PIPE L.I.P.	31	80	0	NW 0-30°			101-0267 101-0268			SB
137	Validation	538901.19	4115925.75	ISO SMALL	≤37mm	28.96	06/26/21	4	NMRD	SCRAP METAL	NAILS	30	10	9	S 0-30°			101-0223 101-0224	Y		SB
160	Validation	538907.54	4115937.74	ISO SMALL	≤37mm	5.92	06/26/21	1	NMRD	SCRAP METAL	SCRAP	8	30	5	N 0-30°			101-0239 101-0240	Y		SB
163	Validation	538900.54	4115924.79	ISO SMALL	≤37mm	25.40	06/26/21	5 ~~2~~ BAC 06/26/21	NMRD	SCRAP METAL	NAILS	27	10	9	S 0-30°			101-0225 101-0226	Y		SB
170	Likely TOI	538905.04	4115943.42	ISO SMALL	≤37mm	15.91	06/26/21	1	NMRD	SCRAP METAL	REBAR	16	10	11	NW 0-30°			101-0282 101-0283	Y		SB
182	Validation	538910.37	4115925.26	ISO SMALL	≤37mm	15.03	06/26/21	1	NMRD	SCRAP METAL	SCRAP	14	10	8	N 0-30°			101-0208 101-0209	Y		SB
184	Validation	538908.40	4115930.11	No Match	37-105mm	29.05	06/26/21	1	NMRD	SCRAP METAL	NAIL	29	10	8	N 0-30°			101-0212 101-0213	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/26/21

LOCATION GR_02 | DIG TEAM LEADER S. Bebon | DATE FINISHED 06/27/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		DESCRIPTION	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
196	Validation	538895.32	4115942.04	ISO SMALL	≤37mm	28.96	6/26/21	1	NMRD	SCRAP METAL	WASHER	29	2	3	N 0-30°			101-0237 101-0238	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/24/21

LOCATION GR_03 | DIG TEAM LEADER SHAUN BEBOW | DATE FINISHED 06/24/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	539002.15	4115909.44	ISO MEDIUM	37-105mm	14.04	6/24/21	1	NMRD	SCRAP METAL	PIPE	13	30	52	NW 0-30°			101-0078 101-0079	Y		SB
2	Likely TOI	539004.99	4115914.49	ISO MEDIUM	37-105mm	22.38	6/24/21	1	SEED	QC SEED	SAME AS 22 MEDIUM ISO GR-03	22	60	20	S 0-30°			101-0076 101-0077	Y		SB
8	Validation	539012.07	4115936.86	ISO LARGE	≥105mm	60.85	6/24/21	1	NMRD	SCRAP METAL	PIPE	63	40	151	S 0-30°			101-0088 101-0089	Y		SB
10	Verification	539007.51	4115912.78	No Match	≥105mm	40.78	6/24/21	1	NMRD	SCRAP METAL	SAME AS 11 REBAR	36	20	122	SW 30-60°			101-0070 101-0071	Y		SB
11	Validation	539007.56	4115912.73	ISO MEDIUM	37-105mm	36.43	6/24/21				SAME AS 10										
12	Validation	539008.41	4115912.19	ISO SMALL	≤37mm	3.09	6/24/21	1	NMRD	SCRAP METAL	SCRAP	5	20	17	N 0-30°			101-0074 101-0075	Y		SB
20	Verification	538993.71	4115935.35	ISO MEDIUM	37-105mm	19.17	6/24/21	1	NMRD	SCRAP METAL	PIPE	18	25	41	SE 0-30°			101-0086 101-0087	Y		SB
22	Likely TOI	539005.01	4115914.51	ISO MEDIUM	37-105mm	20.86	6/24/21				SAME AS 2										
28	Validation	538996.84	4115914.08	ISO LARGE	≥105mm	57.16	6/24/21	1	NMRD	SCRAP METAL	SCRAP	58	1	9	N 0-30°			101-0084 101-0085	Y		SB
33	Validation	538991.56	4115920.92	ISO SMALL	≤37mm	37.35	6/24/21	1	NMRD	SCRAP METAL	WASHER	36	1	19	N 0-30°			101-0082 101-0083	Y		SB
37	Validation	538987.00	4115917.71	ISO MEDIUM	37-105mm	30.82	6/24/21	1	NMRD	SCRAP METAL	SCRAP	26	30	5	N 0-30°			101-0080 101-0081	Y		SB
50	Validation	539009.73	4115938.61	ISO SMALL	≤37mm	42.93	6/24/21	1	NMRD	SCRAP METAL	SCRAP	49	30	26	N 0-30°			101-0090 101-0091	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/21

LOCATION GR_04 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/03/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING (m)	POSITION NORTHING (m)	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	539033.15	4115941.24	ISO SMALL	≤37mm	8.65	6/3/21	1	SEED	QASEED	SMALL ISO ~~QASEED~~ NAB 173	14	30	10	NE 0-30°	539033.109	4115941.266	100-0050 100-0051	Y		SB
2	Likely TOI	539035.21	4115942.92	ISO MEDIUM	37-105mm	18.31	6/3/21	1	SEED	BLIND QC SEED	MEDIUM ISO GR-4	23	60	20	N 0-30°	539035.138	4115942.930	100-0048 100-0049	Y		SB
3	Likely TOI	539046.43	4115956.98	ISO LARGE	≥105mm	34.47	6/3/21	1	MPPEH	MORTAR	81MM FUZED	36	81	56	N 30-60°	539046.438	4115957.004	100-0038 100-0039	Y		SB
4	Likely TOI	539047.91	4115940.81	ISO LARGE	≥105mm	31.40	6/3/21	~~2~~ 1	MPPEH	MORTAR	81mm FUZED	41	81	66	SW 0-30°	539047.844	4115940.738	100-0040 100-0041	Y		SB
4-2							6/3/21	1	MPPEH	MORTAR	TAIL BOOM	21	81	15	SW 0-30°	539047.968	4115941.047	100-0042	Y		SB
5	Likely TOI	539055.80	4115938.09	ISO SMALL	≤37mm	3.90	6/3/21	1	06/09/21 ~~MPPEH~~ NMRD	06/03/21 ~~MORTAR~~ OTHER	METAL PIPE	7	28	11.5	W 0-30°	539055.801	4115938.079	100-0046 100-0047	Y		SB
6	Likely TOI	539045.98	4115939.65	ISO LARGE	≥105mm	45.24	6/3/21	1	MPPEH	MORTAR	81MM FUZED	50	81	56	W 60-90°	539046.016	4115940.007	100-0043 100-0045	Y		SB
6-2							6/3/21	1	NMRD	OTHER	STEEL RING	11	10	1	N 0-30°	539045.935	4115939.392	100-0044	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/27/21

LOCATION GR_05 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/27/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	538902.65	4115887.03	ISO MEDIUM	37-105mm	12.83	06/27/21	1	SEED	QC SEED	MEDIUM ISO GR-5	15	60	20	E 0-30°			101-0366 101-0367	Y		SB
2	Likely TOI	538905.38	4115871.37	ISO SMALL	≤37mm	7.31	06/27/21	1	NMRD	SCRAP METAL	SAME AS 94 PIPE	11	35	7	W 0-30°			101-0375 101-0376	Y		SB
3	Likely TOI	538905.70	4115898.08	ISO MEDIUM	37-105mm	23.15	06/27/21	1	NMRD	SCRAP METAL	PIPE	25	30	56	NW 0-30°			101-0351 101-0352	Y		SB
4	Likely TOI	538916.17	4115886.68	ISO SMALL	≤37mm	13.85	06/27/21	1	NMRD	SCRAP METAL	PIPE	13	35	21	NW 0-30°			101-0345 101-0346	Y		SB
9	Likely TOI	538900.71	4115902.75	ISO SMALL	≤37mm	5.75	06/27/21	1	NMRD	SCRAP METAL	ANCHOR L.I.P.	10	40	0	S 30-60°			101-0354 101-0355			SB
12	Validation	538899.07	4115892.90	ISO MEDIUM	37-105mm	6.56	06/27/21	1	NMRD	SCRAP METAL	PIPE	7	50	14	N 0-30°			101-0364 101-0365	Y		SB
18	Verification	538888.37	4115889.07	ISO SMALL	≤37mm	16.91	06/27/21	1	NMRD	SCRAP METAL	BOLT	12	35	7	NE 0-30°			101-0380 101-0331	Y		SB
19	Validation	538912.42	4115881.45	ISO MEDIUM	37-105mm	10.49	06/27/21	1	NMRD	SCRAP METAL	PIPE	10	20	91	SW 0-30°			101-0347 101-0348	Y		SB
30	Verification	538916.80	4115893.16	ISO SMALL	≤37mm	18.83	06/27/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	50	100	0	SW 0-30°			101-0372 101-0374			SB
37	Likely TOI	538896.76	4115898.81	ISO SMALL	≤37mm	14.79	06/27/21	1	NMRD	SCRAP METAL	SCRAP	17	20	10	NE 0-30°			101-0358 101-0359	Y		SB
45	Validation	538913.36	4115889.66	ISO MEDIUM	37-105mm	11.28	06/27/21	1	NMRD	SCRAP METAL	SCRAP	10	15	22	N 0-30°			101-0349 101-0350	Y		SB
49	Validation	538914.84	4115891.29	100-lb GP Bomb	≥105mm	42.99	06/27/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	43	100	0	SW 0-30°			101-0368 101-0369			SB
53	Validation	538915.61	4115892.03	100-lb GP Bomb	≥105mm	47.18	06/27/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	47	100	0	SW 0-30°			101-0370 101-0371			SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/27/21

LOCATION GR_05 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/27/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
69	Validation	538895.15	4115897.01	ISO SMALL	≤37mm	7.55	06/27/21	1	NMRD	SCRAP METAL	PIPE	11	40	5	W 0-30°			101-0362 101-0363	Y		SB
94	Likely TOI	538905.39	4115871.38	ISO SMALL	≤37mm	7.99	06/27/21				SAME AS 2										
97	Validation	538897.62	4115899.32	ISO SMALL	≤37mm	18.44	06/27/21	1	NMRD	SCRAP METAL	WIRE L.I.P.	18	2	0	SE 0-30°			101-0356 101-0357			SB
100	Likely TOI	538893.48	4115899.66	ISO SMALL	≤37mm	9.07	06/27/21	1	NMRD	SCRAP METAL	SCRAP	12	30	17	SW 0-30°			101-0360 101-0361	Y		SB
101	Cannot Analyze	538911.30	4115871.02	ISO LARGE	≥105mm	37.43	06/27/21	0	NO CONTACT	N/A	N/A	54	0	0	N/A			101-0377 101-0378 101-0379	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/21

LOCATION GR_08 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/07/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	539117.00	4115917.79	ISO MEDIUM	37-105mm	18.08	6/3/21	1	SEED	QC SEED	SHARED w/ 8,303 MEDIUM ISO GR-08	19	60	20	N 0-30°	539116.969	4115917.430	100-0061 100-0062	Y		SB
2	Likely TOI	539124.66	4115916.67	ISO LARGE	≥105mm	14.14	6/3/21	1	NMRD	SCRAP METAL	SHARED w/ 52 PIPE	5	110	96	W 0-30°	539124628.	4115916.599	100-0071 100-0074	Y		SB
3	Likely TOI	539118.28	4115921 53	ISO LARGE	≥105mm	20.20	6/7/21	1	MPPEH	MORTAR	SAME AS 122 4.2" MORTAR NOT FUZED	18	106	51	S 0-30°	539118.259	4115921.526	100-0231 1000232	Y		SB
4	Likely TOI	539115.88	4115929.46	ISO MEDIUM	37-105mm	18.02	6/4/21	7	NMRD	SCRAP METAL	SAME AS 74 WIRE, BOLTS, SCRAP	19	10	43	N 0-30°	539115.862	4115929.778	100-0152 100-0153	Y		SB
5	Likely TOI	539122.43	4115921.51	100-lb GP Bomb	≥105mm	19.02	6/3/21	1	NMRD	~~OTHER~~ SCRAP METAL 6/3/21 BAE	METAL PLATE	16	10	62	W 0-30°	539122.349	4115921.537	100-0052 100-0053	Y		SB
7	Likely TOI	539119.30	4115930.55	ISO SMALL	≤37mm	18.02	~~6/3/21~~ 6/7/21	3	NMRD	SCRAP METAL	~~SAME AS 74 WIRE, BOLTS SCRAP~~ NAILS, SCRAP BAE 6/7/21	17	10	14	E 0-30°	539119.294	4115930.545	100-0165 100-0166	Y		SB
8	Likely TOI	539117.01	4115917.79	ISO MEDIUM	37-105mm	18.74	6/3/21	1	SEED	QC SEED	SHARED w 1,303 MEDIUM ISO GR-08	19	60	20	N 0-30°	539116.969	4115917.430	100-0061 100-0062	Y		SB
12	Verification	539106.11	4115923.78	ISO MEDIUM	37-105mm	5.99	6/4/21	2	NMRD	SCRAP METAL	PIPE; BANDING	6	50	101	N 0-30°	539106.048	4115923.858	100-0106 100-0107	Y		SB
13	Verification	539127.50	4115919.46	ISO MEDIUM	37-105mm	30.93	6/4/21	1	MPPEH	MORTAR	81 MM FUZED	28	81	43	SE 0-30°	539127.530	4115919.337	100-0086 100-0087	Y		SB
15	Validation	539111.68	4115923.45	ISO MEDIUM	37-105mm	10.38	6/4/21	1	NMRD	SCRAP METAL	ANGLE IRON	10	10	59	E 0-30°	539111.649	4115923.428	100-0132 100-0133	Y		SB
17	Verification	539108.25	4115914.26	100-lb GP Bomb	≥105mm	17.78	6/4/21	2	NMRD	SCRAP METAL	PIPE	17	35	148	N 0-30°	539108.347	4115914.160	100-0098 100-0099	Y		SB
18	Likely TOI	539125.26	4115929.25	ISO MEDIUM	37-105mm	44.80	6/7/21		NMRD	SCRAP METAL	WIRE	22	10	15	N 0-30°	539125.253	4115929.218	100-0215 100-0216	Y		SB
20	Verification	539125.20	4115932.66	ISO MEDIUM	37-105mm	21.07	6/7/21	1	NMRD	SCRAP METAL	BOLT	17	70	18	W 0-30°	539125.085	4115932.903	100-0213 100-0214	Y		SB
18-2							7/7/21	1	MPPEH	MORTAR	81mm, Plugged	60	81	07/07/21 53	E 30-60°	539125.142	4115929.123	101-0741 101-0742	Y		SB
4-2							7/8/21	2	NMRD	SCRAP METAL	WIRE	35	5	18	N 0-30	539115.946	4115929.494	101-0755 101-0756	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/21

LOCATION GR_08 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/07/21

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
21	Likely TOI	539109.79	4115939.38	ISO MEDIUM	37-105mm	20.53	6/7/21	7	NMRD	SCRAP METAL	BOLT, NAILS WIRE	10	20	40	E 0-30°	539109.843	4115939.472	~~0226~~ 100-0227 100-0228 BAC 6/7/21	Y		SB
22	Likely TOI	539127.28	4115934.77	100-lb GP Bomb	≥105mm	7.55	6/7/21	1	NMRD	SCRAP METAL	SAME AS 38 PIPE	7	60	305	N 0-30°	539127.355	4115934.773	100-0211 100-0212			SB
23	Likely TOI	539122.17	4115924.98	ISO MEDIUM	37-105mm	19.14	6/7/21	1	NMRD	SCRAP METAL	PIPE	14	35	20	N 0-30°	539122.176	4115924.980	100-0174 100-0175	Y		SB
24 ~~SAME AS 237~~ BAC 6/9/21	Likely TOI	539115.32	4115928.47	ISO LARGE	≥105mm	27.10	6/4/21	16	NMRD	SCRAP METAL	BOLTS, WIRE, WASHER, NAILS PIPE SHARED W/ 237	25	25	97	N 0-30°	539115.311	4115928.449	100-0148 100-0149	Y		SB
26	Verification	539108.61	4115914.52	100-lb GP Bomb	≥105mm	21.71	6/3/21	1	NMRD	SCRAP METAL	SHARED W/ 17 PIPE	9	30	87	E 0-30°	539108.564	4115914.484	100-0100 100-0101	Y		SB
27	Verification	539107.47	4115910.94	ISO LARGE	≥105mm	4.77	6/4/21	6	NMRD	SCRAP METAL	PIPE	5	30	97	N 0-30°	539107.403	4115911.048	100-0118 100-0119	Y		SB
30	Likely TOI	539128.83	4115936.55	ISO MEDIUM	37-105mm	7.52	6/7/21	1	NMRD	SCRAP METAL	STEEL PLATE	9	10	31	N 0-30°	539128.772	4115936.625	100-0207 100-0208	Y		SB
31	Likely TOI	539131.65	4115929.63	100-lb GP Bomb	≥105mm	21.92	6/7/21	1	NMRD	SCRAP METAL	SAME AS 72 SCRAP	7	80	81	N 0-30°	539131.577	BAC 6/7/21 ~~4115929.504~~ 4115929.566	100-0200 100-0201	Y		SB
33	Validation	539134.07	4115930.33	ISO SMALL	≤37mm	12.56	6/7/21	1	NMRD	SCRAP METAL	REBAR	14	20	74	N 0-30°	539134.051	4115930.355	100-0196 100-0197	Y		SB
34	Likely TOI	539121.42	4115910.19	100-lb GP Bomb	≥105mm	22.65	6/3/21	3	NMRD	SCRAP METAL	SHARED W/ 59 PIPE	16	33	248	N 0-30°	539121.476	4115910.237	100-0067 100-0069	Y		SB
35	Likely TOI	539124.59	4115917.88	100-lb GP Bomb	≥105mm	31.86	6/3/21	1	NMRD	SCRAP METAL	ANGLE IRON	26	10	83	W 0-30°	539124.678	4115917.630	100-0077 100-0078	Y		SB
36	Likely TOI	539106.38	4115922.20	ISO MEDIUM	37-105mm	10.47	6/4/21	1	MPPEH	MORTAR	81mm FUZED	13	81	55	S 0-30°	539106.356	4115922.188	100-0110 100-0111	Y		SB
38	Verification	539127.24	4115935.16	100-lb GP Bomb	≥105mm	4.45	6/7/21	-	-	-	SAME AS 22	-	-	-	-	539127.283 — BAC 6/7/21	4115935.063 —	-	-	-	-
35-2							6/3/21	1	MPPEH	MORTAR	4.2" MORTAR	29	106 BAC 6/3/21	52	N 0-30°	539124.592	4115917.812	100-0079 100-0080	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/21

LOCATION GR_08 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/07/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
39	Likely TOI	539125.86	4115916.93	ISO MEDIUM	37-105mm	19.11	~~3/6/21~~ BAC 6/3/21	1	NMRD	SCRAP METAL	ANGLE IRON	8	10	36	W 0-30°	539125.927	4115916.871	100-0075 100-0076	Y		SB
40	Likely TOI	539122.43	4115929.48	ISO LARGE	≥105mm	29.89	6/7/21	1	MPPEH	MORTAR	4.2" MORTAR NOT FUZED	18	106	52	W 60-90° BAC 6/7/21	539122.447	4115929.514	100-0172 100-0173	Y		SB
41	Verification	539108.23	4115927.81	ISO LARGE	≥105mm	10.71	6/4/21	~~2~~ 3 BAC 6/4/21	NMRD	SCRAP METAL	PIPE METAL RING WIRE	11	25	68	N 0-30°	539108.265	4115927.818	100-0104 100-0105	Y		SB
42	Validation	539134.77	4115933.73	ISO SMALL	≤37mm	9.21	6/7/21	2	NMRD	SCRAP METAL	BOLT, WIRE	24	10	25	W 0-30°	539134.718	4115933.631	100-0198 100-0199	Y		SB
44	Verification	539132.95	4115913.67	ISO MEDIUM	37-105mm	5.11	6/7/21	1	NMRD	SCRAP METAL	PIPE CLAMP SAME AS 105	10	10	56	W 0-30°	539132.915	4115913.611	100-0188 100-0189	Y		SB
45	Likely TOI	539106.01	4115913.83	ISO SMALL	≤37mm	5.71	6/4/21	1	NMRD	SCRAP METAL	BOLT	12	50	18	~~N~~ E 0-30° BAC 6/4/21	539105.967	4115913.802	100-0116 100-0117	Y		SB
48	Likely TOI	539129.47	4115935.14	ISO MEDIUM	37-105mm	7.07	6/7/21	1	NMRD	SCRAP METAL	STEEL PLATE	11	10	31	N 0-30°	539129.499	4115935.075	100-0209 100-0210	Y		SB
51	Likely TOI	539108.56	4115912.76	ISO LARGE	≥105mm	15.01	6/4/21	3	NMRD	SCRAP METAL	PIPE	15	30	93	E 0-30°	539108.565	~~4115912.754~~ 4115912.745 BAC 6/4/21	100-0122 100-0123	Y		SB
52	Likely TOI	539124.19	4115916.81	100-lb GP Bomb	≥105mm	26.09	6/3/21	1	NMRD	SCRAP METAL	SHARED w/ 2 PIPE	15	110	96	W 0-30°	539124.268 ~~539124.628~~ BAC 6/3/21	4115916.712 ~~4115916.599~~	100-0071 100-0074	Y		SB
54	Likely TOI	539106.07	4115923.40	ISO LARGE	≥105mm	8.98	6/4/21	2	NMRD	SCRAP METAL	SHARED w/ 12 PIPE	6	30	109	N 0-30°	539106.020	4115923.485	100-0108 100-0109	Y		SB
58	Likely TOI	539106.32	4115917.45	ISO MEDIUM	37-105mm	7.81	6/4/21	1	NMRD	SCRAP METAL	PIPE	8	60	29	E 0-30°	539106.320	4115917.383	100-0114 100-0115	Y		SB
59	Verification	539113.99	4115931.04	ISO SMALL	≤37mm	9.50	6/4/21	24	NMRD	~~NAILS, BOLTS, WASHER, WIRE~~ SCRAP METAL BAC 6/4/21	SHARED w/ 202 NAILS, BOLTS, WIRE, WASHER	13	20	39	N 0-30°	539113.885	411593.103	100-0150 100-0151	Y		SB
60	Likely TOI	539109.55	4115919.41	ISO LARGE	≥105mm	12.12	6/4/21	1	MPPEH	MORTAR	81mm FUZED	11	81	59	~~E~~ SW 0-30° BAC 6/4/21	539109.570	4115919.434	100-0128 100-0129	Y		SB
60-2							6/4/21	2	NMRD	~~FIRE~~ SCRAP METAL	PIPE	11	29	137	N 0-30°	539109.570	4115919.434	100-0128 100-0129	Y		SB
40-2							6/7/21	8	NMRD	BAC 6/4/21 SCRAP METAL	3 of 8 WIRE, WASHER	18	2	35	W 0-30°	539122.447	4115929.514	100-0172 100-0173	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/21

LOCATION GR_08 | DIG TEAM LEADER S. Beaow | DATE FINISHED 06/07/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
61	Verification	539111.00	4115939.19	ISO SMALL	≤37mm	6.92	6/7/21	5	NMRD	SCRAP METAL	BOLT, NAILS, SCRAP, DRILL BIT	15	20	15	W 0-30°	539111.026	4115939.207	100-0225 100-0226	Y		SB
63	Likely TOI	539112.30	4115938.53	ISO LARGE	≥105mm	15.76	6/7/21	8 BAC 6/7/21	NMRD	SCRAP METAL	SAME AS 94 PIPE, WIRE	9	30	9	N ~~0-30~~ 60-90° BAC 6/7/21	539112.304	4115938.588	100-0223 100-0224	N		SB
65	Validation	539129.41	4115923.96	ISO SMALL	≤37mm	-6.69	6/4/21	1	NMRD	SCRAP METAL	BOLT	0	55	25	E 60-90°	539129.382	4115923.946	100-0092 100-0093	Y		SB
66	Verification	539112.05	4115929.95	ISO MEDIUM	37-105mm	13.74	6/4/21	4	NMRD	SCRAP METAL	PIPE REBAR	11	30	19	E 0-30°	539112.100	4115929.945	100-0138 100-0139	Y		SB
68	Validation	539104.86	4115921.10	ISO LARGE	≥105mm	11.84	6/4/21	~~2~~ 3 BAC 6/4/21	NMRD	SCRAP METAL	PIPE BOLT	7	30	110	N 0-30°	539104.911	4115920.995	100-0112 100-0113	Y		SB
70	Verification	539113.53	4115937.75	ISO MEDIUM	37-105mm	3.88	6/7/21	1	NMRD	SCRAP METAL	SAME AS 96 PIPE	3	50	184	NW 0-30°	539113.496	4115937.854	100-0221 100-0222	N BAC 6/7/21		SB
72	Likely TOI	539131.44	4115929.62	100-lb GP Bomb	≥105mm	15.39	6/7/21	-	-	-	SAME AS 31	-	-	-	-	-	-	-	-	-	-
73	Validation	539131.50	4115917.98	ISO SMALL	≤37mm	16.49	6/7/21	1	NMRD	SCRAP METAL	SCRAP	13	20	15	N 0-30°	539131.573	4115917.912	100-0192 100-0193	Y		SB
74	Likely TOI	539115.89	4115929.42	ISO MEDIUM	37-105mm	15.60	-	-	-	-	SAME AS 4	-	-	-	-	-	-	-	-	-	-
76	Verification	539119.56	4115910.40	ISO MEDIUM	37-105mm	9.97	6/3/21	2	NMRD	SCRAP METAL	SHARED W/ 89 PIPE	5	50	132	N 0-30°	539119.506	4115910.377	100-0068 100-0070	Y		SB
78	Validation	539130.43	4115937.72	ISO LARGE	≥105mm	19.07	6/7/21	1	NMRD	SCRAP METAL	ROD	10	20	168	W 0-30°	539130.444	4115937.638	100-0202 100 0204	Y		SB
79	Validation	539110.33	4115912.19	ISO SMALL	≤37mm	8.20	6/4/21	1	NMRD	SCRAP METAL	BOLT	9	~~3~~ 40 BAC 6/4/21	34	NW 0-30°	539110.315	4115912.137	100-0124 100-0125	Y		SB
82	Likely TOI	539113.57	4115933.04	ISO SMALL	≤37mm	6.49	6/7/21	5	NMRD	SCRAP METAL	NAILS	11	20	25	E 0-30°	~~539113.579~~ 539113.579 6/7/21 BAC	4115933.027	100-0159 100-0160	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/2021

LOCATION GR_08 | DIG TEAM LEADER S. BEBOW | DATE FINISHED 06/07/2021

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
84	Verification	539135.40	4115929.06	ISO MEDIUM	37-105mm	25.12	6/7/21	1	NMRD	SCRAP METAL	REBAR	24	20	102	W 0-30°	539135.307	4115928.980	100-0194 100-0195	Y		SB
85	Verification	539122.18	4115925.05	ISO MEDIUM	37-105mm	11.43	6/7/21	1	NMRD	SCRAP METAL	PIPE	18	40	22	E 0-30°	539122.315	4115925.121	100-0176 100-0177	Y		SB
87	Validation	539106.05	4115936.58	ISO SMALL	≤37mm	12.16	6/7/21	8	NMRD	SCRAP METAL	WIRE, NAILS	16	3	23	N 0-30°	539106.065	4115936.589	100-0155 100-0156	Y		SB
89	Likely TOI	539120.18	4115910.24	100-lb GP Bomb	≥105mm	14.62	6/3/21	5	NMRD	SCRAP METAL	SHARED W/34,76 PIPE	16	33	248	N 0-30°	539120.205	4115910.283	100-0070 100-0067 100-0068 100-0069	Y		SB
91	Verification	539114.38	4115932.54	No Match	≤37mm	7.45	6/7/21	3	NMRD	SCRAP METAL	BOLTS, METAL PLATE	8	20	25	E 0-30°	539114.482	4115932.583	100-0061 100-0062	Y		SB
92	Validation	539124.92	4115925.58	No Match	≥105mm	30.29	6/7/21	1	NMRD	SCRAP METAL	REBAR	15	30	143	E 0-30°	539125.094	4115925.476	100-0182 100-0183	Y		SB
93	Verification	539108.83	4115915.22	ISO MEDIUM	37-105mm	0.71	6/4/21	1	NMRD	SCRAP METAL	PIPE	4	35	103	N 0-30°	539108.582	4115915.294	100-0096 100-0097	Y		SB
94	Likely TOI	539112.06	4115938.54	ISO LARGE	≥105mm	24.40	6/7/21	-	-	-	SAME AS 63	-	-	-	-	539112.192	4115938.667	-	-		-
95	Validation	539126.50	4115913.33	ISO MEDIUM	37-105mm	12.69	6/3/21	1	NMRD	SCRAP METAL	BOLT	12	10	42	W 0-30°	539126.491	4115913.362	100-0081 100-0082	Y		SB
96	Verification	539113.57	4115937.70	ISO MEDIUM	37-105mm	6.48	6/7/21	-	-	-	SAME AS 70	-	-	-	-	539113.582	4115937.730	-	-		-
97	Likely TOI	539105.19	4115938.84	ISO SMALL	≤37mm	9.89	6/7/21	2	NMRD	SCRAP METAL	WIRE, NAIL	13	~~20~~ 2 EAC 6/4/21	16	N 0-30°	539105.188	4115938.832	100-0157 100-0158	Y		SB
99	Verification	539108.56	4115920.45	ISO SMALL	≤37mm	0.79	6/4/21	1	NMRD	SCRAP METAL	PIPE ~~BOLT~~ EAC 6/4/21	4	30	23	N 0-30°	539108.534	4115920.441	100-0130 100-0131	Y		SB
101	Verification	539118.79	4115910.94	ISO MEDIUM	37-105mm	3.58	6/3/21	5	NMRD	SCRAP METAL	METAL PIPE AND STEEL CABLE	6	30	76	E 0-30°	539119.803	4115910.922	100-0065 100-0066	Y		SE
97-2								3	~~NAILS~~ NMRD	SCRAP METAL	NAILS	25	5	9	N 0-30°			101-0743 101-0744	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/21

LOCATION GR_08 | DIG TEAM LEADER S. Beaow | DATE FINISHED 06/07/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
103	Verification	539115.42	4115913.85	ISO SMALL	≤37mm	6.05	6/3/21	1	NMRD	SCRAP METAL	METAL PLATE	10	10	16	E 0-30°	539115.430	4115913.776	100-0063 100-0064	Y		SB
105	Likely TOI	539132.82	4115913.63	ISO MEDIUM	37-105mm	9.82	6/7/21	-	-	-	SAME AS 44	-	-	-	-	-	-	-	-		-
113	Verification	539112.37	4115930.76	ISO MEDIUM	37-105mm	10.75	6/4/21	3	NMRD	SCRAP METAL	PIPE, HOOK	10	20	24	E 0-30°	539112.355	4115930.736	100-0140 100-0141	Y		SB
115	Verification	539123.40	4115924.55	ISO MEDIUM	37-105mm	15.83	6/7/21	8	NMRD	SCRAP METAL	PIPES, NAILS	12	20	44	N 0-30°	539123.395	4115924.547	100-0178 100-0179	Y		SB
118	Validation	539107.07	4115912.03	ISO MEDIUM	37-105mm	0.30	6/4/21	1	NMRD	SCRAP METAL	PIPE	20	40	112	E 0-30°	539107.235	4115911.912	100-0120 100-0121	Y		SB
122	Likely TOI	539118.28	4115921.41	ISO LARGE	≥105mm	18.43	6/7/21	-	-	-	SAME AS 3	-	-	-	-	-	-	-	-		-
127	Likely TOI	539122.26	4115918.61	ISO MEDIUM	37-105mm	17.15	6/3/21	~~1~~ 1 EAC 06/03/21	NMRD	SCRAP METAL	REBAR, WASHERS	17 (33TD)	50	41	NE 0-30°	539122.189	4115918.567	100-0056 100-0057	Y		SB
130	Validation	539116.57	4115924.45	ISO SMALL	≤37mm	51.63	6/4/21	2	NMRD	SCRAP METAL	WIRE	50	4	10	NW 0-30°	539116.610	4115929.434	100-0146 100-0147	Y		SB
132	Validation	539129.08	4115936.35	ISO LARGE	≥105mm	11.07	6/7/21	5	NMRD	SCRAP METAL	STEEL PLATE	11	10	31	N 0-30°	~~539129.165~~ EAC 6/7/21 539129.165	4115936.306	100-0205 100-0206	Y		SB
147	Validation	539120.30	4115918.15	ISO LARGE	≥105mm	33.89	6/3/21	8	NMRD	~~SCRAP METAL~~	METAL PLATE SHARDS, WIRE	40	10	13	N 0-30°	539120.317	4115918.142	100-0054 100-0055	Y		SB
156	Verification	539126.82	4115924.44	ISO LARGE	≥105mm	10.98	6/7/21	1	NMRD	SCRAP METAL	PIPE	5	30	91	W 0-30°	539126.873	4115924.472	100-0184 100-0185	Y		SB
160	Validation	539111.71	4115929.18	ISO MEDIUM	37-105mm	8.60	6/4/21	4	NMRD	SCRAP METAL	BOLT WIRE BRACKET	11	10	59	N 0-30°	539111.880	4115929.015	100-0136 100-0137	Y		SB
163	Verification	539117.22	4115934.78	ISO SMALL	≤37mm	15.86	6/7/21	1	NMRD	SCRAP METAL	STEEL PLATE	17	~~30~~ 3 EAC 6/7/21	13	N 0-30°	539117.350	4115934.671	100-0217 100-0218	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/21

LOCATION GR_08 | DIG TEAM LEADER S. BEBOW | DATE FINISHED 06/07/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
166	Likely TOI	539120.09	4115929.16	ISO SMALL	≤37mm	14.16	6/7/21	3	NMRD	SCRAP	SAME AS 169,170 NAIL, WIRE, SCRAP	14	20	39	E 0-30°	539120.065	4115929.178	100-0169 ~~100-0170~~ 100-0171 6/7/21	Y		SB
169	Likely TOI	539120.17	4115929.15	ISO SMALL	≤37mm	12.40	6/7/21	–	–	–	SAME AS 166	–	–	–	–	–	–	–	–	–	–
170	Likely TOI	539120.00	4115929.11	ISO SMALL	≤37mm	13.31	6/7/21	–	–	–	SAME AS 166	–	–	–	–	–	–	–	–	–	–
182	Verification	539132.37	4115915.88	ISO SMALL	≤37mm	8.10	6/7/21	3	NMRD	SCRAP METAL	BOLT, NAILS	12	30	9	N 0-30°	539132.429	4115915.918	100-0190 100-0191	Y		SB
183	Verification	539109.21	4115914.49	100-lb GP Bomb	≥105mm	37.90	6/4/21	2	NMRD	SCRAP METAL	PIPE, SHEET METAL	18	30	143	N 0-30°	539109.330	4115914.431	100-0094 100-0095	Y		SB
188	Validation	539111.22	4115918.16	100-lb GP Bomb	≥105mm	14.65	6/4/21	4	NMRD	SCRAP METAL	PIPE, METAL RING	13	78	155	N 0-30°	539111.262	4115918.164	100-0126 100-0127	Y		SB
202	Validation	539114.63	4115930.81	ISO LARGE	≥105mm	32.41	6/4/21	24	NMRD	SCRAP METAL	SHARED W/ 59 NAILS, BOLTS, WIRE, WASHER	13	20	39	N 0-30°	539114.720	4115930.781	100-0150 100-0151	Y		SB
204	Validation	539126.66	4115912.92	ISO SMALL	≤37mm	6.49	6/3/21	1	NMRD	SCRAP METAL	BOLT	13	10	36	N 0-30°	539126.679	4115912.881	100-0083 100-0084	Y		SB
205	Validation	539128.86	4115919.71	ISO SMALL	≤37mm	28.34	6/4/21	2	NMRD	SCRAP METAL	BANDING, WIRE	20	4	32	E 0-30°	539128.889	4115919.635	100-0088 100-0089	Y		SB
206	Verification	539129.13	4115921.39	ISO SMALL	≤37mm	9.77	6/4/21	1	NMRD	SCRAP METAL	METAL PLATE	14	10	11	N 0-30°	539129.128	4115921.461	100-0090 100-0091	Y		SB
215	Validation	539106.74	4115930.52	ISO SMALL	≤37mm	3.61	6/4/21	1	NMRD	SCRAP METAL	ANGLE IRON	5	10	11	N 0-30°	539106.669	4115930.498	100-0102 100-0103	Y		SB
216	Validation	539110.78	4115934.58	ISO LARGE	≥105mm	24.47	6/7/21	27	NMRD	SCRAP METAL	NAILS, BOLTS	44	15	16	N 0-30°	539110.712	4115934.530	~~100-0153~~ 07/08/21 100-0154	Y		SB
217	Likely TOI	539124.82	4115925.15	ISO SMALL	≤37mm	6.43	6/7/21		NMRD	SCRAP METAL	PIN	18	20	17	N 0-30°	539124.808	4115925.085	100-0180 100-0181	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/03/21

LOCATION GR_08 | DIG TEAM LEADER S. BEBOW | DATE FINISHED 06/07/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
220	Verification	539126.76	4115924.29	ISO LARGE	≥105mm	15.20	6/7/21	1	NMRD	SCRAP METAL	PIPE	7	30	37	N 0-30°	539126.758	4115924.306	100-0186 100-0187	Y		SB
221	Verification	539109.58	4115919.39	ISO LARGE	≥105mm	11.48	6/4/21	1	MPPEH	MORTAR	SAME AS 60 81mm FUZED	11	81	59	SW 0-30°	539109.570	4115919.434	100-0128 100-0129	Y		SB
232	Validation	539115.38	4115923.10	ISO SMALL	≤37mm	30.08	6/4/21	3	NMRD	SCRAP METAL	NAIL, WIRE, SCRAP	30	10	10	W 0-30°	539115.352	4115923.025	100-0142 100-0143	Y		SB
237 ~~SAME AS 24~~	Likely TOI	539115.10	4115928.76	ISO SMALL	≤37mm	13.05	6/4/21	16	NMRD	SCRAP METAL	SHARED W/ 24 BOLTS, WIRE, WASHER, NAILS, PIPE	25	25	97	N 0-30°	539115.114	4115928.769	100-0148 100-0149	Y		SB
245	Validation	539115.88	4115923.64	ISO SMALL	≤37mm	28.84	6/4/21	1	NMRD	SCRAP METAL	SCRAP	30	10	10	W 0-30°	539115.849	4115923.615	100-0144 100-0145	Y		SB
246	Validation	539121.31	4115919.61	ISO LARGE	≥105mm	35.80	6/3/21	+ 3 BAC 6/3/21	NMRD	SCRAP METAL	METAL PLATES	16 (TD 25)	20	16	N 0-30°	539121.405	4115919.639	100-0058 100-0059	Y		SB
251	Validation	539111.90	4115926.45	ISO LARGE	≥105mm	13.73	6/4/21	3	NMRD	SCRAP METAL	ANGLE IRON, BOLT, HOOK	13	10	12	N 0-30°	539111.882	4115926.405	100-0134 100-0135	Y		SB
257	Validation	539119.02	4115928.92	No Match	≤37mm	10.77	6/7/21	1	NMRD	SCRAP METAL	WIRE	11	4	21	N 0-30°	539119.014	4115928.918	100-0167 100-0168	Y		SB
268	Validation	539107.17	4115938.71	ISO MEDIUM	37-105mm	15.55	6/7/21	3	NMRD	SCRAP METAL	SHEET METAL	18	~~10~~ 1 BAC 6/7/21	7	N 0-30°	539107.214	4115938.745	100-0229 100-0230	Y		SB
280	Validation	539118.69	4115932.08	ISO MEDIUM	37-105mm	28.56	6/7/21	7	NMRD	SCRAP METAL	NAILS, WIRE	24	3	17	E 0-30°	539118.714	4115932.070	100-0163 100-0164	Y		SB
291	Validation	539118.85	4115939.49	No Match	37-105mm	42.67	6/7/21	1	NMRD	SCRAP METAL	PIPE	14	45	5	N 0-30°	539118.928	4115939.473	100-0219 100-0220	Y		SB
303	Likely TOI	539116.98	4115917.84	ISO MEDIUM	37-105mm	16.08	6/3/21	1	SEED	QC SEED	SHARED 1, 8 MEDIUM ISO GR-08	19	60	20	N 0-30°	539116.969	4115917.430	100-0061 100-0062	Y		SB
221-2							6/4/21	2	NMRD	SCRAP METAL	SAME AS 60-2 PIPE	11	29	137	N 0-30°	539109.570	4115919.434	100-0128 100-0129	Y		SB

PROJECT RADFORD

LOCATION GR_09

DIG TEAM NO. 1

DIG TEAM LEADER S. Bebow

DATE STARTED 06/27/21

DATE FINISHED 06/27/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	538882.00	4115853.25	ISO MEDIUM	37-105mm	22.03	06/27/21	1	SEED	QC SEED	SAME AS 14 MEDIUM ISO GR-09	22	60	20	N 0-30°			101-0384 101-0385	Y		SB
2	Likely TOI	538890.32	4115854.29	ISO MEDIUM	37-105mm	20.09	06/27/21	1	SEED	QA SEED	MEDIUM ISO NAB1528	22	60	20	NE 0-30°			101-0388 101-0389	Y		SB
4	Likely TOI	538894.76	4115838.08	ISO MEDIUM	37-105mm	7.90	06/27/21	1	NMRD	SCRAP METAL	PIPE	8	40	71	NE 0-30°			101-0390 101-0391	Y		SB
5	Likely TOI	538878.80	4115843.44	ISO MEDIUM	37-105mm	29.88	06/27/21	1	NMRD	SCRAP METAL	SCRAP	31	40	25	NW 0-30°			101-0386 101-0387	Y		SB
6	Validation	538880.68	4115864.34	ISO SMALL	≤37mm	15.61	06/27/21	1	NMRD	SCRAP METAL	PIPE	16	50	10	E 0-30°			101-0382 101-0383	Y		SB
14	Likely TOI	538882.01	4115853.28	ISO MEDIUM	37-105mm	24.33	06/27/21				SAME AS 1										

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/27/21

LOCATION GR_10 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/27/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	538951.48	4115836.20	ISO MEDIUM	37-105mm	30.77	06/27/21	1	SEED	QC SEED	MEDIUM ISO GR-10 SAME AS 21	29	60	20	E 0-30°			101-0339 101-0340	Y		SB
4	Likely TOI	538952.20	4115848.57	ISO SMALL	≤37mm	16.78	06/27/21	1	SEED	QA SEED	SMALL ISO NAB166	16	36	10	E 0-30°			101-0343 101-0344	Y		SB
7	Verification	538970.62	4115839.13	ISO SMALL	≤37mm	8.00	06/27/21	1	NMRD	SCRAP METAL	BOLT	8	25	11.5	NE 0-30°			101-0337 101-0338	Y		SB
15	Likely TOI	538969.94	4115841.93	ISO MEDIUM	37-105mm	12.25	06/27/21	1	NMRD	SCRAP METAL	PIPE	13	20	48	NW 0-30			101-0341 101-0342	Y		SB
21	Likely TOI	538951.44	4115836.18	ISO MEDIUM	37-105mm	19.33	06/27/21				SAME AS 1										
33	Cannot Analyze	538962.52	4115841.60	ISO LARGE	≥105mm	0.64	06/27/21	1	CULTURAL FEATURE	STRUCTURE	HARDSCAPE	0	0	0	N/A			101-0336			SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 6/7/2021

LOCATION GR_11 | DIG TEAM LEADER SHAUN BEBOW | DATE FINISHED 6/7/2021

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	539106.35	4115856.94	ISO MEDIUM	37-105mm	18.50	6/7/21	1	SEED	QC SEED	ISO MEDIUM GR-11	16	60	20	E 0-30°	539106.338	4115856.917	100-0233 100-0234	Y		SB
2	Likely TOI	539102.28	4115859.29	ISO MEDIUM	37-105mm	7.46	6/7/21	1	NMRD	SCRAP METAL	SAME AS 7 PIPE	12	40	22	E 0-30°	539102.227	4115859.244	100-0235 100-0236	Y		SB
3	Likely TOI	539110.26	4115857.52	ISO LARGE	≥105mm	33.30	6/7/21	1	MPPEH	MORTAR	SAME AS 66 4.2" MORTAR FUZED	31	106	51	S 0-30°	5391103.295	4115857.466	100-0237 100-0238	Y		SB
4	Likely TOI	539114.50	4115857.88	ISO LARGE	≥105mm	34.34	6/7/21	1	MPPEH	MORTAR	81 MM FUZED SAME AS 47	28	81	55	NW 0-30°	539114.500	4115857.880	100-0242 100-0243	Y		SB
7	Likely TOI	539102.31	4115859.32	ISO MEDIUM	37-105mm	7.20	6/7/21	-	—	-	SAME AS 2	—	—	—	—	-	-	—	—		—
47	Likely TOI	539114.53	4115857.95	ISO MEDIUM	37-105mm	26.66	6/7/2	—	—	—	SAME AS 4	—	-	—	—	—	—	—	—		—
66	Likely TOI	539110.27	4115857.48	ISO LARGE	≥105mm	32.56	6/7/21	—	-	—	SAME AS 3	—	—	—	—	—	—	—	—		—
68	Validation	539100.59	4115843.65	ISO SMALL	≤37mm	12.85	6/7/21	1	NMRD	SCRAP METAL	SCRAP	15	10	13	N 0-30°	539100.590	4115843.650	100-0239 100-0240	Y		SB

PROJECT RADFORD DIG TEAM NO. 1 DATE STARTED 06-27-21

LOCATION GR_13 DIG TEAM LEADER S.Bebow DATE FINISHED 06-27-21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	538903.63	4115812.55	ISO MEDIUM	37-105mm	14.98	06/27/21	1	SEED	QA SEED	MEDIUM ISO NAB 1527	15	60	20	NW 0-30			101-0396 101-0397	Y		SB
5	Verification	538904.42	4115819.21	ISO MEDIUM	37-105mm	6.78	06/27/21	1	NMRD	SCRAP METAL	PIPE	6	60	19	NE 0-30			101-0398 101-0399	Y		SB
22	Validation	538905.36	4115800.60	ISO LARGE	≥105mm	93.37	06/27/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	96	0	0	N/A			101-0394 101-0395	Y		SB
35	Validation	538919.37	4115791.18	ISO SMALL	≤37mm	24.03	06/27/21	1	NMRD	SCRAP METAL	SCRAP	18	15	7	N 0-30			101-0400 101-0410	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION GR_14 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	538988.66	4115789.24	ISO SMALL	≤37mm	8.94	06/29/21	1	SEED	QC SEED	~~SAME AS 60~~ SMALL ISO GR-14	14	30	10	E 0-30°	538988.628	4115789.222	101-0447 101-0448	Y		SB
2	Likely TOI	538997.86	4115780.15	ISO MEDIUM	37-105mm	13.86	06/29/21	1	NMRD	SCRAP METAL	PIPE	12	40	47	N 0-30°	538997.801	4115780.166	101-0463 101-0464			SB
3	Likely TOI	538982.91	4115795.80	ISO SMALL	≤37mm	8.49	06/29/21	1	NMRD	SCRAP METAL	BOLT	12	25	13	NE 0-30°	538982.912	4115795.822	101-0443 101-0444	Y		SB
5	Likely TOI	538988.66	4115772.86	ISO SMALL	≤37mm	8.13	06/29/21	1	NMRD	SCRAP METAL	SCRAP	10	10	14.5	SE 0-30°	538988.675	BAC 06/29/21 ~~4115773.~~ 4115772.900	101-0457 101-0458	Y		SB
9	Likely TOI	538988.06	4115773.08	ISO MEDIUM	37-105mm	12.88	06/29/21	1	NMRD	SCRAP METAL	SCRAP	12	30	13	NW 0-30°	538988.081	4115773.110	101-0455 101-0456	Y		SB
10	Verification	538990.32	4115784.02	100-lb GP Bomb	≥105mm	23.69	06/29/21	1	NMRD	SCRAP METAL	METAL PLATE	19	30	41	N 0-30°	538990.321	4115784.016	101-0475 101-0476	Y		SB
11	Likely TOI	538989.71	4115785.57	ISO MEDIUM	37-105mm	15.14	06/29/21	1	SEED	QA SEED	MEDIUM ISO NAB 1574	10	60	20	NE 0-30°	538989.715	4115785.540	101-0471 101-0472	Y		SB
12	Likely TOI	538989.11	4115775.41	ISO LARGE	≥105mm	41.06	06/29/21	1	CULTURAL FEATURE	PIPE	PIPE L.I.P.	39	30	65	W 30-60°	538989.113	4115775.392	101-0459 101-0460			SB
14	Likely TOI	538984.97	4115799.51	ISO SMALL	≤37mm	5.79	06/29/21	1	NMRD	SAMEAS 59 SCRAP METAL	PIPE ~~BOLT~~ BAC 06/29/21	8	25	10.5	NE 0-30°	~~5399~~ BAC 06/29/21 ~~538~~ 538984.990	4115799.518	101-0445 101-0446	Y		SB
19	Validation	538992.42	4115780.81	ISO LARGE	≥105mm	31.81	06/29/21	1	CULTURAL FEATURE	PIPE IN Concrete	PIPE L.I.P.	22	50	0	NE 0-30°	538992.375	4115780.806	101-0461 101-0462			SB
20	Validation	538987.87	4115783.25	ISO LARGE	≥105mm	53.65	06/29/21	0	CULTURAL FEATURE	STRUCTURE	HARDSCAPE ~~L.I.P.~~ BAC 06/29/21	0	0	0	N/A	538987.864	4115783.356	101-0480			SB
23	Verification	538987.00	4115773.61	ISO SMALL	≤37mm	9.48	06/29/21	1	NMRD	SCRAP METAL	NAIL	12	3	9	N 0-30°	538986.994	4115773.617	101-0481 101-0482	Y		SB
32	Validation	538999.31	4115780.97	ISO MEDIUM	37-105mm	10.08	06/29/21	1	NMRD	SCRAP METAL	SCRAP	12	15	14	SW 0-30°	538999.276	4115780.986	101-0465 101-0466	Y		SB
33	Validation	538981.39	4115776.98	ISO SMALL	≤37mm	10.85	06/29/21	1	NMRD	SCRAP METAL	BOLT	8	20	9	NW 0-30°	538981.413	4115776.499	101-0453 101-0454	Y		SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION GR_14 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
34	Likely TOI	538993.00	4115786.42	ISO MEDIUM	37-105mm	30.67	~~06~~/29/21	1	BAC 06/29/21 ~~NMRD~~ CULTURAL FEATURE	~~SCRAP METAL~~ STRUCTURE	BAC 6/29/21 ~~WIRE~~ REINFORCED CONCRETE L.I.P.	26	0	0	~~N/A~~ ~~NW~~ BAC 06/29/21 ~~0-30°~~	538992.982	4115786.441	101-0469 101-0470			SB
38	Validation	538987.89	4115785.40	ISO LARGE	≥105mm	62.25	06/29/21	0	NO CONTACT	N/A	N/A	82	0	0	N/A	538987.897	4115785.318	101-0477 101-0478 101-0479	Y		SB
39	Validation	538978.89	4115783.59	ISO SMALL	≤37mm	25.62	06/29/21	1	NMRD	SCRAP METAL	SMALL PIPE	26	30	5	NE 0-30°	538978.875	4115783.575	101-0449 101-0450	Y		SB
40	Verification	538995.97	4115784.00	ISO SMALL	≤37mm	9.39	06/29/21	1	NMRD	SCRAP METAL	BOLT	9	30	14	NW 0-30°	538995.996	4115784.024	101-0467 101-0468	Y		SB
46	Verification	538978.81	4115780.59	ISO MEDIUM	37-105mm	26.42	06/29/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	34	40	~~40~~ 0 BAC 06/29/21	E 0-30°	538978.815	4115780.596	~~101~~-0451 101-0452	X		SB
58	Likely TOI	538989.23	4115785.29	100-lb GP Bomb	≥105mm	66.32	06/29/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	54	0	0	N/A	538989.213	4115785.288	101-0473 101-0474			SB
59	Likely TOI	538984.99	4115799.52	ISO SMALL	≤37mm	4.98	06/29/21				SAME AS 14										
60	Likely TOI	538988.64	4115789.26	ISO SMALL	≤37mm	8.96	06/29/21				SAME AS 1										

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/26/21

LOCATION GR_15 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/26/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	538933.16	4115764.49	ISO MEDIUM	37-105mm	13.98	06/26/21	1	SEED	QA SEED	MEDIUM ISO NAB 133	14	60	20	NE 0-30°			101-0306 101-0307	Y		SB
2	Likely TOI	538929.32	4115747.94	ISO MEDIUM	37-105mm	25.49	06/26/21	1	SEED	QC SEED	MEDIUM ISO GR-15	26	60	20	N 60-90°			101-0302 101-0303	Y		SB
4	Likely TOI	538924.06	4115759.38	ISO MEDIUM	37-105mm	20.46	06/26/21	1	NMRD	SCRAP METAL	SCRAP ~~PIPE~~ BAC 06/26/21	17	50	28	NE 0-30°			101-0304 101-0305	Y		SB
5	Validation	538949.30	4115768.69	No Match	≥105mm	10.03	06/26/21	1	NMRD	SCRAP METAL	PIPE	10	30	122	SE 0-30°			101-0286 101-0287	Y		SB
6	Verification	538951.63	4115755.57	ISO SMALL	≤37mm	2.47	06/26/21	1	NMRD	SCRAP METAL	PIPE	3	30	38	SW 0-30°			101-0294 101-0295	Y		SB
7	Verification	538949.39	4115744.15	ISO MEDIUM	37-105mm	23.07	06/26/21	1	NMRD	SCRAP METAL	SAME AS 10 SCRAP	23	8	26	N 0-30°			101-0298 101-0299	Y		SB
8	Likely TOI	538949.94	4115756.23	ISO SMALL	≤37mm	4.91	06/24/21	1	NMRD	SCRAP METAL	SCRAP	6	15	15	SE 0-30°			101-0292 101-0293	Y		SB
10	Verification	538949.60	4115744.19	ISO MEDIUM	37-105mm	23.50	06/26/21				SAME AS 7										
16	Likely TOI	538948.81	4115761.47	ISO SMALL	≤37mm	7.54	06/26/21	1	NMRD	SCRAP METAL	NAIL	9	15	16	NW 0-30°			101-0290 101-0291	Y		SB
22	Validation	538951.97	4115764.67	ISO SMALL	≤37mm	14.08	06/26/21	1	NMRD	SCRAP METAL	NAIL	12	10	11	W 0-30°			101-0288 101-0289	Y		SB
75	Verification	538941.83	4115741.55	100-lb GP Bomb	≥105mm	56.79	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	57	0	0	N 0-30°			101-0300 101-0301			SB
79	Validation	538952.21	4115748.68	ISO SMALL	≤37mm	17.02	06/26/21	1	NMRD	SCRAP METAL	SCRAP	23	35	16	N 0-30°			101-0286 101-0287	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/25/21

LOCATION GR_16 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/26/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	539024.19	4115737.83	ISO MEDIUM	37-105mm	22.84	06/25/21	1	SEED ~~NMRD~~ EXC 06/25/21	QC SEED	SAME AS 28 MEDIUM ISO GR-16	23	60	20	E 0-30°			101-0145 101-0146	Y		SB
3	Validation	539027.33	4115735.90	100-lb GP Bomb	≥105mm	60.20	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	61	0	0	NE 0-30°			101-0174 101-0175			SB
5	Likely TOI	539032.18	4115742.50	ISO MEDIUM	37-105mm	44.24	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	41	0	0	N 0-30°			101-0284			SB
6	Likely TOI	539011.72	4115744.22	100-lb GP Bomb	≥105mm	68.84	06/25/21	1	CULTURAL FEATURE	BURIED PIPE	SHARED W/ 64 PIPE L.I.P.	90	150	0	E 0-30°			101-0168			SB
8	Likely TOI	539026.20	4115745.92	ISO MEDIUM	37-105mm	14.08	06/25/21	1	SEED	QA SEED	MEDIUM ISO NAS 1567	35	60	20	NW 0-30°			101-0161 101-0162	Y		SB
10	Validation	539004.73	4115734.64	100-lb GP Bomb	≥105mm	64.52	06/26/21	1	CULTURAL FEATURE	BURIED PIPE	PIPE L.I.P.	58	50	0	SE 0-30°			101-0186 101-0187			SB
17	Verification	539010.04	4115733.90	100-lb GP Bomb	≥105mm	75.24	06/26/21	1	CULTURAL FEATURE	BURIED PIPE	PIPE L.I.P.	68	50	0	S 0-30°			101-0194 101-0195			SB
19	Validation	539023.12	4115733.27	ISO MEDIUM	37-105mm	12.66	06/25/21	1	NMRD	SCRAP METAL	SHARED W/ 34 SCRAP	9	20	132	S 0-30°			101-0142 101-0143	Y		SB
21	Likely TOI	539007.81	4115736.90	ISO LARGE	≥105mm	27.05	06/25/21	2 + EXC 06/25/21	NMRD	SCRAP METAL	REBAR, PIPE	27	15	25	S 0-30°			101-0140 ~~101-0141~~ 101-0167 EXC 06/25/21	Y		SB
25	Validation	539005.72	4115733.93	ISO LARGE	≥105mm	65.79	06/26/21		CULTURAL FEATURE	STRUCTURE	PIPE L.I.P.	63	50	0	S 0-30°			101-0183 101-0187			SB
28	Likely TOI	539024.19	4115737.90	ISO MEDIUM	37-105mm	26.81	06/25/21				SAME AS 1										
34	Validation	539022.89	4115733.78	ISO MEDIUM	37-105mm	13.63	06/25/21	1	NMRD	SCRAP METAL	SHARED W/ 19 SCRAP	9	20	132	S 0-30°			101-0142 101-0144	Y		SB
44	Likely TOI	539025.18	4115732.73	ISO MEDIUM	37-105mm	47.75	06/26/21	1	CULTURAL FEATURE	STRUCTURE	SAME AS 65 REINFORCED CONCRETE	51	0	0	NE 0-30°			101-0171			SB
46	Validation	539018.56	4115723.56	ISO LARGE	≥105mm	45.75	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	36	0	0	N 0-30°			101-0285			SB

PROJECT RADFORD DIG TEAM NO. 1 DATE STARTED 06/25/21

LOCATION GR_16 DIG TEAM LEADER S. Bebow DATE FINISHED 06/26/21

AGC SURVEY RESULTS							DIG RESULTS														
		POSITION														POSITION					
TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	EASTING	NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
50	Verification	539011.18	4115751.29	ISO LARGE	≥105mm	29.79	06/25/21	1	NMRD	SCRAP METAL	CABLE L.I.P.	19	15	0	NW 0-30°			101-0153 101-0154	Y		SB
54	Likely TOI	539020.78	4115743.92	ISO SMALL	≤37mm	6.29	06/25/21	1	NMRD	SCRAP METAL	PIPE	7	20	108	NE 0-30°			101-0147 101-0148	Y		SB
55	Likely TOI	539011.06	4115751.15	ISO MEDIUM	37-105mm	22.85	06/25/21	1	NMRD	SCRAP METAL	SCRAP	22	20	21	N 0-30°			101-0151 101-0152	Y		SB
63	Validation	539005.72	4115738.31	ISO MEDIUM	37-105mm	18.69	06/25/21	1	NMRD	SCRAP METAL	PIPE	14	25	20	SW 0-30°			101-0138 101-0139	Y		SB
64	Validation	539011.72	4115744.02	No Match	≥105mm	55.53	06/25/21	1	CULTURAL FEATURE	BURIED PIPE	SHARED w/6 PIPE L.I.P.	94 ~~90~~ BAC 06/25/21	150	0	E 0-30°			101-0169			SB
65	Likely TOI	539025.15	4115732.68	ISO LARGE	≥105mm	52.75	06/26/21				SAME AS 44										
68	Validation	539034.99	4115746.36	100-lb GP Bomb	≥105mm	67.49	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	68	0	0	NE 0-30°			101-0182 101-0183			SB
72	Verification	539010.67	4115743.20	100-lb GP Bomb	≥105mm	70.03	06/25/21	1	CULTURAL FEATURE ~~NMRD~~ BAC 06/25/21	BURIED PIPE L.I.P.	PIPE	71	150	0	E 0-30°			101-0170			SB
73	Likely TOI	539009.39	4115727.44	ISO SMALL	≤37mm	17.72	06/25/21	1	NMRD	SCRAP METAL	WIRE	18	10	9	SE 0-30°			101-0134 101-0135	Y		SB
74	Verification	539026.05	4115734.24	ISO LARGE	≥105mm	61.63	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	58	0	0	NE 0-30°			101-0172 101-0173			SB
91	Likely TOI	539017.16	4115746.51	ISO LARGE	≥105mm	9.48	06/25/21	1	NMRD	SCRAP METAL	PIPE	11	45	127	NE 0-30°			101-0149 101-0150	Y		SB
94	Validation	539012.04	4115753.74	ISO SMALL	≤37mm	20.98	06/25/21	8	NMRD	SCRAP METAL	NAILS	21	10	8	N 0-30°			101-0155 101-0156	Y		SB
96	Validation	539022.41	4115750.60	100-lb GP Bomb	≥105mm	90.73	06/25/21	1	CULTURAL FEATURE	~~STRUCTURE~~ UTILITY BAC 06/25/21	WATER LINE L.I.P.	111	40	0	W 0-30			101-0158 101-0160	Y		SB
101	Verification	539005.40	4115737.57	No Match	37-105mm	14.69	6/25/21	1	NMRD	SCRAP METAL	REBAR	15	20	28	W 0-30°			101-0136 101-0137	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/25/21

LOCATION GR_16 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/26/21

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
~~103~~	Validation	539012.50	4115727.88	ISO MEDIUM	37-105mm	41.25	6/25/21	2	NMRD	SCRAP METAL	WIRE	36	3	18	NE 0-30°			~~101-0163~~ 101-0164	Y		SB BAC 06/25/21
105	Validation	539018.04	4115750.61	No Match	≥105mm	29.59	~~06/25/21~~	2	NMRD	SCRAP METAL	WIRE	30	3	18	NE 0-30°			101-0163 101-0164	Y		SB
106	Validation	539030.36	4115740.00	100-lb GP Bomb	≥105mm	72.50	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	72	0	0	NE 0-30°			101-0178 101-0179			SB
111	Validation	539029.36	4115738.72	ISO LARGE	≥105mm	48.27	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	48	0	0	NE 0-30°			101-0176 101-0177			SB
116	Validation	539034.24	4115745.35	ISO LARGE	≥105mm	63.39	06/26/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	63	0	0	NE 0-30°			101-0180 101-0181			SB
129	Validation	539005.93	4115733.71	100-lb GP Bomb	≥105mm	65.53	06/26/21	1	CULTURAL FEATURE	STRUCTURE	PIPE L.I.P.	66	50	0	S 0-30°			101-0192 101-0193			SB
137	Validation	539006.30	4115733.39	100-lb GP Bomb	≥105mm	63.75	06/26/21	1	CULTURAL FEATURE	STRUCTURE	PIPE L.I.P.	61	50	0	S 0-30°			101-0190 101-0191			SB
144	Likely TOI	539006.66	4115737.27	100-lb GP Bomb	≥105mm	61.07	06/26/21	1	CULTURAL FEATURE	BURIED PIPE	PIPE L.I.P.	64	150	0	E 0-30°			101-0184 101-0185			SB
103							06/25/21	1	NMRD	SCRAP METAL	SCRAP	42	10	21	N 0-30°			101-0165 101-0166	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/24/21

LOCATION GR_17 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/24/21

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	539063.18	4115767.15	ISO MEDIUM	37-105mm	15.26	6/24/21	1	SEED	QC SEED	MEDIUM ISO GR-17	14	60	20	~~NW~~ W BAC 6/24/21 0-30°			101-0053 101-0054	Y		SB
2	Likely TOI	539086.75	4115761.63	ISO MEDIUM	37-105mm	25.84	6/24/21	1	NMRD	SCRAP METAL	PIPE	25	60	45	SE 0-30°			101-0061 101-0062	Y		SB
3	Verification	539069.22	4115754.28	ISO MEDIUM	37-105mm	6.16	6/24/21	1	NMRD	SCRAP METAL	SCRAP	6	35	22	E 0-30°			101-0059 101-0060	Y		SB
5	Verification	539088.14	4115760.77	100-lb GP Bomb	≥105mm	46.61	6/24/21	1	NMRD	SCRAP METAL	SHARED W/ 100015 PIPE	30	70	56	SE 0-30°			101-0063 101-0067	Y		SB
6	Verification	539063.78	4115780.37	No Match	≤37mm	2.76	6/24/21	1	NMRD	SCRAP METAL	SCRAP	5	40	13	SE 0-30°			101-0055 101-0056	Y		SB
15	Likely TOI	539087.97	4115760.65	100-lb GP Bomb	≥105mm	47.36	6/24/21	1	NMRD	SCRAP METAL		47	100	59	NE 0-30°			101-0065 101-0066	Y		SB
100015 15	Likely TOI	539087.94	4115760.80	ISO LARGE	≥105mm	28.88	6/24/21	1	NMRD	SCRAP METAL	SHARED W/ 5 PIPE	30	70	56	SE 0-30°			101-0063 101-0064	Y		SB
17	Validation	539084.11	4115757.64	ISO LARGE	≥105mm	58.08	6/24/21	1	NMRD	SCRAP METAL	GROUNDING ROD L.i.P.	50	10	0	E 0-30°			101-0068 101-0069	N		SB
31	Validation	539083.40	4115776.95	No Match	≥105mm	16.90	6/24/21	3	NMRD	SCRAP METAL	WIRE	17 TO 40	15	19	N 0-30°			101-0057 101-0058 101-0745	Y		SB

PROJECT RADFORD

LOCATION GR_18

DIG TEAM NO. 1

DIG TEAM LEADER S. Bebow

DATE STARTED 06/27/21

DATE FINISHED 06/27/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		DESCRIPTION	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	538853.39	4115800.11	ISO SMALL	≤37mm	8.52	06/27/21	1	SEED	QC SEED	SMALL ISO GR-18	10	30	10	NW 0-30			101-0392 101-0393	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/22/21

LOCATION TM_01 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/23/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	539755.51	4116563.01	4.2-in Mortar	≥105mm	23.89	6/23/21	1	MPPEH	MORTAR	SAME AS 63 4.2" MORTAR FUZE SHEARED	27	106	48	NW 0-30°			101-0017 101-0018	Y		SB
2	Likely TOI	539759.52	4116574.42	ISO MEDIUM	37-105mm	2.11	6/22/21	1	NMRD	SCRAP METAL	PIPE	4	5	19	NE 0-30°			100-1168 100-1169	Y		SB
3	Likely TOI	539762.62	4116572.24	81mm Mortar	37-105mm	19.12	6/22/21	4	NMRD	SCRAP METAL	SCRAP	16	30	31	SW 0-30°			100-1145 100-1146	Y		SB
4	Likely TOI	539749.27	4116566.62	4.2-in Mortar	≥105mm	24.06	6/23/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	24	106	47	SE 0-30°			101-0009 101-0010	Y		SB
5	Likely TOI	539750.91	4116565.57	4.2-in Mortar	≥105mm	50.26	6/23/21	1	MPPEH	MORTAR	~~SAME AS 119~~ 4.2" MORTAR FUZED	50	106	55	SW 0-30°			101-0013 101-0014	Y		SB
6	Likely TOI	539747.47	4116564.44	ISO MEDIUM	37-105mm	38.71	6/23/21	1	MPPEH	MORTAR	SAME AS 15 ~~4~~ 81mm MORTAR FUZE SHEARED BAC 6/23/21	39	~~106~~ 81 BAC 6/23/21	27	NW 60-90°			101-0011 101-0012	Y		SB
7	Likely TOI	539753.34	4116559.73	ISO LARGE	≥105mm	22.48	6/23/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED	20	106	49	NE 30-60°			101-0019 101-0020	Y		SB
8	Likely TOI	539760.51	4116585.04	60mm Mortar	37-105mm	9.92	6/22/21	1	NMRD	SCRAP METAL	SCRAP	9	10	13	N 00-30°			100-1189 100-1190	Y		SB
9	Likely TOI	539738.26	4116583.06	ISO MEDIUM	37-105mm	1.66	6/23/21	1	NMRD	SCRAP METAL	PIPE	5	40	33	SW 0-30°			100-1210 100-1211	Y		SB
10	Likely TOI	539755.81	4116575.26	81mm Mortar	37-105mm	13.10	6/22/21	1	NMRD	SCRAP METAL	SAME AS 56 ~~CABLE~~ PIPE BAC 6/22/21	14	30	57	N 0-30°			100-1179 100-1180	Y		SB
11	Likely TOI	539744.08	4116561.54	60mm Mortar	37-105mm	24.48	6/23/21	8	NMRD	SCRAP METAL	BANDING	23	30	57	W 0-30°			101-0023 101-0024	Y		SB
12	Likely TOI	539750.92	4116561.91	4.2-in Mortar	≥105mm	53.57	6/23/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED	53	106	49	SW 60-90°			101-0015 101-0016	Y		SB
13	Likely TOI	539741.36	4116581.15	60mm Mortar	37-105mm	4.86	6/23/21	~	NMRD	SCRAP METAL	ANGLE IRON	7	10	15	NW 0-30°			100-1212 100-1213	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/22/21

LOCATION TM_01 | DIG TEAM LEADER S. Bebun | DATE FINISHED 06/23/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
14	Likely TOI	539753.09	4116583.90	60mm Mortar	37-105mm	10.04	6/22/21	2	NMRD	SCRAP METAL	SCRAP	9	40	27	E 0-30°			100-1203 100-1204	Y		SB
15	Likely TOI	539747.47	4116564.44	ISO MEDIUM	37-105mm	39.08	6/22/21				SAME AS 6										
16	Likely TOI	539753.49	4116585.16	lumination Candle	37-105mm	8.14	6/22/21	1	NMRD	SCRAP METAL	SAME AS 53 PIPE	7	50	46	NW 0-30°			100-1201 100-1202	Y		SB
17	Likely TOI	539762.64	4116577.09	60mm Mortar	37-105mm	3.24	6/22/21	1	NMRD	SCRAP METAL	SCRAP	4	80	10	N 0-30°			100-1164 100-1165	Y		SB
21	Likely TOI	539760.69	4116588.12	81mm Mortar	37-105mm	14.76	6/22/21	1	NMRD	SCRAP METAL	SCRAP	15	105	53	NE 0-30°			100-1187 100-1188	Y		SB
23	Likely TOI	539766.92	4116573.14	ISO SMALL	≤37mm	2.19	6/22/21	1	NMRD	SCRAP METAL	BOLT	3	30	11	N 0-30°			100-1139 100-1140	Y		SB
24	Likely TOI	539757.69	4116578.93	ISO SMALL	≤37mm	1.00	6/22/21	1	NMRD	SCRAP METAL	SCRAP	7	40	15	NE 0-30°			100-1135 100-1136	Y		SB
25	Likely TOI	539760.38	4116578.46	ISO SMALL	≤37mm	6.30	6/22/21	1	NMRD	SCRAP METAL	SCRAP	7	10	13	N 0-30°			100-1166 100-1167	Y		SB
27	Verification	539758.45	4116575.01	lumination Candle	37-105mm	3.22	6/22/21	1	NMRD	SCRAP METAL	SCRAP	5	25	21	N 0-30°			100-1175 100-1176	Y		SB
30	Verification	539767.87	4116578.31	81mm Mortar	37-105mm	10.90	6/22/21	1	~~CULTURAL NMRD~~	~~STRUCTURE SCRAP METAL~~	ANCHOR L.I.P.	10	40	0	W 30-60°			100-1200			SB
32	Verification	539742.48	4116581.88	No Match	37-105mm	4.91	6/22/21	1	NMRD	SCRAP METAL	SCRAP L.I.P.	4	15	0	SW 0-30°			100-1214 100-1215			SB
~~33~~	~~Likely TOI~~	~~539758.99~~	~~4116582.78~~	~~60mm Mortar~~	~~37-105mm~~	~~11.42~~	~~6/23/21~~	~~1~~	~~NMRD~~	~~SCRAP METAL~~	~~SCRAP~~	~~10~~	~~10~~	~~23~~				1230			
34	Likely TOI	539746.19	4116579.43	60mm Mortar	37-105mm	7.67	6/23/21	1	NMRD	SCRAP METAL	SCRAP	7	50	35	N 0-30°			100-1218 100-1219	Y		SB
33							6/23/21	1	NMRD	SCRAP METAL	CAN, WIRE	10	10	11	N 0-30°			100-1232 100-1233	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/22/21

LOCATION TM_01 | DIG TEAM LEADER S. Below | DATE FINISHED 06/23/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
35	Likely TOI	539760.84	4116576.41	81mm Mortar	37-105mm	6.73	6/22/21	2	NMRD	SCRAP METAL	SCRAP	6	1	17	N 0-30°			100-1162 100-1163	Y		SB
36	Likely TOI	539751.76	4116584.24	60mm Mortar	37-105mm	1.97	6/23/01	1	NMRD	SCRAP METAL	SCRAP	2	60	6.5	NE 60-90°			100-1220 100-1221	Y		SB
37	Likely TOI	539762.95	4116572.19	81mm Mortar	37-105mm	21.43	6/22/21	2	NMRD	SCRAP METAL	SCRAP	20	30	11.5	NE 0-30°			100-1143 100-1144	Y		SB
38	Likely TOI	539754.91	4116580.49	ISO SMALL	≤37mm	12.19	06/22 2021	1	Seed	QC	Small ISO (TM-1)	11	30	10	N 0-30			100-1131 100-1132	Y		SB
39	Likely TOI	539753.91	4116575.47	81mm Mortar	37-105mm	29.28	6/23/21	2	NMRD	SCRAP METAL	BOLTS	31	40	30	NE 0-30°			101-0005 101-0006	Y		SB
40	Likely TOI	539757.74	4116574.64	81mm Mortar	37-105mm	16.32	6/22/21	1	NMRD	SCRAP METAL	PIPE	16	30	31	SE 0-30°			100-1177 100-1178	Y		SB
41	Likely TOI	539754.91	4116574.14	81mm Mortar	37-105mm	9.72	6/22/21	1	NMRD	SCRAP METAL	PIPE	10	70	215	E 0-30°			100-1181 100-1182	Y		SB
42	Verification	539739.52	4116588.72	81mm Mortar	37-105mm	7.37	6/23/21	1	NMRD	SCRAP METAL	BOLT	7	30	27	W 0-30°			100-1208 100-1209	Y		SB
43	Likely TOI	539761.43	4116573.95	60mm Mortar	37-105mm	30.02	6/22/21	1	NMRD	SCRAP METAL	BOLT	29	40	13	W 0-30°			100-1158 100-1159	Y		SB
44	Likely TOI	539752.84	4116575.71	ISO MEDIUM	37-105mm	26.72	6/23/21	1	NMRD	SCRAP METAL	PIPE	28	40	19	NE 60-90°			101-0003 101-0004	Y		SB
45	Likely TOI	539756.73	4116582.01	60mm Mortar	37-105mm	2.03	6/23/21	2	NMRD	SCRAP METAL	ALUMINUM, NAIL	5	2	9	N 0-30°			100-1236 100-1237	Y		SB
48	Likely TOI	539760.93	4116572.39	81mm Mortar	37-105mm	10.07	6/22/21	2	NMRD	SCRAP METAL	SCRAP	11	10	19	N 0-30°			100-1150 100-1151	Y		SB
49	Verification	539761.26	4116589.50	No Match	37-105mm	11.60	6/22/21	1	NMRD	SCRAP METAL	SCRAP L.I.P.	11	40	0	N 30-60°			100-1198			SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/22/21

LOCATION TM_01 | DIG TEAM LEADER S.Below | DATE FINISHED 06/23/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
53	Likely TOI	539753.46	4116585.14	60mm Mortar	37-105mm	12.97	6/22/21				SAME AS 16										
54	Verification	539753.66	4116584.89	60mm Mortar	37-105mm	21.05	6/23/21	1	NMRD	SCRAP METAL	SCRAP	22	30	31	E 0-30°			100-1226 100-1227	Y		SB
56	Likely TOI	539755.81	4116575.28	81mm Mortar	37-105mm	17.67	6/22/21				SAME AS 10										
57	Likely TOI	539761.69	4116571.78	81mm Mortar	37-105mm	19.47	06/22 2021	6	NMRD	Scrap Metal	Scrap	18	70	24	E-030			100-1147 100-1148	Y		SB
60	Likely TOI	539744.47	4116561.08	81mm Mortar	37-105mm	29.63	6/23/21	1	NMRD	SCRAP METAL	BANDING	28	30	48	N 0-30°			101-0021 101-0022	Y		SB
63	Likely TOI	539755.48	4116563.04	4.2-in Mortar	≥105mm	26.54	6/23/21				SAME AS 1										
64	Likely TOI	539758.51	4116582.29	60mm Mortar	37-105mm	2.02	6/23/21		NMRD	SCRAP METAL	ALUMINUM	4	2	24	N 0-30°			100-1234 100-1235	Y		SB
66	Likely TOI	539764.95	4116585.88	81mm Mortar	37-105mm	12.05	6/22/21	1	NMRD	SCRAP METAL	REBAR LIP.	11	15	0	NE 0-30°			100-1195 100-1196			SB
67	Likely TOI	539761.37	4116574.19	81mm Mortar	37-105mm	19.87	6/22/21	1	NMRD	SCRAP METAL	SCRAP	20	70	12	N 0-30°			100-1156 100-1157	Y		SB
68	Likely TOI	539760.12	4116571.18	81mm Mortar	37-105mm	6.59	6/22/21	1	NMRD	SCRAP METAL	SCRAP L.I.P.	5	180	0	N 0-30°			100-1149	* BAR 6/23/21		SB
72	Verification	539759.06	4116576.16	ISO SMALL	≤37mm	6.37	6/22/21	1	NMRD	SCRAP METAL	REBAR	7	10	22	SW 0-30°			100-1173 100-1174	Y		SB
74	Verification	539748.37	4116589.49	60mm Mortar	37-105mm	5.85	6/23/21	1	NMRD	SCRAP METAL	SCRAP	6	40	9	N 0-30°			100-1224 100-1225	Y		SB
75	Validation	539739.51	4116576.06	60mm Mortar	37-105mm	11.83	6/23/21		NMRD	SCRAP METAL	SCRAP	11	2	16	N 0-30°			101-0007 101-0008	Y		SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/22/21

LOCATION TM_01 | DIG TEAM LEADER S. Below | DATE FINISHED 06/23/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
76	Likely TOI	539760.96	4116575.57	60mm Mortar	37-105mm	32.43	6/22/21	2	NMRD	SCRAP METAL	REBAR / WIRE	38	10	20	NE 0-30°			100-1160 100-1161	Y		SB
77	Verification	539753.82	4116587.47	No Match	37-105mm	7.36	6/22/21	1	NMRD	SCRAP METAL	SCRAP	6	1	25	NW 0-30°			100-1205 100-1206	Y		SB
81	Likely TOI	539754.71	4116585.72	ISO SMALL	≤37mm	19.26	6/23/21		NMRD	SCRAP METAL	SCRAP	18	30	~~18~~ 8 BAC 6/23/21	SE 0-30°			100-1228 100-1229	Y		SB
87	Likely TOI	539754.48	4116576.84	ISO SMALL	≤37mm	3.84	6/22/21	1	NMRD	SCRAP METAL	BOLT	10	40	12	E 0-30°			100-1137 100-1138	Y		SB
90	Likely TOI	539745.28	4116579.39	81mm Mortar	37-105mm	9.08	6/23/21	1	NMRD	SCRAP METAL	SCRAP	9	30	9	N 0-30°			100-1216 100-1217	Y		SB
96	Likely TOI	539759.96	4116572.75	60mm Mortar	37-105mm	12.30	6/22/21	1	NMRD	SCRAP METAL	REBAR	11	15	52	W 0-30°			100-1152 100-1153	Y		SB
103	Validation	539757.45	4116586.36	ISO SMALL	≤37mm	24.13	6/22/21	4	NMRD	SCRAP METAL	SCRAP	23	2	25	N 0-30°			100-1183 100-1184	Y		SB
109	Validation	539759.25	4116576.17	ISO SMALL	≤37mm	12.91	6/22/21	2	NMRD	SCRAP METAL	SHARED W/ 114 SCRAP	13	1	57	N 0-30°			100-1170 100-1171	Y		SB
114	Validation	539759.26	4116576.31	60mm Mortar	37-105mm	11.41	6/22/21	2	NMRD	SCRAP METAL	SHARED W/ 109 SCRAP	13	1	57	N 0-30°			100-1170 100-1172	Y		SB
115	Likely TOI	539763.23	4116575.88	81mm Mortar	37-105mm	17.14	6/22/21	2	NMRD	SCRAP METAL	SCRAP	17	15	18	W 0-30°			100-1141 100-1142	Y		SB
117	Verification	539760.08	4116588.97	4.2-in Mortar	≥105mm	27.88	6/22/21		NMRD	SCRAP METAL	WIRE	29	10	230	W 0-30°			100-1185 100-1186	Y		SB
119	Likely TOI	539750.99	4116565.43	4.2-in Mortar	≥105mm	49.84	6/23/21				SAME AS 5										
125	Verification	539763.16	4116585.75	60mm Mortar	37-105mm	-0.13	6/22/21	1	CULTURAL	STRUCTURE	REINFORCED CONCRETE L.I.P.	2	0	0	N/A			101-0760 ~~100-1149~~ ~~SB~~ 07/03/21			SB

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/22/21

LOCATION TM_01 | DIG TEAM LEADER S. Below | DATE FINISHED 06/23/21

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
~~126~~	Verification	539763.14	4116585.61	~~81mm Mortar~~	~~37-105mm~~	~~14.65~~	6/22/21	1	~~CULTURAL~~ NMRD	~~STRUCTURE~~ SCRAP METAL	~~REINFORCED CONCRETE~~ ~~SCRAP~~ L.I.P.	~~2~~ 14	~~0~~ ~~105~~	0	N/A			~~100-1191~~ ~~100-1144~~ ~~100-1192~~ ~~100-1143~~			~~SB~~
132	Validation	539753.91	4116579.05	60mm Mortar	37-105mm	1.48	6/22/21	1	NMRD	SCRAP METAL	SCRAP	5	1 ~~10~~ BMK 6/22/21	9.5	W 0-30°			100-1133 100-1134	Y		SB
142	Verification	539764.21	4116584.26	81mm Mortar	37-105mm	16.14	6/22/21	1	NMRD	SCRAP METAL	SCRAP L.I.P.	13	10	0	E 0-30°			100-1196 100-1197			SB
145	Validation	539764.68	4116581.77	4.2-in Mortar	≥105mm	40.03	6/22/21	1	CULTURAL	STRUCTURE	REINFORCED CONCRETE L.I.P.	44	0	0	N/A			100-1199			SB
151	Cannot Analyze	539751.81	4116585.06	ISO LARGE	≥105mm	-7.27	6/23/21	1	NMRD	SCRAP METAL	SCRAP	0	60	239	NW 0-30°			100-1222 100-1223	Y		SB
160	Likely TOI	539761.34	4116573.49	60mm Mortar	37-105mm	16.74	6/22/21	1	NMRD	SCRAP METAL	BOLT	15	45	13	E 0-30°			100-1154 100-1155	Y		SB
126							6/22/21	1	CULTURAL	STRUCTURE	REINFORCED CONCRETE	2	0	0	N/A			100-1194			SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_05 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	539825.34	4116567.82	4.2-in Mortar	≥105mm	20.42	6/18/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	20	106	53	S 0-30°			100-1027 100-1028	Y		SB
2	Likely TOI	539836.81	4116570.02	60mm Mortar	37-105mm	23.68	6/18/21	1	MPPEH	MORTAR	SAME AS 18,136,145 4.2" MORTAR FUZED	32	106	52	E 30-60°			100-1035 100-1036	Y		SB
3	Likely TOI	539841.73	4116570.32	4.2-in Mortar	≥105mm	18.14	6/18/21	1	MPPEH	MORTAR	SAME AS 40 4.2" MORTAR FUZED	21	106	53	NW 0-30°			100-1041 100-1042	Y		SB
4	Likely TOI	539818.94	4116558.92	ISO MEDIUM	37-105mm	12.77	6/18/21	1	SEED	QC SEED	ISO MEDIUM TM-05	10	60	20	E 0-30°			100-1015 100-1016	Y		SB
5	Likely TOI	539821.53	4116571.42	ISO LARGE	≥105mm	35.95	6/18/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	41	106	45	SE 30-60°			100-1025 100-1026	Y		SB
6	Likely TOI	539819.73	4116568.21	60mm Mortar	37-105mm	22.11	6/21/21	+ 2 BAE 6/21/21	NMRD	SCRAP METAL	SHARED W/ 10006 SCRAP	26	50	19	N 0-30°			100-1104 100-1105	Y		SB
10006 6 BAE 6/21/21	Likely TOI	539819.30	4116568.17	60mm Mortar	37-105mm	27.98	6/21/21	+ 2	NMRD	SCRAP METAL	SHARED W/ 6 SCRAP	26	50	19	N 0-30°			100-1104 100-1106	Y		SB
7	Likely TOI	539840.19	4116569.51	4.2-in Mortar	≥105mm	29.39	6/18/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	23	106	53	W 30-60°			100-1039 100-1040	Y		SB
8_1	Likely TOI	539833.37	4116575.89	4.2-in Mortar	≥105mm	26.26	6/21/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	20	106	44	NE 0-30°			100-1127 100-1128	Y		SB
9	Likely TOI	539845.70	4116561.75	ISO LARGE	≥105mm	35.63	6/21/21	1	MPPEH	MORTAR	SAME AS 12 4.2" MORTAR FUZE SHEARED	37	106	50	SW 60-90°			100-1085 100 1086	Y		SB
11	Likely TOI	539838.16	4116573.62	ISO LARGE	≥105mm	54.89	6/21/21	1	MPPEH	MORTAR	SAME AS 59 4.2" MORTAR FUZED	54	106	55	W 60-90°			100-1071 100-1072	Y		SB
12	Likely TOI	539845.71	4116561.71	ISO LARGE	≥105mm	39.88	6/21/21				SAME AS 9										
13	Likely TOI	539837.14	4116566.17	81mm Mortar	37-105mm	39.34	6/21/21	1	MPPEH	MORTAR	4.2" MORTAR NOT FUZED	38	106	40	W 60-90°			100-1061 100-1062	Y		SB
8-2							6/21/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	23	106	54	S 0-30°			100-1129 100-1130	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_05 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
14	Verification	539824.65	4116562.85	60mm Mortar	37-105mm	25.87	6/21/21	1	MD	4.2" MORTAR ~~DAH~~ BAC 6/21/21	4.2" MORTAR TAIL BOOM	26	50	8.5	S 0-30°			100-1043 100-1044	Y		SB
15	Likely TOI	539840.19	4116571.62	ISO LARGE	≥105mm	33.03	6/21/21	1	MPPEH	~~4.2" MORTAR FUZED~~ BAC 6/21/21	SAME AS 47 4.2" MORTAR FUZED	32	106	43	NW 0-30°			100-1069 100-1070	Y		SB
16	Likely TOI	539824.32	4116570.73	81mm Mortar	37-105mm	36.65	6/21/21	1	MD	MORTAR	4.2" MORTAR TAIL BOOM	34	15	11	N 0-30°			100-1123 100-1124	Y		SB
17	Likely TOI	539837.66	4116570.73	4.2-in Mortar	≥105mm	61.68	6/21/21	1	MPPEH	~~4.2" MORTAR FUZED~~ BAC 6/21/21	4.2" MORTAR FUZED	51	106	54	NW 30-60°			100-1089 100-1090	Y		SB
18	Likely TOI	539836.59	4116570.09	4.2-in Mortar	≥105mm	32.60	6/18/21				SAME AS 2,136,145										
19	Verification	539818.67	4116569.48	81mm Mortar	37-105mm	25.14	6/21/21	2	NMRD	SCRAP METAL	SCRAP	25	10	24	N 0-30°			100-1101 100-1102	X		SB
20	Validation	539815.94	4116575.34	No Match	≤37mm	10.64	6/21/21	1	NMRD	SCRAP METAL	BOLT	11	30	22	SE 0-30°			100-1119 100-1120	Y		SB
22	Validation	539822.16	4116562.89	81mm Mortar	37-105mm	17.25	6/21/21	1	NMRD	SCRAP METAL	SAME AS 106 PIPE	18	25	73	S 0-30°			100-1045 100-1046	Y		SB
24	Verification	539818.09	4116570.65	81mm Mortar	37-105mm	18.08	6/21/21	1	NMRD	SCRAP METAL	METAL RING	17	10	17	N 0-30°			100-1111 100-1112	Y		SB
25	Likely TOI	539845.34	4116549.14	ISO LARGE	≥105mm	42.39	6/21/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED	43	106	41	SW 60-90°			100-1083 100-1084	Y		SB
26	Likely TOI	539822.66	4116560.60	81mm Mortar	37-105mm	18.59	6/21/21	1	NMRD	SCRAP METAL	SHARED W 148 REBAR	18	20	61	SW 0-30°			100-1049 BAC 6/21/21 ~~100-1050~~ 100-1051	Y		SB
27	Likely TOI	539824.05	4116570.29	60mm Mortar	37-105mm	28.52	6/21/21	2	NMRD	SCRAP METAL	WIRE	29	10	41	E 0-30°			100-1125 100-1126	Y		SB
29	Likely TOI	539818.09	4116572.69	ISO SMALL	≤37mm	12.43	6/21/21	1	SEED	QA SEED	SMALL ISO NAB 153	12	30	10	E 0-30°			100-1115 100-1116	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_0S DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
32	Likely TOI	539843.73	4116571.33	81mm Mortar	37-105mm	38.49	6/21/21	1	MPPEH	MORTAR	SAME AS 45 81mm MORTAR FUZED	37	81	33	SW 60-90°			100-1077 100-1078	Y		SB
33	Likely TOI	539836.88	4116568.95	60mm Mortar	37-105mm	12.19	6/18/21	1	~~MPPEH~~ MD BAC 6/19/21	MORTAR	4.2" MORTAR BASE PLATE	12	10	10.5	N 0-30°			100-1037 100-1038	Y		SB
35	Likely TOI	539833.34	4116548.48	60mm Mortar	37-105mm	16.97	6/21/21	1	NMRD	SCRAP METAL	SAME AS 104 METAL RING	19	10	12	N 0-30°			100-1053 100-1054	Y		SB
38	Likely TOI	539825.97	4116552.94	81mm Mortar	37-105mm	17.55	6/21/21	1	NMRD	SCRAP METAL	SAME AS 71 PIPE	16	50	44	N 0-30°			100-1055 100-1056	Y		SB
39	Likely TOI	539841.84	4116576.96	ISO LARGE	≥105mm	65.10	6/21/21	1	MPPEH	MORTAR	SAME AS 150 4.2" MORTAR FUZED	60	106	51	S 60-90			100-~~1073~~ 1074 100-1074 BAC 6/21/21	Y		SB
40	Likely TOI	539841.66	4116570.48	81mm Mortar	37-105mm	13.96	6/18/21				SAME AS 3										
42	Likely TOI	539840.16	4116569.49	ISO LARGE	≥105mm	27.66	6/18/21				SAME AS 7										
43	Likely TOI	539831.19	4116548.61	4.2-in Mortar	≥105mm	33.51	6/21/21	1	MPPEH	MORTAR	SAME AS 124 4.2" MORTAR FUZED	32	106	51	NE 0-30°			100-1091 100-1092	Y		SB
44	Likely TOI	539818.56	4116549.54	60mm Mortar	37-105mm	1.19	6/18/21	1	NMRD	SCRAP METAL	METAL RING	4	10	11.5	N 0-30°			100-1011 100-1012	Y		SB
45	Likely TOI	539843.73	4116571.35	ISO MEDIUM	37-105mm	38.28	6/21/21				SAME AS 32										
46	Likely TOI	539825.70	4116550.31	81mm Mortar	37-105mm	58.17	6/21/21	1	NMRD	SCRAP METAL	WIRE	52	2	31	N 0-30°			100-1093 100-1094	Y		SB
47	Likely TOI	539840.08	4116571.58	ISO LARGE	≥105mm	30.04	6/21/21				SAME AS 15										
48	Likely TOI	539822.77	4116560.81	81mm Mortar	37-105mm	22.36	6/21/21	1	NMRD	SCRAP METAL	REBAR SHARED W/26	18	20	61	SW 0-30°			100-1049 100-1052	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_05 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
51	Likely TOI	539816.64	4116568.86	60mm Mortar	37-105mm	1.34	6/21/21	2	NMRD	SCRAP METAL	SCRAP	10	20	13	N 0-30°			100-1107 100-1108	Y		SB
54	Validation	539826.37	4116565.83	60mm Mortar	37-105mm	21.13	6/18/21	1	NMRD	SCRAP METAL	BANDING	9	2	25	W 60-90°			100-1033 100-1034	Y		SB
~~55~~	~~Likely TOI~~	~~539841.35~~	~~4116576.80~~	~~4.2-in Mortar~~	~~≥105mm~~	~~88.82~~	~~6/21/21~~	~~1~~	~~MPPEH~~	~~MORTAR~~	~~SAME AS 131 4.2" MORTAR FUZED~~	~~81~~	~~106~~	~~54~~	~~S 60-90°~~			~~100-1075 100-1076~~	~~Y~~		~~SB~~ BAC 6/21/21
58	Verification	539830.29	4116554.74	81mm Mortar	37-105mm	15.21	6/21/21	1	NMRD	SCRAP METAL	SCRAP	14	20	23	N 0-30°			100-1057 100-1058	Y		SB
59	Likely TOI	539838.17	4116573.65	ISO LARGE	≥105mm	53.98	6/21/21				SAME AS 11										
61	Validation	539821.25	4116558.35	ISO SMALL	≤37mm	2.83	6/18/21	1	NMRD	SCRAP METAL	PIPE	4	30	19	S 0-30°			100-1021 100-1022	Y		SB
62	Verification	539822.57	4116556.72	ISO SMALL	≤37mm	1.58	6/18/21	1	NMRD	SCRAP METAL	BOLT	8	30	7.5	SE 0-30°			100-1019 100-1020	Y		SB
63	Verification	539818.74	4116568.97	60mm Mortar	37-105mm	37.29	6/21/21	3 BAC 6/21/21	NMRD	SCRAP METAL	SCRAP	31	10	34	NW 0-30°			100-1099 100-1100	Y		SB
65	Likely TOI	539821.34	4116562.15	ISO SMALL	≤37mm	7.01	6/21/21	1	NMRD	SCRAP METAL	BOLT	8	30	7	N 0-30°			100-1047 100-1048	Y		SB
71	Likely TOI	539825.93	4116553.01	ISO MEDIUM	37-105mm	18.49	6/21/21				SAME AS 38										
73-1	Likely TOI	539835.80	4116567.86	4.2-in Mortar	≥105mm	59.62	6/21/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	65	106	54	E 60-90°			~~100-1065 100-1066~~ 100-1067 BAC 6/21/21	Y		SB
74	Verification	539815.59	4116571.11	lumination Candle	37-105mm	16.46	6/21/21	1	NMRD	SCRAP METAL	REBAR	13	15	12	N 0-30°			100-1113 100-1114	Y		SB
75	Likely TOI	539817.17	4116575.90	81mm Mortar	37-105mm	24.80	6/21/21	2	NMRD	SCRAP METAL	WIRE	28	3	29	W 0-30°			100-1121 100-1122	Y		SB
73-2							6/21/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	81	106	53	E 60-90°			100-1066 100-1068	Y		SB
55							6/21/21	1	NMRD	SCRAP METAL	SCRAP 4 of 6	17	20	22	N 0-30°	*SAME AS 131		100-1079 100-1080 101-0762	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_05 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
82	Likely TOI	539825.33	4116550.14	60mm Mortar	37-105mm	49.20	6/21/21	2	NMRD	SCRAP METAL	BOLT, NAIL	49	20	6	N 0-30°			100-1095 100-1096	Y		SB
94	Verification	539822.33	4116560.38	No Match	≥105mm	10.47	6/18/21	1	NMRD	SCRAP METAL	REBAR	90	20	14	N 0-30°			100-1023 100-1024	Y		SB
95	Verification	539835.17	4116557.35	60mm Mortar	37-105mm	16.52	6/21/21	2	NMRD	SCRAP METAL	ANGLE IRON AND WIRE	10	4	73.5	SE 0-30°			100-1059 100-1060	Y		SB
99	Verification	539821.52	4116551.42	No Match	37-105mm	12.74	6/18/21	1	NMRD	SCRAP METAL	SCRAP	13	50	10	N 0-30°			100-1013 100-1014	Y		SB
100	Validation	539818.02	4116555.91	No Match	37-105mm	8.08	6/18/21	1	NMRD	SCRAP METAL	SCRAP	6	4	8	N 0-30°			100-1017 100-1018	Y		SB
104	Likely TOI	539833.33	4116548.44	60mm Mortar	37-105mm	16.13	6/21/21				SAME AS 35 ~~104~~ BAC 6/21/21										
106	Likely TOI	539822.17	4116562.82	81mm Mortar	37-105mm	19.91	6/21/21				SAME AS 22										
113	Likely TOI	539825.77	4116565.87	60mm Mortar	37-105mm	27.35	6/18/21	1	NMRD	SCRAP METAL	WIRE	28	10	19	N 0-30°			100-1029 100-1030	Y		SB
100013 ~~113~~ BAC 6/18/21	Likely TOI	539826.19	4116565.94	81mm Mortar	37-105mm	27.65	6/18/21	1	NMRD	SCRAP METAL	WIRE	27	10	10	N 0-30°			100-1031 100-1032	Y		SB
114	Verification	539817.65	4116570.41	81mm Mortar	37-105mm	16.78	6/21/21	1	NMRD	SCRAP METAL	REINFORCED CONCRETE	16	5	25	N 0-30°			100-1109 100-1110	Y		SB
115	Validation	539824.85	4116551.35	81mm Mortar	37-105mm	63.34	6/21/21	4	NMRD	SCRAP METAL	SCRAP	60	2	18	N 0-30°			100-1097 100-1098	Y		SB
120	Verification	539816.16	4116574.86	60mm Mortar	37-105mm	16.72	6/21/21	1	NMRD	SCRAP METAL	ALUMINUM CAN	14	2	9	N 0-30°			100-1117 100-1118	Y		SB
124	Likely TOI	539831.15	4116548.53	4.2-in Mortar	≥105mm	35.41	6/21/21				SAME AS 43										

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_05 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
125	Validation	539843.56	4116561.15	60mm Mortar	37-105mm	27.43	6/21/21	2	NMRD	SCRAP METAL	WIRE	45	3	9.5	N 0-30°			100-1087 100-1088	Y		SB
130	Validation	539837.51	4116566.37	81mm Mortar	37-105mm	80.49	6/21/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	75	106	54	W 60-90°			100-1063 100-1064	Y		SB
131	Likely TOI	539841.07	4116576.63	81mm Mortar	37-105mm	66.74	6/21/21	1	MPPEH	MORTAR	~~SAME AS~~ BAE 6/21/21 ~~55~~ 4.2" MORTAR FUZED	81	106	54	S 60-90°			100-1081 100-1082	Y		SB
136	Likely TOI	539836.58	4116570.16	ISO LARGE	≥105mm	30.27	6/18/21			SAME AS 2,18,145											
145	Likely TOI	539836.64	4116570.09	4.2-in Mortar	≥105mm	32.28	6/18/21			SAME AS 2,18,136											
150	Likely TOI	539841.83	4116577.00	ISO LARGE	≥105mm	57.60	6/21/21			SAME AS 39											

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/13/21

LOCATION TM_07 | DIG TEAM LEADER SHAUN BROWN | DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	539888.30	4116466.15	60mm Mortar	37-105mm	43.62	6/13/21	0	NOT INVESTIGATED	INACCESSIBLE	UNDER HARDSCAPE	0	0	0	N/A			100-1005			SB
3	Likely TOI	539894.06	4116462.22	60mm Mortar	37-105mm	41.79	6/13/21	3	NMRD	SCRAP METAL	SCRAP	43	2	26	N 0-30°			100-0994 100-0995	Y		SB
4	Likely TOI	539895.18	4116471.01	81mm Mortar	37-105mm	23.90	6/13/21	0	NOT INVESTIGATED	INACCESSIBLE	UNDER HARDSCAPE SAME AS 01	0	0	0	N/A			100-1002			SB
6	Likely TOI	539906.76	4116480.18	60mm Mortar	37-105mm	22.74	6/13/21	1	NMRD	SCRAP METAL	SCRAP	28	8	6	N 0-30°			100-0972 100-0973	Y		SB
9	Likely TOI	539880.51	4116484.52	60mm Mortar	37-105mm	20.67	6/13/21	2	NMRD	SCRAP METAL	~~SCRAP~~ METAL RING, BOLT (EDIT 6/19/21)	21	20	10	N 0-30°			100-0988 100-0989	Y		SB
10	Likely TOI	539895.79	4116458.95	ISO SMALL	≤37mm	5.57	6/18/21	1	SEED	QC SEED	ISO SMALL TM-07	9	30	10	SE 0-30°			100-0962 100-0963	Y		SB
15	Likely TOI	539897.77	4116463.16	81mm Mortar	37-105mm	32.11	6/13/21	8	NMRD	SCRAP METAL	NAILS	29	6	14.5	N 0-30°			100-0996 100-0998	Y		SB
16	Likely TOI	539886.17	4116486.57	60mm Mortar	37-105mm	7.80	6/13/21	1	NMRD	SCRAP METAL	PIPE	12	30	49	E 60-90°			100-0980 100-0981	Y		SB
17	Validation	539890.95	4116460.74	No Match	37-105mm	7.57	6/18/21	1	NMRD	SCRAP METAL	PIPE	6	20	70	NW 0-30°			100-0964 100-0965	Y		SB
18	Likely TOI	539911.42	4116455.86	60mm Mortar	37-105mm	34.77	6/18/21	1	NMRD	SCRAP METAL	REBAR	39	10	46	N 60-90°			100-1009 100-1010	Y		SB
19	Likely TOI	539880.75	4116484.12	60mm Mortar	37-105mm	22.04	6/18/21	3	NMRD	SCRAP METAL	PIPES, WIRE	20	45	5	N 0-30°			100-0986 100-0987	Y		SB
22	Likely TOI	539890.48	4116468.41	81mm Mortar	37-105mm	39.48	6/18/21	0	NOT INVESTIGATED	INACCESSIBLE	UNDER HARDSCAPE	0	0	0	N/A			100-1004			SB
25	Verification	539908.05	4116477.64	60mm Mortar	37-105mm	22.83	6/18/21	4	NMRD	SCRAP METAL	SCRAP	23	25	9	NE 0-30°			100-0970 100-0971	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_07 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
27	Verification	539889.77	4116484.90	81mm Mortar	37-105mm	8.54	6/18/21	1	NMRD	SCRAP METAL	WIRE	10	2	29	SW 0-30°			100-0978 100-0979	Y		SB
29	Verification	539893.06	4116461.62	60mm Mortar	37-105mm	27.93	6/18/21	7 ~~2~~ BAC 6/19/21	NMRD	SCRAP METAL	SCRAP	29	1	9.5	E 0-30°			100-0959 100-0961	Y		SB
31	Verification	539902.18	4116484.69	60mm Mortar	37-105mm	22.72	6/18/21	1	NMRD	SCRAP METAL	WIRE	23	3	19	W 0-30°			100-0976 100-0977	Y		SB
35	Likely TOI	539888.22	4116465.84	60mm Mortar	37-105mm	43.09	6/18/21	0	NOT INVESTIGATED	INACCESSIBLE	UNDER HARDSCAPE	0	0	0	N/A			100-1006			SB
37	Likely TOI	539888.05	4116459.97	ISO LARGE	≥105mm	57.18	6/18/21	1	NMRD	SCRAP METAL	PIPE	54	25	55	SW 0-30°			100-0992 100-0993	Y		SB
47	Validation	539892.24	4116475.81	ISO SMALL	≤37mm	16.73	6/18/21	0	NOT INVESTIGATED	INACCESSIBLE	UNDER HARDSCAPE	0	0	0	N/A			100-1003			SB
54	Validation	539904.36	4116466.06	60mm Mortar	37-105mm	17.35	6/18/21	3	NMRD	SCRAP METAL	ALUMINUM	20	4	14	N 0-30°			100-0966 100-0967	Y		SB
58	Likely TOI	539883.54	4116485.01	60mm Mortar	37-105mm	9.66	6/18/21	3 ~~2~~ BAC 6/19/21	NMRD	SCRAP METAL	ANGLE IRON WIRE	9	2	28	N 0-30°			100-0982 100-0983	Y		SB
61	Verification	539895.18	4116471.01	81mm Mortar	37-105mm	22.98	6/18/21				SAME AS 4										
88	Likely TOI	539904.56	4116485.91	81mm Mortar	37-105mm	40.56	6/18/21	6	NMRD	SCRAP METAL	SCRAP	42	2	29	N 0-30°			~~100-0998~~ 100-1000 100-1001	Y		SB
97	Verification	539883.63	4116484.92	60mm Mortar	37-105mm	10.37	6/18/21	1	NMRD	SCRAP METAL	BOLT	11	15	4.5	S 0-30°			100-0984 100-0985	Y		SB
101	Validation	539910.26	4116470.50	81mm Mortar	37-105mm	16.57	6/18/21	1	NMRD	SCRAP METAL	WIRE	15	3	28	W 0-30°			100-0968 100-0969	Y		SB
108	Validation	539885.26	4116468.24	ISO SMALL	≤37mm	26.68	6/18/21	0	NOT INVESTIGATED	INACCESSIBLE	UNDER HARDSCAPE	0	0	0	N/A			100-1008			SB

PROJECT: RADFORD | DIG TEAM NO. | DATE STARTED

LOCATION: TM_07 | DIG TEAM LEADER | DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
110	Validation	539881.53	4116460.96	60mm Mortar	37-105mm	17.39	6/18/21	0	NOT INVESTIGATED	INACCESSIBLE	UNDER HARDSCAPE	0	0	0	N/A			100-1007			SB
122	Validation	539889.27	4116458.39	ISO MEDIUM	37-105mm	43.47	6/18/21	1	NMRD	SCRAP METAL	SCRAP	44	2	9	N 0-30°			100-0990 100-0991	Y		SB
124	Likely TOI	539910.48	4116482.15	81mm Mortar	37-105mm	24.47	6/18/21	5	NMRD	SCRAP METAL	SCRAP	25	10	36	NE 0-30°			100-0974 100-0975	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_10 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	539099.28	4116063.06	60mm Mortar	37-105mm	6.12	07/01/21	1	NMRD	SCRAP METAL	SCRAP	6	70	17	N 0-30°	539099.219	4116063.070	101-0631 101-0632	Y		SB
2	Likely TOI	539106.43	4116063.20	81mm Mortar	37-105mm	13.10	07/01/21	1	MPPEH	MORTAR	SAME AS 19 81 MM MORTAR FUZED	13	81	59	NE 0-30°	539106.315	4116063.125	101-0629 101-0630	Y		SB
3	Likely TOI	539118.24	4116082.71	60mm Mortar	37-105mm	12.65	07/01/21	1	NMRD	SCRAP METAL	PIPE	13	60	9	N 0-30°	539118.244	4116082.711	101-0643 101-0644	Y		SB
5	Likely TOI	539122.99	4116056.06	81mm Mortar	37-105mm	8.47	07/01/21	1	NMRD	SCRAP METAL	SAME AS 37 PIPE	8	40	30	NE 0-30°	539122.932	4116055.997	101-0627 101-0628	Y		SB
6	Likely TOI	539121.82	4116060.02	81mm Mortar	37-105mm	9.79	07/01/21	2	NMRD	SCRAP METAL	SCRAP	8	30	34	SW 0-30°	539121.790	4116060.012	101-0625 101-0626	Y		SB
9	Likely TOI	539100.04	4116065.69	ISO SMALL	≤37mm	16.11	07/01/21	1	SEED	QC SEED	SMALL ISO TM-10	17	30	10	N 60-90°	539100.008	4116065.696	101-0633 101-0634	Y		SB
10	Likely TOI	539104.37	4116080.24	ISO SMALL	≤37mm	6.49	07/01/21	1	SEED	QA SEED	~~QA S~~ SMALL ISO NAB 162	10	30	10	NE 0-30°	539104.353	4116080.226	101-0639 101-0640	Y		SB
11	Likely TOI	539118.49	4116060.01	60mm Mortar	37-105mm	10.82	07/01/21	1	NMRD	SCRAP METAL	SCRAP	12	30	118	NW 0-30°	539118.515	4116059.994	101-0623 101-0624	Y		SB
16	Likely TOI	539108.40	4116067.73	ISO SMALL	≤37mm	6.07	07/01/21	1	NMRD	SCRAP METAL	SCRAP	10	8	16	SW 0-30°	539108.409	4116067.735	101-0641 101-0642	Y		SB
19	Likely TOI	539106.36	4116063.06	81mm Mortar	37-105mm	11.88	07/01/21				SAME AS 2										
21	Validation	539095.90	4116066.20	60mm Mortar	37-105mm	14.90	07/01/21	16	NMRD	SCRAP METAL	NAILS	13	10	9	N 0-30°	539095.923	4116066.217	101-0637 101-0638	Y		SB
26	Verification	539096.04	4116066.29	60mm Mortar	37-105mm	14.79	07/01/21	10	NMRD	SCRAP METAL	NAILS, WASHERS, NUTS	15	20	3	N 0-30°	539096.064	4116066.282	101-0635 101-0636	Y		SB
37	Likely TOI	539122.90	4116056.06	81mm Mortar	37-105mm	5.98	07/01/21				SAME AS 5										

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/24/21

LOCATION TM_11 | DIG TEAM LEADER S. Bebow | DATE FINISHED 06/24/21

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
2	Verification	539040.10	4115999.05	60mm Mortar	37-105mm	17.26	6/24/21	1	NMRD	SCRAP METAL	PIPE	20	10	6	N 0-30°			101-0029 101-0030	Y		SB
4	Likely TOI	539036.14	4116000.68	ISO SMALL	≤37mm	6.82	6/24/21	1	SEED	QC SEED	SAME AS 21 SMALL ISO TM-11	7	30	10	SE 0-30°			101-0031 101-0032	Y		SB
8	Verification	539015.95	4116013.37	60mm Mortar	37-105mm	9.72	6/24/21	1	NMRD	SCRAP METAL	SCRAP	9	70	15	N 0-30°			101-0041 101-0042	Y		SB
9	Verification	539015.57	4116010.44	No Match	≤37mm	-8.35	6/24/21	1	NMRD	SCRAP METAL	SCRAP	0	35	148	NW 0-30°			101-0039 101-0040	Y		SB
10	Likely TOI	539030.47	4116002.77	ISO SMALL	≤37mm	14.39	6/24/21	1	NMRD	SCRAP METAL	SCRAP	13	40	16	W 0-30°			101-0033 101-0034	Y		SB
11	Likely TOI	539014.78	4116014.73	60mm Mortar	37-105mm	6.76	6/24/21	1	NMRD	SCRAP METAL	SCRAP	8	65	16	N 0-30°			101-0043 101-0044	Y		SB
12	Verification	539022.46	4116006.68	ISO SMALL	≤37mm	6.95	6/24/21	1	NMRD	SCRAP METAL	SCRAP	7	25	40	E 0-30°			101-0037 101-0038	Y		SB
14	Verification	539014.07	4116014.31	81mm Mortar	37-105mm	9.94	6/24/21	1	NMRD	SCRAP METAL	SCRAP	10	20	40	NW 0-30°			101-0045 101-0046	Y		SB
15	Likely TOI	539014.15	4116013.42	60mm Mortar	37-105mm	10.50	6/24/21	1	NMRD	SCRAP METAL	SCRAP	12	65	16	N 0-30°			101-0047 101-0048	Y		SB
17	Validation	539027.74	4115999.75	ISO SMALL	≤37mm	10.06	6/24/21	1	NMRD	SCRAP METAL	SCRAP	13	30	11	W 0-30°			~~100~~ BRS 6/24/21 101-0035 101-0036	Y		SB
18	Verification	539041.10	4116001.01	No Match	37-105mm	20.52	6/24/21	1	NMRD	SCRAP METAL	SCRAP	25	1	4	E 0-30°			101-0027 101-0028	Y		SB
21	Likely TOI	539036.12	4116000.68	ISO SMALL	≤37mm	5.42	6/24/21				SAME AS 4										

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PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	539167.22	4115963.84	81mm Mortar	37-105mm	27.01	06/29/21	1	NMRD	SCRAP METAL	PIPE	19	65	47	NW 0-30°	539167.203	4115963.777	101-0547 101-0548	Y		SB
2	Likely TOI	539171.36	4115963.44	81mm Mortar	37-105mm	8.10	06/30/21	1	NMRD	SCRAP METAL	PLATE	8	10	40	N 0-30°	539171.373	4115963.415	101-0543 101-0533 101-0537 101-0544	Y		SB
3	Likely TOI	539167.46	4115984.94	ISO MEDIUM	37-105mm	10.25	06/29/21	1	SEED	QA SEED	MEDIUM ISO NAB 129	10	60	20	SE 0-30°	539167.480	4115987.934	101-0102 101-0103	Y		SB
4	Verification	539176.80	4115985.46	60mm Mortar	37-105mm	3.29	06/29/21	1	NMRD	SCRAP METAL	SAME AS 140 REBAR	10	20	138	NW 0-30°	539176.778	4115985.448	101-0122 101-0123	Y		SB
5	Likely TOI	539183.43	4115963.95	ISO MEDIUM	37-105mm	8.65	06/30/21	1	SEED	QC SEED	MEDIUM ISO TM-12	9	60	20	SE 0-30°	539183.416	4115963.958	101-0533 101-0534	Y		SB
6	Likely TOI	539167.21	4115980.25	81mm Mortar	37-105mm	20.15	06/29/21	1	NMRD	SCRAP METAL	REBAR	17	20	75	E 0-30°	539167.174	4115980.261	101-0420 101-0421	Y		SB
7	Likely TOI	539164.55	4115968.77	81mm Mortar	37-105mm	42.33	06/30/21	1	MPPEH	MORTAR	60 MM MORTAR FUZE SHEARED	42	60	19	NW 0-30°	539164.553	4115968.766	101-0600 101-0601	Y		SB
8	Likely TOI	539169.01	4115963.02	81mm Mortar	37-105mm	38.52	07/06/21	1	NMRD	SCRAP METAL	PIPE	~~47~~ 42	07/06/21 ~~20~~ 110	~~47~~ 61	S 0-30	539169.613	4115963.006	101-0716 101-0717	Y		SB
9	Likely TOI	539167.65	4115971.92	81mm Mortar	37-105mm	48.50	07/01/21	1	NMRD	SCRAP METAL	SCRAP	44	20	62	SW 0-30°	539167.659	4115971.917	101-0602 101-0603	Y		SB
13	Likely TOI	539185.37	4115966.14	81mm Mortar	37-105mm	64.44	06/30/21	2	NMRD	SCRAP METAL	SCRAP	69	10	26	N 0-30°	539185.343	4115966.126	101-0531 101-0532	Y		SB
14	Likely TOI	539174.54	4115982.50	60mm Mortar	37-105mm	35.82	06/29/21	1	~~CULTURAL FEATURE~~	~~STRUCTURE~~	PIPE L.I.P.	16	70	0	~~NW~~ 07/06/21 0-30°	539183.622	4115983.105	101-0124 101-0130			SB
15	Likely TOI	539158.71	4115972.55	81mm Mortar	37-105mm	22.25	06/29/21	1	NMRD	SCRAP METAL	SCRAP	24	5	14	NE 0-30°	539153.713	4115972.544	101-0114 101-0115	Y		SB
17	Verification	539163.99	4115971.24	4.2-in Mortar	≥105mm	75.61	07/01/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	72	0	0	N/A	539164.006	4115971.235	101-0609 101-0610			SB
14							07/06/21	2	NMRD	SCRAP METAL	REBAR IN CONCRETE L.I.P.	66	10	4	S 0-30°	~~539183.622~~ 539174.517	4115961.490	101-0706 101-0707			SB

BAC 06/30/21

07/06/21 was #47

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
18	Validation	539171.83	4115983.41	60mm Mortar	37-105mm	25.36	06/24/21	1	NMRD	SCRAP METAL	SCRAP	23	30	8	N 0-30°	539171.880	4115983.380	101-0126 101-0127	Y		SB
19	Verification	539183.26	4115969.30	60mm Mortar	37-105mm	51.41	06/30/21	1	NMRD	SCRAP METAL	BOLT	61	~~325~~ 30	31	N 0-30°	539183.268	4115976.304	101-0190 101-0191	Y		SB
20	Likely TOI	539160.05	4115968.99	4.2-in Mortar	≥105mm	40.02	07/02/21	1	Target not Investigated	L.I.P.	adjacent to gas line	0	0	0	N/A	539160.052	4115968.983	101-0726			
21	Likely TOI	539170.30	4115965.84	81mm Mortar	37-105mm	29.88	06/30/21	1	NMRD	SCRAP METAL	BRAIDED CABLE L.I.P.	27	30	0	SW 0-30	539170.271	4115965.833	101-0545 101-0546			SB
23	Likely TOI	539160.17	4115979.60	60mm Mortar	37-105mm	15.25	06/29/21	1	NMRD	SCRAP METAL	SCRAP	16	40	13	SE 0-30°	539160.688	4115979.582	101-0404 101-0405	Y		SB
24	Likely TOI	539157.15	4115972.60	81mm Mortar	37-105mm	10.75	06/29/21	1	NMRD	SCRAP METAL	SCRAP INFLUENCED BY CABLE	11	20	33	NW 0-30°	539159.146	4115972.609	101-0412 101-0413	Y		SB
25	Likely TOI	539166.66	4115967.07	81mm Mortar	37-105mm	48.53	07/01/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	47	0	0	N/A	539166.638	4115967.065	101-0604 101-0605			SB
26	Verification	539179.60	4115989.57	4.2-in Mortar	≥105mm	33.83	06/29/21	1	MPPEH	MORTAR	81MM MORTAR FUZED	38	81	57	~~S~~N 60-90° 06/29/21	539179.669	4115989.501	101-0441 101-0442	Y		SB
27	Verification	539183.73	4115960.82	81mm Mortar	37-105mm	25.37	06/24/21	1	NMRD	SCRAP METAL	WIRE	23	10	18	SW 0-30°	539183.753	4115960.777	101-0541 101-0542	Y		SB
28	Likely TOI	539177.44	4115989.61	81mm Mortar	37-105mm	15.35	06/25/21	1	NMRD	SCRAP METAL	SAME AS 105 SCRAP	13	3	19	SW 0-30°	539177.378	4115989.517	101-0120 101-0121	Y		SB
29	Likely TOI	539162.41	4115963.21	60mm Mortar	37-105mm	8.95	06/29/21	1	NMRD	SCRAP METAL	REBAR	10	15	32	NE 0-30°	539162.412	4115963.223	101-0132 101-0133	Y		SB
32	Likely TOI	539187.12	4115960.36	81mm Mortar	37-105mm	19.80	06/24/21	1	NMRD	SCRAP METAL	SAME AS 52 SCRAP L.I.P.	19	40	0	NW 0-30°	539187.099	4115960.388	101-0539 101-0540			SB
33	Likely TOI	539187.17	4115980.45	4.2-in Mortar	≥105mm	36.82	06/24/21	1	MPPEH	MORTAR	81 MM MORTAR FUZE SHEARED	30	81	53	NW 0-30°	539187.218	4115980.364	101-0439 101-0440	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
		POSITION														POSITION					
TARGET ID	TARGET CLASSIFICATION	EASTING	NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	EASTING	NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
35	Verification	539180.39	4115968.74	60mm Mortar	37-105mm	14.60	06/30/21	1	NMRD	SCRAP METAL	SHARED w/ 49, 72 REBAR	13	15	111	NE 0-30°	539180.412	4115968.748	101-0521 101-0524	Y		SB
38	Likely TOI	539171.58	4115967.81	4.2-in Mortar	≥105mm	55.28	07/02/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	49	0	0	N/A	539171.577	4115967.781	101-0677 101-0678			SB
40	Likely TOI	539164.47	4115965.13	4.2-in Mortar	≥105mm	46.25	07/07/21	1	Target not Investigated	L.I.P.	Adjacent to Gas line	0	0	0	N/A	539164.470	4115964.470	101-0731			SB
41	Verification	539180.63	4115970.30	81mm Mortar	37-105mm	16.89	06/30/21	1	NMRD	SCRAP METAL	REBAR	14	15	68	N 0-30°	539180.615	4115970.313	101-0519 101-0520	Y		SB
42	Likely TOI	539164.11	4115983.19	60mm Mortar	37-105mm	24.48	06/25/21	1	NMRD	SCRAP METAL	SCRAP	23	10	19	N 0-30°	539164.139	4115983.147	101-0100 101-0101	Y		SB
43	Likely TOI	539175.81	4115965.27	60mm Mortar	37-105mm	28.30	07/02/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	37	0	0	N/A	539175.821	4115965.276	101-0679 101-0680			SB
44	Likely TOI	539186.90	4115980.44	81mm Mortar	37-105mm	16.08	06/29/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	12	0	0	N/A	539186.896	4115980.442	101-0505 ~~101-04~~ ~~101-04~~ 101-0506 EAC 6/30/21			SB
45	Verification	539170.76	4115989.43	ISO SMALL	≤37mm	6.70	06/25/21	1	NMRD	SCRAP METAL	BOLT	7	25	32	NE 60-90°	539170.779	4115989.426	101-0110 101-0111	Y		SB
46	Likely TOI	539168.11	4115987.19	81mm Mortar	37-105mm	9.62	06/25/21	1	NMRD	SCRAP METAL	SCRAP	9	25	10	N 0-30°	539168.079	4115987.249	101-0104 101-0105	Y		SB
47	Likely TOI	539183.63	4115983.09	4.2-in Mortar	≥105mm	18.87	06/29/21	1	Cultural Feature	Structure	Pipe L.I.P.	16	70	0	N 0-30	539183.622 ~~539183.713~~	4115983.105 ~~4115972.[illegible]~~ 07/06/21	101-0429 101-0430			SB
48	Likely TOI	539160.68	4115969.48	ISO LARGE	≥105mm	51.53	07/07/21	1	Target Not Investigated	L.I.P.	Adjacent to gas line	0	0	0	NA	539160.672	4115969.475	101-0725			SB
49	Verification	539179.94	4115968.84	81mm Mortar	37-105mm	13.10	06/30/21	1	NMRD	SCRAP METAL	SHARED w/ 35/72 REBAR	10	15	111	SW 0-30°	539179.934	4115968.837	101-0523 101-0525	Y		SB
50	Likely TOI	539169.54	4115989.60	81mm Mortar	37-105mm	12.50	06/25/21	1	NMRD	SCRAP METAL	SCRAP	12	10	35	NE 0-30°	539169.526	4115989.580	101-0108 101-0109	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
52	Likely TOI	539187.06	4115960.33	81mm Mortar	37-105mm	17.70	06/24/21				SAME AS 32										SB
53	Verification	539165.64	4115970.38	81mm Mortar	37-105mm	21.87	06/25/21	1	NMRD	SCRAP METAL	SCRAP L.I.P.	20	25	0	N 0-30°	539165.675	4115970.369	101-0128 101-0129	Y TEAM 06/25/21		SB
54	Verification	539187.28	4115985.55	No Match	37-105mm	11.28	06/24/21	1	NMRD	SCRAP METAL	REBAR L.I.P.	11	10	0	SE 30-60°	539187.193	4115985.595	101-0516 101-0517			SB
55	Likely TOI	539179.94	4115963.42	81mm Mortar	37-105mm	58.55	07/01/21	1	NMRD	SCRAP METAL	~~SHARED W/ 154~~ OTHER ~~SCRAP~~ REBAR L.I.P	47	20	43	W 0-30°	539179.887	4115963.413	101-0696 101-0697			JB
56	Likely TOI	539179.82	4115972.93	4.2-in Mortar	≥105mm	75.07	06/24/21	1	NMRD	SCRAP METAL	SHARED W/ 154 SCRAP	48	20	32	NE 0-30°	539179.816	4115972.960	101-0551 101-0553	Y		SB
62	Likely TOI	539159.76	4115973.83	60mm Mortar	37-105mm	27.58	06/24/21	1	NMRD	SCRAP METAL	WIRE	29	6	50	W 0-30°	539159.745	4115973.803	101-0416 101-0417	Y		SB
63	Likely TOI	539169.36	4115985.29	60mm Mortar	37-105mm	9.67	06/24/21	1	NMRD	SCRAP METAL	BOLT	10	35	8	SW 0-30°	539169.319	4115985.319	~~101-0110~~ 101-0112 101-0113	Y		SB
65	Likely TOI	539168.30	4115969.57	ISO SMALL	≤37mm	16.27	06/25/21	1	NMRD	SCRAP METAL	SAME AS 96 CABLE L.I.P.	19	50	0	NW 0-30°	539168.264	4115969.502	101-0130 101-0131			SB
67	Likely TOI	539180.81	4115983.06	81mm Mortar	37-105mm	15.12	06/24/21	1	NMRD	SCRAP METAL	SCRAP L.I.P.	16	10	0	NE 0-30°	539180.780	4115983.080	101-0427 101-0428			SB
68	Likely TOI	539159.29	4115963.07	ISO SMALL	≤37mm	13.17	07/01/21	1	NMRD	SCRAP METAL	REBAR	29	10	54	NW 0-30°	539159.271	4115963.028	101-0718 101-0719	Y		SB
71	Verification	539187.06	4115982.63	No Match	37-105mm	9.08	06/30/21	1	NMRD	SCRAP METAL	REBAR	9	10	107	NE 0-30°	539187.065	4115982.653	101-0512 101-0513	Y		SB
72	Likely TOI	539180.06	4115968.84	81mm Mortar	37-105mm	8.06	06/24/21	1	NMRD	SCRAP METAL	SHARED W/ 35,49 REBAR	10	15	111	SW 0-30°	539180.079	4115968.803	101-0522 101-0526	Y		SB
74	Validation	539162.33	4115986.32	81mm Mortar	37-105mm	8.18	06/25/21	1	NMRD	SCRAP METAL	SCRAP	9	15	10.5	N 0-30°	539162.322	4115986.364	101-0094 101-0095	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
75	Likely TOI	539164.61	4115968.76	ISO MEDIUM	37-105mm	31.21	6/10/21				SAME AS 7							101-0608			SB
76	Likely TOI	539185.42	4115979.88	60mm Mortar	37-105mm	15.26	6/29/21	1	NMRD	SCRAP METAL	REBAR	12	10	37	W 0-30°	539185.380	4115979.923	101-0437 101-0438	Y		SB
77	Likely TOI	539170.66	4115985.34	ISO SMALL	≤37mm	13.32	6/25/21	1	NMRD	SCRAP METAL	BOLT	15	30	8	SW 0-30°	539170.654	4115985.348	101-0114 101-0115	Y		SB
79	Likely TOI	539180.16	4115962.20	60mm Mortar	37-105mm	35.99	6/4/21	1	MD	(81mm Mortar)	81mm tailboom	47	~~40~~ ~~110~~ 81	~~14~~ ~~40~~ 46	N 0-30°	539180.182	4115962.220	101-0700 101-0701	Y		SB
82	Likely TOI	539184.42	4115966.73	ISO SMALL	≤37mm	2.77	6/29/21	1	NMRD	SCRAP METAL	BOLT	9	30	8	NE 0-30°	539184.443	4115966.716	101-0529 101-0530	Y		SB
83	Likely TOI	539185.72	4115973.15	81mm Mortar	37-105mm	73.41	6/30/21	1	NMRD	SCRAP METAL	SCRAP	70	50	30	NE 0-30°	539185.722	4115973.166	101-0537 101-0538	Y		SB
84	Likely TOI	539177.86	4115973.53	81mm Mortar	37-105mm	51.58	6/30/21	1	NMRD	SCRAP METAL	BARBED WIRE	33	15	22	NE 0-30°	539177.828	4115973.539	101-0558 101-0559			SB
87	Likely TOI	539161.56	4115983.15	ISO SMALL	≤37mm	14.01	6/25/21	1	NMRD	SCRAP METAL	BOLT	13	25	8	N 0-30	539161.592	4115983.131	101-0098 101-0099	Y		SB
88	Likely TOI	539161.35	4115967.43	81mm Mortar	37-105mm	52.59	7/1/21	1	Target not Investigated	L.I.P.	Adjacent to Gas line	0	0	0	N/A	539161.347	4115967.436	101-0788			
89	Likely TOI	539181.40	4115960.56	81mm Mortar	37-105mm	86.31	7/6/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	64	0	0	N/A	539181.386	4115960.543	101-0683 101-0684			SB
91	Likely TOI	539170.95	4115986.15	81mm Mortar	37-105mm	61.92	6/29/21	1	MPPEH	MORTAR	81mm MORTAR FUZED	50	81	42	W 30-60°	539171.014	4115986.156	101-0424 101-0426	Y		SB
93	Likely TOI	539164.05	4115964.69	81mm Mortar	37-105mm	49.24	7/1/21	1	Target not Investigated	L.I.P.	Adjacent to GAS LINE	0	0	0	N/A	539164.043	4115964.687	(101-0730)			SB
96	Likely TOI	539168.28	4115969.53	81mm Mortar	37-105mm	22.75	6/25/21				SAME AS 65										SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
105	Likely TOI	539187.69	4115974.86	4.2-in Mortar	≥105mm	85.87	06/24/21	1	NMRD	SCRAP METAL	REBAR	73	20	0	NE 30-60°	539187.770	4115974.896	101-0492 101-0493			SB
106	Likely TOI	539188.29	4115981.90	81mm Mortar	37-105mm	20.75	06/30/21		NMRD	SCRAP METAL	SHARED W 116 BRAIDED CABLE L.I.P.	14	30	0	N 0-30°	~~539188.586~~ 539188.286	4115981.903	101-0507 101-0508			SB
107	Likely TOI	539180.56	4115963.84	81mm Mortar	37-105mm	38.91	07/06/21	1	~~NMRD~~ CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE	44	80	18	N 0-30°	539180.561	4115963.854	101-0644 101-0645	Y		SB
108	Likely TOI	539177.30	4115989.46	81mm Mortar	37-105mm	11.33	06/25/21				SAME AS 28										SB
111	Verification	539177.50	4115962.39	4.2-in Mortar	≥105mm	72.60	07/06/21	1	NMRD	SCRAP METAL	REBAR (L.I.P.)	83	15	100	NE 0-30°	539177.471	4115962.380	101-0704 101-0705			SB
112	Likely TOI	539183.70	4115974.60	60mm Mortar	37-105mm	41.30	06/24/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	78	100	0	NW 0-30	539183.749	4115974.616	~~101-0703~~ ~~101-0704~~ 101-0706	BAC 06/30/21		SB
113	Likely TOI	539166.05	4115964.66	81mm Mortar	37-105mm	35.05	07/07/21	1	Target NOT Investigated	L.I.P.	Adjacent to gas line	0	0	0	N/A	539166.050	4115964.658	101-0733			SB
115	Likely TOI	539166.72	4115966.96	81mm Mortar	37-105mm	44.44	07/06/21	1	NMRD	SCRAP METAL	REBAR L.I.P.	46	20	0	SE 30-60°	539166.735	4115966.947	101-0606 101-0607			SB
116	Verification	539187.78	4115981.97	81mm Mortar	37-105mm	20.19	06/~~30~~/21	1	NMRD	SCRAP METAL	SHARED W 106 BRAIDED CABLE L.I.P.	8 ~~14~~ BAC 6/30/21	30	0	SW 0-30°	539187.774	4115981.977	~~101-0507~~ 101-0509 101-0510			SB
117	Verification	539174.93	4115987.49	No Match	37-105mm	13.61	06/25/21	1	NMRD	SCRAP METAL	BOLT	14	20	27	NE 0-30°	539174.943	4115987.494	101-0118 101-0119	Y		SB
118	Likely TOI	539172.09	4115961.98	4.2-in Mortar	≥105mm	65.69	07/06/21	1	NMRD	SCRAP METAL	SCRAP	32	40	96	NE 30-60° ~~30-60°~~ 07/06/21	539172.071	4115961.936	101-0714 101-0715	Y		SB
119	Likely TOI	539175.30	4115984.19	ISO SMALL	≤37mm	11.94	06/25/21	1	NMRD	SCRAP METAL	SCRAP	20	20	10	SW 0-30°	539175.339	4115984.210	101-0124 101-0125	Y		SB
120	Validation	539185.76	4115973.57	4.2-in Mortar	≥105mm	96.31	07/06/21	1	NMRD	SCRAP METAL	REBAR IN CONCRETE (L.I.P.)	74	10	10	NE 0-30°	539185.752	4115973.549	101-0698 101-0699			

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
123	Likely TOI	539182.42	4115973.57	60mm Mortar	37-105mm	46.38	06/23/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	60	0	0	N/A	539182.436	4115973.563	101-0498 101-0499			SB
124	Validation	539170.12	4115979.15	81mm Mortar	37-105mm	5.61	06/23/21	1	NMRD	SCRAP METAL	WIRE	10	30	23	N 0-30	539170.136	4115979.131	101-0433 101-0434	Y		SB
128	Likely TOI	539183.46	4115969.08	4.2-in Mortar	≥105mm	79.80	06/30/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	112	0	0	N/A	539183.475	4115969.095	101-0488 101-0439			SB
130	Likely TOI	539181.59	4115964.65	81mm Mortar	37-105mm	53.69	07/04/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	84	0	0	N/A	539181.589	4115964.657	101-0681 101-0682			SB
132	Verification	539160.89	4115969.89	81mm Mortar	37-105mm	26.78	07/06/21	1	NMRD	SCRAP METAL	WIRE Influenced by gas line	27	3	34	N 0-30	539160.954	4115969.924	101-0685 101-0686	Y		SB
136	Validation	539161.37	4115965.77	81mm Mortar	37-105mm	18.84	06/29/21	1	NMRD	SCRAP METAL	BARBED WIRE	18	10	14	SE 0-30	539161.374	4115965.560	101-0549 101-0550	Y		SB
137	Likely TOI	539172.38	4115963.21	81mm Mortar	37-105mm	53.59	07/06/21	1	NMRD	SCRAP METAL	~~REBAR~~ 07/04/21 SCRAP	47	40	41	N 0-30	539172.365	4115963.210	101-0710 101-0718	Y		SB
138	Likely TOI	539159.96	4115969.07	81mm Mortar	37-105mm	42.15	07/07/21	1	Target Not Investigated	L.I.P	Adjacent To GAS LINE	0	0	0	N/A	539159.986	4115969.057	101-0727			SB
139	Likely TOI	539171.25	4115978.50	60mm Mortar	37-105mm	10.59	06/29/21	1	NMRD	SCRAP METAL	WIRE	11	10	50	SW 0-30°	539171.216	4115978.572	101-0431 101-0432	Y		SB
140	Verification	539176.84	4115985.41	81mm Mortar	37-105mm	12.85	06/25/21				SAME AS 4										SB
141	Likely TOI	539169.48	4115984.98	81mm Mortar	37-105mm	29.36	06/29/21	1	NMRD	SCRAP METAL	CAN	29	10	13	N 0-30°	539169.500	4115984.952	101-0422 101-0423	Y		SB
144	Likely TOI	539159.39	4115976.44	60mm Mortar	37-105mm	8.93	06/29/21	1	NMRD	SCRAP METAL	SCRAP	10	15	12	NW 0-30°	539159.365	~~BAD 6/29/21 4115967.5~~ 4115967.453	101-0408 101-0409	Y		SB
147	Likely TOI	539183.67	4115980.04	81mm Mortar	37-105mm	18.11	06/29/21	1	NMRD	SCRAP METAL	SCRAP	17	10	9	N 0-30	539183.613	4115980.027	101-0435 101-0436	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
149	Validation	539173.13	4115974.20	60mm Mortar	37-105mm	22.38	6/30/21	1	NMRD	SCRAP METAL	WIRE	17	3	32	SE 0-30°	539173.139	4115974.180	101-0486 101-0487	Y		SB
150	Validation	539157.92	4115977.04	ISO SMALL	≤37mm	10.81	06/29/21	1	NMRD	SCRAP METAL	SCRAP REBAR	14	15	12	SE 0-30°	539157.916	4115977.054	101-0406 101-0407	Y		SB
152	Likely TOI	539164.93	4115964.90	60mm Mortar	37-105mm	35.38	07/07/21	1	Target Not Investigated	L.I.P.	Adjacent to GAS LINE	0	0	0	N/A	539164.936	4115964.900	101-0732			SB
153	Validation	539159.46	4115987.86	No Match	37-105mm	13.29	06/29/21	1	NMRD	SCRAP METAL	SCRAP	15	1	14	NW 0-30°	539159.491	4115987.851	101-0402 101-0403	Y		SB
154	Likely TOI	539179.61	4115973.03	81mm Mortar	37-105mm	57.75	06/30/21	1	NMRD	SCRAP METAL	SHARED W/156 SCRAP	48	20	32	NE 0-30°	539179.600	4115973.073	101-0554 101-0555	Y		SB
157	Verification	539158.88	4115962.90	No Match	≤37mm	15.56	07/06/21	1	NMRD	SCRAP METAL	SCRAP	11	1	16	NW 0-30°	539158.887	4115962.903	101-0712 101-0713	Y		SB
160	Validation	539177.70	4115962.41	81mm Mortar	37-105mm	51.70	07/06/21	1	NMRD	SCRAP METAL	REBAR	54	15	123	N 0-30	539177.666	4115962.443	101-0702 101-0703	Y		SB
161	Validation	539167.43	4115990.34	ISO SMALL	≤37mm	17.14	06/25/21	1	NMRD	SCRAP METAL	WIRE	17	2	33	N 0-30°	539167.484	4115990.348	101-0106 101-0107	Y		SB
164	Validation	539172.49	4115987.35	ISO SMALL	≤37mm	7.56	06/25/21	1	NMRD	SCRAP METAL	BOLT	8	20	31	SE 60-90°	539172.486	4115987.368	101-0116 101-0117	Y		SB
165	Likely TOI	539173.45	4115963.15	81mm Mortar	37-105mm	47.05	07/06/21	1	NMRD	SCRAP METAL	BRAIDED CABLE	45	40	204	SE 0-3	539173.479	4115963.164	101-0708 101-0709	Y		SB
166	Verification	539183.86	4115984.28	81mm Mortar	37-105mm	19.80	06/28/21	1	NMRD	SCRAP METAL	REBAR	19	10	53	SW 0-30°	539183.864	4115984.312	101-0514 101-0515	Y		SB
171	Validation	539157.87	4115974.06	60mm Mortar	37-105mm	16.64	06/29/21	1	NMRD	SCRAP METAL	CAN	15	10	13	NW 0-30°	539157.915	4115974.056	101-0410 101-0411	Y		SB
173	Likely TOI	539177.41	4115970.04	60mm Mortar	37-105mm	1.30	06/29/21	1	NMRD	SCRAP METAL	CAN	10	1	11	N 0-30°	539177.396	4115970.033	101-0527 101-0528	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_12 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
175	Likely TOI	539183.52	4115974.30	81mm Mortar	37-105mm	64.97	06/30/21	1	NMRD	SCRAP METAL	SAME AS 176 SCRAP	69	15	20	N 0-30°	539183.503	4115974.364	101-0500 101-0502	Y		SB
176	Likely TOI	539183.42	4115974.33	81mm Mortar	37-105mm	68.19	06/30/21	1	NMRD	SCRAP METAL	SAME AS 175 SCRAP	~~20~~ 69 ~~69~~ 07/01/21	15	20	N 0-30°	539183.443	4115974.330	101-0500 101-0501	Y		SB
179	Validation	539161.42	4115984.92	60mm Mortar	37-105mm	13.51	06/30/21	1	NMRD	SCRAP METAL	WIRE	13	2	25	N 0-30	539161.433	4115984.914	101-0096 101-0097	Y		SB
180	Likely TOI	539178.25	4115973.52	81mm Mortar	37-105mm	46.87	06/30/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	68	0	0	N/A	539178.279	4115973.519	101-0556 101-0557			SB
181	Likely TOI	539182.56	4115973.75	4.2-in Mortar	≥105mm	85.03	06/30/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	87	0	0	N/A	539182.567	4115973.763	101-0496 101-0497	Y		SB
184	Validation	539185.06	4115989.59	81mm Mortar	37-105mm	51.93	07/01/21	2	NMRD	SCRAP METAL	PIPES	40	40	375	N 0-30	539185.051	4115989.543	101-0471 101-0724	Y		SB
188	Likely TOI	539187.24	4115969.48	4.2-in Mortar	≥105mm	95.69	06/30/21	1	CULTURAL FEATURE	STRUCTURE	BURIED PIPE L.I.P.	103	200	0	SE 0-30°	539187.252	4115969.468	101-0535 101-0536			SB
189	Likely TOI	539170.51	4115968.97	81mm Mortar	37-105mm	39.59	07/02/21	1	NMRD	SCRAP METAL	PIPE	49	40	26	NE 0-30°	539170.510	4115968.972	101-0675 101-0676	Y		SB
190	Likely TOI	539180.79	4115964.54	4.2-in Mortar	≥105mm	75.86	07/06/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	87	0	0	N/A	539180.789	4115964.534	101-0692 101-0693			SB
191	Likely TOI	539185.09	4115964.96	ISO MEDIUM	37-105mm	35.63	07/06/21	1	NMRD	SCRAP METAL	PIPE	79	20	32	NE 0-30	539185.057	4115964.986	~~101-0687~~ 101-0687 101-0688	Y		SB
198	Likely TOI	539186.32	4115978.10	81mm Mortar	37-105mm	45.98	06/30/21	1	NMRD	SCRAP METAL	SCRAP	44	15	7.5	NE 0-30°	539186.307	4115978.098	101-0494 101-0495	Y		SB
202	Likely TOI	539161.06	4115967.24	81mm Mortar	37-105mm	54.79	07/07/21	1	Target not Investigated	LIP	Adjacent to Gas line	0	0	0	N/A	539161.055	4115967.238	101-0729			SB
214	Likely TOI	539160.03	4115973.70	81mm Mortar	37-105mm	41.72	06/29/21	0 + 07/24/21	NO CONTACT	N/A	INFLUENCED BY WIRE FROM #62	60	0	0	N/A	539160.032	4115973.710	101-0418 101-0419	Y		SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_13 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	539151.76	4116016.23	ISO MEDIUM	37-105mm	21.09	06/30/21	1	SEED	QC SEED	MEDIUM ISO TM-13	22	60	20	W 0-30°	539151.774	4116016.205	101-0566 101-0567	Y		SB
2	Likely TOI	539158.91	4116028.01	60mm Mortar	37-105mm	27.75	07/01/21	1	MPPEH	MORTAR	SAME AS 105 60 mm MORTAR FUZED	38	60	22	SE 0-30°	539158.926	4116028.094	101-0647 101-0648	Y		SB
3	Likely TOI	539152.09	4116023.80	81mm Mortar	37-105mm	42.15	07/01/21	1	MPPEH	MORTAR	SAME AS 5 81 mm MORTAR FUZED	38	81	58	SW 0-30°	539152.098	4116023.840	101-0655 101-0656	Y		SB
4	Likely TOI	539139.09	4116011.32	60mm Mortar	37-105mm	35.89	07/01/21	1	MPPEH	MORTAR	SAME AS 35 81 mm MORTAR FUZED	30	81	29	SW 0-30°	539139.028	4116011.242	101-0673 101-0674	Y		SB
5	Likely TOI	539152.05	4116023.80	81mm Mortar	37-105mm	42.08	07/01/21	1	—	—	SAME AS 3	—	—	—	—	—	—	—	—	—	—
6	Likely TOI	539154.67	4116010.87	81mm Mortar	37-105mm	49.92	07/01/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	40	6	0	N/A	539154.671	4116010.896	101-0661 101-0662			SB
9	Validation	539158.34	4116018.66	60mm Mortar	37-105mm	19.38	06/30/21	1	NMRD	SCRAP METAL	SCRAP	21	30	6.5	E 0-30°	539158.348	4116018.641	101-0572 101-0573	Y		SB
10	Likely TOI	539141.08	4116035.83	60mm Mortar	37-105mm	20.51	06/30/21	1	NMRD	SCRAP METAL	SCRAP	9	30	58	SE 0-30°	539141.099	4116035.840	101-0586 101-0587	Y		SB
11	Verification	539158.86	4116016.13	60mm Mortar	37-105mm	16.15	06/30/21	1	NMRD	SCRAP METAL	SCRAP	15	40 ~~17~~ BJC 07/01/21	12	N 0-30°	539158.833	4116016.115	101-0570 101-0571	Y		SB
12	Likely TOI	539156.41	4116016.16	ISO MEDIUM	37-105mm	47.33	07/01/21	1	MPPEH	MORTAR	SAME AS 111 81 mm MORTAR FUZED	50	~~81~~ 33 BJC 07/01/21	33	NW 0-30°	539156.400	4116016.109	101-0659 101-0660	Y		SB
13	Likely TOI	539149.90	4116030.85	60mm Mortar	37-105mm	35.35	07/01/21	1	NMRD	SCRAP METAL	SHARED W/ 16 PIPE	36	25	141	NW 0-30°	539149.932	4116030.917	101-0652 101-0653	Y		SB
16	Likely TOI	539150.24	4116030.46	81mm Mortar	37-105mm	43.01	07/01/21	1	NMRD	SCRAP METAL	SHARED W/ 13 PIPE	46	25	141	NW 0-30°	539150.271	4116030.489	101-0651 101-0654	Y		SB
17	Cannot Analyze	539158.61	4116039.26	ISO LARGE	≥105mm	-3.22	07/01/21	0	NO CONTACT	N/A	INFLUENCED BY PIPE AND #91/100091	18 ~~0~~ BJC 07/01/21	0	0	N/A	539158.600	4116039.259	101-0670 101-0671 101-0672	Y		SB
19	Likely TOI	539135.71	4116009.10	60mm Mortar	37-105mm	6.90	07/01/21	1	MPPEH	MORTAR	SAME AS 43 60 MM MORTAR FUZE SHEARED	13	60	19	NW 0-30°	539135.731	4116009.086 ~~4116009.086~~ BJC 07/01/21	101-0663 101-0664	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_13 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
21	Likely TOI	539136.59	4116016.55	ISO SMALL	≤37mm	8.10	07/01/21	1	NMRD	SCRAP METAL	PIPE	9	40	23	SW 0-30°	539136.604	4116016.554	101-0665 101-0666	Y		SB
22	Likely TOI	539132.86	4116037.85	81mm Mortar	37-105mm	21.52	06/30/21	2	NMRD	SCRAP METAL	SCRAP	20	30	50	NW 0-30°	539132.917	4116037.879	101-0596 101-0597	Y		SB
23	Verification	539153.35	4116022.85	ISO SMALL	≤37mm	40.88	07/01/21	1	NMRD	SCRAP METAL	PIPE	44	20	30	NE 0-30°	539153.377	4116022.795	101-0657 101-0658	Y		SB
24	Likely TOI	539153.55	4116014.39	60mm Mortar	37-105mm	11.76	06/30/21	1	NMRD	SCRAP METAL	SAME AS 65 SCRAP	12	30	29	SE 30-60	539153.576	4116014.382	101-0564 101-0565	Y		SB
26	Likely TOI	539152.65	4116011.37	81mm Mortar	37-105mm	9.19	06/30/21	1	NMRD	SCRAP METAL	REBAR	13	20	153	SE 30-60°	539152.608	4116011.365	101-0562 101-0563	Y		SB
30	Verification	539135.47	4116037.12	60mm Mortar	37-105mm	14.19	06/30/21	1	NMRD	SCRAP METAL	SCRAP	13	30	51	SE 30-60°	539135.544	4116037.271	101-0588 101-0589	Y		SB
31	Verification	539156.55	4116009.89	60mm Mortar	37-105mm	13.97	06/30/21	1	NMRD	SCRAP METAL	CAN	14/19	10	15	NE 0-30°	539156.566	4116009.889	101-0560 101-0561 101-0757	Y		SB
32	Likely TOI	539158.02	4116010.61	81mm Mortar	37-105mm	38.23	07/01/21	1	NMRD	SCRAP METAL	REBAR	28	15	61	SE 0-30°	539157.989	4116010.604	101-0613 101-0614	Y		SB
33	Verification	539135.30	4116037.10	60mm Mortar	37-105mm	13.64	06/30/21	1	NMRD	SCRAP METAL	SCRAP	10	30	51	NW 0-30°	539135.323	4116037.091	101-0590 101-0591	Y		SB
35	Likely TOI	539139.05	4116011.26	60mm Mortar	37-105mm	29.83	07/01/21	1			SAME AS 4										
36	Verification	539154.27	4116033.23	81mm Mortar	37-105mm	22.78	06/30/21	1	NMRD	SCRAP METAL	SCRAP	22	30	43	NW 0-30°	539154.281	4116033.195	101-0576 101-0577	Y		SB
37	Likely TOI	539159.87	4116020.00	60mm Mortar	37-105mm	38.69	07/01/21	1	NMRD	SCRAP METAL	REBAR	39	10	75	SW 0-30°	539159.894	4116019.997	101-0645 101-0646	Y		SB
38	Likely TOI	539132.60	4116037.94	81mm Mortar	37-105mm	22.47	06/30/21	3 + 1 SAC 06/30/21	NMRD	SCRAP METAL	SCRAP	17	30	50	NW 0-30°	539132.598	4116037.427	101-0598 101-0599	Y		SB
39	Likely TOI	539150.14	4116032.99	60mm Mortar	37-105mm	19.44	06/30/21	1	MD	MORTAR	81MM MORTAR TAIL FINS	22	70	14	W 0-30°	539150.132	4116032.999	101-0578 101-0579	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_13 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
41	Validation	539148.24	4116034.54	No Match	37-105mm	9.73	06/30/21	1	NMRD	SCRAP METAL	SCRAP	8	30	49	NW 0-30°	539148.247	4116034.509	101-0584 101-0585	Y		SB
43	Likely TOI	539135.72	4116009.10	60mm Mortar	37-105mm	9.63	07/01/21				SAME AS 19										
46	Verification	539131.64	4116038.22	60mm Mortar	37-105mm	23.38	07/01/21	3	NMRD	SCRAP METAL	SCRAP	19	30	47	N 0-30°	539131.618	4116038.224	101-0615 101-0616	Y		SB
49	Validation	539151.32	4116035.68	No Match	37-105mm	15.64	06/30/21	2 + FSAC 07/01/21	NMRD	SCRAP METAL	WIRE	13	2	20	NE 0-30°	539151.360	4116035.678	101-0580 101-0581	Y		SB
52	Validation	539132.89	4116035.94	ISO SMALL	≤37mm	15.80	07/01/21	1	NMRD	SCRAP METAL	SCRAP	15 ~~18~~ FSAC 07/01/21	30	12	W 0-30°	539132.895	4116035.965	101-0619 101-0620	Y		SB
55	Validation	539150.84	4116036.96	60mm Mortar	37-105mm	14.43	06/30/21	1	NMRD	SCRAP METAL	SCRAP	16	20	18	S 0-30°	539150.825	4116036.944	101-0582 101-0583	Y		SB
58	Validation	539134.43	4116037.72	60mm Mortar	37-105mm	13.71	06/30/21	1	NMRD	SCRAP METAL	CAN	17	16	12	SW 0-30°	539134.433	4116037.724	101-0594 101-0595	Y		SB
61	Likely TOI	539131.73	4116037.43	60mm Mortar	37-105mm	22.18	07/01/21	1	NMRD	SCRAP METAL	SCRAP	16	30	51	NW 0-30°	539131.735	4116037.445	101-0617 101-0618	Y		SB
65	Likely TOI	539153.63	4116014.46	ISO MEDIUM	37-105mm	9.70	06/30/21				SAME AS 24										
72	Validation	539159.72	4116025.25	81mm Mortar	37-105mm	20.33	06/30/21	1	NMRD	SCRAP METAL	SCRAP	20	20	35	N 0-30°	539159.734	4116025.242	101-0574 101-0575	Y		SB
73	Verification	539134.81	4116037.32	No Match	≥105mm	21.26	06/30/21	1	NMRD	SCRAP METAL	SCRAP	14	30	47	NW 0-30°	539134.839	4116037.308	101-0592 101-0593	Y		SB
76	Likely TOI	539130.99	4116031.75	ISO SMALL	≤37mm	5.57	07/01/21	1	NMRD	SCRAP METAL	SCRAP	13	50	22	SW 0-30°	539130.990	4116031.730	101-0621 101-0622	Y		SB
77	Verification	539150.92	4116032.09	60mm Mortar	37-105mm	45.01	07/01/21	1	MPPEH	MORTAR	81mm MORTAR FUZED	63	81	57	SW 0-30°	539150.902	4116032.096	101-0649 101-0650	Y		SB
91	Likely TOI	539158.35	4116038.26	4.2-in Mortar	≥105mm	12.68	07/01/21	1	NMRD	SCRAP METAL	SHARED W/100091 SCRAP	12	30	72	NW 0-30°	539158.325	4116038.255	101-0667 101-0668	Y		SB
61-2							07/03/21	1	NMRD	SCRAP METAL	SCRAP	16/25	25	48	NW 0-30°	539131.749	4116037.556	101-0758 101-0759	Y		SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_13 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
100091	Likely TOI	539158.08	4116038.43	81mm Mortar	37-105mm	8.38	07/01/21	1	NMRD	SCRAP METAL	SHARED w/91 SCRAP	12	30	72	NW 0-30°	539158.061	4116038.399	101-0667 101-0669	Y		SB
92	Validation	539158.10	4116014.74	60mm Mortar	37-105mm	19.61	06/30/21	1	NMRD	SCRAP METAL	SCRAP	24	10	14	SE 0-30°	539158.106	4116014.735	101-0568 101-0569	Y		SB
105	Likely TOI	539158.92	4116028.14	60mm Mortar	37-105mm	25.82	07/01/21	—	—	—	SAME AS 2	—	—	—	—	—	—	—	—	—	—
109	Likely TOI	539156.74	4116009.28	81mm Mortar	37-105mm	41.51	07/01/21	1	NMRD	SCRAP METAL	REBAR L.I.P.	40	20	0	SE 0-30°	539156.735	4116009.293	101-0611 101-0612			SB
111	Likely TOI	539156.38	4116016.07	81mm Mortar	37-105mm	50.03	07/01/21	—	—	—	SAME AS 12	—	—	—	—	—	—	—	—	—	—

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06/10/21

LOCATION TM_14 | DIG TEAM LEADER SHAUN BERROW | DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	539868.99	4116533.69	ISO LARGE	≥105mm	38.99	6/11/21	1	MPPEH	MORTAR	SAME AS 53 4.2" MORTAR ~~SHEARED~~ FUZE	33	106	49	W 0-30°	539868.721	4116533.673	100-0491 100-0492	Y		SB
2	Likely TOI	539856.58	4116544.03	4.2-in Mortar	≥105mm	24.62	6/10/21	1	MPPEH	MORTAR	SAME AS 67 4.2" MORTAR FUZED	23	106	56	E 0-30°	539856.687	4116544.018	100-0432 100-0433	Y		SB
3	Likely TOI	539858.67	4116560.24	ISO LARGE	≥105mm	16.33	6/10/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	15	106	53	NE 0-30°	539858.666	4116560.272	100-0430 100-0431	Y		SB
4	Likely TOI	539851.46	4116571.94	60mm Mortar	37-105mm	14.58	6/10/21	1	MPPEH	MORTAR	SAME AS ~~153~~ 4.2" MORTAR BAE 6/11/21 FUZED	14	106	51	E 0-30°			100-0424 ~~100-0425~~ 100-0530	Y		SB
5	Likely TOI	539867.17	4116531.27	4.2-in Mortar	≥105mm	13.58	6/11/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED	14	106	48	S 0-30°	539867.126	4116531.223	100-0482 100-0483	Y		SB
6	Likely TOI	539849.21	4116574.10	4.2-in Mortar	≥105mm	30.99	6/10/21	1	MPPEH	MORTAR	SAME AS 54 4.2" MORTAR FUZED	30	106	52	NE 0-30°			100-0422 100-0423	Y		SB
8	Likely TOI	539856.04	4116537.46	ISO LARGE	≥105mm	12.86	6/10/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	12	106	51	SW 0-30°	539855.470	4116537.406	100-0436 100-0437	Y		SB
9	Likely TOI	539857.09	4116565.03	ISO SMALL	≤37mm	8.67	6/10/21	1	SEED	QC SEED	ISO SMALL TM-14	13	30	10	NE 0-30°	539857.078	4116564.947	100-0428 100-0429	Y		SB
10	Likely TOI	539866.46	4116528.32	ISO LARGE	≥105mm	43.68	6/11/21	1	MPPEH	MORTAR	SAME AS 56,122 4.2" MORTAR FUZE SHEARED	42	106	40	~~S~~ BAE 6/11/21 0-30°	539866.962	4116528.252	100-0478 100-0479	Y		SB
11	Likely TOI	539861.36	4116530.04	4.2-in Mortar	≥105mm	29.08	6/11/21	1	MPPEH	MORTAR	SAME AS 55 4.2" MORTAR	29	106	49	E 0-30°	539864.372	4116529.989	100-0480 100-0481	Y		SB
12	Likely TOI	539852.99	4116562.37	81mm Mortar	37-105mm	13.93	6/10/21	1	MPPEH	MORTAR	SAME AS 61 4.2" MORTAR FUZED	13	106	50	NE 0-30°	539852.848	4116562.309	100-0426 100-0427	Y		SB
13	Likely TOI	539850.04	4116574.83	4.2-in Mortar	≥105mm	50.88	6/10/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	51	106	56	SW 0-30°	539861.372	4116529.989	100-0420 100-0421	Y		SB
14	Likely TOI	539848.07	4116547.02	81mm Mortar	37-105mm	43.48	6/11/21	1	MPPEH	MORTAR	81MM MORTAR FUZED	44	81	31	S 60-90°	539848.057	4116547.005	100-0519 100-0520	Y		SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_14 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
15	Likely TOI	539859.81	4116553.03	60mm Mortar	37-105mm	13.82	6/11/21	1	MPPEH	MORTAR	4.2" MORTAR NOT FUZED	14	106	30	NW 30-60°	539859.736	4116553.027	100-0505 100-0506	Y		SB
16	Likely TOI	539858.25	4116535.68	ISO SMALL	≤37mm	5.50	6/10/21	1	SEED	QC SEED	ISO SMALL TM-14	13	30	10	E 0-30°	539858.248	4116535.715	100-0433 100-0434	Y		SB
17	Likely TOI	539855.86	4116538.03	ISO LARGE	≥105mm	12.82	6/10/21	1	MPPEH	MORTAR	4.2" MORTAR	13	106	50	N 0-30°	539855.865	4116534.092	100-0434 100-01435	Y		SB
~~18~~	Likely TOI	~~539863.49~~	~~4116557.72~~	~~4.2-in Mortar~~	≥105mm	70.37	6/10/21				~~SAME AS~~ 4				~~SW 60-90°~~						EAE 6/11/21
19	Likely TOI	539852.65	4116559.13	81mm Mortar	37-105mm	51.45	6/17/21	1	MPPEH	MORTAR	81MM MORTAR FUZED	52	81	31	E 0-30°			100-0938 100-0939	Y		SB
20	Likely TOI	539860.12	4116557.66	4.2-in Mortar	≥105mm	28.70	6/11/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	31	106	54	SW 60-90°	539860.059	4116557.631	100-0507 100-0508	Y		SB
21	Likely TOI	539864.48	4116539.50	60mm Mortar	37-105mm	6.82	6/11/21	1	MD	MORTAR	4.2" MORTAR BASE PLATE ~~AND TAIL BOOM~~ EAE 6/11/21	14	106	2	N 0-30°	539864.503	4116539.462	100-0495 100-0496	Y		SB
22	Likely TOI	539858.76	4116556.14	4.2-in Mortar	≥105mm	51.93	6/17/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED SAME AS 72	58	106	55	NW 60-90°			100-0950 100-0951	Y		SB
23	Likely TOI	539831.67	4116581.56	4.2-in Mortar	≥105mm	38.70	6/11/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	43	106	56	W 0-30°	539831.650	4116581.545	100-0522 100-0523	Y		SB
24	Likely TOI	539870.13	4116527.01	81mm Mortar	37-105mm	19.37	6/11/21		—	—	SAME AS 121	—	—	—	—	—	—	—			
25	Likely TOI	539854.62	4116525.78	60mm Mortar	37-105mm	25.96	6/11/21	1	MD	MORTAR	4.2" MORTAR BASE PLATE AND TAIL BOOM	23	110	9	NW 0-30°	539857.660	4116525.697	100-0474 100-0475	Y		SB
26	Likely TOI	539864.86	4116541.51	ISO MEDIUM	37-105mm	22.17	6/11/21	1	MPPEH	MORTAR	SAME AS 125 81mm MORTAR UNFUZED	50	81	29	W 60-90°	539864.729	4116541.538	100-0497 100-0498	Y		SB
28	Likely TOI	539866.78	4116557.42	81mm Mortar	37-105mm	75.24	6/17/21	0	NO CONTACT	N/A	INFLUENCED BY #29	86	0	0	N/A			100-0956 100-0958	Y		SB
18-1							6/17/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	63	106	55	W 60-90°			100-0941 100-0942	Y		SB
18-2							6/17/21	1	MPPEH	MORTAR	81mm MORTAR FUZED	67	81	31	E 60-90°			100-0943 100-0944	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_14 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
29	Likely TOI	539866.94	4116557.12	60mm Mortar	37-105mm	60.82	6/17/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	85	106	55	SW 60-90			100-0945 ~~100-0946~~ 100-0947	6/17/21 Y		SB
30	Likely TOI	539848.47	4116568.55	4.2-in Mortar	≥105mm	83.99	6/17/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	90	106	55	SE 30-60°			100-0932 100-0933	Y		SB
31	Verification	539866.05	4116545.25	81mm Mortar	37-105mm	5.58	6/11/21	1	CULTURAL FEATURE	STRUCTURE	BOLT IN CONCRETE L.I.P.	6	24	8	N 60-90°	539866.003	4116545.269	100-0499 100-0500			SB
32	Likely TOI	539858.45	4116545.25	ISO MEDIUM	37-105mm	38.66	6/11/21	1	MPPEH	MORTAR	81mm MORTAR FUZED	42	81	30	N 60-90°	539858.788	4116545.218	100-0460 100-0461	Y		SB
33	Likely TOI	539850.63	4116560.80	ISO MEDIUM	37-105mm	19.92	6/11/21	1	MPPEH	MORTAR	81 mm MORTAR FUZED	19	81	33	E 0-30°	539850.638	4116560.81	100-0513 100-0514	Y		SB
34	Likely TOI	539847.10	4116554.80	81mm Mortar	37-105mm	60.25	6/17/21	1	MPPEH	MORTAR	SAME AS 71 4.2" MORTAR FUZED	68	106	52	S 60-90°			100-0952 100-0953	Y		SB
35	Likely TOI	539837.34	4116586.63	60mm Mortar	37-105mm	12.86	6/11/21	1	NMRD	SCRAP METAL	METAL RING	18	40	9.5	N 0-30°	539837.318	4116586.584	100-0528 100-0529	Y		SB
36	Likely TOI	539869.70	4116524.38	60mm Mortar	37-105mm	15.86	6/11/21	1	MD	MORTAR	4.2" MORTAR BASE PLATE AND TAIL BOOM	18	104	9	SE 0-30°	539869.713	4116524.375	100-0484 100-0485	Y		SB
38	Likely TOI	539846.85	4116559.66	ISO LARGE	≥105mm	45.23	6/11/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED	49	106	49	W 60-90°	539846.771	4116557.631	100-0515 100-0516	Y		SB
39	Likely TOI	539855.11	4116541.47	ISO MEDIUM	37-105mm	31.76	6/11/21	1	MPPEH	MORTAR	81mm MORTAR FUZED	31	81	31	E 60-90°	539855.104	4116541.442	100-0468 100-0469	Y		SB
40	Likely TOI	539850.74	4116558.27	ISO LARGE	≥105mm	46.47	6/11/21				SAME AS 123										~~DS~~
41	Likely TOI	539863.91	4116532.65	ISO LARGE	≥105mm	51.78	6/11/21	1	MPPEH	MORTAR	~~81MM MORTAR~~ 4.2" MORTAR FUZE SHEARED SAME AS 64	59	106	50	SW 0-30°	539863.924	4116537.674	100-0476 100-0477	Y		SB
42	Likely TOI	539864.19	4116552.94	81mm Mortar	37-105mm	89.47	6/17/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	92	106	55	N 60-90°			100-0948 100-0949	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_14 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
45	Likely TOI	539849.98	4116568.78	ISO MEDIUM	37-105mm	43.60	6/17/21	1	MPPEH	MORTAR	81MM MORTAR FUZED	53	81	33	NW 0-30°			100-0930 100-0931	Y		SB
46	Likely TOI	539869.20	4116556.13	60mm Mortar	37-105mm	7.45	6/11/21	1	MD	MORTAR	4.2" MORTAR BASEPLATE AND TAIL BOOM	10	106	9	N 60-90°	539864.186	4116556.053	100-0503 100-0504	Y		SB
48	Verification	539852.26	4116569.05	60mm Mortar	37-105mm	22.26	6/11/21	3	NMRD	SCRAP METAL	WIRE	18	3	29	NE 0-30°	539852.278	4116569.053	100-0517 100-0518	Y		SB
51	Likely TOI	539858.46	4116540.75	81mm Mortar	37-105mm	8.96	6/11/21	1	NMRD	SCRAP METAL	REBAR	10	20	40	NE 0-30°	539858.496	4116540.659	100-0464 100-0465	Y		SB
52	Likely TOI	539849.55	4116545.61	81mm Mortar	37-105mm	69.18	6/17/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	80	106	55	W 60-90°			100-0954 100-0955	Y		SB
53	Likely TOI	539869.04	4116533.75	81mm Mortar	37-105mm	40.00	6/11/21	1			SAME AS 1										
54	Likely TOI	539849.20	4116574.10	4.2-in Mortar	≥105mm	27.18	6/10/21				SAME AS 6										
55	Likely TOI	539861.30	4116530.02	4.2-in Mortar	≥105mm	30.02	6/11/21				SAME AS 11										
56	Likely TOI	539866.49	4116528.38	4.2-in Mortar	≥105mm	49.15	6/11/21				SAME AS 10										
61	Likely TOI	539852.95	4116562.39	ISO LARGE	≥105mm	17.70	6/10/21				SAME AS 12										
62	Likely TOI	539833.88	4116583.52	ISO MEDIUM	37-105mm	32.11	6/11/21	1	MPPEH	MORTAR	81mm MORTAR FUZED	38	81	33	~~NE~~ 30-60° BK 6/11/21	539833.869	4116583.521	100-0524 100-0525	Y		SB
64	Likely TOI	539863.99	4116532.86	ISO LARGE	≥105mm	54.27	6/11/21				SAME AS 41										
66	Verification	539834.75	4116583.18	No Match	37-105mm	3.69	6/11/21	1	NMRD	SCRAP METAL	CLAMP	6	30	25	N 0-30°	539834.788	4116583.158	100-0526 100-0527	Y		SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_14 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
67	Likely TOI	539856.55	4116544.11	ISO LARGE	≥105mm	24.89	6/10/21				SAME AS 2										SB
68	Verification	539869.85	4116553.62	No Match	37-105mm	2.68	6/11/21	1	NMRD	SCRAP METAL	THREADED ROD	7	40	80	E 0-30°	539869.858	4116553.677	100-0501 100-0502	Y		SB
71	Likely TOI	539847.11	4116554.87	ISO LARGE	≥105mm	62.66	6/17/21				SAME AS 31										
72	Likely TOI	539858.79	4116556.11	81mm Mortar	37-105mm	53.77	6/17/21				SAME AS 22										
73-1	Likely TOI	539847.29	4116561.85	81mm Mortar	37-105mm	55.59	6/17/21	1	MPPEH	MORTAR	81mm MORTAR FUZED	63	81	32	SW 0-30°			100-0934 100-0935			SB
77	Likely TOI	539855.14	4116541.41	60mm Mortar	37-105mm	32.22	6/11/21				SAME AS 39										AL
81	Likely TOI	539851.06	4116571.91	81mm Mortar	37-105mm	18.81	6/10/21				SAME AS 4										AL
83	Likely TOI	539858.45	4116541.37	81mm Mortar	37-105mm	-15.03	6/10/21	1	CULTURAL FEATURE	STRUCTURE	BOLTS IN CONCRETE L.I.P.	-30	24	ø	N 60-90°			100-0462			SB
84	Likely TOI	539853.83	4116549.99	60mm Mortar	37-105mm	23.92	6/11/21	1	MPPEH	MORTAR	81mm MORTAR FUZED	29	81	25	SW 0-30°	539853.797	4116550.061	100-0509 100-0510	Y		SB
89	Verification	539858.64	4116541.32	No Match	37-105mm	-27.12	6/10/21	1	CULTURAL FEATURE	STRUCTURE	BOLT IN CONCRETE L.I.P.	-30	24	ø	N 60-90°	539858.582	4116541.244	100-0463			SB
110	Validation	539859.15	4116532.56	No Match	37-105mm	23.69	6/11/21	1	NMRD	SCRAP METAL	WIRE	22	4	13	E 0-30°	539859.199	4116532.596	100-0472 100-0473	Y		SB
111	Validation	539856.65	4116540.98	60mm Mortar	37-105mm	5.80	6/6/21	1	NMRD	SCRAP METAL	BOLT	10	30	9.5	N 0-30°	539856.683	4116540.895	100-0466 100-0467	Y		SB
113	Validation	539872.26	4116530.31	No Match	37-105mm	13.78	6/11/21	1	NMRD	SCRAP METAL	METAL RING	13	30	2	N 0-30°	539872.339	4116530.244	100-0489 100-0490	Y		SB
73-2							6/17/21	1	MPPEH	MORTAR	4.2" MORTAR	102	106	48	E 60-90			100-0936 100-0937	Y		SB

PROJECT RADFORD | DIG TEAM NO. | DATE STARTED

LOCATION TM_14 | DIG TEAM LEADER | DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
120	Validation	539856.29	4116532.16	No Match	37-105mm	11.57	6/11/21	1	NMRD	SCRAP METAL	WIRE	14	3	10	N 0-30°	539856.386	4116532.137	100-0470 100-0471	Y		SB
121	Likely TOI	539870.24	4116527.07	81mm Mortar	37-105mm	17.84	6/11/21	1	NMRD	SCRAP METAL	~~SAME AS 124~~ SAME AS 24 METAL RING BAC 6/11/21	18	90	22.5	N 0-30°	539870.179	4116526.959	100-0539 BAC 6/11/21 100-0496 ~~100-0497~~ ~~100-0498~~	Y		SB
122	Likely TOI	539866.41	4116528.37	4.2-in Mortar	≥105mm	47.77	6/11/21				SAME AS 10										
123	Likely TOI	539850.89	4116558.30	60mm Mortar	37-105mm	36.44	6/11/21	1	MPPEH	MORTAR	~~SAME AS 40~~ 4.2" MORTAR FUZED	47	106	55	NE 60-90°	539850.824	4116558.321	100-0511 ~~100-0512~~ 100-0521 BAC 6/11/21	Y		SB
124	Likely TOI	539866.85	4116537.67	ISO LARGE	≥105mm	14.11	6/11/21	2	NMRD	SCRAP METAL	~~SAME AS~~ +21 BOLTS BAC 6/11/21	15	30	14	NE 0-30°	539866.781	4116537.595	100-0493 100-0494	Y		SB
125	Likely TOI	539864.73	4116541.46	81mm Mortar	37-105mm	51.92	6/11/21				SAME AS ~~25~~ 26 BAC 6/11/21										

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
1	Likely TOI	539829.73	4116477.33	81mm Mortar	37-105mm	19.76	6/16/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	18	106	51	S 0-30°			100-0856 100-0857	Y		SB
2	Likely TOI	539845.52	4116470.49	81mm Mortar	37-105mm	14.91	6/16/21	1	MPPEH	MORTAR	SAME AS 101 81MM MORTAR FUZED	14	81	31	SE 0-30°			100-0836 100-0837	Y		SB
3	Likely TOI	539827.22	4116454.54	60mm Mortar	37-105mm	2.80	6/15/21	1	NMRD	SCRAP METAL	PIPE	9	60	10	N 60-90°			100-0728 100-0729	Y		SB
4	Likely TOI	539829.74	4116488.70	4.2-in Mortar	≥105mm	27.73	6/14/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	31	106	48	NW 0-30°			100-0564 100-0565	Y		SB
5	Likely TOI	539807.78	4116482.64	81mm Mortar	37-105mm	20.89	6/15/21	1	NMRD	SCRAP METAL	SCRAP	11 ~~12~~ BAC 6/15/21	30	6.5	N 0-30°			100-0662 100-0663	Y		SB
7	Likely TOI	539847.45	4116472.89	ISO SMALL	≤37mm	5.83	6/16/21	2	NMRD	SCRAP METAL	SCRAP	6	30	29	SE 0-30°			100-0840 100-0841	Y		SB
8	Likely TOI	539816.13	4116465.73	ISO LARGE	≥105mm	45.81	6/15/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	38	106	52	NW 0-30°			100-0710 100-0711	Y		SB
9	Likely TOI	539832.68	4116489.79	81mm Mortar	37-105mm	2.18	6/14/21	1	NMRD	SCRAP METAL	PIPE	4	50	31	E 0-30°			100-0566 100-0567	Y		SB
10	Likely TOI	539849.29	4116465.48	60mm Mortar	37-105mm	26.18	6/17/21	1	NMRD	SCRAP METAL	~~SAME AS 357~~ BAC 6/17/21 PIPE ELBOW	28	80	13	N 0-30°			100-0923 ~~100-0924~~ 100-0925	Y		SB
11	Likely TOI	539824.30	4116505.67	ISO LARGE	≥105mm	9.00	6/14/21	1	NMRD	SCRAP METAL	PIPE ENCASED IN CONCRETE L.I.P.	0	110	0	N 60-90°			BAC 6/17/21 100-0614 100-0615			SB
12	Likely TOI	539816.42	4116463.35	81mm Mortar	37-105mm	5.02	6/15/21	1	NMRD	SCRAP METAL	SAME AS 100, 288 PIPE & WASHER	5	40	28	NE 0-30°			100-0628 100-0629	Y		SB
14	Likely TOI	539836.86	4116460.90	4.2-in Mortar	≥105mm	62.38	6/16/21	1	NMRD	SCRAP METAL	SCRAP	44	20	265	N 0-30°			100-0832 100-0833	Y		SB
~~15~~	~~Likely TOI~~	~~539824.13~~	~~4116496.74~~	~~4.2-in Mortar~~	~~≥105mm~~	~~15.31~~	~~6/15/21~~	~~1~~	~~NMRD~~	~~SCRAP METAL~~	~~METAL RING~~	~~11~~	~~10~~	~~9~~	~~N 0-30°~~			~~100-0620 100-0621~~	~~Y~~		~~SB~~ BAC 6/15/21
15							6/17/21	1	CULTURAL FEATURE	STRUCTURE	PIPE ENCASED IN CONCRETE L.I.P.	5 ~~0~~ BAC 6/17/21	12	0	N 60-90°						SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_15 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
16	Validation	539829.62	4116464.99	No Match	≤37mm	-0.57	6/16/21	1	NMRD	SCRAP METAL	SCRAP	0	10	19	W 0-30°			100-0789 100-0790	Y		SB
17	Likely TOI	539839.81	4116462.75	81mm Mortar	37-105mm	36.59	6/16/21	2	NMRD	SCRAP METAL	BOLT + PIPE	10	30	13	E 0-30°			100-0821 100-0822	Y		SB
19	Verification	539847.44	4116469.37	81mm Mortar	37-105mm	3.61	6/16/21	1	NMRD	SAME AS 105 SCRAP METAL	SCRAP	0	30	31	SE 0-30°			100-0838 100-0839	Y		SB
21	Likely TOI	539818.00	4116501.70	60mm Mortar	37-105mm	1.12	6/17/21	3	NMRD	SAME AS 528 SCRAP METAL	SCRAP	38	7	6	N 0-30°			100-0886 100-0887	Y		SB
22	Likely TOI	539817.29	4116505.99	81mm Mortar	37-105mm	25.90	6/14/21	0	NO CONTACT	N/A	INFLUENCED BY ELECTRICAL LINE	31	0	0	N/A			100-0613			SB
24	Likely TOI	539817.09	4116470.66	lumination Candle	37-105mm	3.82	6/16/21	2	NMRD	SCRAP METAL	SAME AS 310 PIPE, THREADED ROD	5	45	15	NW 0-30°			100-0762 100-0763	Y		SB
25	Likely TOI	539816.15	4116466.36	60mm Mortar	37-105mm	12.88	6/15/21	1	NMRD	SCRAP METAL	PIPE	15	30	8	SE 0-30°			100-0712 100-0713	Y		SB
26	Likely TOI	539832.76	4116460.63	ISO SMALL	≤37mm	5.72	6/15/21	2	NMRD	SCRAP METAL	BOLT METAL PLATE	4	30	9	E 0-30°			100-0742 100-0743	Y		SB
27	Likely TOI	539836.58	4116462.27	81mm Mortar	37-105mm	11.12	6/15/21	5	NMRD	SCRAP METAL	SCRAP	10	30	31	N 0-30°			100-0748 100-0749	Y		SB
28	Likely TOI	539830.95	4116459.25	60mm Mortar	37-105mm	11.18	6/15/21	2	NMRD	SCRAP METAL	SCRAP	11	25	8	NW 0-30°			100-0730 100-0731	Y		SB
30	Likely TOI	539827.19	4116479.69	60mm Mortar	37-105mm	41.82	6/14/21	1	NMRD	SCRAP METAL	SCRAP METAL INFLUENCED BY MANHOLE COVER	56	10	18	N 0-30°			100-0556 100-0557	Y		SB
31	Likely TOI	539825.35	4116455.01	81mm Mortar	37-105mm	20.09	6/15/21	1	NMRD	SCRAP METAL	SAME AS 273 SCRAP	18	50	14	N 0-30°			100-0726 100-0727	Y		SB
32	Likely TOI	539818.42	4116503.25	81mm Mortar	37-105mm	47.72	6/14/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	53	0	0	N/A			100-0598			SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_1S DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
33	Likely TOI	539814.92	4116472.36	ISO LARGE	≥105mm	26.63	6/15/21	1	MPPEH	MORTAR	SAME AS 264 4.2" MORTAR FUZED	29	106	53	NE 0-30°			100-0636 100-0637	Y		SB
35	Likely TOI	539839.41	4116502.47	4.2-in Mortar	≥105mm	69.21	6/16/21	1	MPPEH	MORTAR	SAME AS 209 4.2" MORTAR SAME AS 466	59	106	55	S 0-30°			100-0877 100-0878	Y		SB
36	Likely TOI	539835.75	4116466.96	81mm Mortar	37-105mm	13.13	6/16/21		NMRD	SCRAP METAL	METAL PLATE	4	10	24	N 0-30°			100-0809 100-0810	Y		SB
37	Validation	539820.91	4116504.28	ISO SMALL	≤37mm	0.49	6/14/21	1	NMRD	SCRAP METAL	PIPE	6	30	7	N 0-30°			100-0599 100-0600	Y		SB
38	Likely TOI	539838.21	4116504.98	4.2-in Mortar	≥105mm	17.40	6/17/21	1	CULTURAL	STRUCTURE	PIPE EMBEDDED IN CONCRETE L.L.P.	12 BAE 6/17/21	120	0	N 60-90°			100-0914			SB
39	Likely TOI	539802.18	4116491.48	81mm Mortar	37-105mm	16.35	6/15/21	1	NMRD	SCRAP METAL	SHARED W 395 THREADED ROD	14	10	53	N 0-30°			100-0691 100-0692	Y		SB
43	Likely TOI	539827.90	4116507.17	4.2-in Mortar	≥105mm	13.84	6/14/21	1	NMRD	SCRAP METAL	PIPE ENCASED IN CONCRETE	14	120 ~~430~~ BAE 6/14/21	100	N 60-90°			100-0574 ~~100-0575~~ 100-0576 BAE 6/14/21	Y		SB
44	Likely TOI	539828.08	4116508.58	4.2-in Mortar	≥105mm	70.31	6/14/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	74	106	53	N ~~60~~ 0-30° BAE 6/14/21			100-0592 100-0593	Y		SB
45	Verification	539818.36	4116451.44	ISO SMALL	≤37mm	5.09	6/15/21	1	NMRD	SCRAP METAL	SAME AS 539 BOLT	9	30	12	NE 0-30°			100-0720 100-0721	Y		SB
46	Verification	539836.28	4116471.89	No Match	≤37mm	20.59	6/16/21	1	NMRD	SCRAP METAL	BOLT	15	20	5	N 0-30°			100-0846 100-0847	Y		SB
47	Verification	539835.50	4116478.03	60mm Mortar	37-105mm	4.96	6/16/21	2	NMRD	SCRAP METAL	SCRAP	7	4	49	N 0-30°			100-0852 100-0853	Y		SB
48	Verification	539825.48	4116475.69	ISO SMALL	≤37mm	1.72	6/14/21	1	NMRD	SCRAP METAL	PIPE	4	30	15	NE 0-30°			100-0553 100-0554	Y		SB
49	Verification	539817.50	4116505.11	81mm Mortar	37-105mm	50.10	6/14/21	0	NO CONTACT	~~CONCRETE PAD ELECTRICAL INFLUENCE~~ N/A BAE 6/14/21	~~SAME AS 184~~ CONCRETE PAD ELECTRICAL INFLUENCE BAE 6/14/21	48	0	0	N/A			~~100-0610~~ 100-0611 BAE 6/14/21			SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
50	Likely TOI	539815.28	4116462.50	4.2-in Mortar	≥105mm	10.42	6/15/21	1	NMRD	SCRAP METAL	PIPE	8	25	43	NE 0-30°			100-0626 100-0627	Y		SB
51	Likely TOI	539835.67	4116469.34	81mm Mortar	37-105mm	27.15	6/16/21	1	NMRD	SCRAP METAL	BOLT	24	20	10	SE 0-30°			100-0803 100-0804	Y		SB
52	Verification	539821.25	4116452.01	81mm Mortar	37-105mm	3.58	6/15/21	1	NMRD	SCRAP METAL	METAL RING	7	30	9	N 0-30°			100-0722 100-0723	Y		SB
54	Likely TOI	539832.90	4116504.35	4.2-in Mortar	≥105mm	55.81	6/14/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	60	106	55	E 0-30°			100-0618 100-0619	Y		SB
57	Likely TOI	539804.52	4116489.97	60mm Mortar	37-105mm	9.97	6/15/21	1	NMRD	SCRAP METAL	SCRAP	20	10	10	N 0-30°			100-0685 100-0686	Y		SB
61	Likely TOI	539816.54	4116464.31	60mm Mortar	37-105mm	10.34	6/15/21	1	NMRD	SCRAP METAL	SAME AS 62 METAL PLATE	8	10	9.5	N 0-30°			100-0630 100-0631	Y		SB
62	Likely TOI	539816.49	4116464.33	60mm Mortar	37-105mm	2.60	6/15/21				SAME AS 61										
63	Verification	539833.25	4116498.91	ISO SMALL	≤37mm	2.27	6/14/21	1	NMRD	SCRAP METAL	SAME AS 269 SCRAP	8	25	11	N 0-30°			100-0587 100-0588	Y		SB
64	Verification	539817.35	4116454.02	81mm Mortar	37-105mm	9.30	6/15/21	3 + BAE 6/17/21	NMRD	SCRAP METAL	SAME AS 74,231 WIRE	9	10	50	N 0-30°			100-0718 100-0719	Y		SB
65	Likely TOI	539835.48	4116468.55	ISO SMALL	≤37mm	6.64	6/16/21	1	NMRD	SCRAP METAL	BOLT	6	30	12	SW 0-30°			100-0801 100-0802	Y		SB
66	Validation	539839.90	4116510.73	No Match	37-105mm	31.42	6/17/21	1	NMRD	SCRAP METAL	NAIL	33 ~~39~~ BAE 6/17/21	1	9	N 0-30°			100-0906 100-0907	Y		SB
68	Likely TOI	539824.77	4116469.89	ISO SMALL	≤37mm	0.05	6/16/21	1	NMRD	SCRAP METAL	SAME AS 136 PIPE	0	25	10	NE 0-30°			100-0781 100-0782	Y		SB
70	Likely TOI	539819.13	4116459.37	60mm Mortar	37-105mm	2.02	6/15/21	1	NMRD	SCRAP METAL	PIPE	12	50	8	NW 0-30°			100-0622 100-0623	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
72	Likely TOI	539837.03	4116462.37	81mm Mortar	37-105mm	8.21	6/15/21	5	NMRD	SCRAP METAL	SCRAP	7	7	24	N 0-30°			100-0750 100-0751	Y		SB
74	Likely TOI	539817.35	4116454.02	81mm Mortar	37-105mm	8.33	6/15/21				SAME AS 64,231										
76	Likely TOI	539806.33	4116480.25	60mm Mortar	37-105mm	3.25	6/15/21	1	NMRD	SCRAP METAL	ANGLE IRON	8	10	18	NE 0-30°			100-0648 100-0649	Y		SB
77	Likely TOI	539819.18	4116500.75	81mm Mortar	37-105mm	28.66	6/17/21	2	NMRD	SCRAP METAL	SCRAP OVER CONCRETE PAD ELECTRICAL INFLUENCE	48	1	13	N 0-30°			100-0888 100-0889			SB
78	Likely TOI	539832.90	4116502.22	4.2-in Mortar	≥105mm	55.83	6/14/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED	53	106	~~SE 0-30°~~ 50 BAC 6/14/21 SE 0-30°				100-0585 100-0586	Y		SB
79	Verification	539826.46	4116458.80	60mm Mortar	37-105mm	5.27	6/15/21	1	NMRD	SCRAP METAL	METAL PLATE	7	10	12	N 0-30°			100-0730 100-0731	Y		SB
80	Likely TOI	539832.41	4116507.85	ISO SMALL	≤37mm	1.13	6/14/21	1	NMRD	SCRAP METAL	~~SAME AS 135~~ SCRAP BAC 6/14/21	6	30	25	N 0-30°			100-0594 100-0595	Y		SB
83	Likely TOI	539832.81	411647S.86	ISO LARGE	≥105mm	51.86	6/16/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE ~~SAME AS 135~~	48	0	0	N/A			100-0865			SB
84	Verification	539822.04	4116503.27	60mm Mortar	37-105mm	1.21	6/14/21	1	NMRD	SCRAP METAL	SCRAP	4	7	9	N 0-30°			100-0603 100-0604	Y		SB
86	Likely TOI	539840.68	4116466.24	60mm Mortar	37-105mm	-13.43	6/16/21	1	NMRD	SCRAP METAL	SCRAP	-13	50	43	N 60-90°			100-0815 100-0816	Y		SB
87	Verification	539836.36	4116465.60	60mm Mortar	37-105mm	2.53	6/16/21	3	NMRD	SCRAP METAL	METAL PLATE, BOLT, RING	3	10	17	N 0-30°			100-0811 100-0812	Y		SB
88	Likely TOI	539845.25	4116497.66	81mm Mortar	37-105mm	1.41	6/16/21	1	NMRD	SCRAP METAL	SCRAP	4	10	10	NE 0-30°			100-0873 100-0874	Y		SB
89	Likely TOI	539807.00	4116498.37	60mm Mortar	37-105mm	3.41	6/15/21	1	NMRD	SCRAP METAL	SCRAP	9	60	20	N 0-30			100-0700 100-0701	Y		SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_15 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
90	Likely TOI	539805.05	4116485.39	60mm Mortar	37-105mm	16.08	6/15/21	1	NMRD	SCRAP METAL	SCRAP	18 ~~6~~ BAR 6/15/21	3	9	N 0-30°			100-0675 100-0676	Y		SB
91	Validation	539814.73	4116465.21	ISO SMALL	≤37mm	5.38	6/15/21	1	NMRD	SCRAP METAL	PIPE	10	25	26.5	N 0-30°			100-0632 100-0633	Y		SB
92	Validation	539840.87	4116502.19	81mm Mortar	37-105mm	19.75	6/16/21		NMRD	SCRAP METAL	REBAR L.I.P.	22	30	0	W 60-90°			100-0912 100-0913			SB
95	Likely TOI	539835.57	4116490.56	81mm Mortar	37-105mm	2.66	6/14/21	1	NMRD	SCRAP METAL	METAL PLATE	6	15	23	E 0-30°			100-0570 100-0571	Y		SB
96	Likely TOI	539840.87	4116461.14	ISO LARGE	≥105mm	25.19	6/16/21	1	NMRD	SCRAP METAL	SAME AS 102 METAL RING	13	10	7	N 0-30°			100-0819 100-0820	Y		SB
97	Likely TOI	539831.04	4116458.98	ISO MEDIUM	37-105mm	10.87	6/15/21	4	NMRD	SCRAP METAL	SCRAP	9	15	5	N 0-30°			110-0740 110-0741	Y		SB
100	Likely TOI	539816.39	4116463.34	81mm Mortar	37-105mm	4.51	6/15/21				SAME AS 12, 288										
101	Likely TOI	539845.47	4116470.55	81mm Mortar	37-105mm	16.23	6/16/21				SAME AS 2										
102	Verification	539840.92	4116461.19	81mm Mortar	37-105mm	17.15	6/16/21				SAME AS 96										
103	Verification	539829.76	4116469.49	ISO SMALL	≤37mm	1.29	6/16/21	3	NMRD	SCRAP METAL	SCRAP	0	20	13	NW 0-30°			100-0795 100-0796	Y		SB
104	Likely TOI	539836.35	4116459.02	81mm Mortar	37-105mm	41.30	6/16/21	1	MPPEH	MORTAR	SAME AS 175 81mm MORTAR FUZED	37	81	30	S 0-30°			100-0834 100-0835	Y		SB
105	Likely TOI	539847.37	4116469.38	81mm Mortar	37-105mm	4.40	6/16/21				SAME AS 19										
107	Likely TOI	539854.20	4116478.45	81mm Mortar	37-105mm	4.31	6/17/21	1	NMRD	SCRAP METAL	SCRAP	5	10	9	N 0-30°			100-0919 100-0920	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
109	Likely TOI	539835.64	4116466.98	81mm Mortar	37-105mm	7.82	6/16/21				SAME AS 36										
110	Likely TOI	539815.40	4116504.13	ISO SMALL	≤37mm	1.72	6/14/21	1	NMRD	SCRAP METAL	SAME AS 157 SCRAP	2	30	14	NE 0-30°			100-0606 100-0607	Y		SB
111	Likely TOI	539816.50	4116507.24	60mm Mortar	37-105mm	18.63	6/15/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	59	0	0	N/A			100-0753			SB
112	Likely TOI	539819.35	4116467.74	60mm Mortar	37-105mm	1.50	6/16/21	1	NMRD	SCRAP METAL	ANGLE IRON	2	7	19	NE 030°			100-0764 100-0765	Y		SB
113	Likely TOI	539821.41	4116466.26	ISO SMALL	≤37mm	2.76	6/16/21	2	NMRD	SCRAP METAL	PIPE + NUT	9	30	11	E 0-30°			100-0768 100-0769	Y		SB
114	Likely TOI	539804.05	4116489.28	81mm Mortar	37-105mm	8.16	6/15/21	1	NMRD	SCRAP METAL	METAL RING	12	~~6~~ ~~10~~ BAC 6/16/21 10	~~11~~ ~~11.5~~ 11.5	N 0-30°			100-0683 100-0684	Y		SB
118	Likely TOI	539804.00	4116489.28	60mm Mortar	37-105mm	4.82	6/15/21	1	NMRD	SCRAP METAL	ANGLE IRON	18	~~10~~ 6 BAC 6/16/21	~~11.5~~ 11	NW 0-30°			100-0681 100-0682	Y		SB
120	Verification	539836.25	4116468.50	60mm Mortar	37-105mm	18.29	6/16/21	1	NMRD	SCRAP METAL	BOLT	18	30	9	W 0-30°			100-0807 100-0808	Y		SB
122	Validation	539824.53	4116467.26	ISO SMALL	≤37mm	9.31	6/16/21	2 + BAC 6/16/21	NMRD	SCRAP METAL	SCRAP	8	10	22	N 0-30°			100-0770 ~~100-0771~~ 100-0772 BAC 6/16/21	Y		SB
123	Verification	539828.91	4116498.78	81mm Mortar	37-105mm	27.18	6/17/21	1	MPPEH	MORTAR	SAME AS 343 4.2" MORTAR FUZED	32	106	44	S 0-30°			100-0901 100-0902	Y		SB
126	Likely TOI	539808.03	4116482.57	60mm Mortar	37-105mm	14.88	6/15/21	1	NMRD	SCRAP METAL	SCRAP	10	30	14.5	NW 0-30°			100-0664 100-0665	Y		SB
127	Likely TOI	539833.28	4116474.01	81mm Mortar	37-105mm	19.41	6/16/21	1	NMRD	SCRAP METAL	ROD	18	20	36	W 30-60°			100-0848 100-0849	Y		SB
129	Likely TOI	539823.98	4116472.21	ISO SMALL	≤37mm	4.46	6/16/21	2 + BAC 6/16/21	NMRD	SAME AS 311 SCRAP METAL	PIPE AND PLATE	8	25	12.5	SE 0-30°			100-0779 100-0780	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_1S DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
131	Likely TOI	539842.12	4116496.06	4.2-in Mortar	≥105mm	17.01	6/16/21	1	CULTURAL ~~NMRD~~ BAR 6/16/21	STRUCTURE	METAL POLE ENCASED IN CONCRETE L.P.	0	120	0	N 60-90°			100-0868			SB
132	Likely TOI	539809.34	4116484.20	81mm Mortar	37-105mm	19.64	6/15/21	2	NMRD	SCRAP METAL	SCRAP	12	40	10	N 0-30°			100-0660 100-0661	Y		SB
134	Likely TOI	539818.32	4116507.06	60mm Mortar	37-105mm	18.13	6/17/21	1	NMRD	SCRAP METAL	SCRAP	46	25	8	N 0-30°			100-0884 100-0885	Y		SB
135	Likely TOI	539832.80	4116475.83	81mm Mortar	37-105mm	55.38	6/16/21				SAME AS 93										
136	Likely TOI	539824.76	4116469.90	ISO SMALL	≤37mm	0.22	6/16/21				SAME AS 68										
140	Likely TOI	539831.23	4116468.23	ISO SMALL	≤37mm	4.84	6/16/21	2	NMRD	SCRAP METAL	BOLT, PIPE	6	30	15	SE 0-30°			100-0797 100-0798	Y		SB
144	Likely TOI	539841.57	4116496.69	81mm Mortar	37-105mm	32.19	6/16/21	1	NMRD	SCRAP METAL	INFLUENCED BY 131	62	1	6	N 0-30°			100-0866 100-0867	Y		SB
145	Likely TOI	539804.10	4116487.31	ISO SMALL	≤37mm	1.85	6/15/21	2	NMRD	SCRAP METAL	PIPE	3	50	25	N 0-30°			100-0679 100-0680	Y		SB
147	Validation	539823.29	4116501.65	ISO SMALL	≤37mm	9.62	6/17/21	1	NMRD	SCRAP METAL	WIRE	12	3	29	SE 0-30°			100-0896 100-0897	Y		SB
150	Likely TOI	539817.22	4116506.92	81mm Mortar	37-105mm	30.72	6/15/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	46	0	0	N/A			100-0754			SB
156	Likely TOI	539829.04	4116504.42	60mm Mortar	37-105mm	-4.30	6/14/21	1	NMRD	SCRAP METAL	ALUMINUM	0	3	44	N 0-30°			100-0591	Y		SB
157	Likely TOI	539815.41	4116504.14	ISO SMALL	≤37mm	1.56	6/14/21				SAME AS 110										
158	Likely TOI	539829.28	4116464.95	ISO SMALL	≤37mm	-0.24	6/16/21	1	NMRD	SCRAP METAL	BOLT	5	30	9.5	SW 0-30°			100-0787 100-0788	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_1S DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
159	Validation	539821.68	4116470.98	60mm Mortar	37-105mm	18.89	6/16/21	4	NMRD	SCRAP METAL	SAME AS 214 WIRE	14	2	15	NE 0-30°			100-0775 100-0776	Y		SB
160	Likely TOI	539805.17	4116485.25	60mm Mortar	37-105mm	23.08	6/15/21	1	NMRD	SCRAP METAL	ANGLE IRON	~~10~~ 23 BAC 6/15/21	6	14	NE 0-30°			100-0673 100-0674	Y		SB
167	Likely TOI	539819.35	4116467.74	60mm Mortar	37-105mm	1.61															
169	Validation	539833.46	4116469.56	60mm Mortar	37-105mm	2.89	6/16/21	1	NMRD	SCRAP METAL	PIPE	0	10	4.5	S 60-90°			100-0799 100-0800			
170	Likely TOI	539802.41	4116489.30	60mm Mortar	37-105mm	13.82	6/15/21	1	NMRD	SCRAP METAL	PIPE	10	4	6	N 60-90°			100-0689 100-0690	Y		SB
171	Likely TOI	539810.62	4116477.35	81mm Mortar	37-105mm	9.12	6/15/21	1	NMRD	SCRAP METAL	METAL RING	8	20	9	N 0-30°			100-0644 100-0645	Y		SB
174	Validation	539821.67	4116471.51	60mm Mortar	37-105mm	14.83	6/16/21	4	NMRD	SCRAP METAL	WIRE	13	2	11.5	N 0-30°			100-0777 100-0778	Y		SB
175	Likely TOI	539836.33	4116458.98	ISO MEDIUM	37-105mm	37.28	6/16/21				SAME AS 104										
176	Verification	539838.08	4116464.45	81mm Mortar	37-105mm	12.36	6/16/21	2	NMRD	SCRAP METAL	PIPES	10	40	32	NE 0-30°			100-0826 100-0827	Y		SB
177	Verification	539817.32	4116506.08	81mm Mortar	37-105mm	18.91	6/17/21	3 2 BAC 6/14/21	NMRD	SCRAP METAL	SCRAP + BOLTS	28	10	11	N 0-30°			100-0879 BAC 6/14/21 ~~100-0880~~ 100-0881	Y		SB
178	Likely TOI	539839.34	4116464.61	81mm Mortar	37-105mm	13.37	6/16/21	1	NMRD	SCRAP METAL	ANGLE IRON	12	10	35	N 0-30°			100-0823 100-0825	Y		SB
1000 178	Likely TOI	539839.04	4116464.44	60mm Mortar	37-105mm	-86.36	6/16/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	92	0	0	N/A			100-0859 100-0860	~~N~~ BAC 6/14/21		SB
179	Likely TOI	539818.95	4116460.31	60mm Mortar	37-105mm	3.92	6/15/21	1	NMRD	SCRAP METAL	PIPE	10	50	7	W 0-30°			100-0624 100-0625	Y		SB

~~1000178~~

BAC 6/14/21 ~~6/16/21 1 NMRD SCRAP METAL WIRE~~

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
181	Verification	539839.00	4116491.79	81mm Mortar	37-105mm	6.86	6/14/21	1	NMRD	SCRAP METAL	SCRAP	7	30	8.5	N 0-30°			100-0577 100-0578	Y		SB
182	Verification	539814.23	4116474.10	81mm Mortar	37-105mm	13.57	6/15/21	1	NMRD	SCRAP METAL	PIPE	6	30	13	E 0-30°			100-0642 100-0643	Y		SB
185	Likely TOI	539829.49	4116486.28	ISO SMALL	≤37mm	9.28	6/14/21	1	NMRD	SCRAP METAL	BOLT	10	35	9.5	NE 0-30°			100-0562 100-0563	Y		SB
187	Verification	539833.53	4116494.82	ISO SMALL	≤37mm	-1.36	6/14/21	1	NMRD	SCRAP METAL	SCRAP	5 ~~0~~ BAC 6/14/21	40	9	N 0-30°			100-0583 100-0584	Y		SB
189	Likely TOI	539817.37	4116504.93	81mm Mortar	37-105mm	48.06	6/14/21	0	NO CONTACT	N/A	CONCRETE PAD ~~SAME AS~~ ELECTRICAL ~~LIG~~ INFLUENCE BAC 6/14/21	48	0	0	N/A			100-0612			SB
190	Likely TOI	539807.38	4116482.93	81mm Mortar	37-105mm	6.24	6/15/21	1	NMRD	SCRAP METAL	METAL RING	7	35	9	N 0-30°			100-0666 100-0667	Y		SB
191	Likely TOI	539832.83	4116460.48	ISO SMALL	≤37mm	2.12	6/15/21	1	NMRD	SCRAP METAL	PIPE	7	20	~~10~~ 10	W 0-30°			100-0744 100-0745	Y		SB
193	Likely TOI	539808.53	4116481.81	60mm Mortar	37-105mm	8.71	6/15/21	~~3~~ 2 BAC 6/15/21	NMRD	SCRAP METAL	~~WIRE~~ PIPE AND BOLT BAC 6/15/21	7	40	9	E 0-30°			100-0650 100-0651	Y		SB
195	Validation	539852.95	4116478.79	ISO SMALL	≤37mm	7.08	6/17/21	1	NMRD	SCRAP METAL	SCRAP	12	20	8	N 0-30°			100-0915 100-0916	Y		SB
200	Verification	539835.35	4116476.93	81mm Mortar	37-105mm	5.26	6/16/21	1	NMRD	SCRAP METAL	METAL RING	8	15	9	N 0-30°			100-0850 100-0851	Y		SB
201	Likely TOI	539838.45	4116467.49	60mm Mortar	37-105mm	21.52	6/16/21	1	NMRD	SCRAP METAL	PIPE	20	20	5	SE 0-30°			100-0813 100-0814	Y		SB
202	Verification	539828.84	4116460.63	ISO SMALL	≤37mm	2.80	6/15/21	2	NMRD	SCRAP METAL	SAME AS 510 SCRAP, NUT	7	20	15	N 0-30°			100-0734 100-0735	Y		SB
208	Verification	539809.45	4116484.44	60mm Mortar	37-105mm	13.97	6/15/21	1	NMRD	SCRAP METAL	PIPE	~~10~~ 9	~~40~~ 30	~~21~~ 13	N 0-30°			~~100-0656~~ ~~100-0654~~ ~~100-0657~~ ~~100-0655~~	Y		SB

EAC 6/15/21

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
209	Likely TOI	539839.54	4116502.52	4.2-in Mortar	≥105mm	62.49	6/16/21				SAME AS 35, 466										
210	Validation	539823.57	4116469.35	ISO SMALL	≤37mm	-1.15	6/16/21	1	NMRD	SCRAP METAL	PIPE	3	10	5	N 0-30°			100-0773 100-0774	Y		SB
213	Validation	539809.23	4116483.16	60mm Mortar	37-105mm	25.27	6/15/21	3	NMRD	SCRAP METAL	PIPE, BOLT, WIRE	13	30	15	NW 0-30°			100-0652 100-0653	Y		SB
214	Verification	539821.67	4116470.87	60mm Mortar	37-105mm	18.02	6/16/21				SAME AS 159										
216	Likely TOI	539838.58	4116463.90	60mm Mortar	37-105mm	11.93	6/16/21	1	NMRD	SCRAP METAL	PIPE	10	45	9	W 0-30°			100-0830 100-0831	Y		SB
219	Likely TOI	539845.78	4116495.67	ISO SMALL	≤37mm	1.74	6/16/21	1	NMRD	SCRAP METAL	~~PIPE~~ SCRAP BAE 6/16/21	4 ~~10~~ BAE 6/16/21	30 ~~45~~ BAE 6/16/21	14 4	W 0-30°			~~100-0830~~ BAE 6/16/21 100-0831 100-0869 100-0870	Y		SB
220	Verification	539836.19	4116480.73	60mm Mortar	37-105mm	4.21	6/16/21	1	NMRD	SCRAP METAL	SCRAP	7	40	20	SE 0-30°			100-0863 100-0864	Y		SB
225	Likely TOI	539851.84	4116477.56	ISO SMALL	≤37mm	1.55	6/17/21	1	NMRD	SCRAP METAL	SCRAP	4	30	11	SE 0-30°			100-0917 100-0918	Y		SB
226	Validation	539802.04	4116503.27	81mm Mortar	37-105mm	0.99	6/15/21	1	NMRD	SCRAP METAL	SCRAP	3	6	13	N 0-30°			100-0704 100-0705	Y		SB
230	Likely TOI	539806.67	4116484.21	ISO SMALL	≤37mm	4.05	6/15/21	1	NMRD	SCRAP METAL	SCRAP	3	10	26.5	NE 0-30°			100-0670 100-0671	Y		SB
231	Likely TOI	539817.44	4116454.10	60mm Mortar	37-105mm	10.37	6/15/21				SAME AS 64, 74										
234	Likely TOI	539805.86	4116490.55	ISO SMALL	≤37mm	3.22	6/15/21	1	NMRD	SCRAP METAL	SAME AS 301 PIPE	10	30	11	E 0-30°			100-0687 100-0688	Y		SB
240	Validation	539827.97	4116460.65	ISO SMALL	≤37mm	1.77	6/15/21		NMRD	SCRAP METAL	SCRAP	7	20	15	N 0-30°			100-0732 100-0733	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
244	Likely TOI	539820.74	4116500.88	60mm Mortar	37-105mm	14.71	6/17/21	1	NMRD	SCRAP METAL	PIPE ELBOW	13	10	8	NW 0-30°			100-0894 100-0895	Y		SB
247	Verification	539832.49	4116503.87	81mm Mortar	37-105mm	41.39	6/14/21	1	NMRD	SCRAP METAL	WIRE	19	2	34	N 0-30°			100-0589 100-0590	Y		SB
249	Likely TOI	539835.38	4116462.51	60mm Mortar	37-105mm	0.37	6/15/21	1	NMRD	SCRAP METAL	PIPE ELBOW	4	50	8	N 0-30°			100-0746 100-0747	Y		SB
257	Likely TOI	539803.44	4116490.68	81mm Mortar	37-105mm	19.44	6/15/21	2	NMRD	SCRAP METAL	THREADED ROD	20	10	16.5	N 0-30°			100-0756 100-0757	Y		SB
258	Likely TOI	539816.80	4116503.84	ISO SMALL	≤37mm	5.68	6/14/21	1	NMRD	SCRAP METAL	SAME AS 512 SCRAP	4	30	9	N 0-30°			100-0608 100-0609	Y		SB
259	Likely TOI	539832.53	4116483.66	ISO SMALL	≤37mm	10.29	6/14/21	1	SEED	QC SEED	ISO SMALL TM-15	10	30	10	N 0-30°			100-0560 100-0561	Y		SB
261	Likely TOI	539813.36	4116507.15	60mm Mortar	37-105mm	25.28	6/15/21	1	NMRD	SCRAP METAL	SCRAP	21	10	19	N 0-30°			100-0708 100-0709	Y		SB
263	Validation	539811.96	4116509.28	No Match	≤37mm	5.85	6/15/21	1	NMRD	SCRAP METAL	SCRAP	17	3	35	E 30-60°			100-0706 100-0707	Y		SB
264	Likely TOI	539814.93	4116472.40	ISO LARGE	≥105mm	27.99	6/15/21				SAME AS 33										
269	Verification	539833.31	4116498.91	ISO SMALL	≤37mm	4.01	6/14/21				SAME AS 63										
273	Verification	539825.34	4116455.00	81mm Mortar	37-105mm	18.60	6/15/21				SAME AS 31										
274	Validation	539812.27	4116473.55	60mm Mortar	37-105mm	-0.56	6/15/21	1	NMRD	SCRAP METAL	PIPE	6	30	6	N 0-30°			100-0640 100-0641	Y		SB
275	Likely TOI	539829.93	4116467.36	ISO SMALL	≤37mm	8.22	6/16/21	2	NMRD	SCRAP METAL	BOLT, NAIL	8	20	11	E 0-30°			100-0791 100-0792	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
278	Likely TOI	539822.28	4116503.24	81mm Mortar	37-105mm	16.39	6/14/21	1	NMRD	SCRAP METAL	SCRAP	13	20 mm	8	N 0-30°			100-0601 100-0602	Y		SB
279	Likely TOI	539822.94	4116478.78	60mm Mortar	37-105mm	13.22	6/14/21	1	NMRD	SCRAP METAL	SCRAP	11	30	50	N 0-30°			100-0551 100-0552	Y		SB
287	Validation	539847.07	4116497.33	81mm Mortar	37-105mm	13.55	6/16/21	7	NMRD	SCRAP METAL	SCRAP	14	2	5	N 0-30°			100-0871 100-0872	Y		SB
288	Likely TOI	539816.48	4116463.33	81mm Mortar	37-105mm	5.34	6/15/21				SAME AS 12,100										
289	Verification	539836.45	4116495.58	No Match	≤37mm	15.70	6/14/21	1	NMRD	SCRAP METAL	SCRAP	14	10	15	NW 0-30°			100-0581 100-0582	Y		SB
293	Likely TOI	539806.49	4116492.37	ISO SMALL	≤37mm	3.08	6/15/21	1	NMRD	SCRAP METAL	BOLT	8	30	10.5	N 0-30°			100-0695 100-0696	Y		SB
294	Likely TOI	539809.96	4116478.11	60mm Mortar	37-105mm	15.63	6/15/21	2	NMRD	SCRAP METAL	SCRAP	13	10	7	N 0-30°			100-0646 100-0647	Y		SB
295	Validation	539845.59	4116502.04	ISO SMALL	≤37mm	4.36	6/16/21	2	NMRD	SCRAP METAL	BOLT, WASHER	8	25	8	E 0-30°			100-0875 100-0876	Y		SB
298	Likely TOI	539816.03	4116461.78	ISO LARGE	≥105mm	52.82	6/15/21	1	MPPEH ~~AMRC~~ 6/14/21	MORTAR	4.2" MORTAR FUZED	58	106	46	S 0-30°			100-0714 100-0715	Y		SB
299	Verification	539838.39	4116494.68	60mm Mortar	37-105mm	41.54	6/4/21	1	NMRD	SCRAP METAL	PIPE ELBOW	43	50	9	N 0-30°			100-0579 100-0580	Y		SB
301	Likely TOI	539805.86	4116490.56	ISO SMALL	≤37mm	6.41	6/15/21				SAME AS 234										
303	Likely TOI	S39807.11	4116483.44	60mm Mortar	37-105mm	12.58	6/15/21	1	NMRD	SCRAP METAL	BOLT	12	30	18	NE 0-30°			100-0668 100-0669	Y		SB
30S	Likely TOI	539818.39	4116508.09	60mm Mortar	37-105mm	2.95	6/17/21	1	NMRD	SCRAP METAL	PIPE	6	30	4	N 0-30°			100-0882 100-0883	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS															
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
310	Likely TOI	539817.09	4116470.65	60mm Mortar	37-105mm	3.96	6/16/21				SAME AS 24										
311	Likely TOI	539823.89	4116472.16	60mm Mortar	37-105mm	7.46	6/16/21				SAME AS 129										
313	Validation	539820.92	4116502.60	ISO SMALL	≤37mm	12.16	6/14/21	1	NMRD	SCRAP METAL	WIRE	4	2	24	E 0-30°			100-0596 100-0597	Y		SB
315	Validation	539853.83	4116467.64	ISO SMALL	≤37mm	8.39	6/17/21	1	NMRD	SCRAP METAL	SAME AS 541 SCRAP	9	30	15	N 0-30°			100-0921 100-0922	Y		SB
316	Likely TOI	539829.95	4116498.22	60mm Mortar	37-105mm	28.69	6/17/21	3	NMRD	SCRAP METAL	SCRAP	34	10	19	N 0-30°			100-0899 100-0900	Y		SB
323	Verification	539841.54	4116473.97	ISO SMALL	≤37mm	23.09	6/17/21	3	NMRD	SCRAP METAL	SCRAP	20	30	8	SW 0-30°			100-0928 100-0929	Y		SB
336	Likely TOI	539844.50	4116474.69	lumination Candle	37-105mm	5.88	6/16/21	2	NMRD	SCRAP METAL	PIPE	8	25	15	SW 0-30°			100-0842 100-0843	Y		SB
337	Validation	539826.57	4116468.93	60mm Mortar	37-105mm	7.86	6/16/21	7	NMRD	SCRAP METAL	WIRE, BOLT	8	2	20	NE 0-30°			100-0783 100-0784	Y		SB
340	Validation	539840.91	4116464.63	ISO SMALL	≤37mm	12.41	6/16/21	1	NMRD	SCRAP METAL	SCRAP	13	20	7	SW 0-30°			100-0817 100-0818	Y		SB
342	Validation	539836.36	4116476.75	ISO SMALL	≤37mm	3.91	6/16/21	1	NMRD	SCRAP METAL	BOLT	4	20	12	N 0-30°			100-0854 100-0855	Y		SB
343	Validation	539828.92	4116498.88	81mm Mortar	37-105mm	29.88	6/17/21				SAME AS 123										
~~348~~	~~Likely TOI~~	~~539819.48~~	~~4116497.35~~	~~81mm Mortar~~	~~37-105mm~~	~~33.75~~	~~6/17/21~~	~~0~~	~~NO CONTACT~~	~~ST N/A~~	~~SAME AS 384 CONCRETE PAD ELECTRIC INFLUENCE~~ BAC 6/17/21	~~81~~	~~0~~	~~0~~	~~N/A~~			~~100-0890 100-0891 100-0892~~			~~SB~~ BAC 6/17
351	Validation	539836.30	4116472.28	81mm Mortar	37-105mm	15.06	6/16/21	1	NMRD	SCRAP METAL	WASHER	13	3	4.5	N 0-30°			100-0844 100-0845	Y		SB
348							6/17/21	1	CULTURAL	STRUCTURE	METAL PLATE IN WOOD L.I.P.	79	15	11	E 60-90°			100-0903 100-0904			SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
357	Likely TOI	539848.99	4116464.91	60mm Mortar	37-105mm	27.49	6/17/21	1	NMRD	SCRAP METAL	~~SAME AS~~ ~~10~~ ALUMINUM CAN BAC 6/17/21	20	10	9	N 0-30°			100-0926 100-0927	Y		SB
362	Validation	539838.68	4116489.08	ISO SMALL	≤37mm	5.72	6/14/21	1	NMRD	SCRAP METAL	SAME AS 554 PIPE	10	20	6.5	SE 0-30°			100-0572 100-0573	Y		SB
363	Verification	539837.00	4116469.87	60mm Mortar	37-105mm	13.39	6/16/21	1	NMRD	SCRAP METAL	PIPE	6	3	5	N 0-30°			100-0805 100-0806	Y		SB
365	Likely TOI	539805.82	4116486.36	81mm Mortar	37-105mm	19.22	6/15/21	1	NMRD	SCRAP METAL	SCRAP	18	3	8	N 0-30°			100-0677 100-0678	Y		SB
377	Likely TOI	539817.70	4116474.10	60mm Mortar	37-105mm	21.79	6/16/21	1	NMRD	SCRAP METAL	PIPE	20	30	5	N 0-30°			100-0760 100-0761	Y		SB
383	Verification	539836.39	4116480.82	60mm Mortar	37-105mm	5.81	6/16/21	1	NMRD	SCRAP METAL	SCRAP	~~7~~ 5 BAC 6/16/21	20	16	S 0-30°			100-0861 100-0862	Y		SB
384	Likely TOI	539818.74	4116497.88	81mm Mortar	37-105mm	31.26	6/17/21	0	NO CONTACT	N/A	CONCRETE PAD ~~SAME AS~~ ELECTRIC SIG INFLUENCE BAC 6/17/21	81	0	0	N/A			100-0890 100-0893			SB
391	Verification	539829.86	4116467.67	ISO SMALL	≤37mm	12.66	6/16/21	2	NMRD	SCRAP METAL	WIRE, PLUG	13	2	15	SW 0-30°			100-0793 100-0794	Y		SB
393	Likely TOI	539815.84	4116473.67	4.2-in Mortar	≥105mm	41.06	6/15/21	1	CULTURAL FEATURE	STRUCTURE	REINFORCED CONCRETE L.I.P.	25	0	0	N 0-30°			100-0638 100-0639			SB
394	Likely TOI	539836.79	4116463.74	60mm Mortar	37-105mm	14.09	6/16/21	3	NMRD	SCRAP METAL	SCRAP	15	30	6.5	E 0-30°			100-0828 100-0829	Y		SB
395	Verification	539802.37	4116491.32	81mm Mortar	37-105mm	12.43	6/15/21	~~2~~ 1 BAC 6/15/21	NMRD	SCRAP METAL	SHARED W/ 39 THREADED ROD REBAR	14	10	27.5	N 0-30°			100-0693 100-0694	Y		SB
399	Likely TOI	539828.88	4116460.02	60mm Mortar	37-105mm	6.07	6/15/21	1	NMRD	SCRAP METAL	SCRAP	6	10	8	N 0-30°			100-0736 100-0737	Y		SB
417	Validation	539808.21	4116495.67	81mm Mortar	37-105mm	0.63	6/15/21	1	NMRD	SCRAP METAL	~~SAME~~ SHARED W/ 447 ALUMINUM SCRAP	7	3	90	E 0-30°			1000697 100-0698	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
419	Validation	539838.99	4116501.86	60mm Mortar	37-105mm	43.93	6/17/21	1	NMRD	SCRAP METAL	BANDING	44	1	17	N 0-30°			100-0910 100-0911	Y		SB
446	Likely TOI	539815.39	4116509.72	81mm Mortar	37-105mm	28.69	6/15/21	0	NO CONTACT ~~N/A~~ BAC 6/17/21	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	59	0	0	N/A			100-0752			SB
447	Likely TOI	539808.23	4116495.46	60mm Mortar	37-105mm	-7.87	6/15/21	1	NMRD	SCRAP METAL	SHARED w/ 417 SCRAP ALUMINUM	7	3	90	NE 0-30°			100-0697 100-0699	Y		SB
452	Validation	539834.27	4116488.86	81mm Mortar	37-105mm	6.00	6/14/21	1	NMRD	SCRAP METAL	SCRAP	10	15	5	N 0-30°			100-0568 100-0569	Y		SB
455	Verification	539829.76	4116481.22	No Match	37-105mm	-4.73	6/14/21	1	CULTURAL FEATURE STRUCTURE	STRUCTURE	MANHOLE COVER	0	0	70	N 0-30°			BAC 6/14/21 ~~100-0558~~ 100-0554			SB
459	Validation	539828.55	4116492.79	No Match	37-105mm	74.14	6/17/21	0	NO CONTACT	N/A	N/A	~~0~~ 94 BAC 6/17/21	0	0	N/A			100-0905	Y		SB
466	Likely TOI	539839.44	4116502.55	4.2-in Mortar	≥105mm	63.99	6/16/21				SHARED W/ 35,209	~~18~~ BAC 6/16/21	~~20~~	~~5~~ BAC 6/17/21							
468	Likely TOI	539821.44	4116467.11	81mm Mortar	37-105mm	19.85	6/16/21	2	NMRD	SCRAP METAL	BOLT, NUT	18	20	5	NE 0-30°			100-0766 100-0767	Y		SB
476	Likely TOI	539818.66	4116476.71	60mm Mortar	37-105mm	13.70	6/16/21	1	NMRD	SCRAP METAL	SCRAP	14	10	3.5	N 0-30°			100-0758 100-0759	Y		SB
479	Validation	539842.73	4116510.45	60mm Mortar	37-105mm	9.97	6/17/21	1	NMRD	SCRAP METAL	NUT	10	20	4	N 0-30°			100-0908 100-0909	Y		SB
494	Validation	539811.50	4116465.78	60mm Mortar	37-105mm	6.61	6/15/21	1	NMRD	SCRAP METAL	NAIL	13	4	5.5	N 0-30°			100-0634 100-0635	Y		SB
498	Verification	539800.09	4116499.16	ISO SMALL	≤37mm	9.32	6/15/21	1	NMRD	SCRAP METAL	WIRE	8	2	24	W 0-30°			100-0702 100-0703	Y		SB
502	Likely TOI	539821.36	4116454.14	ISO SMALL	≤37mm	12.50	6/15/21	2 + BAC 6/15/21	NMRD	SCRAP METAL	PIPE	10	20	30	N 0-30°			100-0724 100-0725	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_15 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
503	Likely TOI	539832.93	4116503.51	4.2-in Mortar	≥105mm	69.14	6/14/21	1	MPPEH	4.2" MORTAR ~~FUZED~~ EOE 6/14/21	4.2" MORTAR FUZED	60	106	57	SW 0-30°			100-0616 100-0617	Y		SB
508	Validation	539819.39	4116456.93	60mm Mortar	37-105mm	9.79	6/15/21	1	NMRD	SCRAP METAL	METAL RING	11	10	9	N 0-30°			100-0620 100-0621	Y		SB
510	Likely TOI	539828.84	4116460.68	ISO SMALL	≤37mm	3.32	6/15/21				SAME AS 202										
512	Likely TOI	539816.78	4116503.83	ISO SMALL	≤37mm	1.40	6/14/21				SAME AS 258										
517	Validation	539816.69	4116457.21	ISO SMALL	≤37mm	-1.54	6/15/21	1	NMRD	SCRAP METAL	SCRAP	7	20	9.5	N 0-30°			100-0716 100-0717	Y		SB
528	Likely TOI	539818.01	4116501.72	81mm Mortar	37-105mm	12.26	6/17/21				SAME AS 21										
529	Validation	539809.72	4116484.55	81mm Mortar	37-105mm	6.55	6/15/21	2	NMRD	SCRAP METAL	PIPE, NAIL	6	35	21	N 0-30°			100-0658 100-0659	Y		SB
534	Verification	539826.60	4116466.11	60mm Mortar	37-105mm	9.62	6/16/21	2	NMRD	SCRAP METAL	SCRAP	9	20	4	N 0-30°			100-0785 100-0786	Y		SB
539	Verification	539818.37	4116451.48	ISO SMALL	≤37mm	4.51	6/15/21				SAME AS 45										
541	Likely TOI	539853.85	4116467.65	ISO SMALL	≤37mm	8.46	6/17/21				SAME AS 315										
554	Validation	539838.67	4116489.11	ISO SMALL	≤37mm	7.08	6/14/21				SAME AS 362										

PROJECT RADFORD | DIG TEAM NO. 1 | DATE STARTED 06-08-21

LOCATION TM_16 | DIG TEAM LEADER S. BEBOUT | DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
1	Likely TOI	539870.03	4116408.82	ISO LARGE	≥105mm	20.08	06-08	1	MPPEH	4.2 in Mortar	SAME AS 57 Fuzed	12	106	53	E 0-30	539870.033	~~411408~~ 06/09/21 4116408.750	100-0244 100-0245	Y		SB
2	Likely TOI	539861.55	4116444.41	4.2-in Mortar	≥105mm	32.33	6/9/21	1	MPPEH	MORTAR	SAME AS 133 4.2" MORTAR FUZED	32	106	53	S 0-30°	539861.555	4116444.431	100-0315 100-0316	Y		SB
3	Likely TOI	539868.54	4116427.90	ISO MEDIUM	37-105mm	16.55	6/9/21	1	SEED	QC SEED	MEDIUM ISO TM-16	17	60	20 ~~44~~ H	E 0-30°	539868.527	4116427.748	100-0360 100-0361	Y		SB
4	Likely TOI	539865.53	4116432.43	ISO LARGE	≥105mm	17.19	6/9/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED	20	106	~~53~~ 48 6/9/21	N 0-30	539865.500	4116432.473	100-0355 100-0356	Y		SB
5	Likely TOI	539869.13	4116423.60	4.2-in Mortar	≥105mm	13.16	6/9/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	15	106	51	SW 0-30°	539869.115	4116423.577	100-0367 100-0368	Y		SB
6	Likely TOI	539862.08	4116437.15	4.2-in Mortar	≥105mm	25.13	6/9/21	1	MPPEH	MORTAR	4.2" MORTAR FUZED	26	106	53	NE 0-30°	539862.080	4116437.152	100-0318 100-0319	Y		SB
7	Likely TOI	539863.21	4116454.67	4.2-in Mortar	≥105mm	44.77	6/9/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED	43	106	49	NE 0-30°	539863.231	4116457.244	100-0418 100-0419	Y		SB
8	Likely TOI	539866.16	4116443.22	ISO LARGE	≥105mm	52.54	6/9/21	1	MPPEH	MORTAR	4.2" MORTAR FUZE SHEARED SAME AS 91	58	106	~~53~~ 48 6/9/21	SE 0-30°	6/09/21 539866.139	4116443.179	100-0350 100-0352	Y		SB
9	Likely TOI	539864.68	4116436.81	60mm Mortar	37-105mm	19.15	6/9/21	1	NMRD	SCRAP METAL	ANCHOR L.I.P.	13	30	0	E 0-30°	539864.653	4116436.791	100-0375 100-0376 101-0350	Y		SB
10	Likely TOI	539866.09	4116429.34	60mm Mortar	37-105mm	15.31	6/9/21	6	NMRD	SCRAP METAL	SCRAP	8	10	51	N 0-30°	539866.130	4116429.307	100-0358 100-0359	Y		SB
11	Likely TOI	539852.30	4116439.39	ISO MEDIUM	37-105mm	35.89	6/9/21	1	MPPEH	MORTAR	SAME AS 215 81MM FUZED	36	81	29	SW 0-30°	539852.251	4116439.237	100-0300 100-0301	Y		SB
12	Likely TOI	539872.54	4116445.87	81mm Mortar	37-105mm	8.46	6/10/21	1	NMRD	~~COPPER WIRE~~ SCRAP METAL	SHARED W/ 72,84 COPPER WIRE (L.I.P.)	19	4	116	NW 0-30°	539872.562	4116445.880	100-0458			SB
13	Likely TOI	539873.29	4116431.64	ISO LARGE	≥105mm	56.54	6/9/21	1	MPPEH	MORTAR	SAME AS 187 4.2" MORTAR FUZE SHEARED	55	~~5~~ 106 6/9/21	40	NE 0-30°	539873.300	4116431.664	100-0400 100-0401	Y		SB

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_16 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
14	Likely TOI	539858.64	4116451.60	81mm Mortar	37-105mm	19.75	~~6/9/21~~	~~5~~	~~NMCD~~	~~SCRAP METAL~~	~~SHARED w/16 SCRAP SAME AS 26, 165~~	25	30	64	NE 0-30°			~~100-0343 100-0344 100-345~~	Y		SB
15	Likely TOI	539868.06	4116446.89	ISO LARGE	≥105mm	50.12	6/9/21	1	MPPEH	MORTAR	SAME AS 22,112 4.2" MORTAR NOT FUZED	56	166	40	SW 0-30°	539865.098	4116446.936	100-0348 100-0349	Y		SB
16	Likely TOI	539858.65	4116451.52	4.2-in Mortar	≥105mm	25.01	6/9/21	5	NMRD	SCRAP METAL	SHARED w/14, SCRAP 26, PIPE, REBAR 165	25	30	64	~~NE 64~~ 0-30°	539858.569	4116451.458	~~100-0343 100-0344~~	Y		SB
17	Likely TOI	539859.84	4116447.72	60mm Mortar	37-105mm	20.54	6/9/21	1	NMRD	SCRAP METAL	SHARED W/101,167 REBAR	21	10	83	NW 0-30°	539857.796	4116447.662	100-0338 ~~100-0339~~ 100-0340	Y		SB
19	Likely TOI	539874.86	4116420.57	60mm Mortar	37-105mm	9.51	6/8/21	1	NMRD	SCRAP METAL	SCRAP	8	10	28	E 0-30°	539874.869	4116420.574	100-0257 100-0258	Y		SB
21	Likely TOI	539856.63	4116433.30	81mm Mortar	37-105mm	22.11	6/8/21	1	NMRD	SCRAP METAL	PIPE	27	40	50	SW 30-60°	539856.622	4116433.326	100-0286 100-0297	Y		SB
22	Likely TOI	539868.11	4116446.83	4.2-in Mortar	≥105mm	55.69	6/9/21	-	-	-	SAME AS 15	-	-	-	-	-	-	-	-		-
24	Likely TOI	539858.13	4116429.64	4.2-in Mortar	≥105mm	62.48	6/10/21	Ø	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	55	Ø	Ø	N/A	539858.134	4116429.631	100-0444			SB
25	Likely TOI	539858.39	4116429.26	4.2-in Mortar	≥105mm	59.80	6/10/21	Ø	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	56	Ø	Ø	N/A	539858.395	4116429.252	100-0445			SB
26	Likely TOI	539858.42	4116450.76	81mm Mortar	37-105mm	21.30	6/9/21	5	NMRD	SCRAP METAL	~~SAME AS~~ SHARED 14, 165, 26 PIPE, REBAR	25	30	64	NE 0-30°	539858.460 ~~4116450.818~~	4116450.818 —	100-0348 100-0349	Y	-	SB
27	Likely TOI	539862.14	4116430.43	ISO SMALL	≤37mm	2.90	6/8/21	1	NMRD	SCRAPMETAL	SAME AS 261 SCRAP	9	45	19	E 0-30°	~~539874.869~~ 539862.112	~~4116420.574~~ 4116430.464	100-0284 100-0285	Y		SB
29	Validation	539861.63	4116447.85	ISO SMALL	≤37mm	37.04	6/9/21	1	NMRD	SCRAP METAL	PIPE	21	40	3	S 0-30°	539861.644	4116447.895	100-0336 100-0337	Y		SB
30	Likely TOI	539885.52	4116426.56	ISO SMALL	≤37mm	10.86	6/9/21	1	NMRD	SCRAP METAL	REBAR	15	10	16	NE 0-30°	539885.561	4116426.630	100-0411 100-0412	Y		SB
14							6/9/21	5	NMRD	SCRAP METAL	SHARED W 16, 26, 165 PIPE, REBAR	25	30	64	NE 0-30°	539858.697	4116451.697	100-0348 100-0349	Y		SB

~~SAC 6/9/21~~ SAC 6/9/21

PHOTOS 100-0348 100-0349 BAC 6/9/21

PROJECT RADFORD DIG TEAM NO. DATE STARTED

LOCATION TM_16 DIG TEAM LEADER DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS													
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
31	Likely TOI	539858.06	4116426.40	ISO SMALL	≤37mm	18.58	6/8/21	1	NMRD	SCRAP METAL	BOLT	10	20	9	N 0-30°	539859.035	4116426.374	100-0276 100-0277	Y		SB
33	Verification	539879.24	4116417.83	60mm Mortar	37-105mm	18.50	6/9/21	~~26~~ 5 BAC 6/9/21	NMRD	SCRAP METAL	SHARED w/ 32 WIRE	27	3	10	N 0-30°	539879.303	4116417.875	100-0379 100-0380			
34	Likely TOI	539857.98	4116430.77	81mm Mortar	37-105mm	36.68	6/8/21	1	NMRD	SCRAP METAL	SAME AS 269 PIPE	23	20	24	NW 0-30°	539858.099	4116430.718	100-0230 100-0231	Y		SB
35	Likely TOI	539872.84	4116425.81	60mm Mortar	37-105mm	13.98	6/9/21	1	NMRD	SCRAP METAL ~~REBAR~~ BAC 6/9/21	SHARED w/ 38 REBAR	10	10	76	NE 0-30°	539872.782	4116425.794	100-0364 100-0365	Y		SB
36	Verification	539889.92	4116430.19	ISO SMALL	≤37mm	5.81	6/9/21	2	NMRD	SCRAP METAL	PIPE NAIL	14	~~20~~ 3 BAC 6/9/21	~~10~~ 8	N 0-30°	539884.847	4116430.165	100-0415 100-0417	X		SB
37	Verification	539865.47	4116430.10	60mm Mortar	37-105mm	29.41	6/9/21	1	NMRD	SCRAP METAL ~~LIP~~ BAC 6/9/21	ANCHOR L.I.P.	12	30	0	SE 30-60°	539865.476	4116430.173	100-0357 101-0751	Y		SB
38	Verification	539872.55	4116425.09	No Match	37-105mm	24.41	6/9/21	1	NMRD	SCRAP METAL	SHARED w/ 35 REBAR	10	10	76	NE 0-30°	539872.575	4116425.137	100-0364 100-0366	Y		SB
39	Likely TOI	539850.08	4116444.41	81mm Mortar	37-105mm	19.75	6/9/21	1	NMRD	SCRAP METAL	ANCHOR L.I.P.	9	30	Ø	W 60-90°	539850.073	4116447.419	100-0325			SB
40	Likely TOI	539862.84	4116435.58	ISO MEDIUM	37-105mm	16.10	6/8/21	1	NMRD	SCRAP METAL	ANCHOR L.I.P.	18	50	0	S 60-90°	539862.856	4116435.619	100-0306 100-0307			SB
42	Likely TOI	539858.05	4116445.38	4.2-in Mortar	≥105mm	18.02	6/9/21	1	NMRD	SCRAP METAL	I-BEAM	17	210	42	NE 0-30°	539858.091	4116445.369	100-0332 100-0333	Y		SB
43	Likely TOI	539856.38	4116435.55	81mm Mortar	37-105mm	49.13	6/8/21	Ø	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	52	0	0	N/A N/A	539856.375	4116435.520	100-0314			SB
44	Likely TOI	539866.95	4116413.74	60mm Mortar	37-105mm	17.35	6/8/21	1	NMRD	SCRAP METAL	PIPE	13	50	8	N 0-30°	539866.884	4116413.672	100-0268 100-0269	Y		SB
46	Likely TOI	539887.88	4116422.87	ISO SMALL	≤37mm	2.82	6/9/21	1	NMRD	SCRAP METAL	SCRAP	9	20	22	W 0-30°	539887.847	4116422.850	100-0388 100-0389	Y		SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_16 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
49	Likely TOI	539874.51	4116421.36	60mm Mortar	37-105mm	14.52	6/8/21	1	NMRD	SCRAP METAL	SCRAP	17	10	48	N 0-30°	539874.520	4116421.492	100-0259 100-0260	Y		SB
50	Likely TOI	539889.68	4116427.47	60mm Mortar	37-105mm	18.49	6/9/21	1	NMRD	SCRAP METAL	~~SAME AS 151~~ SCRAP 6/10/21	18	2	20	E 0-30°	539884.724	4116427.521	100-0394 100-0395	Y		SB
51	Likely TOI	539871.42	4116428.81	ISO SMALL	≤37mm	7.90	6/9/21	3	NMRD	SCRAP METAL	BOLTS	10	30	16	NE 0-30°	539871.373	4116428.767	100-0362 100-0363	Y		SB
53	Likely TOI	539873.67	4116415.32	4.2-in Mortar	≥105mm	59.16	~~6/8/21~~	~~1~~	~~NMRD~~		~~SAME AS 35,281 ELECTRIC LINE L.I.P.~~							~~100-0263~~			~~SB~~
SEE BELOW																					06/08/21
54	Verification	539852.07	4116443.12	60mm Mortar	37-105mm	13.07	6/9/21	1	NMRD	SCRAP METAL	BRACKET	21	3	20	NW 0-30°	539857.992	4116443.112	100-0326 100-0327	Y		SB
58	Likely TOI	539886.92	4116428.58	60mm Mortar	37-105mm	11.64	6/9/21	1	NMRD	SCRAP METAL	SCRAP	10	35	19.5	NE 0-30°	539886.842	4116428.609	100-0404 100-0405	Y		SB
59	Likely TOI	539869.92	4116408.82	4.2-in Mortar	≥105mm	20.94	6/8/21	-	-	-	SAME AS 1	-	-	-	-	-	-	-	-		-
61	Likely TOI	539884.00	4116423.73	ISO SMALL	≤37mm	5.39	6/9/21	1	NMRD	SCRAP METAL	SAME AS 74 PIPE	7	30	16	N 0-30°	539883.958	4116423.685	100-0386 100-0387	Y		SB
63	Verification	539869.10	4116424.63	ISO SMALL	≤37mm	5.24	6/9/21	1	NMRD	SCRAP METAL	BOLT	6	50	27	N 0-30°	539869.066	4116424.592	100-0369 100-0370	Y		SB
66	Likely TOI	539878.91	4116417.75	60mm Mortar	37-105mm	24.09	6/9/21	3	NMRD	SCRAP METAL	WIRE	17	3	9	N 0-30°	539878.870	4116417.822	100-0373 100-0374	Y		SB
67	Likely TOI	539854.81	4116435.49	81mm Mortar	37-105mm	35.66	6/8/21	1	MPPEH	MORTAR	81mm NOT FUZED	39	81	29	NW 60-90°	539854.810	4116435.467	100-0312 100-0313	Y		SB
69	Verification	539877.15	4116422.11	No Match	37-105mm	11.97	6/8/21	1	NMRD	SCRAP METAL	ANCHOR LEFT IN PLACE	13	40	0	N 60-90°	539877.043	4116422.181	100-0261 100-0262	Y		SB
70	Likely TOI	539858.52	4116428.81	81mm Mortar	37-105mm	37.24	6/10/21	Ø	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	47	0	0	NA	539858.575	~~4116428.795~~ Ø 06/10/21	100-0416			SB
53							6/9/21	Ø	NO CONTACT	N/A	SAME AS 35,281 CONCRETE PAD ELECTRICAL INFLUENCE	74	0	0	NA NA	539873.47	4116415.234	100-0264 100-0265			SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED 06-08-21

LOCATION TM_16 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
71	Verification	539858.25	4116446.65	81mm Mortar	37-105mm	12.27	6/9/21	1	NMRD	SCRAP METAL	METAL PLATE	8	15	20	N 0-30°	539858.211	4116446.571	100-0334 100-0335	Y		SB
72	Likely TOI	539872.34	4116445.88	60mm Mortar	37-105mm	13.23	6/10/21	1	NMRD	SCRAP METAL	SHARED W/12,84 COPPER WIRE	18	4	116	NW 0-30°	~~539872.335~~ ~~539872.883~~	~~4116445.892~~ ~~4116445.4~~ BF 6/11/21	100-0458			SB
73	Verification	539865.29	4116419.79	60mm Mortar	37-105mm	27.58	6/9/21	1	NMRD	SCRAP METAL	BOLT	29	~~20~~ 12 BAC 6/9/21	14	E 0-30°	539865.340	4116419.709	100-0270 100-0271	Y		SB
74	Likely TOI	539883.97	4116423.73	ISO SMALL	≤37mm	3.55	6/9/21	-	-	-	SAME AS 61	-	-	-	-	-	-	-	-		-
76	Likely TOI	539875.85	4116413.83	60mm Mortar	37-105mm	14.28	06.08.21	1	NMRD	SCRAP METAL	METAL PLATE Buried electric/fiber influence	25	4	6	N 0-30	539875.796	4116413.862	100-0248 100-0249			
77	Likely TOI	539876.97	4116418.51	60mm Mortar	37-105mm	17.06	6/8/21	1	NMRD	SCRAP METAL	PIPE	16	30	36	N 60-90°	539876.989	4116418.434	100-0255 100-0256	Y		SB
79	Verification	539863.34	4116436.40	81mm Mortar	37-105mm	27.41	6/9/21	1	NMRD	SCRAP METAL	REBAR	7	10	25	E 0-30°	539863.333	4116436.422	100-0377 100-0378	Y		SB
82	Likely TOI	539879.69	4116418.17	60mm Mortar	37-105mm	25.84	6/9/21	2 5 BAC 6/9/21	NMRD	SCRAP METAL	SHARED W/ 33 WIRE	27	3	10	N 0-30°	539879.672	4116418.173	100-0379 100-0380	Y		SB
~~84~~	~~Likely TOI~~	~~539872.85~~	~~4116445.41~~	~~60mm Mortar~~	~~37-105mm~~	~~13.69~~	~~6/10/21~~	~~1~~	~~NMRD~~	~~COPPER WIRE GROUNDING ROD SCRAP METAL~~ BAC 6/9/21	COPPER WIRE GROUNDING ROD	0	5	0	N 60-90°	~~539872.553~~	~~4116445.412~~	~~100-0458~~			SB
85	Likely TOI	539873.68	4116415.27	4.2-in Mortar	≥105mm	58.16	6/8/21	-	-	-	SAME AS 53,281	-	-	-	-	-	-	-	-		-
87	Likely TOI	539859.27	4116427.21	4.2-in Mortar	≥105mm	64.59	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	53	0	0	N/A	539859.259	~~4116427.213~~ ~~4116428.202~~ BAC 06/10/21	100-0451			SB
91	Likely TOI	539866.18	4116443.12	81mm Mortar	37-105mm	57.68	6/9/21	-	-	-	SAME AS 8	-	-	-	-	-	-	-	-	-	-
93	Likely TOI	539863.20	4116419.85	81mm Mortar	37-105mm	22.14	6/8/21	1	NMRD	SCRAP METAL	PIPE	18	20	26	NW 0-30°	539863.249	4116419.874	100-0272 100-0273	Y		SB

84

72 AND 12 > Shared w/ 84

7/8/21 1 Cu Strand, Grounding Rod, copper wire L.I. P 15 50 0 N 60-90°

7/8/21 7 NMRD

7/8/21 7 NMRD

5 of 11

Cu wire, bolts, metal plates Wire 107cm x 8mm TD20

Bolt TD17

NW 0-30

101-0773
101-0774

101-0775
101-0776 > 101-0777

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_16 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS															
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
94	Likely TOI	539858.67	4116428.64	4.2-in Mortar	≥105mm	65.39	6/10/21	0	NO CONTACT	~~CONCRETE PAD ELECTRICAL INFLUENCE~~ BAC 6/10/21 N/A	CONCRETE PAD ELECTRICAL INFLUENCE	50	0	0	N/A	539858.664	4116428.655	100-0447			SB
98	Likely TOI	539861.51	4116420.91	4.2-in Mortar	≥105mm	61.46	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	45	0	0	N/A	539861.506 ~~539861.~~ BAC 6/10/21	4116420.419	100-0457			SB
99	Verification	539857.60	4116432.61	81mm Mortar	37-105mm	32.97	6/8/21	1	NMRD	SCRAP METAL	REBAR	13	13	33	W 0-30°	539857.600	4116432.672	100-0302 100-0303	Y		SB
101	Likely TOI	539860.09	4116447.67	60mm Mortar	37-105mm	22.80	6/9/21	1	NMRD	SCRAP METAL	REBAR SHARED W/ 17,167	21	10	83	NW 0-30°	–	–	100-0338 100-0340	Y		SB
102	Likely TOI	539866.77	4116435.54	60mm Mortar	37-105mm	31.16	6/9/21	1	NMRD	SCRAP METAL	BOLT	32	20	6	NW 0-30°	539866.711	4116435.467	100-0353 100-0354	Y		SB
104	Likely TOI	539878.09	4116414.65	81mm Mortar	37-105mm	11.67	6/8/21	1	NMRD	SCRAP METAL	WASHER INFLUENCED BY ELECTRICAL LINE	13	4	8	N 0-30°	539878.025	4116414.653	100-0252 ~~100-0253~~ 100-0254 BAC 6/9/21	Y		SB
106	Validation	539861.06	4116422.47	4.2-in Mortar	≥105mm	72.00	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	46	0	0	N/A	539861.058	4116422.475	100-0456			SB
107	Verification	539886.31	4116427.14	ISO SMALL	≤37mm	15.32	6/9/21	2	NMRD	SCRAP METAL	NAILS	15	5	8	N 0-30°	539886.360	4116427.102	100-0409 100-0410	Y		SB
109	Cannot Analyze	539873.65	4116411.55	ISO SMALL	≤37mm	-1.67	06/08/21	1	CULTURAL FEATURE	UTILITY POLE	POWERLINE ANCHOR	0	26	38	NE 60-90	539873.753	4116411.432	100-0246 100-0247			
111	Likely TOI	539859.77	4116448.82	60mm Mortar	37-105mm	25.16	6/9/21	2	NMRD	SCRAP METAL	BANDING	18	20	26	N 0-30°	539859.847	4116448.774	100-0341 100-0342	Y		SB
112	Likely TOI	539868.07	4116447.01	ISO LARGE	≥105mm	49.16	6/9/21	-	-	-	SAME AS 15	-	-	-	-	-	-	-	-		-
116	Likely TOI	539859.57	4116429.98	60mm Mortar	37-105mm	35.06	6/8/21	2	NMRD	SCRAP METAL	PIPE	29	20	55	NW 0-30°	539859.540	4116429.963	100-0278 100-0279	Y		SB
117	Likely TOI	539852.80	4116447.21	60mm Mortar	37-105mm	27.96	6/9/21	1	NMRD	SCRAP METAL	PIPE	24	50	30	N 60-90°	~~539852.85~~ 06/09/21 539852.885	4116447.143	100-0330 100-0331	Y		SB

PROJECT RADFORD | DIG TEAM NO. | DATE STARTED

LOCATION TM_16 | DIG TEAM LEADER | DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
118	Validation	539869.19	4116413.88	ISO SMALL	≤37mm	19.86	6/8/21	2	NMRD	SCRAP METAL	NAILS	10	2	12	N 0-30°	539869.236	4116413.526	100-0266 100-0267	Y		SB
121	Validation	539849.47	4116442.19	ISO SMALL	≤37mm	13.57	6/9/21	1	NMRD	SCRAP METAL	WIRE	21	3	21	N 0-30°	539849.497	4116442.258	100-0323 100-0324	Y		SB
126	Likely TOI	539884.67	4116420.79	ISO SMALL	≤37mm	4.98	6/9/21	~~10~~ 3 BAC 6/9/21	NMRD	SCRAP METAL	SCREW NAIL, WIRE	~~37~~ 49 BAC 6/9/21	4	~~31~~ 8 BAC 6/9/21	N 0-30°	539855.67	4116420.133	100-0383 100-0385	Y		SB
130	Verification	539859.78	4116428.17	81mm Mortar	37-105mm	57.26	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	53	0	0	N/A	539859.84	4116428.153	100-0452			~~SB~~
133	Likely TOI	539861.57	4116444.40	4.2-in Mortar	≥105mm	32.05	6/9/21	1	—	—	SAME AS 2	-	-	-	-	-	-	-	-		-
138	Verification	539861.47	4116429.26	60mm Mortar	37-105mm	15.62	6/8/21	2	NMRD	SCRAP METAL	SCRAP	15	20	7	N 0-30°	539861.452	4116429.235	100-0282 100-0283	Y		SB
140	Verification	539860.53	4116423.70	4.2-in Mortar	≥105mm	69.82	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	52	0	0	N/A	539860.523	4116423.[illegible]	100-0454			SB
141	Validation	539868.22	4116436.57	No Match	≤37mm	7.50	6/11/21	1	NMRD	SCRAP METAL	BOLT	11	30	28	NW 0-30°	539868.~~160~~ 163 BAC 6/11/21	4116436.534	100-0532 100-0533	Y		SB
143	Likely TOI	539856.78	4116450.73	60mm Mortar	37-105mm	32.24	6/11/21	1	NMRD	SCRAP METAL	GROUNDING ROD L.I.P.	34	4	0	W 0-30°	539856.758	4116450.695	100-0537 100-0538			SB
144	Likely TOI	539863.25	4116439.48	ISO SMALL	≤37mm	3.88	6/11/21	1	NMRD	SCRAP METAL	SCRAP	6	10	20	N 0-30°	539863.222	4116439.523	100-0534 100-0535	Y		SB
147	Likely TOI	539874.81	4116421.31	81mm Mortar	37-105mm	14.00	6/11/21	1	NMRD	SCRAP METAL	BOLT	16	35	7	NE 0-30°	539879.801	4116421.248	100-0547 100-0548	Y		SB
151	Likely TOI	539889.58	4116427.52	60mm Mortar	37-105mm	17.03	6/11/21	2	NMRD	SCRAP METAL	~~SAME AS~~ WIRE NAIL ~~50~~ BAC 6/14/21	19	2	10	N 0-30°	539889.508	4116427.567	100-0549 100-0550	Y		SB
153	Validation	539862.78	4116434.25	ISO SMALL	≤37mm	6.34	6/11/21		NO CONTACT	—	SAME AS 250	—						100-0543	—	—	SB

PROJECT RADFORD | DIG TEAM NO. | DATE STARTED

LOCATION TM_16 | DIG TEAM LEADER | DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
154	Verification	539865.40	4116430.29	81mm Mortar	37-105mm	33.86	6/11/21	1	NMRD	SCRAP METAL	ANCHOR L.I.P.	12	30	0	S 30-60°	539865.388	4116430.254	100-0544			SB
155	Likely TOI	539863.05	4116419.62	4.2-in Mortar	≥105mm	61.07	6/11/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	63	0	0	N/A	539863.007	4116419.645	100-0545 100-0546			SB
156	Verification	539863.49	4116442.80	81mm Mortar	37-105mm	13.69	6/11/21	1	NMRD	SCRAP METAL	~~SAME AS 165~~ PIPE L.I.P.	11	35	0	N 60-90°	539863.475	4116442.729	100-0536	N		SB
157	Validation	539851.18	4116443.13	60mm Mortar	37-105mm	9.02	6/11/21	1	NMRD	SCRAP METAL	METAL PLATE	12	2	16	N 0-30°	539851.127	4116443.198	100-0539 100-0540	Y		SB
159	Verification	539856.05	4116436.18	81mm Mortar	37-105mm	27.91	6/11/21	1	NMRD	SCRAP METAL	METAL ROD	18	15	30	NW 0-30°	539856.034	4116436.202	100-0541 100-0542	Y		SB
165	Verification	539858.88	4116451.78	81mm Mortar	37-105mm	24.84	6/9/21	5	NMRD	SCRAP METAL	~~SAME AS~~ SHARED W/ 14,26,165 PIPE, REBAR BAC 6/9/21	25	30	64	NE 0-30°	-	-	100-0348 100-0349	Y		SB
167	Likely TOI	539859.28	4116447.80	60mm Mortar	37-105mm	28.59	6/9/21	1	NMRD	SCRAP METAL	SHARED W/ 17,101	21	10	83	NW 0-30°	-	-	100-0338 100-0340	Y	-	SB
174	Likely TOI	539875.40	4116415.51	81mm Mortar	37-105mm	16.67	6/8/21	+ Ø BAC 6/9/21	NO CONTACT ~~NMRD~~	N/A	NO CONTACT BURIED ELECTRICAL LINE INFLUENCE	34	0	0	N/A	539875.412	4116415.539	100-0381 100-0382	Y		SB
175	Likely TOI	539854.81	4116429.77	ISO MEDIUM	37-105mm	12.96	6/8/21	1	NMRD	SCRAP METAL	BOLT	6	15	10	N 0-30°	539854.713	4116429.744	100-0294 100-0295			
182	Validation	539862.17	4116452.09	No Match	≤37mm	22.78	6/9/21	2	NMRD	SCRAP METAL	WIRE	9	3	30	N 0-30°	539862.179	4116452.049	100-0346 100-0347	Y		SB
184	Likely TOI	539858.59	4116435.99	ISO SMALL	≤37mm	9.13	6/8/21	1	NMRD	SCRAP METAL	SCRAP	10	2	10	E 0-30°	539858.603	4116436.025	100-0288 100-0289	Y		SB
187	Likely TOI	539873.38	4116431.69	81mm Mortar	37-105mm	58.67	6/9/21	-	-	-	SAME AS 13	-	-	-	-	-	-	-	-		-
188	Validation	539857.29	4116442.17	60mm Mortar	37-105mm	19.55	6/9/21	3	NMRD	SCRAP METAL	BOLTS, PLATE	10	10	10	N 0-30°	539857.309	4116442.157	100-0320 100-0321	Y		SB

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LOCATION TM_16 | DIG TEAM LEADER | DATE FINISHED

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
190	Likely TOI	539853.96	4116442.52	81mm Mortar	37-105mm	34.22	6/9/21	0	NO CONTACT	~~CONCRETE PAD~~ N/A ELECTRICAL INFLUENCE BAC 6/9/21	CONCRETE PAD ELECTRICAL INFLUENCE	45	0	0	N/A	539854.009	4116442.559	100-0322			SB
192	Verification	539886.75	4116427.15	No Match	37-105mm	34.65	6/9/21	2	NMRD	SCRAP METAL	NAILS	25	3	9	N 0-30°	~~539886.763~~ BAC 6/10/21 539886.763	4116427.166	100-0406 ~~100-0407~~ 100-0408 BAC 6/10/21	Y		SB
193	Likely TOI	539874.24	4116444.97	81mm Mortar	37-105mm	28.02	6/10/21	0	NO CONTACT	N/A	INFLUENCED BY GROUNDING ROD	28	0	0	N/A / N/A	539874.248	4116444.977	100-0459			
195	Verification	539848.53	4116443.04	81mm Mortar	37-105mm	40.94	6/9/21	1	NMRD	SCRAP METAL	PLATE 6/9/21 BAC ~~WASHER~~	40	3	5	N 0-30°	539848.458	4116443.056	100-0328 100-0329	Y		SB
202	Likely TOI	539859.07	4116427.65	4.2-in Mortar	≥105mm	57.03	6/10/21	0	BAC 6/10/21 ~~N/A~~ NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	50	0	0	N/A	539857.871	4116427.657	BAC 6/10/21 ~~100-0459~~ 100-0450			SB
1000202	Likely TOI	539858.67	4116428.08	4.2-in Mortar	≥105mm	68.63	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	51	0	0	N/A	539858.665	4116428.072	100-0449			SB
203	Verification	539889.38	4116427.53	60mm Mortar	37-105mm	13.31	6/9/21	1	NMRD	SCRAP METAL	REBAR	13	10	79	N 0-30°	539889.308	4116427.503	100-0396 100-0397	Y		SB
205	Verification	539860.51	4116423.50	4.2-in Mortar	≥105mm	65.12	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	49	0	0	N/A	539860.527	4116423.506	100-0455			SB
209	Validation	539887.31	4116426.34	No Match	37-105mm	5.91	6/9/21	1	NMRD	SCRAP METAL	SCRAP	9	2	6	E 0-30°	539887.295	4116426.389	100-0390 100-0391	Y		SB
213	Likely TOI	539890.23	4116426.49	ISO SMALL	≤37mm	12.28	6/9/21	1	NMRD	SCRAP METAL	SCRAP	9	20	8	N 0-30°	539890.223	4116426.476	100-0392 100-0393	Y		SB
214	Validation	539883.67	4116428.02	ISO SMALL	≤37mm	25.35	6/9/21	1	NMRD	SCRAP METAL	BOLT	15	20	6	NW 0-30°	539883.598	4116428.057	100-0402 100-0403	Y		SB
215	Likely TOI	539852.42	4116439.34	81mm Mortar	37-105mm	41.11	6/8/21	-	-	-	SAME AS 11	-	-	-	-	-	-	-	-		-
220	Likely TOI	539859.37	4116426.85	81mm Mortar	37-105mm	55.71	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	50	0	0	N/A	539859.357	4116426.545	100-0453			SB

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_16 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION EASTING	POSITION NORTHING	Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION EASTING	POSITION NORTHING	PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
221	Likely TOI	539852.53	4116444.87	81mm Mortar	37-105mm	50.50	6/10/21	Ø	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLUENCE	40	Ø	Ø	N/A	539852.531	4116444.866	100-0440 100-0441			SB
228	Verification	539851.72	4116432.64	No Match	≥105mm	11.45	6/8/21	1	NMRD	SCRAP METAL	BOLT	10	20	6	E 0-30°	539851.770	4116432.748	100-0298 100-0299	Y		SB
231	Likely TOI	539859.25	4116426.36	81mm Mortar	37-105mm	24.57	6/8/21	1	NMRD	SCRAP METAL	SHARED WITH 274 WIRE	24	4	30	N 0-30°	539859.118	4116426.364	100-0274 100-0275	Y		SB
233	Verification	539852.33	4116428.85	60mm Mortar	37-105mm	22.66	6/8/21	1	NMRD	SCRAP METAL	WIRE	9	3	35	N 0-30°	539852.711	4116428.793	100-0296 100-0297	Y		SB
246	Validation	539852.46	4116430.24	60mm Mortar	37-105mm	28.21	6/8/21	Ø	NO CONTACT	-	-	44	0	0	N/A N/A	539852.467	4116430.259	100-0292 100-0293			SB
250	Validation	539862.88	4116434.26	81mm Mortar	37-105mm	11.45	6/8/21	1	NMRD	SCRAP METAL	SAME AS 153 PIPE	7	20	13	NW 0-30°	539862.877	4116434.242	100-0304 100-0305	Y		SB
254	Validation	539853.57	4116434.70	60mm Mortar	37-105mm	6.76	6/8/21	1	NMRD	SCRAP METAL	STAPLE	10	3	5	NE 0-30°	539853.127	4116434.657	100-0290 100-0291	Y		SB
261	Likely TOI	539862.16	4116430.42	ISO SMALL	≤37mm	5.26	6/8/21	-	-	-	SAME AS 27	-	-	-	-	-	-	-	-		-
263	Validation	539885.51	4116426.18	ISO SMALL	≤37mm	6.80	6/9/21	1	NMRD	SCRAP METAL	BOLT	9	25	8	NE 0-30°	539885.459	4116426.190	100-0413 100-0414	Y		SB
265	Verification	539877.22	4116424.39	60mm Mortar	37-105mm	18.12	6/9/21	1	NMRD	SCRAP METAL	PIPE	10	30	5.5	N 0-30°	539877.236	4116429.404	100-0371 100-0372	Y		SB
268	Verification	539863.50	4116442.81	ISO SMALL	≤37mm	8.95	6/9/21	1	NMRD	SAME AS 156 SCRAP METAL	PIPE L.J.P.	13	40	Ø	N 60-90°	539863.441	4116442.377	100-0317	Y		SB
269	Likely TOI	539857.95	4116430.81	81mm Mortar	37-105mm	13.38	6/9/21	-	-	-	SAME AS 34	-	-	-	-	-	-	-	-		-
270	Likely TOI	539877.14	4116414.87	60mm Mortar	37-105mm	22.87	6/8-08-21	1	NMRD	SCRAP METAL	Aluminum can	11	60	11	E 0-30	539877.212	4116414.800	100-0250 100-0251 101-0752			

PROJECT RADFORD DIG TEAM NO. _____ DATE STARTED _____

LOCATION TM_16 DIG TEAM LEADER _____ DATE FINISHED _____

AGC SURVEY RESULTS							DIG RESULTS														
TARGET ID	TARGET CLASSIFICATION	POSITION		Description	TOI Size Band	PREDICTED DEPTH (cm)	DIG DATE	No. ITEMS	ITEM CATEGORY	ITEM TYPE	DESCRIPTION	DEPTH (cm)	THICKNESS/ DIAMETER (mm)	LENGTH (cm)	ORIENTATION	POSITION		PHOTO ID	HOLE CLEARED	DATE RESOLVED	TEAM LEADER INITIALS
		EASTING	NORTHING													EASTING	NORTHING				
271	Likely TOI	539859.16	4116427.89	4.2-in Mortar	≥105mm	70.43	6/10/21	0	NO CONTACT	N/A	CONCRETE PAD ELECTRICAL INFLURNCE	57	0	0	N/A	539859.165	4116427.884	~~BAE 6/10/21 100-0448~~ 100-0448			SB
274	Likely TOI	539859.15	4116426.28	81mm Mortar	37-105mm	25.87	6/8/21	1	NMRD	SCRAP METAL	~~SAME AS 231~~ WIRE SHARED W/ 231	24	4	30	N 0-30°	539859.162	4116426.287	100-0274 100-0275	Y		SB
280	Validation	539861.21	4116441.39	81mm Mortar	37-105mm	18.96	6/8/21	1	NMRD	SCRAP METAL	COTTER PIN	11	10	11	N 0-30°	539861.204	4116441.390	100-0303 100-0309	Y		SB
281	Likely TOI	539873.84	4116415.24	4.2-in Mortar	≥105mm	64.38	6/8/21	-	-	-	SAME AS 53,85	-	-	-	-	-	-	-	-		-
290	Validation	539859.94	4116442.22	60mm Mortar	37-105mm	11.12	6/8/21	1	NMRD	SCRAP METAL	WIRE	14	2	16	N 0-30°	539859.971	4116442.191	100-0310 100-0311	Y		SB

WESTON SOLUTIONS

Grid No:	TM-02
MRS:	Trench and Mortar

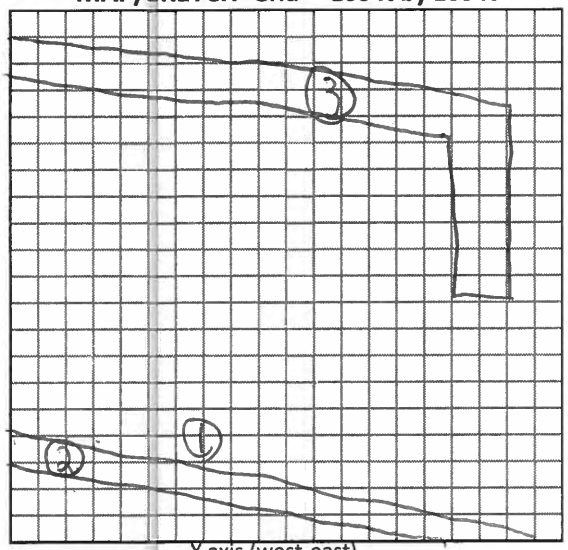
GRID SWEEP LOG

SUXOS:	Keneth Montgomery
UXO Team Leader:	Shaun Bebow

Project Name:	FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE
Contract:	W912DR-15-D-0022
Location:	Radford, Virginia
Date Started:	5/28/21
Date Completed:	6/1/21

Lbs MD: Ø **Lbs Scrap:** 58 **Total Digs:** 209 **MPPEH:** Ø **Total UXO:** Ø

MAP/SKETCH Grid = 100 ft by 100 ft



Reference Point is Southwest Corner of Grid

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)

Comments:
① Medium ISO Seed ③ Sewer line
② Road

Team Members: T3 Shaun Bebow, T2 Scott Kirk, T2 John Hayes,

UXOQCS:

QC Date:

Verified MDAS Inspected: BAC **UXO Technician II Initials**
Verified MDAS Inspected: SwB **Team Leader Initials**

WESTON SOLUTIONS

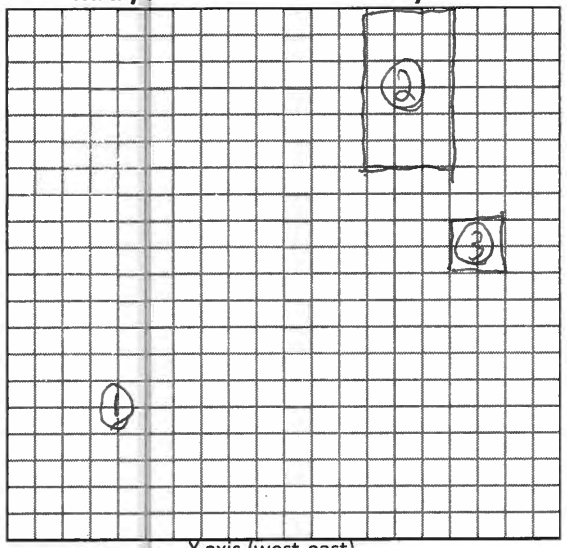
Grid No: TM-03
MRS: Trench and Mortar

GRID SWEEP LOG

SUXOS: Keneth Montgomery
UXO Team Leader: Shaun Bebow

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE
Contract: W912DR-15-D-0022
Location: Radford, Virginia
Date Started: 5/27/21
Date Completed: 5/28/21

MAP/SKETCH Grid = 100 ft by 100 ft



Reference Point is Southwest Corner of Grid

Lbs MD: Ø **Lbs Scrap:** 18 **Total Digs:** 117 **MPPEH:** Ø **Total UXO:** Ø

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)

Comments:
(1) Medium ISO
(2) Reinforced concrete left in place
(3) Manhole cover

Team Members: T3 Shaun Bebow, T2 Scott Kirk, T2 John Hayes, T1 Scott Kirk, T1 Russell Carroll

UXOQCS:

QC Date:

Verified MDAS Inspected: BAC **UXO Technician II Initials**
Verified MDAS Inspected: SWB **Team Leader Initials**

Grid No: TM-04	
MRS: Trench and Mortar	

GRID SWEEP LOG

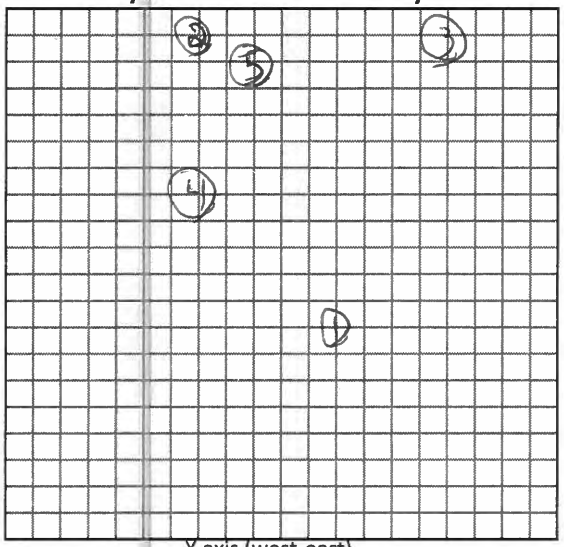
SUXOS: Keneth Montgomery
UXO Team Leader: Shaun Bebow

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE
Contract: W912DR-15-D-0022
Location: Radford, Virginia
Date Started: 5/25/21
Date Completed: 5/26/21

Lbs MD: ~~0~~ **Lbs Scrap:** 16 **Total Digs:** 127 **MPPEH:** 3 **Total UXO:** ~~0~~

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)
(1)	M43A1 81mm Mortar (fuzed)	1	7
(2)	M3A1 4.2 in. Mortar (fuzed)	1	4
(3)	M3A1 4.2 in Mortar (fuzed)	1	5

MAP/SKETCH Grid = 100 ft by 100 ft



Y axis (north-south)

X axis (west-east)

Reference Point is Southwest Corner of Grid

Comments:
(4) Medium ISO Seed
(5) Small ISO Seed

Team Members: T3 Shaun Bebow, T2 Scott Kirk, T2 John Hayes, T1 Scott Kirk, T1 Russell Carroll

UXOQCS: Jeffrey Holm

QC Date: 05/26/2021

Verified MDAS Inspected: RAC **UXO Technician II Initials**

Verified MDAS Inspected: SWB **Team Leader Initials**

Grid No: TM-06	
MRS: Trench and Mortar	

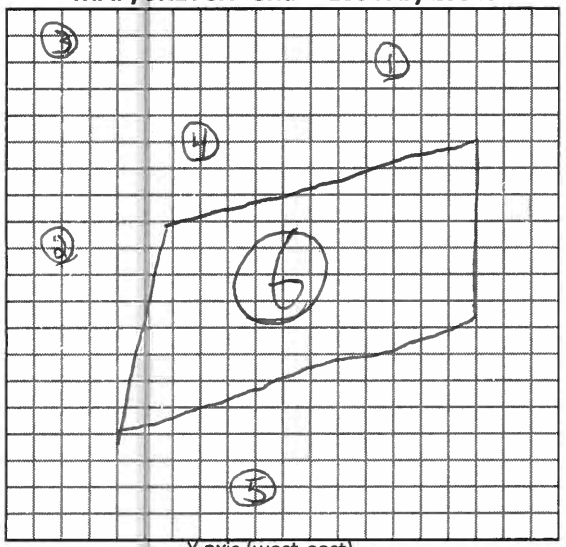
GRID SWEEP LOG

SUXOS: Keneth Montgomery
UXO Team Leader: Shaun Bebow

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE
Contract: W912DR-15-D-0022
Location: Radford, Virginia
Date Started: 5/26/21
Date Completed: 5/27/21

Lbs MD: Ø **Lbs Scrap:** 79 **Total Digs:** 182 **MPPEH:** 2 **Total UXO:** Ø

MAP/SKETCH Grid = 100 ft by 100 ft



Y axis (north-south)

X axis (west-east)

Reference Point is Southwest Corner of Grid

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)
(1)	M3A1 4.2in. Mortar (fuzed)	1	12
(2)	M3A1 4.2in Mortar (fuzed)	1	5

Comments: (3) Medium ISO (6) Construction debris
(4) Medium ISO
(5) Small ISO QA Seed NAB 178

Team Members: T3 Shaun Bebow, T2 Scott Kirk, T2 John Hayes, T1 Scott Kirk, T1 Russell Carroll

UXOQCS: Jeffrey Holm

QC Date: 05/27/2021

Verified MDAS Inspected: RAC **UXO Technician II Initials**

Verified MDAS Inspected: SwB **Team Leader Initials**

WESTON SOLUTIONS

Grid No: GR-06
MRS: Gun Range

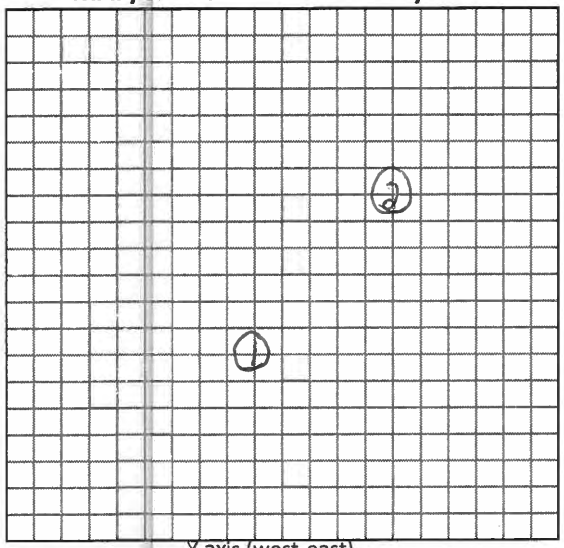
GRID SWEEP LOG

SUXOS: Keneth Montgomery
UXO Team Leader: Shaun Bebow

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE
Contract: W912DR-15-D-0022
Location: Radford, Virginia
Date Started: 6/1/21
Date Completed: 6/2/21

Lbs MD: ~~0~~ Lbs Scrap: 7 Total Digs: 43 MPPEH: ~~0~~ Total UXO: ~~0~~

MAP/SKETCH Grid = 100 ft by 100 ft



Reference Point is Southwest Corner of Grid

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)

Comments: (1) Medium ISO seed (2) Medium ISO seed	UXOQCS:
	QC Date:
Team Members: T3 Shaun Bebow, T2 Scott Kirk, T2 John Hayes,	Verified MDAS Inspected: JH UXO Technician II Initials Verified MDAS Inspected: SWB Team Leader Initials

WESTON SOLUTIONS

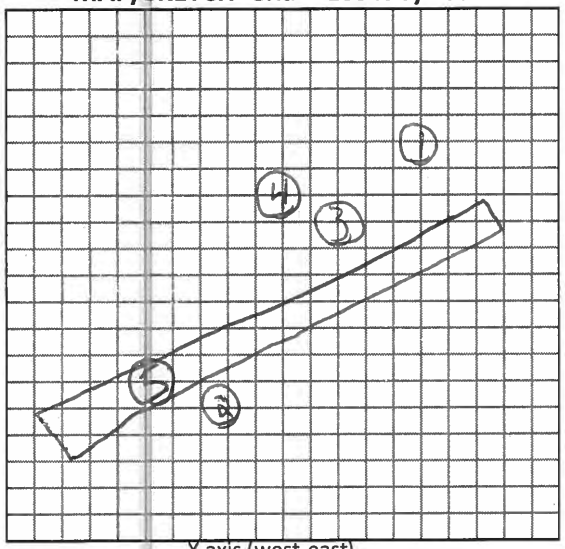
Grid No: GR-07
MRS: Gun Range

GRID SWEEP LOG

SUXOS: Keneth Montgomery
UXO Team Leader: Shaun Bebow

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE
Contract: W912DR-15-D-0022
Location: Radford, Virginia
Date Started: 6/2/21
Date Completed: 6/2/21

MAP/SKETCH Grid = 100 ft by 100 ft



Reference Point is Southwest Corner of Grid

Lbs MD: Ø	Lbs Scrap: 19	Total Digs:	MPPEH: 2	Total UXO: Ø

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)
1	M45 81mm Mortar (fuzed)	1	8
2	M45 81mm Mortar (fuzed)	1	4

Comments: 3 Medium ISO seed 5 Barbed wire and fence post
4 Medium ISO Seed

Team Members: T3 Shaun Bebow, T2 Scott Kirk, T2 John Hayes,

UXOQCS:

QC Date:

Verified MDAS Inspected: BAC **UXO Technician II Initials**
Verified MDAS Inspected: SWB **Team Leader Initials**

WESTON SOLUTIONS

Grid No: GR-12	
MRS: Gun Range	

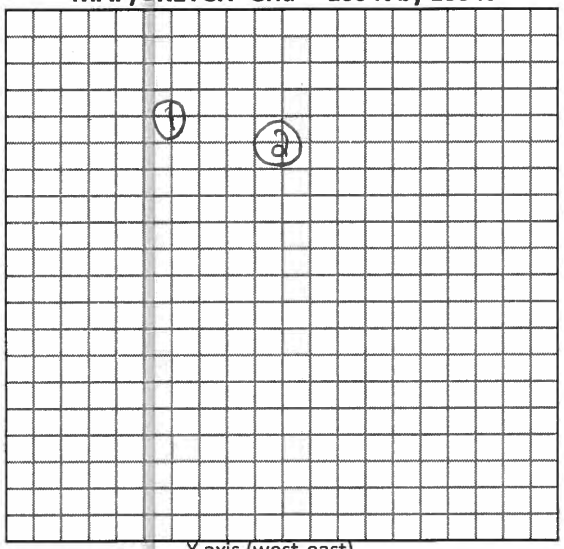
GRID SWEEP LOG

SUXOS: Keneth Montgomery	
UXO Team Leader: Shaun Bebow	

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE	
Contract: W912DR-15-D-0022	
Location: Radford, Virginia	
Date Started: 6/1/21	
Date Completed: 6/1/21	

Lbs MD: Ø **Lbs Scrap:** 6 **Total Digs:** 12 **MPPEH:** Ø **Total UXO:** Ø

MAP/SKETCH Grid = 100 ft by 100 ft



Y axis (north-south)

X axis (west-east)

Reference Point is Southwest Corner of Grid

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)

Comments:
1. Medium ISO Seed
2. Medium ISO Seed

Team Members: T3 Shaun Bebow, T2 Scott Kirk, T2 John Hayes,

UXOQCS:

QC Date:

Verified MDAS Inspected: BAC **UXO Technician II Initials**

Verified MDAS Inspected: SwB **Team Leader Initials**

Daily Activity Report

Project:	Radford RFAAP 2049-001/VA				DAR#	001
Date:	6/24/2021	Location:	Radford Federal Army Ammunition Plant, New River			

Time Arrived	Time Departed	Description of Work
0630	1430	Underwater MPPEH location, investigation, and removal

Weather	Wind
Sunny	9SE

Temperature			
HI:	76	LO:	60

PERSONNEL INFORMATION

Position	Name	Organization	Hours:Minutes	OT
Dive Supervisor / UXOT3	Heath Nettleton	AOR	8	
Dive Supervisor / UXOT1	Ivan Stubblefield	AOR	8	
Diver UXOT3	Ryan Salazar	AOR	8	
Diver UXOT2	Travis Watts	AOR	8	
Diver UXOT2	Jason Kettle	AOR	8	
Tender UXOT2	Alicia Reamer	AOR	8	
Program Manager	Ed Staes	AOR		
Dive Program Manager	Steve Mulholland	AOR		
Project Manager	Jeff Barker	AOR		
Total Personnel	9	**Total Hours**	48	

SAFETY INFORMATION

Daily Safety Briefing/Safety Meeting	YES	Any Safety Deficiencies and/or Corrective Actions
Tailgate Safety Brief given at Radford visitor parking lot by Weston SUXOS, Ken Montgomery		None

QUALITY CONTROL INFORMATION

Daily QC Activities	YES	Any QC Deficiencies and/or Corrective Actions
		None

NOTES/COMMENTS

Day one at RFAAP(Radford Federal Army Ammunition Plant). Pass & ID for all personnel at 0630. Through 2 security screening checkpoints. Visited site of Weston's terrestrial operations. Identified IVS lane for daily instrument checks. Walked down to the North bank of the New River to visually sight our work area and check the flow of the river. Made attempts to set up our GEO gear with help from the Weston geo personnel. Went to the South side of the river to inspect boat ramp. All evolutions are hampered by the base required escorts. All access to the river is hampered by the slow response of base security. Great interaction with the OESS Jon Day and the Weston SUXOS, Ken Montgomery. Very helpful in answering our questions and showing the team around. Will attempt wading tomorrow based on river flow, target location and water depth. Only expected ordnance is 81mm mortars and 4.2" Stokkes mortars.

Name	Heath Nettleton		Date:	6/24/2021

DAILY STATUS REPORT

Project Name:	**MMRP RCRA Facility Investigation**	**Project Location:**	**Radford Army Ammunition Plant, VA**	
Contract Number / Task Delivery Number:	**W912DR-15-D-0022**		**25 June, 2021**	**No: 2**

KEY PROJECT PERSONNEL		
Organization	**Name**	**Phone**
USACE District Dive Coordinator	**Kimberly Gross**	**410-962-3457**
USACE Dive Safety Inspector	**John Day**	**410-340-9491**
Weston Project Manager	**Anthony Pace**	**757-362-2461**
Field Management Personnel		
AOR on-site Lead UXO Representative	**Ryan Salazar**	**970-333-0673**
AOR Superintendent / Project Manager (off site)	**Steve Mulholland**	**619-559-5888**
AOR on site Dive Supervisor	**Ivan Stubblefield**	**850-774-4192**

1.0 General Information

1.1 Safety Topic: See Tailgate sign in sheet

1.2 Weather

Temperature: 79 deg **Current: < 1-Knot** **Water Temp: 71 f** **Conditions: CLEAR**

1.3 Summary of Activities

First day diving and launching boat from the ramp. Logistics are difficult as expected. Good progress and lessons learned on day one. 9 targets investigated resulting in 2 MD items. Another 3 targets investigated, but were too deep to continue digging by hand.

Location:
Water targets

Anomalies Found:	Anomaly #	Anomalies Found:	Anomaly #	Anomalies Found	Anomaly #
9					

1.4 MEC/MPPPEH or Other Items of Interest:
4.2” Mortar MD x2

1.5 Work Planned for Next Workday

Continue digging 3 hand dug targets, Move to deeper targets.

1.6 Instructions from Weston

None

2.0 Personnel Record

2.1 AOR Field Personnel (*excluding Site Visitors*)

Name	Organization	Position	Comments	On-site (Y/N)	Hours
Ivan Stubblefield	AOR	Diver Supervisor	Diving	Y	10
Travis Watts	AOR	Diver	Diving	Y	10
Ryan Salazar	AOR	Diver 3	Diving	Y	10
Jason Kettle	AOR	Diver	Diving	Y	10
Alicia Reamer	AOR	Tender	Tending	Y	10
Heath Nettleton	AOR	Diver	Diving	Y	10

3.0 Project Photos



DIVE LOG

Dive Date: 25 Jun 2021 Jobe code: 2049-001 Location: Radford, VA

Equipment

Platform: Boat Gas Source: Wading GAS TYPE: NA Dress: Swim Apparatus: NA

Environment

Air Temp: 66-77 Water Temp: 64 Visibility: 1-2 Bottom Type: Sand/ Rock

Current: 0- .5 Wave Ht. 0 Dive Location: GPS Altitude: 2,100

Dive Data

Diver	LS	BT	DEPTH	LB	TDT	RS	TTD	SI	RNT	T/S	NOTES
R. Salazar	10:20		0-3			12:50					Wading
J. Kettle	10:20		0-3			12:50					Wading
T. Watts	10:20		0-3			12:50					Wading

Dive Description

Purpose and Description: MEC Clearance

Dive Supervisor: Ivan Stubblefield Date: 25 Jun 2021

AOR

Daily Tailgate Safety Log

Date: 06/25/21	Time: 0645	Team No: Dive
Site Name/Location:	Radford	Grid: Water

1. SAFETY TOPICS DISCUSSED:

- — Site Description
- — Site Controls
- — Personal Protective Equipment
- ✓ Emergency Procedures / Equipment
- — Site Evacuation
- — Physical Biological Hazards
- — Heat or Cold Stress
- — Communication/Radio Procedure
- ✓ Environmental Concerns/Hazards
- ✓ Emergency Procedures/Route
- — First Aid Procedures
- ✓ Injury Reporting
- — Safe Work Practices
- ✓ Other: ***UXO Diving operations***
- — Other: ***Safe Boating operations***
- — Other: ***Explosive storage***

2. TASK OPERATION AND REMARKS:

Equipment setup, site orientation, First dive day goals.

3. ATTENDEES:

	Print Name	Signature	Company
1.	Ryan Salazar	Ryan Salazar	AOR
2.	ALICIA REAMER	Alicia	AOR
3.	JASON KETTLE		AOR
4.	TRAVIS WATTS		AOR
5.	Ivan Stubblefield		AOR
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Meeting Conducted by:	Signature:
~~Ivan Stubblefield~~ Ryan Salazar	Ryan Salazar

DAILY OPERATOR TEST REPORT

Project Name/Location: Former Gun & Trench Mortar Range Munitions Response Site/Radford, VA	
Date: ~~06/25/21~~ 06/25/21	**Team: Dive Team**
Analog Detector Testing Location: Weston ITS	

Instrument Operator Test Results

Operator Name	Instrument Type	Serial Number	Targets Detected	Result (P/F?)
Ivan Stubblefield	Minelab Excalibur II	0477	4	P
Jason Kettle	Minelab Excalibur II	0473	4	P

GPS Testing Location:

GPS Instrument Test Results

Instrument Type	Control Point	Serial Number	Offset Tolerance	Result (P/F?)
Emlid RS2	CP1	2433	15cm	P

Survey File:

Comments: None

Supervisor's Name	Signature	Date
Ryan Salazar	Ryan Salazar	06/25/21

FOR INTERNATIONAL

Grid No: Water Targets

MRS: RFAAP

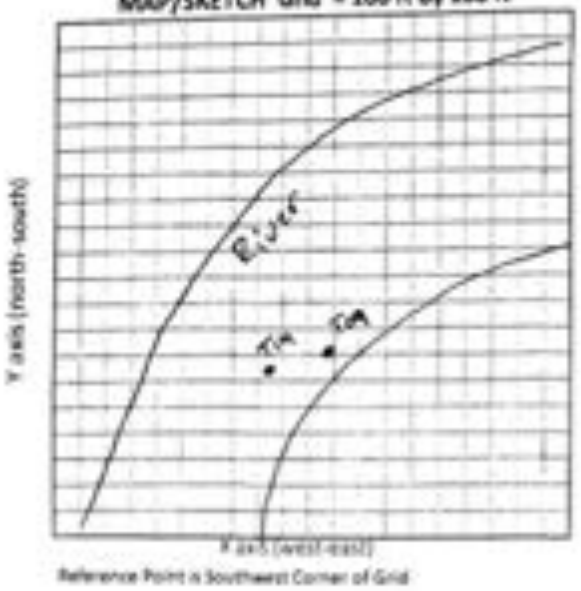
GRID SWEEP LOG

SUXOS: Keneth Montgomery

UXO Team Leader: Ryan Salazar
UXO Dive Supervisor: Ivan Stubblefield

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE
Contract: W912DR-15-D-0022
Location: Radford, Virginia
Date Started: 06/25/21
Date Completed: 06/25/21

MAP/SKETCH Grid = 100 ft by 100 ft



Lbs MD: 4 Lbs Scrap: 31 Total Digs: 9 MPPEH: 0 Total UXO: 0

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)
T17	Cable (2x)	2	1
T06	Cable	2	2
T12	Barbwire	3 ft	0
T30	Pipe 6"	1	4
T08	Aluminum can	1	2
T31	NMRD	1	5
T3337	6x6 sheet metal	1	3
T09	4.2" stokes mortar, unfuzed	1	1
T14	4.2" stokes mortar, unfuzed	1	1

Comments: 3 additional Targets too deep for hand digging

Team Members: Dive Supervisor Ivan Stubblefield, T3 Ryan Salazar, T2 Alicia Reamer, T2 Travis Watts T2 Jason Kettle

UXOQCS: N/A

QC Date: N/A

Verified MDAS Inspected:_____ UXO Technician II Initials

Verified MDAS Inspected:_____ Team Leader Initials

DAILY STATUS REPORT

Project Name:	**MMRP RCRA Facility Investigation**	**Project Location:**	**Radford Army Ammunition Plant, VA**	
Contract Number / Task Delivery Number:	**W912DR-15-D-0022**		**26 June, 2021**	**No: 3**

KEY PROJECT PERSONNEL		
Organization	**Name**	**Phone**
USACE District Dive Coordinator	**Kimberly Gross**	**410-962-3457**
USACE Dive Safety Inspector	**John Day**	**410-340-9491**
Weston Project Manager	**Anthony Pace**	**757-362-2461**
Field Management Personnel		
AOR on-site Lead UXO Representative	**Ryan Salazar**	**970-333-0673**
AOR Superintendent / Project Manager (off site)	**Steve Mulholland**	**619-559-5888**
AOR on site Dive Supervisor	**Ivan Stubblefield**	**850-774-4192**

1.0 General Information

1.1 Safety Topic: See Tailgate sign in sheet

1.2 Weather

Temperature: 85 deg **Current: 1.25-Knot** **Water Temp: 71 f** **Conditions: CLEAR**

1.3 Summary of Activities

0645 tailgate safety brief. 0745 launched boat. 1430 recover boat. Wait for gate guard till 1515. 17 targets prosecuted. Left site 1600. Water level was 18 " higher than yesterday and current was greatly increased.

Location:
Water targets

Anomalies Found:	**Anomaly #**	**Anomalies Found:**	**Anomaly #**	**Anomalies Found**	**Anomaly #**
11					

1.4 MEC/MPPPEH or Other Items of Interest:
4.2” mortar x6
81mm mortar x3
60mm mortar x2

1.5 Work Planned for Next Workday
Finish remaining targets

1.6 Instructions from Weston
None

2.0 Personnel Record

2.1 AOR Field Personnel (*excluding Site Visitors*)

Name	Organization	Position	Comments	On-site (Y/N)	Hours
Ivan Stubblefield	AOR	Diver Supervisor	Diving	Y	10
Travis Watts	AOR	Diver	Diving	Y	10
Ryan Salazar	AOR	Diver 3	Diving	Y	10
Jason Kettle	AOR	Diver	Diving	Y	10
Alicia Reamer	AOR	Tender	Tending	Y	10
Heath Nettleton	AOR	Diver	Diving	Y	10

3.0 Project Photos





DIVE LOG

Dive Date: 26 Jun 2021 Jobe code: 2049-001 Location: Radford, VA

Equipment

Platform: Boat Gas Source: SCUBA Cyl GAS TYPE: Air Dress: Swim Apparatus: SCUBA

Environment

Air Temp: 67-88 Water Temp: 67 Visibility: 1-2 Bottom Type: Sand/ Rock

Current: 1-2 Wave Ht. 0 Dive Location: GPS Altitude: 2,100

Dive Data

Diver	LS	BT	DEPTH	LB	TDT	RS	TTD	SI	RNT	T/S	NOTES
J. Kettle	08:29		01			09:30					Wading
T. Watts	09:37	:225	07	13:21	:01	13:22	:226			10'/:245	No D "D"

Dive Description

Purpose and Description: MEC Clearance

Dive Supervisor: Ivan Stubblefield Date: 26 Jun 2021

Daily Tailgate Safety Log

Date: 06/26/21	Time: 0645	Team No: Dive
Site Name/Location: Radford		Grid: Water

1. SAFETY TOPICS DISCUSSED:

- ___ Site Description
- ✓ Site Controls
- ✓ Personal Protective Equipment
- ___ Emergency Procedures / Equipment
- ___ Site Evacuation
- ___ Physical/Biological Hazards
- ✓ Heat or Cold Stress
- ___ Communication/Radio Procedure
- ___ Environmental Concerns/Hazards
- ___ Emergency Procedures/Route
- ___ First Aid Procedures
- ___ Injury Reporting
- ___ Safe Work Practices
- ___ Other: ***UXO Diving operations***
- ___ Other: ***Safe Boating operations***
- ___ Other: ***Explosive storage***

2. TASK OPERATION AND REMARKS:

Hydrate, sunscreen, proper Ordnance handling.

3. ATTENDEES:

	Print Name	Signature	Company
1.	Ryan Salazar	Ryan Salazar	AOR
2.	ALICIA BORNER		AOR
3.	JASON KETTLE		AOR
4.	TRAVIS WATTS		AOR
5.	Ivan Stubblefield		AOR
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Meeting Conducted by:	Signature:
Ivan Stubblefield Ryan Salazar	Ryan Salazar

FOR INTERNATIONAL

DAILY OPERATOR TEST REPORT

Project Name/Location: Radford, VA RFAAP	
Date: 06/26/21	Team: Dive
Analog Detector Testing Location: Weston ITS	

Instrument Operator Test Results

Operator Name	Instrument Type	Serial Number	Targets Detected	Result (P/F?)
Ivan Stubblefield	Minelab Excalibur II	0477	4	P
Jason Kettle	Minelab Excalibur II	0473	4	P

GPS Testing Location: Tetra Tech Target Pond Trustees GSI 014

GPS Instrument Test Results

Instrument Type	Control Point	Serial Number	Offset Tolerance	Result (P/F?)
EMLID RS2	GSI 014	2433	10cm	P

Survey File:	TGP QC Points
Comments: None	

Supervisor's Name	Signature	Date
Ryan Salazar	Ryan Salazar	06/26/21

FOR INTERNATIONAL

Grid No: Water Targets

MRS: RFAAP

GRID SWEEP LOG

SUXOS: Keneth Montgomery

UXO Team Leader: Ryan Salazar
UXO Dive Supervisor: Ivan Stubblefield

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE

Contract: W912DR-15-D-0022

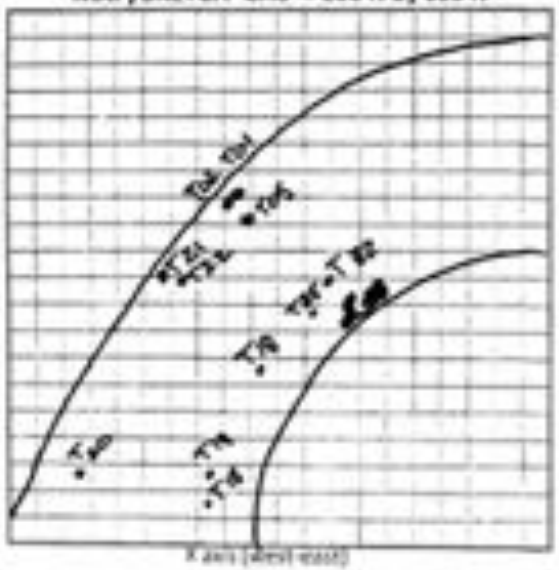
Location: Radford, Virginia

Date Started: ~~06/25/17~~ 06/26/17

Date Completed: ~~06/25/17~~ 06/26/17

Lbs MD: 3 Lbs Scrap: 25 Total Digs: 17 MPPEH: 10 Total UXO: 19

MAP/SKETCH Grid = 100 ft by 100 ft



Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)			
T 34	NMRD - metal	10 lbs	18	0	10	1
T 13	Paint can	1	20			
T 33	Sin Square Pipe	3ft	20	1	1	1
T 32	MPPEH 4.2" mortar	1	8			
T 35	MPPEH 4.2" mortar	1	6			
T 18	MPPEH 81mm mortar	1	0			
T 04	NMRD cable	10ft	0			
T 19	MD 4.2" mortar	1	10	MPPEH 60mm mortar	MPPEH 4.2" mortar	MPPEH 60mm mortar
T 15	MPPEH 81mm Mortar	1	15			
T 16	Rail Road Tie with spikes	1	0			
T 11	NMRD Sheet metal 12x12"	1	12			
T 20	MPPEH 4.2" Mortar	1	0			
T 21	MPPEH 4.2" mortar	1	0	T01	T05	T02
T 22	MPPEH 81mm mortar	1	12			

Comments: Water was 1ft deeper and current stronger than previous day.

Team Members: Dive Supervisor Ivan Stubblefield, T3 Ryan Salazar, T2 Alicia Reamer, T2 Travis Watts T2 Jason Kettle

UXOQCS: N/A

QC Date: N/A

Verified MDAS Inspected:_____ UXO Technician II Initials

Verified MDAS Inspected:_____ Team Leader Initials

DAILY STATUS REPORT

Project Name:	**MMRP RCRA Facility Investigation**	**Project Location:**	**Radford Army Ammunition Plant, VA**	
Contract Number / Task Delivery Number:	**W912DR-15-D-0022**		**27 June, 2020**	**No: 4**

KEY PROJECT PERSONNEL		
Organization	**Name**	**Phone**
USACE District Dive Coordinator	**Kimberly Gross**	**410-962-3457**
USACE Dive Safety Inspector	**John Day**	**410-340-9491**
Weston Project Manager	**Anthony Pace**	**757-362-2461**
Field Management Personnel		
AOR on-site Lead UXO Representative	**Ryan Salazar**	**970-333-0673**
AOR Superintendent / Project Manager (off site)	**Steve Mulholland**	**619-559-5888**
AOR on site Dive Supervisor	**Ivan Stubblefield**	**850-774-4192**

1.0 General Information

1.1 Safety Topic: See Tailgate sign in sheet

1.2 Weather

Temperature: 83 deg **Current: < 1-Knot** **Water Temp: 70 f** **Conditions: CLEAR**

1.3 Summary of Activities

Safety brief at 0705. Wait for gate guard to open gate 0740. Launch boat 0755. Completed remaining targets. Recover boat 1430. Demob complete 1600.

Location: Water Targets

Anomalies Found:	Anomaly #	Anomalies Found:	Anomaly #	Anomalies Found	Anomaly #
9 targets	7 MPPEH	2MD			

1.4 MEC/MPPPEH or Other Items of Interest:
MPPEH: 4.2” mortar x4, 81mm mortar x1
MD: 4.2” mortar x2

1.5 Work Planned for Next Workday
Demob site.

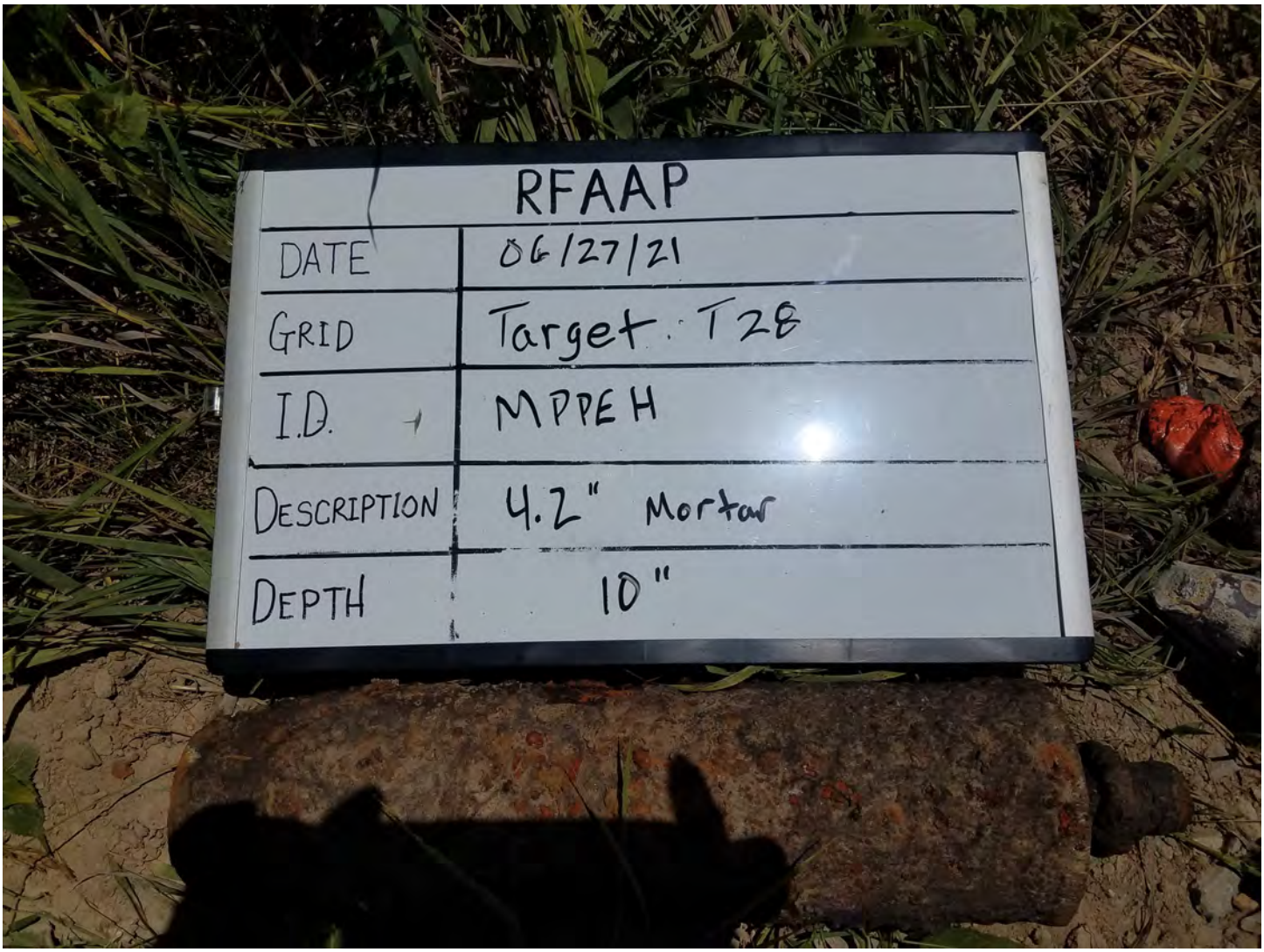
1.6 Instructions from Weston
NONE

2.0 Personnel Record

2.1 AOR Field Personnel (*excluding Site Visitors*)

Name	Organization	Position	Comments	On-site (Y/N)	Hours
Ivan Stubblefield	AOR	Diver Supervisor	Diving	Y	10
Travis Watts	AOR	Diver	Diving	Y	10
Jason Kettle	AOR	Diver	Diving	Y	10
Ryan Salazar	AOR	Diver	Diving	Y	10
Alicia Reamer	AOR	Tender	Tending	Y	10

3.0 Project Photos


RFAAP
DATE
06/27/21
GRID
Target: T28
I.D.
MPPEH
DESCRIPTION
4.2" Mortar
DEPTH
10"


RFAAP
DATE
06/27/21
GRID
Target T26
I.D.
MPPEH
DESCRIPTION
4.2" Mortar
DEPTH
3"



DIVE LOG

Dive Date: 27 Jun 2021 Jobe code: 2049-001 Location: Radford, VA

Equipment

Platform: Boat Gas Source: SCUBA Cyl GAS TYPE: Air Dress: Swim Apparatus: SCUBA

Environment

Air Temp: 68-77 Water Temp: 67 Visibility: 1-2 Bottom Type: Sand/ Rock

Current: 0-1 Wave Ht. 0 Dive Location: GPS Altitude: 2,100

Dive Data

Diver	LS	BT	DEPTH	LB	TDT	RS	TTD	SI	RNT	T/S	NOTES
J. Kettle	08:42	:140	07	11:02	:01	11:03	:141			10'/:158	No D "C"
T. Watts	09:32					10:17					Wading

Dive Description

Purpose: and Description: MEC Clearance

Dive Supervisor: Ivan Stubblefield Date: 27 Jun 2021

Daily Tailgate Safety Log

Date: 06/27/21	Time: 0705	Team No: Water
Site Name/Location: RFAAP		Grid: River

1. SAFETY TOPICS DISCUSSED:

- — Site Description
- X Site Controls
- — Personal Protective Equipment
- — Emergency Procedures / Equipment
- — Site Evacuation
- — Physical/Biological Hazards
- — Heat or Cold Stress
- X Communication/Radio Procedure
- X Environmental Concerns/Hazards
- — Emergency Procedures/Route
- — First Aid Procedures
- — Injury Reporting
- — Safe Work Practices
- — Other: ***UXO Diving operations***
- — Other: ***Safe Boating operations***
- — Other: ***Explosive storage***

2. TASK OPERATION AND REMARKS:

Follow base Rules, No Flammables beyond second gate
Lightning / weather

3. ATTENDEES:

	Print Name	Signature	Company
1.	Ivan Stubblefield		AOR
2.	ALICIA REAMER		AOR
3.	JASON KETTLE		AOR
4.	TRAVIS WATTS		AOR
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Meeting Conducted by:	Signature:
~~Ivan Stubblefield~~ Ryan Sokzor	Ryan Sokzor

DAILY OPERATOR TEST REPORT

Project Name/Location: RFAAP, Radford, VA	
Date: 06/27/21	Team: Dive
Analog Detector Testing Location: Weston ITS	

Instrument Operator Test Results

Operator Name	Instrument Type	Serial Number	Targets Detected	Result (P/F?)
	Minelab Excalibur II	0477	4	P
	Minelab Excalibur II	0473	4	P

GPS Testing Location: Tisbury Great Pond Trustees GSI 014

GPS Instrument Test Results

Instrument Type	Control Point	Serial Number	Offset Tolerance	Result (P/F?)
EMLID RS2	GSI 014	2433	10cm	P
Survey File:	TGP QC Points			

Comments: None

Supervisor's Name	Signature	Date
Ryan Solazar	Ryan Solazar	06/27/21

FOR INTERNATIONAL

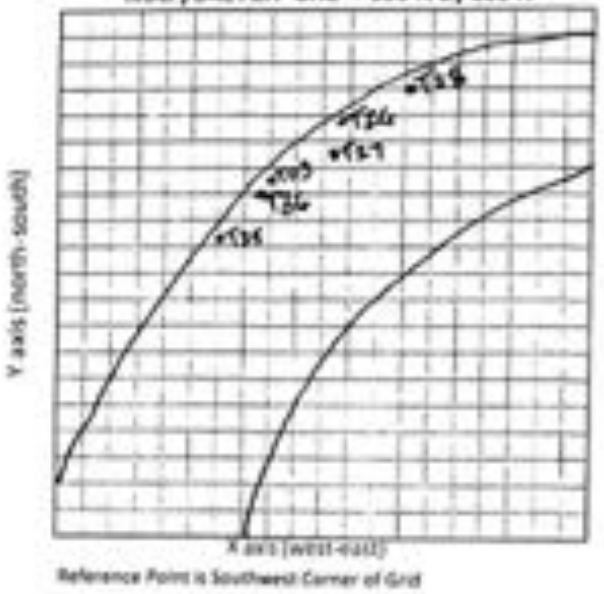
Grid No: Water Targets	
MRS: RFAAP	

GRID SWEEP LOG

SUXOS: Keneth Montgomery
UXO Team Leader: Ryan Salazar UXO Dive Supervisor: Ivan Stubblefield

Project Name: FORMER GUN & TRENCH MORTAR RANGE MUNITIONS RESPONSE SITE
Contract: W912DR-15-D-0022
Location: Radford, Virginia
Date Started: 06/27/21
Date Completed: 06/27/21

MAP/SKETCH Grid = 100 ft by 100 ft



Reference Point is Southwest Corner of Grid

Lbs MD: 4 Lbs Scrap: 15 Total Digs: 9 MPPEH: 5 Total UXO: 7

Location	Nomenclature (fuzed, unfuzed)	Quantity	Depth (in)
T 54 29	NMRD cable	10 ft	0
T28	MPPEH 4.2" Mortar	1	10
T26	MD 4.2" mortar	1	3
T27	MPPEH 4.2" mortar	1	12
T03	MD 4.2" Mortar	1	13
T36	MPPEH 4.2" Mortar	1	10
T25	MPPEH 81mm Mortar	1	0
T25	MPPEH 4.2" Mortar	1	0
T23	NMRD barbed wire	9	2
T24	NMRD bolts / Hardware	2lbs	6

Comments: NONE	UXOQCS: N/A
	QC Date: N/A
Team Members: Dive Supervisor Ivan Stubblefield, T3 Ryan Salazar, T2 Alicia Reamer, T2 Travis Watts T2 Jason Kettle	Verified MDAS Inspected:_____ UXO Technician II Initials Verified MDAS Inspected:_____ Team Leader Initials

APPENDIX E
GEOPHYSICAL DATA

Available upon request.

APPENDIX F
MC SAMPLING RESULTS

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ANALYTICAL RESULTS FOR:

ANTHONY PACE
WESTON SOLUTIONS, INC.
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

PROJECT SITE:	RFAAP Lead Soil Sampling, Radford, VA
DOD CONTRACT #:	
PROJECT #:	
SDG:	***163670***
PREPARED:	August 31, 2021
TOTAL # OF PAGES:	1046

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

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Case Narrative

Client: Weston Solutions
Project: RFAAP Lead Soil Sampling; Radford, VA
Sample Receipt Date: 08/06/2021
SDG #: 163670

Twenty-six soil samples were received for Lead analysis. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.3 requirements.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Metals Analysis:

The samples were analyzed using US EPA Method 6010C (ICP Metals). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Lead (6010C) Soil Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 194303

The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) for sample # 1034762 had recoveries outside of the acceptable limits for lead. A Serial Dilution (L) was analyzed and was not applicable for lead because the parent sample raw result was less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was acceptable. The parent sample was reported and not qualified.

The Duplicate (DUP) for sample # 1034762 was not acceptable for lead because the result exceeded the Relative Percent Difference (RPD) limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

Analytical Run # 194303

The MS and MSD for sample # 1034767 had recoveries outside of the acceptable limits for lead. A PDS was analyzed and was unacceptable. The parent sample was reported and qualified with an "M" flag for the failing element.

The DUP for sample # 1034767 was not acceptable for lead because the result exceeded the RPD limit. The parent sample was reported and qualified with a "Y" flag for the failing element.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sample Delivery Group

163670

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
HAMPTON, VA 23669

Project Name: RADFORD AAP LEAD SOIL SAMPLING
Project #:

	CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
1	1034747	163670		J-1-06	SOIL	08/02/2021	08/06/2021
2	1034748	163670		J-5-06	SOIL	08/02/2021	08/06/2021
3	1034749	163670		J-9-06	SOIL	08/02/2021	08/06/2021
4	1034750	163670		H-2-06	SOIL	08/02/2021	08/06/2021
5	1034751	163670		F-11-06	SOIL	08/02/2021	08/06/2021
6	1034752	163670		F-1-06	SOIL	08/02/2021	08/06/2021
7	1034753	163670		G-3-06	SOIL	08/02/2021	08/06/2021
8	1034754	163670		G-5-06	SOIL	08/02/2021	08/06/2021
9	1034755	163670		H-8-06	SOIL	08/02/2021	08/06/2021
10	1034756	163670		I-1-06	SOIL	08/02/2021	08/06/2021
11	1034757	163670		I-3-06	SOIL	08/02/2021	08/06/2021
12	1034758	163670		I-10-06	SOIL	08/02/2021	08/06/2021
13	1034759	163670		B-8-06	SOIL	08/02/2021	08/06/2021
14	1034760	163670		B-4-06	SOIL	08/02/2021	08/06/2021
15	1034761	163670		D-3-06	SOIL	08/02/2021	08/06/2021
16	1034762	163670		C-4-06	SOIL	08/02/2021	08/06/2021
17	1034763	163670		A-11-06	SOIL	08/02/2021	08/06/2021
18	1034764	163670		A-11-612	SOIL	08/03/2021	08/06/2021
19	1034765	163670		F-1-06-FD	SOIL	08/02/2021	08/06/2021
20	1034766	163670		I-10-06-FD	SOIL	08/02/2021	08/06/2021
21	1034767	163670		A-11-06-FD	SOIL	08/02/2021	08/06/2021
22	1034768	163670		E-10-06	SOIL	08/02/2021	08/06/2021
23	1034769	163670		A-11-1224	SOIL	08/03/2021	08/06/2021
24	1034770	163670		A-12-06	SOIL	08/03/2021	08/06/2021
25	1034771	163670		AA-12-06	SOIL	08/03/2021	08/06/2021
26	1034772	163670		C-10-06	SOIL	08/02/2021	08/06/2021

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www.ctlaboratories.com

QC Batch Cross Reference Summary

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
HAMPTON, VA 23669

Project Name: RADFORD AAP LEAD SOIL SA
Project #:
Report Date: 08/31/2021
Date Received: 08/06/2021
SDG #: 163670

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
1034747	Solids, Percent	EPA 8000C	SOIL		194381
1034748	Solids, Percent	EPA 8000C	SOIL		194381
1034749	Solids, Percent	EPA 8000C	SOIL		194381
1034750	Solids, Percent	EPA 8000C	SOIL		194381
1034751	Solids, Percent	EPA 8000C	SOIL		194381
1034752	Solids, Percent	EPA 8000C	SOIL		194381
1034753	Solids, Percent	EPA 8000C	SOIL		194381
1034754	Solids, Percent	EPA 8000C	SOIL		194381
1034755	Solids, Percent	EPA 8000C	SOIL		194381
1034756	Solids, Percent	EPA 8000C	SOIL		194381
1034757	Solids, Percent	EPA 8000C	SOIL		194381
1034758	Solids, Percent	EPA 8000C	SOIL		194381
1034759	Solids, Percent	EPA 8000C	SOIL		194381
1034760	Solids, Percent	EPA 8000C	SOIL		194381
1034761	Solids, Percent	EPA 8000C	SOIL		194381
1034762	Solids, Percent	EPA 8000C	SOIL		194381
1034763	Solids, Percent	EPA 8000C	SOIL		194381
1034764	Solids, Percent	EPA 8000C	SOIL		194381
1034765	Solids, Percent	EPA 8000C	SOIL		194381
1034766	Solids, Percent	EPA 8000C	SOIL		194381
1034767	Solids, Percent	EPA 8000C	SOIL		194382
1034768	Solids, Percent	EPA 8000C	SOIL		194382
1034769	Solids, Percent	EPA 8000C	SOIL		194382
1034770	Solids, Percent	EPA 8000C	SOIL		194382
1034771	Solids, Percent	EPA 8000C	SOIL		194382
1034772	Solids, Percent	EPA 8000C	SOIL		194382

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Project Name: RADFORD AAP LEAD SOIL SA
Project #:
SDG #: 163670

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
1034747	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034748	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034749	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034750	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034751	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034752	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034753	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034754	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034755	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034756	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034757	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034758	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034759	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034760	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034761	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034762	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034763	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034764	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034765	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034766	ICP Metals QSM 5.0	EPA 6010D	SOIL	82041	194303
1034767	ICP Metals QSM 5.0	EPA 6010D	SOIL	82042	194304
1034768	ICP Metals QSM 5.0	EPA 6010D	SOIL	82042	194304
1034769	ICP Metals QSM 5.0	EPA 6010D	SOIL	82042	194304
1034770	ICP Metals QSM 5.0	EPA 6010D	SOIL	82042	194304
1034771	ICP Metals QSM 5.0	EPA 6010D	SOIL	82042	194304
1034772	ICP Metals QSM 5.0	EPA 6010D	SOIL	82042	194304

METALS
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	88.4	Lab Sample ID:	1034763
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	15	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/12/2021 13:02
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	4800		0.62	1.9	3.9	3.9

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.4	Lab Sample ID:	1034767
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	15	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/12/2021 13:10
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	3600	Y,M	0.62	1.9	3.8	3.8

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-1224

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	85.5	Lab Sample ID:	1034769
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 21:06
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	55		0.048	0.15	0.30	0.30

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-612

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.7	Lab Sample ID:	1034764
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 19:12
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	510		0.044	0.14	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-12-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.2	Lab Sample ID:	1034770
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 21:13
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	39		0.045	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

AA-12-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	93.5	Lab Sample ID:	1034771
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 21:21
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	57		0.043	0.13	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

B-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	93.3	Lab Sample ID:	1034760
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:43
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	15		0.042	0.13	0.26	0.26

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INORGANIC ANALYSIS DATA SHEET

Sample Description

B-8-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.0	Lab Sample ID:	1034759
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:34
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	17		0.047	0.15	0.30	0.30

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INORGANIC ANALYSIS DATA SHEET

Sample Description

C-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.6	Lab Sample ID:	1034772
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 21:51
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	11		0.044	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

C-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.4	Lab Sample ID:	1034762
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:58
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	7.2	Y	0.041	0.13	0.26	0.26

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INORGANIC ANALYSIS DATA SHEET

Sample Description

D-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	91.6	Lab Sample ID:	1034761
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:51
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	9.9		0.045	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

E-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.9	Lab Sample ID:	1034768
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 20:58
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	12		0.044	0.14	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

F-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	95.6	Lab Sample ID:	1034752
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:18
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	16		0.042	0.13	0.26	0.26

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INORGANIC ANALYSIS DATA SHEET

Sample Description

F-1-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	95.3	Lab Sample ID:	1034765
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 19:20
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	10.0		0.043	0.13	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

F-11-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.7	Lab Sample ID:	1034751
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:10
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	20		0.045	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

G-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.3	Lab Sample ID:	1034753
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:26
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	10		0.043	0.13	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

G-5-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.6	Lab Sample ID:	1034754
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:55
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	16		0.042	0.13	0.26	0.26

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INORGANIC ANALYSIS DATA SHEET

Sample Description

H-2-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.4	Lab Sample ID:	1034750
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:02
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	10		0.043	0.13	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

H-8-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	91.0	Lab Sample ID:	1034755
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:03
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	17		0.044	0.14	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.3	Lab Sample ID:	1034758
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:27
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	21		0.045	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-10-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	89.7	Lab Sample ID:	1034766
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 19:28
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	21		0.046	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.4	Lab Sample ID:	1034756
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:11
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	9.1		0.047	0.15	0.30	0.30

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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.5	Lab Sample ID:	1034757
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:19
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	7.6		0.041	0.13	0.26	0.26

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	88.1	Lab Sample ID:	1034747
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 15:39
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	13		0.045	0.14	0.28	0.28

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-5-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.9	Lab Sample ID:	1034748
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 15:47
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	15		0.042	0.13	0.26	0.26

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-9-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.3	Lab Sample ID:	1034749
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 15:55
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	15		0.043	0.13	0.27	0.27

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037541

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 14:07	500.0	491.0	98.2	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037542

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 14:22	30.0	30.0	100	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304

Lab Sample ID: 1037567

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 14:07	500.0	491.0	98.2	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304

Lab Sample ID: 1037568

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 14:22	30.0	30.0	100	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037548

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 16:34	5000	5020	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037549

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 16:40	500.0	520.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037554

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 18:13	5000	5020	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037555

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 18:20	500.0	519.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037558

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 19:51	5000	5040	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037559

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 19:58	500.0	521.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037561

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/12/21 12:18	5000	5000	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037562

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/12/21 12:24	500.0	514.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037564

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/12/21 13:25	5000	4980	99.6	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037565

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/12/21 13:31	500.0	507.0	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037573

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 18:13	5000	5020	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037574

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 18:20	500.0	519.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037576

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 19:51	5000	5040	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037577

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 19:58	500.0	521.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037580

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 23:05	5000	5000	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037581

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 23:12	500.0	510.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037586

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/12/21 12:18	5000	5000	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037587

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/12/21 12:24	500.0	514.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037589

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/12/21 13:25	5000	4980	99.6	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037590

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/12/21 13:31	500.0	507.0	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037888

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 21:29	5000	4980	99.6	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037889

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Lead	8/11/21 21:36	500.0	510.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1037543

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 14:30	-0.148	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1037569

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 14:30	-0.148	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194303

Lab Sample ID: 1037553

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 16:47	-0.197	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194303

Lab Sample ID: 1037556

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 18:27	-0.024	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194303

Lab Sample ID: 1037560

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 20:05	0.21	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194303

Lab Sample ID: 1037563

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/12/2021 12:32	2.05		1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194303

Lab Sample ID: 1037566

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/12/2021 13:38	0.536	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194304

Lab Sample ID: 1037575

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 18:27	-0.024	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194304

Lab Sample ID: 1037578

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 20:05	0.21	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194304

Lab Sample ID: 1037585

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 23:19	-0.993	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194304

Lab Sample ID: 1037588

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/12/2021 12:32	2.05		1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194304

Lab Sample ID: 1037591

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/12/2021 13:38	0.536	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194304

Lab Sample ID: 1037890

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 21:43	-0.206	U	1.4	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194303 Lab Sample ID: 1034933

Analytical Prep Batch # 82041 Preparation Date/Time: 08/09/2021 10:46

ICAL Calibration #: Concentration Units: mg/kg

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 15:31	-0.0935	U	0.04	0.125

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

SDG No.: 163670

Analytical Run #: 194304 Lab Sample ID: 1034935

Analytical Prep Batch # 82042 Preparation Date/Time: 08/09/2021 10:46

ICAL Calibration #: Concentration Units: mg/kg

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Lead	08/11/2021 19:43	-0.0045	U	0.04	0.125

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

ICP ID Number: TJA 6000

SDG No.: 163670

ICS Source: SPEX

Analytical Run #: 194303

Lab Sample ID: 1037544

Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	08/11/2021 14:53	500000	463000	92.6	80	120
Calcium	08/11/2021 14:53	500000	471000	94.2	80	120
Iron	08/11/2021 14:53	500000	411000	82.2	80	120
Lead	08/11/2021 14:53	0	1.19	0	-4.7	4.7
Magnesium	08/11/2021 14:53	500000	487000	97.4	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL
ICP ID Number: TJA 6000
SDG No.: 163670
ICS Source: SPEX

Analytical Run #: 194304
Lab Sample ID: 1037570
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	08/11/2021 14:53	500000	463000	92.6	80	120
Calcium	08/11/2021 14:53	500000	471000	94.2	80	120
Iron	08/11/2021 14:53	500000	411000	82.2	80	120
Lead	08/11/2021 14:53	0	1.19	0	-4.7	4.7
Magnesium	08/11/2021 14:53	500000	487000	97.4	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

ICP ID Number: TJA 6000

SDG No.: 163670

ICS Source: SPEX, Ultra

Analytical Run #: 194303

Lab Sample ID: 1037545

Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	08/11/2021 15:01	500000	480000	96.0	80	120
Calcium	08/11/2021 15:01	500000	497000	99.4	80	120
Iron	08/11/2021 15:01	500000	436000	87.2	80	120
Lead	08/11/2021 15:01	500.0	490.0	98.0	80	120
Magnesium	08/11/2021 15:01	500000	505000	101	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

ICP ID Number: TJA 6000

SDG No.: 163670

ICS Source: SPEX, Ultra

Analytical Run #: 194304

Lab Sample ID: 1037571

Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	08/11/2021 15:01	500000	480000	96.0	80	120
Calcium	08/11/2021 15:01	500000	497000	99.4	80	120
Iron	08/11/2021 15:01	500000	436000	87.2	80	120
Lead	08/11/2021 15:01	500.0	490.0	98.0	80	120
Magnesium	08/11/2021 15:01	500000	505000	101	80	120

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

C-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL
Matrix:	SOLID	SDG No.:	163670
% Solids for Sample:	94.4	Concentration Units:	mg/kg
Sample No	1034931	Parent Sample No.:	1034762
Analytical Prep Batch #	82041	Analytical Preparation Date/Time:	08/09/2021 10:46
Analytical Run #:	194303	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 08/11/2021 Analysis Time: -------- 18:43

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Lead	81-112	25.6		7.2		25.6	71.9		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

A-11-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL
Matrix:	SOLID	SDG No.:	163670
% Solids for Sample:	86.4	Concentration Units:	mg/kg
Sample No	1034938	Parent Sample No.:	1034767
Analytical Prep Batch #	82042	Analytical Preparation Date/Time:	08/09/2021 10:46
Analytical Run #:	194304	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 08/11/2021 Analysis Time: -------- 20:36

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Lead	81-112	26900		3600		25.6	91000		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

C-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL
Matrix:	SOLID	SDG No.:	163670
% Solids for Sample:	94.4	Concentration Units:	ug/L
Sample No	1037557	Parent Sample No.:	1034762
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	194303	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 08/11/2021 Analysis Time: -------- 18:57

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Lead	80-120	1100		282		1000	81.8		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

A-11-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL
Matrix:	SOLID	SDG No.:	163670
% Solids for Sample:	86.4	Concentration Units:	ug/L
Sample No	1037579	Parent Sample No.:	1034767
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	194304	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	08/11/2021	Analysis Time: --------	20:50

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Lead	80-120	126000		9380		1000	11700		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

C-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL
Matrix:	SOLID	SDG No.:	163670
% Solids for Sample:	94.4	Concentration Units:	mg/kg
Sample No	1034932	Parent Sample No.:	1034931
Analytical Prep Batch #	82041	Analytical Preparation Date/Time:	08/09/2021 10:46
Analytical Run #:	194303	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	08/11/2021	Analysis Time: --------	18:50

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Lead	81-112	24.4		7.2		25.6	67.2		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

A-11-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL
Matrix:	SOLID	SDG No.:	163670
% Solids for Sample:	86.4	Concentration Units:	mg/kg
Sample No	1034939	Parent Sample No.:	1034938
Analytical Prep Batch #	82042	Analytical Preparation Date/Time:	08/09/2021 10:46
Analytical Run #:	194304	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	08/11/2021	Analysis Time: --------	20:43

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Lead	81-112	27100		3600		25.8	91100		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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6

DUPLICATES

Sample Description

C-4-06

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

Matrix: SOLID

SDG No.: 163670

% Solid for Sample: 94.4

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 82041

Analytical Run #: 194303

ICAL Calibration #:

Sample #: 1034930

Parent Sample #: 1034762

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Lead	08/11/2021	18:35	20	7.2		5.03		35.5		P	*FAIL*

CT LABORATORIES
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6

DUPLICATES

Sample Description

A-11-06-FD

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

Matrix: SOLID

SDG No.: 163670

% Solid for Sample: 86.4

Concentration Units: mg/kg

Analytical Prep Batch # 1

Analytical Preparation Date/Time 82042

Analytical Run #: 194304

ICAL Calibration #:

Sample #: 1034937

Parent Sample #: 1034767

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Lead	08/11/2021	20:28	20	3600		2920		20.9		P	*FAIL*

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **C-4-06**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL
Matrix: SOLID
SDG No.: 163670
% Solid for Sample: 94.4
Concentration Units: mg/kg

Analytical Prep Batch #: 82041
Analytical Preparation Date/Time: 08/09/2021 10:46
Analytical Run #: 194303
ICAL Calibration #:
Sample #: 1034932
Parent Sample #: 1034931

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Lead	08/11/2021 18:50	20	25.6		24.4		4.51		P

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description

A-11-06-FD

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

Matrix: SOLID

SDG No.: 163670

% Solid for Sample: 86.4

Concentration Units: mg/kg

Analytical Prep Batch #: 82042

Analytical Preparation Date/Time: 08/09/2021 10:46

Analytical Run #: 194304

ICAL Calibration #:

Sample #: 1034939

Parent Sample #: 1034938

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Lead	08/11/2021 20:43	20	26900		27100		0		P

CT LABORATORIES
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7-2

Sample No:

LABORATORY CONTROL SAMPLE - SOLID

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

LCS Source: SPEX and Ultra SDG No.: 163670

Concentration Units: mg/kg

Analytical Run #: 194303 Sample No.:#: 1034934

Analytical Prep Batch #: 82041 Preparation Date/Time: 08/09/2021 10:46

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Lead	08/11/2021 15:24	81-112	23.3		25.0	93.2		P

CT LABORATORIES
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7-2

Sample No:

LABORATORY CONTROL SAMPLE - SOLID

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

LCS Source: SPEX and Ultra SDG No.: 163670

Concentration Units: mg/kg

Analytical Run #: 194304 Sample No.:#: 1034936

Analytical Prep Batch #: 82042 Preparation Date/Time: 08/09/2021 10:46

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Lead	08/11/2021 19:36	81-112	23.8		25.0	95.2		P

CT LABORATORIES
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9

ICP SERIAL DILUTION

Sample Description

C-4-06

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

Matrix: SOLID SDG No.: 163670

Concentration Units: ug/L

Sample No.: 1038266 Parent Sample No.: 1034762

LIMS Run #: 194303 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Lead	08/11/2021 18:06	282		315		11.7		P	*INVALID*

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	2	Fe	0.000006	0.000000	No
			Ce	0.000000	0.000000	No
Ag 338.289 {100}	☒	1	Fe	0.000906	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	1	Al	0.001713	0.000000	No
As 197.262 {471}	☒	1	Al	-0.000113	0.000000	No
Ba 233.527 {445}	☒	3	Fe	-0.000038	0.000000	No
			V	0.000180	0.000000	No
			Al	0.000000	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000029	0.000000	No
Be 313.042 {108}	☒	1	Fe	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000016	0.000000	No
Ca 315.887 {107}	☒	None				
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	2	Fe	0.000090	0.000000	No
			Al	0.000000	0.000000	No
Cd 228.802 {147}	☒	None				
Co 228.616 {447}	☒	5	Fe	0.000009	0.000000	No
			Ti	0.003000	0.000000	No
			Ba	-0.001300	0.000000	No
			Ni	0.000040	0.000000	No
			Al	0.000001	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000188	0.000000	No
Cr 205.560 {464}	☒	1	Fe	-0.000004	0.000000	No
Cr 267.716 {126}	☒	1	Fe	-0.000014	0.000000	No
Cu 224.700 {450}	☒	5	Fe	0.000274	0.000000	No
			Mo	0.001320	0.000000	No
			Ni	-0.006000	0.000000	No
			Pb	0.003030	0.000000	No
			Al	0.000000	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000136	0.000000	No
Cu 327.396 {103}	☒	1	Fe	0.000069	0.000000	No
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	-0.000086	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Mn 259.373 {130}	☒	1	Mg	0.001339	0.000000	No
Mo 202.030 {466}	☒	1	Fe	-0.000011	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000020	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000036	0.000000	No
Ni 221.647 {452}	☒	1	Ca	0.000021	0.000000	No
Ni 231.604 {445}	☒	3	Fe	0.000012	0.000000	No
			Co	0.000000	0.000000	No
			Mo	0.000000	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.001241	0.000000	No
			Na	0.000000	0.000000	No
Pb 220.353 {453}	☒	3	Si	0.000000	0.000000	No
			Al	0.000001	0.000000	No
			Fe	0.000018	0.000000	No
Pb 220.353 {153}	☒	1	Al	-0.000040	0.000000	No
Sb 206.833 {463}	☒	1	Fe	0.000009	0.000000	No
Sb 217.581 {455}	☒	3	Fe	-0.000069	0.000000	No
			V	0.002070	0.000000	No
			Pb	-0.001040	0.000000	No
Se 196.090 {472}	☒	1	Fe	-0.000360	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.001308	0.000000	No
Tl 190.856 {476}	☒	5	Fe	0.000024	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	0.000050	0.000000	No
			Cr	0.000251	0.000000	No
			V	-0.003800	0.000000	No
Tl 190.856 {477}	☒	1	Fe	-0.000048	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000073	0.000000	No
V 292.402 {115}	☒	3	Fe	0.000020	0.000000	No
			Cr	-0.000400	0.000000	No
			Al	0.000000	0.000000	No
Zn 202.548 {466}	☒	1	Fe	-0.000239	0.000000	No
Zn 206.200 {463}	☒	1	Fe	-0.000003	0.000000	No
Zn 213.856 {457}	☒	2	Fe	0.000167	0.000000	No
			Cu	0.007413	0.000000	No
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000106	0.000000	No
Si 251.611 {134}	☒	2	Fe	-0.000105	0.000000	No
			Mo	0.005400	0.000000	No
Ti 323.452 {104}	☒	1	Fe	0.000036	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000052	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000014	0.000000	No
Sr 421.552 { 80}	☒	1	Fe	0.000014	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Sn 189.989 {477}	☒	1	Fe	0.000013	0.000000	No
B 249.678 {135}	☒	2	Fe	0.000001	0.000000	No
			Co	0.003970	0.000000	No
B 249.773 {135}	☒	1	Fe	0.000357	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000011	0.000000	No
K 766.490 { 44}	☒	1	Fe	0.000216	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000079	0.000000	No
S 182.034 {485}	☒	1	Mg	0.000100	0.000000	No
Hg 184.950 {482}	☒	1	Fe	0.000001	0.000000	No
Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-54

ICP ID Number: TA SDG No.: 163429

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

CT LABORATORIES
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PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

Method: EPA 3050B

SDG No.: 163670

Preparation Batch #: 82041

Preparation Date/Time: 08/09/2021 / 10:46

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
1034747	Normal Sample	J-1-06	SOIL	2.01
1034748	Normal Sample	J-5-06	SOIL	1.99
1034749	Normal Sample	J-9-06	SOIL	1.99
1034750	Normal Sample	H-2-06	SOIL	1.98
1034751	Normal Sample	F-11-06	SOIL	1.97
1034752	Normal Sample	F-1-06	SOIL	1.98
1034753	Normal Sample	G-3-06	SOIL	1.98
1034754	Normal Sample	G-5-06	SOIL	2.03
1034755	Normal Sample	H-8-06	SOIL	2.00
1034756	Normal Sample	I-1-06	SOIL	1.96
1034757	Normal Sample	I-3-06	SOIL	2.04
1034758	Normal Sample	I-10-06	SOIL	1.95
1034759	Normal Sample	B-8-06	SOIL	1.96
1034760	Normal Sample	B-4-06	SOIL	2.05
1034761	Normal Sample	D-3-06	SOIL	1.95
1034762	Normal Sample	C-4-06	SOIL	1.95
1034763	Normal Sample	A-11-06	SOIL	1.94
1034764	Normal Sample	A-11-612	SOIL	2.02
1034765	Normal Sample	F-1-06-FD	SOIL	1.96
1034766	Normal Sample	I-10-06-FD	SOIL	1.96
1034930	Lab Duplicate	C-4-06	SOIL	1.96
1034931	Matrix Spike	C-4-06	SOIL	1.95
1034932	Matrix Spike Duplicate	C-4-06	SOIL	1.95
1034933	Method Blank		SOLID	2.00
1034934	Lab Control Spike		SOLID	2.00

CT LABORATORIES
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PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLI

Method: EPA 3050B

SDG No.: 163670

Preparation Batch #: 82042

Preparation Date/Time: 08/09/2021 / 10:46

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
1034767	Normal Sample	A-11-06-FD	SOIL	1.95
1034768	Normal Sample	E-10-06	SOIL	1.96
1034769	Normal Sample	A-11-1224	SOIL	1.96
1034770	Normal Sample	A-12-06	SOIL	1.92
1034771	Normal Sample	AA-12-06	SOIL	2.01
1034772	Normal Sample	C-10-06	SOIL	1.95
1034935	Method Blank		SOLID	2.00
1034936	Lab Control Spike		SOLID	2.00
1034937	Lab Duplicate	A-11-06-FD	SOIL	1.95
1034938	Matrix Spike	A-11-06-FD	SOIL	1.95
1034939	Matrix Spike Duplicate	A-11-06-FD	SOIL	1.94

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLING

Lab Code: CTL

SDG No.: 163670

Instrument ID Number: TJA

Method Number: P

Start & End Date: 08/11/2021 to 08/12/2021

Analytical Run #: 194303

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
1037541	ICV	1	8/11 14:07													X																
1037542	ICVLL	1	8/11 14:22													X																
1037543	ICB	1	8/11 14:30													X																
1037544	ICSA	1	8/11 14:53	X							X				X	X	X															
1037545	ICSAB	1	8/11 15:01	X							X				X	X	X															
1034934	LCSS	1	8/11 15:24													X																
1034933	MBS	1	8/11 15:31													X																
1034747	Initial	1	8/11 15:39													X																
1034748	Initial	1	8/11 15:47													X																
1034749	Initial	1	8/11 15:55													X																
1034750	Initial	1	8/11 16:02													X																
1034751	Initial	1	8/11 16:10													X																
1034752	Initial	1	8/11 16:18													X																
1034753	Initial	1	8/11 16:26													X																
1037548	CCV1	1	8/11 16:34													X																
1037549	CCV2	1	8/11 16:40													X																
1037553	CCB	1	8/11 16:47													X																
1034754	Initial	1	8/11 16:55													X																
1034755	Initial	1	8/11 17:03													X																
1034756	Initial	1	8/11 17:11													X																
1034757	Initial	1	8/11 17:19													X																
1034758	Initial	1	8/11 17:27													X																
1034759	Initial	1	8/11 17:34													X																
1034760	Initial	1	8/11 17:43													X																
1034761	Initial	1	8/11 17:51													X																
1034762	Initial	1	8/11 17:58													X																
1038266	L	5	8/11 18:06													X																
1037554	CCV1	1	8/11 18:13													X																
1037555	CCV2	1	8/11 18:20													X																

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLING

Lab Code: CTL

SDG No.: 163670

Instrument ID Number: TJA

Method Number: P

Start & End Date: 08/11/2021 to 08/12/2021

Analytical Run #: 194303

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
1037556	CCB	1	8/11 18:27													X																
1034930	DUP	1	8/11 18:35													X																
1034931	MSS	1	8/11 18:43													X																
1034932	MSDS	1	8/11 18:50													X																
1037557	PDSS	1	8/11 18:57													X																
1034764	Initial	1	8/11 19:12													X																
1034765	Initial	1	8/11 19:20													X																
1034766	Initial	1	8/11 19:28													X																
1037558	CCV1	1	8/11 19:51													X																
1037559	CCV2	1	8/11 19:58													X																
1037560	CCB	1	8/11 20:05													X																
1037561	CCV1	1	8/12 12:18													X																
1037562	CCV2	1	8/12 12:24													X																
1037563	CCB	1	8/12 12:32													X																
1034763	Initial	15	8/12 13:02													X																
1037564	CCV1	1	8/12 13:25													X																
1037565	CCV2	1	8/12 13:31													X																
1037566	CCB	1	8/12 13:38													X																

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLING

Lab Code: CTL

SDG No.: 163670

Instrument ID Number: TJA

Method Number: P

Start & End Date: 08/11/2021 to 08/12/2021

Analytical Run #: 194304

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
1037567	ICV	1	8/11 14:07													X																
1037568	ICVLL	1	8/11 14:22													X																
1037569	ICB	1	8/11 14:30													X																
1037570	ICSA	1	8/11 14:53	X							X				X	X	X															
1037571	ICSAB	1	8/11 15:01	X							X				X	X	X															
1037573	CCV1	1	8/11 18:13													X																
1037574	CCV2	1	8/11 18:20													X																
1037575	CCB	1	8/11 18:27													X																
1034936	LCSS	1	8/11 19:36													X																
1034935	MBS	1	8/11 19:43													X																
1037576	CCV1	1	8/11 19:51													X																
1037577	CCV2	1	8/11 19:58													X																
1037578	CCB	1	8/11 20:05													X																
1034937	DUP	1	8/11 20:28													X																
1034938	MSS	1	8/11 20:36													X																
1034939	MSDS	1	8/11 20:43													X																
1037579	PDSS	1	8/11 20:50													X																
1034768	Initial	1	8/11 20:58													X																
1034769	Initial	1	8/11 21:06													X																
1034770	Initial	1	8/11 21:13													X																
1034771	Initial	1	8/11 21:21													X																
1037888	CCV1	1	8/11 21:29													X																
1037889	CCV2	1	8/11 21:36													X																
1037890	CCB	1	8/11 21:43													X																
1034772	Initial	1	8/11 21:51													X																
1037580	CCV1	1	8/11 23:05													X																
1037581	CCV2	1	8/11 23:12													X																
1037585	CCB	1	8/11 23:19													X																

CT LABORATORIES
delivering more than data from your environmental analyses

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPLING

Lab Code: CTL

SDG No.: 163670

Instrument ID Number: TJA

Method Number: P

Start & End Date: 08/11/2021 to 08/12/2021

Analytical Run #: 194304

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
1037586	CCV1	1	8/12 12:18													X																
1037587	CCV2	1	8/12 12:24													X																
1037588	CCB	1	8/12 12:32													X																
1034767	Initial	15	8/12 13:10													X																
1037589	CCV1	1	8/12 13:25													X																
1037590	CCV2	1	8/12 13:31													X																
1037591	CCB	1	8/12 13:38													X																

METALS
RAW DATA
DOCUMENTS

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Ag 328.068 {103}	08/16/2021 10:36:50	08/11/2021 13:03:19	Linear	1/Conc	5.709427	2.723921	0.000000	1.000000	0.998865	0.038362	0.728933	2.429776
Ag 338.289 {100}	08/16/2021 10:36:50	08/11/2021 13:59:29	Linear	1/Var	-0.207469	0.493802	0.000000	1.000000	0.999540	1.877046	4.515779	15.052598
Al 167.079 {501}	08/16/2021 10:36:50	08/11/2021 13:10:21	Linear	1/Conc	0.000009	0.000003	0.000000	1.000000	0.999323	0.000000	0.565304	1.884347
Al 308.215 {109}	08/16/2021 10:36:50	08/11/2021 13:34:16	Linear	1/Var	0.000073	0.000000	0.000000	1.000000	0.999917	0.000005	21.754956	72.516519
Al 396.152 { 85}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Var	0.000022	0.000002	0.000000	1.000000	0.999803	0.000044	6.858755	22.862517
As 193.759 {474}	08/16/2021 10:36:50	08/11/2021 13:10:22	Linear	1/Conc	0.000006	0.000001	0.000000	1.000000	0.999987	0.000000	4.621253	15.404176
As 197.262 {471}	08/16/2021 10:36:50	08/11/2021 13:18:22	Linear	1/Var	-0.000001	0.000001	0.000000	1.000000	0.999975	0.000006	5.853260	19.510866
Ba 233.527 {445}	08/16/2021 10:36:50	08/11/2021 13:10:22	Linear	1/Conc	0.000001	0.000007	0.000000	1.000000	0.999865	0.000000	0.413851	1.379502
Ba 455.403 { 74}	08/16/2021 10:36:50	08/11/2021 13:18:23	Linear	1/Conc	0.000083	0.000044	0.000000	1.000000	0.999833	0.000003	0.213986	0.713288
Ba 493.409 { 68}	08/16/2021 10:36:50	08/11/2021 13:59:30	Linear	1/Var	0.008363	0.000037	0.000000	1.000000	0.998567	0.000392	0.714270	2.380901
Be 313.042 {108}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Conc	0.000082	0.000062	0.000000	1.000000	0.999983	0.000000	0.020323	0.067744
Be 313.107 {108}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Conc	-0.000001	0.000026	0.000000	1.000000	0.999992	0.000000	0.159809	0.532697
Be 234.861 {144}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Var	-0.000000	0.000004	0.000000	1.000000	0.999999	0.000000	0.424555	1.415183
Ca 315.887 {107}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Conc	18.839166	0.112643	-0.000000	1.000000	0.999985	0.928129	7.589793	25.299308
Ca 317.933 {106}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	None	0.004243	0.000001	0.000000	1.000000	1.000000	0.000282	3.211035	10.703449
Ca 393.366 { 86}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Conc	0.001471	0.000208	0.000000	1.000000	0.999898	0.000054	0.039229	0.130762
Ca 396.847 { 85}	08/16/2021 10:36:50	08/11/2021 13:18:23	Linear	1/Conc	0.000636	0.000092	0.000000	1.000000	0.999870	0.000070	0.084741	0.282471
Cd 226.502 {449}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Conc	-0.000001	0.000022	0.000000	1.000000	0.999944	0.000000	0.203184	0.677280
Cd 228.802 {447}	08/16/2021 10:36:50	08/11/2021 13:10:24	Linear	1/Conc	0.000027	0.000041	0.000000	1.000000	0.999910	0.000000	0.156987	0.523291
Co 228.616 {447}	08/16/2021 10:36:50	08/11/2021 13:18:23	Linear	1/Var	0.000023	0.000021	0.000000	1.000000	0.999724	0.000066	0.278157	0.927191
Co 238.892 {141}	08/16/2021 10:36:50	08/11/2021 13:18:23	Linear	1/Conc	0.000001	0.000002	0.000000	1.000000	0.999903	0.000001	0.480844	1.602813
Cr 205.560 {464}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000003	0.000011	0.000000	1.000000	0.999998	0.000010	0.313407	1.044691
Cr 267.716 {126}	08/16/2021 10:36:50	08/11/2021 13:18:24	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999411	0.000000	1.384372	4.614575
Cu 223.008 {451}	08/16/2021 10:36:50	08/11/2021 13:18:24	Linear	1/Conc	0.000007	0.000006	0.000000	1.000000	0.999875	0.000000	0.995206	3.317355
Cu 224.700 {450}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	None	-0.000815	0.000007	0.000000	1.000000	0.999985	0.001595	0.454207	1.514024
Cu 324.754 {104}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000288	0.000002	0.000000	1.000000	0.999371	0.000014	2.749329	9.164431
Cu 327.396 {103}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000016	0.000002	0.000000	1.000000	0.999476	0.000017	4.134467	13.781557
Fe 234.349 {144}	08/16/2021 10:36:50	08/11/2021 13:34:17	Curvili	1/Var	0.000021	0.000001	0.000000	1.000000	0.999891	0.000002	0.815246	2.717486
Fe 239.562 {140}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Conc	0.000006	0.000001	0.000000	1.000000	0.999976	0.000009	2.770447	9.234824
Fe 259.940 {129}	08/16/2021 10:36:50	08/11/2021 13:42:34	Curvili	1/Var	0.000005	0.000001	0.000000	1.000000	0.999766	0.000026	2.080521	6.935070
Mg 202.582 {466}	08/16/2021 10:36:50	08/11/2021 13:51:25	Full Fit	1/Conc	-0.000001	0.000000	0.000000	0.980000	0.999816	0.000005	3.045014	10.150048
Mg 279.079 {121}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Var	-0.000001	0.000000	0.000000	1.000000	0.999830	0.000002	26.466992	88.223305
Mg 280.270 {120}	08/16/2021 10:36:50	08/11/2021 13:18:25	Linear	1/Conc	0.000165	0.000038	0.000000	1.000000	0.999691	0.000017	0.019032	0.063439
Mn 257.610 {131}	08/16/2021 10:36:50	08/11/2021 13:18:25	Linear	1/Var	0.000001	0.000009	0.000000	1.000000	0.998729	0.000005	0.064320	0.214400
Mn 259.373 {130}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000004	0.000008	0.000000	1.000000	0.999481	0.000023	0.379608	1.265361
Mo 202.030 {466}	08/16/2021 10:36:50	08/11/2021 13:18:25	Linear	1/Conc	0.000000	0.000006	0.000000	1.000000	0.999877	0.000000	0.518455	1.728182
Mo 202.030 {467}	08/16/2021 10:36:50	08/11/2021 13:18:25	Linear	None	0.000056	0.000006	0.000000	1.000000	0.999987	0.000118	0.529483	1.764942
Mo 204.598 {464}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Var	0.000012	0.000004	0.000000	1.000000	0.999973	0.000044	0.961098	3.203660
Ni 221.647 {452}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Var	0.000025	0.000011	0.000000	1.000000	0.999650	0.000167	0.550842	1.836139
Ni 231.604 {445}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Var	-0.000003	0.000014	0.000000	1.000000	0.999521	0.000056	0.457149	1.523829
Pb 216.999 {455}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000010	0.000001	0.000000	1.000000	0.999455	0.000061	5.146598	17.155327
Pb 216.999 {456}	08/16/2021 10:36:50	08/11/2021 13:26:28	Linear	1/Var	-0.000000	0.000000	0.000000	1.000000	0.999700	0.000012	16.695912	55.653040
Pb 220.353 {153}	08/16/2021 10:36:50	08/11/2021 13:26:28	Linear	1/Var	0.000014	0.000002	0.000000	1.000000	0.999626	0.000049	2.618960	8.729867
Pb 220.353 {453}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Conc	0.000011	0.000002	0.000000	1.000000	0.999833	0.000000	2.656070	8.853566

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Ag 338.289 {100}	OK.	1.000000	0.000000	1	0
	Al 167.079 {501}	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 197.262 {471}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 313.107 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 223.008 {451}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	OK.	1.000000	0.000000	1	0
	Mg 202.582 {466}	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {456}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Sb 206.833 {463}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Var	-0.000002	0.000001	0.000000	1.000000	0.999830	0.000008	3.331493	11.104976
	Sb 217.581 {455}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Var	0.000011	0.000001	0.000000	1.000000	0.999930	0.000015	3.337414	11.124713
	Se 196.090 {472}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Conc	0.000002	0.000001	0.000000	1.000000	0.999932	0.000000	3.681526	12.271754
	Se 203.985 {465}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Var	0.000005	0.000000	0.000000	1.000000	0.999865	0.000005	14.175632	47.252108
	Se 206.279 {463}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999775	0.000000	27.153578	90.511926
	Tl 190.856 {476}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Conc	0.000009	0.000002	0.000000	1.000000	0.999719	0.000000	2.058201	6.860669
	Tl 190.856 {477}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Var	0.000008	0.000001	0.000000	1.000000	0.999750	0.000020	3.309263	11.030878
	V 290.882 {116}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	None	0.000055	0.000002	0.000000	1.000000	0.999987	0.000056	2.626855	8.756183
	V 292.402 {115}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Conc	-0.000007	0.000006	0.000000	1.000000	0.999941	0.000001	0.396816	1.322721
	Zn 206.200 {463}	08/16/2021 10:36:50	08/11/2021 13:26:28	Curvili	1/Conc	0.000072	0.000019	-0.000000	1.000000	0.999984	0.000005	0.225356	0.751187
	Zn 213.856 {457}	08/16/2021 10:36:50	08/11/2021 13:18:28	Linear	1/Conc	0.000135	0.000033	0.000000	1.000000	0.999725	0.000004	0.134818	0.449394
	Y 224.306 {450}*	08/16/2021 10:36:50	08/11/2021 12:05:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 324.228 {104}*	08/16/2021 10:36:50	08/11/2021 12:05:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 371.030 { 91}*	08/16/2021 10:36:50	08/11/2021 12:05:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Na 588.995 { 57}	08/16/2021 10:36:50	08/11/2021 13:34:18	Linear	1/Var	-0.000304	0.006325	0.000000	1.000000	0.998953	0.000266	0.005678	0.018927
	Na 589.592 { 57}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Var	0.000993	0.002361	-0.000000	1.000000	0.998657	0.000225	0.008235	0.027450
	Si 251.611 {134}	08/16/2021 10:36:50	08/11/2021 13:51:26	Curvili	1/Var	0.000009	0.000001	0.000000	1.000000	0.999998	0.000002	4.932484	16.441612
	Ti 323.452 {104}	08/16/2021 10:36:50	08/11/2021 13:18:28	Linear	1/Conc	0.000199	0.000007	0.000000	1.000000	0.999838	0.000001	0.967604	3.225345
	Ti 334.941 {101}	08/16/2021 10:36:50	08/11/2021 13:18:28	Linear	1/Conc	0.000001	0.000005	0.000000	1.000000	0.999842	0.000001	0.908449	3.028163
	Sr 407.771 { 83}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	0.000028	0.000090	0.000000	1.000000	0.999788	0.000007	0.112792	0.375974
	Sr 421.552 { 80}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	-0.000010	0.000084	0.000000	1.000000	0.999851	0.000006	0.112623	0.375411
	Sn 189.989 {477}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	0.000004	0.000004	0.000000	1.000000	0.999881	0.000001	0.879230	2.930767
	B 249.678 {135}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	0.000005	0.000001	0.000000	1.000000	0.999952	0.000000	0.840939	2.803129
	B 249.773 {135}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Var	0.000025	0.000001	0.000000	1.000000	0.910601	0.000019	0.856874	2.856248
	Li 670.784 { 50}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	-0.000073	0.000023	0.000000	1.000000	0.999984	0.000002	0.979771	3.265904
	K 766.490 { 44}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Var	0.000058	0.000764	0.000000	1.000000	0.999451	0.000100	0.028031	0.093436
	K 769.896 { 44}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Conc	25.549601	81.720077	0.000000	1.000000	0.999926	1.349405	0.066798	0.222661
	P 177.495 {489}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Conc	-0.000668	0.000000	0.000000	1.000000	0.332328	0.000307	57.429153	191.43051
	P 213.618 {457}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Conc	-0.000010	0.000000	0.000000	1.000000	0.330080	0.000513	41.825823	139.41941
	S 182.034 {485}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Var	0.000019	0.000001	0.000000	1.000000	0.999151	0.000435	4.034727	13.449090
	Hg 184.950 {482}	08/16/2021 10:36:50	08/11/2021 13:10:31	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000000	0.883147	2.943824
	Hg 194.227 {473}	08/16/2021 10:36:50	08/11/2021 13:10:31	Linear	1/Conc	-0.000001	0.000004	0.000000	1.000000	0.999999	0.000000	0.800766	2.669221
	Ce 404.076 { 83}	08/16/2021 10:36:50	08/11/2021 13:10:31	Linear	1/Conc	0.000036	0.000001	0.000000	1.000000	1.000000	0.000000	17.820447	59.401491

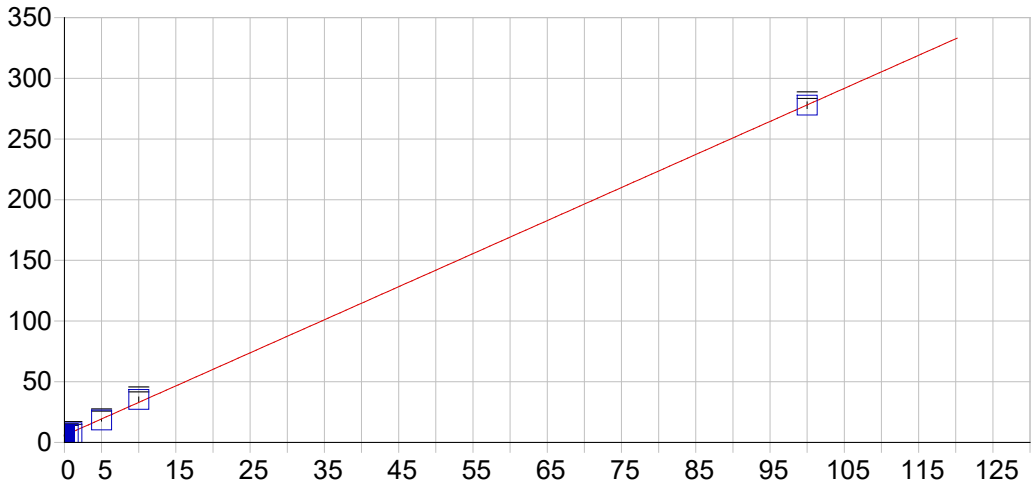
	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0
	Sb 217.581 {455}	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	OK.	1.000000	0.000000	1	0
	Se 203.985 {465}	OK.	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {457}	OK.	1.000000	0.000000	1	0
	Y 224.306 {450}*	Warnin	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 323.452 {104}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sr 421.552 { 80}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	P 177.495 {489}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Hg 194.227 {473}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	1	Ce	-0.005396	0.000000	No
Ag 338.289 {100}	☒	2	Fe	-0.000007	0.000000	No
			Ce	-0.007955	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	4	Al	0.001408	0.000000	No
			Mn	-0.000003	0.000000	No
			Ni	-0.000722	0.000000	No
			Cr	0.000734	0.000000	No
As 197.262 {471}	☒	1	Al	0.000112	0.000000	No
Ba 233.527 {445}	☒	2	Fe	0.000004	0.000000	No
			Cu	0.000233	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000009	0.000000	No
Be 313.042 {108}	☒	3	Fe	0.000002	0.000000	No
			Ni	0.000000	0.000000	No
			Ti	-0.001998	0.000000	No
Be 313.107 {108}	☒	1	Fe	0.000003	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000013	0.000000	No
Ca 315.887 {107}	☒	1	Fe	0.000000	0.000000	No
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Ce	0.001430	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	1	Fe	0.000138	0.000000	No
Cd 228.802 {447}	☒	1	Fe	-0.000005	0.000000	No
Co 228.616 {447}	☒	4	Fe	-0.000023	0.000000	No
			Ba	-0.001175	0.000000	No
			Ti	0.002165	0.000000	No
			Ce	-0.000069	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000226	0.000000	No
Cr 205.560 {464}	☒	1	Fe	0.000000	0.000000	No
Cr 267.716 {126}	☒	4	Fe	0.000005	0.000000	No
			Mn	0.000157	0.000000	No
			Ti	0.000100	0.000000	No
			V	-0.000002	0.000000	No
Cu 223.008 {451}	☒	3	Fe	0.000000	0.000000	No
			Mo	0.008000	0.000000	No
			Ce	-0.000729	0.000000	No
Cu 224.700 {450}	☒	2	Fe	0.003134	0.000000	No
			Ni	-0.007040	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000081	0.000000	No
Cu 327.396 {103}	☒	2	Fe	-0.000009	0.000000	No
			Mo	-0.000319	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	3	Al	-0.000002	0.000000	No
			K	0.000100	0.000000	No
			Ce	-0.000166	0.000000	No
Mn 259.373 {130}	☒	1	Mg	0.001001	0.000000	No
Mo 202.030 {466}	☒	2	Fe	-0.000013	0.000000	No
			Ti	0.000527	0.000000	No
Mo 202.030 {467}	☒	1	Fe	-0.000009	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000030	0.000000	No
Ni 221.647 {452}	☒	2	Ca	-0.000003	0.000000	No
			Mg	-0.000003	0.000000	No
Ni 231.604 {445}	☒	6	Fe	-0.000059	0.000000	No
			Co	-0.000134	0.000000	No
			Mo	0.000840	0.000000	No
			Al	0.000003	0.000000	No
			Mn	0.000019	0.000000	No
			Be	-0.001918	0.000000	No
Pb 216.999 {455}	☒	3	Al	0.001866	0.000000	No
			Na	0.000000	0.000000	No
			Fe	0.002996	0.000000	No
Pb 216.999 {456}	☒	1	Al	0.003022	0.000000	No
Pb 220.353 {153}	☒	1	Fe	-0.000011	0.000000	No
Pb 220.353 {453}	☒	7	Si	0.000000	0.000000	No
			Al	-0.000019	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	-0.001644	0.000000	No
			V	-0.000018	0.000000	No
			Cu	-0.000444	0.000000	No
			Co	0.002100	0.000000	No
Sb 206.833 {463}	☒	3	Fe	-0.000097	0.000000	No
			Cr	0.000000	0.000000	No
			Ce	0.005500	0.000000	No
Sb 217.581 {455}	☒	2	Fe	-0.000035	0.000000	No
			Ni	0.000133	0.000000	No
Se 196.090 {472}	☒	2	Fe	-0.000041	0.000000	No
			Ce	0.000369	0.000000	No
Se 203.985 {465}	☒	1	Fe	-0.000160	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.000965	0.000000	No
Tl 190.856 {476}	☒	8	Fe	-0.000174	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Be	-0.000013	0.000000	No
			Ti	0.000000	0.000000	No
			Mn	0.000000	0.000000	No
			Ni	0.000000	0.000000	No
			Co	0.002495	0.000000	No
			Cr	0.000220	0.000000	No
			Cu	0.001535	0.000000	No
Tl 190.856 {477}	☒	3	Fe	-0.000026	0.000000	No
			Cr	0.000000	0.000000	No
			Ce	0.000980	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000207	0.000000	No
V 292.402 {115}	☒	6	Fe	0.000045	0.000000	No
			Cr	-0.000051	0.000000	No
			Al	0.000000	0.000000	No
			Ti	0.000420	0.000000	No
			Mo	-0.000481	0.000000	No
			Cu	-0.003767	0.000000	No
Zn 206.200 {463}	☒	1	Fe	0.000032	0.000000	No
Zn 213.856 {457}	☒	5	Fe	0.000129	0.000000	No
			Mn	0.000094	0.000000	No
			Ni	0.004500	0.000000	No
			Ti	-0.000307	0.000000	No
			Mo	0.000034	0.000000	No
Y 224.306 {450}*	☒	None				
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	-0.000000	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000000	0.000000	No
Si 251.611 {134}	☒	1	Fe	0.000007	0.000000	No
Ti 323.452 {104}	☒	2	Fe	0.000029	0.000000	No
			Ce	0.000123	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000106	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000015	0.000000	No
Sr 421.552 { 80}	☒	1	Ca	0.000013	0.000000	No
Sn 189.989 {477}	☒	1	Fe	0.000017	0.000000	No
B 249.678 {135}	☒	1	Fe	-0.000054	0.000000	No
B 249.773 {135}	☒	1	Fe	0.000487	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000016	0.000000	No
K 766.490 { 44}	☒	2	Fe	0.000000	0.000000	No
			Cu	0.000000	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000001	0.000000	No
P 177.495 {489}	☒	None				
P 213.618 {457}	☒	1	Fe	-0.000069	0.000000	No
S 182.034 {485}	☒	2	Mn	0.002145	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Fe	-0.000035	0.000000	No
	Hg 184.950 {482}	☒	1	Fe	-0.000000	0.000000	No
	Hg 194.227 {473}	☒	None				
	Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

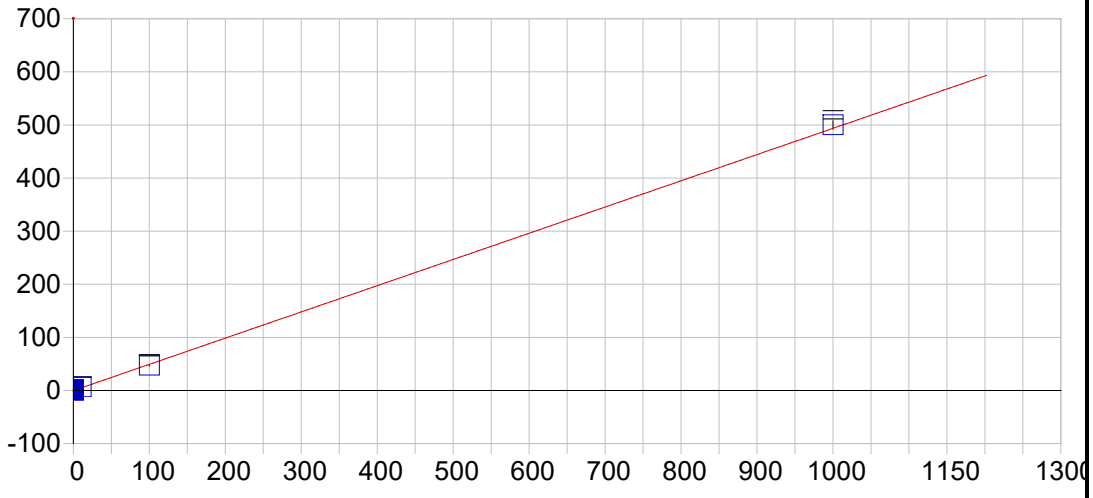


Ag 328.068 {103}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	5.709427	Re-Slope:	1.000000
A1 (Gain):	2.723921	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998865	Status:	OK.
Std Error of Est:	0.038362		
Predicted MDL:	0.728933		
Predicted MQL:	2.429776		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00034	.000	.000	5.7103	.646	1
CalStd8=100	100.00	99.894	-.106	-.106	277.81	2.71	1
CalStd3=1	1.0000	.77893	-.221	-22.1	7.8312	1.09	1
CalStd4=5	5.0000	4.6752	-.325	-6.50	18.444	.852	1
CalStd5=10	10.000	10.892	.892	8.92	35.378	2.03	1
CalStd2=0.5	.50000	.26014	-.240	-48.0	6.4180	.703	1

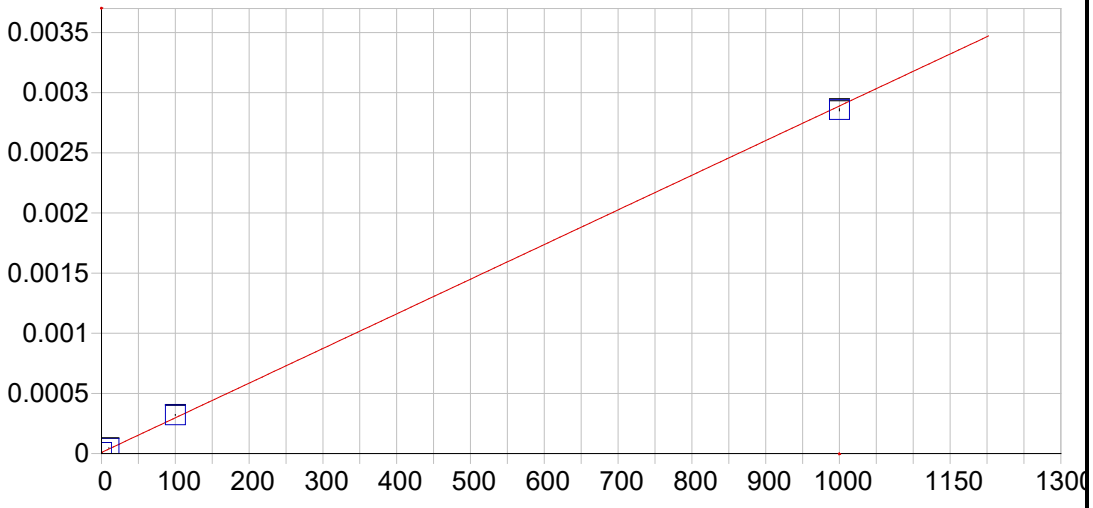


Ag 338.289 {100}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.207469	Re-Slope:	1.000000
A1 (Gain):	0.493802	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999540	Status:	OK.
Std Error of Est:	1.877046		
Predicted MDL:	4.515779		
Predicted MQL:	15.052598		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.33550	.335	.000	-.04180	.834	1
CalStd8=100	100.00	96.232	-3.77	-3.77	47.312	1.25	1
Ag Ba 1000,	1000.0	1013.6	13.6	1.36	500.29	7.80	1
CalStd5=10	10.000	13.662	3.66	36.6	6.5389	1.47	1

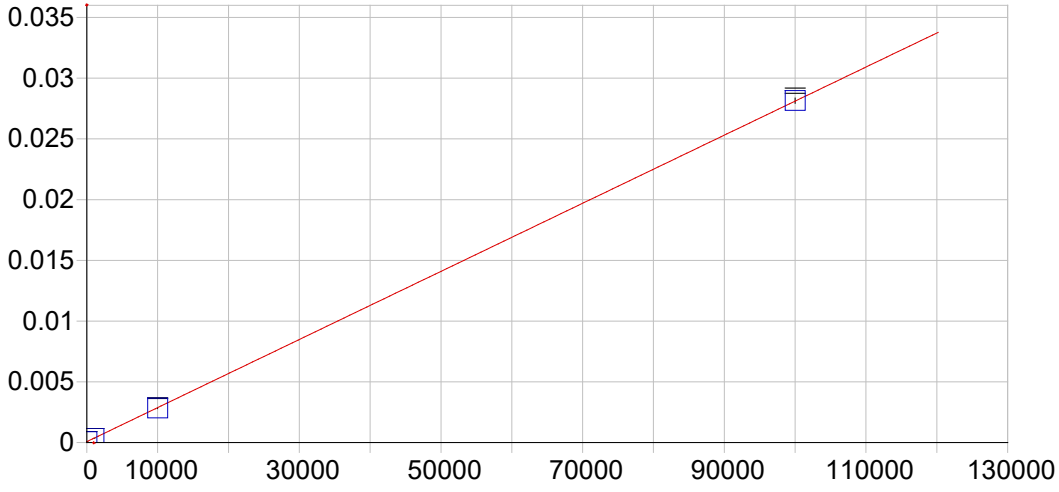


Al 167.079 {501}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999323	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.565304		
Predicted MQL:	1.884347		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00337	-.003	.000	.00001	.000	1
CalStd9=100	1000.0	989.09	-10.9	-1.09	.00286	.000	1
CalStd5=10	10.000	12.650	2.65	26.5	.00005	.000	1
CalStd8=100	100.00	108.25	8.25	8.25	.00032	.000	1

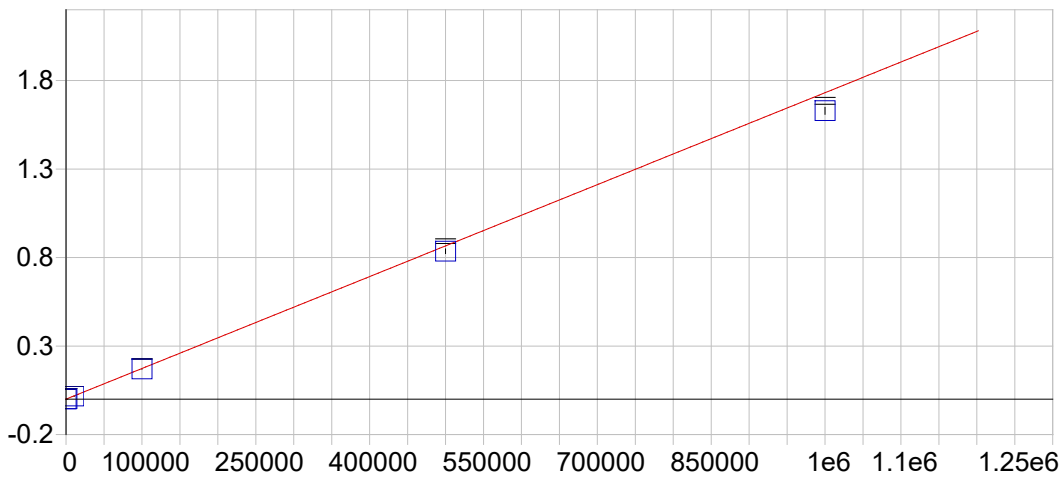


Al 308.215 {109}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000073	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	21.754956		
Predicted MQL:	72.516519		

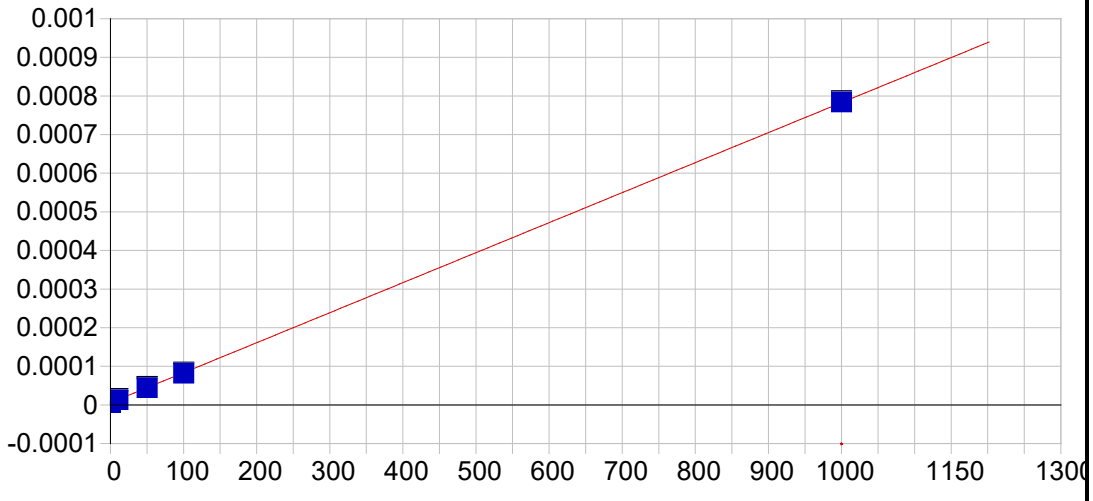
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-20.636	-20.6	.000	.00007	.000	1
CalStd10=10	10000.	9824.3	-176.	-1.76	.00283	.000	1
CalStd9=100	1000.0	1004.9	4.86	.486	.00035	.000	1
CalStd13=10	100000.	100130.	131.	.131	.02815	.000	1



Al 396.152 { 85}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var
A0 (Offset):	0.000022		Re-Slope:	1.000000	
A1 (Gain):	0.000002		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999803		Status:	OK.	
Std Error of Est:	0.000044				
Predicted MDL:	6.858755				
Predicted MQL:	22.862517				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-19.308	-19.3	.000	-.00001	.000	1
CalStd14=50	500000.	482550.	-17500.	-3.49	.83547	.013	1
CalStd13=10	100000.	98378.	-1620.	-1.62	.17035	.001	1
CalStd10=10	10000.	9751.2	-249.	-2.49	.01690	.000	1
CalStd9=100	1000.0	1010.3	10.3	1.03	.00177	.000	1
CalibStd15=	1000000.	940910.	-59100.	-5.91	1.6290	.019	1

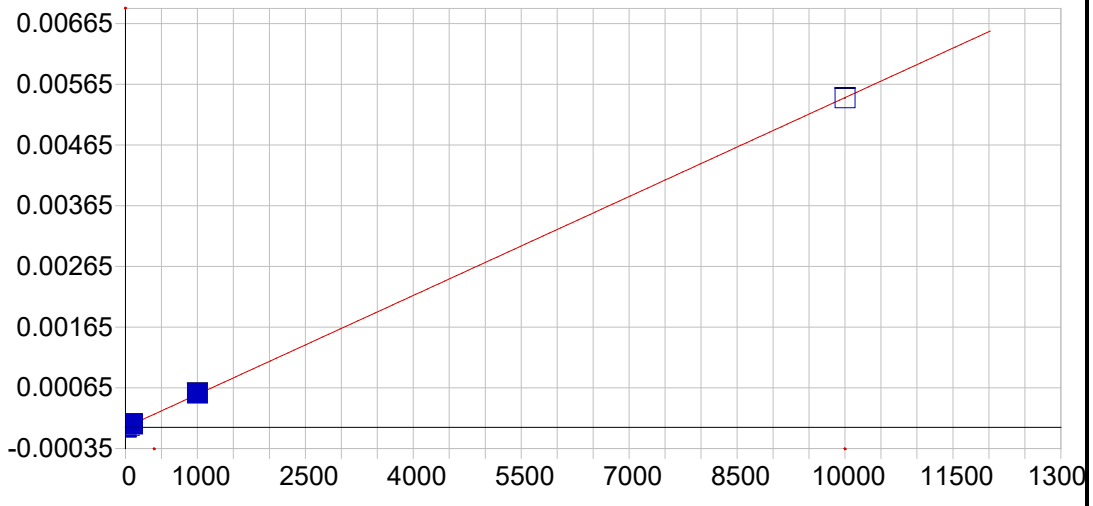


As 193.759 {474}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.621253		
Predicted MQL:	15.404176		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00032	.000	.000	.00001	.000	1
CalStd9=100	1000.0	1001.6	1.64	.164	.00079	.000	1
CalStd7=50	50.000	50.090	.090	.179	.00004	.000	1
CalStd5=10	10.000	9.7985	-.202	-2.02	.00001	.000	1
CalStd8=100	100.00	98.469	-1.53	-1.53	.00008	.000	1

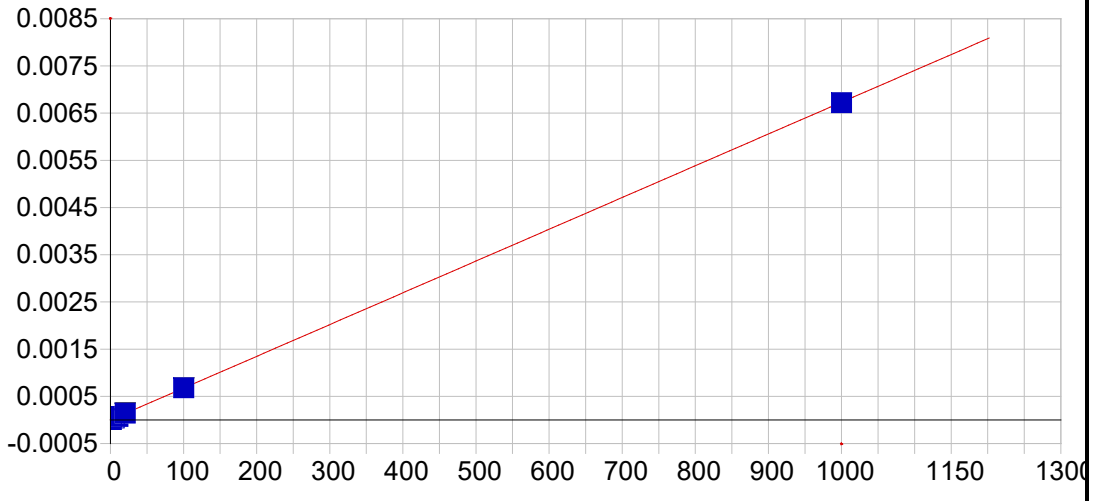


As 197.262 {471}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	5.853260		
Predicted MQL:	19.510866		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0511	-1.05	.000	-.00000	.000	1
CalStd9=100	1000.0	1033.7	33.7	3.37	.00056	.000	1
CalStd7=50	50.000	53.217	3.22	6.43	.00003	.000	1
CalStd5=10	10.000	2.9863	-7.01	-70.1	.00000	.000	1
CalStd8=100	100.00	99.017	-.983	-.983	.00005	.000	1
CalStd10=10	10000.	9988.1	-11.9	-.119	.00542	.000	1

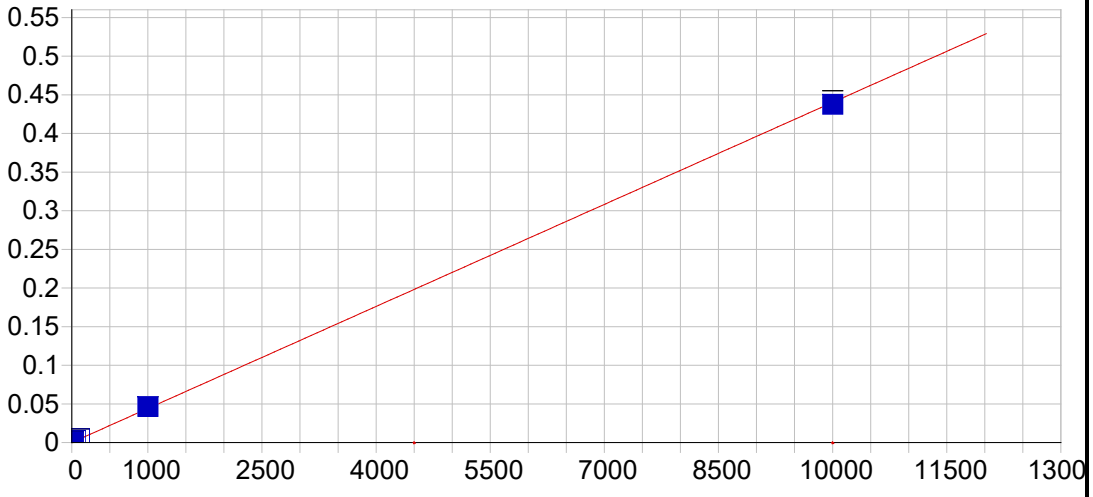


Ba 233.527 {445}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.413851		
Predicted MQL:	1.379502		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00029	.000	.000	.00000	.000	1
CalStd5=10	10.000	10.376	.376	3.76	.00007	.000	1
CalStd6=20	20.000	20.932	.932	4.66	.00014	.000	1
CalStd8=100	100.00	100.81	.809	.809	.00068	.000	1
CalStd4=5	5.0000	5.3898	.390	7.80	.00004	.000	1
CalStd9=100	1000.0	997.95	-2.05	-.205	.00672	.000	1
CalStd3=1	1.0000	.54370	-.456	-45.6	.00000	.000	1

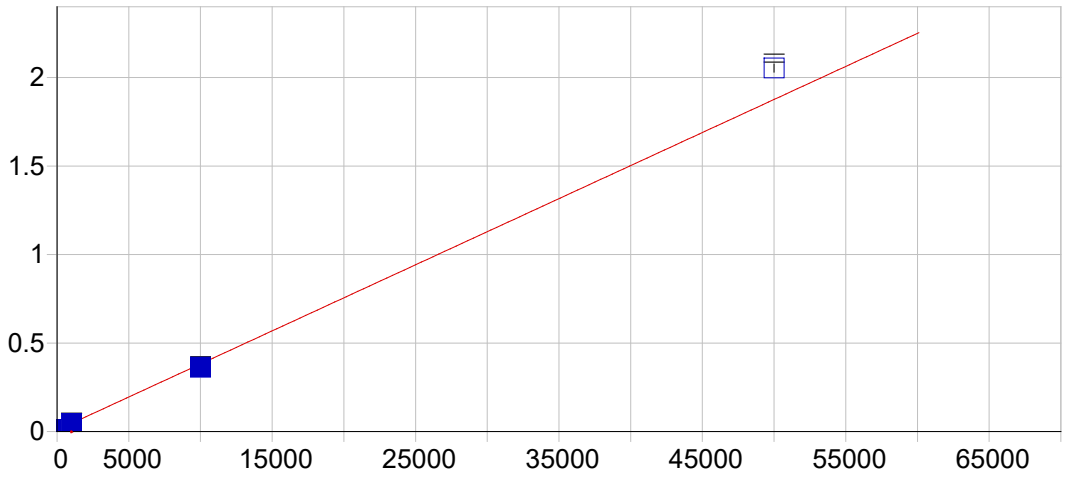


Ba 455.403 { 74}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000083	Re-Slope:	1.000000
A1 (Gain):	0.000044	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.213986		
Predicted MQL:	0.713288		

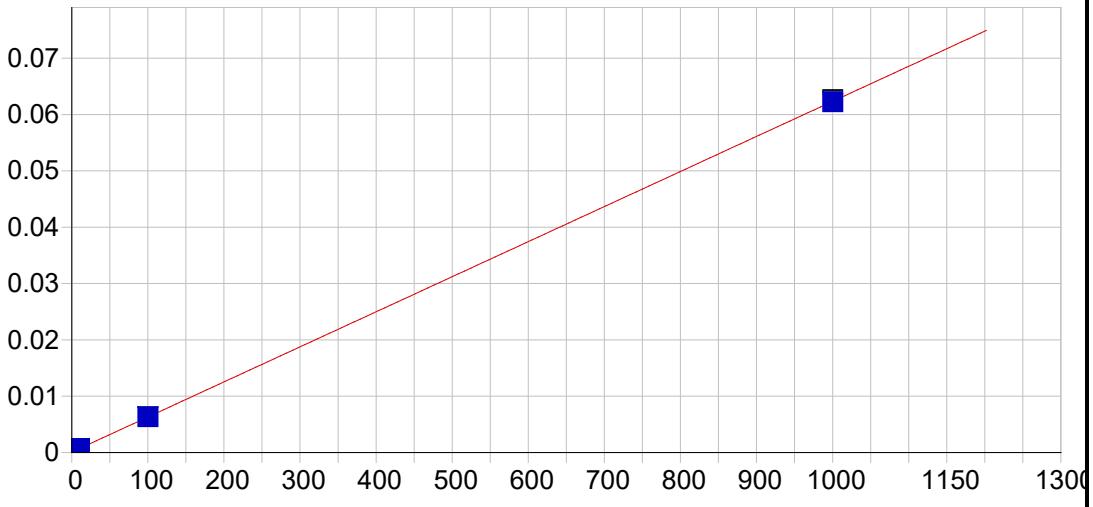
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00043	-.000	.000	.00008	.000	1
CalStd7=50	50.000	54.126	4.13	8.25	.00247	.000	1
CalStd5=10	10.000	10.525	.525	5.25	.00055	.000	1
CalStd6=20	20.000	21.621	1.62	8.10	.00103	.000	1
CalStd8=100	100.00	104.72	4.72	4.72	.00469	.000	1
CalStd4=5	5.0000	5.3432	.343	6.86	.00032	.000	1
CalStd9=100	1000.0	1051.0	51.0	5.10	.04634	.000	1
CalStd3=1	1.0000	1.0564	.056	5.64	.00013	.000	1
CalStd10=10	10000.	9937.6	-62.4	-.624	.43744	.005	1



Ba 493.409 { 68}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.008363		Re-Slope:	1.000000	
A1 (Gain):	0.000037		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.998567		Status:	OK.	
Std Error of Est:	0.000392				
Predicted MDL:	0.714270				
Predicted MQL:	2.380901				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.4142	1.41	.000	.00842	.000	1
CalStd9=100	1000.0	1004.4	4.40	.440	.04588	.000	1
CalStd8=100	100.00	96.558	-3.44	-3.44	.01197	.000	1
Ag Ba 1000,	50000.	54745.	4740.	9.49	2.0533	.023	1
CalStd10=10	10000.	9481.2	-519.	-5.19	.36254	.004	1

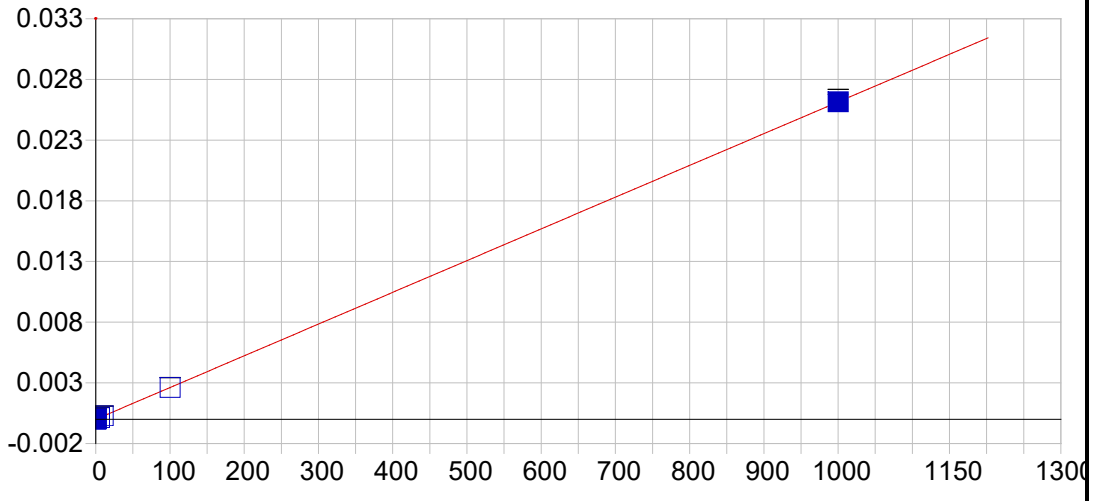


Be 313.042 {108}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000082	Re-Slope:	1.000000
A1 (Gain):	0.000062	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.020323		
Predicted MQL:	0.067744		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00009	-.000	.000	.00008	.000	1
CalStd5=10	10.000	10.522	.522	5.22	.00074	.000	1
CalStd8=100	100.00	100.39	.389	.389	.00632	.000	1
CalStd2=0.5	.50000	.54402	.044	8.80	.00012	.000	1
CalStd4=5	5.0000	5.1328	.133	2.66	.00040	.000	1
CalStd9=100	1000.0	998.90	-1.10	-.110	.06215	.000	1
CalStd3=1	1.0000	1.0089	.009	.891	.00014	.000	1

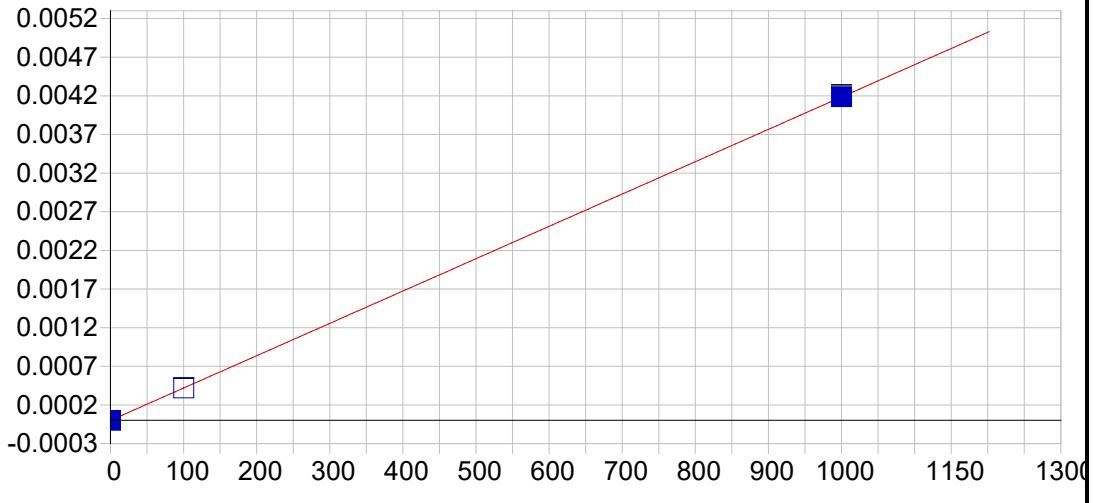


Be 313.107 {108}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000026	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.159809		
Predicted MQL:	0.532697		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00001	-.000	.000	-.00000	.000	1
CalStd5=10	10.000	10.231	.231	2.31	.00027	.000	1
CalStd8=100	100.00	99.697	-.303	-.303	.00261	.000	1
CalStd2=0.5	.50000	.54265	.043	8.53	.00001	.000	1
CalStd4=5	5.0000	4.9764	-.024	-.473	.00013	.000	1
CalStd9=100	1000.0	1000.1	.140	.014	.02615	.000	1
CalStd3=1	1.0000	.91302	-.087	-8.70	.00002	.000	1

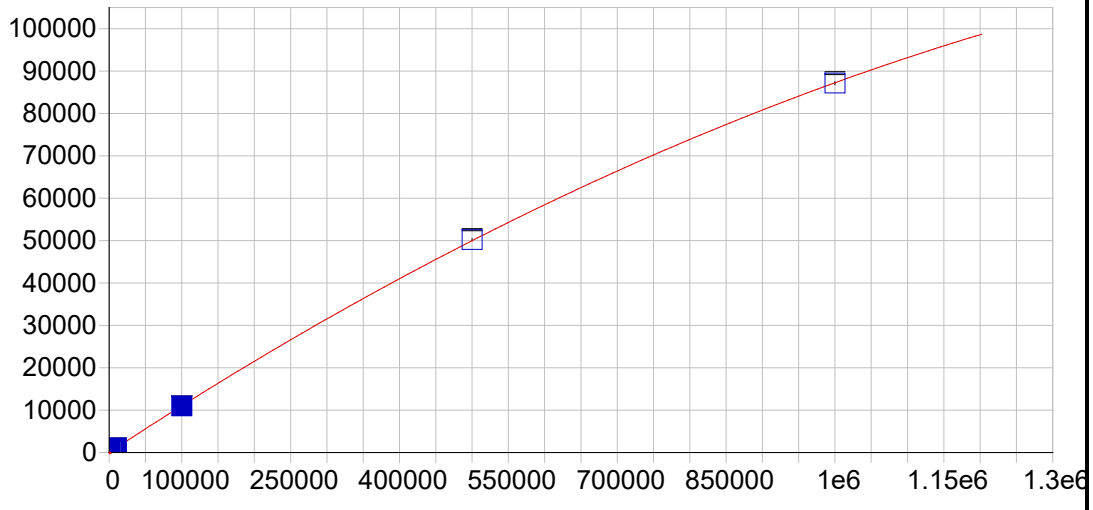


Be 234.861 {144}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.424555		
Predicted MQL:	1.415183		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00689	.007	.000	-.00000	.000	1
CalStd9=100	1000.0	1000.7	.671	.067	.00419	.000	1
CalStd8=100	100.00	99.814	-.186	-.186	.00042	.000	1

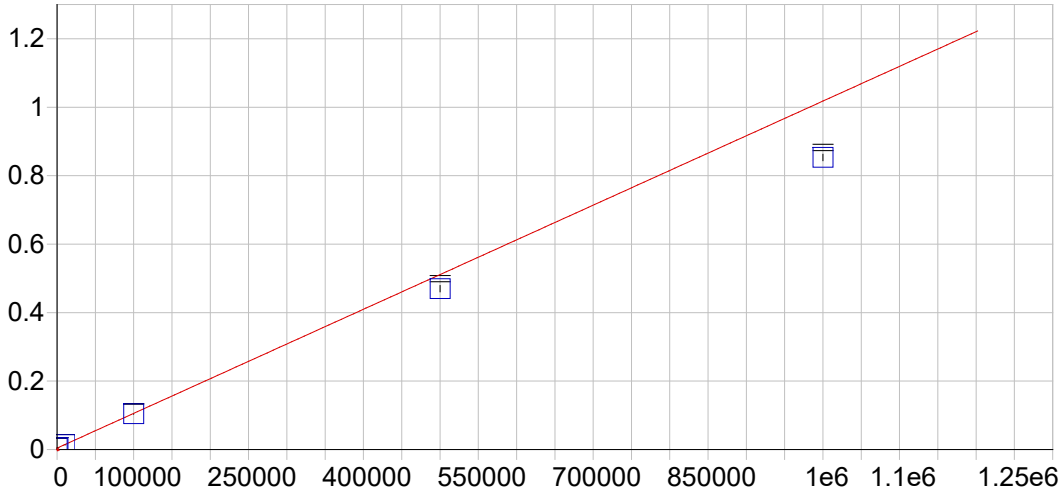


Ca 315.887 {107}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	18.839166	Re-Slope:	1.000000
A1 (Gain):	0.112643	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.928129		
Predicted MDL:	7.589793		
Predicted MQL:	25.299308		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.06977	.070	.000	18.847	1.01	1
CalStd10=10	10000.	9527.4	-473.	-4.73	1089.7	4.84	1
CalStd13=10	100000.	99430.	-570.	-.570	10968.	50.6	1
CalStd14=50	500000.	502520.	2520.	.505	50207.	261.	1
CalStd9=100	1000.0	979.73	-20.3	-2.03	129.17	.886	1
CalibStd15=	1000000.	998330.	-1670.	-.167	87145.	329.	1

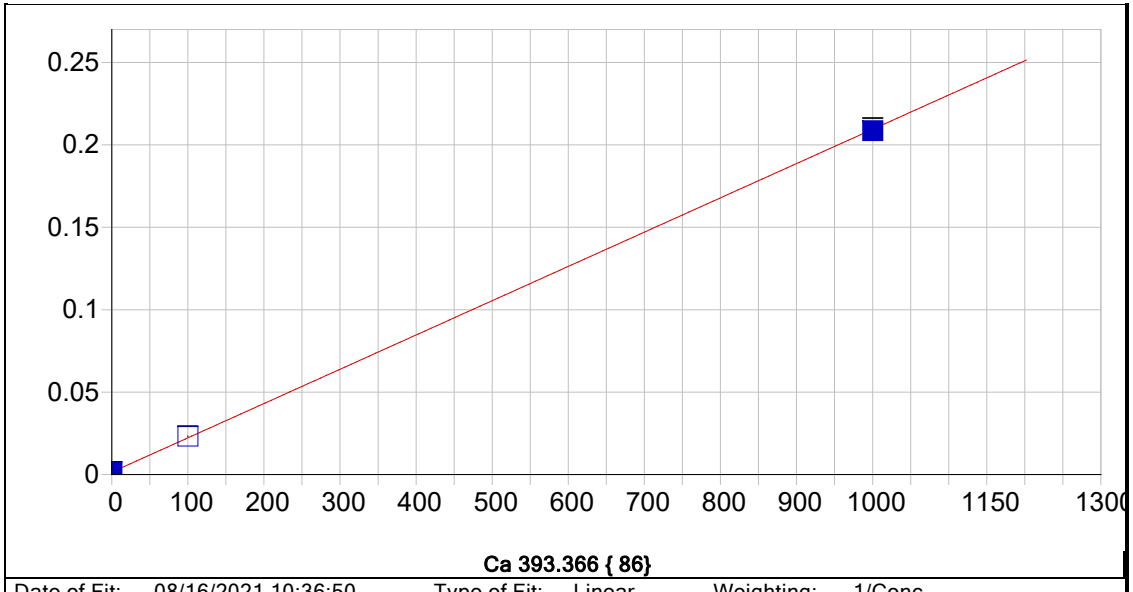


Ca 317.933 {106}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.004243	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000282		
Predicted MDL:	3.211035		
Predicted MQL:	10.703449		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	28.347	28.3	.000	.00427	.000	1
CalStd10=10	10000.	9619.3	-381.	-3.81	.01399	.000	1
CalStd13=10	100000.	98647.	-1350.	-1.35	.10424	.001	1
CalStd14=50	500000.	459250.	-40800.	-8.15	.46978	.009	1
CalStd9=100	1000.0	1128.5	129.	12.9	.00539	.000	1
CalibStd15=	1000000.	837340.	-163000.	-16.3	.85306	.009	1

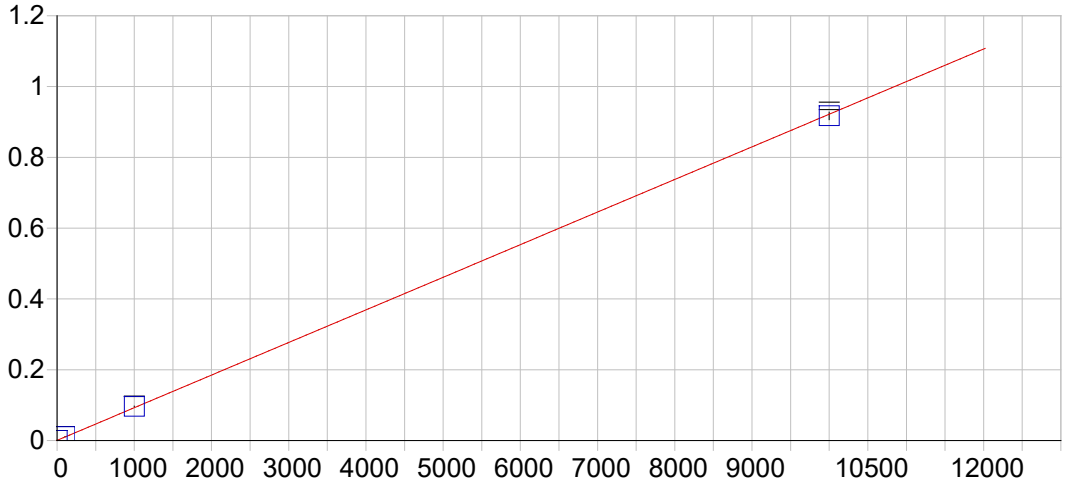


Ca 393.366 { 86}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001471	Re-Slope:	1.000000
A1 (Gain):	0.000208	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999898	Status:	OK.
Std Error of Est:	0.000054		
Predicted MDL:	0.039229		
Predicted MQL:	0.130762		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00408	-.004	.000	.00147	.000	1
CalStd9=100	1000.0	995.48	-4.52	-.452	.20882	.001	1
CalStd8=100	100.00	104.53	4.53	4.53	.02321	.000	1

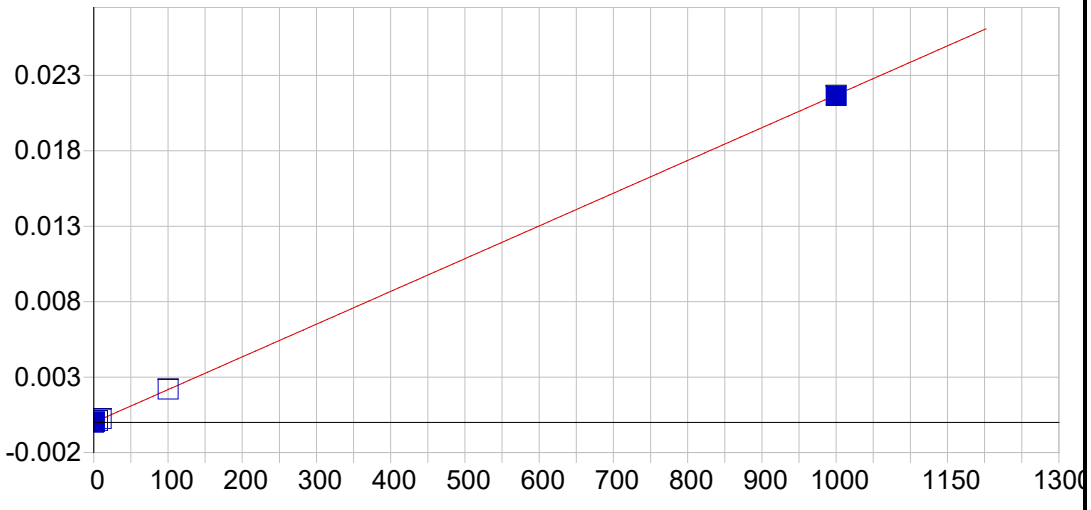


Ca 396.847 { 85}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000636	Re-Slope:	1.000000
A1 (Gain):	0.000092	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999870	Status:	OK.
Std Error of Est:	0.000070		
Predicted MDL:	0.084741		
Predicted MQL:	0.282471		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01355	-.014	.000	.00063	.000	1
CalStd10=10	10000.	9949.8	-50.2	-.502	.91720	.011	1
CalStd8=100	100.00	110.04	10.0	10.0	.01077	.000	1
CalStd9=100	1000.0	1040.2	40.2	4.02	.09646	.001	1

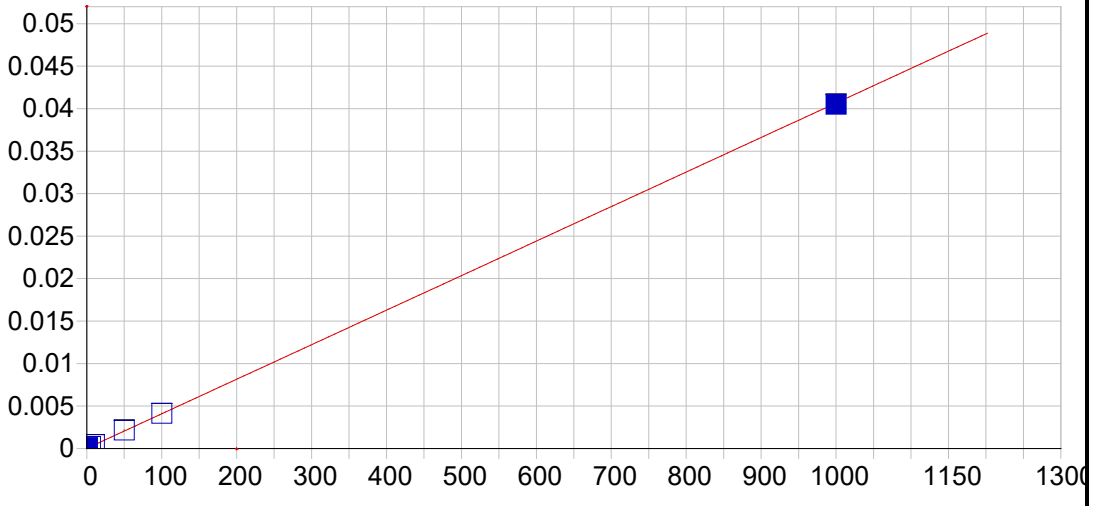


Cd 226.502 {449}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999944	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.203184		
Predicted MQL:	0.677280		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00023	-.000	.000	-.00000	.000	1
CalStd3=1	1.0000	1.0571	.057	5.71	.00002	.000	1
CalStd2=0.5	.50000	.63382	.134	26.8	.00001	.000	1
CalStd4=5	5.0000	5.2914	.291	5.83	.00011	.000	1
CalStd8=100	100.00	101.31	1.31	1.31	.00220	.000	1
CalStd5=10	10.000	10.671	.671	6.71	.00023	.000	1
CalStd9=100	1000.0	997.54	-2.46	-.246	.02165	.000	1

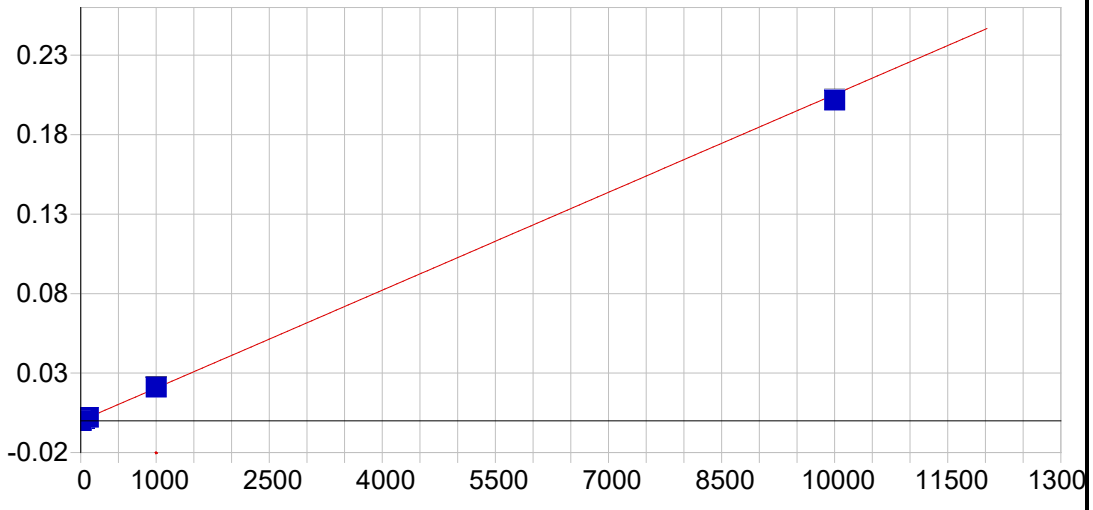


Cd 228.802 {447}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000027	Re-Slope:	1.000000
A1 (Gain):	0.000041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999910	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.156987		
Predicted MQL:	0.523291		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00015	-.000	.000	.00003	.000	1
CalStd7=50	50.000	52.479	2.48	4.96	.00216	.000	1
CalStd3=1	1.0000	.96551	-.034	-3.45	.00007	.000	1
CalStd2=0.5	.50000	.59623	.096	19.2	.00005	.000	1
CalStd4=5	5.0000	5.1343	.134	2.69	.00024	.000	1
CalStd8=100	100.00	100.91	.912	.912	.00413	.000	1
CalStd5=10	10.000	10.607	.607	6.07	.00046	.000	1
CalStd9=100	1000.0	995.81	-4.19	-.419	.04050	.000	1

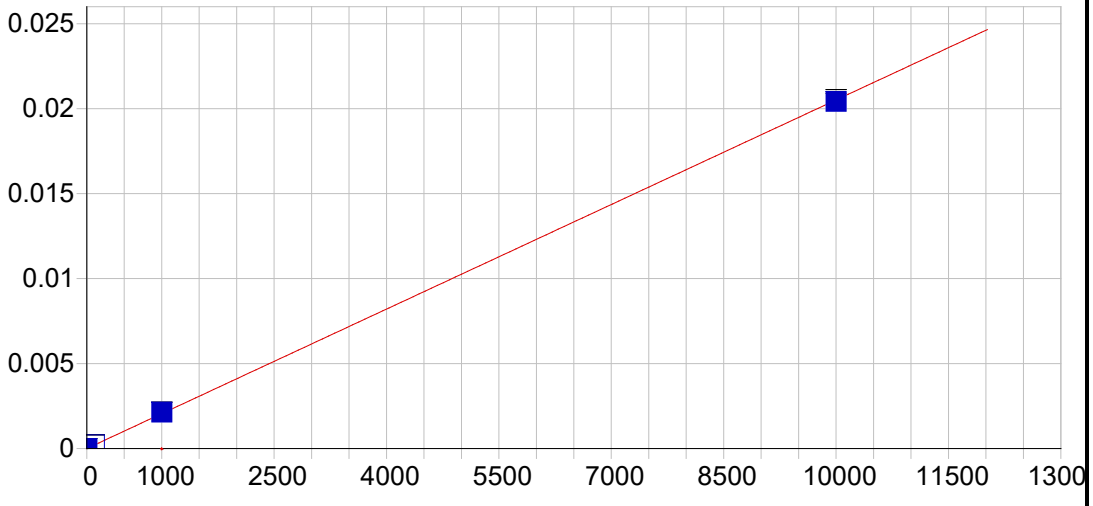


Co 228.616 {447}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000023	Re-Slope:	1.000000
A1 (Gain):	0.000021	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999724	Status:	OK.
Std Error of Est:	0.000066		
Predicted MDL:	0.278157		
Predicted MQL:	0.927191		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.1206	-1.12	.000	-.00000	.000	1
CalStd7=50	50.000	52.640	2.64	5.28	.00111	.000	1
CalStd5=10	10.000	9.8459	-.154	-1.54	.00022	.000	1
CalStd4=5	5.0000	4.2870	-.713	-14.3	.00011	.000	1
CalStd8=100	100.00	103.26	3.26	3.26	.00214	.000	1
CalStd9=100	1000.0	1028.2	28.2	2.82	.02115	.000	1
CalStd3=1	1.0000	.01062	-.989	-98.9	.00002	.000	1
CalStd10=10	10000.	9822.4	-178.	-1.78	.20210	.000	1

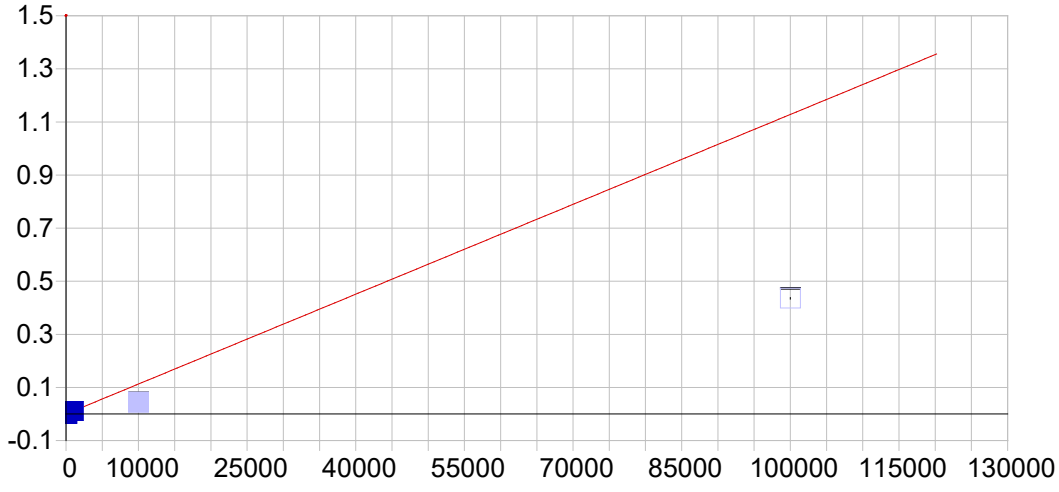


Co 238.892 {141}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999903	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.480844		
Predicted MQL:	1.602813		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00944	-.009	.000	.00000	.000	1
CalStd9=100	1000.0	1040.0	40.0	4.00	.00214	.000	1
CalStd10=10	10000.	9954.1	-45.9	-.459	.02042	.000	1
CalStd8=100	100.00	105.89	5.89	5.89	.00022	.000	1

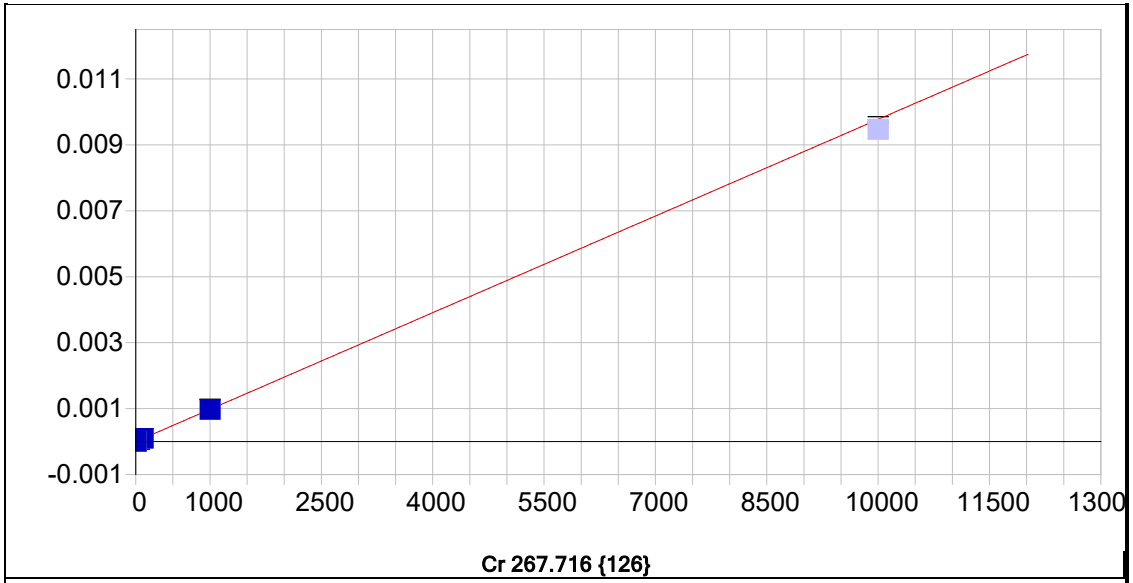


Cr 205.560 {464}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.313407		
Predicted MQL:	1.044691		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.72630	-.726	.000	-.00000	.000	1
CalStd5=10	10.000	9.5552	-.445	-4.45	.00011	.000	1
CalStd7=50	50.000	51.457	1.46	2.91	.00058	.000	1
CalStd9=100	1000.0	999.94	-.057	-.006	.01128	.000	1
CalStd8=100	100.00	100.08	.084	.084	.00113	.000	1
CalStd4=5	5.0000	4.7328	-.267	-5.34	.00006	.000	1
CalStd3=1	1.0000	.40082	-.599	-59.9	.00001	.000	1
CalStd10=10	10000.	3897.4	-6100.	-61.0	.04397	.000	0
CalStd12=10	100000.	38633.	-61400.	-61.4	.43583	.003	0

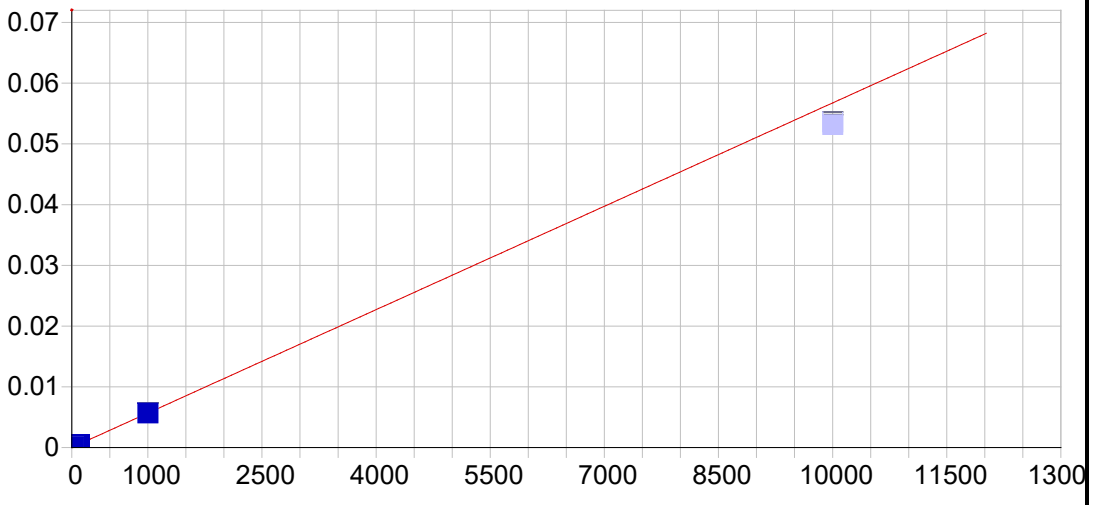


Cr 267.716 {126}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999411	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.384372		
Predicted MQL:	4.614575		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00318	-.003	.000	.00000	.000	1
CalStd5=10	10.000	11.412	1.41	14.1	.00001	.000	1
CalStd7=50	50.000	52.426	2.43	4.85	.00005	.000	1
CalStd9=100	1000.0	993.56	-6.44	-.644	.00097	.000	1
CalStd8=100	100.00	100.35	.352	.352	.00010	.000	1
CalStd4=5	5.0000	7.2509	2.25	45.0	.00001	.000	1
CalStd10=10	10000.	9687.0	-313.	-3.13	.00947	.000	0

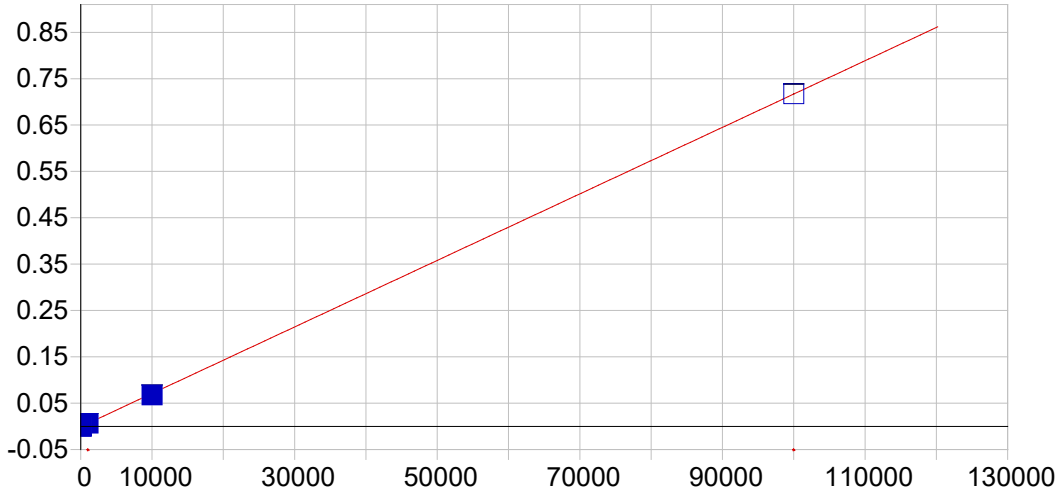


Cu 223.008 {451}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999875	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.995206		
Predicted MQL:	3.317355		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00133	-.001	.000	.00001	.000	1
CalStd9=100	1000.0	996.66	-3.34	-.334	.00570	.000	1
CalStd8=100	100.00	100.91	.908	.908	.00058	.000	1
CalStd6=20	20.000	22.302	2.30	11.5	.00013	.000	1
CalStd5=10	10.000	10.126	.126	1.26	.00006	.000	1
CalStd10=10	10000.	9367.4	-633.	-6.33	.05362	.000	0

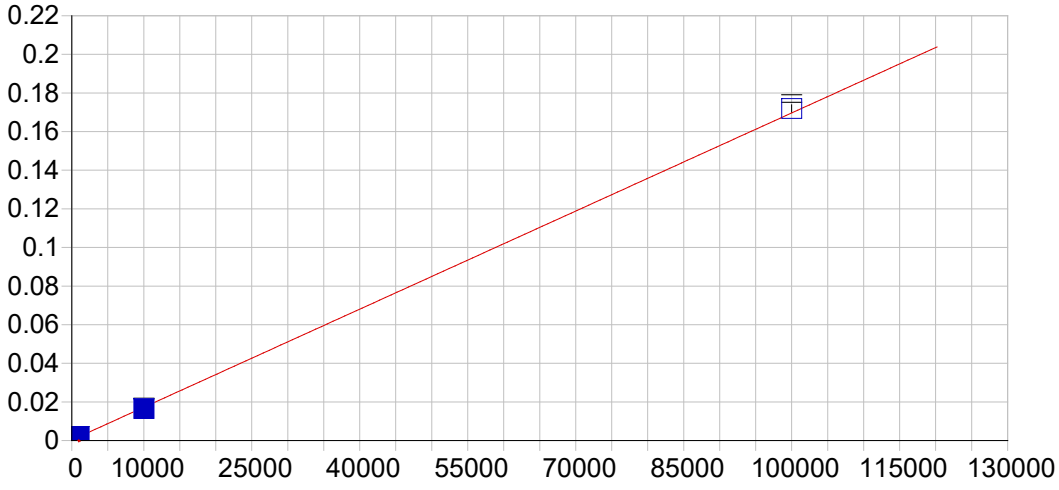


Cu 224.700 {450}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000815	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.001595		
Predicted MDL:	0.454207		
Predicted MQL:	1.514024		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	114.35	114.	.000	.00001	.000	1
CalStd9=100	1000.0	1066.6	66.6	6.66	.00681	.000	1
CalStd7=50	50.000	123.55	73.5	147.	.00007	.000	1
CalStd8=100	100.00	159.80	59.8	59.8	.00033	.000	1
CalStd6=20	20.000	117.98	98.0	490.	.00003	.000	1
CalStd12=10	100000.	100040.	44.7	.045	.71715	.001	1
CalStd10=10	10000.	9542.9	-457.	-4.57	.06739	.000	1

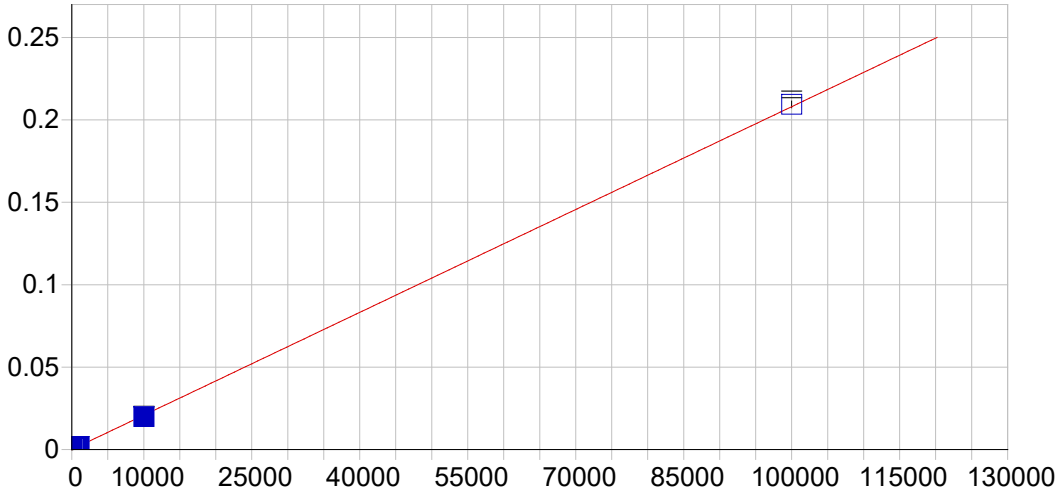


Cu 324.754 {104}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000288	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999371	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	2.749329		
Predicted MQL:	9.164431		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.2777	-5.28	.000	.00028	.000	1
CalStd9=100	1000.0	1030.2	30.2	3.02	.00203	.000	1
CalStd8=100	100.00	100.33	.334	.334	.00046	.000	1
CalStd10=10	10000.	9559.5	-440.	-4.40	.01648	.000	1
CalStd12=10	100000.	101320.	1320.	1.32	.17190	.002	1
CalStd5=10	10.000	5.7287	-4.27	-42.7	.00030	.000	1
CalStd6=20	20.000	20.970	.970	4.85	.00032	.000	1
CalStd7=50	50.000	50.959	.959	1.92	.00037	.000	1

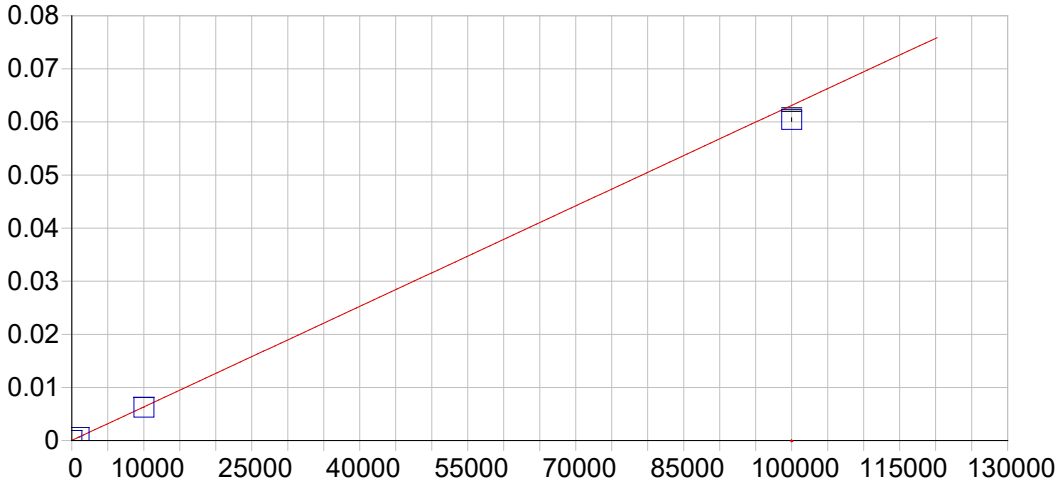


Cu 327.396 {103}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999476	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	4.134467		
Predicted MQL:	13.781557		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.50434	-.504	.000	.00002	.000	1
CalStd6=20	20.000	18.578	-1.42	-7.11	.00005	.000	1
CalStd7=50	50.000	49.618	-.382	-.765	.00012	.000	1
CalStd8=100	100.00	100.57	.566	.566	.00023	.000	1
CalStd9=100	1000.0	1028.6	28.6	2.86	.00216	.000	1
CalStd10=10	10000.	9568.3	-432.	-4.32	.01991	.000	1
CalStd4=5	5.0000	2.1963	-2.80	-56.1	.00002	.000	1
CalStd5=10	10.000	9.4875	-.513	-5.13	.00004	.000	1
CalStd12=10	100000.	100660.	659.	.659	.20940	.002	1

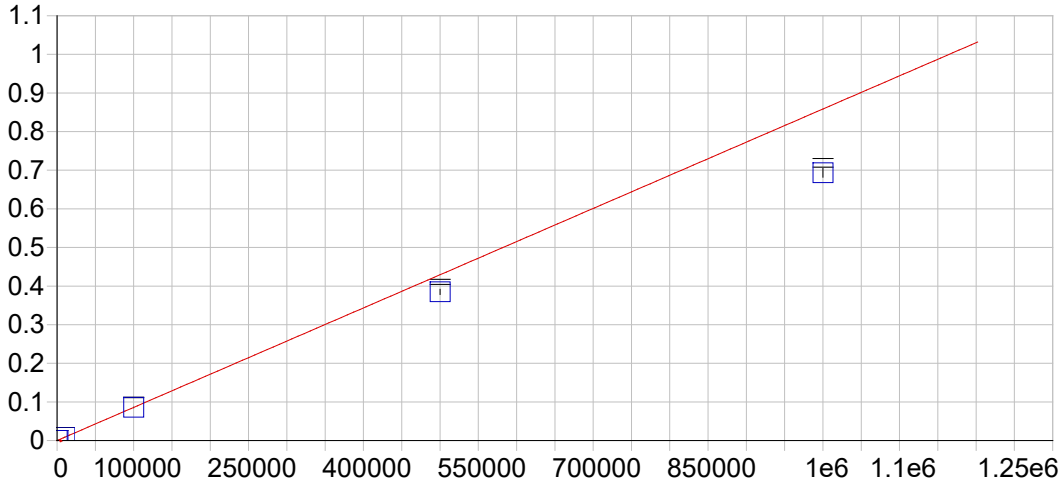


Fe 234.349 {144}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.815246		
Predicted MQL:	2.717486		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03690	-.037	.000	.00002	.000	1
CalStd10=10	10000.	9837.5	-162.	-1.62	.00623	.000	1
CalStd13=10	100000.	95733.	-4270.	-4.27	.06043	.000	1
CalStd9=100	1000.0	1026.1	26.1	2.61	.00067	.000	1

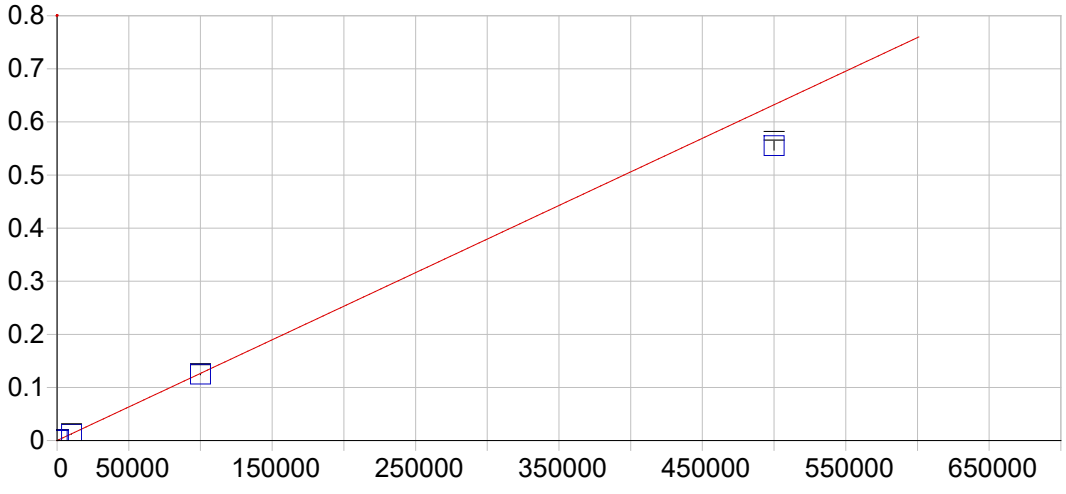


Fe 239.562 {140}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	2.770447		
Predicted MQL:	9.234824		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03999	-.040	.000	.00001	.000	1
CalStd10=10	10000.	9901.8	-98.2	-.982	.00851	.000	1
CalStd13=10	100000.	99870.	-130.	-.130	.08575	.001	1
CalStd14=50	500000.	448310.	-51700.	-10.3	.38490	.007	1
CalStd9=100	1000.0	1034.5	34.5	3.45	.00089	.000	1
CalibStd15=	1000000.	807340.	-193000.	-19.3	.69315	.011	1

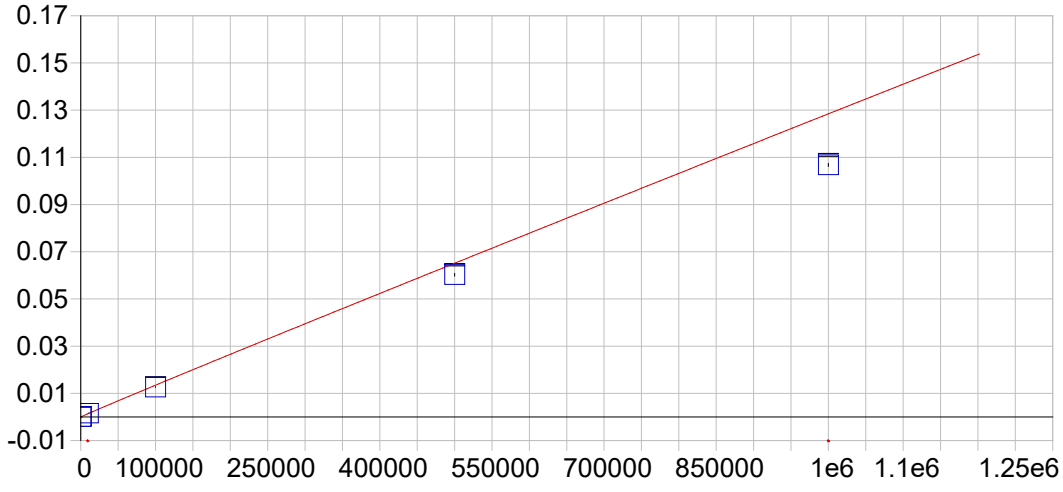


Fe 259.940 {129}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999766	Status:	OK.
Std Error of Est:	0.000026		
Predicted MDL:	2.080521		
Predicted MQL:	6.935070		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.5617	-1.56	.000	.00000	.000	1
CalStd10=10	10000.	9582.8	-417.	-4.17	.01212	.000	1
CalStd13=10	100000.	98714.	-1290.	-1.29	.12485	.001	1
CalStd14=50	500000.	438970.	-61000.	-12.2	.55516	.008	1
CalStd9=100	1000.0	1015.0	15.0	1.50	.00129	.000	1

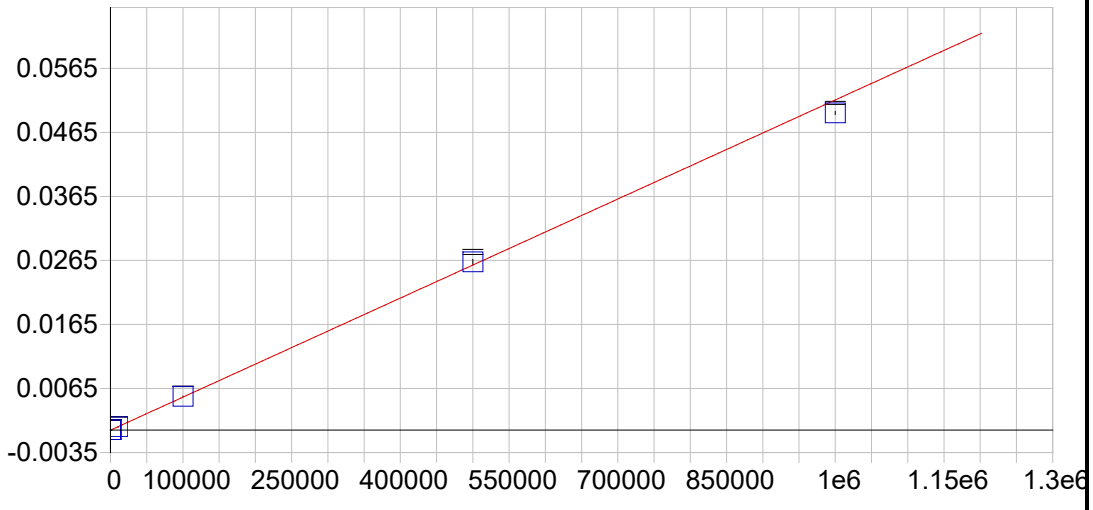


Mg 202.582 {466}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.980000		
Correlation:	0.999816	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	3.045014		
Predicted MQL:	10.150048		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00000	.000	1
CalStd13=10	100000.	93945.	-6060.	-6.06	.01265	.000	1
CalStd10=10	10000.	11294.	1290.	12.9	.00159	.000	1
CalStd14=50	500000.	461920.	-38100.	-7.62	.06025	.000	1
CalStd9=100	1000.0	1110.0	110.	11.0	.00016	.000	1
CalibStd15=	1000000.	828420.	-172000.	-17.2	.10681	.001	1

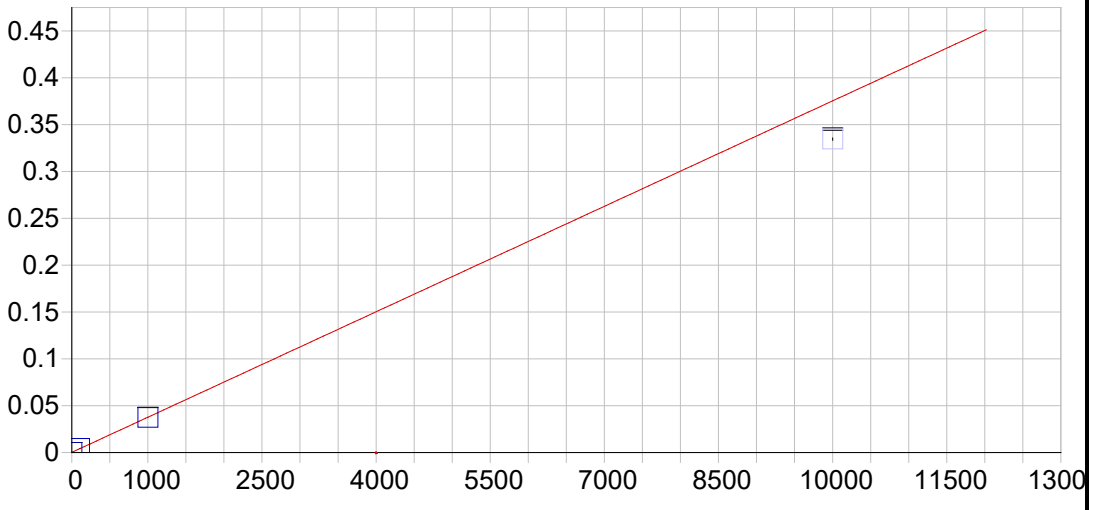


Mg 279.079 {121}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999830	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	26.466992		
Predicted MQL:	88.223305		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.97402	.974	.000	-.00000	.000	1
CalStd13=10	100000.	102150.	2150.	2.15	.00527	.000	1
CalStd10=10	10000.	9775.8	-224.	-2.24	.00050	.000	1
CalStd14=50	500000.	509430.	9430.	1.89	.02627	.000	1
CalStd9=100	1000.0	1006.8	6.79	.679	.00005	.000	1
CalibStd15=	1000000.	960650.	-39400.	-3.94	.04953	.000	1

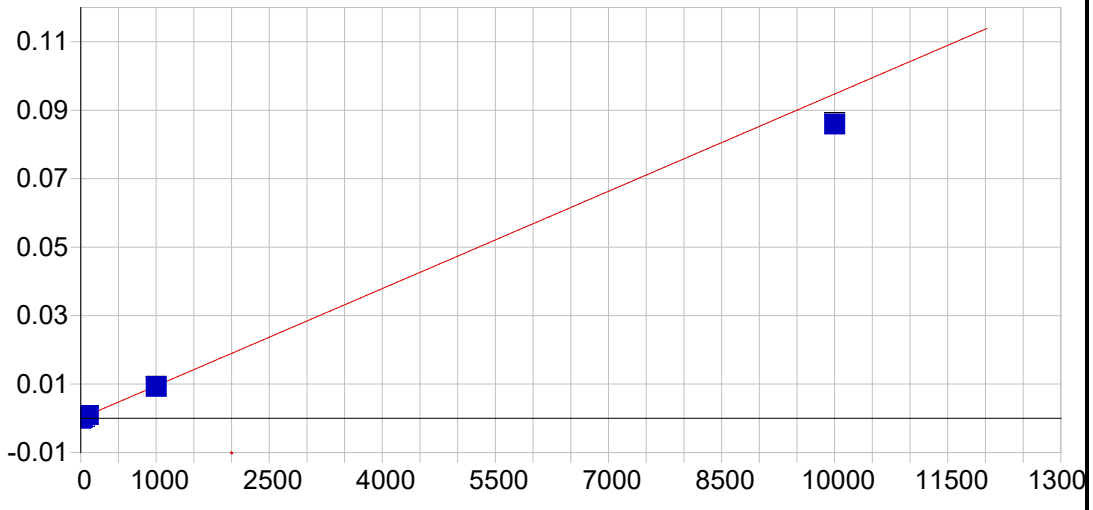


Mg 280.270 {120}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000165	Re-Slope:	1.000000
A1 (Gain):	0.000038	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999691	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.019032		
Predicted MQL:	0.063439		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00707	-.007	.000	.00017	.000	1
CalStd9=100	1000.0	992.15	-7.85	-.785	.03739	.000	1
CalStd10=10	10000.	8911.7	-1090.	-10.9	.33453	.001	0
CalStd8=100	100.00	107.85	7.85	7.85	.00421	.000	1

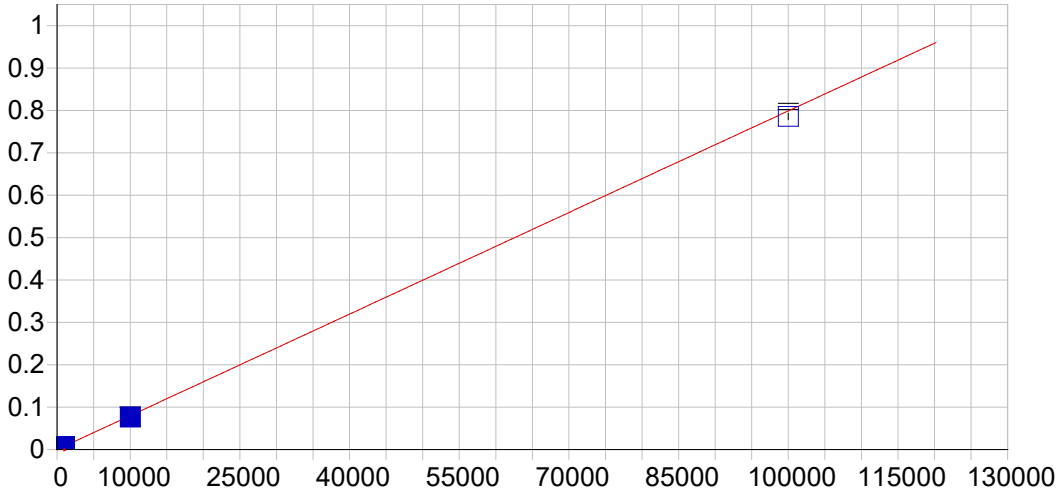


Mn 257.610 {131}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998729	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.064320		
Predicted MQL:	0.214400		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.26827	-.268	.000	-.00000	.000	1
CalStd5=10	10.000	10.299	.299	2.99	.00010	.000	1
CalStd7=50	50.000	51.499	1.50	3.00	.00049	.000	1
CalStd6=20	20.000	20.519	.519	2.60	.00020	.000	1
CalStd8=100	100.00	100.61	.606	.606	.00095	.000	1
CalStd4=5	5.0000	5.0015	.002	.031	.00005	.000	1
CalStd9=100	1000.0	980.07	-19.9	-1.99	.00929	.000	1
CalStd10=10	10000.	9068.2	-932.	-9.32	.08592	.000	1

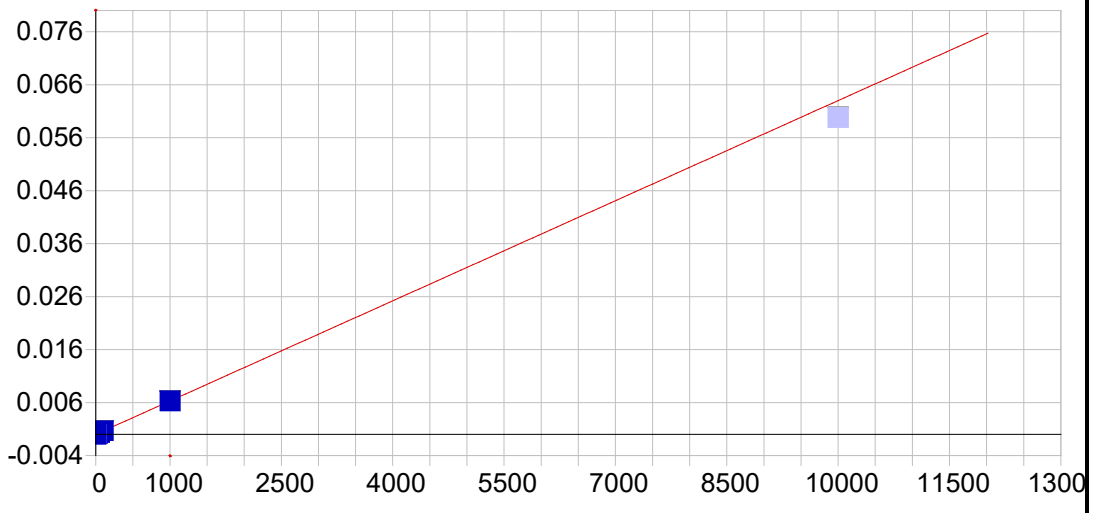


Mn 259.373 {130}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999481	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.379608		
Predicted MQL:	1.265361		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.05646	-.056	.000	.00000	.000	1
CalStd10=10	10000.	9573.0	-427.	-4.27	.07657	.001	1
CalStd9=100	1000.0	1031.3	31.3	3.13	.00825	.000	1
CalStd12=10	100000.	98366.	-1630.	-1.63	.78590	.007	1

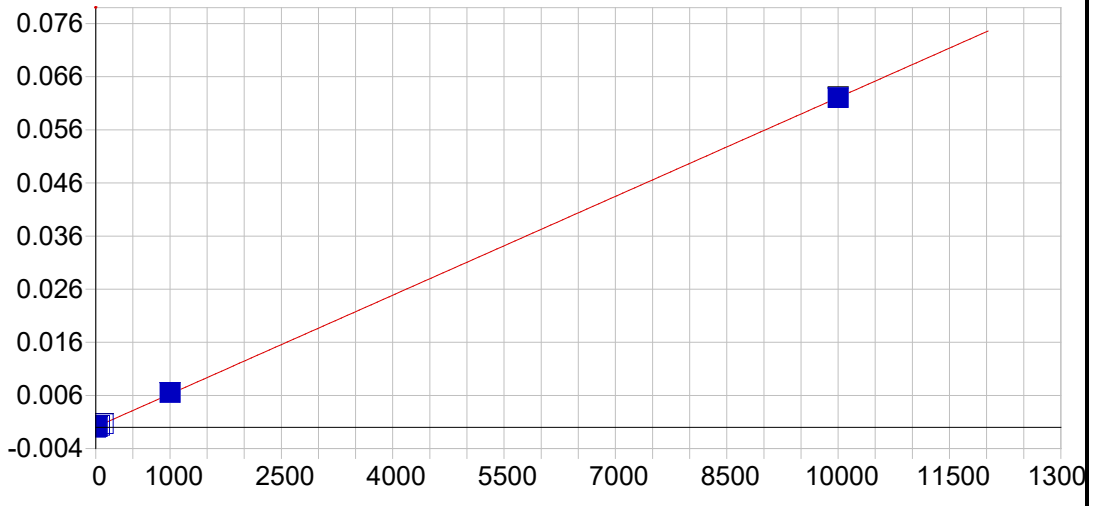


Mo 202.030 {466}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999877	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.518455		
Predicted MQL:	1.728182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00140	-.001	.000	.00000	.000	1
CalStd7=50	50.000	51.865	1.87	3.73	.00033	.000	1
CalStd6=20	20.000	21.127	1.13	5.63	.00013	.000	1
CalStd5=10	10.000	10.900	.900	9.00	.00007	.000	1
CalStd8=100	100.00	99.297	-.703	-.703	.00063	.000	1
CalStd4=5	5.0000	5.5375	.537	10.7	.00004	.000	1
CalStd9=100	1000.0	996.27	-3.73	-.373	.00628	.000	1
CalStd10=10	10000.	9489.0	-511.	-5.11	.05981	.000	0

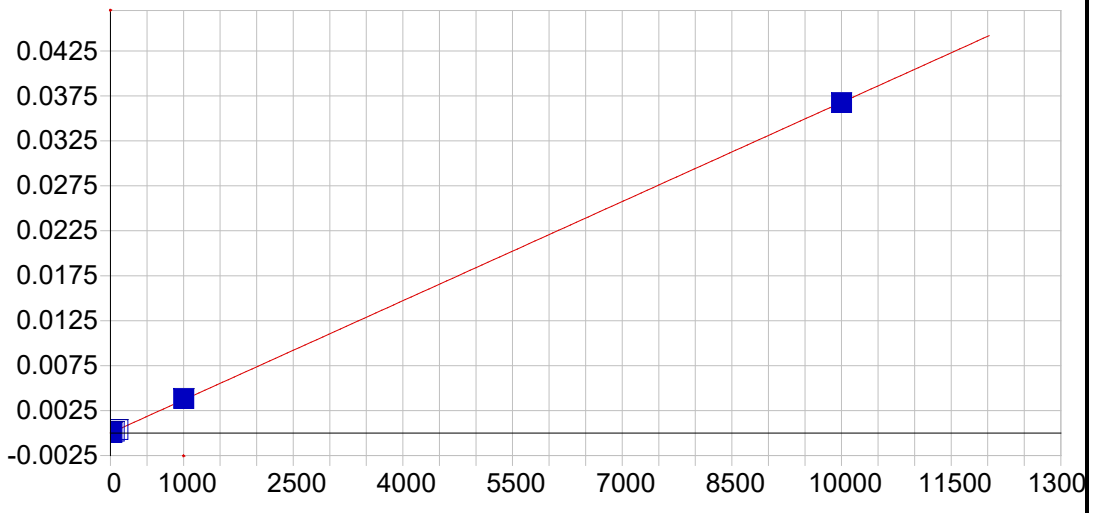


Mo 202.030 {467}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000056	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000118		
Predicted MDL:	0.529483		
Predicted MQL:	1.764942		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.7206	-8.72	.000	.00000	.000	1
CalStd7=50	50.000	46.012	-3.99	-7.98	.00034	.000	1
CalStd6=20	20.000	13.044	-6.96	-34.8	.00014	.000	1
CalStd5=10	10.000	2.2472	-7.75	-77.5	.00007	.000	1
CalStd8=100	100.00	96.314	-3.69	-3.69	.00065	.000	1
CalStd4=5	5.0000	-2.9612	-7.96	-159.	.00004	.000	1
CalStd9=100	1000.0	1043.3	43.3	4.33	.00653	.000	1
CalStd10=10	10000.	9995.8	-4.25	-.042	.06205	.000	1

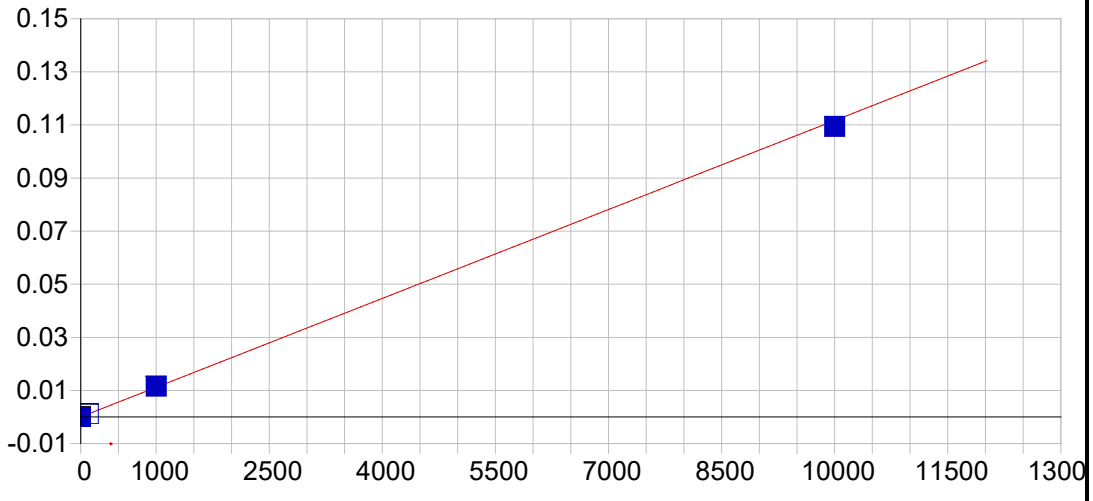


Mo 204.598 {464}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	0.961098		
Predicted MQL:	3.203660		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.1390	-3.14	.000	.00000	.000	1
CalStd7=50	50.000	49.400	-.600	-1.20	.00019	.000	1
CalStd6=20	20.000	17.644	-2.36	-11.8	.00008	.000	1
CalStd5=10	10.000	6.7625	-3.24	-32.4	.00004	.000	1
CalStd8=100	100.00	99.738	-.262	-.262	.00038	.000	1
CalStd4=5	5.0000	1.2262	-3.77	-75.5	.00002	.000	1
CalStd9=100	1000.0	1038.4	38.4	3.84	.00383	.000	1
CalStd10=10	10000.	9987.3	-12.7	-.127	.03674	.000	1

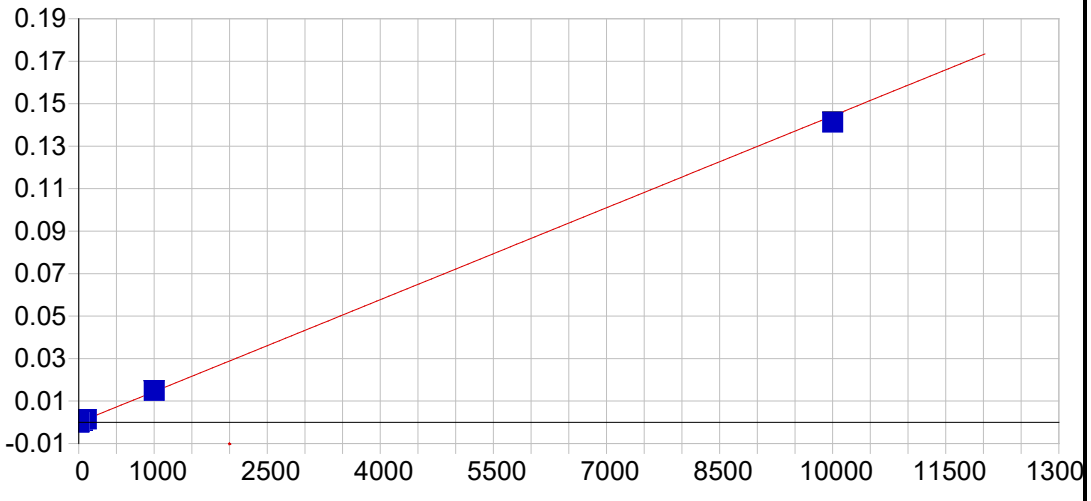


Ni 221.647 {452}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999650	Status:	OK.
Std Error of Est:	0.000167		
Predicted MDL:	0.550842		
Predicted MQL:	1.836139		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.0163	-3.02	.000	-.00001	.000	1
CalStd10=10	10000.	9792.9	-207.	-2.07	.10935	.000	1
CalStd8=100	100.00	103.00	3.00	3.00	.00117	.000	1
CalStd9=100	1000.0	1030.0	30.0	3.00	.01152	.000	1

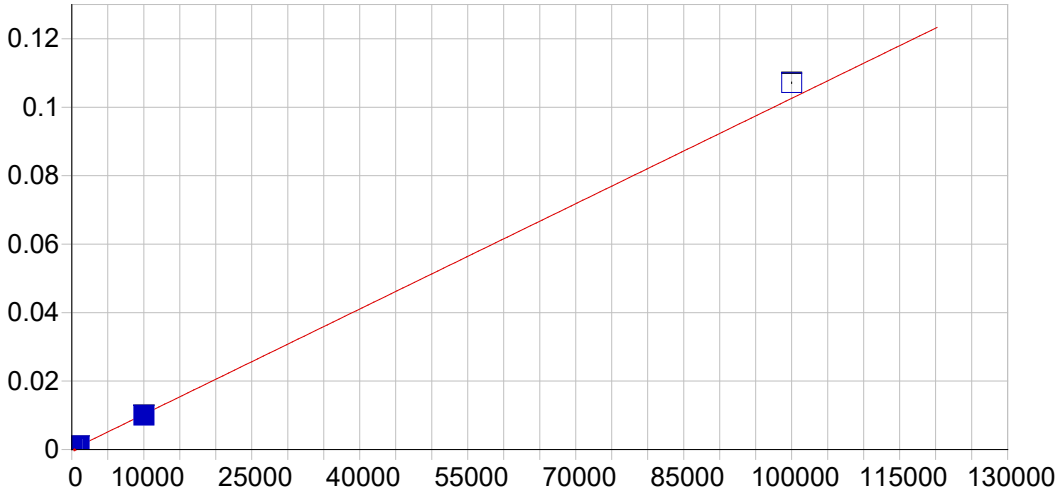


Ni 231.604 {445}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999521	Status:	OK.
Std Error of Est:	0.000056		
Predicted MDL:	0.457149		
Predicted MQL:	1.523829		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.6912	-1.69	.000	-.00003	.000	1
CalStd7=50	50.000	52.030	2.03	4.06	.00075	.000	1
CalStd5=10	10.000	8.6010	-1.40	-14.0	.00012	.000	1
CalStd8=100	100.00	104.41	4.41	4.41	.00150	.000	1
CalStd4=5	5.0000	3.7569	-1.24	-24.9	.00005	.000	1
CalStd9=100	1000.0	1030.6	30.6	3.06	.01485	.000	1
CalStd3=1	1.0000	-.96269	-1.96	-196.	-.00002	.000	1
CalStd10=10	10000.	9787.0	-213.	-2.13	.14133	.000	1

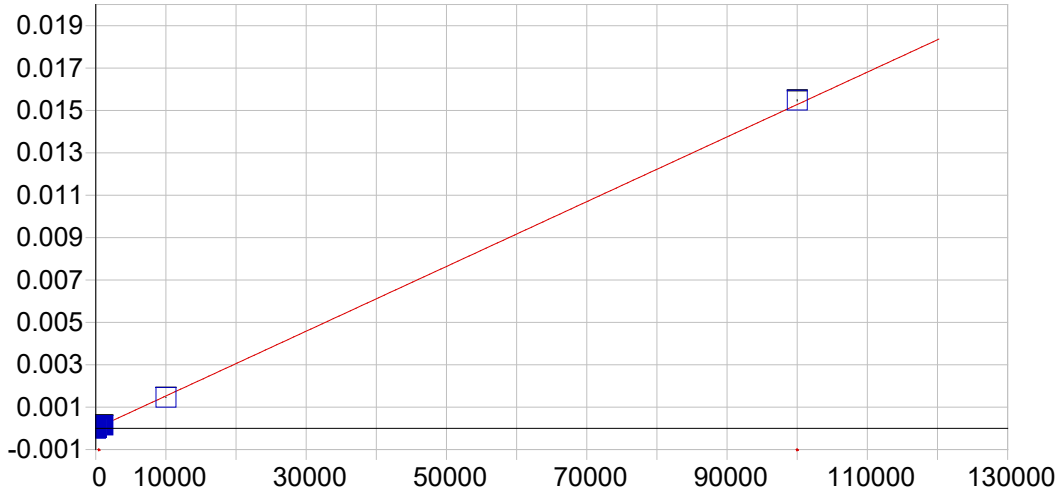


Pb 216.999 {455}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999455	Status:	OK.
Std Error of Est:	0.000061		
Predicted MDL:	5.146598		
Predicted MQL:	17.155327		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.8224	1.82	.000	.00001	.000	1
CalStd9=100	1000.0	1016.4	16.4	1.64	.00106	.000	1
CalStd10=10	10000.	9751.1	-249.	-2.49	.01004	.000	1
CalStd8=100	100.00	102.44	2.44	2.44	.00012	.000	1
CalStd5=10	10.000	12.247	2.25	22.5	.00002	.000	1
CalStd12=10	100000.	104450.	4450.	4.45	.10715	.000	1

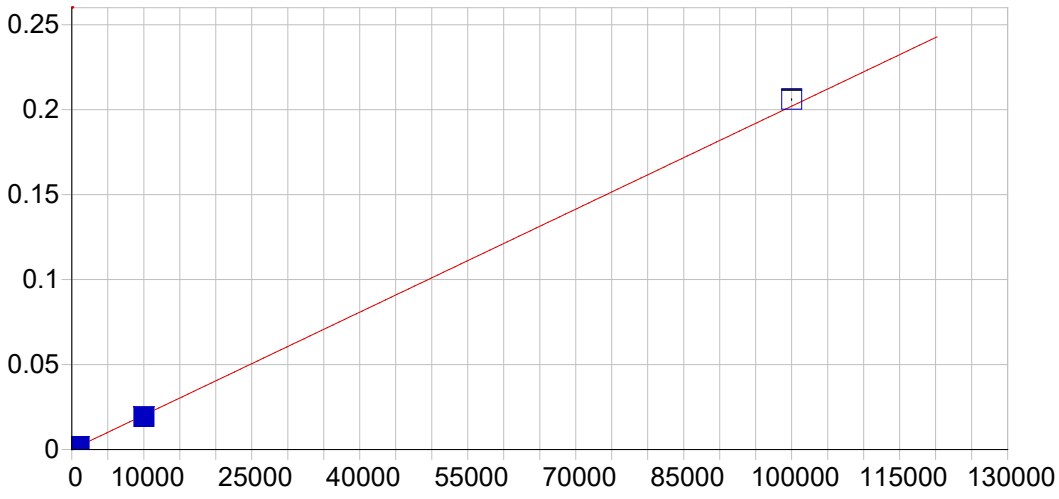


Pb 216.999 {456}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999700	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	16.695912		
Predicted MQL:	55.653040		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.3217	7.32	.000	.00000	.000	1
CalStd9=100	1000.0	1006.5	6.47	.647	.00015	.000	1
CalStd10=10	10000.	9558.2	-442.	-4.42	.00146	.000	1
CalStd8=100	100.00	109.01	9.01	9.01	.00002	.000	1
CalStd5=10	10.000	21.205	11.2	112.	.00000	.000	1
CalStd12=10	100000.	101290.	1290.	1.29	.01548	.000	1

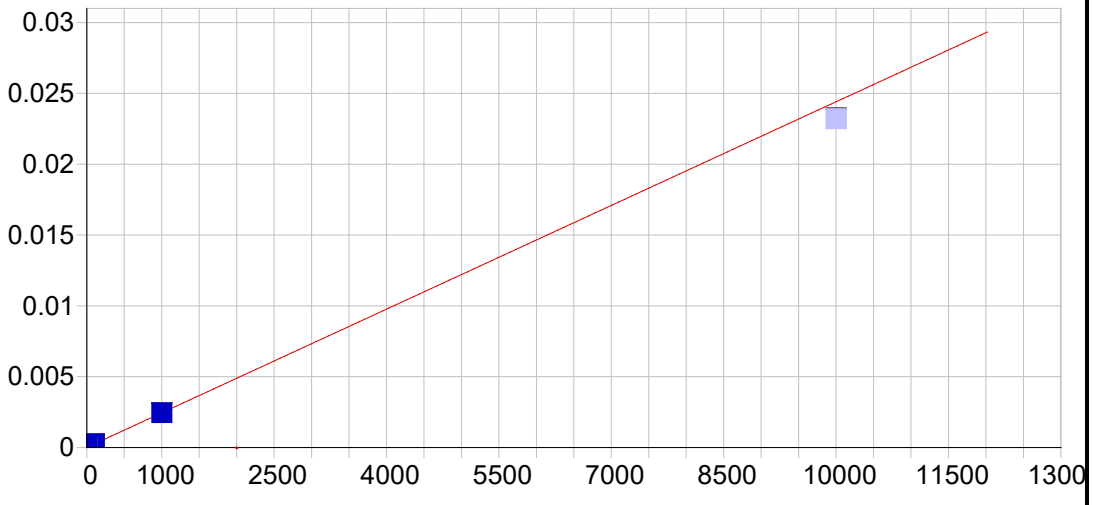


Pb 220.353 {153}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999626	Status:	OK.
Std Error of Est:	0.000049		
Predicted MDL:	2.618960		
Predicted MQL:	8.729867		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.2898	-1.29	.000	.00001	.000	1
CalStd9=100	1000.0	1003.0	2.98	.298	.00204	.000	1
CalStd10=10	10000.	9555.8	-444.	-4.44	.01932	.000	1
CalStd8=100	100.00	100.37	.366	.366	.00022	.000	1
CalStd12=10	100000.	101940.	1940.	1.94	.20597	.000	1

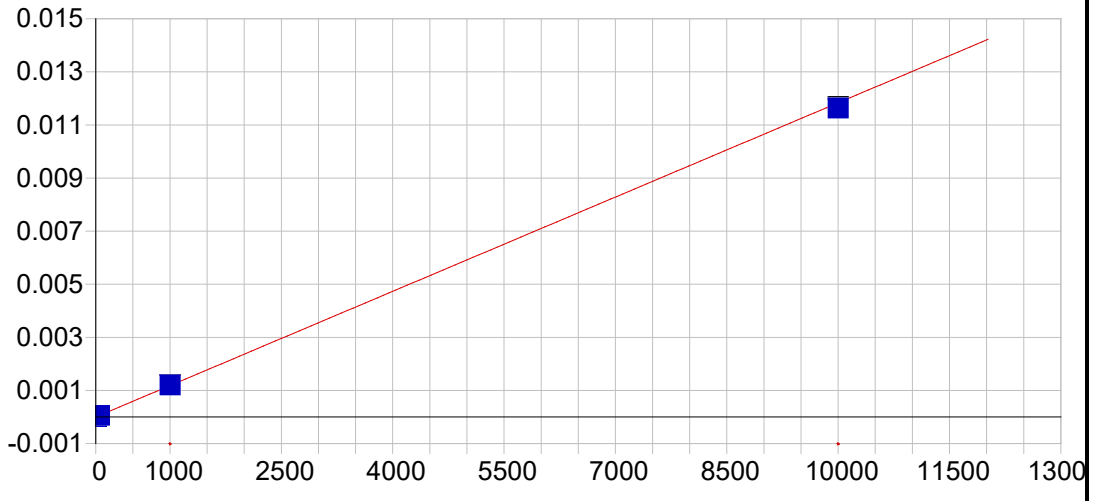


Pb 220.353 {453}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.656070		
Predicted MQL:	8.853566		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00081	.001	.000	.00001	.000	1
CalStd5=10	10.000	8.1573	-1.84	-18.4	.00003	.000	1
CalStd8=100	100.00	101.84	1.84	1.84	.00026	.000	1
CalStd4=5	5.0000	5.0184	.018	.368	.00002	.000	1
CalStd9=100	1000.0	999.99	-.011	-.001	.00245	.000	1
CalStd10=10	10000.	9504.3	-496.	-4.96	.02320	.000	0

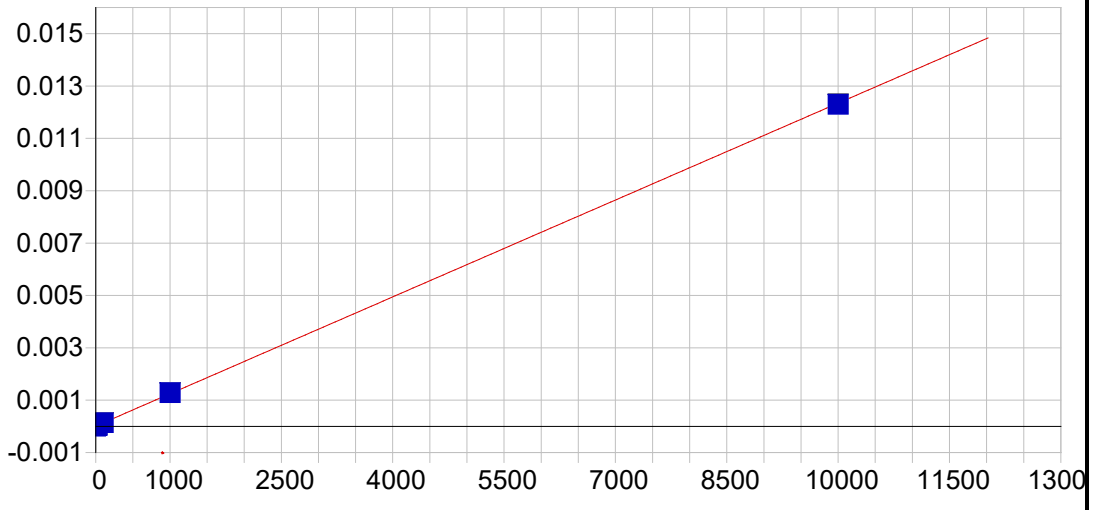


Sb 206.833 {463}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999830	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	3.331493		
Predicted MQL:	11.104976		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.53100	-.531	.000	-.00000	.000	1
CalStd9=100	1000.0	1018.7	18.7	1.87	.00121	.000	1
CalStd5=10	10.000	9.1287	-.871	-8.71	.00001	.000	1
CalStd7=50	50.000	51.683	1.68	3.37	.00006	.000	1
CalStd10=10	10000.	9828.7	-171.	-1.71	.01163	.000	1

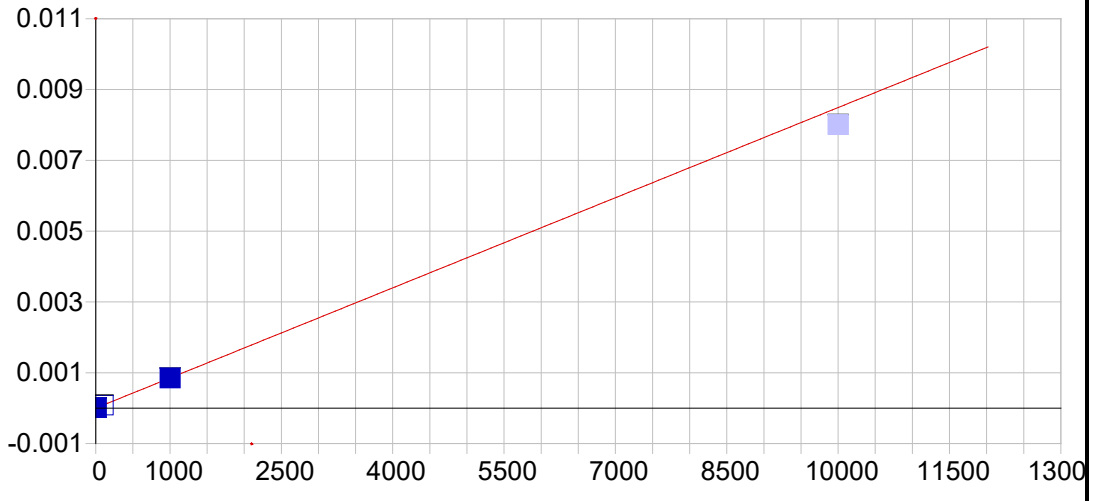


Sb 217.581 {455}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999930	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	3.337414		
Predicted MQL:	11.124713		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.9532	-5.95	.000	.00000	.000	1
CalStd9=100	1000.0	1029.0	29.0	2.90	.00128	.000	1
CalStd6=20	20.000	18.042	-1.96	-9.79	.00003	.000	1
CalStd5=10	10.000	3.2035	-6.80	-68.0	.00001	.000	1
CalStd8=100	100.00	98.943	-1.06	-1.06	.00013	.000	1
CalStd4=5	5.0000	1.4407	-3.56	-71.2	.00001	.000	1
CalStd10=10	10000.	9960.7	-39.3	-.393	.01230	.000	1

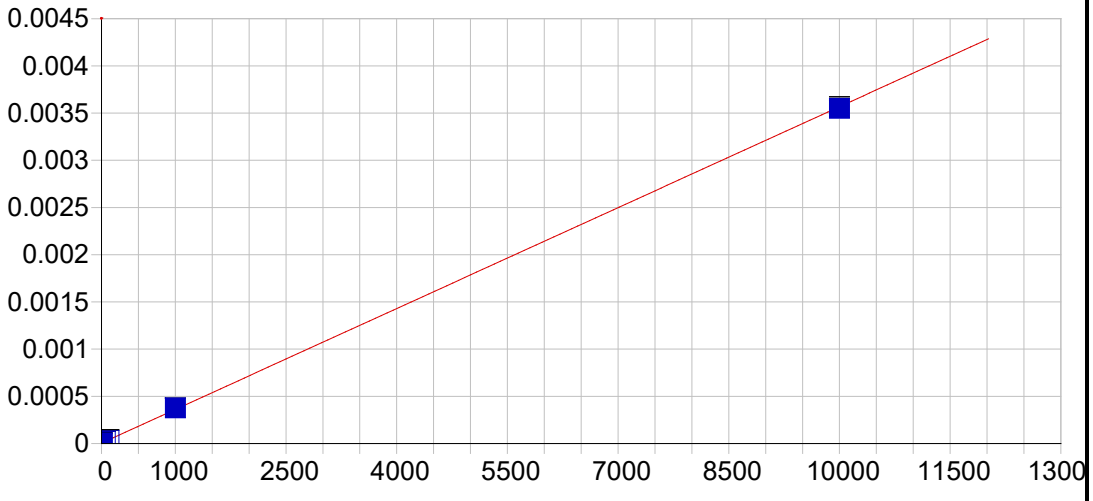


Se 196.090 {472}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999932	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.681526		
Predicted MQL:	12.271754		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00083	-.001	.000	.00000	.000	1
CalStd9=100	1000.0	1001.1	1.09	.109	.00085	.000	1
CalStd5=10	10.000	11.029	1.03	10.3	.00001	.000	1
CalStd8=100	100.00	97.885	-2.11	-2.11	.00008	.000	1
CalStd10=10	10000.	9431.3	-569.	-5.69	.00801	.000	0

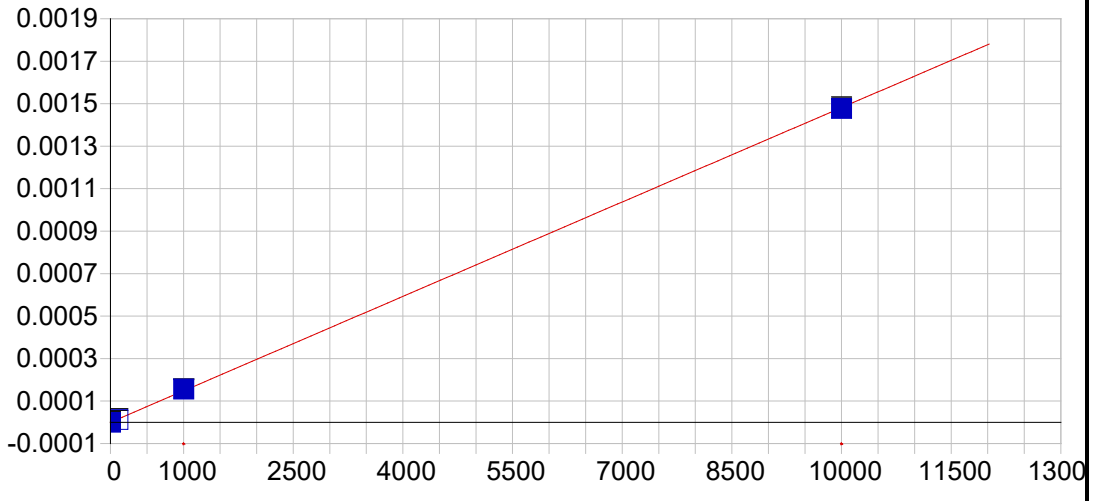


Se 203.985 {465}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	14.175632		
Predicted MQL:	47.252108		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.4576	1.46	.000	.00001	.000	1
CalStd7=50	50.000	48.471	-1.53	-3.06	.00002	.000	1
CalStd9=100	1000.0	1045.2	45.2	4.52	.00038	.000	1
CalStd5=10	10.000	3.5907	-6.41	-64.1	.00001	.000	1
CalStd8=100	100.00	88.383	-11.6	-11.6	.00004	.000	1
CalStd10=10	10000.	9950.0	-50.0	-.500	.00355	.000	1

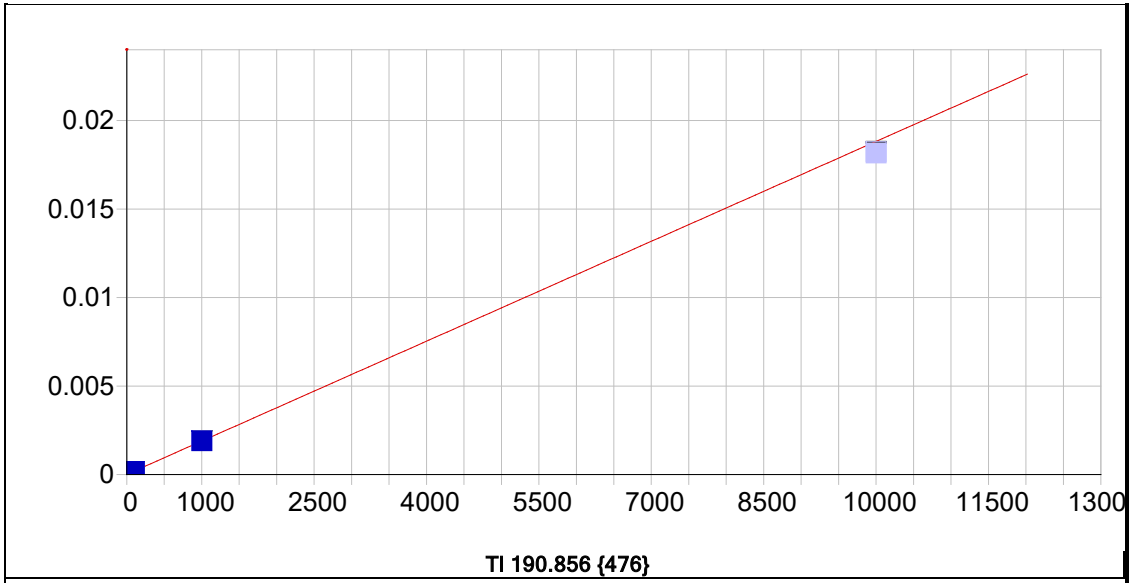


Se 206.279 {463}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999775	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	27.153578		
Predicted MQL:	90.511926		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01127	.011	.000	.00000	.000	1
CalStd9=100	1000.0	1048.9	48.9	4.89	.00016	.000	1
CalStd10=10	10000.	9966.9	-33.1	-.331	.00148	.000	1
CalStd8=100	100.00	84.169	-15.8	-15.8	.00001	.000	1

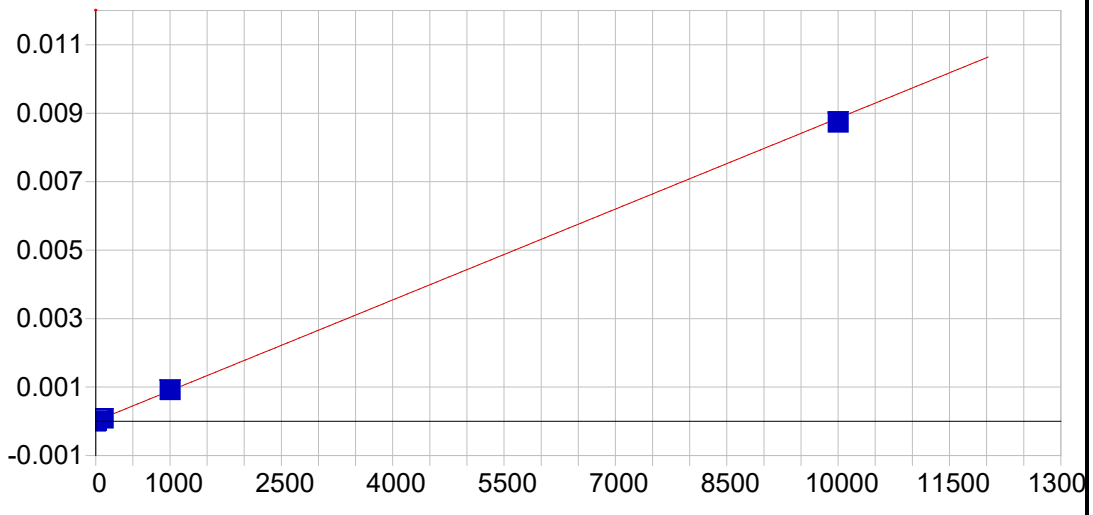


Tl 190.856 {476}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999719	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.058201		
Predicted MQL:	6.860669		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00252	.003	.000	.00001	.000	1
CalStd9=100	1000.0	1005.0	4.95	.495	.00191	.000	1
CalStd8=100	100.00	97.358	-2.64	-2.64	.00019	.000	1
CalStd5=10	10.000	7.6909	-2.31	-23.1	.00002	.000	1
CalStd10=10	10000.	9649.4	-351.	-3.51	.01824	.000	0

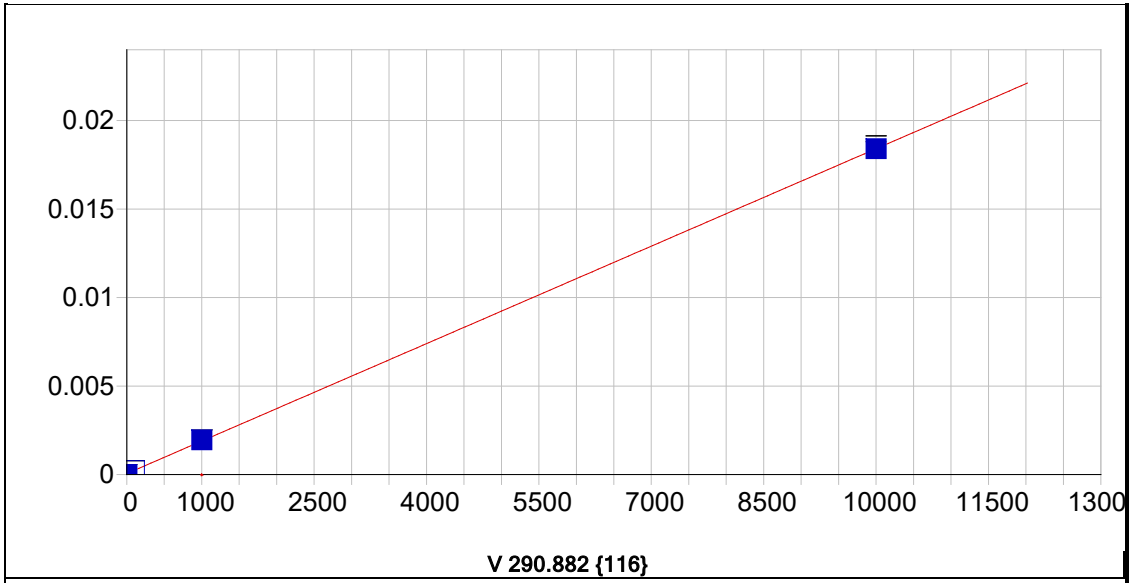


Tl 190.856 {477}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999750	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	3.309263		
Predicted MQL:	11.030878		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-7.8876	-7.89	.000	.00000	.000	1
CalStd9=100	1000.0	1025.7	25.7	2.57	.00092	.000	1
CalStd8=100	100.00	93.496	-6.50	-6.50	.00009	.000	1
CalStd5=10	10.000	-.15200	-10.2	-102.	.00001	.000	1
CalStd10=10	10000.	9861.9	-138.	-1.38	.00873	.000	1

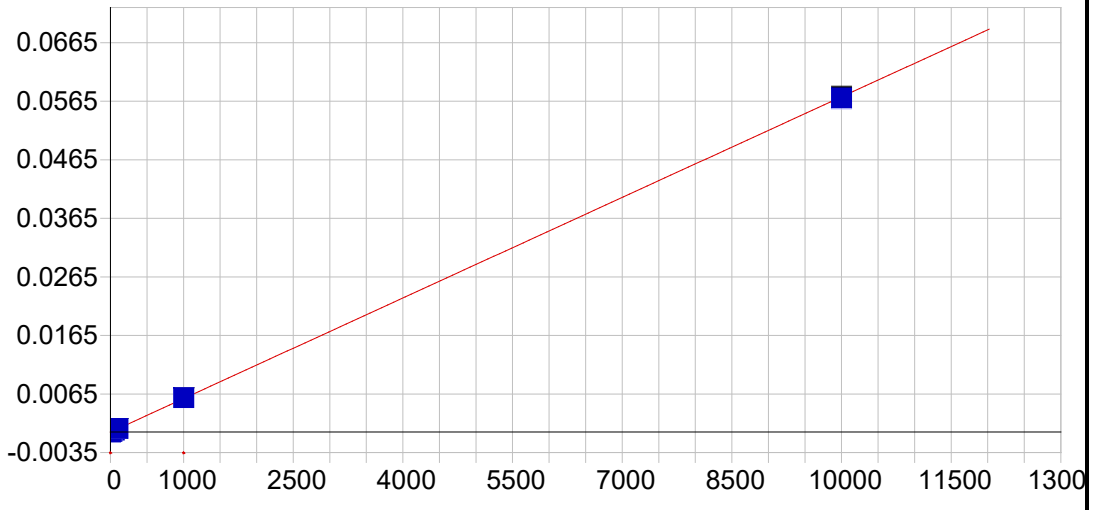


V 290.882 {116}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000056		
Predicted MDL:	2.626855		
Predicted MQL:	8.756183		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-18.361	-18.4	.000	.00002	.000	1
CalStd9=100	1000.0	1036.3	36.3	3.63	.00196	.000	1
CalStd10=10	10000.	9996.5	-3.48	-.035	.01841	.000	1
CalStd8=100	100.00	85.575	-14.4	-14.4	.00021	.000	1

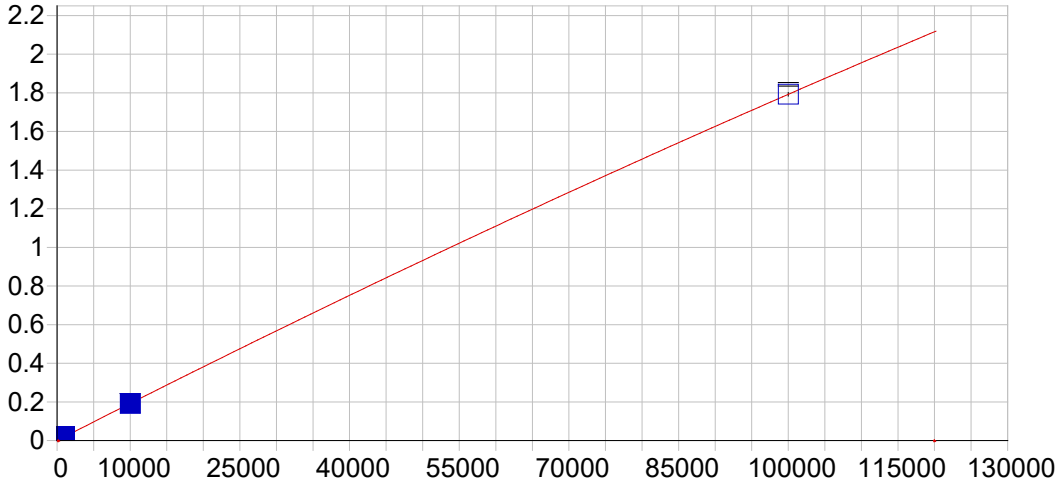


V 292.402 {115}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.396816		
Predicted MQL:	1.322721		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00261	-.003	.000	-.00001	.000	1
CalStd7=50	50.000	53.287	3.29	6.57	.00030	.000	1
CalStd9=100	1000.0	1025.5	25.5	2.55	.00584	.000	1
CalStd6=20	20.000	21.020	1.02	5.10	.00011	.000	1
CalStd5=10	10.000	10.762	.762	7.62	.00005	.000	1
CalStd8=100	100.00	104.56	4.56	4.56	.00059	.000	1
CalStd10=10	10000.	9964.8	-35.2	-.352	.05682	.000	1

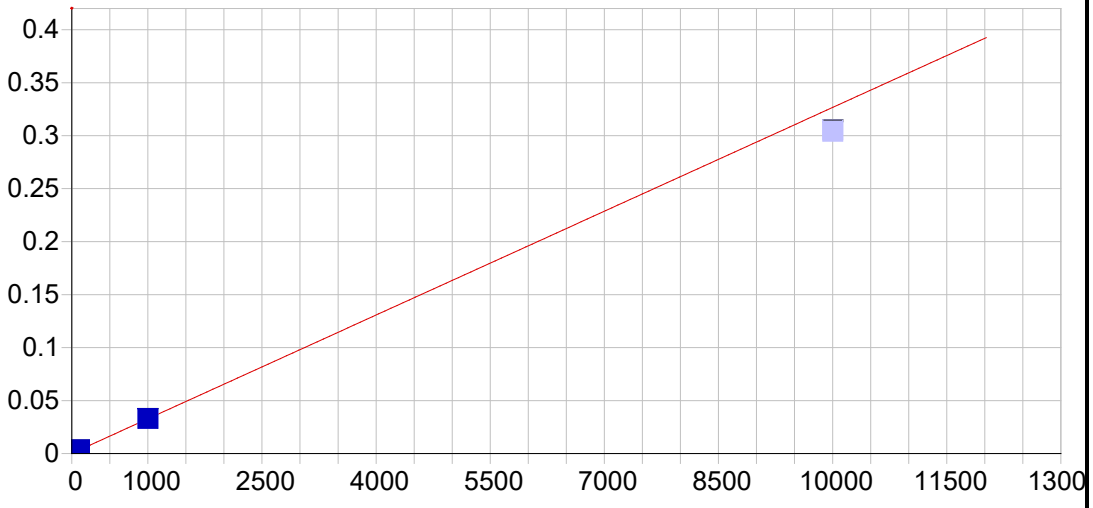


Zn 206.200 {463}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000072	Re-Slope:	1.000000
A1 (Gain):	0.000019	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.225356		
Predicted MQL:	0.751187		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9947.0	-53.0	-.530	.19126	.000	1
Blank	.00000	.00150	.002	.000	.00007	.000	1
CalStd9=100	1000.0	1046.4	46.4	4.64	.02032	.000	1
CalStd12=10	100000.	100010.	5.58	.006	1.7922	.009	1
CalStd5=10	10.000	7.7512	-2.25	-22.5	.00022	.000	1
CalStd8=100	100.00	103.35	3.35	3.35	.00207	.000	1

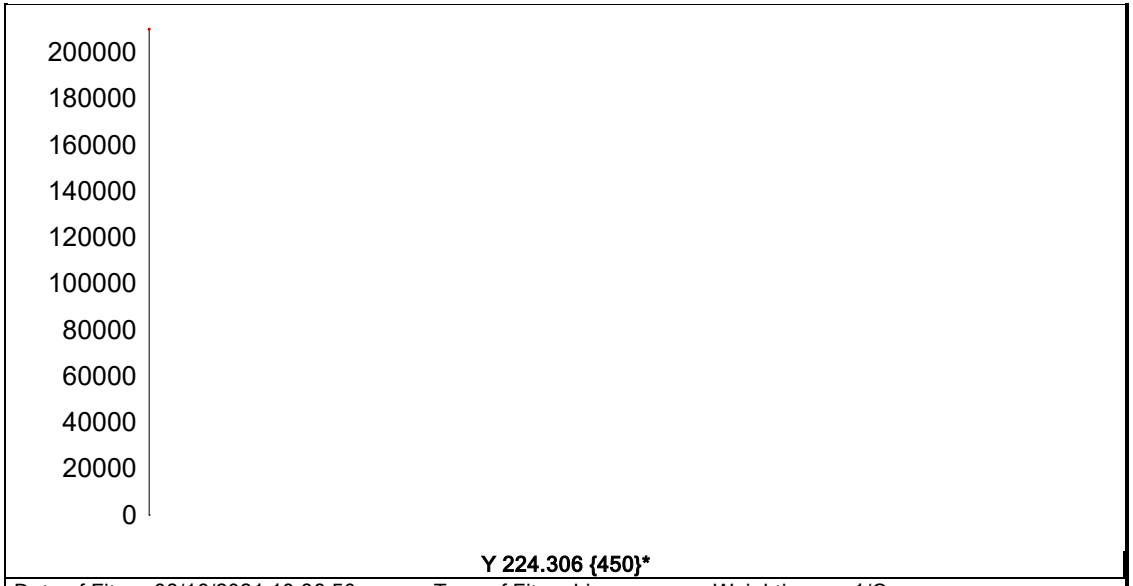


Zn 213.856 {457}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000135	Re-Slope:	1.000000
A1 (Gain):	0.000033	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999725	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.134818		
Predicted MQL:	0.449394		

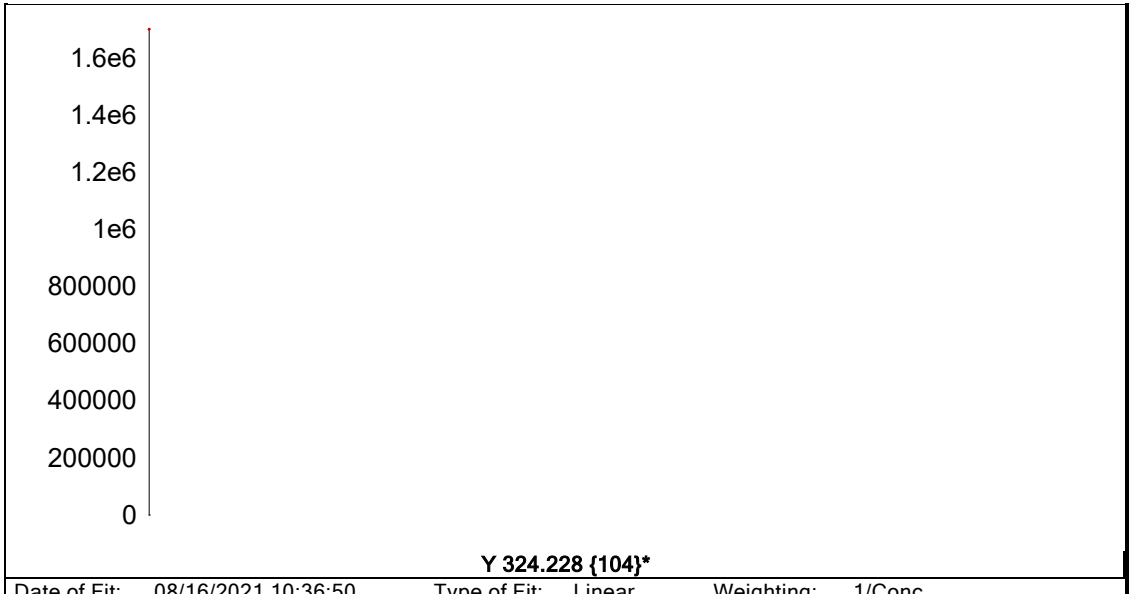
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00246	.002	.000	.00014	.000	1
CalStd9=100	1000.0	1002.6	2.64	.264	.03301	.000	1
CalStd5=10	10.000	7.5349	-2.47	-24.7	.00038	.000	1
CalStd8=100	100.00	99.815	-.185	-.185	.00341	.000	1
CalStd10=10	10000.	9306.2	-694.	-6.94	.30542	.000	0



Y 224.306 {450}*

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

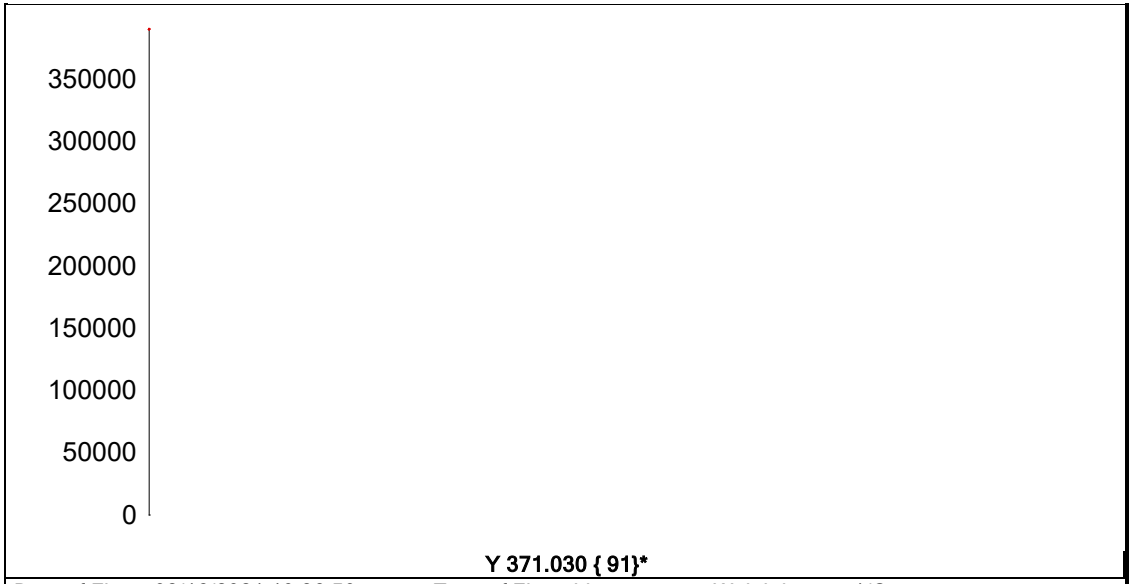
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	193800.	389.	1



Y 324.228 {104}*

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

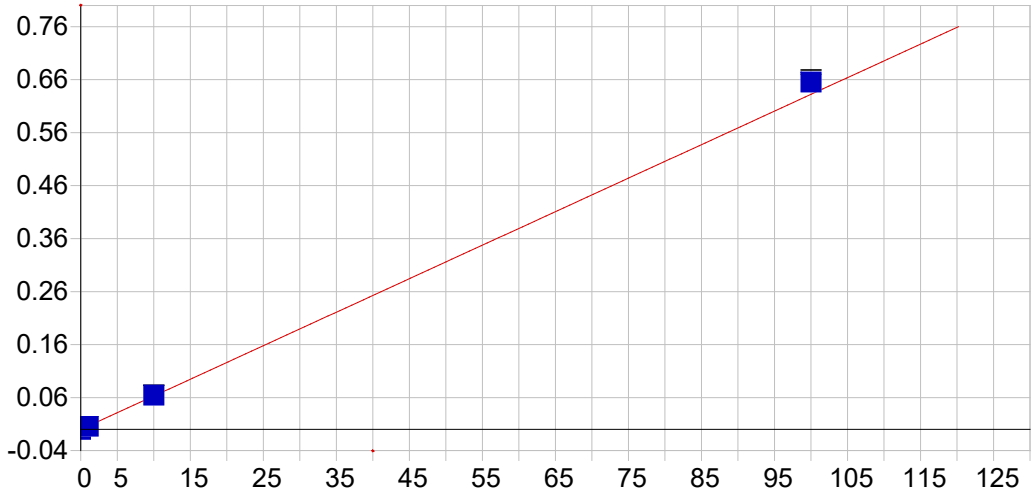
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1557300.	7700.	1



Y 371.030 { 91}*

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	367440.	1080.	1

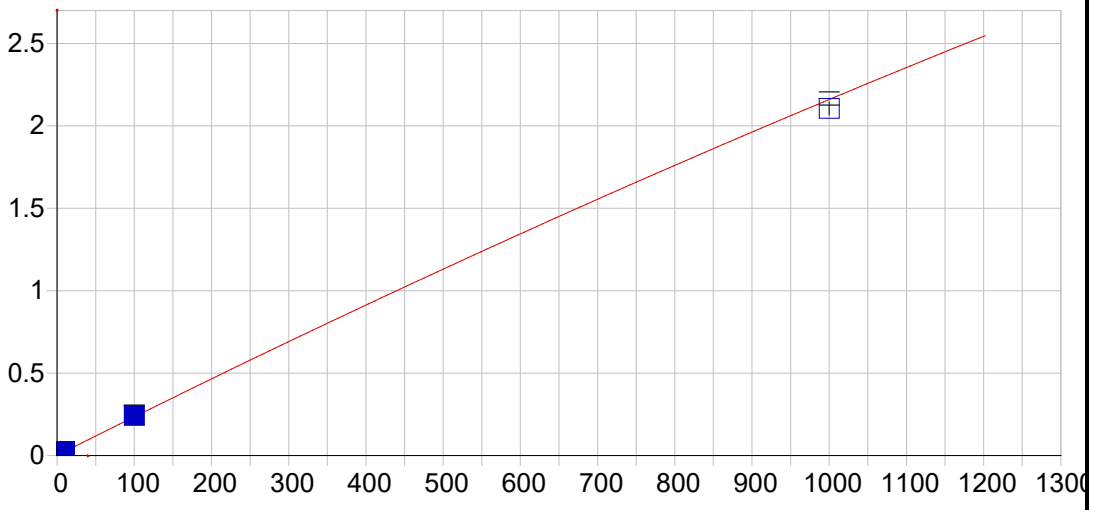


Na 588.995 { 57}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000304	Re-Slope:	1.000000
A1 (Gain):	0.006325	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998953	Status:	OK.
Std Error of Est:	0.000266		
Predicted MDL:	0.005678		
Predicted MQL:	0.018927		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01026	.010	.000	-.00024	.000	1
CalStd9=100	1.0000	.94351	-.056	-5.65	.00566	.000	1
CalStd10=10	10.000	10.211	.211	2.11	.06427	.001	1
CalStd13=10	100.00	103.67	3.67	3.67	.65529	.004	1

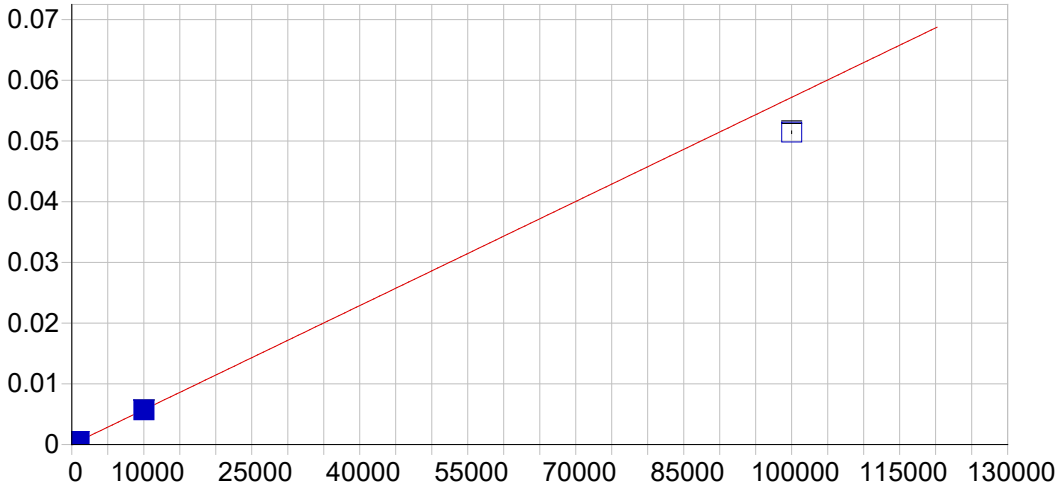


Na 589.592 { 57}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000993	Re-Slope:	1.000000
A1 (Gain):	0.002361	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.998657	Status:	OK.
Std Error of Est:	0.000225		
Predicted MDL:	0.008235		
Predicted MQL:	0.027450		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02037	.020	.000	.00104	.000	1
CalStd9=100	1.0000	.86961	-.130	-13.0	.00305	.000	1
CalStd10=10	10.000	9.8144	-.186	-1.86	.02415	.000	1
CalibStd15=	1000.0	971.96	-28.0	-2.80	2.1052	.040	1
CalStd13=10	100.00	103.29	3.29	3.29	.24273	.001	1

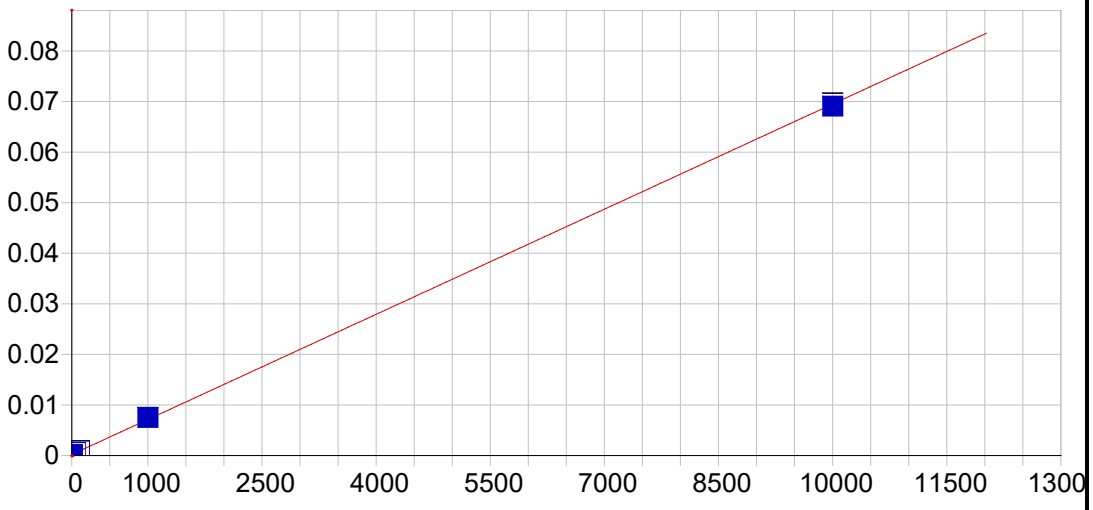


Si 251.611 {134}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.932484		
Predicted MQL:	16.441612		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.48780	.488	.000	.00001	.000	1
CalStd9=100	1000.0	995.27	-4.73	-.473	.00058	.000	1
CalibStd15=	100000.	89942.	-10100.	-10.1	.05145	.000	1
CalStd10=10	10000.	9927.4	-72.6	-.726	.00569	.000	1

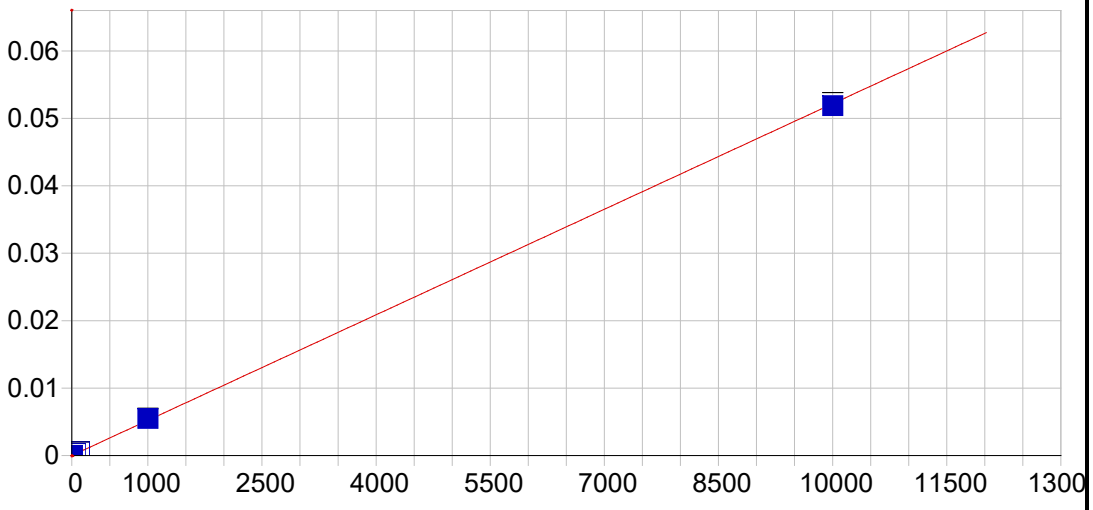


Ti 323.452 {104}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000199	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999838	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.967604		
Predicted MQL:	3.225345		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00141	-.001	.000	.00020	.000	1
CalStd5=10	10.000	10.449	.449	4.49	.00027	.000	1
CalStd8=100	100.00	104.01	4.01	4.01	.00092	.000	1
CalStd9=100	1000.0	1052.5	52.5	5.25	.00749	.000	1
CalStd10=10	10000.	9938.9	-61.1	-.611	.06908	.001	1
CalStd7=50	50.000	53.756	3.76	7.51	.00057	.000	1
CalStd4=5	5.0000	5.3757	.376	7.51	.00024	.000	1

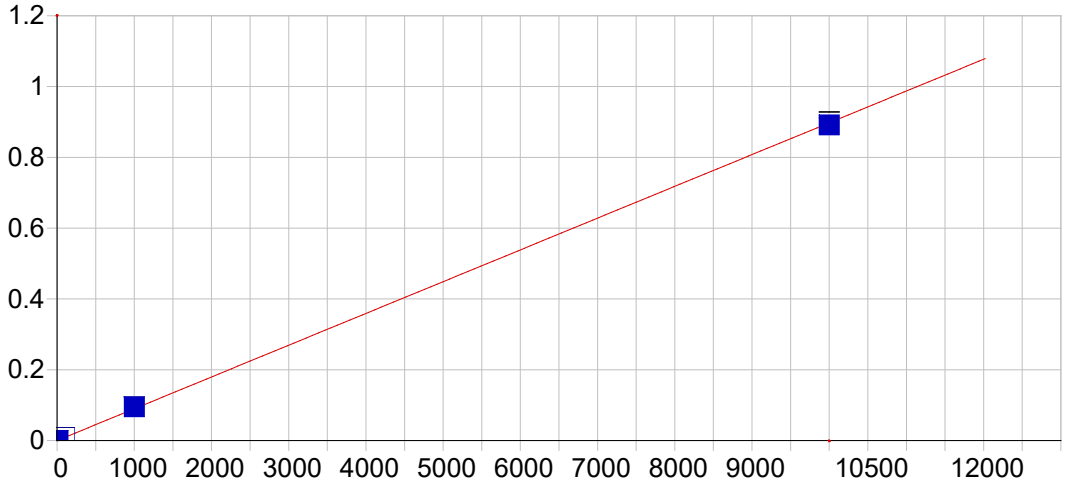


Ti 334.941 {101}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999842	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.908449		
Predicted MQL:	3.028163		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00192	-.002	.000	.00000	.000	1
CalStd5=10	10.000	10.653	.653	6.53	.00006	.000	1
CalStd8=100	100.00	104.79	4.79	4.79	.00055	.000	1
CalStd9=100	1000.0	1049.8	49.8	4.98	.00548	.000	1
CalStd10=10	10000.	9940.1	-59.9	-.599	.05187	.000	1
CalStd7=50	50.000	53.899	3.90	7.80	.00028	.000	1
CalStd4=5	5.0000	5.7475	.748	15.0	.00003	.000	1

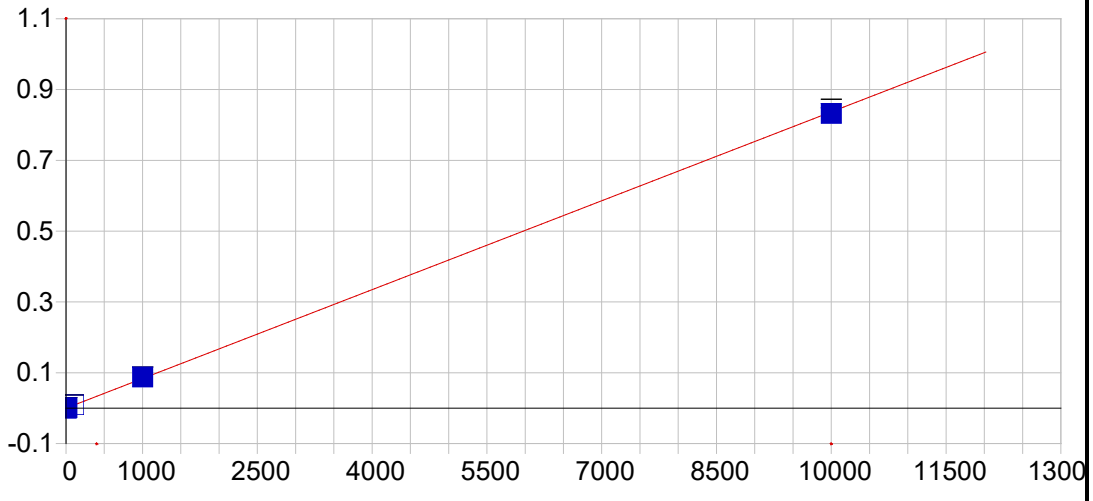


Sr 407.771 { 83}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000090	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999788	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.112792		
Predicted MQL:	0.375974		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00046	-.000	.000	.00003	.000	1
CalStd3=1	1.0000	1.1323	.132	13.2	.00013	.000	1
CalStd4=5	5.0000	5.5499	.550	11.0	.00053	.000	1
CalStd5=10	10.000	11.019	1.02	10.2	.00102	.000	1
CalStd8=100	100.00	106.76	6.76	6.76	.00961	.000	1
CalStd9=100	1000.0	1060.1	60.1	6.01	.09518	.001	1
CalStd10=10	10000.	9931.4	-68.6	-.686	.89144	.008	1

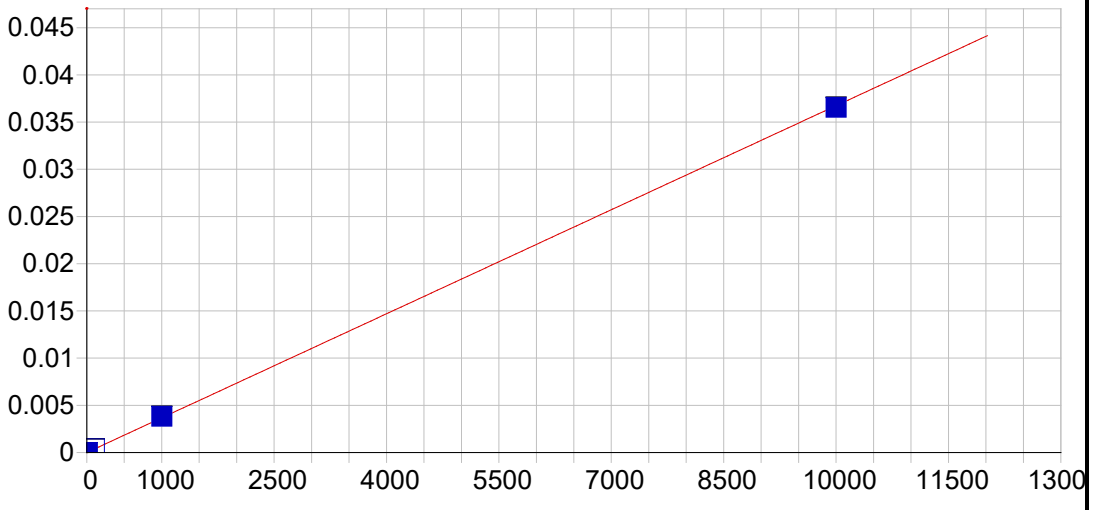


Sr 421.552 { 80}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000084	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999851	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.112623		
Predicted MQL:	0.375411		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00059	-.001	.000	-.00001	.000	1
CalStd3=1	1.0000	1.2717	.272	27.2	.00010	.000	1
CalStd4=5	5.0000	5.5608	.561	11.2	.00046	.000	1
CalStd5=10	10.000	11.043	1.04	10.4	.00091	.000	1
CalStd8=100	100.00	105.63	5.63	5.63	.00883	.000	1
CalStd9=100	1000.0	1049.4	49.4	4.94	.08782	.001	1
CalStd10=10	10000.	9943.1	-56.9	-.569	.83222	.012	1

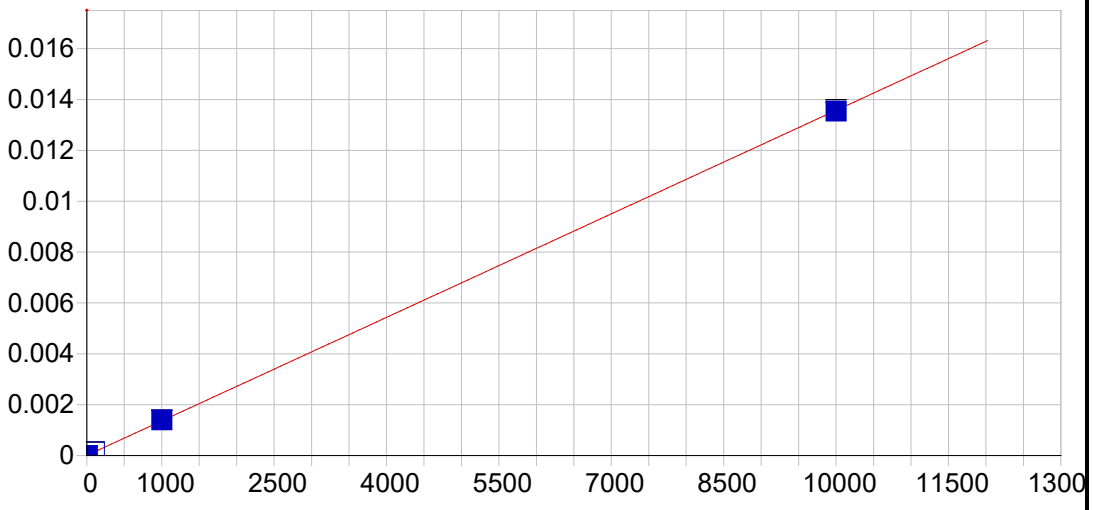


Sn 189.989 {477}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999881	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.879230		
Predicted MQL:	2.930767		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00252	-.003	.000	.00000	.000	1
CalStd10=10	10000.	9950.2	-49.8	-.498	.03655	.000	1
CalStd9=100	1000.0	1043.9	43.9	4.39	.00384	.000	1
CalStd8=100	100.00	104.15	4.15	4.15	.00039	.000	1
CalStd5=10	10.000	11.713	1.71	17.1	.00005	.000	1

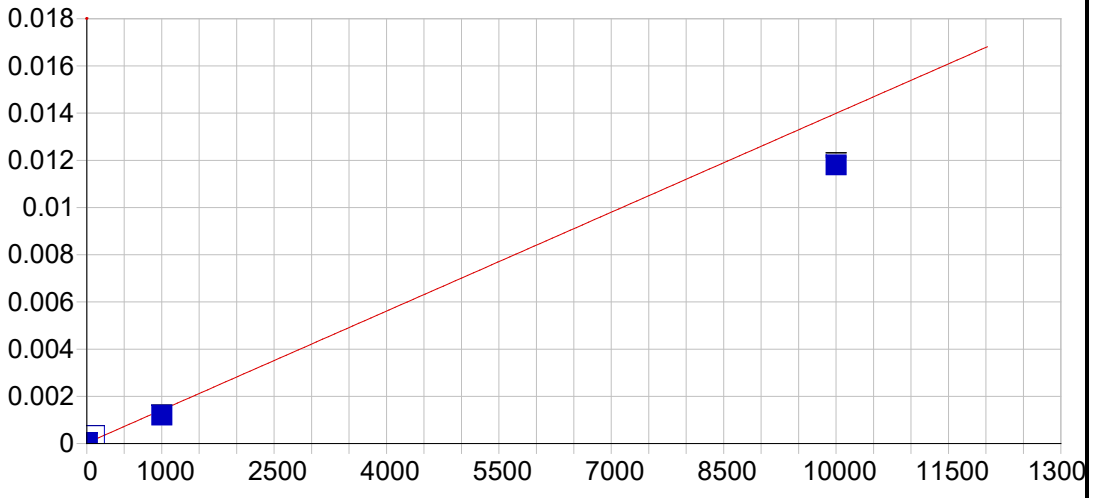


B 249.678 {135}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.840939		
Predicted MQL:	2.803129		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00120	.001	.000	.00000	.000	1
CalStd8=100	100.00	100.32	.325	.325	.00014	.000	1
CalStd5=10	10.000	8.5162	-1.48	-14.8	.00002	.000	1
CalStd9=100	1000.0	1027.8	27.8	2.78	.00140	.000	1
CalStd10=10	10000.	9973.4	-26.6	-.266	.01354	.000	1

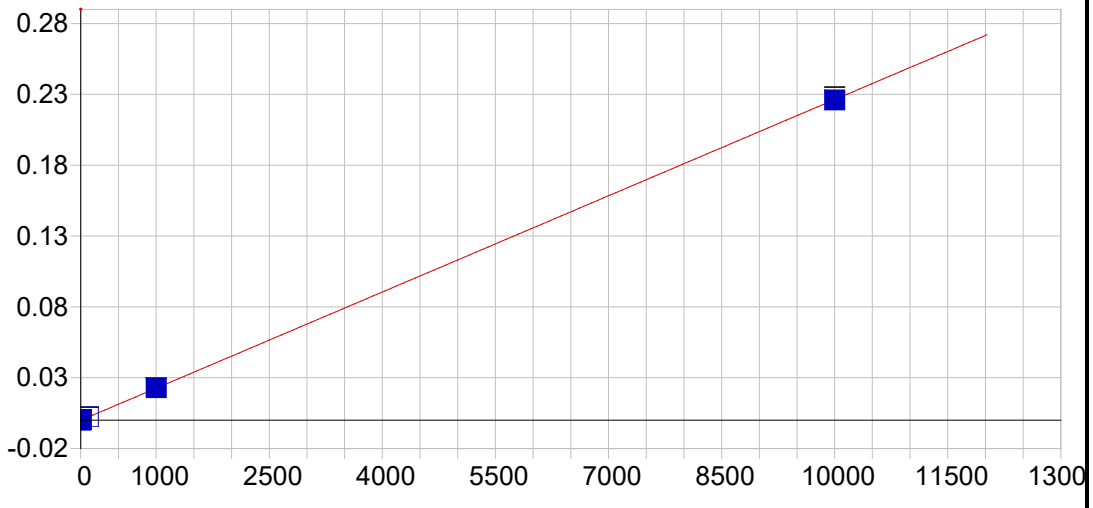


B 249.773 {135}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.910601	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.856874		
Predicted MQL:	2.856248		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-11.714	-11.7	.000	.00001	.000	1
CalStd8=100	100.00	218.73	119.	119.	.00033	.000	1
CalStd5=10	10.000	10.298	.298	2.98	.00004	.000	1
CalStd9=100	1000.0	842.17	-158.	-15.8	.00120	.000	1
CalStd10=10	10000.	8431.4	-1570.	-15.7	.01181	.000	1

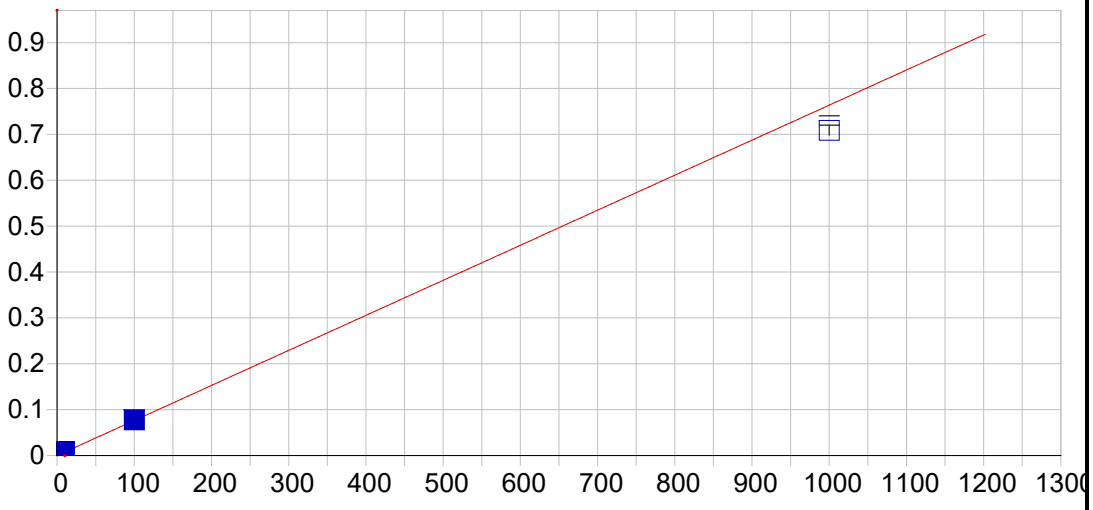


Li 670.784 { 50}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000073	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.979771		
Predicted MQL:	3.265904		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00167	-.002	.000	-.00007	.000	1
CalStd5=10	10.000	11.427	1.43	14.3	.00019	.000	1
CalStd8=100	100.00	101.43	1.43	1.43	.00222	.000	1
CalStd9=100	1000.0	1011.0	11.0	1.10	.02282	.000	1
CalStd10=10	10000.	9986.1	-13.9	-.139	.22604	.002	1

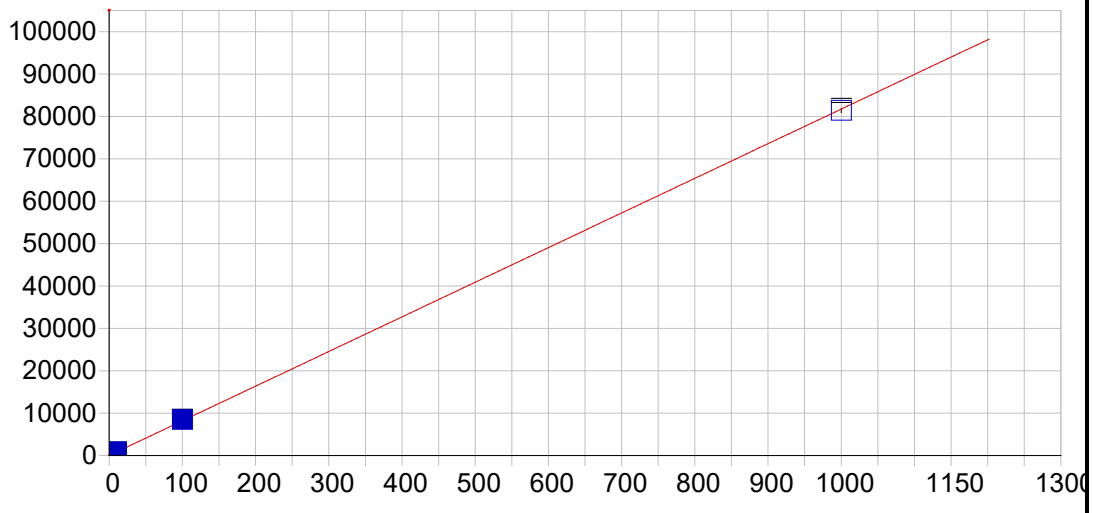


K 766.490 { 44}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000058	Re-Slope:	1.000000
A1 (Gain):	0.000764	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999451	Status:	OK.
Std Error of Est:	0.000100		
Predicted MDL:	0.028031		
Predicted MQL:	0.093436		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.10117	.101	.000	.00014	.000	1
CalStd9=100	1.0000	.97191	-.028	-2.81	.00080	.000	1
CalStd10=10	10.000	10.153	.153	1.53	.00781	.000	1
CalibStd15=	1000.0	927.51	-72.5	-7.25	.70846	.010	1
CalStd13=10	100.00	101.12	1.12	1.12	.07729	.000	1

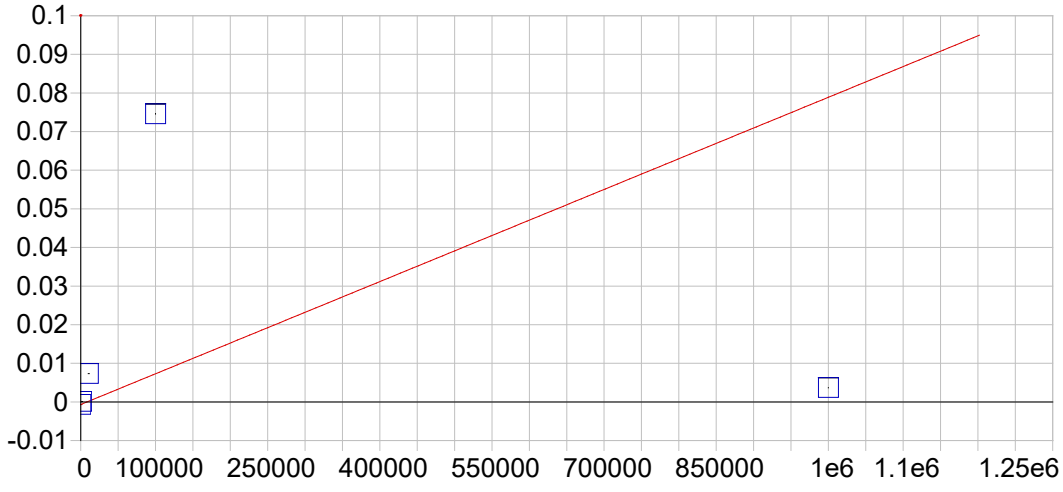


K 769.896 { 44}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	25.549601	Re-Slope:	1.000000
A1 (Gain):	81.720077	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999926	Status:	OK.
Std Error of Est:	1.349405		
Predicted MDL:	0.066798		
Predicted MQL:	0.222661		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00019	-.000	.000	25.534	2.51	1
CalStd9=100	1.0000	1.1362	.136	13.6	118.46	1.72	1
CalStd10=10	10.000	10.272	.272	2.72	865.60	4.98	1
CalibStd15=	1000.0	996.09	-3.91	-.391	81426.	480.	1
CalStd13=10	100.00	103.50	3.50	3.50	8489.7	34.4	1

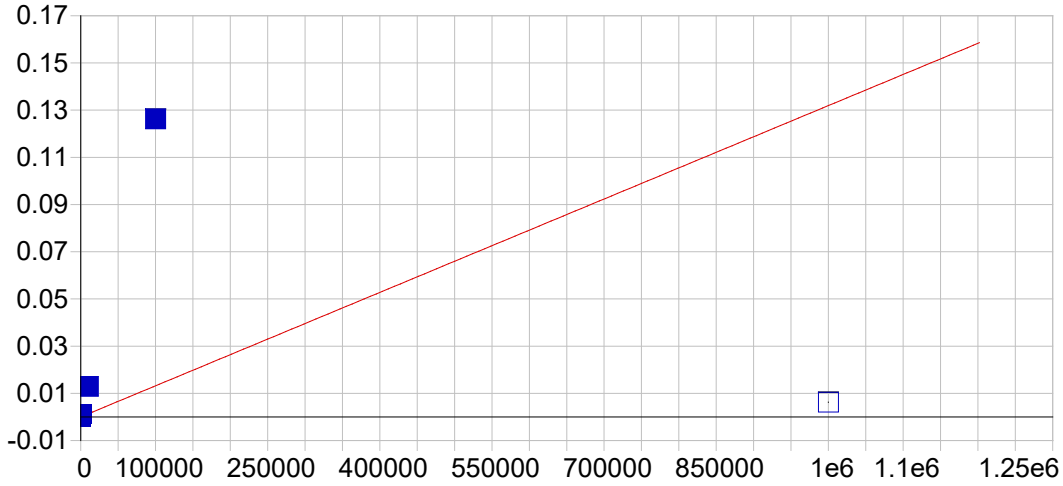


P 177.495 {489}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000668	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.332328	Status:	OK.
Std Error of Est:	0.000307		
Predicted MDL:	57.429153		
Predicted MQL:	191.430511		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-25.362	-25.4	.000	-.00067	.000	1
CalStd10=10	10000.	100390.	90400.	904.	.00732	.000	1
CalStd9=100	1000.0	9807.5	8810.	881.	.00011	.000	1
CalibStd15=	1000000.	54662.	-945000.	-94.5	.00368	.000	1
CalStd13=10	100000.	946140.	846000.	846.	.07460	.000	1

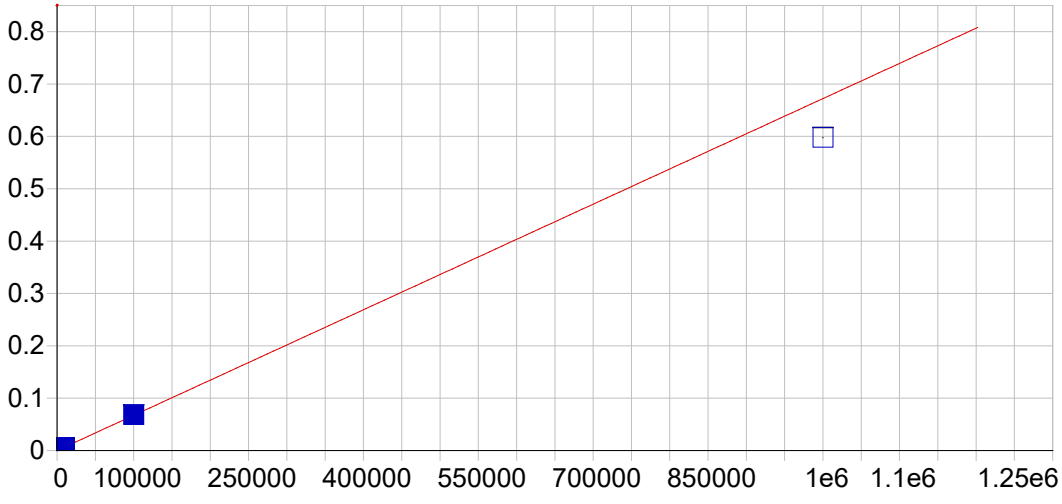


P 213.618 {457}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.330080	Status:	OK.
Std Error of Est:	0.000513		
Predicted MDL:	41.825823		
Predicted MQL:	139.419410		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-24.747	-24.7	.000	-.00001	.000	1
CalStd10=10	10000.	97575.	87600.	876.	.01286	.000	1
CalStd9=100	1000.0	9374.0	8370.	837.	.00123	.000	1
CalibStd15=	1000000.	47343.	-953000.	-95.3	.00624	.000	1
CalStd13=10	100000.	956770.	857000.	857.	.12622	.000	1

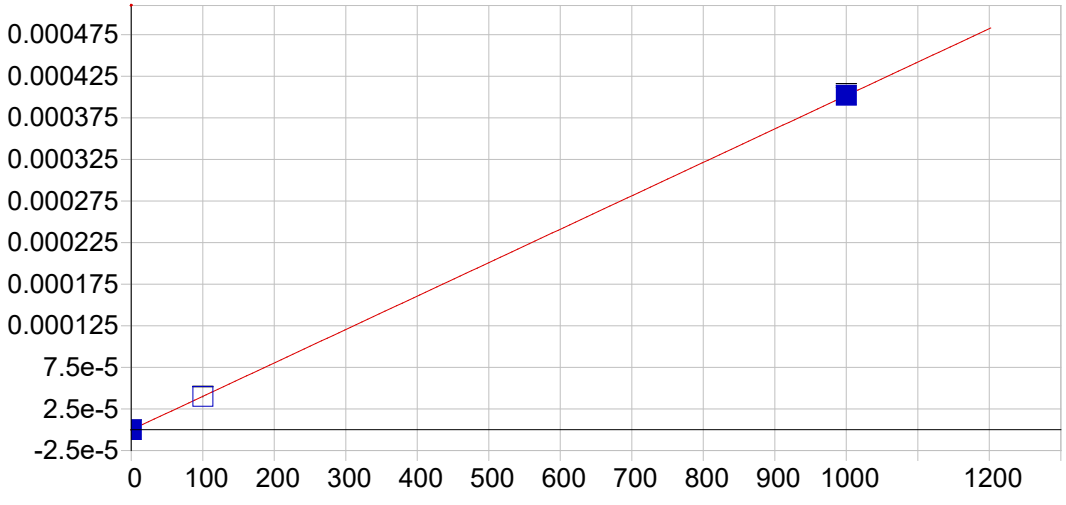


S 182.034 {485}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999151	Status:	OK.
Std Error of Est:	0.000435		
Predicted MDL:	4.034727		
Predicted MQL:	13.449090		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-20.924	-20.9	.000	.00000	.000	1
CalStd9=100	1000.0	950.38	-49.6	-4.96	.00066	.000	1
CalStd10=10	10000.	10001.	.626	.006	.00676	.000	1
CalibStd15=	1000000.	889410.	-111000.	-11.1	.59788	.001	1
CalStd13=10	100000.	101660.	1660.	1.66	.06835	.000	1

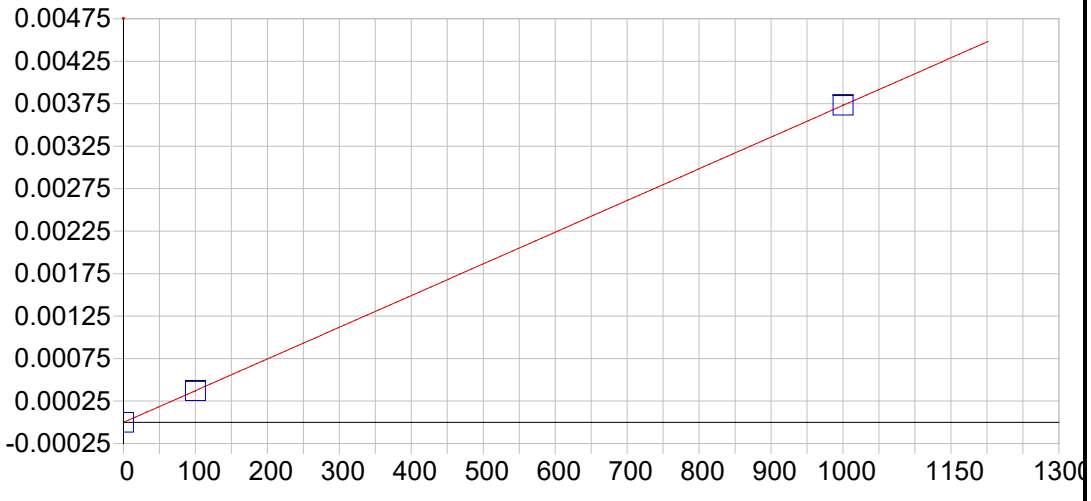


Hg 184.950 {482}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.883147		
Predicted MQL:	2.943824		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00021	.000	.000	-.00000	.000	1
CalStd8=100	100.00	99.772	-.228	-.228	.00004	.000	1
CalStd9=100	1000.0	1000.2	.228	.023	.00040	.000	1

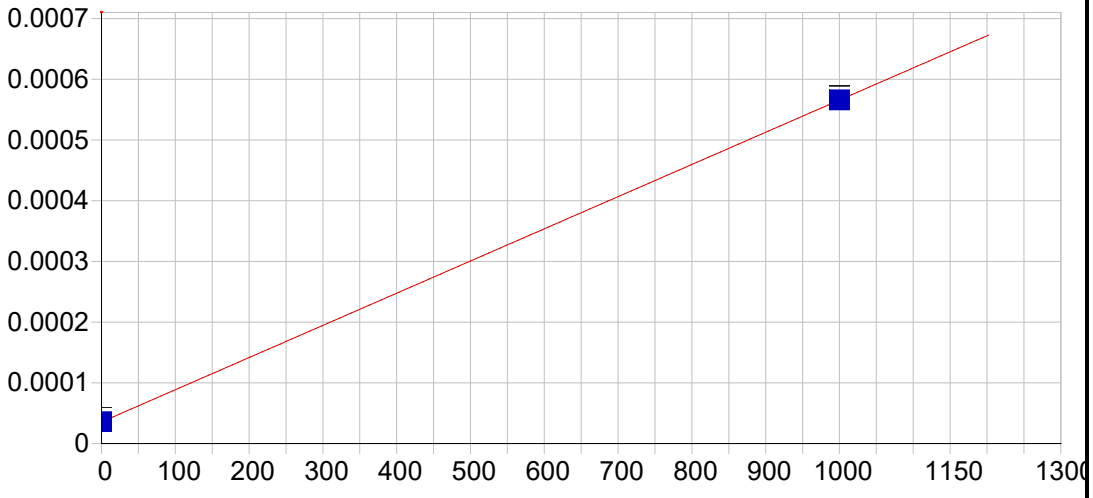


Hg 194.227 {473}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.800766		
Predicted MQL:	2.669221		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00048	.000	.000	-.00000	.000	1
CalStd8=100	100.00	99.470	-.530	-.530	.00037	.000	1
CalStd9=100	1000.0	1000.5	.530	.053	.00373	.000	1



Ce 404.076 { 83}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000036	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	17.820447		
Predicted MQL:	59.401491		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00004	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00057	.000	1

Sample Name: Blank Acquired: 08/11/2021 11:57:55 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Ba4934	Be3131	Ca3158	Ca3933	Cd2265	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.71**	**.000**	**-.000**	**.000**	**-.000**	**.000**	**.008**	**-.000**	**18.8**	**.001**	**-.000**	**-.000**
Stddev	.65	.000	.000	.000	.000	.000	.000	.000	1.0	.000	.000	.000
%RSD	11.3	15.1	104.	101.	136.	185.	.436	152.	5.35	28.4	556.	1810.

Elem	Co2388	Cr2677	Cu2230	Cu2247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**-.000**	**-.000**	**.000**	**-.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	35.6	842.	57.3	10.1	.793	19.2	93.9	43.5	25.2	.887	22.6	71.5

Elem	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	294.	381.	36.0	20.1	16.4	15.5	153.	152.	177.	2970.	27.4	6.74

Elem	V_2924	Zn2062	Zn2138	Na5889	Na5895	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**-.000**	**.001**	**.000**	**-.000**	**.000**	**.000**	**25.5**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	2.5
%RSD	26.1	24.2	22.8	7.84	1.35	21.8	33.6	20.6	20.2	9.84

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**193800.**	**1557300.**	**367440.**
Stddev	389.	7704.	1075.
%RSD	.20054	.49470	.29261

Sample Name: CalStd2=0.5 Acquired: 08/11/2021 12:05:42 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Be3131	Cd2265
Units	Cts/S	Cts/S	Cts/S
Avg	**6.42**	**.000**	**.000**
Stddev	.70	.000	.000
%RSD	11.0	4.69	32.7

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189060.**	**1515200.**	**362120.**
Stddev	431.	7809.	1822.
%RSD	.22798	.51536	.50305

Sample Name: CalStd3=1 Acquired: 08/11/2021 12:15:30 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3131	Cd2265	Co2286	Ni2316	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7.83**	**.000**	**.000**	**.000**	**.000**	**-.000**	**.000**
Stddev	1.09	.000	.000	.000	.000	.000	.000
%RSD	13.9	39.5	21.2	14.6	14.1	33.9	6.86

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**188430.**	**1530400.**	**360320.**
Stddev	264.	3926.	4038.
%RSD	.14035	.25651	1.1206

Sample Name: CalStd4=5 Acquired: 08/11/2021 12:24:26 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3131	Cd2265	Co2286	Cr2677	Mn2576	Mo2020	Mo2045	Ni2316	Pb2203	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**18.4**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.9	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.62	3.97	2.61	2.52	7.33	2.94	.752	4.23	19.4	5.94	35.8	22.8

Elem	Sr4215
Units	Cts/S
Avg	**.000**
Stddev	.000
%RSD	2.24

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189210.**	**1538700.**	**362760.**
Stddev	440.	6769.	3524.
%RSD	.23238	.43994	.97133

Sample Name: CalStd5=10 Acquired: 08/11/2021 12:32:39 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Be3131	Cd2265	Co2286	Cr2677	Cu2230	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**35.4**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	2.0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	5.74	3.73	21.8	407.	1.01	2.11	1.46	.833	16.5	3.95	.333	1.32

Elem	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2062	Zn2138	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	9.36	2.09	30.7	12.1	11.7	9.89	18.4	12.8	2.99	.883	.653	2.32

Elem	B_2496
Units	Cts/S
Avg	**.000**
Stddev	.000
%RSD	2.44

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189260.**	**1526200.**	**366540.**
Stddev	265.	1701.	4912.
%RSD	.13987	.11143	1.3400

Sample Name: CalStd6=20 Acquired: 08/11/2021 12:40:29 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2230	Cu2247	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.30	3.56	8.58	.583	2.01	4.57	7.60	2.23

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189020.**	**1533900.**	**362220.**
Stddev	219.	7393.	3523.
%RSD	.11572	.48200	.97258

Sample Name: CalStd7=50 Acquired: 08/11/2021 12:48:13 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	As1937	As1972	Co2286	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316	Sb2068	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	7.05	10.9	.551	1.51	3.00	.440	.777	2.13	.521	6.15	.964

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189140.**	**1541700.**	**367700.**
Stddev	285.	3976.	2422.
%RSD	.15046	.25789	.65869

Sample Name: CalStd8=100 Acquired: 08/11/2021 12:55:54 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Ba4934	Be3131	Ca3933	Cd2265	Co2286	Co2388	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**278.**	**.000**	**.000**	**.000**	**.001**	**.012**	**.003**	**.023**	**.002**	**.002**	**.000**	**.000**
Stddev	3.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.974	1.04	2.66	4.81	.339	.475	.487	.693	.245	.425	.529	1.55

Elem	Cu2230	Cu2247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.004**	**.001**	**.001**	**.000**	**.001**	**.002**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.694	3.43	.553	.357	.978	1.08	.600	.255	4.59	1.83	.713	5.05

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4215	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**.002**	**.003**	**.009**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	35.4	1.78	2.69	.282	.319	.168	.591	.659

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**190060.**	**1533300.**	**368250.**
Stddev	126.	9616.	1687.
%RSD	.06612	.62711	.45801

Sample Name: CalStd9=1000 Acquired: 08/11/2021 13:03:30 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	Al3961	As1937	As1972	Ba2335	Ba4934	Be3131	Ca3158	Ca3933	Cd2265	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.002**	**.001**	**.001**	**.007**	**.046**	**.026**	**129.**	**.209**	**.022**	**.021**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	1.	.001	.000	.000	.000
%RSD	.292	.482	.277	.817	.071	.677	.769	.686	.718	.109	.100	.606

Elem	Cr2677	Cu2230	Cu2247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.006**	**.007**	**.001**	**.001**	**.001**	**.000**	**.000**	**.037**	**.009**	**.008**	**.006**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.828	.105	.407	.635	1.25	.722	.466	1.48	.531	.556	.601	.190

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.012**	**.015**	**.001**	**.002**	**.001**	**.001**	**.001**	**.000**	**.002**	**.002**	**.006**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.142	.097	.179	.558	.559	.414	.174	.216	1.46	.224	.589	.612

Elem	Zn2062	Zn2138	Na5889	Na5895	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.020**	**.033**	**.006**	**.003**	**.001**	**.088**	**.001**	**.001**	**118.**
Stddev	.000	.000	.000	.000	.000	.001	.000	.000	2.
%RSD	.162	.057	.764	1.18	.878	.683	.650	1.56	1.45

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**190710.**	**1551100.**	**365920.**
Stddev	192.	6147.	2270.
%RSD	.10055	.39628	.62048

Sample Name: CalStd10=10000 Acquired: 08/11/2021 13:10:35 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1972	Ba4934	Ca3158	Co2286	Co2388	Cr2677	Cu2230	Cu2247	Fe2343	Fe2395	Fe2599
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.017**	**.005**	**.363**	**1090.**	**.202**	**.020**	**.009**	**.054**	**.067**	**.006**	**.009**	**.012**
Stddev	.000	.000	.004	5.	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.988	.159	.991	.444	.079	.543	.864	.095	.063	.433	.928	.922

Elem	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.001**	**.335**	**.086**	**.077**	**.060**	**.037**	**.109**	**.141**	**.010**	**.023**	**.012**
Stddev	.000	.000	.001	.000	.001	.000	.000	.000	.000	.000	.000	.000
%RSD	.117	.614	.342	.505	.873	.052	.027	.084	.118	.144	.198	.412

Elem	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Na5889	Na5895	Si2516	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.012**	**.008**	**.001**	**.018**	**.018**	**.057**	**.191**	**.305**	**.064**	**.024**	**.006**	**.832**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.012
%RSD	.068	.072	.420	.088	.896	.534	.044	.100	.787	.908	.737	1.44

Elem	B_2496	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S
Avg	**.014**	**.008**	**866.**
Stddev	.000	.000	5.
%RSD	.461	.781	.575

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189150.**	**1537600.**	**368830.**
Stddev	162.	5893.	2539.
%RSD	.08566	.38325	.68844

Sample Name: CalStd12=100K Acquired: 08/11/2021 13:18:34 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cu2247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.717**	**.786**	**.107**	**1.79**
Stddev	.001	.007	.000	.01
%RSD	.091	.912	.184	.514

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**189930.**	**370740.**
Stddev	126.	4217.
%RSD	.06654	1.1373

Sample Name: CalStd13=100000 Acquired: 08/11/2021 13:26:32 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Na5889	Na5895	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.170**	**11000.**	**.060**	**.086**	**.125**	**.013**	**.005**	**.655**	**.243**	**.077**	**8490.**
Stddev	.001	51.	.000	.001	.001	.000	.000	.004	.001	.000	34.
%RSD	.756	.462	.564	.711	.623	.832	.660	.625	.598	.624	.405

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**182720.**	**1511300.**	**365550.**
Stddev	135.	9321.	1185.
%RSD	.07385	.61674	.32413

Sample Name: CalStd14=500000 Acquired: 08/11/2021 13:34:23 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.835**	**50200.**	**.385**	**.555**	**.060**	**.026**
Stddev	.013	261.	.007	.008	.000	.000
%RSD	1.54	.519	1.72	1.46	.824	1.52

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1443500.**	**359270.**
Stddev	9267.	3879.
%RSD	.64199	1.0798

Sample Name: CalibStd15=1000k Acquired: 08/11/2021 13:42:39 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Mg2025	Mg2790	Na5895	Si2516	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.63**	**87100.**	**.693**	**.107**	**.050**	**2.11**	**.051**	**.708**	**81400.**
Stddev	.02	329.	.011	.001	.000	.04	.000	.010	480.
%RSD	1.19	.377	1.59	.590	.482	1.88	.425	1.42	.589

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**156340.**	**1349200.**	**335770.**
Stddev	242.	5121.	2122.
%RSD	.15478	.37952	.63205

Sample Name: Ag Ba 1000, 50000 Acquired: 08/11/2021 13:51:30 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba4934
Units	Cts/S
Avg	**2.05**
Stddev	.02
%RSD	1.10

Int. Std.	Y_3710
Units	Cts/S
Avg	**366340.**
Stddev	1960.
%RSD	.53492

Sample Name: icv Acquired: 08/11/2021 14:07:23 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Ca3179	Cd2265	Co2286	Cr2055	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**47.4**	**12400.**	**2050.**	**1950.**	**48.6**	**10500.**	**10800.**	**50.1**	**519.**	**201.**	**213.**	**246.**
Stddev	.6	55.	16.	7.	.3	25.	54.	.0	1.	.	1.	1.
%RSD	1.31	.440	.765	.382	.515	.235	.502	.052	.121	.079	.480	.404
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5250.**	**5350.**	**5370.**	**10200.**	**10900.**	**479.**	**519.**	**517.**	**510.**	**489.**	**491.**	**510.**
Stddev	17.	35.	9.	45.	61.	1.	1.	.	1.	3.	2.	4.
%RSD	.330	.657	.171	.438	.557	.134	.125	.062	.170	.698	.489	.828
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**2020.**	**2200.**	**2050.**	**503.**	**534.**	**520.**	**4.96**	**542.**	**518.**	**524.**	**4.97**	**5.08**
Stddev	7.	24.	8.	2.	1.	1.	.02	5.	2.	2.	.03	.02
%RSD	.326	1.09	.382	.443	.094	.110	.338	.948	.298	.301	.657	.442
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Sample Name: icv Acquired: 08/11/2021 14:07:23 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189260.**	**1573400.**	**361010.**
Stddev	392.	4199.	1602.
%RSD	.20707	.26685	.44379

Sample Name: ICVLL Acquired: 08/11/2021 14:22:30 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	F **34.5**	**1190.**	**60.4**	**31.4**	**12.5**	**1490.**	**1520.**	**16.2**	**31.5**	**32.7**	**33.4**	**942.**
Stddev	.0	2.	4.9	.5	.3	8.	2.	.3	.0	.6	.9	5.
%RSD	.082	.128	8.18	1.74	2.36	.528	.143	1.82	.121	1.71	2.64	.570
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**932.**	**1560.**	**1480.**	**30.4**	**33.5**	**30.6**	**30.0**	**58.8**	**66.9**	**61.5**	**32.7**	**29.5**
Stddev	2.	46.	7.	.1	.5	.2	1.2	3.9	.8	.8	.7	.1
%RSD	.196	2.95	.498	.312	1.58	.659	4.00	6.61	1.18	1.30	2.07	.376
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7698
Units	mg/L	ug/L	ug/L	mg/L
Avg	**2.94**	**292.**	**60.0**	**14.5**
Stddev	.01	.	.3	.0
%RSD	.211	.082	.481	.291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Sample Name: ICVLL Acquired: 08/11/2021 14:22:30 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**191360.**	**1574900.**	**363090.**
Stddev	11.	7789.	219.
%RSD	.00555	.49456	.06036

Sample Name: icb Acquired: 08/11/2021 14:30:02 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.106**	**-.436**	**-22.7**	**-.834**	**.004**	**.001**	**-4.76**	**.301**	**-1.18**	**.943**	**-.861**	**.236**
Stddev	.596	.433	5.0	1.62	.267	.096	.06	.166	.31	.747	1.08	1.11
%RSD	563.	99.2	22.1	194.	7200.	11300.	1.27	55.0	26.0	79.3	125.	472.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.63**	**-26.0**	**-.001**	**-.312**	**-.077**	**-1.90**	**-.148**	**-2.92**	**1.50**	**-1.28**	**-.099**	**-3.39**
Stddev	.81	22.0	.015	.021	.423	.33	.452	.51	5.09	1.12	.330	.18
%RSD	30.7	84.5	1380.	6.60	552.	17.4	304.	17.4	340.	87.8	332.	5.37
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.162**	**.292**	**-.710**	**.063**	**-.116**
Stddev	.004	5.60	.102	.007	.025
%RSD	2.51	1920.	14.3	11.9	21.6
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: icb Acquired: 08/11/2021 14:30:02 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195820.**	**1603600.**	**373770.**
Stddev	265.	7935.	2816.
%RSD	.13541	.49480	.75343

Sample Name: MRL/LLOQ Acquired: 08/11/2021 14:46:09 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	F **11.8**	**413.**	**372.**	**20.5**	**10.1**	**4.00**	**506.**	**5.31**	**9.63**	**12.0**	**11.7**	**322.**
Stddev	.4	1.	6.	6.1	.2	.01	4.	.25	.41	1.6	.5	1.
%RSD	3.70	.226	1.60	29.8	2.08	.350	.879	4.72	4.27	13.1	4.05	.452
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	20.0											
Range	-30.0%											

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**314.**	**488.**	**498.**	**10.1**	**11.3**	**8.94**	**9.89**	**15.3**	**18.9**	**17.2**	**11.6**	**9.79**
Stddev	4.	37.	2.	.0	.2	.39	3.07	2.1	3.5	1.5	.4	.12
%RSD	1.30	7.54	.474	.133	1.53	4.35	31.0	13.9	18.7	8.77	3.64	1.22
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**.867**	**92.3**	**18.7**	**4.68**	**4.89**
Stddev	.005	1.8	.6	.04	.05
%RSD	.579	1.91	3.05	.763	.983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: MRL/LLOQ Acquired: 08/11/2021 14:46:09 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**191880.**	**1566700.**	**366730.**
Stddev	129.	4736.	2240.
%RSD	.06738	.30226	.61079

Sample Name: ICSA Acquired: 08/11/2021 14:53:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.509**	**463000.**	**16.5**	**.043**	**-.000**	**471000.**	**.000**	**-.111**	**-8.04**	**-5.40**	**419000.**
Stddev	.452	1110.	2.1	.588	.105	424.	.574	.448	1.47	1.18	2400.
%RSD	88.7	.240	12.9	1370.	3820000.	.090	317000.	404.	18.3	21.9	.572
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Fe2599	Mg2025	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**411000.**	**433000.**	**487000.**	**2.02**	**-1.45**	**.108**	**1.19**	**-1.55**	**-3.56**	**.452**	**10300.**
Stddev	1420.	2420.	2200.	.04	.60	.647	2.48	6.95	6.91	3.20	47.
%RSD	.347	.559	.451	2.11	41.2	601.	208.	448.	194.	707.	.458
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-2.76**	**-.000**	**-18.5**	**.001**	**.126**	**-.374**
Stddev	.42	.009	1.7	1.46	.015	.036
%RSD	15.1	23400.	9.21	260000.	11.9	9.66
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA Acquired: 08/11/2021 14:53:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**173970.**	**1455900.**	**352520.**
Stddev	264.	6156.	2088.
%RSD	.15156	.42283	.59218

Sample Name: ICSAB Acquired: 08/11/2021 15:01:55 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1972	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**453.**	**480000.**	**546.**	**487.**	**506.**	**473.**	**497000.**	**457.**	**512.**	**460.**	**508.**
Stddev	2.	6380.	6.	4.	2.	7.	3760.	1.	.	4.	1.
%RSD	.391	1.33	1.03	.868	.330	1.41	.757	.253	.087	.885	.154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Fe2395	Fe2599	Mg2025	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**446000.**	**436000.**	**445000.**	**505000.**	**488.**	**514.**	**503.**	**502.**	**490.**	**536.**	**495.**
Stddev	6170.	5060.	2690.	5860.	3.	2.	1.	1.	6.	6.	6.
%RSD	1.38	1.16	.604	1.16	.596	.317	.108	.136	1.22	1.20	1.29
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**565.**	**518.**	**479.**	**511.**	**54.2**	**4840.**	**528.**	**545.**	**53.8**
Stddev	5.	3.	1.	2.	.8	59.	7.	3.	.3
%RSD	.960	.652	.178	.310	1.40	1.21	1.29	.508	.506
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: ICSAB Acquired: 08/11/2021 15:01:55 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**173130.**	**1436100.**	**354450.**
Stddev	251.	6975.	2093.
%RSD	.14500	.48568	.59038

Sample Name: ICVLL ag ag Acquired: 08/11/2021 15:17:12 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.76**	**8.18**	**-4.74**	**1.08**	**-.187**	**.100**	**.041**	**.043**	**-.785**	**-.426**	**-.133**	**62.6**
Stddev	.50	.71	11.7	1.06	.232	.101	.104	.124	.274	1.50	1.07	3.5
%RSD	5.11	8.75	248.	97.6	124.	101.	251.	288.	34.9	352.	804.	5.57

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**86.7**	**-1.99**	**3.68**	**-.117**	**.541**	**-1.57**	**-.200**	**-4.29**	**-1.01**	**.279**	**.130**	**-3.19**
Stddev	25.0	20.8	.07	.041	.370	.37	2.22	1.61	2.55	.867	.307	.08
%RSD	28.8	1050.	2.02	34.9	68.3	23.4	1110.	37.6	254.	311.	237.	2.39

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.147**	**-2.13**	**-1.53**	**.067**	**.186**
Stddev	.004	1.92	.26	.017	.037
%RSD	2.58	90.2	16.9	24.7	19.7

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**193390.**	**1557000.**	**369670.**
Stddev	216.	9153.	1480.
%RSD	.11185	.58782	.40031

Sample Name: lcss82041 Acquired: 08/11/2021 15:24:51 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**87.3**	**3690.**	**3970.**	**3740.**	**94.1**	**183000.**	**92.3**	**976.**	**370.**	**464.**	**1960.**
Stddev	.7	16.	11.	15.	.6	530.	.4	.	3.	1.	8.
%RSD	.853	.421	.283	.399	.660	.290	.445	.043	.680	.142	.398

Elem	Fe2599	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Se2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1930.**	**84900.**	**92900.**	**907.**	**2180.**	**962.**	**962.**	**977.**	**931.**	**977.**	**3850.**
Stddev	10.	125.	181.	3.	2.	2.	1.	2.	2.	3.	27.
%RSD	.533	.147	.194	.384	.085	.191	.085	.211	.266	.301	.699

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5895	Si2516	B_2496	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**3760.**	**989.**	**980.**	**961.**	**95.3**	**44.5**	**-2.00**	**98.9**
Stddev	7.	4.	2.	2.	.4	6.8	.97	.4
%RSD	.199	.413	.184	.227	.449	15.2	48.5	.452

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**183160.**	**1516700.**	**358530.**
Stddev	401.	5030.	1161.
%RSD	.21917	.33167	.32369

Sample Name: mbs82041 Acquired: 08/11/2021 15:31:54 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.345**	**-20.6**	**1.51**	**.051**	**-.078**	**5.97**	**-.139**	**-1.01**	**1.69**	**.684**	**5.47**	**4.28**
Stddev	.700	6.6	3.15	.283	.112	1.60	.178	.14	2.28	.816	.64	1.58
%RSD	203.	31.9	209.	555.	142.	26.7	129.	13.5	135.	119.	11.7	36.8

Elem	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Na5889
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**.562**	**4.04**	**-.202**	**.420**	**-1.87**	**-3.74**	**-7.25**	**-1.53**	**-1.66**	**.208**	**-2.82**	**-.132**
Stddev	32.8	.40	.038	.630	.25	2.03	1.62	2.51	1.28	.391	.41	.010
%RSD	5830.	9.77	18.6	150.	13.2	54.3	22.4	164.	76.9	188.	14.7	7.93

Elem	Si2516	B_2496	K_7664	K_7698
Units	ug/L	ug/L	mg/L	mg/L
Avg	**1.45**	**-2.22**	**.122**	**.360**
Stddev	2.53	.51	.015	.082
%RSD	175.	23.1	12.6	22.9

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194850.**	**1573100.**	**364050.**
Stddev	372.	8455.	3913.
%RSD	.19088	.53745	1.0749

Sample Name: 1034747 Acquired: 08/11/2021 15:39:35 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.616**	**394000.**	**48.7**	**1300.**	**13.6**	**740000.**	**8.91**	**230.**	**528.**	**292.**	**687000.**
Stddev	.820	6810.	17.2	25.	.3	6230.	1.32	1.	6.	1.	10700.
%RSD	133.	1.73	35.4	1.90	2.02	.842	14.8	.308	1.07	.376	1.56

Elem	Fe2599	Mg2025	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**669000.**	**312000.**	**350000.**	**12200.**	**16.5**	**188.**	**467.**	**-23.1**	**7.02**	**121.**	**948.**
Stddev	9530.	1460.	5630.	201.	.5	1.	3.	6.2	6.65	4.	3.
%RSD	1.42	.467	1.61	1.65	3.34	.493	.688	26.7	94.8	3.39	.294

Elem	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**738.**	**781.**	**.867**	**17200.**	**416.**	**41.1**	**15.9**
Stddev	1.	2.	.020	268.	7.	1.6	.1
%RSD	.076	.296	2.29	1.56	1.66	3.97	.626

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**173400.**	**1440400.**	**350690.**
Stddev	422.	2383.	4109.
%RSD	.24337	.16546	1.1716

Sample Name: 1034748 Acquired: 08/11/2021 15:47:31 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.073**	**148000.**	**63.9**	**1300.**	**9.83**	**1810.**	**1800.**	**-2.49**	**67.4**	**381.**	**149.**
Stddev	.372	1330.	3.8	14.	.06	10.	12.	.22	.4	4.	1.
%RSD	507.	.893	5.94	1.05	.627	.528	.644	8.91	.524	.975	.915

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**229000.**	**224000.**	**4890.**	**4160.**	**16.7**	**62.2**	**561.**	**-11.6**	**10.3**	**32.5**	**512.**
Stddev	2250.	2080.	37.	41.	.5	.2	3.	1.8	2.4	1.7	1.
%RSD	.980	.927	.752	.993	3.07	.292	.492	15.1	23.3	5.14	.198

Elem	Zn2062	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**271.**	**260.**	**.108**	**15400.**	**9.88**	**3.64**	**4.82**
Stddev	.	1.	.004	141.	.67	.03	.07
%RSD	.105	.213	4.11	.918	6.76	.866	1.39

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194300.**	**1561800.**	**370000.**
Stddev	396.	4914.	3153.
%RSD	.20383	.31460	.85218

Sample Name: 1034749 Acquired: 08/11/2021 15:55:01 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.349**	**213000.**	**66.0**	**1480.**	**13.0**	**3070.**	**-5.83**	**94.3**	**671.**	**133.**	**409000.**
Stddev	.453	1170.	6.3	10.	.1	7.	.38	.6	11.	1.	2740.
%RSD	130.	.551	9.47	.703	.428	.237	6.59	.673	1.70	.807	.670

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**395000.**	**5680.**	**9120.**	**17.9**	**81.8**	**545.**	**-13.2**	**12.1**	**63.1**	**919.**	**300.**
Stddev	5400.	36.	50.	.9	.9	2.	3.4	3.5	2.3	12.	1.
%RSD	1.37	.631	.551	4.99	1.05	.456	25.8	28.6	3.63	1.31	.445

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**290.**	**.109**	**23300.**	**17.6**	**6.70**	**7.75**
Stddev	1.	.011	79.	1.6	.04	.05
%RSD	.328	10.1	.339	8.90	.634	.695

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**193010.**	**1550500.**	**366300.**
Stddev	510.	8678.	1583.
%RSD	.26429	.55970	.43214

Sample Name: 1034750 Acquired: 08/11/2021 16:02:43 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.35**	**185000.**	**92.1**	**969.**	**5.04**	**2620.**	**-5.53**	**258.**	**621.**	**116.**	**358000.**
Stddev	.63	2720.	2.1	2.	.04	14.	.64	.	4.	1.	4850.
%RSD	47.0	1.47	2.28	.216	.867	.525	11.6	.057	.654	.861	1.36

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**348000.**	**7300.**	**9250.**	**17.0**	**71.8**	**388.**	**-11.8**	**13.2**	**62.3**	**797.**	**319.**
Stddev	4960.	91.	130.	.5	.6	6.	4.8	5.5	3.3	6.	1.
%RSD	1.43	1.25	1.40	2.82	.819	1.55	40.9	41.8	5.32	.708	.223

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**305.**	**.055**	**15200.**	**8.10**	**6.42**	**7.46**
Stddev	1.	.002	184.	1.37	.12	.05
%RSD	.237	4.46	1.21	16.9	1.81	.711

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194250.**	**1555400.**	**366680.**
Stddev	65.	8210.	3409.
%RSD	.03361	.52784	.92974

Sample Name: 1034751 Acquired: 08/11/2021 16:10:23 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.402**	**214000.**	**75.6**	**1880.**	**11.3**	**6950.**	**-3.48**	**131.**	**553.**	**233.**	**339000.**
Stddev	.449	914.	4.7	8.	.2	35.	.63	1.	4.	2.	1260.
%RSD	112.	.427	6.22	.409	1.76	.501	18.2	.430	.716	.661	.371

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**330000.**	**7160.**	**13700.**	**18.2**	**125.**	**711.**	**-10.9**	**19.0**	**49.8**	**789.**	**531.**
Stddev	1470.	77.	67.	.5	1.	5.	3.3	3.3	2.9	2.	2.
%RSD	.446	1.07	.485	2.68	.522	.742	30.2	17.6	5.80	.287	.313

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**507.**	**.122**	**18200.**	**38.6**	**6.40**	**7.72**
Stddev	1.	.005	56.	.4	.01	.06
%RSD	.290	4.19	.308	1.07	.234	.739

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194070.**	**1568600.**	**374910.**
Stddev	340.	3790.	1674.
%RSD	.17543	.24163	.44640

Sample Name: 1034752 Acquired: 08/11/2021 16:18:22 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.44**	**203000.**	**102.**	**2490.**	**16.4**	**3160.**	**-4.03**	**334.**	**592.**	**142.**	**377000.**
Stddev	.34	1690.	7.	23.	.2	8.	.64	1.	6.	1.	3010.
%RSD	23.5	.830	6.87	.916	1.47	.267	15.9	.159	.952	.481	.799

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**363000.**	**6690.**	**33700.**	**20.5**	**128.**	**598.**	**-9.75**	**16.0**	**67.9**	**812.**	**750.**
Stddev	2810.	58.	281.	.6	.	2.	1.29	5.8	2.3	2.	1.
%RSD	.772	.864	.836	2.96	.381	.365	13.3	36.1	3.46	.191	.159

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**708.**	**.051**	**14500.**	**9.26**	**5.11**	**6.18**
Stddev	.	.005	125.	.91	.06	.08
%RSD	.055	8.81	.861	9.86	1.21	1.24

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195210.**	**1563900.**	**369530.**
Stddev	243.	3496.	2501.
%RSD	.12434	.22354	.67691

Sample Name: 1034753 Acquired: 08/11/2021 16:26:01 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.536**	**166000.**	**86.7**	**785.**	**4.23**	**5580.**	**-6.33**	**220.**	**918.**	**132.**	**386000.**
Stddev	.307	1670.	5.6	6.	.14	28.	.38	2.	6.	2.	5030.
%RSD	57.3	1.01	6.42	.777	3.36	.505	6.05	.905	.707	1.65	1.30

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**371000.**	**6890.**	**9500.**	**18.2**	**63.9**	**380.**	**-7.57**	**8.90**	**68.7**	**859.**	**211.**
Stddev	3930.	85.	81.	.7	.7	3.	3.78	4.10	2.0	5.	2.
%RSD	1.06	1.23	.849	3.58	1.12	.667	49.9	46.1	2.84	.593	1.03

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**203.**	**.052**	**17700.**	**10.1**	**5.80**	**6.83**
Stddev	1.	.006	209.	.5	.08	.02
%RSD	.622	11.3	1.18	5.45	1.44	.240

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194570.**	**1557100.**	**369080.**
Stddev	427.	7322.	2947.
%RSD	.21949	.47026	.79840

Sample Name: ccv1 Acquired: 08/11/2021 16:34:04 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**537.**	**4840.**	**5150.**	**4810.**	**505.**	**4830.**	**506.**	**5210.**	**4770.**	**4840.**	**4930.**	**5060.**
Stddev	1.	62.	7.	61.	6.	27.	1.	18.	14.	5.	4.	8.
%RSD	.101	1.28	.141	1.27	1.18	.560	.132	.344	.292	.110	.086	.165
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5100.**	**4910.**	**4890.**	**4890.**	**5140.**	**5040.**	**5020.**	**4930.**	**5100.**	**4980.**	**5120.**	**5180.**
Stddev	64.	68.	68.	67.	9.	3.	6.	18.	44.	5.	67.	9.
%RSD	1.26	1.39	1.40	1.38	.175	.069	.127	.366	.861	.097	1.32	.182
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4890.**	**49.7**	**5280.**	**5050.**	**5170.**	**50.0**
Stddev	8.	.5	74.	63.	19.	.2
%RSD	.173	1.10	1.40	1.24	.375	.414
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/11/2021 16:34:04 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195540.**	**1577700.**	**366440.**
Stddev	444.	5589.	2924.
%RSD	.22696	.35427	.79794

Sample Name: ccv2 Acquired: 08/11/2021 16:40:52 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**46.2**	**522.**	**489.**	**512.**	**527.**	**509.**	**46.4**	**497.**	**47.4**	**526.**	**480.**	**511.**
Stddev	.7	.	18.	6.	9.	1.	.7	7.	.2	1.	4.	2.
%RSD	1.56	.055	3.70	1.17	1.76	.124	1.52	1.46	.389	.151	.738	.424
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**541.**	**510.**	**520.**	**521.**	**505.**	**512.**	**524.**	**530.**	**520.**	**520.**	**525.**	**507.**
Stddev	3.	10.	17.	3.	3.	1.	1.	1.	3.	1.	3.	3.
%RSD	.641	1.92	3.17	.557	.498	.215	.112	.213	.635	.211	.654	.675
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**523.**	**530.**	**536.**	**511.**	**4.85**	**517.**	**520.**	**534.**	**4.83**	**4.90**
Stddev	2.	2.	1.	1.	.07	8.	8.	3.	.08	.07
%RSD	.397	.396	.206	.174	1.46	1.53	1.54	.470	1.59	1.46
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/11/2021 16:40:52 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**197320.**	**1582100.**	**371150.**
Stddev	354.	10226.	3499.
%RSD	.17930	.64637	.94261

Sample Name: ccb Acquired: 08/11/2021 16:47:52 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.609**	**-.023**	**-22.2**	**-3.42**	**-.212**	**.158**	**-.093**	**.127**	**-.922**	**1.20**	**.306**	**-1.34**
Stddev	.128	.106	3.1	5.95	.106	.124	.534	.102	.243	1.02	.755	.97
%RSD	21.0	454.	13.9	174.	49.8	78.4	575.	80.1	26.3	85.0	247.	72.0
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-3.50**	**1.69**	**.772**	**-.206**	**.572**	**-1.62**	**-.197**	**-4.10**	**2.20**	**-.216**	**.143**	**-3.05**
Stddev	1.97	8.81	.044	.049	.272	.26	2.17	2.98	2.21	1.44	.246	.10
%RSD	56.3	521.	5.68	24.0	47.5	15.8	1100.	72.6	101.	666.	171.	3.41
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.203**	**1.97**	**1.39**	**-.010**	**-.196**
Stddev	.001	.96	.69	.013	.036
%RSD	.568	48.6	49.9	135.	18.6
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/11/2021 16:47:52 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**200200.**	**1608000.**	**379590.**
Stddev	397.	6306.	1572.
%RSD	.19844	.39216	.41421

Sample Name: 1034754 Acquired: 08/11/2021 16:55:34 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.618**	**184000.**	**54.2**	**2160.**	**14.5**	**4190.**	**-1.26**	**109.**	**317.**	**182.**	**240000.**
Stddev	.278	2170.	2.9	29.	.2	26.	.38	.	6.	1.	2760.
%RSD	45.0	1.18	5.43	1.35	1.46	.625	30.1	.394	1.88	.341	1.15

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**233000.**	**6290.**	**12100.**	**17.0**	**100.**	**623.**	**-12.9**	**11.9**	**36.1**	**507.**	**486.**
Stddev	2470.	70.	113.	1.1	.	5.	5.3	2.8	1.3	3.	1.
%RSD	1.06	1.12	.934	6.33	.224	.852	41.4	23.9	3.50	.616	.220

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**460.**	**.078**	**16500.**	**18.0**	**4.84**	**5.85**
Stddev	1.	.008	153.	.9	.07	.07
%RSD	.154	9.98	.922	5.17	1.34	1.15

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195270.**	**1566100.**	**369510.**
Stddev	311.	8061.	1302.
%RSD	.15923	.51473	.35245

Sample Name: 1034755 Acquired: 08/11/2021 17:03:25 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.657**	**230000.**	**52.9**	**2510.**	**13.6**	**4580.**	**-6.51**	**135.**	**735.**	**175.**	**424000.**
Stddev	.285	1480.	7.8	18.	.3	27.	.33	1.	7.	2.	3440.
%RSD	43.4	.644	14.7	.715	1.94	.584	5.12	.395	.977	.874	.810

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**403000.**	**7130.**	**9120.**	**19.4**	**100.**	**605.**	**-12.1**	**13.0**	**66.5**	**928.**	**425.**
Stddev	3670.	69.	57.	.1	1.	4.	3.8	5.9	1.1	7.	1.
%RSD	.911	.968	.631	.666	1.12	.702	31.3	45.6	1.58	.754	.326

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**408.**	**.111**	**21400.**	**20.2**	**6.80**	**7.79**
Stddev	1.	.002	140.	2.1	.05	.04
%RSD	.280	1.88	.655	10.4	.761	.564

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194480.**	**1559500.**	**367170.**
Stddev	450.	8375.	1983.
%RSD	.23147	.53703	.54014

Sample Name: 1034756 Acquired: 08/11/2021 17:11:25 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-4.13**	**452000.**	**41.3**	**816.**	**12.4**	**6040.**	**-6.92**	**155.**	**565.**	**229.**	**796000.**
Stddev	.86	2330.	3.6	5.	.1	8.	.50	1.	1.	1.	1910.
%RSD	20.9	.515	8.71	.661	1.18	.138	7.15	.846	.257	.501	.240

Elem	Fe2599	Mg2025	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**758000.**	**9650.**	**10700.**	**4360.**	**12.5**	**148.**	**308.**	**-28.9**	**9.15**	**136.**	**996.**
Stddev	7540.	66.	71.	23.	.5	.	1.	3.2	3.21	1.	11.
%RSD	.994	.685	.666	.521	4.26	.077	.238	11.1	35.1	1.06	1.08

Elem	Zn2062	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**355.**	**350.**	**.200**	**15600.**	**19.1**	**15.1**
Stddev	4.	3.	.004	79.	.6	.1
%RSD	1.08	.754	1.93	.507	3.19	.441

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**192030.**	**1532200.**	**371700.**
Stddev	189.	5141.	1236.
%RSD	.09850	.33550	.33239

Sample Name: 1034757 Acquired: 08/11/2021 17:19:30 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.46**	**187000.**	**66.2**	**557.**	**2.34**	**2860.**	**-5.71**	**93.5**	**512.**	**115.**	**315000.**
Stddev	.20	1770.	8.0	1.	.07	5.	.16	.4	3.	1.	2160.
%RSD	13.5	.943	12.1	.149	3.18	.180	2.82	.430	.641	.745	.686

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**304000.**	**6920.**	**3520.**	**16.6**	**59.6**	**292.**	**-8.45**	**3.25**	**56.1**	**711.**	**201.**
Stddev	2540.	59.	33.	.1	.8	2.	1.20	1.69	1.5	4.	.
%RSD	.836	.853	.945	.786	1.28	.802	14.2	52.0	2.65	.499	.225

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**193.**	**.030**	**14700.**	**8.39**	**5.69**	**6.52**
Stddev	1.	.005	103.	1.14	.05	.08
%RSD	.266	15.6	.696	13.6	.834	1.21

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195690.**	**1564900.**	**368180.**
Stddev	271.	9190.	2683.
%RSD	.13837	.58725	.72885

Sample Name: 1034758 Acquired: 08/11/2021 17:27:00 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.782**	**228000.**	**84.7**	**1990.**	**12.5**	**17200.**	**-4.27**	**86.7**	**431.**	**223.**	**352000.**
Stddev	.515	1110.	6.4	10.	.1	110.	.38	.5	3.	1.	2040.
%RSD	65.8	.489	7.52	.478	.583	.643	8.80	.616	.694	.391	.580

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**338000.**	**9490.**	**10500.**	**21.1**	**123.**	**726.**	**-6.31**	**12.3**	**50.4**	**826.**	**508.**
Stddev	1660.	54.	61.	.8	1.	6.	3.27	3.3	2.6	3.	1.
%RSD	.491	.566	.578	3.69	.815	.831	51.8	26.7	5.19	.386	.212

Elem	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**486.**	**.122**	**21600.**	**43.5**	**11.7**
Stddev	2.	.002	133.	.5	.1
%RSD	.449	1.61	.615	1.25	.562

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194560.**	**1568000.**	**368840.**
Stddev	148.	4375.	3214.
%RSD	.07617	.27904	.87141

Sample Name: 1034759 Acquired: 08/11/2021 17:34:59 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.059**	**223000.**	**67.9**	**2200.**	**15.7**	**9880.**	**-2.59**	**186.**	**368.**	**200.**	**406000.**
Stddev	.676	614.	7.4	4.	.1	33.	.43	1.	3.	1.	806.
%RSD	1150.	.276	11.0	.189	.771	.336	16.5	.396	.914	.643	.198

Elem	Fe2599	Mg2025	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**383000.**	**12400.**	**13500.**	**23900.**	**17.7**	**157.**	**586.**	**-11.4**	**17.6**	**63.0**	**721.**
Stddev	3810.	89.	64.	91.	.4	1.	5.	5.3	4.2	2.2	5.
%RSD	.995	.715	.474	.380	2.49	.549	.818	46.9	23.9	3.49	.699

Elem	Zn2062	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**1050.**	**1000.**	**.173**	**16100.**	**22.6**	**17.7**
Stddev	4.	2.	.003	41.	.4	.1
%RSD	.398	.225	1.97	.255	1.69	.500

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194960.**	**1550200.**	**372810.**
Stddev	288.	10981.	885.
%RSD	.14774	.70836	.23728

Sample Name: 1034760 Acquired: 08/11/2021 17:43:01 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.421**	**194000.**	**59.0**	**1800.**	**16.2**	**6930.**	**-.093**	**119.**	**295.**	**176.**	**269000.**
Stddev	.551	1850.	9.6	18.	.3	43.	.436	2.	4.	3.	2320.
%RSD	131.	.953	16.3	1.01	1.63	.619	469.	1.30	1.41	1.65	.865

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**259000.**	**9090.**	**18000.**	**16.0**	**128.**	**573.**	**-5.94**	**14.2**	**41.8**	**526.**	**504.**
Stddev	2190.	84.	159.	.6	1.	11.	4.71	3.8	2.3	7.	8.
%RSD	.845	.921	.881	3.75	1.12	1.92	79.3	26.6	5.53	1.32	1.58

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**480.**	**.049**	**15800.**	**16.7**	**5.76**	**6.77**
Stddev	6.	.005	142.	.8	.07	.07
%RSD	1.32	10.9	.901	4.66	1.30	1.10

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**197120.**	**1570200.**	**372800.**
Stddev	1324.	13617.	1766.
%RSD	.67159	.86720	.47358

Sample Name: 1034761 Acquired: 08/11/2021 17:51:01 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.548**	**187000.**	**46.5**	**1910.**	**15.0**	**3030.**	**-3.53**	**115.**	**371.**	**114.**	**273000.**
Stddev	.695	841.	5.3	10.	.2	19.	.13	.	2.	.	863.
%RSD	127.	.450	11.4	.541	1.60	.614	3.53	.380	.415	.337	.316

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**264000.**	**6660.**	**20900.**	**12.8**	**111.**	**352.**	**-8.02**	**12.5**	**46.2**	**604.**	**394.**
Stddev	1120.	47.	97.	.2	.	1.	4.57	2.0	1.9	3.	1.
%RSD	.423	.704	.463	1.77	.351	.335	56.9	16.4	4.16	.464	.138

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**375.**	**.040**	**14600.**	**8.71**	**5.19**	**6.29**
Stddev	1.	.005	64.	.30	.02	.05
%RSD	.261	12.4	.435	3.42	.416	.844

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196790.**	**1577400.**	**372090.**
Stddev	126.	4218.	698.
%RSD	.06394	.26741	.18750

Sample Name: 1034762 Acquired: 08/11/2021 17:58:41 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.681**	**170000.**	**65.5**	**1100.**	**8.70**	**2580.**	**-6.27**	**170.**	**476.**	**116.**	**348000.**
Stddev	.339	2290.	3.6	17.	.09	12.	.79	.	4.	1.	4210.
%RSD	49.7	1.35	5.56	1.57	1.08	.461	12.5	.135	.783	.853	1.21

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**335000.**	**6740.**	**12600.**	**11.6**	**97.9**	**282.**	**-13.5**	**12.0**	**59.7**	**703.**	**242.**
Stddev	4070.	55.	164.	.3	.7	3.	4.4	3.5	1.5	5.	1.
%RSD	1.22	.810	1.30	2.95	.682	.920	32.8	29.4	2.55	.677	.377

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**232.**	**.013**	**14200.**	**7.45**	**6.25**	**7.15**
Stddev	.	.003	180.	.92	.07	.06
%RSD	.117	21.4	1.27	12.4	1.05	.890

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196170.**	**1566500.**	**369220.**
Stddev	111.	8195.	4542.
%RSD	.05678	.52313	1.2303

Sample Name: I1034762 Acquired: 08/11/2021 18:06:21 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.215**	**66800.**	**-29.5**	**229.**	**3.53**	**1000.**	**969.**	**-8.65**	**34.4**	**135.**	**24.7**
Stddev	.409	6270.	3.0	23.	.24	89.	88.	3.78	4.2	16.	2.6
%RSD	190.	9.38	10.1	10.0	6.69	8.83	9.03	43.7	12.3	11.8	10.6

Elem	Fe2395	Fe2599	Mg2790	Mg2802	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**142000.**	**137000.**	**2610.**	**2100.**	**4930.**	**3.31**	**20.8**	**63.0**	**-6.14**	**3.60**	**22.5**
Stddev	12600.	12300.	258.	237.	443.	1.00	3.4	6.7	1.59	.87	6.8
%RSD	8.87	8.99	9.91	11.3	8.98	30.1	16.4	10.7	25.9	24.0	30.4

Elem	V_2924	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**199.**	**39.1**	**-.134**	**5230.**	**1.13**	**2.26**	**2.46**
Stddev	22.	2.2	.016	395.	1.28	.19	.15
%RSD	10.8	5.66	11.6	7.57	113.	8.27	6.05

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199800.**	**1593000.**	**374460.**
Stddev	113.	5845.	2657.
%RSD	.05634	.36689	.70950

Sample Name: ccv1 Acquired: 08/11/2021 18:13:56 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**533.**	**4690.**	**5160.**	**4730.**	**495.**	**4760.**	**503.**	**5210.**	**4600.**	**4830.**	**4900.**	**5120.**
Stddev	1.	56.	16.	55.	5.	20.	1.	15.	15.	9.	8.	27.
%RSD	.193	1.18	.311	1.17	1.10	.410	.230	.280	.322	.194	.173	.521
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5010.**	**4800.**	**4720.**	**4720.**	**5130.**	**5000.**	**5020.**	**4900.**	**5080.**	**4960.**	**5000.**	**5140.**
Stddev	54.	67.	51.	58.	6.	7.	8.	9.	14.	10.	59.	10.
%RSD	1.08	1.39	1.08	1.23	.121	.143	.168	.182	.283	.197	1.18	.196
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4860.**	**48.5**	**5210.**	**4960.**	**5220.**	**48.9**
Stddev	6.	.5	58.	55.	12.	.3
%RSD	.131	1.03	1.11	1.12	.223	.585
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/11/2021 18:13:56 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195640.**	**1563800.**	**369200.**
Stddev	366.	3279.	2295.
%RSD	.18683	.20968	.62151

Sample Name: ccv2 Acquired: 08/11/2021 18:20:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**45.9**	**518.**	**479.**	**512.**	**522.**	**506.**	**45.5**	**489.**	**47.2**	**523.**	**469.**	**507.**
Stddev	.8	2.	5.	2.	3.	2.	.3	3.	.4	2.	2.	1.
%RSD	1.66	.390	1.09	.391	.611	.430	.748	.538	.755	.376	.474	.225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**539.**	**499.**	**501.**	**519.**	**502.**	**508.**	**520.**	**527.**	**521.**	**519.**	**522.**	**499.**
Stddev	4.	4.	25.	3.	3.	2.	2.	1.	5.	2.	3.	4.
%RSD	.711	.751	4.98	.673	.541	.326	.416	.250	.960	.340	.528	.727
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**518.**	**529.**	**532.**	**508.**	**4.76**	**502.**	**511.**	**535.**	**4.71**	**4.71**
Stddev	1.	3.	2.	1.	.03	7.	3.	4.	.02	.04
%RSD	.200	.607	.290	.243	.568	1.39	.509	.726	.480	.879
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/11/2021 18:20:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198380.**	**1585000.**	**368750.**
Stddev	224.	8890.	1934.
%RSD	.11311	.56089	.52450

Sample Name: ccb Acquired: 08/11/2021 18:27:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.500**	**.062**	**-17.2**	**2.03**	**-.301**	**.228**	**-.636**	**.015**	**-.948**	**1.03**	**-.859**	**-.797**
Stddev	.515	.742	2.5	5.29	.229	.084	.773	.125	.090	1.03	.774	.879
%RSD	103.	1190.	14.4	261.	76.2	36.8	121.	852.	9.48	100.	90.1	110.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.63**	**6.00**	**.784**	**-.142**	**.688**	**-1.34**	**-.024**	**-6.46**	**1.50**	**.795**	**.000**	**-2.94**
Stddev	1.48	16.3	.014	.046	.405	.31	1.93	1.14	1.23	.459	.276	.11
%RSD	56.2	272.	1.83	32.2	58.9	23.0	8150.	17.6	82.0	57.7	63900.	3.83
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.194**	**.496**	**1.48**	**-.042**	**-.201**
Stddev	.002	2.07	.81	.052	.054
%RSD	1.02	417.	54.7	123.	27.0
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/11/2021 18:27:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**201190.**	**1603100.**	**378150.**
Stddev	236.	5636.	1945.
%RSD	.11749	.35155	.51445

Sample Name: dup1034762 Acquired: 08/11/2021 18:35:27 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.956**	**142000.**	**40.4**	**1140.**	**6.85**	**2610.**	**-4.20**	**94.5**	**300.**	**84.1**	**230000.**
Stddev	.837	1820.	3.5	18.	.16	12.	.42	.3	5.	1.0	3390.
%RSD	87.5	1.29	8.66	1.59	2.35	.452	9.95	.273	1.54	1.17	1.47

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**222000.**	**6100.**	**6520.**	**9.49**	**84.8**	**197.**	**-6.22**	**6.47**	**36.4**	**485.**	**232.**
Stddev	2660.	81.	66.	.60	.2	3.	1.28	1.32	1.6	1.	1.
%RSD	1.20	1.33	1.01	6.35	.230	1.71	20.5	20.3	4.30	.169	.454

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**221.**	**.010**	**13000.**	**9.00**	**6.14**	**6.87**
Stddev	.	.006	172.	1.12	.09	.07
%RSD	.186	55.9	1.32	12.5	1.51	1.04

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196940.**	**1564300.**	**367130.**
Stddev	356.	4063.	3070.
%RSD	.18071	.25976	.83620

Sample Name: mss1034762 Acquired: 08/11/2021 18:43:00 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**76.3**	**214000.**	**2840.**	**4570.**	**88.1**	**171000.**	**73.4**	**910.**	**617.**	**505.**	**238000.**
Stddev	.5	2910.	20.	61.	1.2	743.	.6	2.	6.	1.	3120.
%RSD	.660	1.36	.702	1.33	1.40	.435	.814	.262	.974	.154	1.31

Elem	Fe2599	Mg2025	Mg2790	Mn2593	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se2062	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**229000.**	**86500.**	**93700.**	**7470.**	**1660.**	**911.**	**919.**	**997.**	**204.**	**2470.**	**3130.**
Stddev	3310.	606.	1210.	104.	5.	1.	1.	5.	4.	29.	6.
%RSD	1.45	.701	1.29	1.39	.306	.143	.160	.513	2.16	1.19	.181

Elem	V_2908	Zn2062	Zn2138	Na5895	Si2516	B_2496	K_7698
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**1250.**	**1120.**	**1100.**	**86.1**	**19600.**	**13.9**	**92.8**
Stddev	15.	2.	3.	1.1	224.	.7	.4
%RSD	1.20	.209	.230	1.28	1.15	5.05	.468

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**188410.**	**1501800.**	**358670.**
Stddev	287.	5698.	3627.
%RSD	.15255	.37940	1.0113

Sample Name: msds1034762 Acquired: 08/11/2021 18:50:10 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**73.9**	**176000.**	**2880.**	**4070.**	**82.6**	**146000.**	**71.3**	**872.**	**715.**	**470.**	**232000.**
Stddev	.7	2380.	12.	57.	.9	710.	.7	3.	5.	2.	2180.
%RSD	.925	1.35	.422	1.40	1.10	.485	.955	.313	.704	.376	.939

Elem	Fe2599	Mg2025	Mg2790	Mn2593	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se2062	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**224000.**	**73400.**	**79600.**	**5870.**	**1570.**	**872.**	**879.**	**953.**	**254.**	**2520.**	**3070.**
Stddev	2550.	322.	869.	77.	4.	2.	3.	2.	5.	11.	9.
%RSD	1.14	.438	1.09	1.31	.265	.230	.311	.202	1.81	.431	.306

Elem	V_2908	Zn2062	Zn2138	Na5895	Si2516	B_2496	K_7698
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**1170.**	**1060.**	**1030.**	**72.5**	**17100.**	**11.7**	**82.1**
Stddev	15.	2.	4.	.9	163.	.7	.5
%RSD	1.28	.146	.341	1.25	.951	5.93	.585

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**190440.**	**1526000.**	**364080.**
Stddev	379.	3940.	2172.
%RSD	.19877	.25818	.59657

Sample Name: pdss1034762 Acquired: 08/11/2021 18:57:21 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**82.5**	**165000.**	**3850.**	**4780.**	**96.5**	**362000.**	**83.2**	**1040.**	**663.**	**539.**	**263000.**
Stddev	.9	988.	12.	28.	.8	237.	.5	9.	5.	2.	2610.
%RSD	1.07	.599	.305	.596	.815	.065	.639	.859	.681	.405	.991

Elem	Fe2599	Mg2025	Mg2790	Mn2593	Mo2045	Ni2216	Ni2316	Pb2203	Sb2068	Se2062	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**255000.**	**167000.**	**182000.**	**7440.**	**1930.**	**988.**	**1000.**	**1100.**	**897.**	**3530.**	**3480.**
Stddev	2110.	1500.	1540.	58.	6.	3.	1.9	3.	6.	40.	5.
%RSD	.827	.901	.848	.785	.291	.339	.193	.312	.620	1.14	.158

Elem	V_2908	Zn2062	Zn2138	Na5895	Si2516	B_2496	K_7698
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**1390.**	**1180.**	**1180.**	**178.**	**15800.**	**10.0**	**101.**
Stddev	11.	4.	4.	1.	125.	.3	.
%RSD	.788	.370	.304	.550	.796	2.71	.319

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**184800.**	**1491000.**	**359350.**
Stddev	230.	9461.	3268.
%RSD	.12436	.63455	.90952

Sample Name: 1034763 Acquired: 08/11/2021 19:04:39 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**7.01**	**121000.**	**140.**	**1350.**	**8.13**	**26200.**	**-2.38**	**92.4**	**206.**	**181.**	**209000.**
Stddev	.27	1970.	10.	23.	.12	111.	.35	.5	2.	2.	3070.
%RSD	3.80	1.63	6.84	1.68	1.42	.422	14.8	.488	.903	.911	1.47

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2169	Sb2068	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**200000.**	**10500.**	**10400.**	**10.7**	**76.2**	**146000.**	**1340.**	**9.85**	**32.2**	**469.**	**728.**
Stddev	3210.	146.	171.	.5	.4	445.	6.	2.99	3.7	3.	1.
%RSD	1.60	1.39	1.65	5.11	.531	.304	.465	30.4	11.4	.589	.139

Elem	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**689.**	**.085**	**14700.**	**26.4**	**11.3**
Stddev	2.	.017	196.	1.0	.1
%RSD	.305	19.9	1.33	3.83	.749

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**197760.**	**1571900.**	**370380.**
Stddev	591.	5882.	3867.
%RSD	.29895	.37420	1.0442

Sample Name: 1034764 Acquired: 08/11/2021 19:12:34 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.422**	**191000.**	**52.3**	**1660.**	**9.36**	**8720.**	**-5.17**	**111.**	**286.**	**118.**	**332000.**
Stddev	.424	2840.	11.0	28.	.37	83.	.83	.	3.	1.	4730.
%RSD	100.	1.49	21.1	1.70	3.92	.946	16.1	.225	1.08	1.19	1.43

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2169	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**314000.**	**8270.**	**9390.**	**12.3**	**108.**	**18600.**	**228.**	**2.00**	**50.2**	**733.**	**376.**
Stddev	4350.	101.	120.	.6	1.	68.	3.	3.69	1.5	2.	1.
%RSD	1.39	1.22	1.28	4.66	.730	.366	1.22	185.	3.04	.325	.211

Elem	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**360.**	**.081**	**15300.**	**13.6**	**12.6**
Stddev	1.	.008	195.	1.1	.1
%RSD	.253	9.57	1.27	7.90	.677

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198110.**	**1580200.**	**375510.**
Stddev	288.	7771.	3450.
%RSD	.14514	.49178	.91886

Sample Name: 1034765 Acquired: 08/11/2021 19:20:31 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.435**	**123000.**	**63.2**	**1630.**	**10.2**	**2010.**	**1980.**	**-3.11**	**154.**	**517.**	**88.7**
Stddev	.355	740.	4.6	10.	.1	4.	11.	.50	1.	4.	.5
%RSD	81.5	.602	7.28	.625	1.40	.198	.568	16.1	.405	.865	.618

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**210000.**	**203000.**	**4650.**	**15800.**	**11.6**	**78.4**	**372.**	**-9.81**	**15.2**	**35.7**	**466.**
Stddev	788.	1100.	45.	106.	.8	.4	1.	4.51	4.5	2.7	4.
%RSD	.375	.541	.969	.669	7.28	.509	.384	46.0	29.5	7.67	.807

Elem	Zn2062	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**510.**	**483.**	**-.035**	**10800.**	**6.44**	**3.41**	**4.26**
Stddev	.	2.	.010	38.	.34	.01	.05
%RSD	.034	.346	28.4	.350	5.20	.307	1.16

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199930.**	**1581000.**	**373680.**
Stddev	386.	8024.	1200.
%RSD	.19310	.50752	.32100

Sample Name: 1034766 Acquired: 08/11/2021 19:28:14 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.714**	**176000.**	**65.5**	**1640.**	**12.2**	**13600.**	**-4.14**	**81.1**	**404.**	**181.**	**340000.**
Stddev	.128	1080.	1.4	13.	.2	40.	.06	.5	4.	2.	2120.
%RSD	17.9	.612	2.20	.814	1.54	.294	1.39	.591	.961	.895	.624

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**325000.**	**6850.**	**9600.**	**16.2**	**92.8**	**723.**	**-12.3**	**15.8**	**49.9**	**761.**	**376.**
Stddev	2180.	51.	45.	.1	.2	2.	2.6	2.7	1.0	4.	3.
%RSD	.671	.749	.466	.312	.172	.229	20.7	17.2	1.99	.559	.774

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**360.**	**.079**	**16600.**	**34.8**	**8.76**	**9.44**
Stddev	2.	.010	77.	1.4	.02	.05
%RSD	.619	12.3	.466	4.10	.179	.571

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196560.**	**1562300.**	**367510.**
Stddev	133.	2916.	741.
%RSD	.06763	.18666	.20153

Sample Name: ccv1 Acquired: 08/11/2021 19:51:11 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**537.**	**4600.**	**5130.**	**4680.**	**491.**	**4810.**	**502.**	**5300.**	F **4470.**	**4830.**	**4890.**	**5290.**
Stddev	.	37.	19.	42.	5.	13.	1.	4.	16.	6.	5.	6.
%RSD	.063	.809	.370	.898	.929	.263	.140	.082	.347	.121	.109	.116
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									5000.			
Range									-10.4%			

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4940.**	**4670.**	**4670.**	**4600.**	**5100.**	**4980.**	**5040.**	**4800.**	**5000.**	**4960.**	**4920.**	**5120.**
Stddev	63.	32.	56.	42.	7.	7.	18.	14.	12.	15.	46.	13.
%RSD	1.28	.692	1.19	.921	.141	.139	.363	.294	.232	.306	.935	.253
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4840.**	**47.5**	**5090.**	**4900.**	**5360.**	**48.5**
Stddev	8.	.4	40.	44.	6.	.1
%RSD	.163	.767	.782	.892	.107	.254
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/11/2021 19:51:11 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198190.**	**1551300.**	**374470.**
Stddev	271.	515.	2796.
%RSD	.13692	.03323	.74654

Sample Name: ccv2 Acquired: 08/11/2021 19:58:00 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**46.6**	**520.**	**487.**	**513.**	**526.**	**505.**	**46.1**	**500.**	**47.1**	**525.**	**466.**	**510.**
Stddev	.3	3.	8.	4.	7.	1.	.5	4.	.1	1.	2.	1.
%RSD	.588	.523	1.74	.811	1.39	.140	.987	.832	.178	.197	.415	.234
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**546.**	**505.**	**504.**	**529.**	**510.**	**510.**	**521.**	**530.**	**524.**	**521.**	**528.**	**502.**
Stddev	3.	4.	28.	2.	1.	1.	1.	2.	7.	3.	5.	4.
%RSD	.537	.694	5.47	.340	.242	.198	.170	.332	1.29	.494	.949	.799
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**523.**	**540.**	**530.**	**510.**	**4.80**	**504.**	**517.**	**540.**	**4.81**	**4.80**
Stddev	3.	1.	1.	1.	.03	7.	4.	1.	.02	.02
%RSD	.488	.259	.109	.173	.718	1.30	.732	.159	.499	.396
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/11/2021 19:58:00 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199160.**	**1580000.**	**367870.**
Stddev	335.	3074.	1726.
%RSD	.16801	.19453	.46927

Sample Name: ccb Acquired: 08/11/2021 20:05:00 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.305**	**-.518**	**-20.9**	**-3.11**	**.123**	**-.107**	**-.317**	**.008**	**-.895**	**1.11**	**-.124**	**-1.02**
Stddev	.283	.467	2.0	2.31	.297	.148	.622	.148	.066	.86	.802	.52
%RSD	92.8	90.2	9.63	74.3	241.	138.	196.	1930.	7.36	76.8	649.	51.2
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-3.53**	**13.1**	**.713**	**-.156**	**.823**	**-1.42**	**.210**	**-6.21**	**-.081**	**-1.34**	**-.128**	**-3.03**
Stddev	1.67	13.1	.054	.024	.421	.39	.731	2.25	3.37	1.68	.332	.04
%RSD	47.3	99.7	7.56	15.3	51.2	27.6	347.	36.2	4150.	126.	260.	1.25
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.190**	**1.21**	**1.05**	**.015**	**-.160**
Stddev	.002	5.00	.53	.004	.039
%RSD	.984	413.	50.2	25.3	24.5
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/11/2021 20:05:00 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**202470.**	**1609200.**	**375710.**
Stddev	249.	8538.	2846.
%RSD	.12307	.53060	.75758

Sample Name: ccv1 Acquired: 08/12/2021 12:18:10 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3179	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**553.**	**4870.**	**5170.**	**5010.**	**492.**	**4900.**	**515.**	**5200.**	**5130.**	**4840.**	**5030.**	**4900.**
Stddev	1.	64.	12.	69.	7.	112.	.	19.	16.	5.	5.	25.
%RSD	.111	1.31	.235	1.38	1.37	2.29	.090	.368	.313	.102	.093	.515
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4940.**	**5030.**	**4870.**	**5000.**	**5200.**	**5110.**	**5000.**	**5270.**	**5250.**	**5040.**	**5120.**	**5210.**
Stddev	48.	56.	48.	64.	4.	7.	13.	10.	21.	6.	62.	9.
%RSD	.980	1.11	.983	1.28	.076	.138	.260	.182	.399	.116	1.21	.181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4980.**	**50.6**	**5020.**	**5130.**	**4990.**	**46.1**
Stddev	6.	.7	74.	70.	27.	.2
%RSD	.126	1.36	1.47	1.37	.537	.417
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/12/2021 12:18:10 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196620.**	**1621300.**	**316390.**
Stddev	243.	6086.	3576.
%RSD	.12379	.37536	1.1304

Sample Name: ccv2 Acquired: 08/12/2021 12:24:58 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**47.9**	**535.**	**501.**	**526.**	**535.**	**521.**	**45.7**	**509.**	**48.3**	**540.**	**534.**	**512.**
Stddev	.9	4.	6.	5.	3.	3.	.4	5.	.3	3.	3.	3.
%RSD	1.86	.810	1.25	.955	.627	.607	.885	.940	.594	.561	.559	.669
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**515.**	**532.**	**503.**	**494.**	**498.**	**525.**	**535.**	**531.**	**521.**	**514.**	**530.**	**516.**
Stddev	2.	3.	17.	2.	2.	3.	3.	4.	7.	6.	3.	4.
%RSD	.457	.612	3.39	.349	.385	.585	.599	.718	1.38	1.11	.582	.846
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**531.**	**529.**	**544.**	**524.**	**5.16**	**502.**	**535.**	**511.**	**5.47**	**4.96**
Stddev	4.	2.	3.	3.	.05	5.	5.	1.	.06	.04
%RSD	.758	.443	.511	.532	.955	.903	.845	.169	1.18	.733
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/12/2021 12:24:58 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199170.**	**1659100.**	**316130.**
Stddev	828.	5359.	2741.
%RSD	.41578	.32299	.86698

Sample Name: ccb Acquired: 08/12/2021 12:32:04 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2055	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.181**	**-.569**	**-18.3**	**.665**	**.272**	**.030**	**-6.13**	**.039**	**-.998**	**-.688**	**-.550**	**.401**
Stddev	1.31	.192	2.2	1.80	.140	.128	.05	.104	.203	.198	.519	.774
%RSD	726.	33.7	12.2	271.	51.4	424.	.753	266.	20.3	28.8	94.4	193.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.38**	**-20.9**	**-.639**	**-.283**	**.711**	**-2.07**	**2.05**	**-8.07**	**1.42**	**.783**	**.150**	**-3.44**
Stddev	1.02	14.0	.034	.034	.409	.31	2.38	2.71	1.21	1.17	.236	.05
%RSD	43.1	67.2	5.31	12.1	57.5	14.9	116.	33.6	85.0	149.	158.	1.37
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664
Units	mg/L	ug/L	ug/L	mg/L
Avg	**-.163**	**-.486**	**.911**	**.132**
Stddev	.006	2.71	.735	.019
%RSD	3.91	557.	80.7	14.0
Check ?	None	None	None	None
Value				
Range				

Sample Name: ccb Acquired: 08/12/2021 12:32:04 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**202610.**	**1690400.**	**321680.**
Stddev	261.	13032.	9974.
%RSD	.12895	.77090	3.1006

Sample Name: 1034763 x15 Acquired: 08/12/2021 13:02:52 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2343	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**3.24**	**13400.**	**6.60**	**120.**	**.978**	**2380.**	**-.347**	**6.97**	**25.2**	**15.5**	**19600.**	**22200.**
Stddev	.19	374.	2.69	8.	.148	81.	.147	.26	1.8	1.4	673.	624.
%RSD	5.72	2.79	40.8	6.47	15.1	3.39	42.3	3.65	7.06	8.68	3.44	2.82

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Ni2316	Pb2169	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**22900.**	**1140.**	**1010.**	**1010.**	**1200.**	**9.10**	**4.54**	**12500.**	**112.**	**1.22**	**2.97**	**43.5**
Stddev	650.	14.	34.	34.	32.	1.48	.76	777.	10.	1.40	2.86	1.8
%RSD	2.84	1.19	3.41	3.37	2.68	16.2	16.7	6.20	8.52	115.	96.2	4.18

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**61.1**	**-.002**	**1590.**	**1.16**	**1.56**	**1.39**
Stddev	4.2	.015	42.	.75	.05	.06
%RSD	6.88	680.	2.67	64.5	3.28	4.16

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198800.**	**1655100.**	**317440.**
Stddev	345.	8599.	1939.
%RSD	.17332	.51957	.61079

Sample Name: ccv1 Acquired: 08/12/2021 13:25:12 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3179	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**556.**	**4950.**	**5150.**	**5060.**	**495.**	**5000.**	**518.**	**5150.**	**5330.**	**4840.**	**5070.**	**4770.**
Stddev	1.	61.	27.	76.	7.	118.	1.	23.	31.	18.	14.	23.
%RSD	.183	1.24	.516	1.49	1.35	2.35	.264	.453	.579	.370	.279	.479
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4940.**	**5090.**	**4900.**	**5090.**	**5240.**	**5150.**	**4980.**	**5440.**	**5360.**	**5050.**	**5190.**	**5220.**
Stddev	81.	66.	42.	67.	19.	14.	10.	14.	40.	21.	69.	18.
%RSD	1.63	1.31	.855	1.32	.371	.270	.197	.265	.753	.406	1.33	.335
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**5050.**	**51.0**	**5060.**	**5180.**	**4910.**	**45.0**
Stddev	17.	.7	86.	72.	19.	.1
%RSD	.341	1.31	1.69	1.39	.379	.266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/12/2021 13:25:12 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194970.**	**1636300.**	**308100.**
Stddev	351.	7231.	3581.
%RSD	.17979	.44191	1.1624

Sample Name: ccv2 Acquired: 08/12/2021 13:31:51 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2055	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**48.3**	**542.**	**512.**	**532.**	**538.**	**525.**	**46.3**	**521.**	**48.9**	**546.**	**527.**	**514.**
Stddev	1.0	1.	6.	5.	7.	1.	.7	6.	.1	.	.	1.
%RSD	2.08	.224	1.10	.856	1.24	.245	1.58	1.07	.190	.072	.051	.100
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**505.**	**544.**	**504.**	**487.**	**498.**	**532.**	**542.**	**532.**	**523.**	**507.**	**533.**	**526.**
Stddev	3.	3.	13.	2.	1.	1.	1.	1.	2.	3.	6.	5.
%RSD	.531	.532	2.55	.402	.264	.175	.251	.150	.288	.571	1.08	.921
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**540.**	**527.**	**546.**	**534.**	**5.21**	**504.**	**546.**	**506.**	**5.27**	**4.72**
Stddev	3.	2.	1.	1.	.06	13.	6.	1.	.06	.07
%RSD	.487	.372	.224	.102	1.10	2.53	1.09	.283	1.16	1.58
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/12/2021 13:31:51 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196680.**	**1656700.**	**307980.**
Stddev	50.	6392.	3018.
%RSD	.02552	.38583	.97988

Sample Name: ccb Acquired: 08/12/2021 13:38:54 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.138**	**-.351**	**-20.2**	**1.26**	**-.216**	**.259**	**-6.01**	**.106**	**-1.12**	**1.43**	**.073**	**1.15**
Stddev	.558	.391	2.4	2.19	.234	.072	.03	.122	.23	.66	.638	.35
%RSD	404.	111.	12.1	174.	108.	27.8	.451	115.	20.9	46.3	879.	30.8
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-3.28**	**-8.48**	**-.607**	**-.211**	**1.24**	**-1.90**	**.536**	**-6.47**	**-.485**	**-.936**	**.166**	**-3.34**
Stddev	2.25	8.71	.023	.027	.22	.21	1.53	3.39	1.67	2.02	.174	.08
%RSD	68.6	103.	3.72	13.0	17.4	11.2	285.	52.3	345.	216.	105.	2.30
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.182**	**1.85**	**.978**	**.105**	**-.116**
Stddev	.004	2.87	.664	.021	.035
%RSD	1.95	155.	67.9	20.4	29.9
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/12/2021 13:38:54 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199100.**	**1669100.**	**308750.**
Stddev	189.	8573.	2795.
%RSD	.09468	.51364	.90535

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Ag 328.068 {103}	08/16/2021 10:36:50	08/11/2021 13:03:19	Linear	1/Conc	5.709427	2.723921	0.000000	1.000000	0.998865	0.038362	0.728933	2.429776
Ag 338.289 {100}	08/16/2021 10:36:50	08/11/2021 13:59:29	Linear	1/Var	-0.207469	0.493802	0.000000	1.000000	0.999540	1.877046	4.515779	15.052598
Al 167.079 {501}	08/16/2021 10:36:50	08/11/2021 13:10:21	Linear	1/Conc	0.000009	0.000003	0.000000	1.000000	0.999323	0.000000	0.565304	1.884347
Al 308.215 {109}	08/16/2021 10:36:50	08/11/2021 13:34:16	Linear	1/Var	0.000073	0.000000	0.000000	1.000000	0.999917	0.000005	21.754956	72.516519
Al 396.152 { 85}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Var	0.000022	0.000002	0.000000	1.000000	0.999803	0.000044	6.858755	22.862517
As 193.759 {474}	08/16/2021 10:36:50	08/11/2021 13:10:22	Linear	1/Conc	0.000006	0.000001	0.000000	1.000000	0.999987	0.000000	4.621253	15.404176
As 197.262 {471}	08/16/2021 10:36:50	08/11/2021 13:18:22	Linear	1/Var	-0.000001	0.000001	0.000000	1.000000	0.999975	0.000006	5.853260	19.510866
Ba 233.527 {445}	08/16/2021 10:36:50	08/11/2021 13:10:22	Linear	1/Conc	0.000001	0.000007	0.000000	1.000000	0.999865	0.000000	0.413851	1.379502
Ba 455.403 { 74}	08/16/2021 10:36:50	08/11/2021 13:18:23	Linear	1/Conc	0.000083	0.000044	0.000000	1.000000	0.999833	0.000003	0.213986	0.713288
Ba 493.409 { 68}	08/16/2021 10:36:50	08/11/2021 13:59:30	Linear	1/Var	0.008363	0.000037	0.000000	1.000000	0.998567	0.000392	0.714270	2.380901
Be 313.042 {108}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Conc	0.000082	0.000062	0.000000	1.000000	0.999983	0.000000	0.020323	0.067744
Be 313.107 {108}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Conc	-0.000001	0.000026	0.000000	1.000000	0.999992	0.000000	0.159809	0.532697
Be 234.861 {144}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Var	-0.000000	0.000004	0.000000	1.000000	0.999999	0.000000	0.424555	1.415183
Ca 315.887 {107}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Conc	18.839166	0.112643	-0.000000	1.000000	0.999985	0.928129	7.589793	25.299308
Ca 317.933 {106}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	None	0.004243	0.000001	0.000000	1.000000	1.000000	0.000282	3.211035	10.703449
Ca 393.366 { 86}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Conc	0.001471	0.000208	0.000000	1.000000	0.999898	0.000054	0.039229	0.130762
Ca 396.847 { 85}	08/16/2021 10:36:50	08/11/2021 13:18:23	Linear	1/Conc	0.000636	0.000092	0.000000	1.000000	0.999870	0.000070	0.084741	0.282471
Cd 226.502 {449}	08/16/2021 10:36:50	08/11/2021 13:10:23	Linear	1/Conc	-0.000001	0.000022	0.000000	1.000000	0.999944	0.000000	0.203184	0.677280
Cd 228.802 {447}	08/16/2021 10:36:50	08/11/2021 13:10:24	Linear	1/Conc	0.000027	0.000041	0.000000	1.000000	0.999910	0.000000	0.156987	0.523291
Co 228.616 {447}	08/16/2021 10:36:50	08/11/2021 13:18:23	Linear	1/Var	0.000023	0.000021	0.000000	1.000000	0.999724	0.000066	0.278157	0.927191
Co 238.892 {141}	08/16/2021 10:36:50	08/11/2021 13:18:23	Linear	1/Conc	0.000001	0.000002	0.000000	1.000000	0.999903	0.000001	0.480844	1.602813
Cr 205.560 {464}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000003	0.000011	0.000000	1.000000	0.999998	0.000010	0.313407	1.044691
Cr 267.716 {126}	08/16/2021 10:36:50	08/11/2021 13:18:24	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999411	0.000000	1.384372	4.614575
Cu 223.008 {451}	08/16/2021 10:36:50	08/11/2021 13:18:24	Linear	1/Conc	0.000007	0.000006	0.000000	1.000000	0.999875	0.000000	0.995206	3.317355
Cu 224.700 {450}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	None	-0.000815	0.000007	0.000000	1.000000	0.999985	0.001595	0.454207	1.514024
Cu 324.754 {104}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000288	0.000002	0.000000	1.000000	0.999371	0.000014	2.749329	9.164431
Cu 327.396 {103}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000016	0.000002	0.000000	1.000000	0.999476	0.000017	4.134467	13.781557
Fe 234.349 {144}	08/16/2021 10:36:50	08/11/2021 13:34:17	Curvili	1/Var	0.000021	0.000001	0.000000	1.000000	0.999891	0.000002	0.815246	2.717486
Fe 239.562 {140}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Conc	0.000006	0.000001	0.000000	1.000000	0.999976	0.000009	2.770447	9.234824
Fe 259.940 {129}	08/16/2021 10:36:50	08/11/2021 13:42:34	Curvili	1/Var	0.000005	0.000001	0.000000	1.000000	0.999766	0.000026	2.080521	6.935070
Mg 202.582 {466}	08/16/2021 10:36:50	08/11/2021 13:51:25	Full Fit	1/Conc	-0.000001	0.000000	0.000000	0.980000	0.999816	0.000005	3.045014	10.150048
Mg 279.079 {121}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Var	-0.000001	0.000000	0.000000	1.000000	0.999830	0.000002	26.466992	88.223305
Mg 280.270 {120}	08/16/2021 10:36:50	08/11/2021 13:18:25	Linear	1/Conc	0.000165	0.000038	0.000000	1.000000	0.999691	0.000017	0.019032	0.063439
Mn 257.610 {131}	08/16/2021 10:36:50	08/11/2021 13:18:25	Linear	1/Var	0.000001	0.000009	0.000000	1.000000	0.998729	0.000005	0.064320	0.214400
Mn 259.373 {130}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000004	0.000008	0.000000	1.000000	0.999481	0.000023	0.379608	1.265361
Mo 202.030 {466}	08/16/2021 10:36:50	08/11/2021 13:18:25	Linear	1/Conc	0.000000	0.000006	0.000000	1.000000	0.999877	0.000000	0.518455	1.728182
Mo 202.030 {467}	08/16/2021 10:36:50	08/11/2021 13:18:25	Linear	None	0.000056	0.000006	0.000000	1.000000	0.999987	0.000118	0.529483	1.764942
Mo 204.598 {464}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Var	0.000012	0.000004	0.000000	1.000000	0.999973	0.000044	0.961098	3.203660
Ni 221.647 {452}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Var	0.000025	0.000011	0.000000	1.000000	0.999650	0.000167	0.550842	1.836139
Ni 231.604 {445}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Var	-0.000003	0.000014	0.000000	1.000000	0.999521	0.000056	0.457149	1.523829
Pb 216.999 {455}	08/16/2021 10:36:50	08/11/2021 13:26:27	Linear	1/Var	0.000010	0.000001	0.000000	1.000000	0.999455	0.000061	5.146598	17.155327
Pb 216.999 {456}	08/16/2021 10:36:50	08/11/2021 13:26:28	Linear	1/Var	-0.000000	0.000000	0.000000	1.000000	0.999700	0.000012	16.695912	55.653040
Pb 220.353 {153}	08/16/2021 10:36:50	08/11/2021 13:26:28	Linear	1/Var	0.000014	0.000002	0.000000	1.000000	0.999626	0.000049	2.618960	8.729867
Pb 220.353 {453}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Conc	0.000011	0.000002	0.000000	1.000000	0.999833	0.000000	2.656070	8.853566

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Ag 338.289 {100}	OK.	1.000000	0.000000	1	0
	Al 167.079 {501}	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 197.262 {471}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 313.107 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 223.008 {451}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	OK.	1.000000	0.000000	1	0
	Mg 202.582 {466}	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {456}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Sb 206.833 {463}	08/16/2021 10:36:50	08/11/2021 13:18:26	Linear	1/Var	-0.000002	0.000001	0.000000	1.000000	0.999830	0.000008	3.331493	11.104976
	Sb 217.581 {455}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Var	0.000011	0.000001	0.000000	1.000000	0.999930	0.000015	3.337414	11.124713
	Se 196.090 {472}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Conc	0.000002	0.000001	0.000000	1.000000	0.999932	0.000000	3.681526	12.271754
	Se 203.985 {465}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Var	0.000005	0.000000	0.000000	1.000000	0.999865	0.000005	14.175632	47.252108
	Se 206.279 {463}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999775	0.000000	27.153578	90.511926
	Tl 190.856 {476}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Conc	0.000009	0.000002	0.000000	1.000000	0.999719	0.000000	2.058201	6.860669
	Tl 190.856 {477}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Var	0.000008	0.000001	0.000000	1.000000	0.999750	0.000020	3.309263	11.030878
	V 290.882 {116}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	None	0.000055	0.000002	0.000000	1.000000	0.999987	0.000056	2.626855	8.756183
	V 292.402 {115}	08/16/2021 10:36:50	08/11/2021 13:18:27	Linear	1/Conc	-0.000007	0.000006	0.000000	1.000000	0.999941	0.000001	0.396816	1.322721
	Zn 206.200 {463}	08/16/2021 10:36:50	08/11/2021 13:26:28	Curvili	1/Conc	0.000072	0.000019	-0.000000	1.000000	0.999984	0.000005	0.225356	0.751187
	Zn 213.856 {457}	08/16/2021 10:36:50	08/11/2021 13:18:28	Linear	1/Conc	0.000135	0.000033	0.000000	1.000000	0.999725	0.000004	0.134818	0.449394
	Y 224.306 {450}*	08/16/2021 10:36:50	08/11/2021 12:05:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 324.228 {104}*	08/16/2021 10:36:50	08/11/2021 12:05:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 371.030 { 91}*	08/16/2021 10:36:50	08/11/2021 12:05:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Na 588.995 { 57}	08/16/2021 10:36:50	08/11/2021 13:34:18	Linear	1/Var	-0.000304	0.006325	0.000000	1.000000	0.998953	0.000266	0.005678	0.018927
	Na 589.592 { 57}	08/16/2021 10:36:50	08/11/2021 13:51:25	Curvili	1/Var	0.000993	0.002361	-0.000000	1.000000	0.998657	0.000225	0.008235	0.027450
	Si 251.611 {134}	08/16/2021 10:36:50	08/11/2021 13:51:26	Curvili	1/Var	0.000009	0.000001	0.000000	1.000000	0.999998	0.000002	4.932484	16.441612
	Ti 323.452 {104}	08/16/2021 10:36:50	08/11/2021 13:18:28	Linear	1/Conc	0.000199	0.000007	0.000000	1.000000	0.999838	0.000001	0.967604	3.225345
	Ti 334.941 {101}	08/16/2021 10:36:50	08/11/2021 13:18:28	Linear	1/Conc	0.000001	0.000005	0.000000	1.000000	0.999842	0.000001	0.908449	3.028163
	Sr 407.771 { 83}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	0.000028	0.000090	0.000000	1.000000	0.999788	0.000007	0.112792	0.375974
	Sr 421.552 { 80}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	-0.000010	0.000084	0.000000	1.000000	0.999851	0.000006	0.112623	0.375411
	Sn 189.989 {477}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	0.000004	0.000004	0.000000	1.000000	0.999881	0.000001	0.879230	2.930767
	B 249.678 {135}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	0.000005	0.000001	0.000000	1.000000	0.999952	0.000000	0.840939	2.803129
	B 249.773 {135}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Var	0.000025	0.000001	0.000000	1.000000	0.910601	0.000019	0.856874	2.856248
	Li 670.784 { 50}	08/16/2021 10:36:50	08/11/2021 13:18:29	Linear	1/Conc	-0.000073	0.000023	0.000000	1.000000	0.999984	0.000002	0.979771	3.265904
	K 766.490 { 44}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Var	0.000058	0.000764	0.000000	1.000000	0.999451	0.000100	0.028031	0.093436
	K 769.896 { 44}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Conc	25.549601	81.720077	0.000000	1.000000	0.999926	1.349405	0.066798	0.222661
	P 177.495 {489}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Conc	-0.000668	0.000000	0.000000	1.000000	0.332328	0.000307	57.429153	191.43051
	P 213.618 {457}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Conc	-0.000010	0.000000	0.000000	1.000000	0.330080	0.000513	41.825823	139.41941
	S 182.034 {485}	08/16/2021 10:36:50	08/11/2021 13:51:26	Linear	1/Var	0.000019	0.000001	0.000000	1.000000	0.999151	0.000435	4.034727	13.449090
	Hg 184.950 {482}	08/16/2021 10:36:50	08/11/2021 13:10:31	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000000	0.883147	2.943824
	Hg 194.227 {473}	08/16/2021 10:36:50	08/11/2021 13:10:31	Linear	1/Conc	-0.000001	0.000004	0.000000	1.000000	0.999999	0.000000	0.800766	2.669221
	Ce 404.076 { 83}	08/16/2021 10:36:50	08/11/2021 13:10:31	Linear	1/Conc	0.000036	0.000001	0.000000	1.000000	1.000000	0.000000	17.820447	59.401491

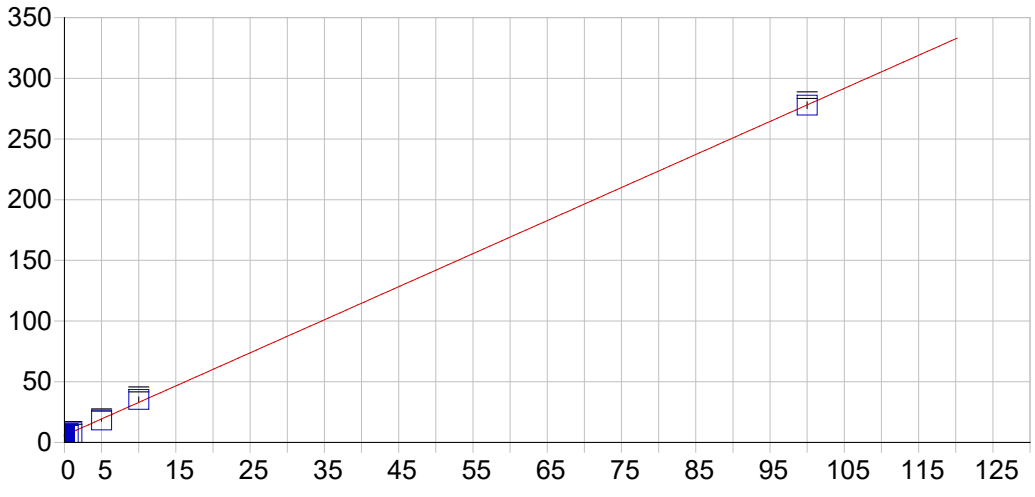
	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0
	Sb 217.581 {455}	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	OK.	1.000000	0.000000	1	0
	Se 203.985 {465}	OK.	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {457}	OK.	1.000000	0.000000	1	0
	Y 224.306 {450}*	Warnin	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 323.452 {104}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sr 421.552 { 80}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	P 177.495 {489}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Hg 194.227 {473}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	1	Ce	-0.005396	0.000000	No
Ag 338.289 {100}	☒	2	Fe	-0.000007	0.000000	No
			Ce	-0.007955	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	4	Al	0.001408	0.000000	No
			Mn	-0.000003	0.000000	No
			Ni	-0.000722	0.000000	No
			Cr	0.000734	0.000000	No
As 197.262 {471}	☒	1	Al	0.000112	0.000000	No
Ba 233.527 {445}	☒	2	Fe	0.000004	0.000000	No
			Cu	0.000233	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000009	0.000000	No
Be 313.042 {108}	☒	3	Fe	0.000002	0.000000	No
			Ni	0.000000	0.000000	No
			Ti	-0.001998	0.000000	No
Be 313.107 {108}	☒	1	Fe	0.000003	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000013	0.000000	No
Ca 315.887 {107}	☒	1	Fe	0.000000	0.000000	No
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Ce	0.001430	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	1	Fe	0.000138	0.000000	No
Cd 228.802 {447}	☒	1	Fe	-0.000005	0.000000	No
Co 228.616 {447}	☒	4	Fe	-0.000023	0.000000	No
			Ba	-0.001175	0.000000	No
			Ti	0.002165	0.000000	No
			Ce	-0.000069	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000226	0.000000	No
Cr 205.560 {464}	☒	1	Fe	0.000000	0.000000	No
Cr 267.716 {126}	☒	4	Fe	0.000005	0.000000	No
			Mn	0.000157	0.000000	No
			Ti	0.000100	0.000000	No
			V	-0.000002	0.000000	No
Cu 223.008 {451}	☒	3	Fe	0.000000	0.000000	No
			Mo	0.008000	0.000000	No
			Ce	-0.000729	0.000000	No
Cu 224.700 {450}	☒	2	Fe	0.003134	0.000000	No
			Ni	-0.007040	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000081	0.000000	No
Cu 327.396 {103}	☒	2	Fe	-0.000009	0.000000	No
			Mo	-0.000319	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	3	Al	-0.000002	0.000000	No
			K	0.000100	0.000000	No
			Ce	-0.000166	0.000000	No
Mn 259.373 {130}	☒	1	Mg	0.001001	0.000000	No
Mo 202.030 {466}	☒	2	Fe	-0.000013	0.000000	No
			Ti	0.000527	0.000000	No
Mo 202.030 {467}	☒	1	Fe	-0.000009	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000030	0.000000	No
Ni 221.647 {452}	☒	2	Ca	-0.000003	0.000000	No
			Mg	-0.000003	0.000000	No
Ni 231.604 {445}	☒	6	Fe	-0.000059	0.000000	No
			Co	-0.000134	0.000000	No
			Mo	0.000840	0.000000	No
			Al	0.000003	0.000000	No
			Mn	0.000019	0.000000	No
			Be	-0.001918	0.000000	No
Pb 216.999 {455}	☒	3	Al	0.001866	0.000000	No
			Na	0.000000	0.000000	No
			Fe	0.002996	0.000000	No
Pb 216.999 {456}	☒	1	Al	0.003022	0.000000	No
Pb 220.353 {153}	☒	1	Fe	-0.000011	0.000000	No
Pb 220.353 {453}	☒	7	Si	0.000000	0.000000	No
			Al	-0.000019	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	-0.001644	0.000000	No
			V	-0.000018	0.000000	No
			Cu	-0.000444	0.000000	No
			Co	0.002100	0.000000	No
Sb 206.833 {463}	☒	3	Fe	-0.000097	0.000000	No
			Cr	0.000000	0.000000	No
			Ce	0.005500	0.000000	No
Sb 217.581 {455}	☒	2	Fe	-0.000035	0.000000	No
			Ni	0.000133	0.000000	No
Se 196.090 {472}	☒	2	Fe	-0.000041	0.000000	No
			Ce	0.000369	0.000000	No
Se 203.985 {465}	☒	1	Fe	-0.000160	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.000965	0.000000	No
Tl 190.856 {476}	☒	8	Fe	-0.000174	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Be	-0.000013	0.000000	No
			Ti	0.000000	0.000000	No
			Mn	0.000000	0.000000	No
			Ni	0.000000	0.000000	No
			Co	0.002495	0.000000	No
			Cr	0.000220	0.000000	No
			Cu	0.001535	0.000000	No
Tl 190.856 {477}	☒	3	Fe	-0.000026	0.000000	No
			Cr	0.000000	0.000000	No
			Ce	0.000980	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000207	0.000000	No
V 292.402 {115}	☒	6	Fe	0.000045	0.000000	No
			Cr	-0.000051	0.000000	No
			Al	0.000000	0.000000	No
			Ti	0.000420	0.000000	No
			Mo	-0.000481	0.000000	No
			Cu	-0.003767	0.000000	No
Zn 206.200 {463}	☒	1	Fe	0.000032	0.000000	No
Zn 213.856 {457}	☒	5	Fe	0.000129	0.000000	No
			Mn	0.000094	0.000000	No
			Ni	0.004500	0.000000	No
			Ti	-0.000307	0.000000	No
			Mo	0.000034	0.000000	No
Y 224.306 {450}*	☒	None				
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	-0.000000	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000000	0.000000	No
Si 251.611 {134}	☒	1	Fe	0.000007	0.000000	No
Ti 323.452 {104}	☒	2	Fe	0.000029	0.000000	No
			Ce	0.000123	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000106	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000015	0.000000	No
Sr 421.552 { 80}	☒	1	Ca	0.000013	0.000000	No
Sn 189.989 {477}	☒	1	Fe	0.000017	0.000000	No
B 249.678 {135}	☒	1	Fe	-0.000054	0.000000	No
B 249.773 {135}	☒	1	Fe	0.000487	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000016	0.000000	No
K 766.490 { 44}	☒	2	Fe	0.000000	0.000000	No
			Cu	0.000000	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000001	0.000000	No
P 177.495 {489}	☒	None				
P 213.618 {457}	☒	1	Fe	-0.000069	0.000000	No
S 182.034 {485}	☒	2	Mn	0.002145	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Fe	-0.000035	0.000000	No
	Hg 184.950 {482}	☒	1	Fe	-0.000000	0.000000	No
	Hg 194.227 {473}	☒	None				
	Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

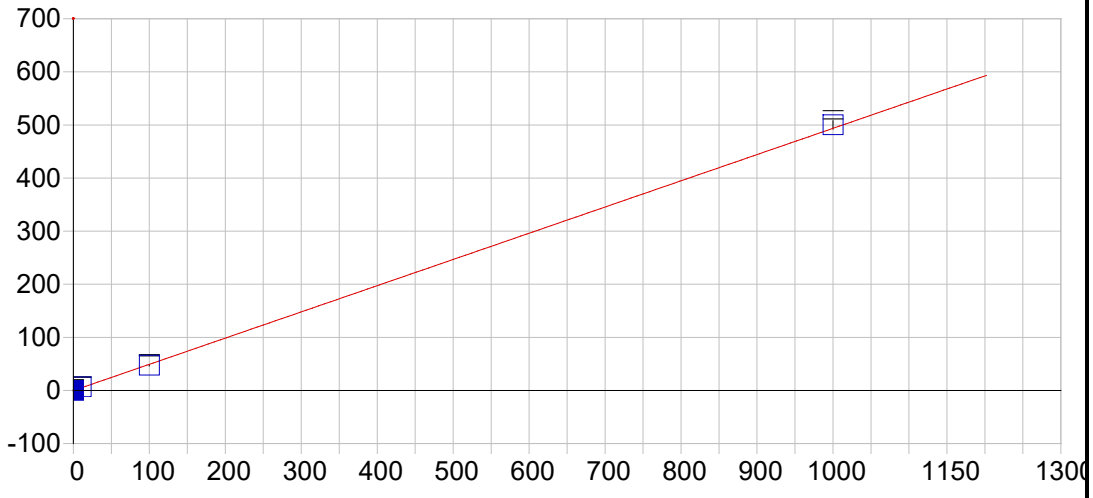


Ag 328.068 {103}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	5.709427	Re-Slope:	1.000000
A1 (Gain):	2.723921	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998865	Status:	OK.
Std Error of Est:	0.038362		
Predicted MDL:	0.728933		
Predicted MQL:	2.429776		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00034	.000	.000	5.7103	.646	1
CalStd8=100	100.00	99.894	-.106	-.106	277.81	2.71	1
CalStd3=1	1.0000	.77893	-.221	-22.1	7.8312	1.09	1
CalStd4=5	5.0000	4.6752	-.325	-6.50	18.444	.852	1
CalStd5=10	10.000	10.892	.892	8.92	35.378	2.03	1
CalStd2=0.5	.50000	.26014	-.240	-48.0	6.4180	.703	1

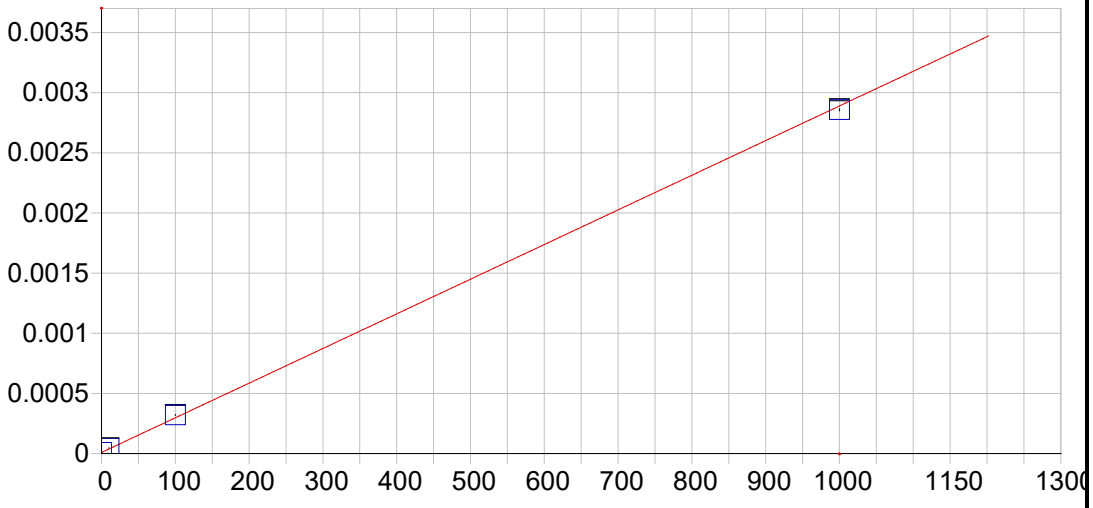


Ag 338.289 {100}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.207469	Re-Slope:	1.000000
A1 (Gain):	0.493802	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999540	Status:	OK.
Std Error of Est:	1.877046		
Predicted MDL:	4.515779		
Predicted MQL:	15.052598		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.33550	.335	.000	-.04180	.834	1
CalStd8=100	100.00	96.232	-3.77	-3.77	47.312	1.25	1
Ag Ba 1000,	1000.0	1013.6	13.6	1.36	500.29	7.80	1
CalStd5=10	10.000	13.662	3.66	36.6	6.5389	1.47	1

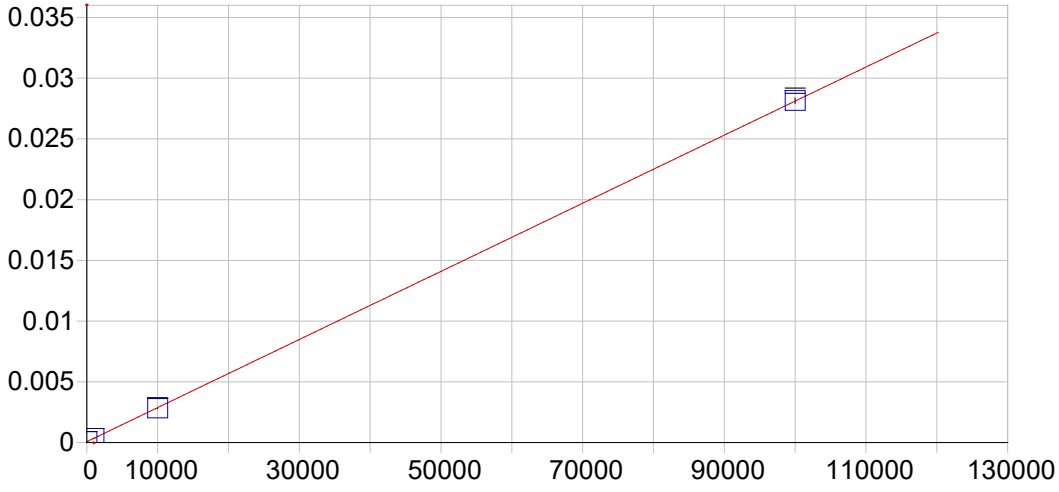


Al 167.079 {501}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999323	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.565304		
Predicted MQL:	1.884347		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00337	-.003	.000	.00001	.000	1
CalStd9=100	1000.0	989.09	-10.9	-1.09	.00286	.000	1
CalStd5=10	10.000	12.650	2.65	26.5	.00005	.000	1
CalStd8=100	100.00	108.25	8.25	8.25	.00032	.000	1

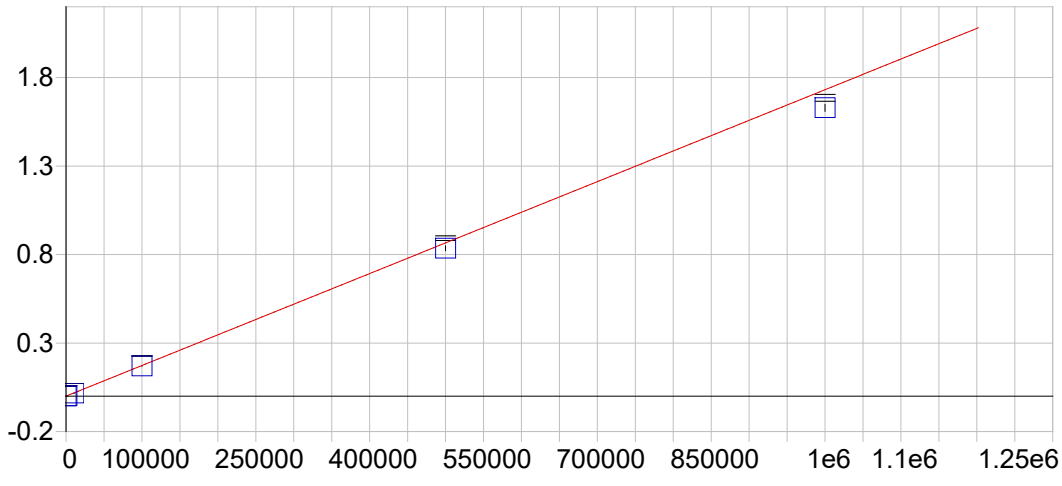


Al 308.215 {109}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000073	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	21.754956		
Predicted MQL:	72.516519		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-20.636	-20.6	.000	.00007	.000	1
CalStd10=10	10000.	9824.3	-176.	-1.76	.00283	.000	1
CalStd9=100	1000.0	1004.9	4.86	.486	.00035	.000	1
CalStd13=10	100000.	100130.	131.	.131	.02815	.000	1

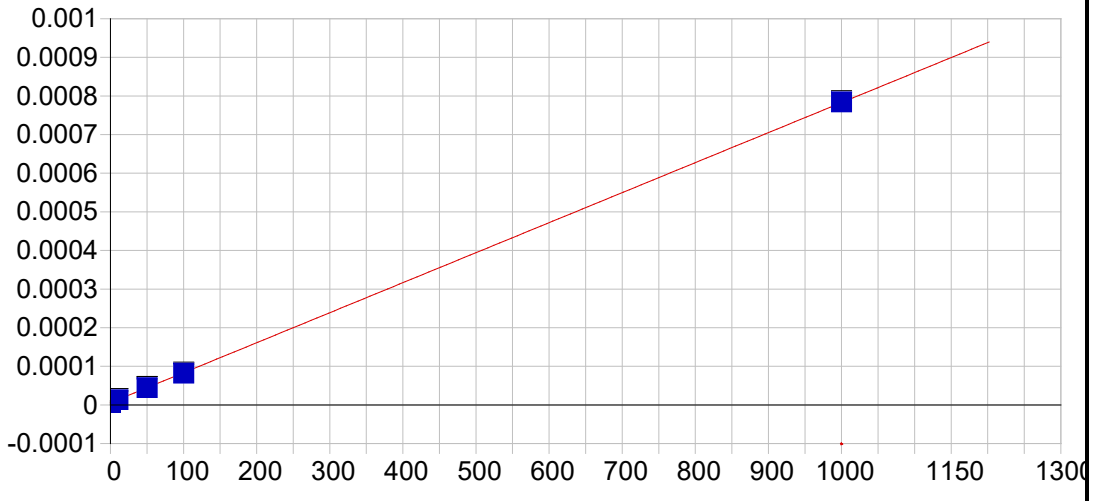


Al 396.152 { 85}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999803	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	6.858755		
Predicted MQL:	22.862517		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-19.308	-19.3	.000	-.00001	.000	1
CalStd14=50	500000.	482550.	-17500.	-3.49	.83547	.013	1
CalStd13=10	100000.	98378.	-1620.	-1.62	.17035	.001	1
CalStd10=10	10000.	9751.2	-249.	-2.49	.01690	.000	1
CalStd9=100	1000.0	1010.3	10.3	1.03	.00177	.000	1
CalibStd15=	1000000.	940910.	-59100.	-5.91	1.6290	.019	1

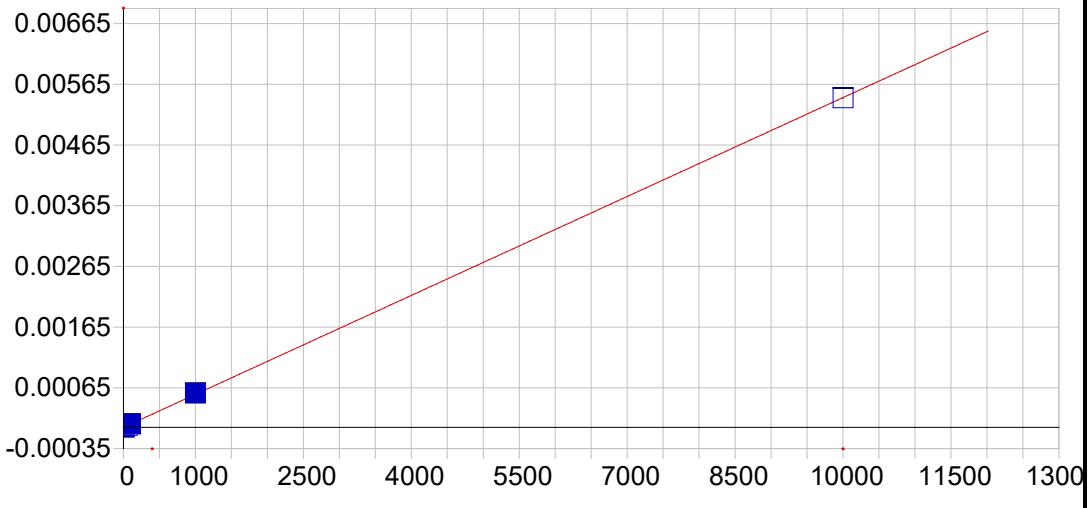


As 193.759 {474}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.621253		
Predicted MQL:	15.404176		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00032	.000	.000	.00001	.000	1
CalStd9=100	1000.0	1001.6	1.64	.164	.00079	.000	1
CalStd7=50	50.000	50.090	.090	.179	.00004	.000	1
CalStd5=10	10.000	9.7985	-.202	-2.02	.00001	.000	1
CalStd8=100	100.00	98.469	-1.53	-1.53	.00008	.000	1

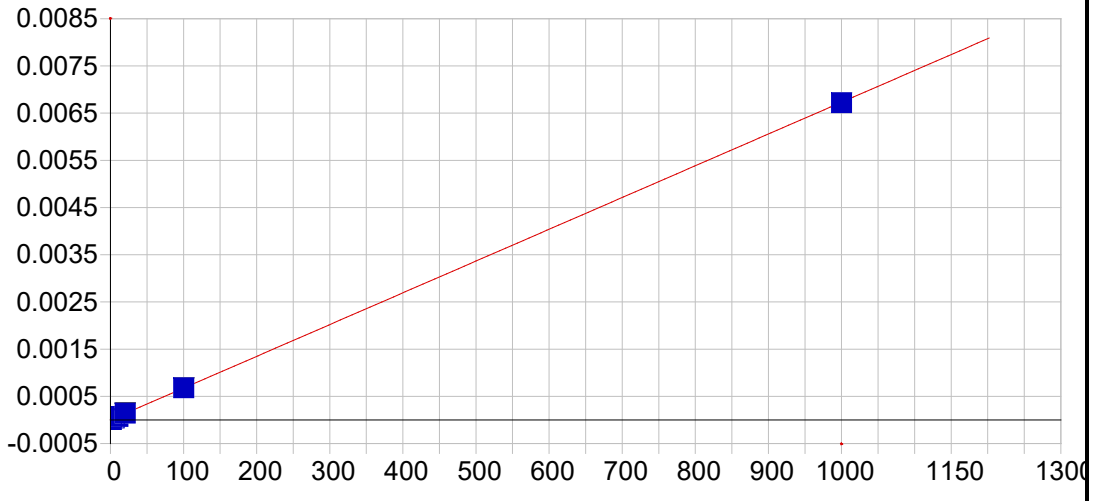


As 197.262 {471}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	5.853260		
Predicted MQL:	19.510866		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0511	-1.05	.000	-.00000	.000	1
CalStd9=100	1000.0	1033.7	33.7	3.37	.00056	.000	1
CalStd7=50	50.000	53.217	3.22	6.43	.00003	.000	1
CalStd5=10	10.000	2.9863	-7.01	-70.1	.00000	.000	1
CalStd8=100	100.00	99.017	-.983	-.983	.00005	.000	1
CalStd10=10	10000.	9988.1	-11.9	-.119	.00542	.000	1

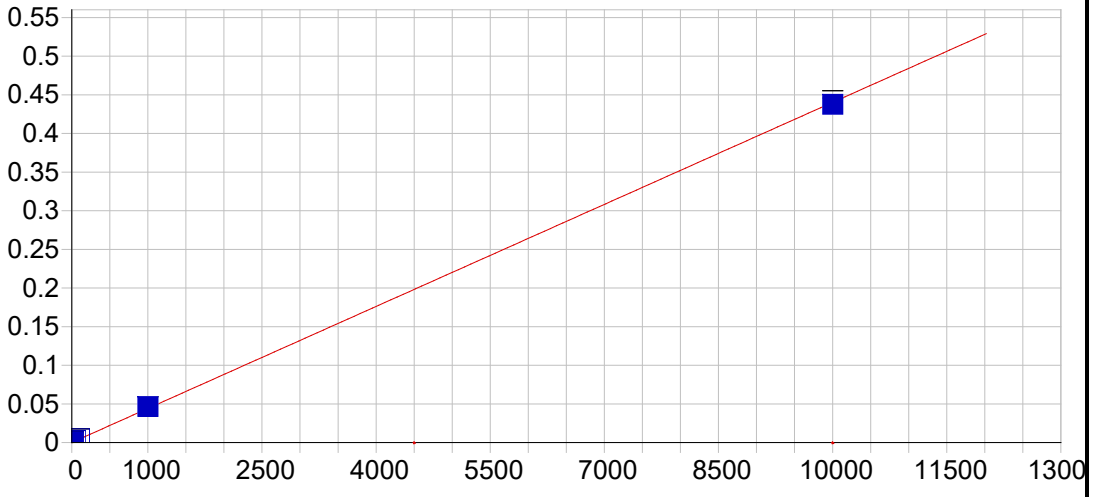


Ba 233.527 {445}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.413851		
Predicted MQL:	1.379502		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00029	.000	.000	.00000	.000	1
CalStd5=10	10.000	10.376	.376	3.76	.00007	.000	1
CalStd6=20	20.000	20.932	.932	4.66	.00014	.000	1
CalStd8=100	100.00	100.81	.809	.809	.00068	.000	1
CalStd4=5	5.0000	5.3898	.390	7.80	.00004	.000	1
CalStd9=100	1000.0	997.95	-2.05	-.205	.00672	.000	1
CalStd3=1	1.0000	.54370	-.456	-45.6	.00000	.000	1

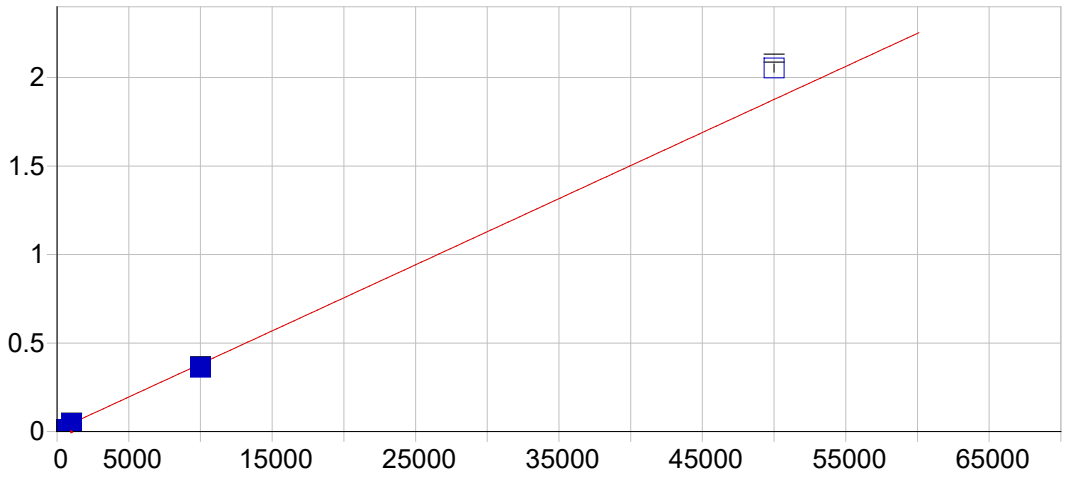


Ba 455.403 { 74}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000083	Re-Slope:	1.000000
A1 (Gain):	0.000044	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.213986		
Predicted MQL:	0.713288		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00043	-.000	.000	.00008	.000	1
CalStd7=50	50.000	54.126	4.13	8.25	.00247	.000	1
CalStd5=10	10.000	10.525	.525	5.25	.00055	.000	1
CalStd6=20	20.000	21.621	1.62	8.10	.00103	.000	1
CalStd8=100	100.00	104.72	4.72	4.72	.00469	.000	1
CalStd4=5	5.0000	5.3432	.343	6.86	.00032	.000	1
CalStd9=100	1000.0	1051.0	51.0	5.10	.04634	.000	1
CalStd3=1	1.0000	1.0564	.056	5.64	.00013	.000	1
CalStd10=10	10000.	9937.6	-62.4	-.624	.43744	.005	1

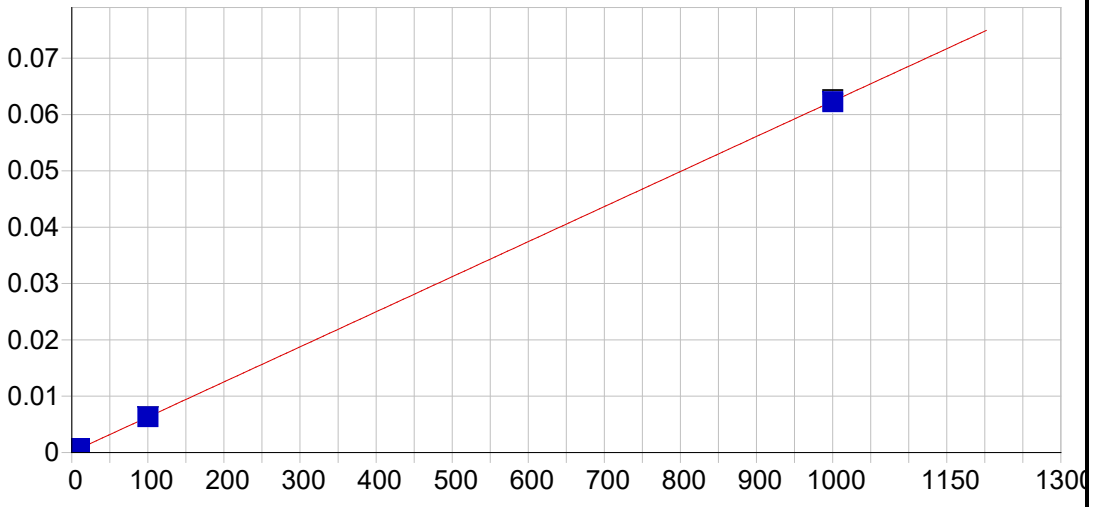


Ba 493.409 { 68}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.008363	Re-Slope:	1.000000
A1 (Gain):	0.000037	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998567	Status:	OK.
Std Error of Est:	0.000392		
Predicted MDL:	0.714270		
Predicted MQL:	2.380901		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.4142	1.41	.000	.00842	.000	1
CalStd9=100	1000.0	1004.4	4.40	.440	.04588	.000	1
CalStd8=100	100.00	96.558	-3.44	-3.44	.01197	.000	1
Ag Ba 1000,	50000.	54745.	4740.	9.49	2.0533	.023	1
CalStd10=10	10000.	9481.2	-519.	-5.19	.36254	.004	1

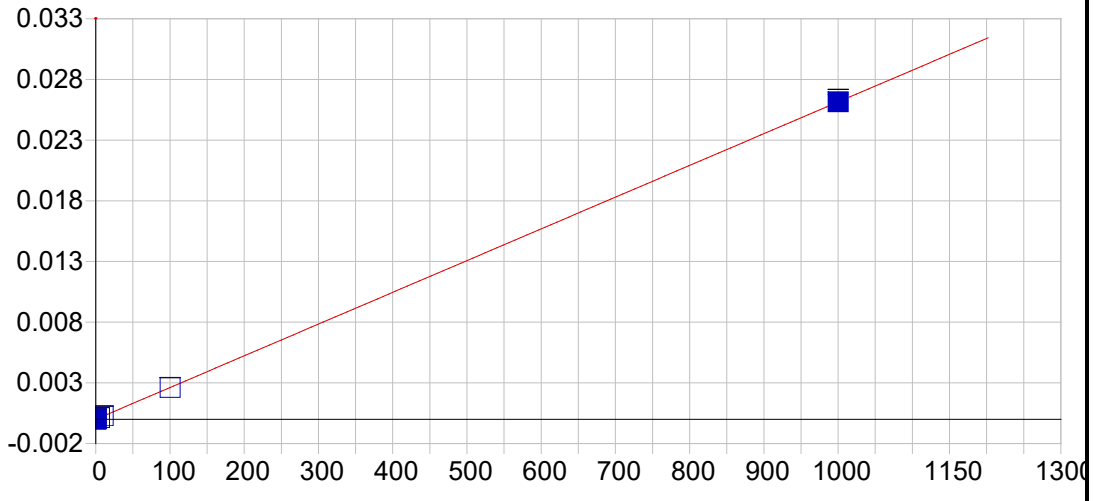


Be 313.042 {108}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000082	Re-Slope:	1.000000
A1 (Gain):	0.000062	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.020323		
Predicted MQL:	0.067744		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00009	-.000	.000	.00008	.000	1
CalStd5=10	10.000	10.522	.522	5.22	.00074	.000	1
CalStd8=100	100.00	100.39	.389	.389	.00632	.000	1
CalStd2=0.5	.50000	.54402	.044	8.80	.00012	.000	1
CalStd4=5	5.0000	5.1328	.133	2.66	.00040	.000	1
CalStd9=100	1000.0	998.90	-1.10	-.110	.06215	.000	1
CalStd3=1	1.0000	1.0089	.009	.891	.00014	.000	1

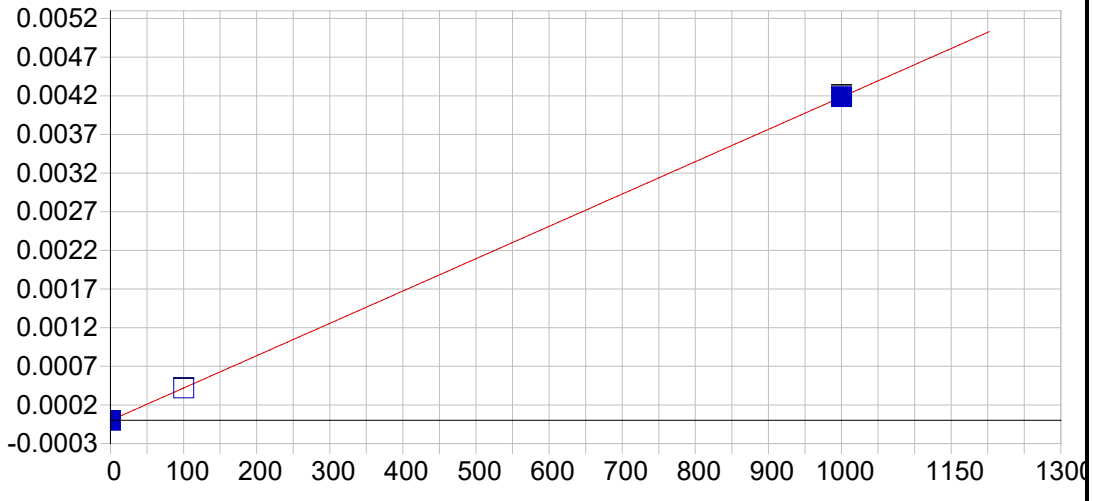


Be 313.107 {108}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000026	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.159809		
Predicted MQL:	0.532697		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00001	-.000	.000	-.00000	.000	1
CalStd5=10	10.000	10.231	.231	2.31	.00027	.000	1
CalStd8=100	100.00	99.697	-.303	-.303	.00261	.000	1
CalStd2=0.5	.50000	.54265	.043	8.53	.00001	.000	1
CalStd4=5	5.0000	4.9764	-.024	-.473	.00013	.000	1
CalStd9=100	1000.0	1000.1	.140	.014	.02615	.000	1
CalStd3=1	1.0000	.91302	-.087	-8.70	.00002	.000	1

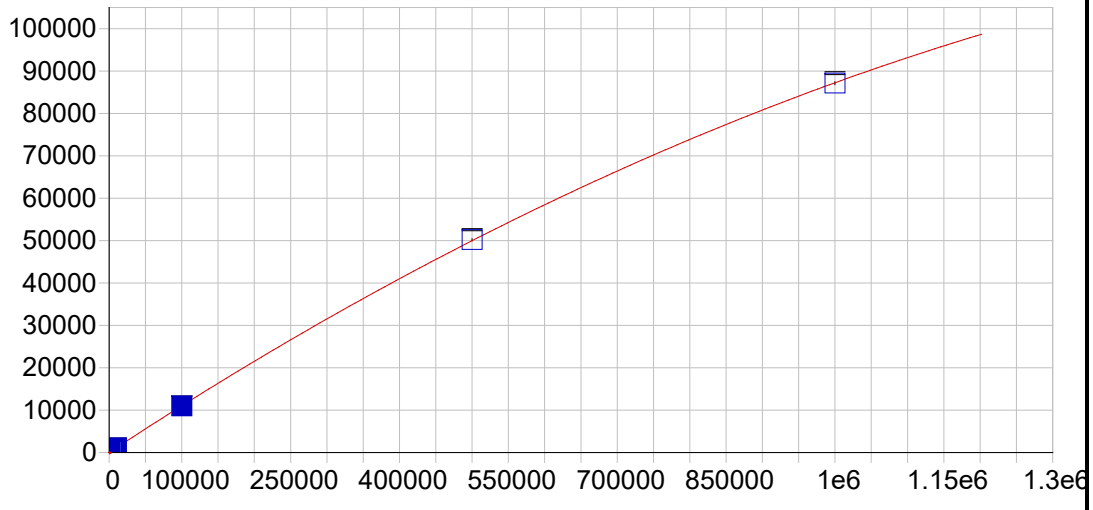


Be 234.861 {144}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.424555		
Predicted MQL:	1.415183		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00689	.007	.000	-.00000	.000	1
CalStd9=100	1000.0	1000.7	.671	.067	.00419	.000	1
CalStd8=100	100.00	99.814	-.186	-.186	.00042	.000	1

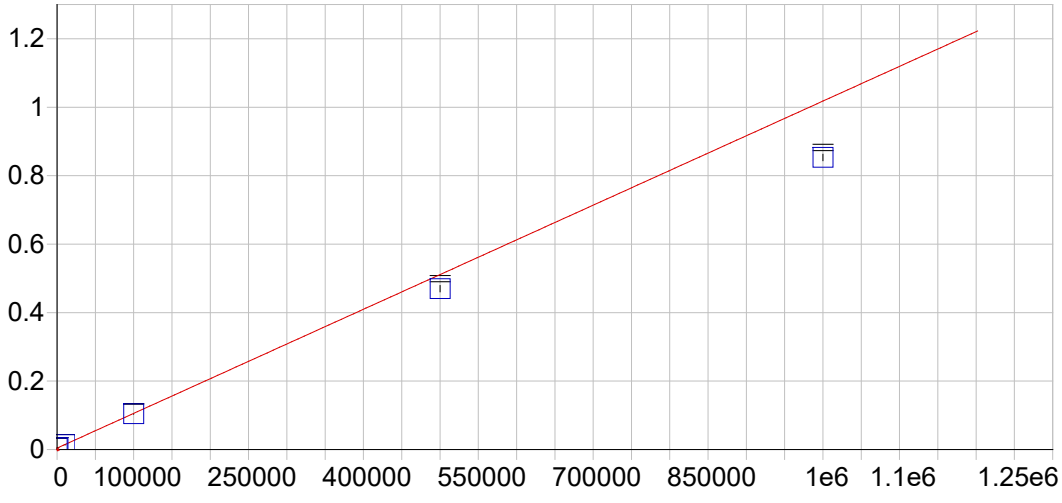


Ca 315.887 {107}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	18.839166	Re-Slope:	1.000000
A1 (Gain):	0.112643	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.928129		
Predicted MDL:	7.589793		
Predicted MQL:	25.299308		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.06977	.070	.000	18.847	1.01	1
CalStd10=10	10000.	9527.4	-473.	-4.73	1089.7	4.84	1
CalStd13=10	100000.	99430.	-570.	-.570	10968.	50.6	1
CalStd14=50	500000.	502520.	2520.	.505	50207.	261.	1
CalStd9=100	1000.0	979.73	-20.3	-2.03	129.17	.886	1
CalibStd15=	1000000.	998330.	-1670.	-.167	87145.	329.	1

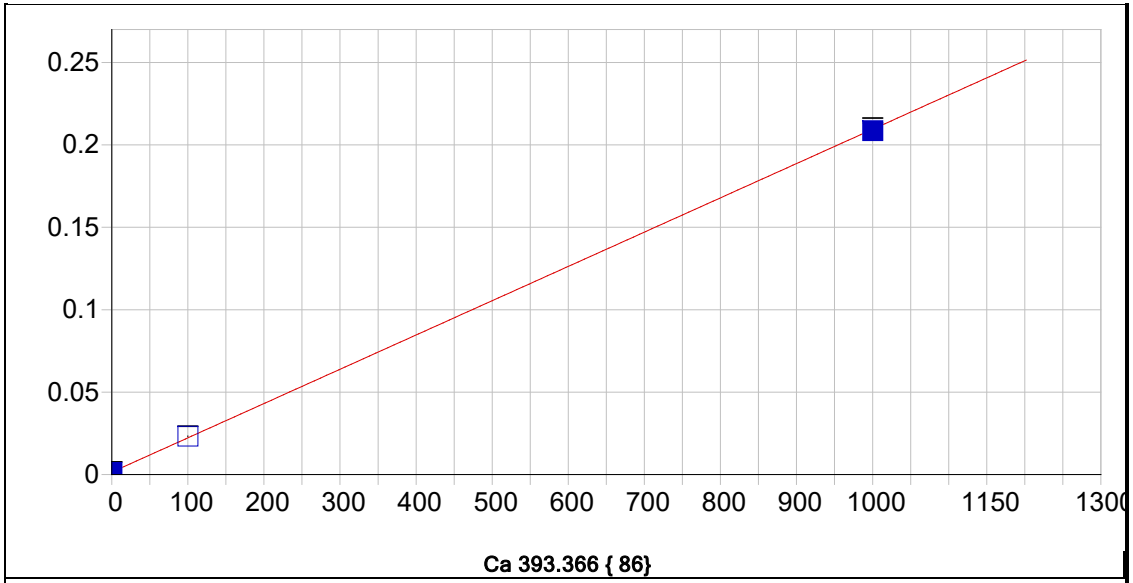


Ca 317.933 {106}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.004243	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000282		
Predicted MDL:	3.211035		
Predicted MQL:	10.703449		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	28.347	28.3	.000	.00427	.000	1
CalStd10=10	10000.	9619.3	-381.	-3.81	.01399	.000	1
CalStd13=10	100000.	98647.	-1350.	-1.35	.10424	.001	1
CalStd14=50	500000.	459250.	-40800.	-8.15	.46978	.009	1
CalStd9=100	1000.0	1128.5	129.	12.9	.00539	.000	1
CalibStd15=	1000000.	837340.	-163000.	-16.3	.85306	.009	1

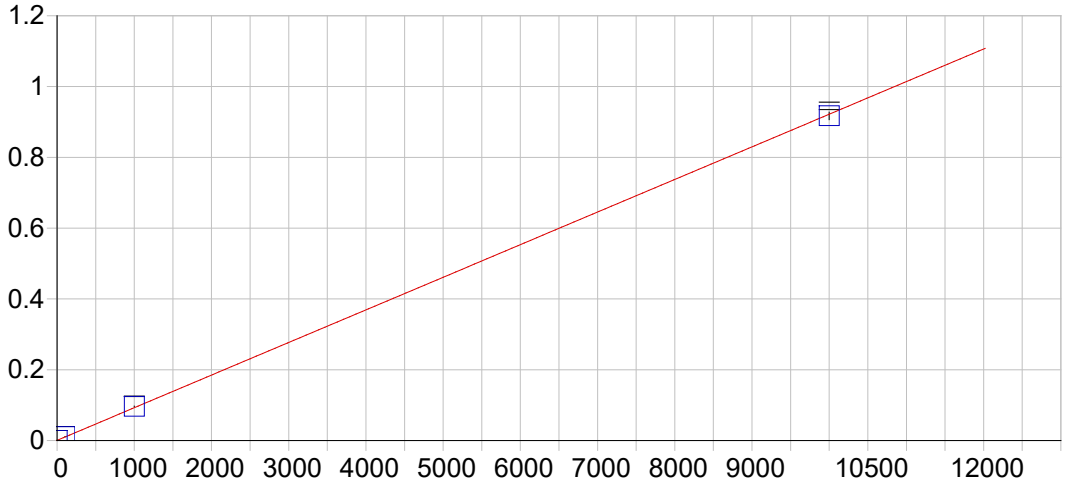


Ca 393.366 { 86}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001471	Re-Slope:	1.000000
A1 (Gain):	0.000208	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999898	Status:	OK.
Std Error of Est:	0.000054		
Predicted MDL:	0.039229		
Predicted MQL:	0.130762		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00408	-.004	.000	.00147	.000	1
CalStd9=100	1000.0	995.48	-4.52	-.452	.20882	.001	1
CalStd8=100	100.00	104.53	4.53	4.53	.02321	.000	1

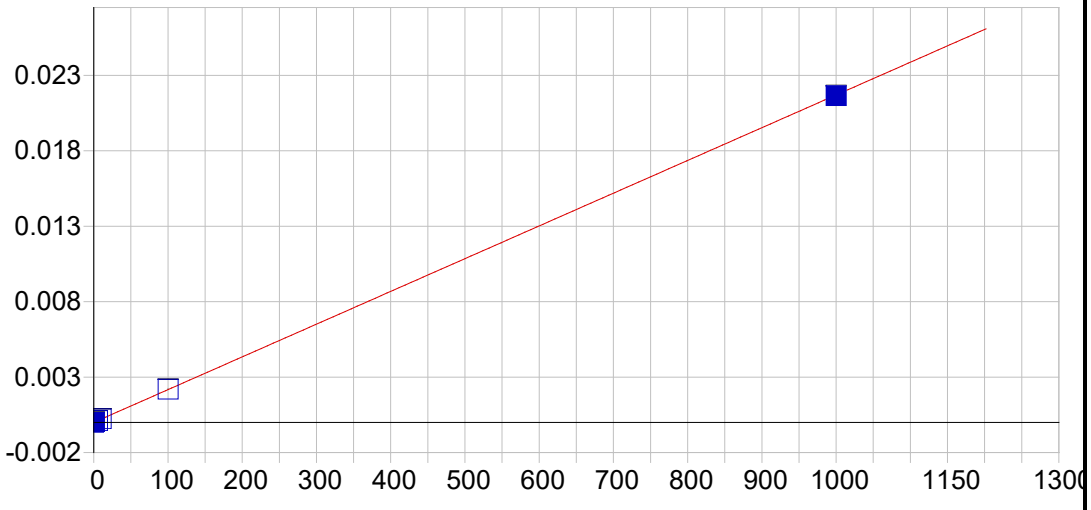


Ca 396.847 { 85}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000636	Re-Slope:	1.000000
A1 (Gain):	0.000092	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999870	Status:	OK.
Std Error of Est:	0.000070		
Predicted MDL:	0.084741		
Predicted MQL:	0.282471		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01355	-.014	.000	.00063	.000	1
CalStd10=10	10000.	9949.8	-50.2	-.502	.91720	.011	1
CalStd8=100	100.00	110.04	10.0	10.0	.01077	.000	1
CalStd9=100	1000.0	1040.2	40.2	4.02	.09646	.001	1

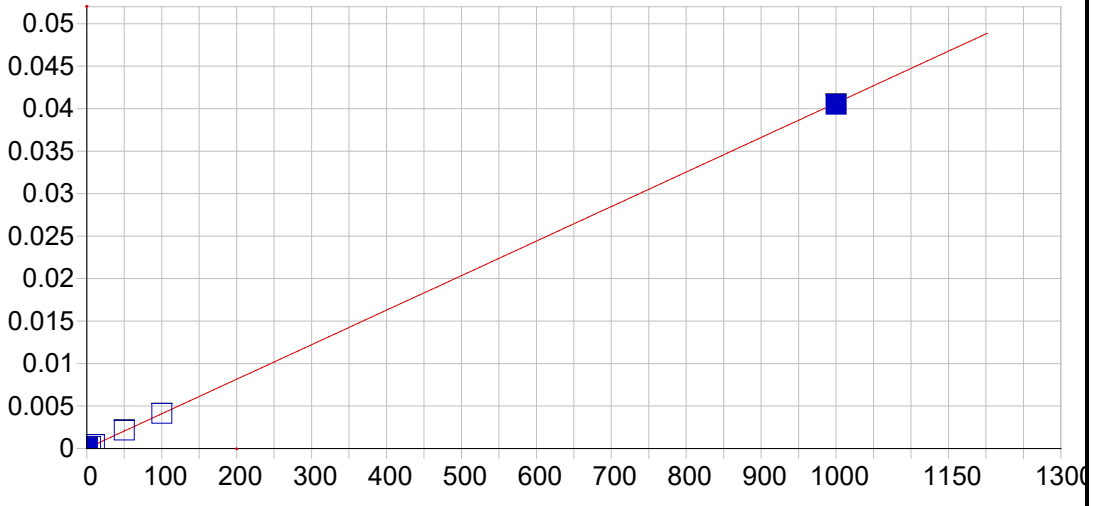


Cd 226.502 {449}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999944	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.203184		
Predicted MQL:	0.677280		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00023	-.000	.000	-.00000	.000	1
CalStd3=1	1.0000	1.0571	.057	5.71	.00002	.000	1
CalStd2=0.5	.50000	.63382	.134	26.8	.00001	.000	1
CalStd4=5	5.0000	5.2914	.291	5.83	.00011	.000	1
CalStd8=100	100.00	101.31	1.31	1.31	.00220	.000	1
CalStd5=10	10.000	10.671	.671	6.71	.00023	.000	1
CalStd9=100	1000.0	997.54	-2.46	-.246	.02165	.000	1

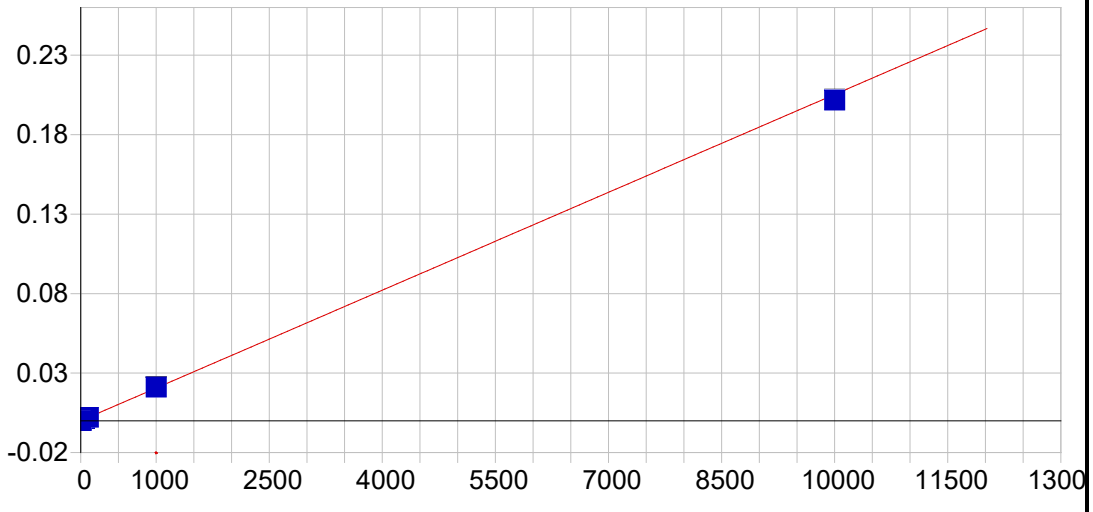


Cd 228.802 {447}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000027	Re-Slope:	1.000000
A1 (Gain):	0.000041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999910	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.156987		
Predicted MQL:	0.523291		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00015	-.000	.000	.00003	.000	1
CalStd7=50	50.000	52.479	2.48	4.96	.00216	.000	1
CalStd3=1	1.0000	.96551	-.034	-3.45	.00007	.000	1
CalStd2=0.5	.50000	.59623	.096	19.2	.00005	.000	1
CalStd4=5	5.0000	5.1343	.134	2.69	.00024	.000	1
CalStd8=100	100.00	100.91	.912	.912	.00413	.000	1
CalStd5=10	10.000	10.607	.607	6.07	.00046	.000	1
CalStd9=100	1000.0	995.81	-4.19	-.419	.04050	.000	1

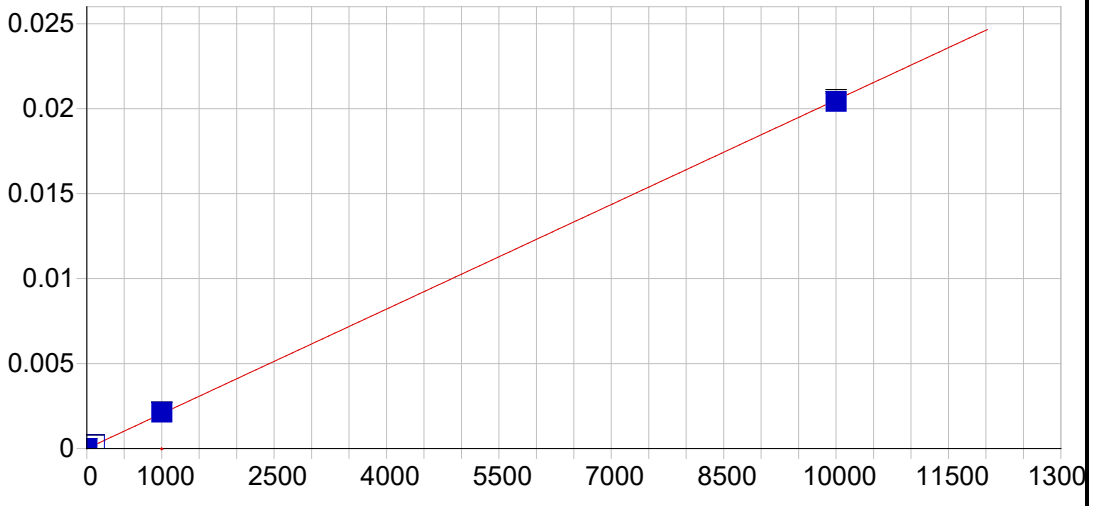


Co 228.616 {447}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000023	Re-Slope:	1.000000
A1 (Gain):	0.000021	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999724	Status:	OK.
Std Error of Est:	0.000066		
Predicted MDL:	0.278157		
Predicted MQL:	0.927191		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.1206	-1.12	.000	-.00000	.000	1
CalStd7=50	50.000	52.640	2.64	5.28	.00111	.000	1
CalStd5=10	10.000	9.8459	-.154	-1.54	.00022	.000	1
CalStd4=5	5.0000	4.2870	-.713	-14.3	.00011	.000	1
CalStd8=100	100.00	103.26	3.26	3.26	.00214	.000	1
CalStd9=100	1000.0	1028.2	28.2	2.82	.02115	.000	1
CalStd3=1	1.0000	.01062	-.989	-98.9	.00002	.000	1
CalStd10=10	10000.	9822.4	-178.	-1.78	.20210	.000	1

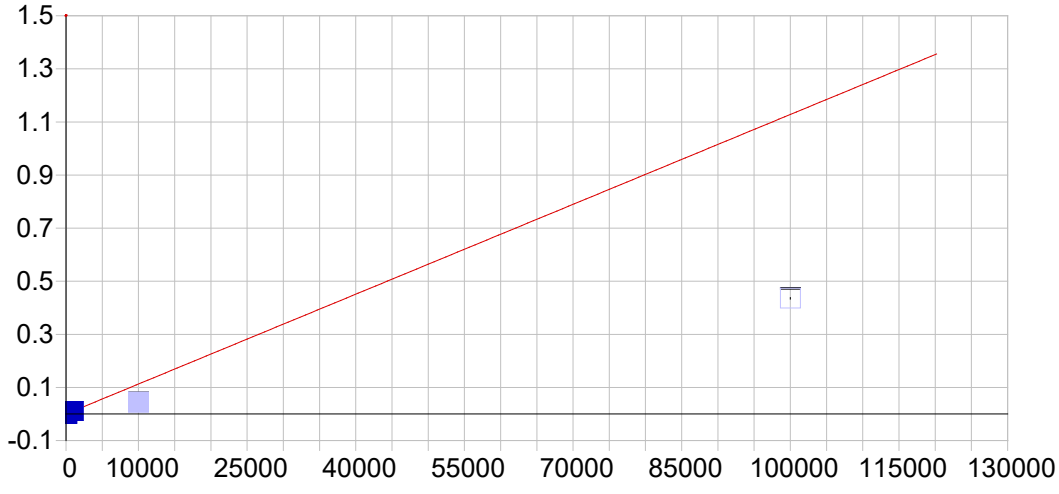


Co 238.892 {141}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999903	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.480844		
Predicted MQL:	1.602813		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00944	-.009	.000	.00000	.000	1
CalStd9=100	1000.0	1040.0	40.0	4.00	.00214	.000	1
CalStd10=10	10000.	9954.1	-45.9	-.459	.02042	.000	1
CalStd8=100	100.00	105.89	5.89	5.89	.00022	.000	1

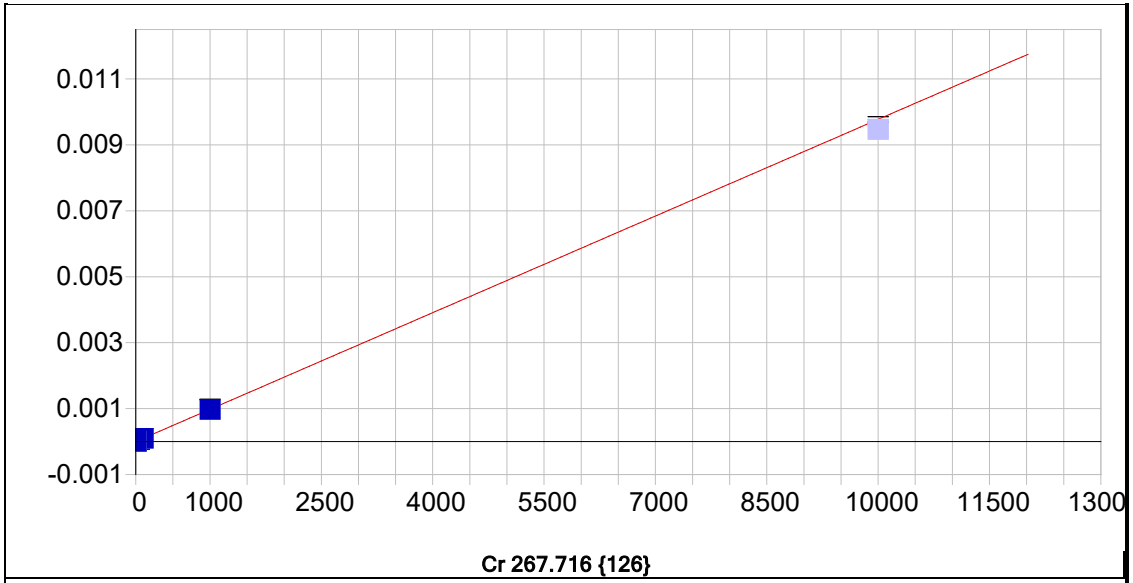


Cr 205.560 {464}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.313407		
Predicted MQL:	1.044691		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.72630	-.726	.000	-.00000	.000	1
CalStd5=10	10.000	9.5552	-.445	-4.45	.00011	.000	1
CalStd7=50	50.000	51.457	1.46	2.91	.00058	.000	1
CalStd9=100	1000.0	999.94	-.057	-.006	.01128	.000	1
CalStd8=100	100.00	100.08	.084	.084	.00113	.000	1
CalStd4=5	5.0000	4.7328	-.267	-5.34	.00006	.000	1
CalStd3=1	1.0000	.40082	-.599	-59.9	.00001	.000	1
CalStd10=10	10000.	3897.4	-6100.	-61.0	.04397	.000	0
CalStd12=10	100000.	38633.	-61400.	-61.4	.43583	.003	0

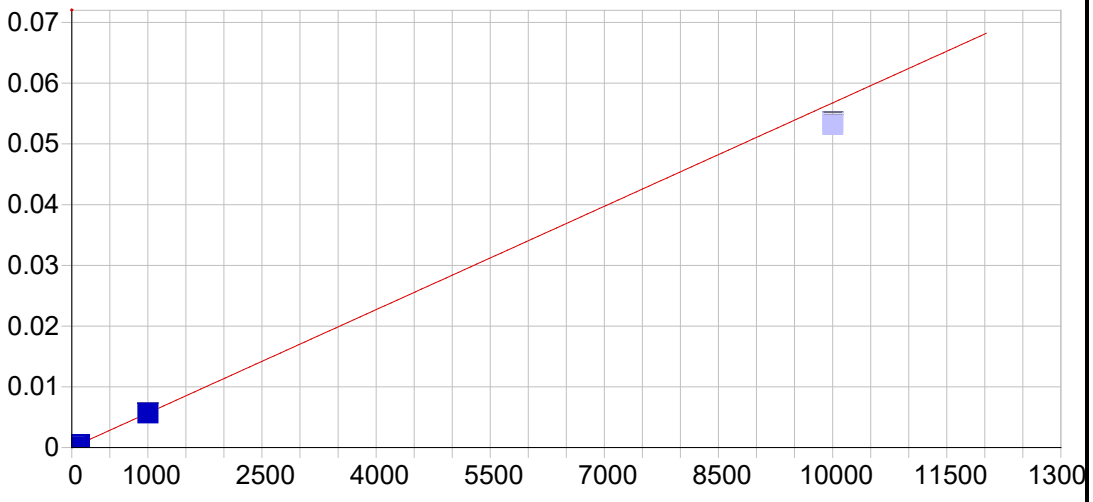


Cr 267.716 {126}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999411	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.384372		
Predicted MQL:	4.614575		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00318	-.003	.000	.00000	.000	1
CalStd5=10	10.000	11.412	1.41	14.1	.00001	.000	1
CalStd7=50	50.000	52.426	2.43	4.85	.00005	.000	1
CalStd9=100	1000.0	993.56	-6.44	-.644	.00097	.000	1
CalStd8=100	100.00	100.35	.352	.352	.00010	.000	1
CalStd4=5	5.0000	7.2509	2.25	45.0	.00001	.000	1
CalStd10=10	10000.	9687.0	-313.	-3.13	.00947	.000	0

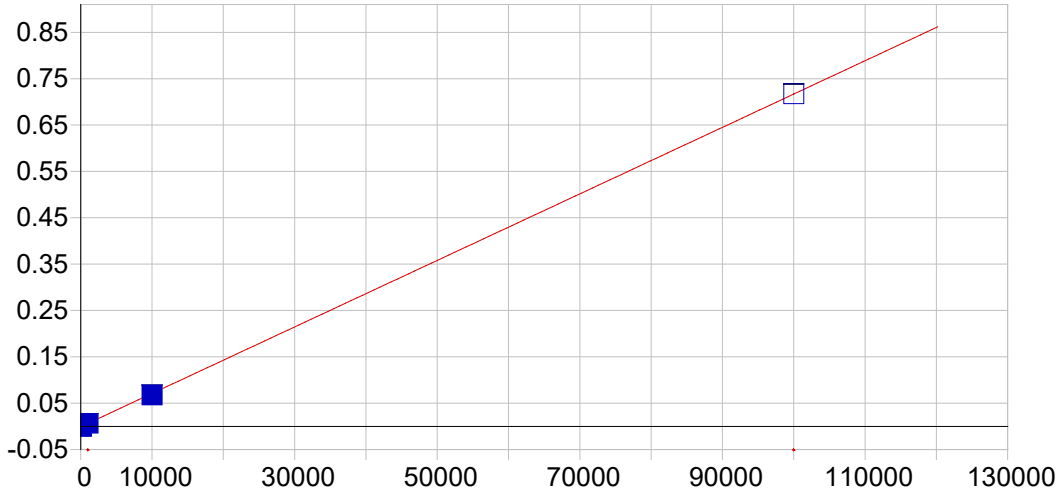


Cu 223.008 {451}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999875	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.995206		
Predicted MQL:	3.317355		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00133	-.001	.000	.00001	.000	1
CalStd9=100	1000.0	996.66	-3.34	-.334	.00570	.000	1
CalStd8=100	100.00	100.91	.908	.908	.00058	.000	1
CalStd6=20	20.000	22.302	2.30	11.5	.00013	.000	1
CalStd5=10	10.000	10.126	.126	1.26	.00006	.000	1
CalStd10=10	10000.	9367.4	-633.	-6.33	.05362	.000	0

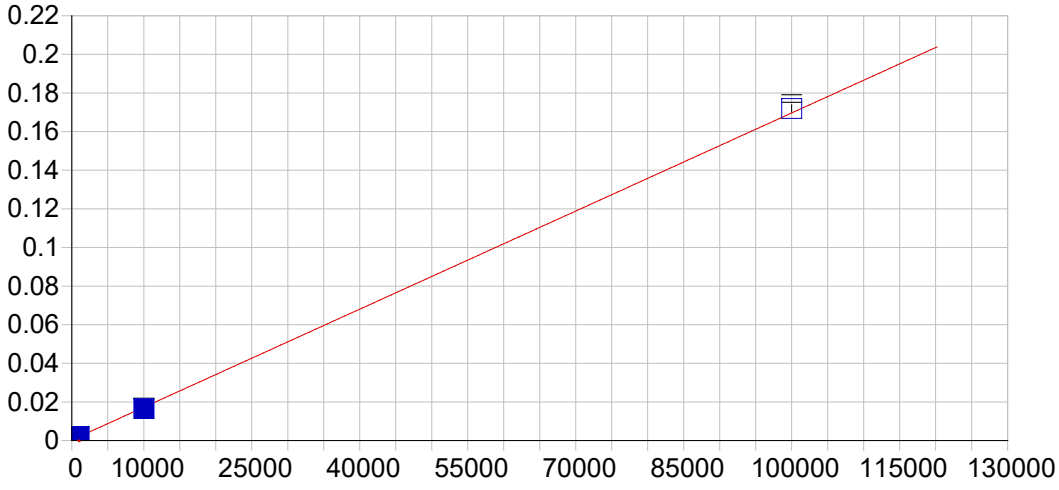


Cu 224.700 {450}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000815	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.001595		
Predicted MDL:	0.454207		
Predicted MQL:	1.514024		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	114.35	114.	.000	.00001	.000	1
CalStd9=100	1000.0	1066.6	66.6	6.66	.00681	.000	1
CalStd7=50	50.000	123.55	73.5	147.	.00007	.000	1
CalStd8=100	100.00	159.80	59.8	59.8	.00033	.000	1
CalStd6=20	20.000	117.98	98.0	490.	.00003	.000	1
CalStd12=10	100000.	100040.	44.7	.045	.71715	.001	1
CalStd10=10	10000.	9542.9	-457.	-4.57	.06739	.000	1

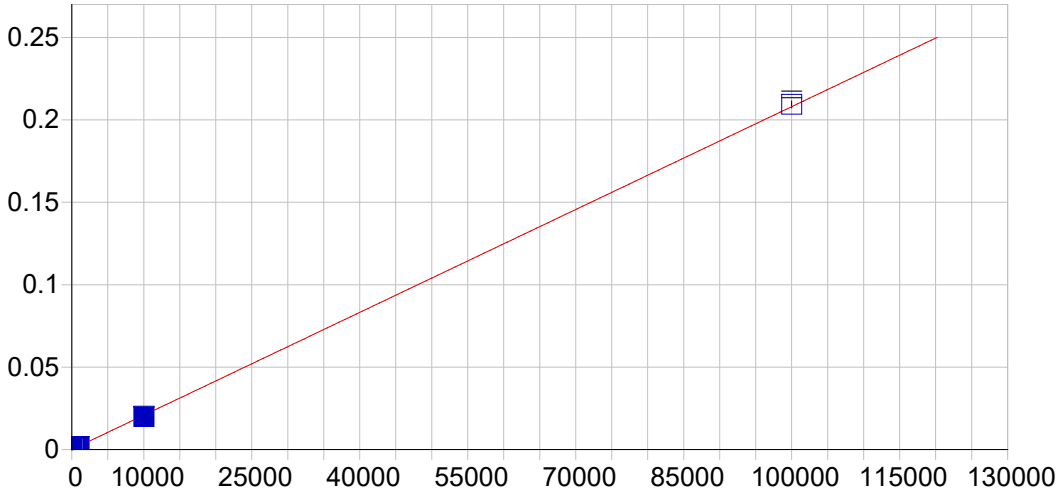


Cu 324.754 {104}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000288	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999371	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	2.749329		
Predicted MQL:	9.164431		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.2777	-5.28	.000	.00028	.000	1
CalStd9=100	1000.0	1030.2	30.2	3.02	.00203	.000	1
CalStd8=100	100.00	100.33	.334	.334	.00046	.000	1
CalStd10=10	10000.	9559.5	-440.	-4.40	.01648	.000	1
CalStd12=10	100000.	101320.	1320.	1.32	.17190	.002	1
CalStd5=10	10.000	5.7287	-4.27	-42.7	.00030	.000	1
CalStd6=20	20.000	20.970	.970	4.85	.00032	.000	1
CalStd7=50	50.000	50.959	.959	1.92	.00037	.000	1

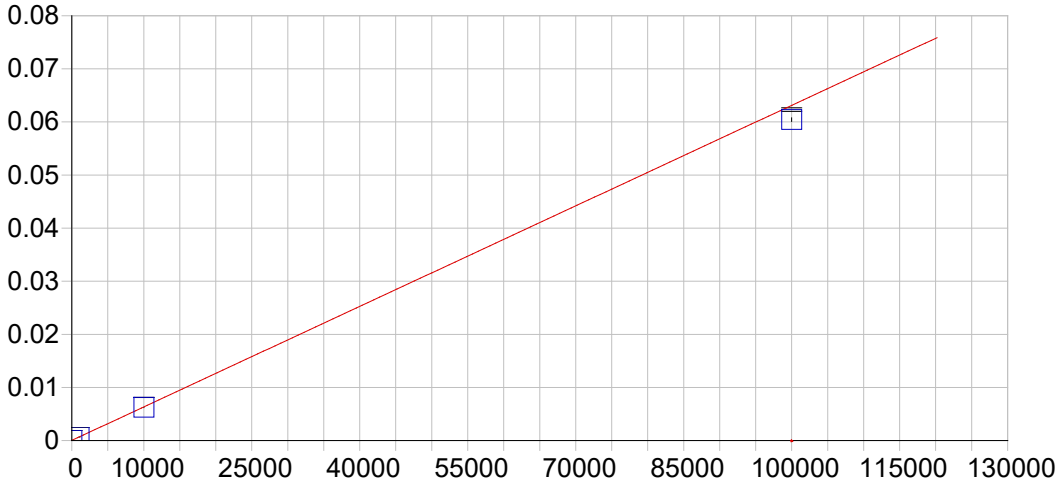


Cu 327.396 {103}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999476	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	4.134467		
Predicted MQL:	13.781557		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.50434	-.504	.000	.00002	.000	1
CalStd6=20	20.000	18.578	-1.42	-7.11	.00005	.000	1
CalStd7=50	50.000	49.618	-.382	-.765	.00012	.000	1
CalStd8=100	100.00	100.57	.566	.566	.00023	.000	1
CalStd9=100	1000.0	1028.6	28.6	2.86	.00216	.000	1
CalStd10=10	10000.	9568.3	-432.	-4.32	.01991	.000	1
CalStd4=5	5.0000	2.1963	-2.80	-56.1	.00002	.000	1
CalStd5=10	10.000	9.4875	-.513	-5.13	.00004	.000	1
CalStd12=10	100000.	100660.	659.	.659	.20940	.002	1

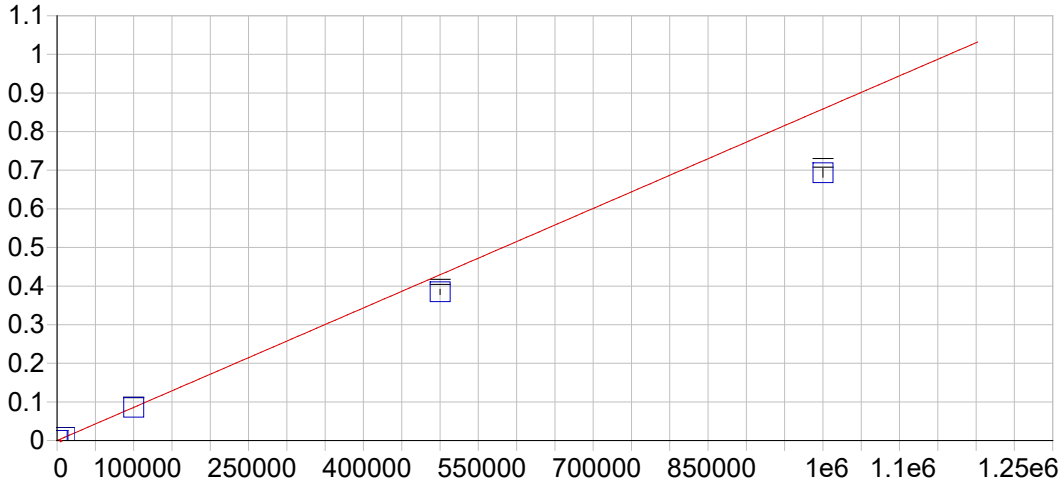


Fe 234.349 {144}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.815246		
Predicted MQL:	2.717486		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03690	-.037	.000	.00002	.000	1
CalStd10=10	10000.	9837.5	-162.	-1.62	.00623	.000	1
CalStd13=10	100000.	95733.	-4270.	-4.27	.06043	.000	1
CalStd9=100	1000.0	1026.1	26.1	2.61	.00067	.000	1

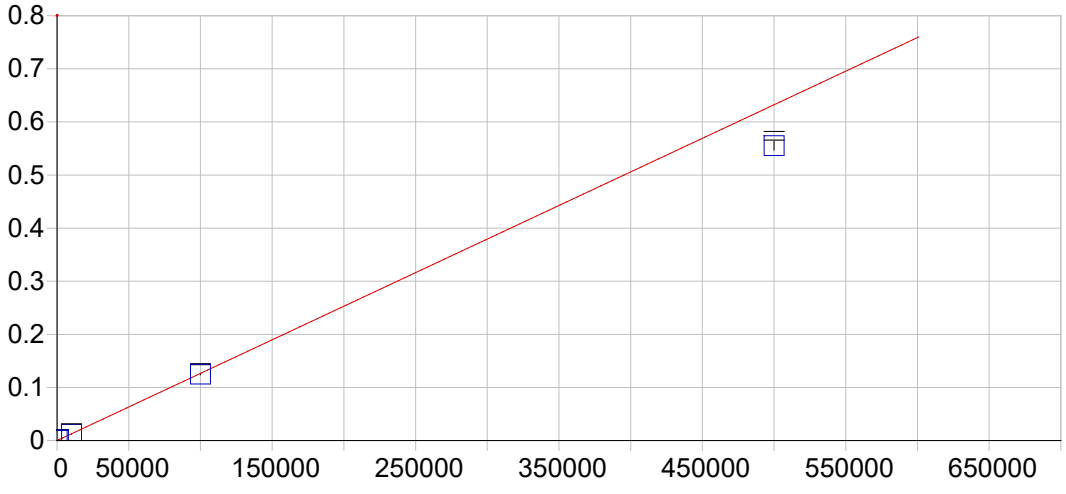


Fe 239.562 {140}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	2.770447		
Predicted MQL:	9.234824		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03999	-.040	.000	.00001	.000	1
CalStd10=10	10000.	9901.8	-98.2	-.982	.00851	.000	1
CalStd13=10	100000.	99870.	-130.	-.130	.08575	.001	1
CalStd14=50	500000.	448310.	-51700.	-10.3	.38490	.007	1
CalStd9=100	1000.0	1034.5	34.5	3.45	.00089	.000	1
CalibStd15=	1000000.	807340.	-193000.	-19.3	.69315	.011	1

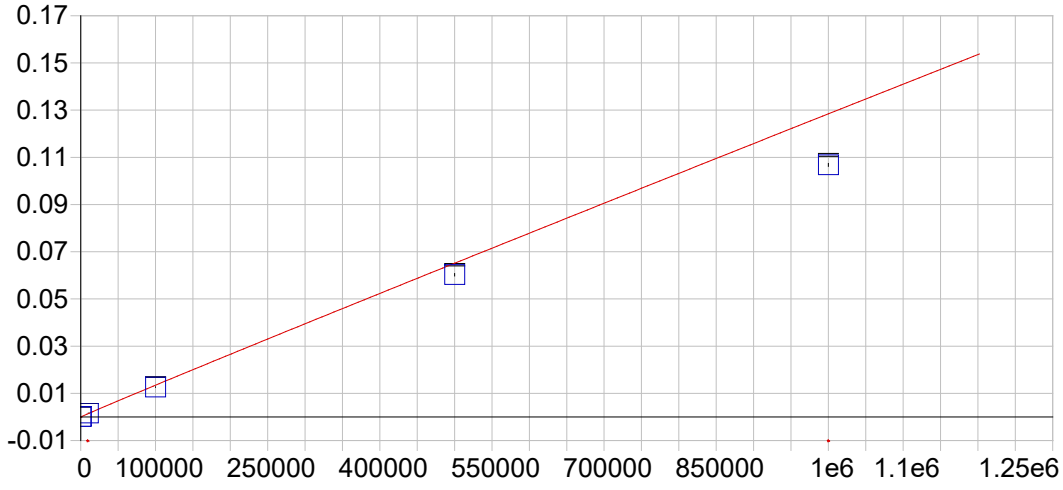


Fe 259.940 {129}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999766	Status:	OK.
Std Error of Est:	0.000026		
Predicted MDL:	2.080521		
Predicted MQL:	6.935070		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.5617	-1.56	.000	.00000	.000	1
CalStd10=10	10000.	9582.8	-417.	-4.17	.01212	.000	1
CalStd13=10	100000.	98714.	-1290.	-1.29	.12485	.001	1
CalStd14=50	500000.	438970.	-61000.	-12.2	.55516	.008	1
CalStd9=100	1000.0	1015.0	15.0	1.50	.00129	.000	1

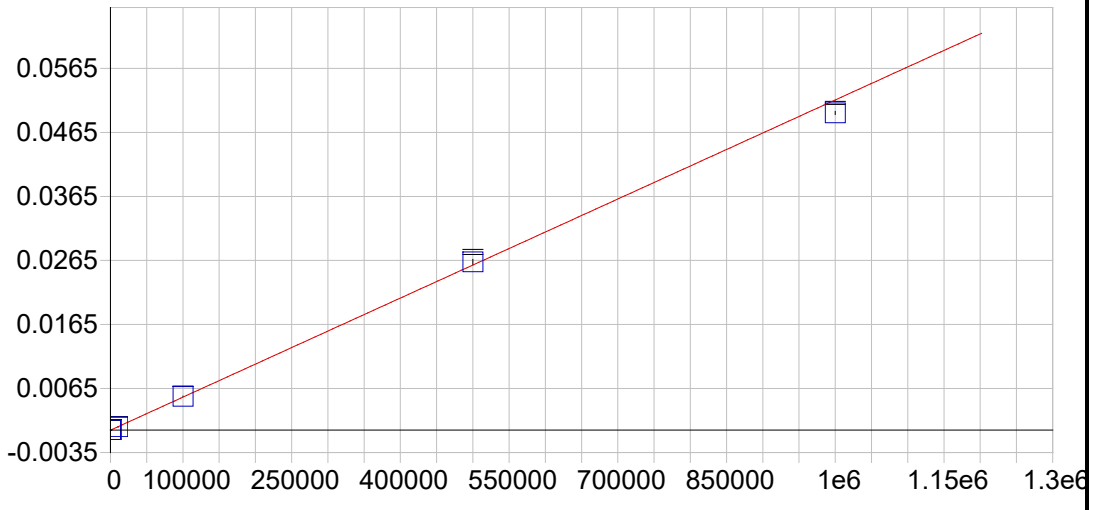


Mg 202.582 {466}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.980000		
Correlation:	0.999816	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	3.045014		
Predicted MQL:	10.150048		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00000	.000	1
CalStd13=10	100000.	93945.	-6060.	-6.06	.01265	.000	1
CalStd10=10	10000.	11294.	1290.	12.9	.00159	.000	1
CalStd14=50	500000.	461920.	-38100.	-7.62	.06025	.000	1
CalStd9=100	1000.0	1110.0	110.	11.0	.00016	.000	1
CalibStd15=	1000000.	828420.	-172000.	-17.2	.10681	.001	1

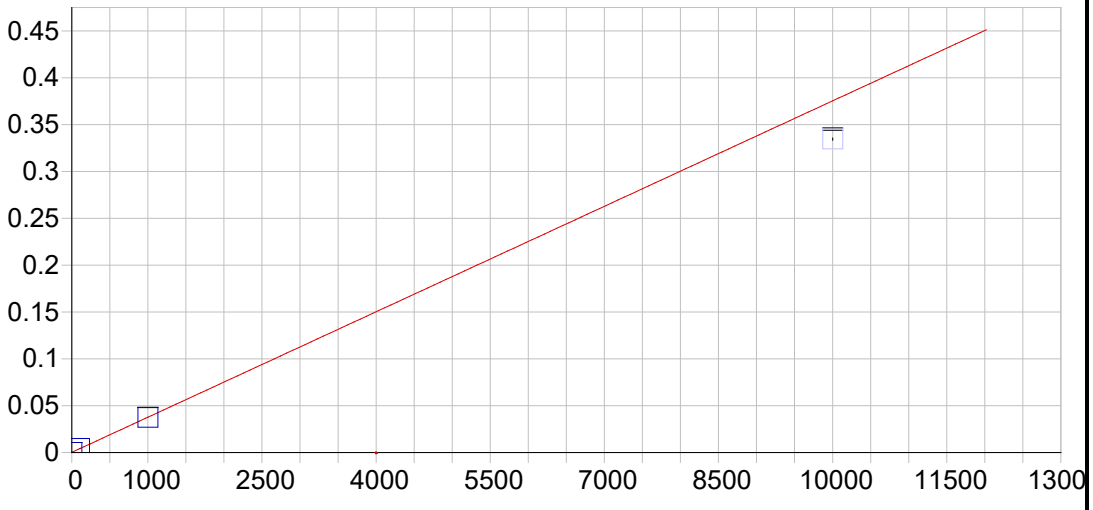


Mg 279.079 {121}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999830	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	26.466992		
Predicted MQL:	88.223305		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.97402	.974	.000	-.00000	.000	1
CalStd13=10	100000.	102150.	2150.	2.15	.00527	.000	1
CalStd10=10	10000.	9775.8	-224.	-2.24	.00050	.000	1
CalStd14=50	500000.	509430.	9430.	1.89	.02627	.000	1
CalStd9=100	1000.0	1006.8	6.79	.679	.00005	.000	1
CalibStd15=	1000000.	960650.	-39400.	-3.94	.04953	.000	1

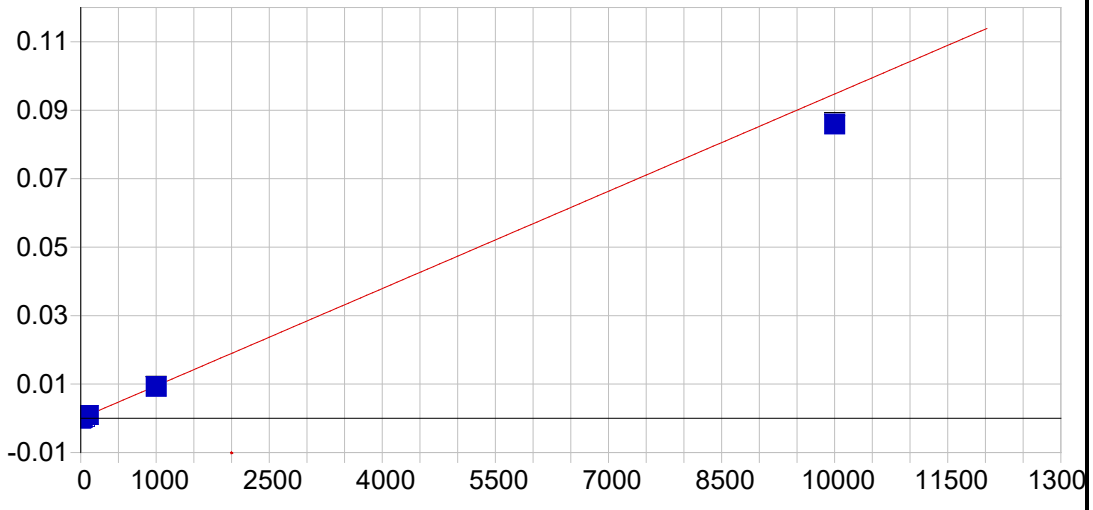


Mg 280.270 {120}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000165	Re-Slope:	1.000000
A1 (Gain):	0.000038	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999691	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.019032		
Predicted MQL:	0.063439		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00707	-.007	.000	.00017	.000	1
CalStd9=100	1000.0	992.15	-7.85	-.785	.03739	.000	1
CalStd10=10	10000.	8911.7	-1090.	-10.9	.33453	.001	0
CalStd8=100	100.00	107.85	7.85	7.85	.00421	.000	1

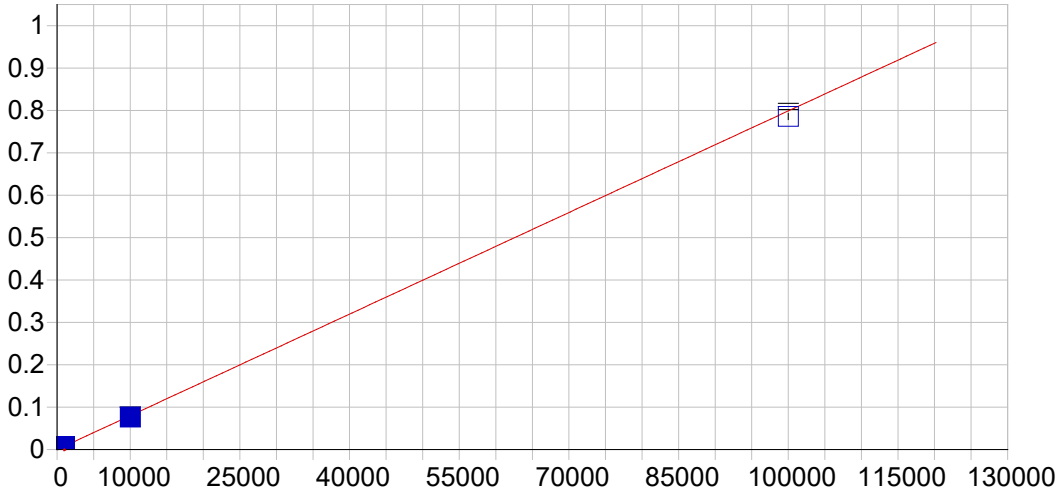


Mn 257.610 {131}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998729	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.064320		
Predicted MQL:	0.214400		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.26827	-.268	.000	-.00000	.000	1
CalStd5=10	10.000	10.299	.299	2.99	.00010	.000	1
CalStd7=50	50.000	51.499	1.50	3.00	.00049	.000	1
CalStd6=20	20.000	20.519	.519	2.60	.00020	.000	1
CalStd8=100	100.00	100.61	.606	.606	.00095	.000	1
CalStd4=5	5.0000	5.0015	.002	.031	.00005	.000	1
CalStd9=100	1000.0	980.07	-19.9	-1.99	.00929	.000	1
CalStd10=10	10000.	9068.2	-932.	-9.32	.08592	.000	1

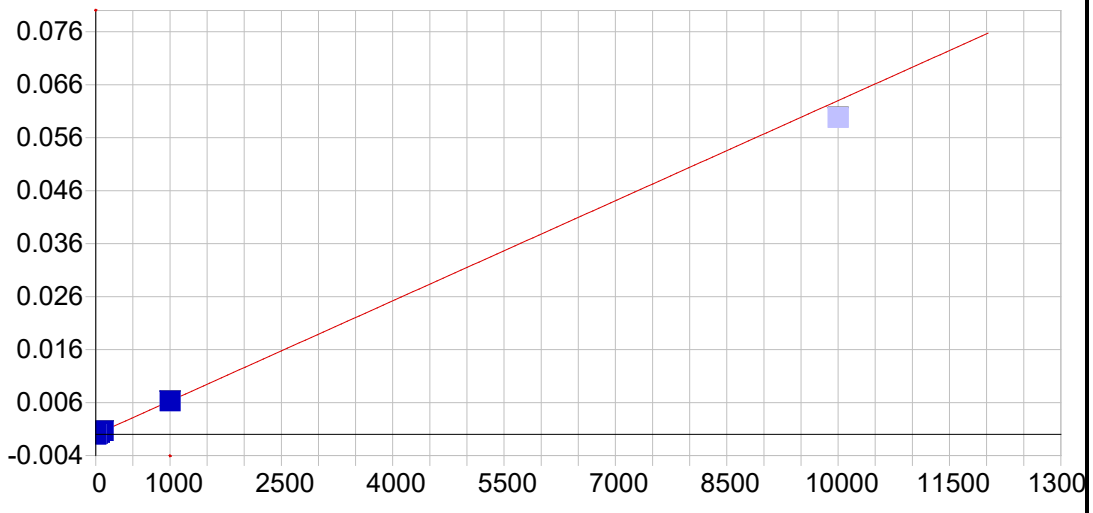


Mn 259.373 {130}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999481	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	0.379608		
Predicted MQL:	1.265361		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.05646	-.056	.000	.00000	.000	1
CalStd10=10	10000.	9573.0	-427.	-4.27	.07657	.001	1
CalStd9=100	1000.0	1031.3	31.3	3.13	.00825	.000	1
CalStd12=10	100000.	98366.	-1630.	-1.63	.78590	.007	1

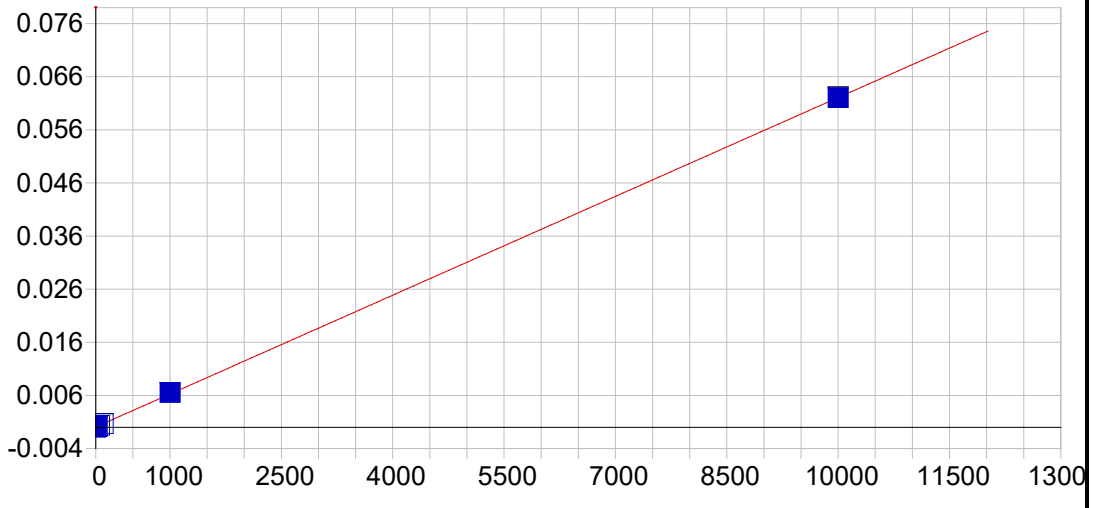


Mo 202.030 {466}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999877	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.518455		
Predicted MQL:	1.728182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00140	-.001	.000	.00000	.000	1
CalStd7=50	50.000	51.865	1.87	3.73	.00033	.000	1
CalStd6=20	20.000	21.127	1.13	5.63	.00013	.000	1
CalStd5=10	10.000	10.900	.900	9.00	.00007	.000	1
CalStd8=100	100.00	99.297	-.703	-.703	.00063	.000	1
CalStd4=5	5.0000	5.5375	.537	10.7	.00004	.000	1
CalStd9=100	1000.0	996.27	-3.73	-.373	.00628	.000	1
CalStd10=10	10000.	9489.0	-511.	-5.11	.05981	.000	0

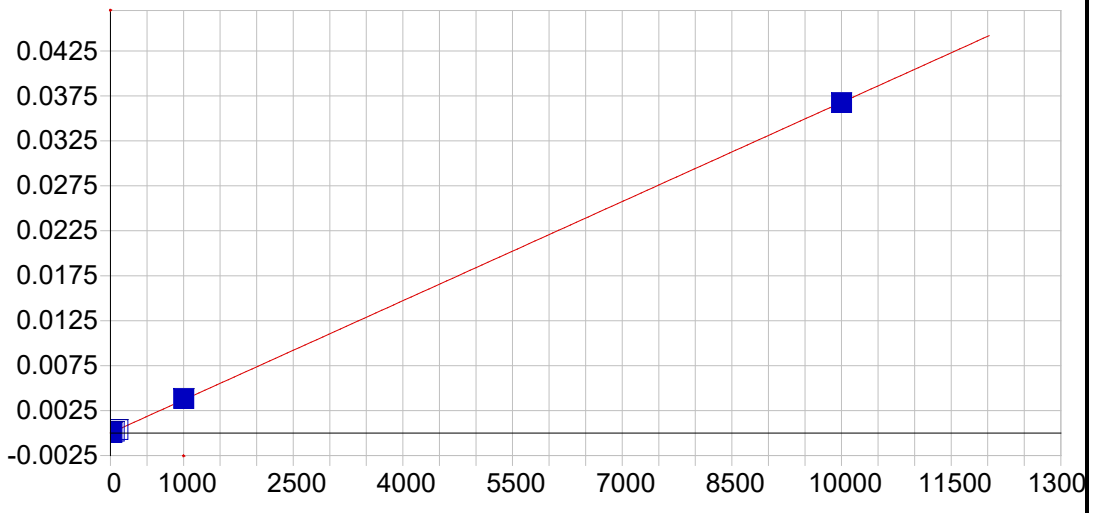


Mo 202.030 {467}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000056	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000118		
Predicted MDL:	0.529483		
Predicted MQL:	1.764942		

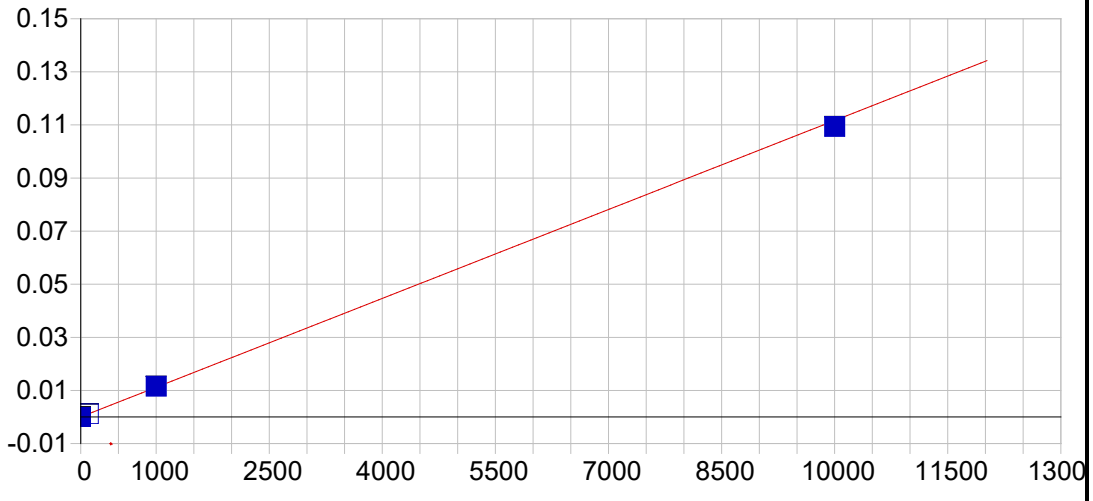
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.7206	-8.72	.000	.00000	.000	1
CalStd7=50	50.000	46.012	-3.99	-7.98	.00034	.000	1
CalStd6=20	20.000	13.044	-6.96	-34.8	.00014	.000	1
CalStd5=10	10.000	2.2472	-7.75	-77.5	.00007	.000	1
CalStd8=100	100.00	96.314	-3.69	-3.69	.00065	.000	1
CalStd4=5	5.0000	-2.9612	-7.96	-159.	.00004	.000	1
CalStd9=100	1000.0	1043.3	43.3	4.33	.00653	.000	1
CalStd10=10	10000.	9995.8	-4.25	-.042	.06205	.000	1



Mo 204.598 {464}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000012		Re-Slope:	1.000000	
A1 (Gain):	0.000004		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999973		Status:	OK.	
Std Error of Est:	0.000044				
Predicted MDL:	0.961098				
Predicted MQL:	3.203660				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.1390	-3.14	.000	.00000	.000	1
CalStd7=50	50.000	49.400	-.600	-1.20	.00019	.000	1
CalStd6=20	20.000	17.644	-2.36	-11.8	.00008	.000	1
CalStd5=10	10.000	6.7625	-3.24	-32.4	.00004	.000	1
CalStd8=100	100.00	99.738	-.262	-.262	.00038	.000	1
CalStd4=5	5.0000	1.2262	-3.77	-75.5	.00002	.000	1
CalStd9=100	1000.0	1038.4	38.4	3.84	.00383	.000	1
CalStd10=10	10000.	9987.3	-12.7	-.127	.03674	.000	1

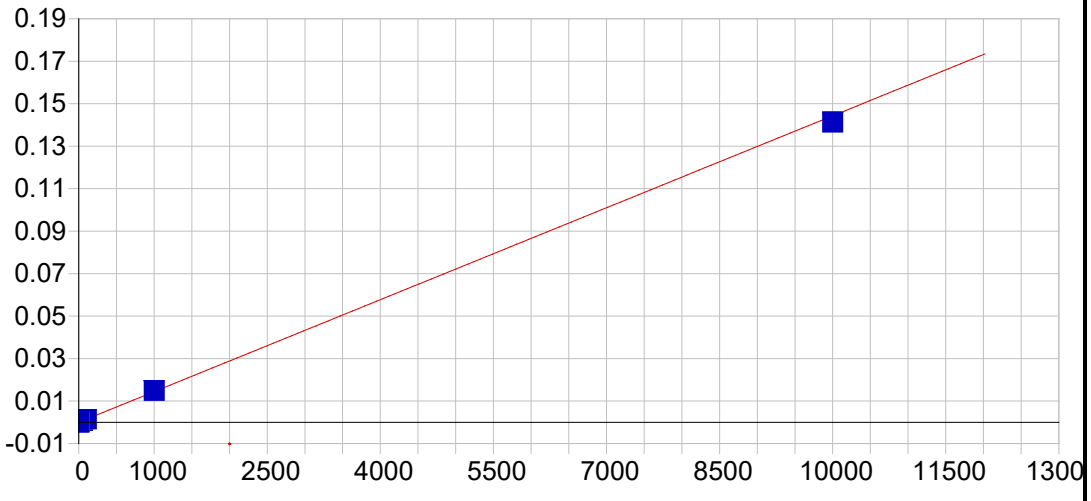


Ni 221.647 {452}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999650	Status:	OK.
Std Error of Est:	0.000167		
Predicted MDL:	0.550842		
Predicted MQL:	1.836139		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.0163	-3.02	.000	-.00001	.000	1
CalStd10=10	10000.	9792.9	-207.	-2.07	.10935	.000	1
CalStd8=100	100.00	103.00	3.00	3.00	.00117	.000	1
CalStd9=100	1000.0	1030.0	30.0	3.00	.01152	.000	1

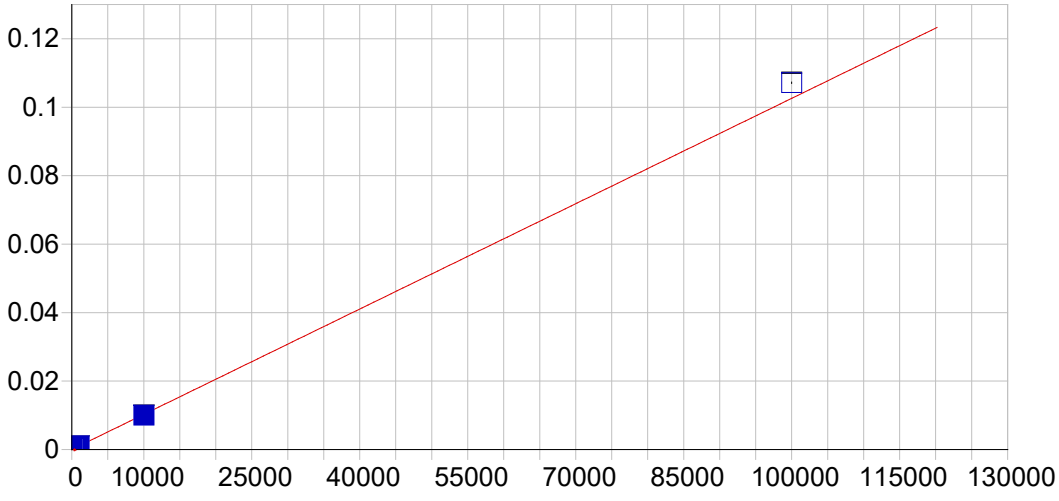


Ni 231.604 {445}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999521	Status:	OK.
Std Error of Est:	0.000056		
Predicted MDL:	0.457149		
Predicted MQL:	1.523829		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.6912	-1.69	.000	-.00003	.000	1
CalStd7=50	50.000	52.030	2.03	4.06	.00075	.000	1
CalStd5=10	10.000	8.6010	-1.40	-14.0	.00012	.000	1
CalStd8=100	100.00	104.41	4.41	4.41	.00150	.000	1
CalStd4=5	5.0000	3.7569	-1.24	-24.9	.00005	.000	1
CalStd9=100	1000.0	1030.6	30.6	3.06	.01485	.000	1
CalStd3=1	1.0000	-.96269	-1.96	-196.	-.00002	.000	1
CalStd10=10	10000.	9787.0	-213.	-2.13	.14133	.000	1

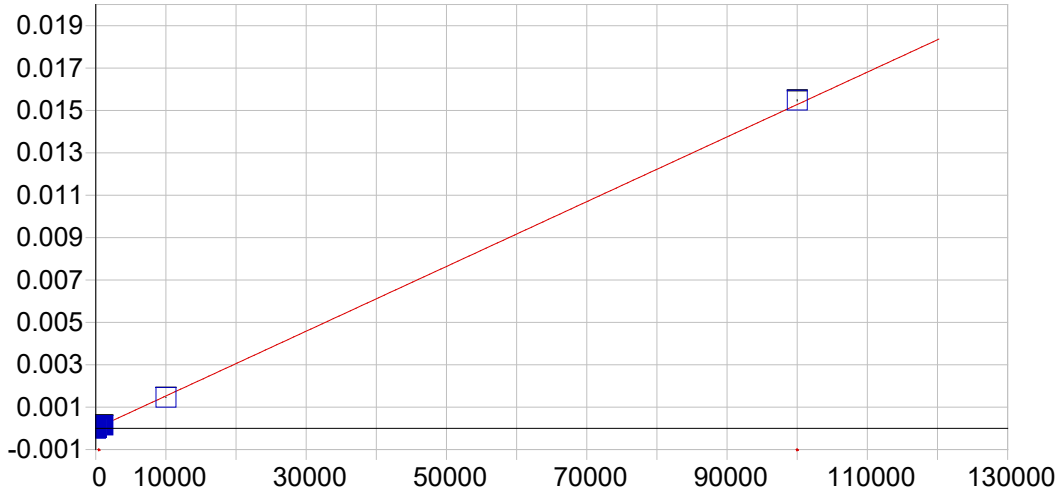


Pb 216.999 {455}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999455	Status:	OK.
Std Error of Est:	0.000061		
Predicted MDL:	5.146598		
Predicted MQL:	17.155327		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.8224	1.82	.000	.00001	.000	1
CalStd9=100	1000.0	1016.4	16.4	1.64	.00106	.000	1
CalStd10=10	10000.	9751.1	-249.	-2.49	.01004	.000	1
CalStd8=100	100.00	102.44	2.44	2.44	.00012	.000	1
CalStd5=10	10.000	12.247	2.25	22.5	.00002	.000	1
CalStd12=10	100000.	104450.	4450.	4.45	.10715	.000	1

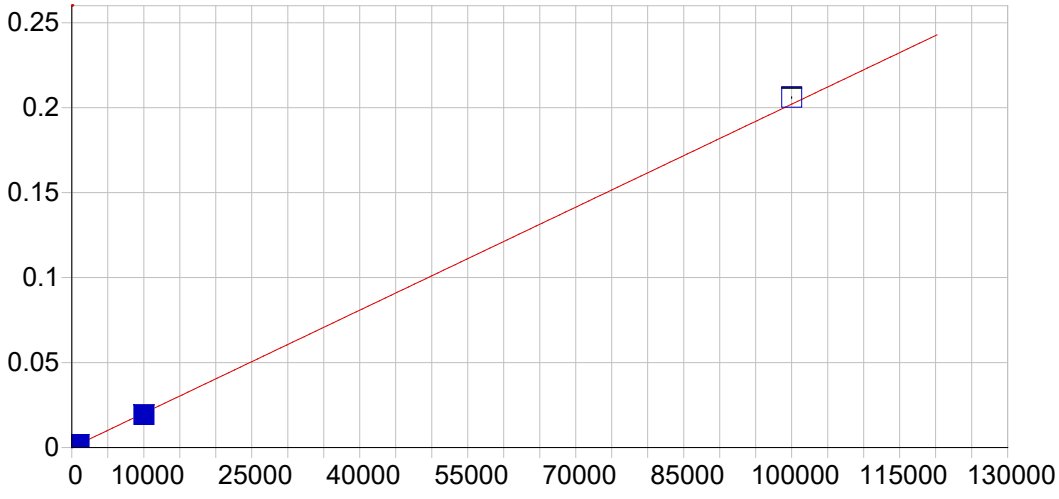


Pb 216.999 {456}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999700	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	16.695912		
Predicted MQL:	55.653040		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.3217	7.32	.000	.00000	.000	1
CalStd9=100	1000.0	1006.5	6.47	.647	.00015	.000	1
CalStd10=10	10000.	9558.2	-442.	-4.42	.00146	.000	1
CalStd8=100	100.00	109.01	9.01	9.01	.00002	.000	1
CalStd5=10	10.000	21.205	11.2	112.	.00000	.000	1
CalStd12=10	100000.	101290.	1290.	1.29	.01548	.000	1

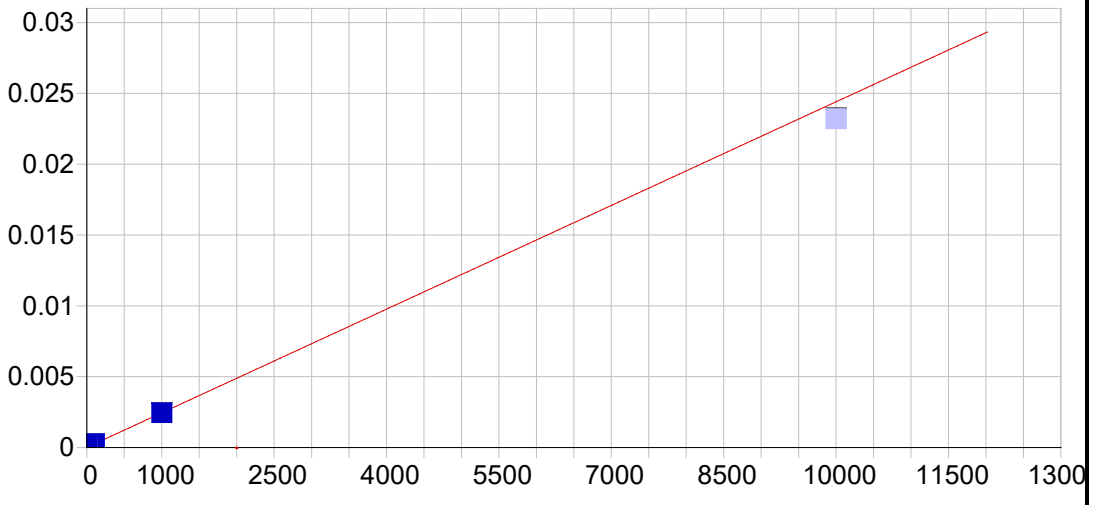


Pb 220.353 {153}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999626	Status:	OK.
Std Error of Est:	0.000049		
Predicted MDL:	2.618960		
Predicted MQL:	8.729867		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.2898	-1.29	.000	.00001	.000	1
CalStd9=100	1000.0	1003.0	2.98	.298	.00204	.000	1
CalStd10=10	10000.	9555.8	-444.	-4.44	.01932	.000	1
CalStd8=100	100.00	100.37	.366	.366	.00022	.000	1
CalStd12=10	100000.	101940.	1940.	1.94	.20597	.000	1

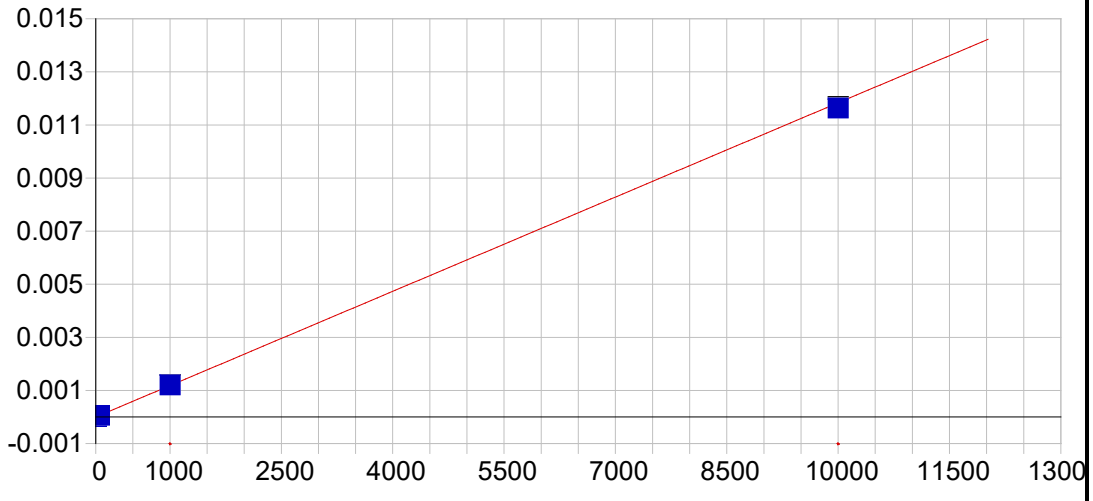


Pb 220.353 {453}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.656070		
Predicted MQL:	8.853566		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00081	.001	.000	.00001	.000	1
CalStd5=10	10.000	8.1573	-1.84	-18.4	.00003	.000	1
CalStd8=100	100.00	101.84	1.84	1.84	.00026	.000	1
CalStd4=5	5.0000	5.0184	.018	.368	.00002	.000	1
CalStd9=100	1000.0	999.99	-.011	-.001	.00245	.000	1
CalStd10=10	10000.	9504.3	-496.	-4.96	.02320	.000	0

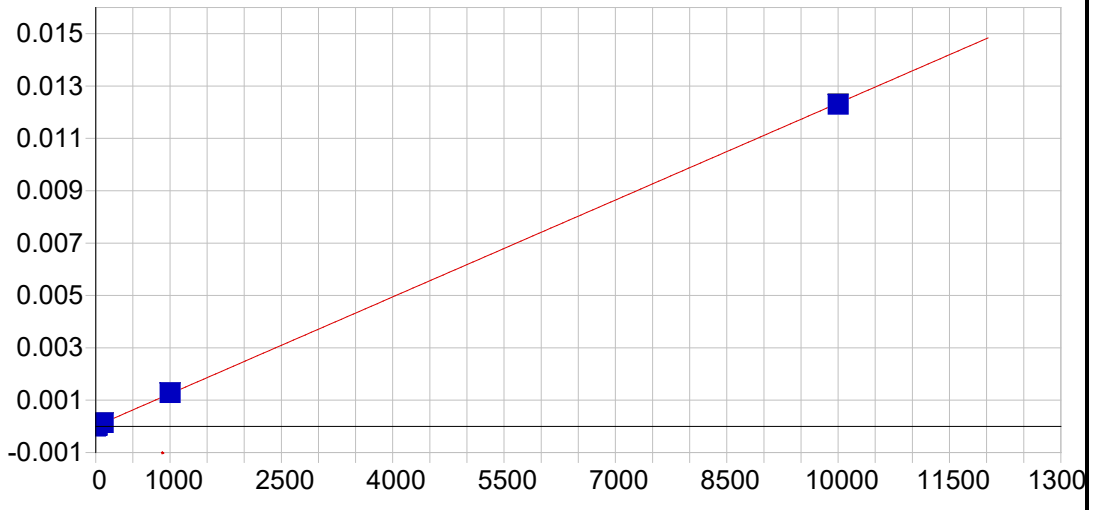


Sb 206.833 {463}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999830	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	3.331493		
Predicted MQL:	11.104976		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.53100	-.531	.000	-.00000	.000	1
CalStd9=100	1000.0	1018.7	18.7	1.87	.00121	.000	1
CalStd5=10	10.000	9.1287	-.871	-8.71	.00001	.000	1
CalStd7=50	50.000	51.683	1.68	3.37	.00006	.000	1
CalStd10=10	10000.	9828.7	-171.	-1.71	.01163	.000	1

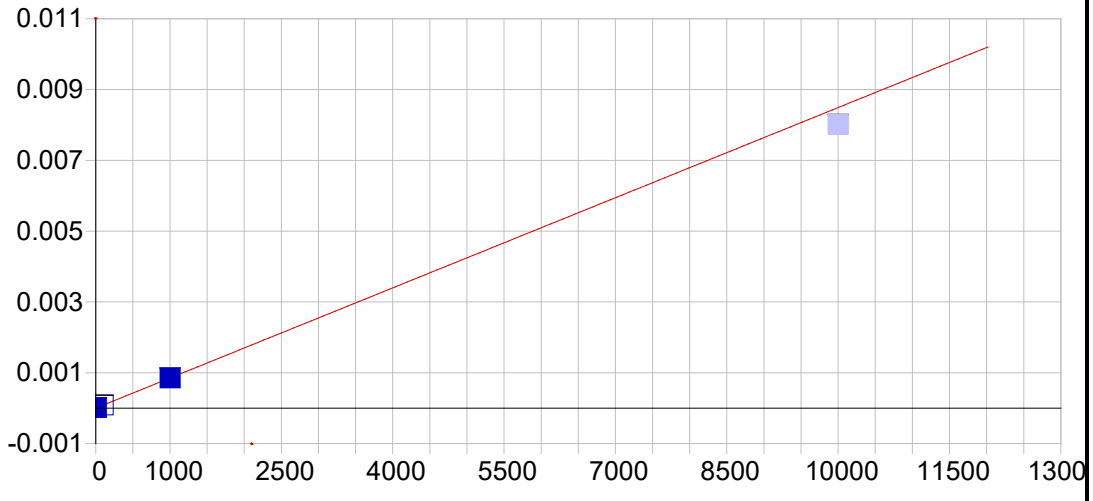


Sb 217.581 {455}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999930	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	3.337414		
Predicted MQL:	11.124713		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.9532	-5.95	.000	.00000	.000	1
CalStd9=100	1000.0	1029.0	29.0	2.90	.00128	.000	1
CalStd6=20	20.000	18.042	-1.96	-9.79	.00003	.000	1
CalStd5=10	10.000	3.2035	-6.80	-68.0	.00001	.000	1
CalStd8=100	100.00	98.943	-1.06	-1.06	.00013	.000	1
CalStd4=5	5.0000	1.4407	-3.56	-71.2	.00001	.000	1
CalStd10=10	10000.	9960.7	-39.3	-.393	.01230	.000	1

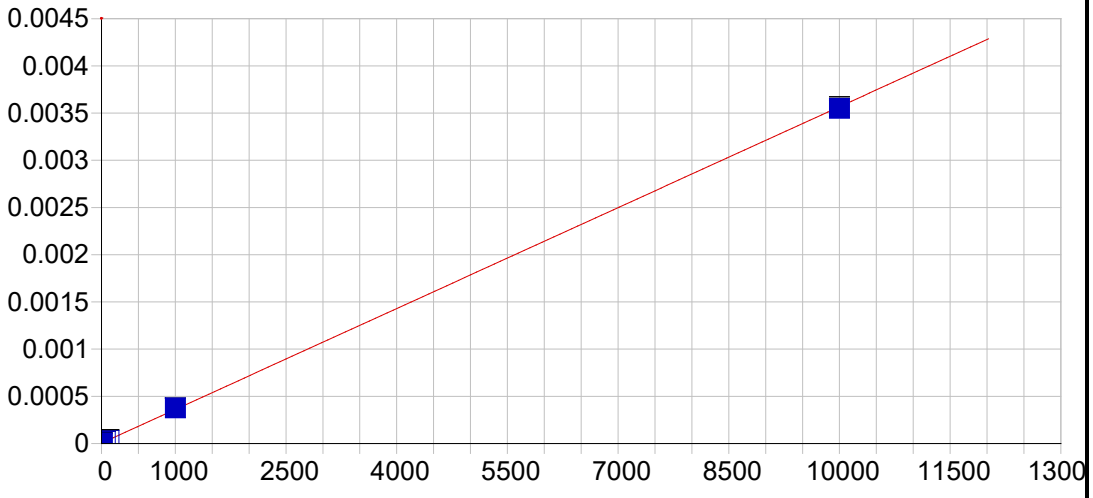


Se 196.090 {472}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999932	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.681526		
Predicted MQL:	12.271754		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00083	-.001	.000	.00000	.000	1
CalStd9=100	1000.0	1001.1	1.09	.109	.00085	.000	1
CalStd5=10	10.000	11.029	1.03	10.3	.00001	.000	1
CalStd8=100	100.00	97.885	-2.11	-2.11	.00008	.000	1
CalStd10=10	10000.	9431.3	-569.	-5.69	.00801	.000	0

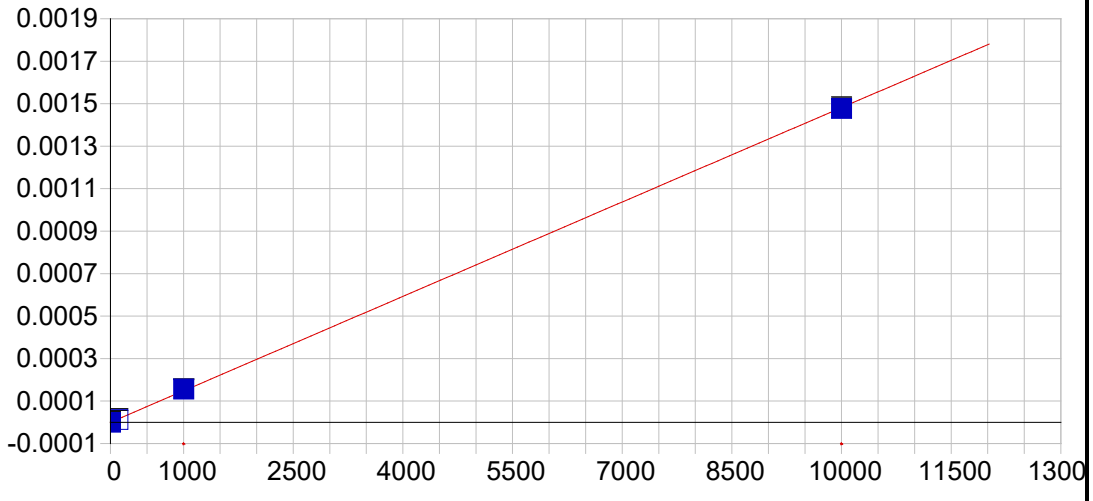


Se 203.985 {465}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	14.175632		
Predicted MQL:	47.252108		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.4576	1.46	.000	.00001	.000	1
CalStd7=50	50.000	48.471	-1.53	-3.06	.00002	.000	1
CalStd9=100	1000.0	1045.2	45.2	4.52	.00038	.000	1
CalStd5=10	10.000	3.5907	-6.41	-64.1	.00001	.000	1
CalStd8=100	100.00	88.383	-11.6	-11.6	.00004	.000	1
CalStd10=10	10000.	9950.0	-50.0	-.500	.00355	.000	1

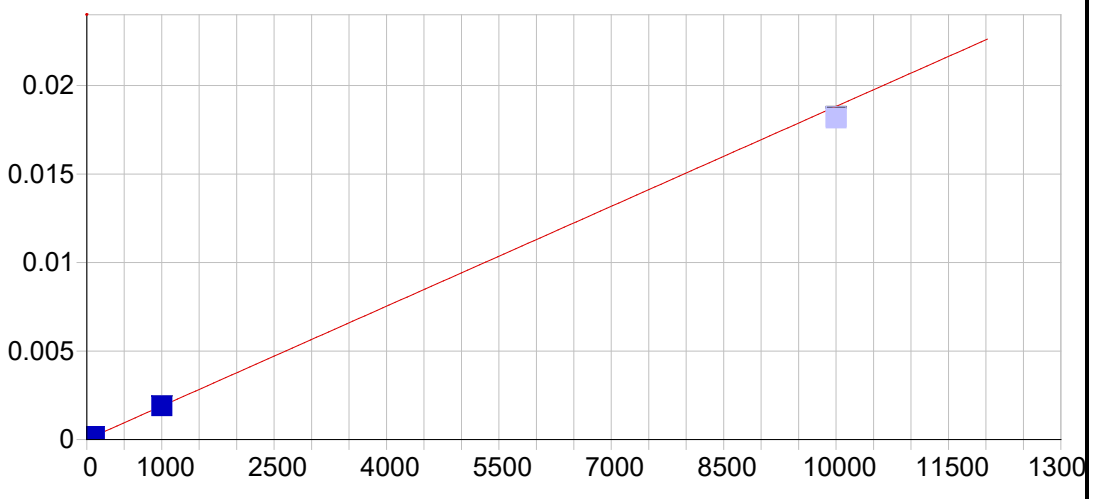


Se 206.279 {463}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999775	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	27.153578		
Predicted MQL:	90.511926		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01127	.011	.000	.00000	.000	1
CalStd9=100	1000.0	1048.9	48.9	4.89	.00016	.000	1
CalStd10=10	10000.	9966.9	-33.1	-.331	.00148	.000	1
CalStd8=100	100.00	84.169	-15.8	-15.8	.00001	.000	1

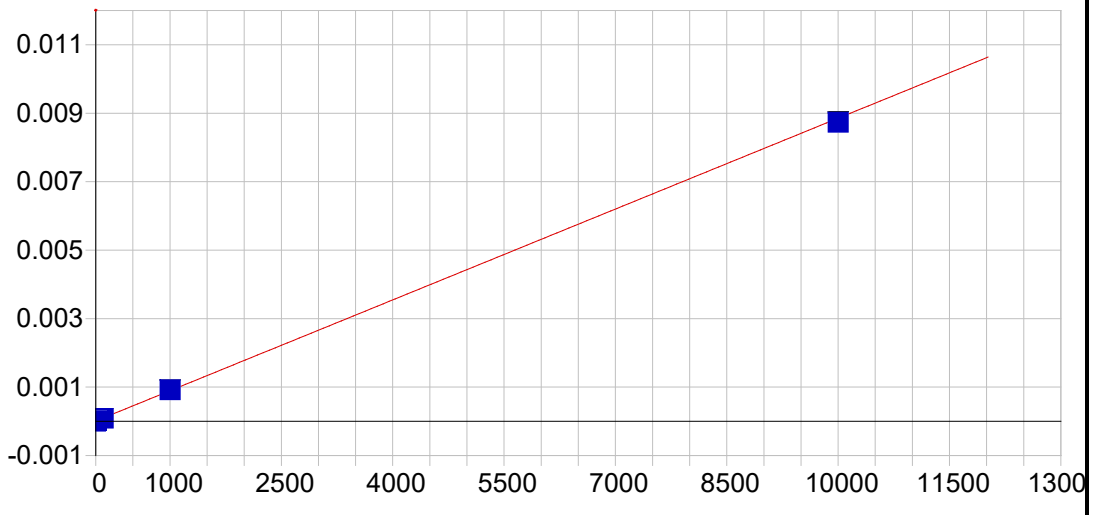


Tl 190.856 {476}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999719	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.058201		
Predicted MQL:	6.860669		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00252	.003	.000	.00001	.000	1
CalStd9=100	1000.0	1005.0	4.95	.495	.00191	.000	1
CalStd8=100	100.00	97.358	-2.64	-2.64	.00019	.000	1
CalStd5=10	10.000	7.6909	-2.31	-23.1	.00002	.000	1
CalStd10=10	10000.	9649.4	-351.	-3.51	.01824	.000	0

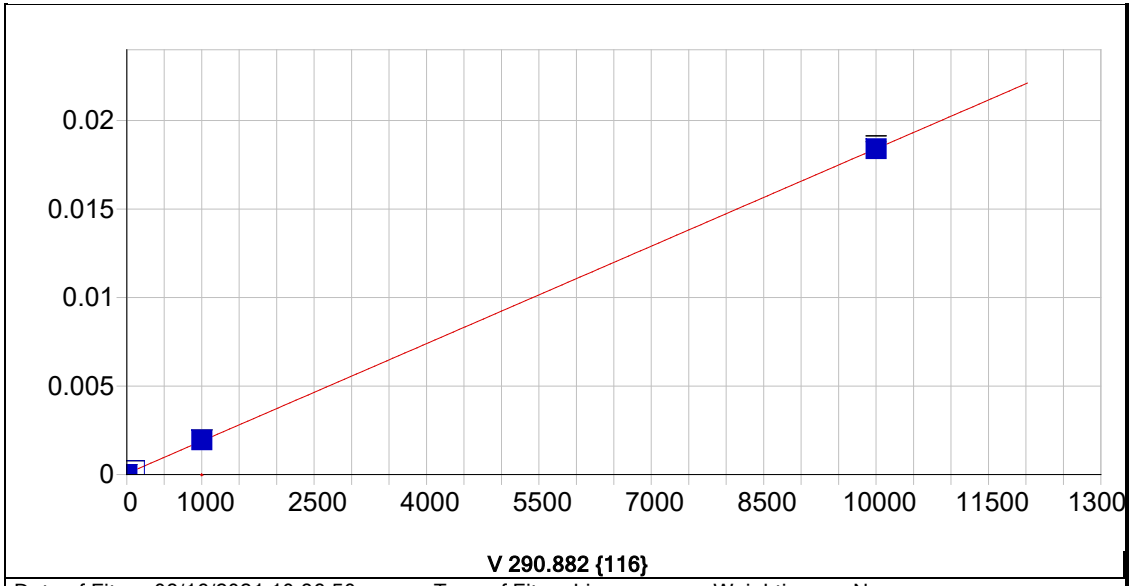


Tl 190.856 {477}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999750	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	3.309263		
Predicted MQL:	11.030878		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-7.8876	-7.89	.000	.00000	.000	1
CalStd9=100	1000.0	1025.7	25.7	2.57	.00092	.000	1
CalStd8=100	100.00	93.496	-6.50	-6.50	.00009	.000	1
CalStd5=10	10.000	-.15200	-10.2	-102.	.00001	.000	1
CalStd10=10	10000.	9861.9	-138.	-1.38	.00873	.000	1

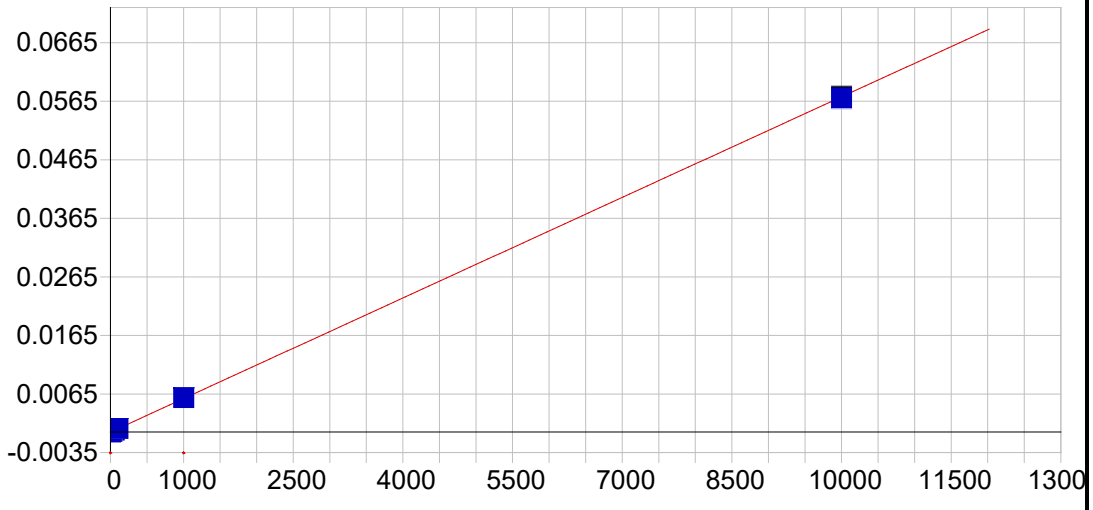


V 290.882 {116}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000056		
Predicted MDL:	2.626855		
Predicted MQL:	8.756183		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-18.361	-18.4	.000	.00002	.000	1
CalStd9=100	1000.0	1036.3	36.3	3.63	.00196	.000	1
CalStd10=10	10000.	9996.5	-3.48	-.035	.01841	.000	1
CalStd8=100	100.00	85.575	-14.4	-14.4	.00021	.000	1

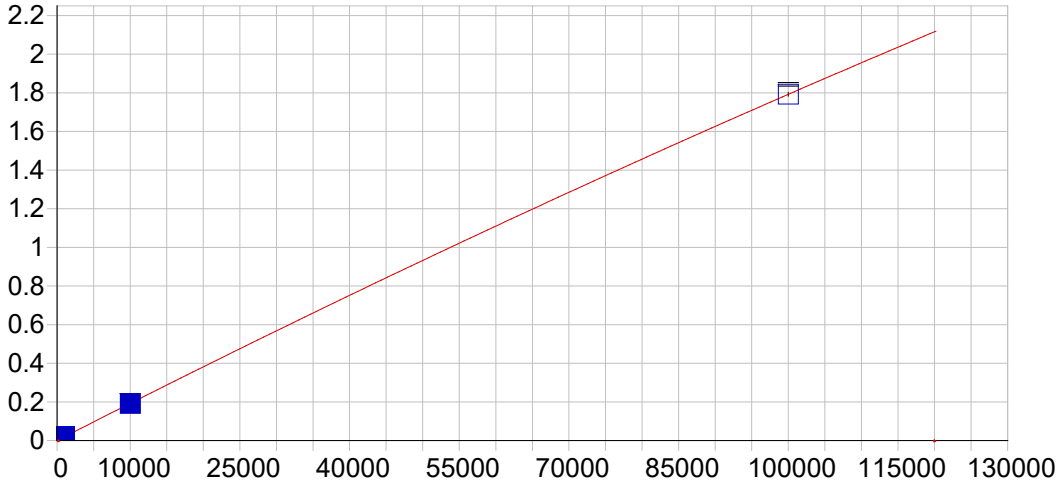


V 292.402 {115}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.396816		
Predicted MQL:	1.322721		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00261	-.003	.000	-.00001	.000	1
CalStd7=50	50.000	53.287	3.29	6.57	.00030	.000	1
CalStd9=100	1000.0	1025.5	25.5	2.55	.00584	.000	1
CalStd6=20	20.000	21.020	1.02	5.10	.00011	.000	1
CalStd5=10	10.000	10.762	.762	7.62	.00005	.000	1
CalStd8=100	100.00	104.56	4.56	4.56	.00059	.000	1
CalStd10=10	10000.	9964.8	-35.2	-.352	.05682	.000	1

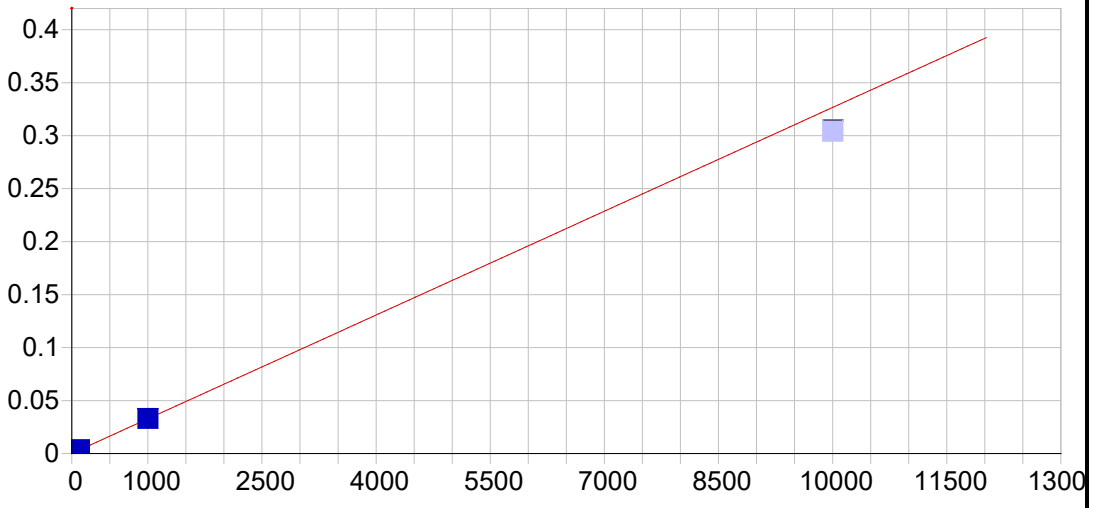


Zn 206.200 {463}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000072	Re-Slope:	1.000000
A1 (Gain):	0.000019	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.225356		
Predicted MQL:	0.751187		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9947.0	-53.0	-.530	.19126	.000	1
Blank	.00000	.00150	.002	.000	.00007	.000	1
CalStd9=100	1000.0	1046.4	46.4	4.64	.02032	.000	1
CalStd12=10	100000.	100010.	5.58	.006	1.7922	.009	1
CalStd5=10	10.000	7.7512	-2.25	-22.5	.00022	.000	1
CalStd8=100	100.00	103.35	3.35	3.35	.00207	.000	1

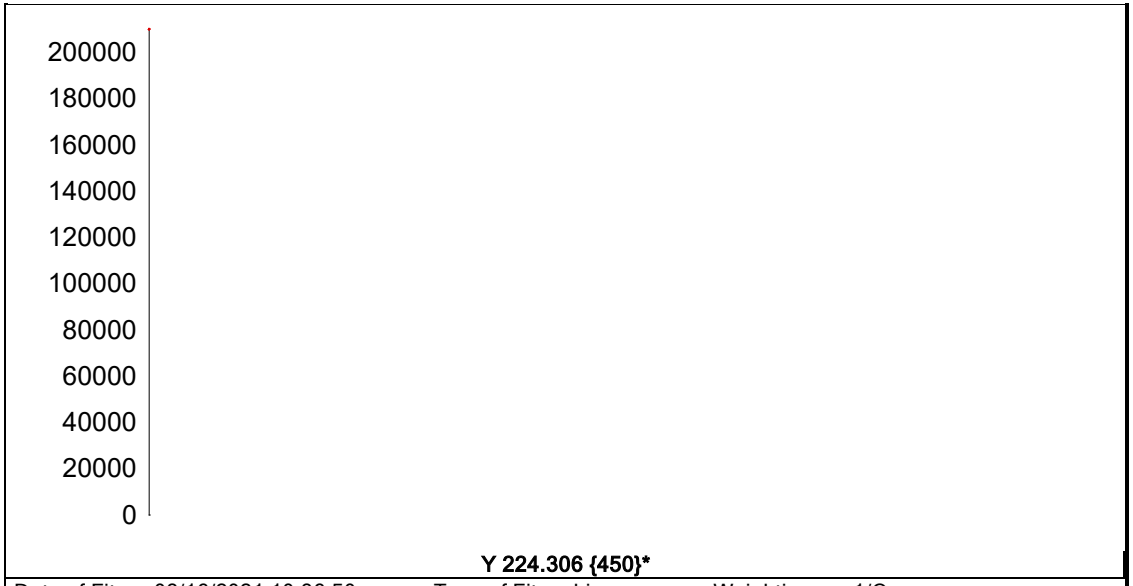


Zn 213.856 {457}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000135	Re-Slope:	1.000000
A1 (Gain):	0.000033	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999725	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.134818		
Predicted MQL:	0.449394		

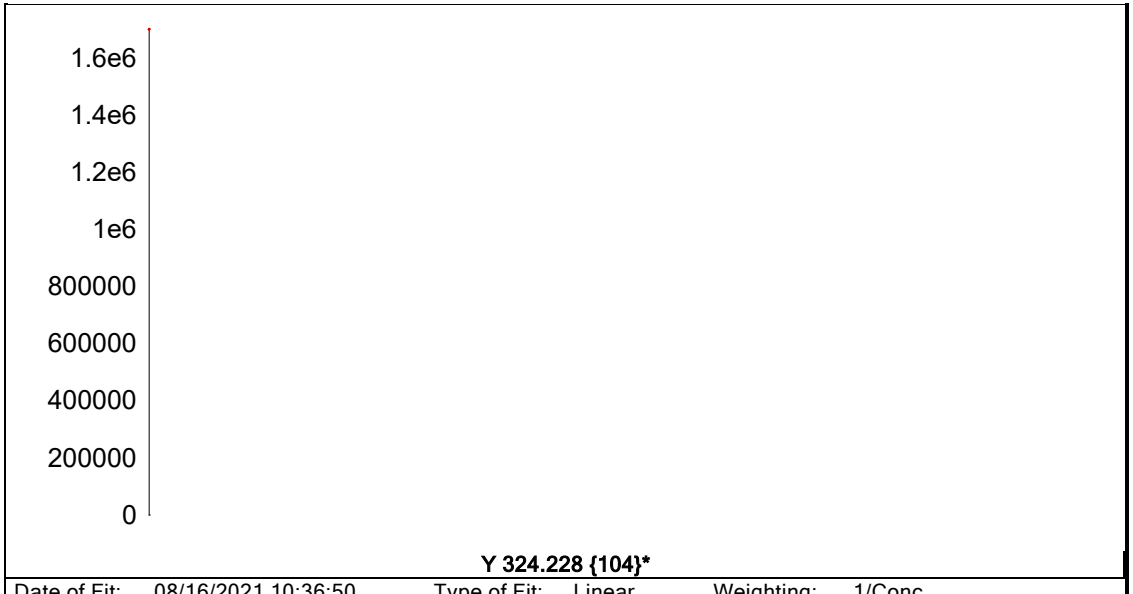
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00246	.002	.000	.00014	.000	1
CalStd9=100	1000.0	1002.6	2.64	.264	.03301	.000	1
CalStd5=10	10.000	7.5349	-2.47	-24.7	.00038	.000	1
CalStd8=100	100.00	99.815	-.185	-.185	.00341	.000	1
CalStd10=10	10000.	9306.2	-694.	-6.94	.30542	.000	0



Y 224.306 {450}*

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	193800.	389.	1

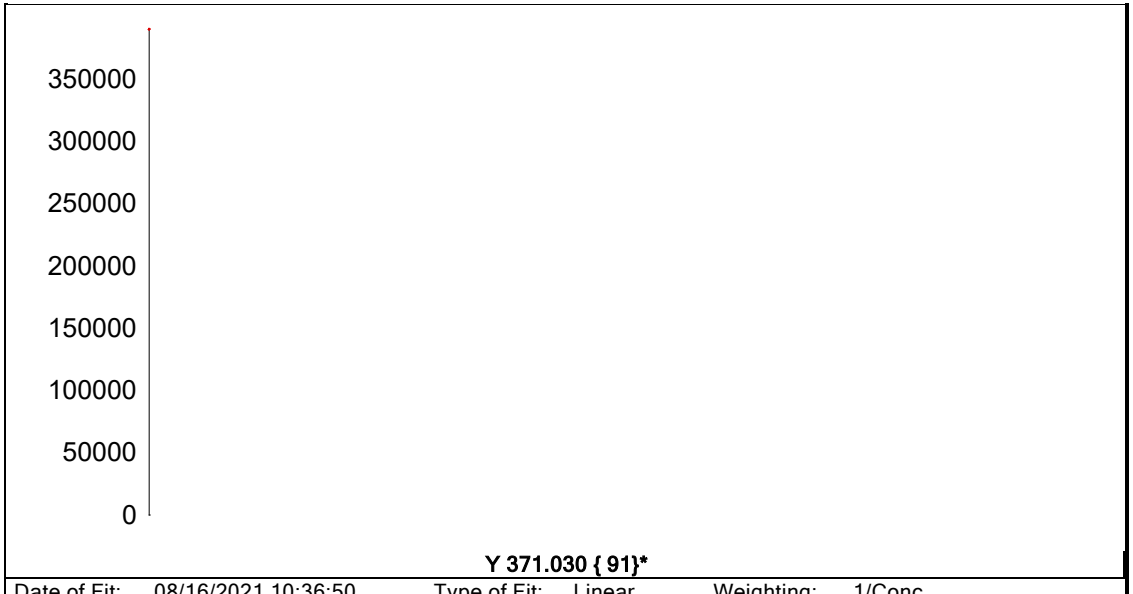


Y 324.228 {104}*

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1557300.	7700.	1

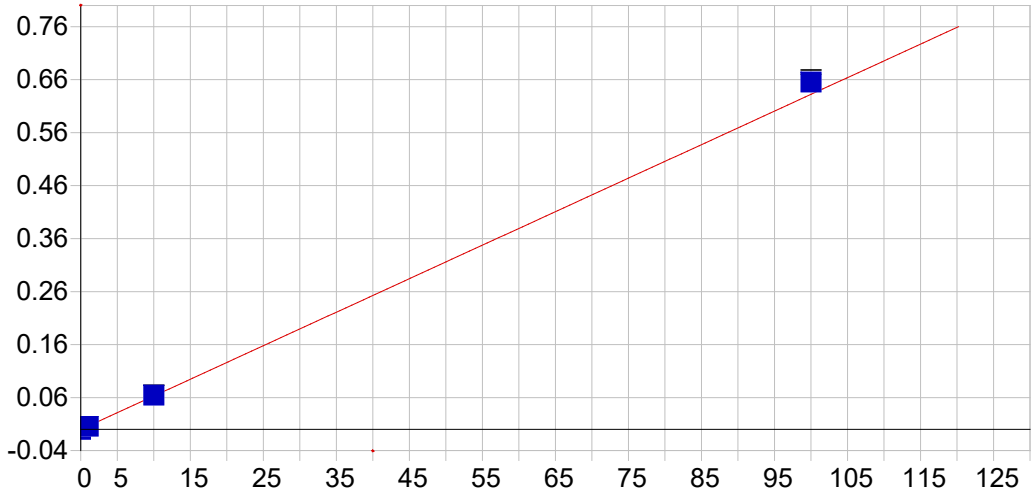


Y 371.030 { 91}*

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	367440.	1080.	1

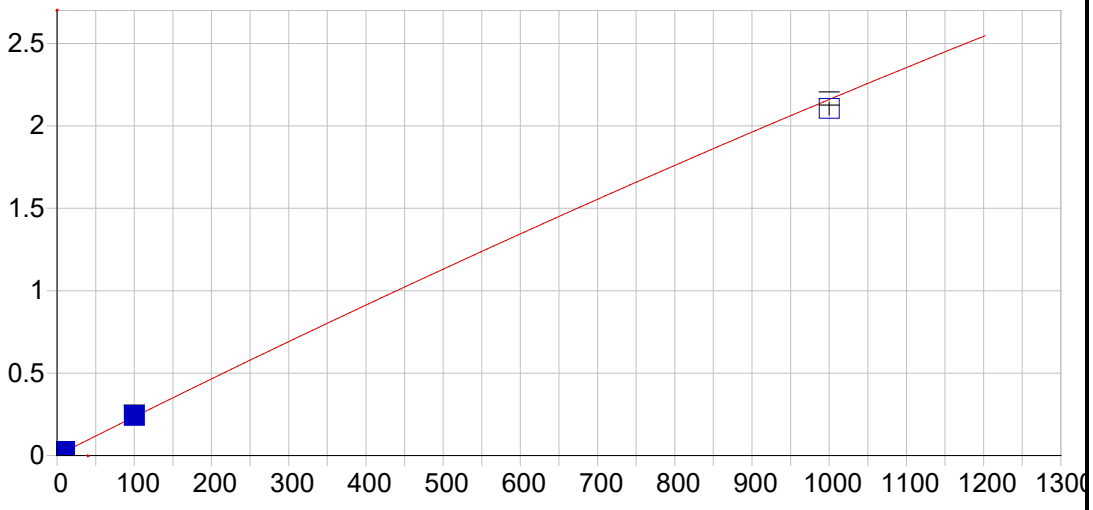


Na 588.995 { 57}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000304	Re-Slope:	1.000000
A1 (Gain):	0.006325	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998953	Status:	OK.
Std Error of Est:	0.000266		
Predicted MDL:	0.005678		
Predicted MQL:	0.018927		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01026	.010	.000	-.00024	.000	1
CalStd9=100	1.0000	.94351	-.056	-5.65	.00566	.000	1
CalStd10=10	10.000	10.211	.211	2.11	.06427	.001	1
CalStd13=10	100.00	103.67	3.67	3.67	.65529	.004	1

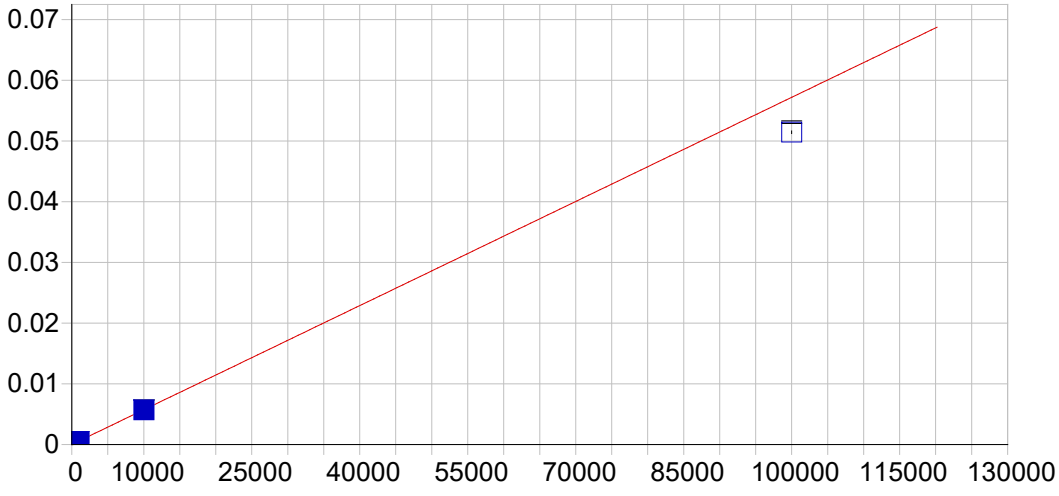


Na 589.592 { 57}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000993	Re-Slope:	1.000000
A1 (Gain):	0.002361	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.998657	Status:	OK.
Std Error of Est:	0.000225		
Predicted MDL:	0.008235		
Predicted MQL:	0.027450		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02037	.020	.000	.00104	.000	1
CalStd9=100	1.0000	.86961	-.130	-13.0	.00305	.000	1
CalStd10=10	10.000	9.8144	-.186	-1.86	.02415	.000	1
CalibStd15=	1000.0	971.96	-28.0	-2.80	2.1052	.040	1
CalStd13=10	100.00	103.29	3.29	3.29	.24273	.001	1

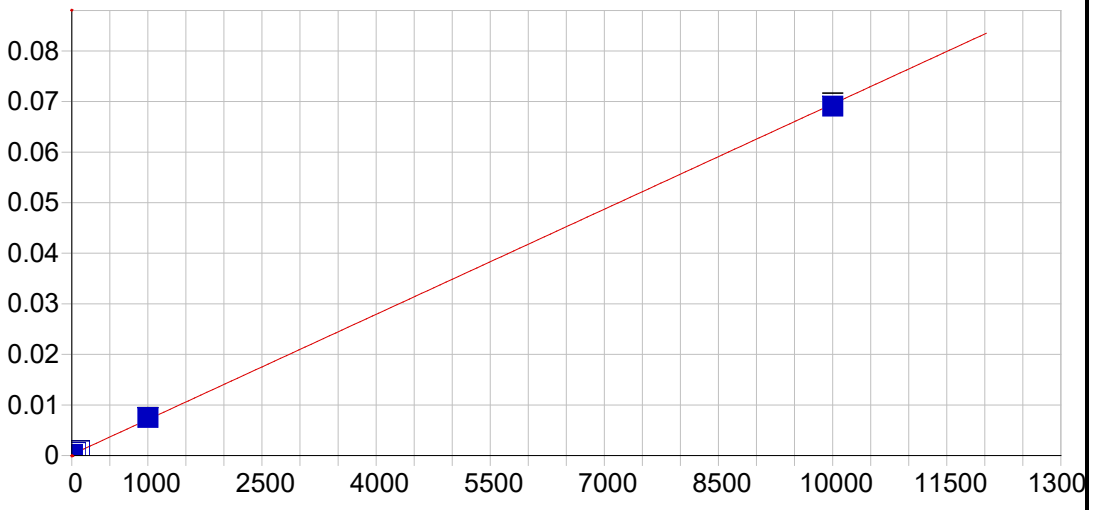


Si 251.611 {134}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.932484		
Predicted MQL:	16.441612		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.48780	.488	.000	.00001	.000	1
CalStd9=100	1000.0	995.27	-4.73	-.473	.00058	.000	1
CalibStd15=	100000.	89942.	-10100.	-10.1	.05145	.000	1
CalStd10=10	10000.	9927.4	-72.6	-.726	.00569	.000	1

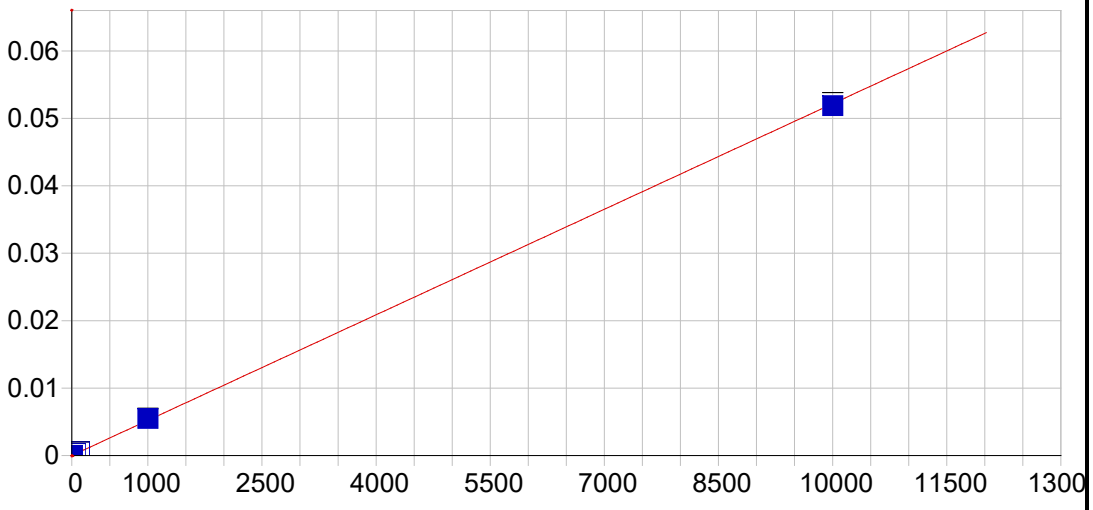


Ti 323.452 {104}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000199	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999838	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.967604		
Predicted MQL:	3.225345		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00141	-.001	.000	.00020	.000	1
CalStd5=10	10.000	10.449	.449	4.49	.00027	.000	1
CalStd8=100	100.00	104.01	4.01	4.01	.00092	.000	1
CalStd9=100	1000.0	1052.5	52.5	5.25	.00749	.000	1
CalStd10=10	10000.	9938.9	-61.1	-.611	.06908	.001	1
CalStd7=50	50.000	53.756	3.76	7.51	.00057	.000	1
CalStd4=5	5.0000	5.3757	.376	7.51	.00024	.000	1

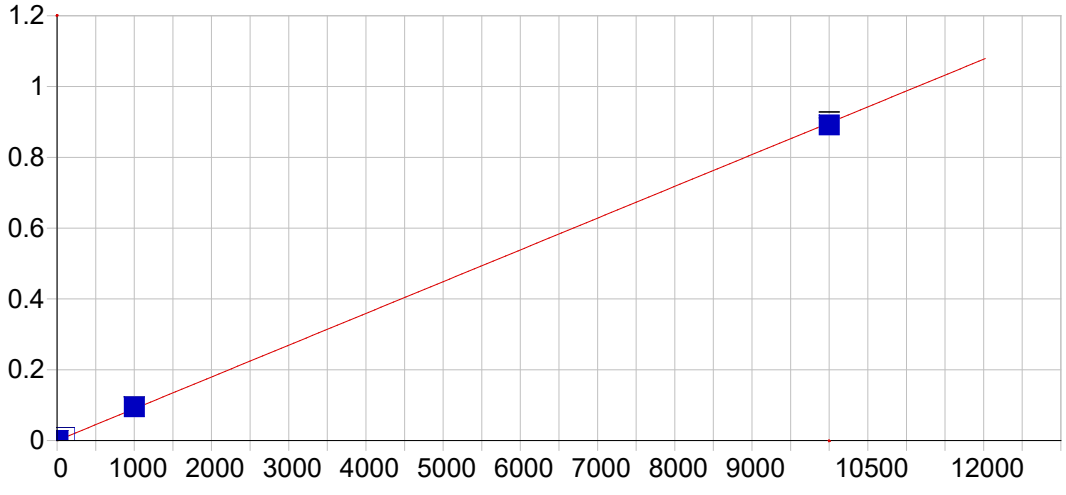


Ti 334.941 {101}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999842	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.908449		
Predicted MQL:	3.028163		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00192	-.002	.000	.00000	.000	1
CalStd5=10	10.000	10.653	.653	6.53	.00006	.000	1
CalStd8=100	100.00	104.79	4.79	4.79	.00055	.000	1
CalStd9=100	1000.0	1049.8	49.8	4.98	.00548	.000	1
CalStd10=10	10000.	9940.1	-59.9	-.599	.05187	.000	1
CalStd7=50	50.000	53.899	3.90	7.80	.00028	.000	1
CalStd4=5	5.0000	5.7475	.748	15.0	.00003	.000	1

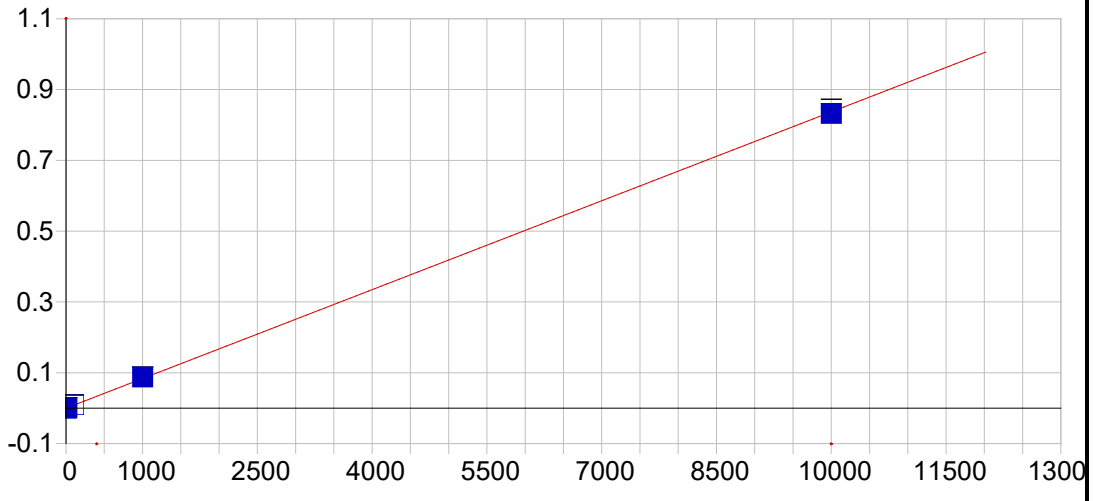


Sr 407.771 { 83}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000090	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999788	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.112792		
Predicted MQL:	0.375974		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00046	-.000	.000	.00003	.000	1
CalStd3=1	1.0000	1.1323	.132	13.2	.00013	.000	1
CalStd4=5	5.0000	5.5499	.550	11.0	.00053	.000	1
CalStd5=10	10.000	11.019	1.02	10.2	.00102	.000	1
CalStd8=100	100.00	106.76	6.76	6.76	.00961	.000	1
CalStd9=100	1000.0	1060.1	60.1	6.01	.09518	.001	1
CalStd10=10	10000.	9931.4	-68.6	-.686	.89144	.008	1

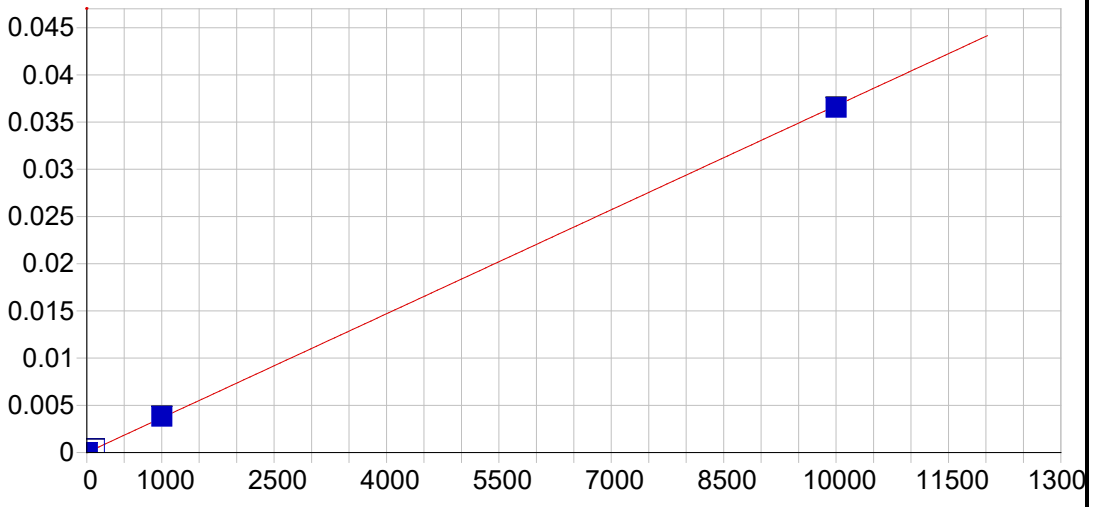


Sr 421.552 { 80}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000084	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999851	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.112623		
Predicted MQL:	0.375411		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00059	-.001	.000	-.00001	.000	1
CalStd3=1	1.0000	1.2717	.272	27.2	.00010	.000	1
CalStd4=5	5.0000	5.5608	.561	11.2	.00046	.000	1
CalStd5=10	10.000	11.043	1.04	10.4	.00091	.000	1
CalStd8=100	100.00	105.63	5.63	5.63	.00883	.000	1
CalStd9=100	1000.0	1049.4	49.4	4.94	.08782	.001	1
CalStd10=10	10000.	9943.1	-56.9	-.569	.83222	.012	1

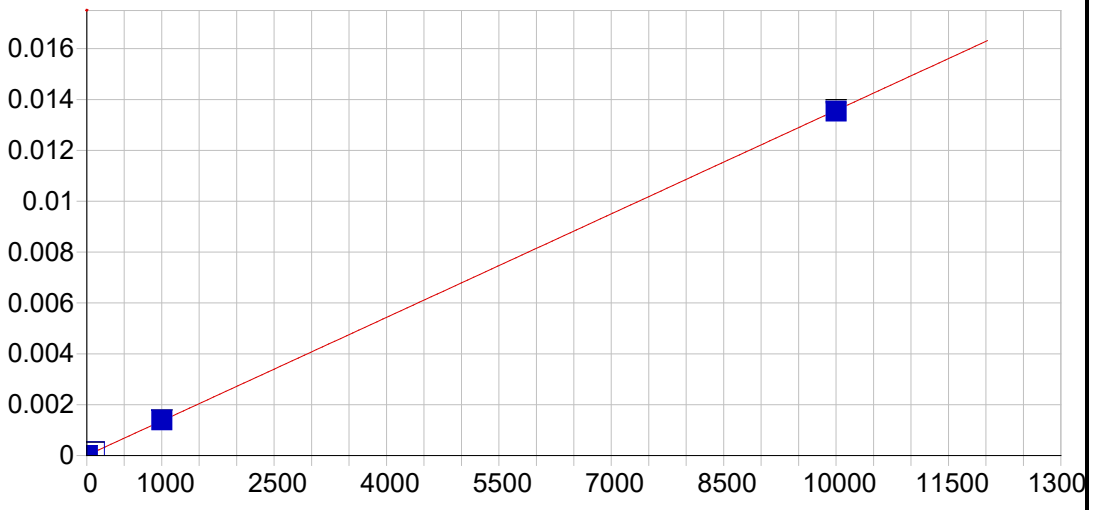


Sn 189.989 {477}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999881	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.879230		
Predicted MQL:	2.930767		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00252	-.003	.000	.00000	.000	1
CalStd10=10	10000.	9950.2	-49.8	-.498	.03655	.000	1
CalStd9=100	1000.0	1043.9	43.9	4.39	.00384	.000	1
CalStd8=100	100.00	104.15	4.15	4.15	.00039	.000	1
CalStd5=10	10.000	11.713	1.71	17.1	.00005	.000	1

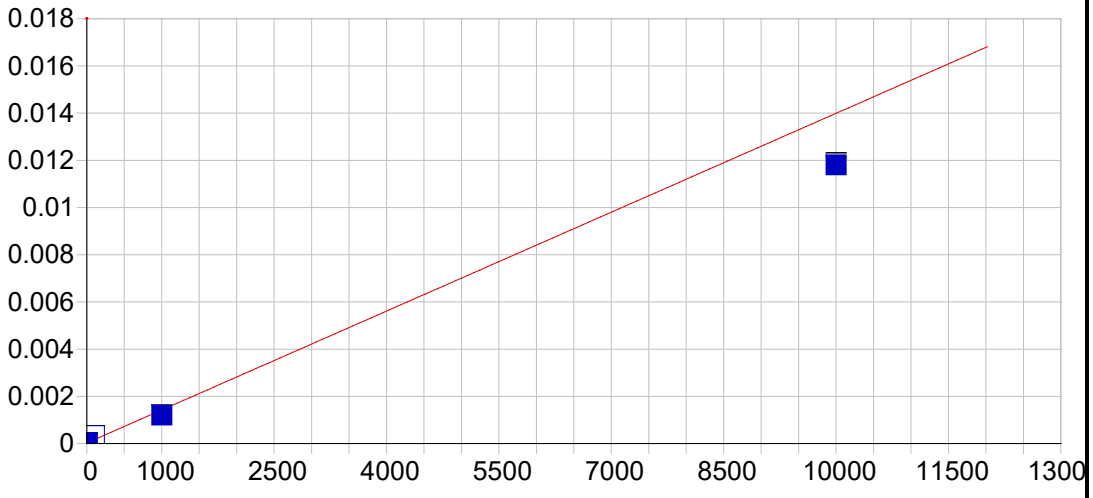


B 249.678 {135}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.840939		
Predicted MQL:	2.803129		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00120	.001	.000	.00000	.000	1
CalStd8=100	100.00	100.32	.325	.325	.00014	.000	1
CalStd5=10	10.000	8.5162	-1.48	-14.8	.00002	.000	1
CalStd9=100	1000.0	1027.8	27.8	2.78	.00140	.000	1
CalStd10=10	10000.	9973.4	-26.6	-.266	.01354	.000	1

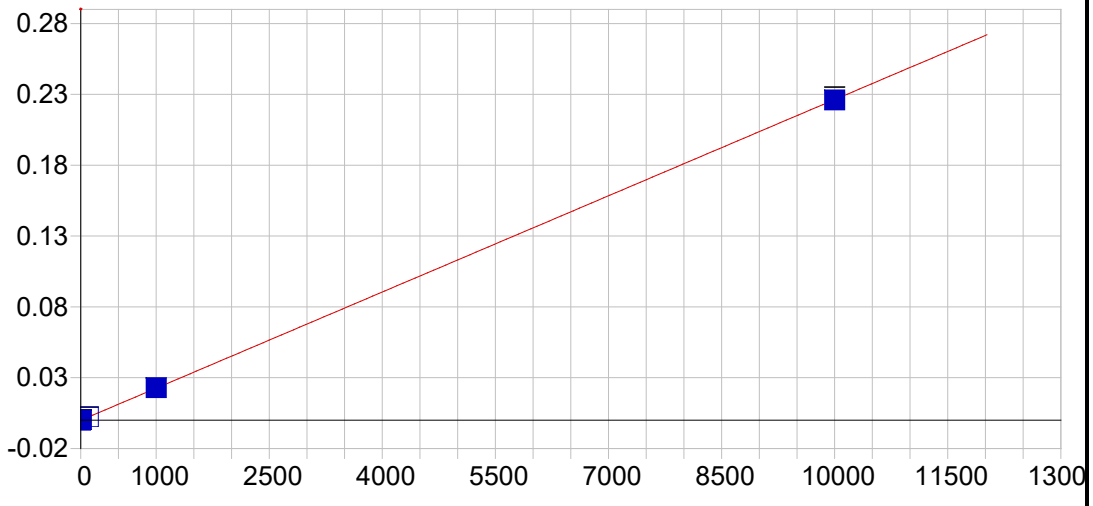


B 249.773 {135}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.910601	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.856874		
Predicted MQL:	2.856248		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-11.714	-11.7	.000	.00001	.000	1
CalStd8=100	100.00	218.73	119.	119.	.00033	.000	1
CalStd5=10	10.000	10.298	.298	2.98	.00004	.000	1
CalStd9=100	1000.0	842.17	-158.	-15.8	.00120	.000	1
CalStd10=10	10000.	8431.4	-1570.	-15.7	.01181	.000	1

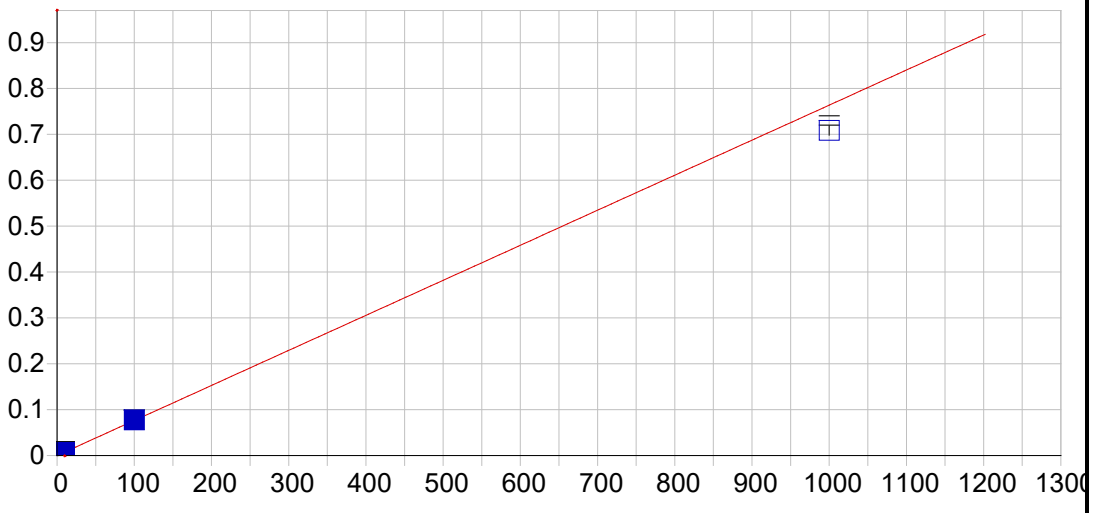


Li 670.784 { 50}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000073	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.979771		
Predicted MQL:	3.265904		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00167	-.002	.000	-.00007	.000	1
CalStd5=10	10.000	11.427	1.43	14.3	.00019	.000	1
CalStd8=100	100.00	101.43	1.43	1.43	.00222	.000	1
CalStd9=100	1000.0	1011.0	11.0	1.10	.02282	.000	1
CalStd10=10	10000.	9986.1	-13.9	-.139	.22604	.002	1

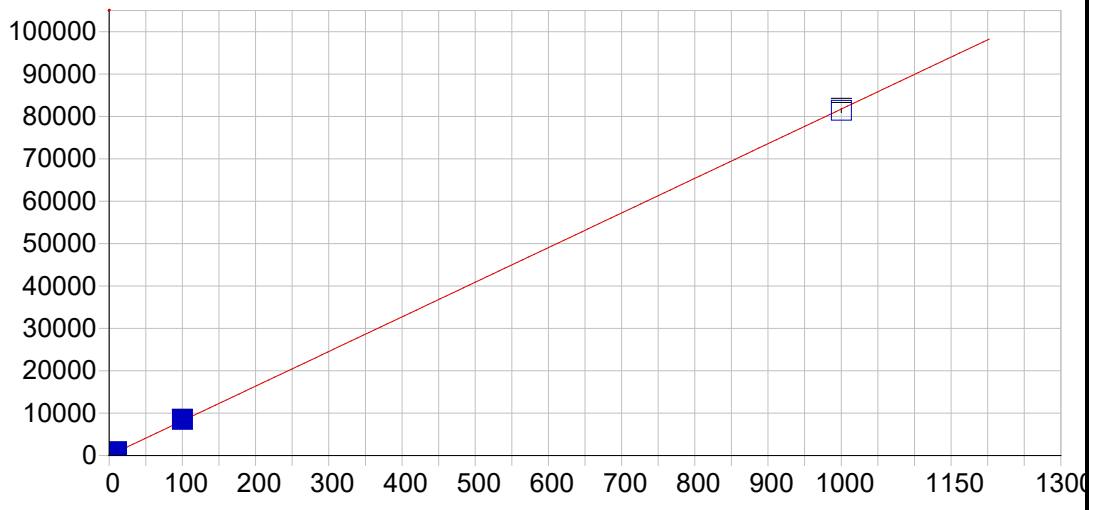


K 766.490 { 44}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000058	Re-Slope:	1.000000
A1 (Gain):	0.000764	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999451	Status:	OK.
Std Error of Est:	0.000100		
Predicted MDL:	0.028031		
Predicted MQL:	0.093436		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.10117	.101	.000	.00014	.000	1
CalStd9=100	1.0000	.97191	-.028	-2.81	.00080	.000	1
CalStd10=10	10.000	10.153	.153	1.53	.00781	.000	1
CalibStd15=	1000.0	927.51	-72.5	-7.25	.70846	.010	1
CalStd13=10	100.00	101.12	1.12	1.12	.07729	.000	1

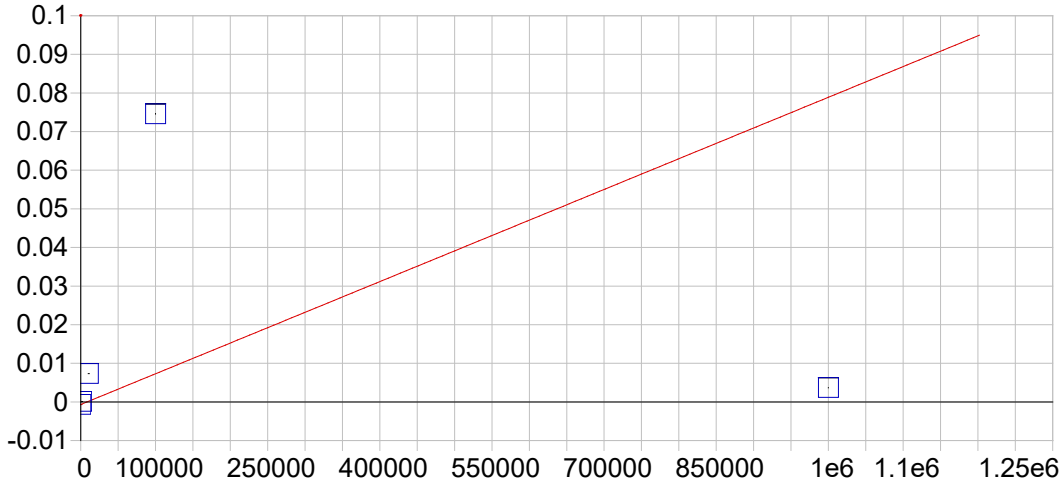


K 769.896 { 44}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	25.549601	Re-Slope:	1.000000
A1 (Gain):	81.720077	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999926	Status:	OK.
Std Error of Est:	1.349405		
Predicted MDL:	0.066798		
Predicted MQL:	0.222661		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00019	-.000	.000	25.534	2.51	1
CalStd9=100	1.0000	1.1362	.136	13.6	118.46	1.72	1
CalStd10=10	10.000	10.272	.272	2.72	865.60	4.98	1
CalibStd15=	1000.0	996.09	-3.91	-.391	81426.	480.	1
CalStd13=10	100.00	103.50	3.50	3.50	8489.7	34.4	1

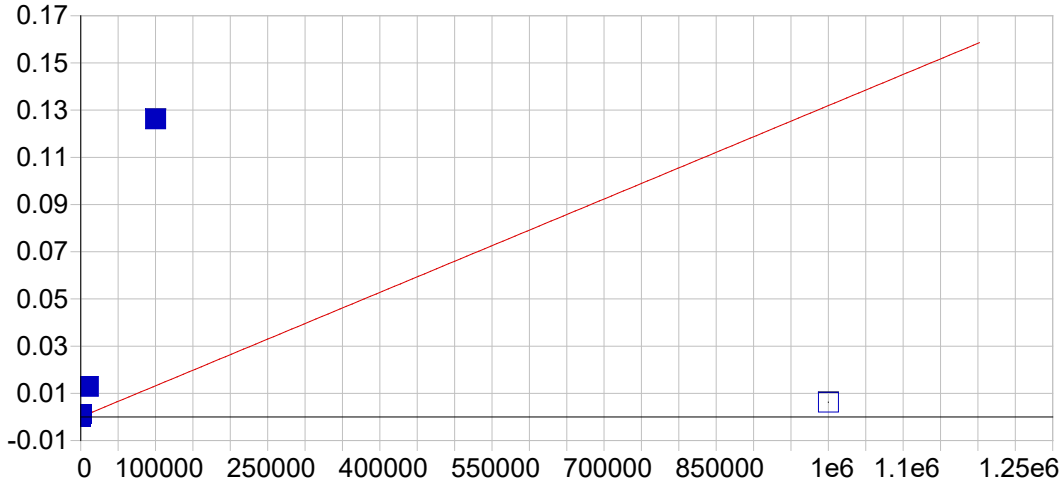


P 177.495 {489}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000668	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.332328	Status:	OK.
Std Error of Est:	0.000307		
Predicted MDL:	57.429153		
Predicted MQL:	191.430511		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-25.362	-25.4	.000	-.00067	.000	1
CalStd10=10	10000.	100390.	90400.	904.	.00732	.000	1
CalStd9=100	1000.0	9807.5	8810.	881.	.00011	.000	1
CalibStd15=	1000000.	54662.	-945000.	-94.5	.00368	.000	1
CalStd13=10	100000.	946140.	846000.	846.	.07460	.000	1

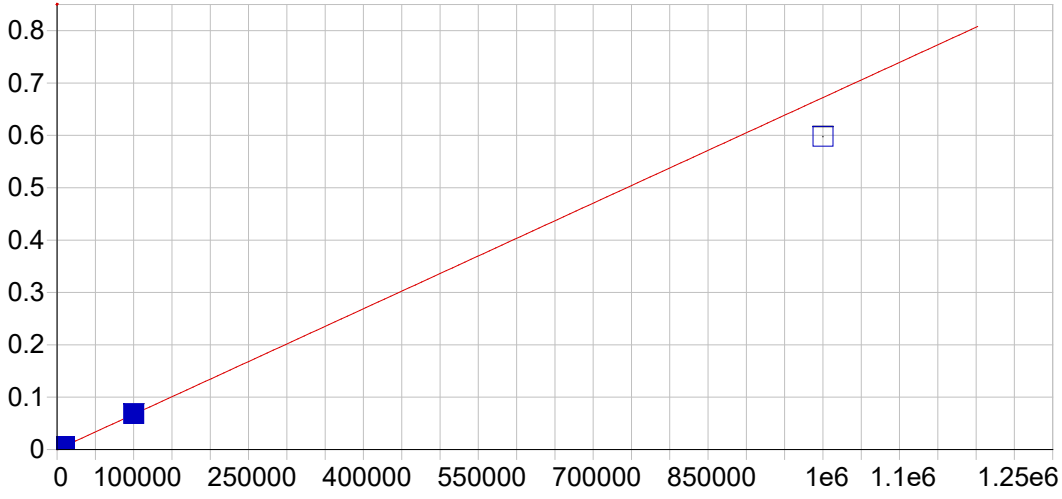


P 213.618 {457}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.330080	Status:	OK.
Std Error of Est:	0.000513		
Predicted MDL:	41.825823		
Predicted MQL:	139.419410		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-24.747	-24.7	.000	-.00001	.000	1
CalStd10=10	10000.	97575.	87600.	876.	.01286	.000	1
CalStd9=100	1000.0	9374.0	8370.	837.	.00123	.000	1
CalibStd15=	1000000.	47343.	-953000.	-95.3	.00624	.000	1
CalStd13=10	100000.	956770.	857000.	857.	.12622	.000	1

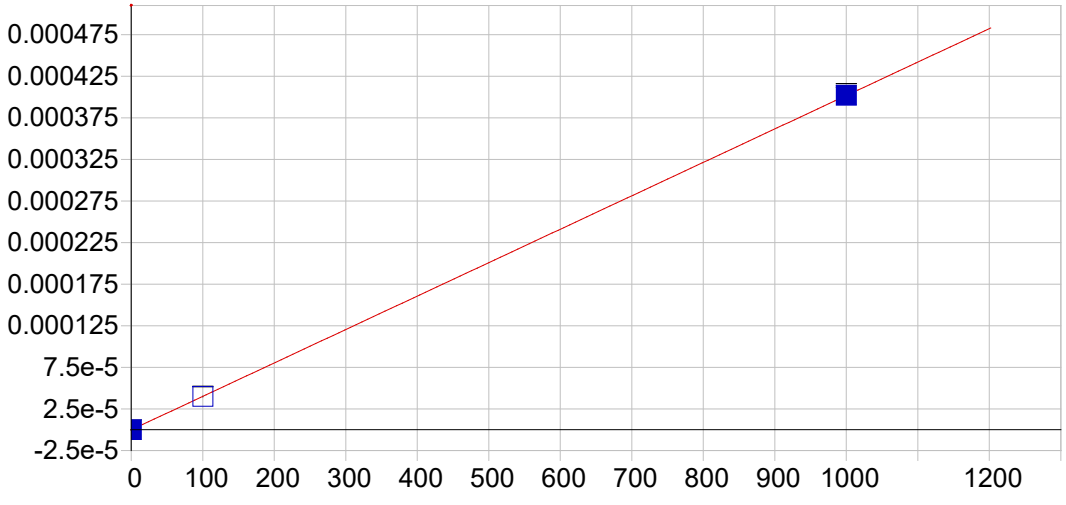


S 182.034 {485}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999151	Status:	OK.
Std Error of Est:	0.000435		
Predicted MDL:	4.034727		
Predicted MQL:	13.449090		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-20.924	-20.9	.000	.00000	.000	1
CalStd9=100	1000.0	950.38	-49.6	-4.96	.00066	.000	1
CalStd10=10	10000.	10001.	.626	.006	.00676	.000	1
CalibStd15=	1000000.	889410.	-111000.	-11.1	.59788	.001	1
CalStd13=10	100000.	101660.	1660.	1.66	.06835	.000	1

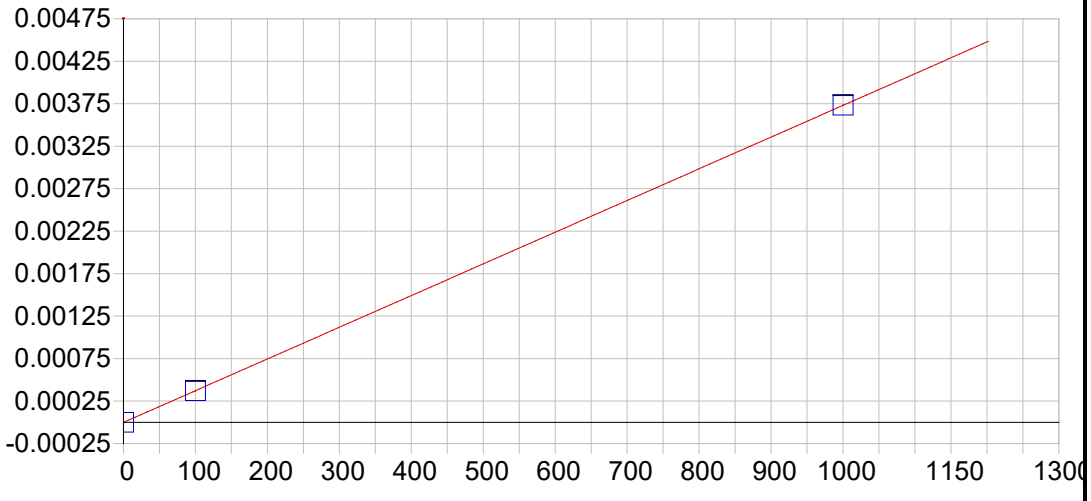


Hg 184.950 {482}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.883147		
Predicted MQL:	2.943824		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00021	.000	.000	-.00000	.000	1
CalStd8=100	100.00	99.772	-.228	-.228	.00004	.000	1
CalStd9=100	1000.0	1000.2	.228	.023	.00040	.000	1

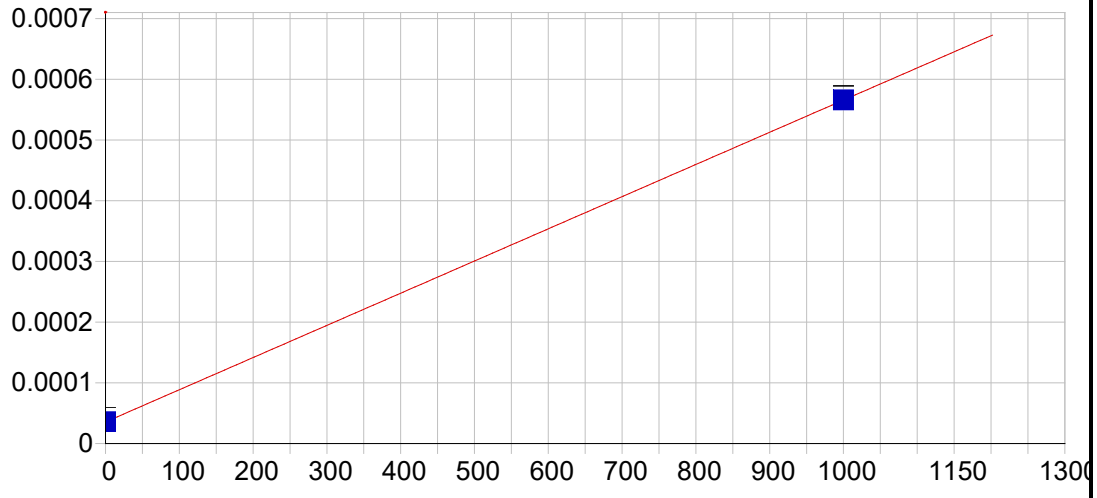


Hg 194.227 {473}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.800766		
Predicted MQL:	2.669221		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00048	.000	.000	-.00000	.000	1
CalStd8=100	100.00	99.470	-.530	-.530	.00037	.000	1
CalStd9=100	1000.0	1000.5	.530	.053	.00373	.000	1



Ce 404.076 { 83}

Date of Fit:	08/16/2021 10:36:50	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000036	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	17.820447		
Predicted MQL:	59.401491		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00004	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00057	.000	1

Sample Name: Blank Acquired: 08/11/2021 11:57:55 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Ba4934	Be3131	Ca3158	Ca3933	Cd2265	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.71**	**.000**	**-.000**	**.000**	**-.000**	**.000**	**.008**	**-.000**	**18.8**	**.001**	**-.000**	**-.000**
Stddev	.65	.000	.000	.000	.000	.000	.000	.000	1.0	.000	.000	.000
%RSD	11.3	15.1	104.	101.	136.	185.	.436	152.	5.35	28.4	556.	1810.

Elem	Co2388	Cr2677	Cu2230	Cu2247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**-.000**	**-.000**	**.000**	**-.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	35.6	842.	57.3	10.1	.793	19.2	93.9	43.5	25.2	.887	22.6	71.5

Elem	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	294.	381.	36.0	20.1	16.4	15.5	153.	152.	177.	2970.	27.4	6.74

Elem	V_2924	Zn2062	Zn2138	Na5889	Na5895	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**-.000**	**.001**	**.000**	**-.000**	**.000**	**.000**	**25.5**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	2.5
%RSD	26.1	24.2	22.8	7.84	1.35	21.8	33.6	20.6	20.2	9.84

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**193800.**	**1557300.**	**367440.**
Stddev	389.	7704.	1075.
%RSD	.20054	.49470	.29261

Sample Name: CalStd2=0.5 Acquired: 08/11/2021 12:05:42 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Be3131	Cd2265
Units	Cts/S	Cts/S	Cts/S
Avg	**6.42**	**.000**	**.000**
Stddev	.70	.000	.000
%RSD	11.0	4.69	32.7

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189060.**	**1515200.**	**362120.**
Stddev	431.	7809.	1822.
%RSD	.22798	.51536	.50305

Sample Name: CalStd3=1 Acquired: 08/11/2021 12:15:30 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3131	Cd2265	Co2286	Ni2316	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7.83**	**.000**	**.000**	**.000**	**.000**	**-.000**	**.000**
Stddev	1.09	.000	.000	.000	.000	.000	.000
%RSD	13.9	39.5	21.2	14.6	14.1	33.9	6.86

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**188430.**	**1530400.**	**360320.**
Stddev	264.	3926.	4038.
%RSD	.14035	.25651	1.1206

Sample Name: CalStd4=5 Acquired: 08/11/2021 12:24:26 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3131	Cd2265	Co2286	Cr2677	Mn2576	Mo2020	Mo2045	Ni2316	Pb2203	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**18.4**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.9	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.62	3.97	2.61	2.52	7.33	2.94	.752	4.23	19.4	5.94	35.8	22.8

Elem	Sr4215
Units	Cts/S
Avg	**.000**
Stddev	.000
%RSD	2.24

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189210.**	**1538700.**	**362760.**
Stddev	440.	6769.	3524.
%RSD	.23238	.43994	.97133

Sample Name: CalStd5=10 Acquired: 08/11/2021 12:32:39 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Be3131	Cd2265	Co2286	Cr2677	Cu2230	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**35.4**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	2.0	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	5.74	3.73	21.8	407.	1.01	2.11	1.46	.833	16.5	3.95	.333	1.32

Elem	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2062	Zn2138	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	9.36	2.09	30.7	12.1	11.7	9.89	18.4	12.8	2.99	.883	.653	2.32

Elem	B_2496
Units	Cts/S
Avg	**.000**
Stddev	.000
%RSD	2.44

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189260.**	**1526200.**	**366540.**
Stddev	265.	1701.	4912.
%RSD	.13987	.11143	1.3400

Sample Name: CalStd6=20 Acquired: 08/11/2021 12:40:29 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2230	Cu2247	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.30	3.56	8.58	.583	2.01	4.57	7.60	2.23

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189020.**	**1533900.**	**362220.**
Stddev	219.	7393.	3523.
%RSD	.11572	.48200	.97258

Sample Name: CalStd7=50 Acquired: 08/11/2021 12:48:13 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	As1937	As1972	Co2286	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316	Sb2068	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	7.05	10.9	.551	1.51	3.00	.440	.777	2.13	.521	6.15	.964

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189140.**	**1541700.**	**367700.**
Stddev	285.	3976.	2422.
%RSD	.15046	.25789	.65869

Sample Name: CalStd8=100 Acquired: 08/11/2021 12:55:54 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Ba4934	Be3131	Ca3933	Cd2265	Co2286	Co2388	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**278.**	**.000**	**.000**	**.000**	**.001**	**.012**	**.003**	**.023**	**.002**	**.002**	**.000**	**.000**
Stddev	3.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.974	1.04	2.66	4.81	.339	.475	.487	.693	.245	.425	.529	1.55

Elem	Cu2230	Cu2247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.004**	**.001**	**.001**	**.000**	**.001**	**.002**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.694	3.43	.553	.357	.978	1.08	.600	.255	4.59	1.83	.713	5.05

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4215	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**.002**	**.003**	**.009**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	35.4	1.78	2.69	.282	.319	.168	.591	.659

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**190060.**	**1533300.**	**368250.**
Stddev	126.	9616.	1687.
%RSD	.06612	.62711	.45801

Sample Name: CalStd9=1000 Acquired: 08/11/2021 13:03:30 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	Al3961	As1937	As1972	Ba2335	Ba4934	Be3131	Ca3158	Ca3933	Cd2265	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.002**	**.001**	**.001**	**.007**	**.046**	**.026**	**129.**	**.209**	**.022**	**.021**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	1.	.001	.000	.000	.000
%RSD	.292	.482	.277	.817	.071	.677	.769	.686	.718	.109	.100	.606

Elem	Cr2677	Cu2230	Cu2247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.006**	**.007**	**.001**	**.001**	**.001**	**.000**	**.000**	**.037**	**.009**	**.008**	**.006**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.828	.105	.407	.635	1.25	.722	.466	1.48	.531	.556	.601	.190

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.012**	**.015**	**.001**	**.002**	**.001**	**.001**	**.001**	**.000**	**.002**	**.002**	**.006**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.142	.097	.179	.558	.559	.414	.174	.216	1.46	.224	.589	.612

Elem	Zn2062	Zn2138	Na5889	Na5895	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.020**	**.033**	**.006**	**.003**	**.001**	**.088**	**.001**	**.001**	**118.**
Stddev	.000	.000	.000	.000	.000	.001	.000	.000	2.
%RSD	.162	.057	.764	1.18	.878	.683	.650	1.56	1.45

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**190710.**	**1551100.**	**365920.**
Stddev	192.	6147.	2270.
%RSD	.10055	.39628	.62048

Sample Name: CalStd10=10000 Acquired: 08/11/2021 13:10:35 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1972	Ba4934	Ca3158	Co2286	Co2388	Cr2677	Cu2230	Cu2247	Fe2343	Fe2395	Fe2599
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.017**	**.005**	**.363**	**1090.**	**.202**	**.020**	**.009**	**.054**	**.067**	**.006**	**.009**	**.012**
Stddev	.000	.000	.004	5.	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.988	.159	.991	.444	.079	.543	.864	.095	.063	.433	.928	.922

Elem	Mg2025	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.001**	**.335**	**.086**	**.077**	**.060**	**.037**	**.109**	**.141**	**.010**	**.023**	**.012**
Stddev	.000	.000	.001	.000	.001	.000	.000	.000	.000	.000	.000	.000
%RSD	.117	.614	.342	.505	.873	.052	.027	.084	.118	.144	.198	.412

Elem	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Na5889	Na5895	Si2516	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.012**	**.008**	**.001**	**.018**	**.018**	**.057**	**.191**	**.305**	**.064**	**.024**	**.006**	**.832**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.012
%RSD	.068	.072	.420	.088	.896	.534	.044	.100	.787	.908	.737	1.44

Elem	B_2496	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S
Avg	**.014**	**.008**	**866.**
Stddev	.000	.000	5.
%RSD	.461	.781	.575

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189150.**	**1537600.**	**368830.**
Stddev	162.	5893.	2539.
%RSD	.08566	.38325	.68844

Sample Name: CalStd12=100K Acquired: 08/11/2021 13:18:34 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cu2247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.717**	**.786**	**.107**	**1.79**
Stddev	.001	.007	.000	.01
%RSD	.091	.912	.184	.514

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**189930.**	**370740.**
Stddev	126.	4217.
%RSD	.06654	1.1373

Sample Name: CalStd13=100000 Acquired: 08/11/2021 13:26:32 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Na5889	Na5895	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.170**	**11000.**	**.060**	**.086**	**.125**	**.013**	**.005**	**.655**	**.243**	**.077**	**8490.**
Stddev	.001	51.	.000	.001	.001	.000	.000	.004	.001	.000	34.
%RSD	.756	.462	.564	.711	.623	.832	.660	.625	.598	.624	.405

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**182720.**	**1511300.**	**365550.**
Stddev	135.	9321.	1185.
%RSD	.07385	.61674	.32413

Sample Name: CalStd14=500000 Acquired: 08/11/2021 13:34:23 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2025	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.835**	**50200.**	**.385**	**.555**	**.060**	**.026**
Stddev	.013	261.	.007	.008	.000	.000
%RSD	1.54	.519	1.72	1.46	.824	1.52

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1443500.**	**359270.**
Stddev	9267.	3879.
%RSD	.64199	1.0798

Sample Name: CalibStd15=1000k Acquired: 08/11/2021 13:42:39 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Mg2025	Mg2790	Na5895	Si2516	K_7664	K_7698
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.63**	**87100.**	**.693**	**.107**	**.050**	**2.11**	**.051**	**.708**	**81400.**
Stddev	.02	329.	.011	.001	.000	.04	.000	.010	480.
%RSD	1.19	.377	1.59	.590	.482	1.88	.425	1.42	.589

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**156340.**	**1349200.**	**335770.**
Stddev	242.	5121.	2122.
%RSD	.15478	.37952	.63205

Sample Name: Ag Ba 1000, 50000 Acquired: 08/11/2021 13:51:30 Type: Cal
Method: DOD Calibration Updated 060614(v4449) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba4934
Units	Cts/S
Avg	**2.05**
Stddev	.02
%RSD	1.10

Int. Std.	Y_3710
Units	Cts/S
Avg	**366340.**
Stddev	1960.
%RSD	.53492

Sample Name: icv Acquired: 08/11/2021 14:07:23 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Ca3179	Cd2265	Co2286	Cr2055	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**47.4**	**12400.**	**2050.**	**1950.**	**48.6**	**10500.**	**10800.**	**50.1**	**519.**	**201.**	**213.**	**246.**
Stddev	.6	55.	16.	7.	.3	25.	54.	.0	1.	.	1.	1.
%RSD	1.31	.440	.765	.382	.515	.235	.502	.052	.121	.079	.480	.404
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2343	Fe2395	Fe2599	Mg2025	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5250.**	**5350.**	**5370.**	**10200.**	**10900.**	**479.**	**519.**	**517.**	**510.**	**489.**	**491.**	**510.**
Stddev	17.	35.	9.	45.	61.	1.	1.	.	1.	3.	2.	4.
%RSD	.330	.657	.171	.438	.557	.134	.125	.062	.170	.698	.489	.828
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**2020.**	**2200.**	**2050.**	**503.**	**534.**	**520.**	**4.96**	**542.**	**518.**	**524.**	**4.97**	**5.08**
Stddev	7.	24.	8.	2.	1.	1.	.02	5.	2.	2.	.03	.02
%RSD	.326	1.09	.382	.443	.094	.110	.338	.948	.298	.301	.657	.442
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Sample Name: icv Acquired: 08/11/2021 14:07:23 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189260.**	**1573400.**	**361010.**
Stddev	392.	4199.	1602.
%RSD	.20707	.26685	.44379

Sample Name: ICVLL Acquired: 08/11/2021 14:22:30 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	F **34.5**	**1190.**	**60.4**	**31.4**	**12.5**	**1490.**	**1520.**	**16.2**	**31.5**	**32.7**	**33.4**	**942.**
Stddev	.0	2.	4.9	.5	.3	8.	2.	.3	.0	.6	.9	5.
%RSD	.082	.128	8.18	1.74	2.36	.528	.143	1.82	.121	1.71	2.64	.570
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**932.**	**1560.**	**1480.**	**30.4**	**33.5**	**30.6**	**30.0**	**58.8**	**66.9**	**61.5**	**32.7**	**29.5**
Stddev	2.	46.	7.	.1	.5	.2	1.2	3.9	.8	.8	.7	.1
%RSD	.196	2.95	.498	.312	1.58	.659	4.00	6.61	1.18	1.30	2.07	.376
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7698
Units	mg/L	ug/L	ug/L	mg/L
Avg	**2.94**	**292.**	**60.0**	**14.5**
Stddev	.01	.	.3	.0
%RSD	.211	.082	.481	.291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Sample Name: ICVLL Acquired: 08/11/2021 14:22:30 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**191360.**	**1574900.**	**363090.**
Stddev	11.	7789.	219.
%RSD	.00555	.49456	.06036

Sample Name: icb Acquired: 08/11/2021 14:30:02 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.106**	**-.436**	**-22.7**	**-.834**	**.004**	**.001**	**-4.76**	**.301**	**-1.18**	**.943**	**-.861**	**.236**
Stddev	.596	.433	5.0	1.62	.267	.096	.06	.166	.31	.747	1.08	1.11
%RSD	563.	99.2	22.1	194.	7200.	11300.	1.27	55.0	26.0	79.3	125.	472.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.63**	**-26.0**	**-.001**	**-.312**	**-.077**	**-1.90**	**-.148**	**-2.92**	**1.50**	**-1.28**	**-.099**	**-3.39**
Stddev	.81	22.0	.015	.021	.423	.33	.452	.51	5.09	1.12	.330	.18
%RSD	30.7	84.5	1380.	6.60	552.	17.4	304.	17.4	340.	87.8	332.	5.37
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.162**	**.292**	**-.710**	**.063**	**-.116**
Stddev	.004	5.60	.102	.007	.025
%RSD	2.51	1920.	14.3	11.9	21.6
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: icb Acquired: 08/11/2021 14:30:02 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195820.**	**1603600.**	**373770.**
Stddev	265.	7935.	2816.
%RSD	.13541	.49480	.75343

Sample Name: MRL/LLOQ Acquired: 08/11/2021 14:46:09 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	F **11.8**	**413.**	**372.**	**20.5**	**10.1**	**4.00**	**506.**	**5.31**	**9.63**	**12.0**	**11.7**	**322.**
Stddev	.4	1.	6.	6.1	.2	.01	4.	.25	.41	1.6	.5	1.
%RSD	3.70	.226	1.60	29.8	2.08	.350	.879	4.72	4.27	13.1	4.05	.452
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	20.0											
Range	-30.0%											

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**314.**	**488.**	**498.**	**10.1**	**11.3**	**8.94**	**9.89**	**15.3**	**18.9**	**17.2**	**11.6**	**9.79**
Stddev	4.	37.	2.	.0	.2	.39	3.07	2.1	3.5	1.5	.4	.12
%RSD	1.30	7.54	.474	.133	1.53	4.35	31.0	13.9	18.7	8.77	3.64	1.22
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**.867**	**92.3**	**18.7**	**4.68**	**4.89**
Stddev	.005	1.8	.6	.04	.05
%RSD	.579	1.91	3.05	.763	.983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: MRL/LLOQ Acquired: 08/11/2021 14:46:09 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**191880.**	**1566700.**	**366730.**
Stddev	129.	4736.	2240.
%RSD	.06738	.30226	.61079

Sample Name: ICSA Acquired: 08/11/2021 14:53:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.509**	**463000.**	**16.5**	**.043**	**-.000**	**471000.**	**.000**	**-.111**	**-8.04**	**-5.40**	**419000.**
Stddev	.452	1110.	2.1	.588	.105	424.	.574	.448	1.47	1.18	2400.
%RSD	88.7	.240	12.9	1370.	3820000.	.090	317000.	404.	18.3	21.9	.572
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Fe2599	Mg2025	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**411000.**	**433000.**	**487000.**	**2.02**	**-1.45**	**.108**	**1.19**	**-1.55**	**-3.56**	**.452**	**10300.**
Stddev	1420.	2420.	2200.	.04	.60	.647	2.48	6.95	6.91	3.20	47.
%RSD	.347	.559	.451	2.11	41.2	601.	208.	448.	194.	707.	.458
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-2.76**	**-.000**	**-18.5**	**.001**	**.126**	**-.374**
Stddev	.42	.009	1.7	1.46	.015	.036
%RSD	15.1	23400.	9.21	260000.	11.9	9.66
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit						
Low Limit						

Sample Name: ICSA Acquired: 08/11/2021 14:53:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**173970.**	**1455900.**	**352520.**
Stddev	264.	6156.	2088.
%RSD	.15156	.42283	.59218

Sample Name: ICSAB Acquired: 08/11/2021 15:01:55 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1972	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**453.**	**480000.**	**546.**	**487.**	**506.**	**473.**	**497000.**	**457.**	**512.**	**460.**	**508.**
Stddev	2.	6380.	6.	4.	2.	7.	3760.	1.	.	4.	1.
%RSD	.391	1.33	1.03	.868	.330	1.41	.757	.253	.087	.885	.154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Fe2395	Fe2599	Mg2025	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**446000.**	**436000.**	**445000.**	**505000.**	**488.**	**514.**	**503.**	**502.**	**490.**	**536.**	**495.**
Stddev	6170.	5060.	2690.	5860.	3.	2.	1.	1.	6.	6.	6.
%RSD	1.38	1.16	.604	1.16	.596	.317	.108	.136	1.22	1.20	1.29
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**565.**	**518.**	**479.**	**511.**	**54.2**	**4840.**	**528.**	**545.**	**53.8**
Stddev	5.	3.	1.	2.	.8	59.	7.	3.	.3
%RSD	.960	.652	.178	.310	1.40	1.21	1.29	.508	.506
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: ICSAB Acquired: 08/11/2021 15:01:55 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**173130.**	**1436100.**	**354450.**
Stddev	251.	6975.	2093.
%RSD	.14500	.48568	.59038

Sample Name: ICVLL ag ag Acquired: 08/11/2021 15:17:12 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.76**	**8.18**	**-4.74**	**1.08**	**-.187**	**.100**	**.041**	**.043**	**-.785**	**-.426**	**-.133**	**62.6**
Stddev	.50	.71	11.7	1.06	.232	.101	.104	.124	.274	1.50	1.07	3.5
%RSD	5.11	8.75	248.	97.6	124.	101.	251.	288.	34.9	352.	804.	5.57

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**86.7**	**-1.99**	**3.68**	**-.117**	**.541**	**-1.57**	**-.200**	**-4.29**	**-1.01**	**.279**	**.130**	**-3.19**
Stddev	25.0	20.8	.07	.041	.370	.37	2.22	1.61	2.55	.867	.307	.08
%RSD	28.8	1050.	2.02	34.9	68.3	23.4	1110.	37.6	254.	311.	237.	2.39

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.147**	**-2.13**	**-1.53**	**.067**	**.186**
Stddev	.004	1.92	.26	.017	.037
%RSD	2.58	90.2	16.9	24.7	19.7

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**193390.**	**1557000.**	**369670.**
Stddev	216.	9153.	1480.
%RSD	.11185	.58782	.40031

Sample Name: ccv1 Acquired: 08/11/2021 18:13:56 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**533.**	**4690.**	**5160.**	**4730.**	**495.**	**4760.**	**503.**	**5210.**	**4600.**	**4830.**	**4900.**	**5120.**
Stddev	1.	56.	16.	55.	5.	20.	1.	15.	15.	9.	8.	27.
%RSD	.193	1.18	.311	1.17	1.10	.410	.230	.280	.322	.194	.173	.521
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5010.**	**4800.**	**4720.**	**4720.**	**5130.**	**5000.**	**5020.**	**4900.**	**5080.**	**4960.**	**5000.**	**5140.**
Stddev	54.	67.	51.	58.	6.	7.	8.	9.	14.	10.	59.	10.
%RSD	1.08	1.39	1.08	1.23	.121	.143	.168	.182	.283	.197	1.18	.196
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4860.**	**48.5**	**5210.**	**4960.**	**5220.**	**48.9**
Stddev	6.	.5	58.	55.	12.	.3
%RSD	.131	1.03	1.11	1.12	.223	.585
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/11/2021 18:13:56 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195640.**	**1563800.**	**369200.**
Stddev	366.	3279.	2295.
%RSD	.18683	.20968	.62151

Sample Name: ccv2 Acquired: 08/11/2021 18:20:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**45.9**	**518.**	**479.**	**512.**	**522.**	**506.**	**45.5**	**489.**	**47.2**	**523.**	**469.**	**507.**
Stddev	.8	2.	5.	2.	3.	2.	.3	3.	.4	2.	2.	1.
%RSD	1.66	.390	1.09	.391	.611	.430	.748	.538	.755	.376	.474	.225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**539.**	**499.**	**501.**	**519.**	**502.**	**508.**	**520.**	**527.**	**521.**	**519.**	**522.**	**499.**
Stddev	4.	4.	25.	3.	3.	2.	2.	1.	5.	2.	3.	4.
%RSD	.711	.751	4.98	.673	.541	.326	.416	.250	.960	.340	.528	.727
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**518.**	**529.**	**532.**	**508.**	**4.76**	**502.**	**511.**	**535.**	**4.71**	**4.71**
Stddev	1.	3.	2.	1.	.03	7.	3.	4.	.02	.04
%RSD	.200	.607	.290	.243	.568	1.39	.509	.726	.480	.879
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/11/2021 18:20:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198380.**	**1585000.**	**368750.**
Stddev	224.	8890.	1934.
%RSD	.11311	.56089	.52450

Sample Name: ccb Acquired: 08/11/2021 18:27:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.500**	**.062**	**-17.2**	**2.03**	**-.301**	**.228**	**-.636**	**.015**	**-.948**	**1.03**	**-.859**	**-.797**
Stddev	.515	.742	2.5	5.29	.229	.084	.773	.125	.090	1.03	.774	.879
%RSD	103.	1190.	14.4	261.	76.2	36.8	121.	852.	9.48	100.	90.1	110.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.63**	**6.00**	**.784**	**-.142**	**.688**	**-1.34**	**-.024**	**-6.46**	**1.50**	**.795**	**.000**	**-2.94**
Stddev	1.48	16.3	.014	.046	.405	.31	1.93	1.14	1.23	.459	.276	.11
%RSD	56.2	272.	1.83	32.2	58.9	23.0	8150.	17.6	82.0	57.7	63900.	3.83
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.194**	**.496**	**1.48**	**-.042**	**-.201**
Stddev	.002	2.07	.81	.052	.054
%RSD	1.02	417.	54.7	123.	27.0
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/11/2021 18:27:45 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**201190.**	**1603100.**	**378150.**
Stddev	236.	5636.	1945.
%RSD	.11749	.35155	.51445

Sample Name: lcss82042 Acquired: 08/11/2021 19:36:24 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Co2388	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**89.4**	**3590.**	**3940.**	**3700.**	**95.4**	**163000.**	**91.8**	**966.**	**1000.**	**349.**	**462.**
Stddev	.3	43.	17.	33.	.8	228.	.3	3.	6.	1.	2.
%RSD	.305	1.19	.441	.894	.829	.140	.275	.280	.567	.407	.351

Elem	Fe2343	Fe2599	Mg2025	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**2000.**	**1860.**	**74400.**	**82800.**	**936.**	**2180.**	**953.**	**970.**	**971.**	**953.**	**923.**
Stddev	15.	23.	701.	648.	4.	7.	3.	2.	8.	3.	7.
%RSD	.760	1.24	.942	.782	.449	.303	.350	.190	.834	.316	.730

Elem	Se2062	Tl1908	V_2908	Zn2062	Zn2138	Na5895	Si2516	B_2496	K_7698
Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**3700.**	**3750.**	**971.**	**984.**	**945.**	**82.3**	**64.4**	**-1.46**	**92.6**
Stddev	21.	15.	5.	2.	4.	.7	9.1	.81	.1
%RSD	.560	.403	.529	.194	.402	.843	14.1	55.6	.137

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**190000.**	**1513600.**	**354590.**
Stddev	793.	6329.	2121.
%RSD	.41736	.41816	.59807

Sample Name: mbs82042 Acquired: 08/11/2021 19:43:30 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.953**	**6.37**	**-15.0**	**-7.87**	**-.331**	**.186**	**7.94**	**.060**	**-1.13**	**2.42**	**3.18**	**13.9**
Stddev	.276	.51	1.5	3.70	.279	.117	1.13	.137	.40	1.07	.28	.8
%RSD	28.9	8.01	10.1	47.1	84.4	63.2	14.2	231.	35.5	44.2	8.64	5.66

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.65**	**2.65**	**4.15**	**.209**	**1.00**	**-2.09**	**-.180**	**-9.94**	**.554**	**-3.44**	**.334**	**-.761**
Stddev	.66	17.2	.05	.065	.33	.36	1.23	4.18	2.84	2.10	.163	.163
%RSD	6.79	650.	1.28	30.9	33.3	17.3	683.	42.0	512.	61.0	48.7	21.4

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.134**	**14.8**	**-2.09**	**.169**	**1.25**
Stddev	.013	3.3	.70	.008	.04
%RSD	9.60	22.1	33.3	5.02	2.81

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**201840.**	**1586500.**	**371060.**
Stddev	348.	8647.	1722.
%RSD	.17256	.54503	.46416

Sample Name: ccv1 Acquired: 08/11/2021 19:51:11 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**537.**	**4600.**	**5130.**	**4680.**	**491.**	**4810.**	**502.**	**5300.**	F **4470.**	**4830.**	**4890.**	**5290.**
Stddev	.	37.	19.	42.	5.	13.	1.	4.	16.	6.	5.	6.
%RSD	.063	.809	.370	.898	.929	.263	.140	.082	.347	.121	.109	.116
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value									5000.			
Range									-10.4%			

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4940.**	**4670.**	**4670.**	**4600.**	**5100.**	**4980.**	**5040.**	**4800.**	**5000.**	**4960.**	**4920.**	**5120.**
Stddev	63.	32.	56.	42.	7.	7.	18.	14.	12.	15.	46.	13.
%RSD	1.28	.692	1.19	.921	.141	.139	.363	.294	.232	.306	.935	.253
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4840.**	**47.5**	**5090.**	**4900.**	**5360.**	**48.5**
Stddev	8.	.4	40.	44.	6.	.1
%RSD	.163	.767	.782	.892	.107	.254
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/11/2021 19:51:11 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198190.**	**1551300.**	**374470.**
Stddev	271.	515.	2796.
%RSD	.13692	.03323	.74654

Sample Name: ccv2 Acquired: 08/11/2021 19:58:00 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**46.6**	**520.**	**487.**	**513.**	**526.**	**505.**	**46.1**	**500.**	**47.1**	**525.**	**466.**	**510.**
Stddev	.3	3.	8.	4.	7.	1.	.5	4.	.1	1.	2.	1.
%RSD	.588	.523	1.74	.811	1.39	.140	.987	.832	.178	.197	.415	.234
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**546.**	**505.**	**504.**	**529.**	**510.**	**510.**	**521.**	**530.**	**524.**	**521.**	**528.**	**502.**
Stddev	3.	4.	28.	2.	1.	1.	1.	2.	7.	3.	5.	4.
%RSD	.537	.694	5.47	.340	.242	.198	.170	.332	1.29	.494	.949	.799
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**523.**	**540.**	**530.**	**510.**	**4.80**	**504.**	**517.**	**540.**	**4.81**	**4.80**
Stddev	3.	1.	1.	1.	.03	7.	4.	1.	.02	.02
%RSD	.488	.259	.109	.173	.718	1.30	.732	.159	.499	.396
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/11/2021 19:58:00 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199160.**	**1580000.**	**367870.**
Stddev	335.	3074.	1726.
%RSD	.16801	.19453	.46927

Sample Name: ccb Acquired: 08/11/2021 20:05:00 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.305**	**-.518**	**-20.9**	**-3.11**	**.123**	**-.107**	**-.317**	**.008**	**-.895**	**1.11**	**-.124**	**-1.02**
Stddev	.283	.467	2.0	2.31	.297	.148	.622	.148	.066	.86	.802	.52
%RSD	92.8	90.2	9.63	74.3	241.	138.	196.	1930.	7.36	76.8	649.	51.2
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-3.53**	**13.1**	**.713**	**-.156**	**.823**	**-1.42**	**.210**	**-6.21**	**-.081**	**-1.34**	**-.128**	**-3.03**
Stddev	1.67	13.1	.054	.024	.421	.39	.731	2.25	3.37	1.68	.332	.04
%RSD	47.3	99.7	7.56	15.3	51.2	27.6	347.	36.2	4150.	126.	260.	1.25
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.190**	**1.21**	**1.05**	**.015**	**-.160**
Stddev	.002	5.00	.53	.004	.039
%RSD	.984	413.	50.2	25.3	24.5
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/11/2021 20:05:00 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**202470.**	**1609200.**	**375710.**
Stddev	249.	8538.	2846.
%RSD	.12307	.53060	.75758

Sample Name: 1034767 Acquired: 08/11/2021 20:12:42 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**6.59**	**149000.**	**138.**	**1590.**	**9.68**	**24500.**	**-1.48**	**106.**	**298.**	**194.**	**257000.**
Stddev	.69	2160.	8.	23.	.07	137.	.24	.	4.	1.	2840.
%RSD	10.5	1.45	6.10	1.46	.731	.560	16.0	.220	1.46	.486	1.10

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2169	Sb2068	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**247000.**	**9590.**	**11500.**	**13.1**	**92.0**	**138000.**	**1100.**	**7.33**	**39.0**	**577.**	**830.**
Stddev	3410.	126.	155.	.4	.7	473.	2.	7.01	1.0	4.	2.
%RSD	1.38	1.31	1.35	2.85	.795	.344	.202	95.6	2.65	.657	.240

Elem	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**792.**	**.101**	**16000.**	**33.7**	**12.7**
Stddev	1.	.010	161.	1.2	.1
%RSD	.147	9.45	1.01	3.69	.630

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195160.**	**1550800.**	**366890.**
Stddev	409.	8648.	2803.
%RSD	.20945	.55765	.76400

Sample Name: I1034767 Acquired: 08/11/2021 20:20:36 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.49**	**56700.**	**21.3**	**485.**	**3.73**	**9240.**	**-2.76**	**31.1**	**99.8**	**59.4**	**91500.**
Stddev	.27	2800.	3.5	21.	.13	396.	.13	1.1	4.1	2.8	2980.
%RSD	18.2	4.94	16.4	4.27	3.34	4.29	4.56	3.39	4.07	4.77	3.26

Elem	Fe2395	Fe2599	Mg2790	Mg2802	Mn2593	Mo2020	Ni2316	Pb2169	Sb2175	Se1960	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**102000.**	**97700.**	**3680.**	**3460.**	**4340.**	**4.52**	**27.0**	**41500.**	**333.**	**.916**	**14.4**
Stddev	4850.	4660.	173.	123.	208.	.28	1.1	1620.	13.	5.51	3.0
%RSD	4.77	4.77	4.70	3.55	4.80	6.21	4.06	3.90	3.85	602.	20.7

Elem	V_2924	Zn2062	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**194.**	**252.**	**240.**	**-.100**	**5910.**	**10.2**	**4.41**	**4.45**
Stddev	7.	11.	10.	.006	241.	.7	.18	.17
%RSD	3.60	4.19	4.10	5.83	4.07	7.19	4.06	3.92

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199050.**	**1578200.**	**367160.**
Stddev	357.	2693.	1009.
%RSD	.17948	.17063	.27467

Sample Name: dup1034767 Acquired: 08/11/2021 20:28:22 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**3.85**	**128000.**	**107.**	**1410.**	**8.51**	**21300.**	**-1.80**	**110.**	**232.**	**161.**	**216000.**
Stddev	.49	2100.	6.	25.	.19	30.	.45	1.	2.	2.	2980.
%RSD	12.7	1.64	5.96	1.77	2.23	.139	24.8	1.05	.867	1.31	1.38

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2169	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**208000.**	**8770.**	**11000.**	**11.0**	**78.5**	**114000.**	**719.**	**8.03**	**32.9**	**489.**	**718.**
Stddev	3380.	119.	176.	.6	.6	1160.	13.	5.59	1.7	1.	9.
%RSD	1.63	1.36	1.60	5.26	.823	1.02	1.82	69.6	5.04	.258	1.19

Elem	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**685.**	**.014**	**14700.**	**27.8**	**11.2**
Stddev	8.	.005	200.	1.3	.1
%RSD	1.13	37.9	1.36	4.59	.486

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**197850.**	**1569000.**	**367940.**
Stddev	1211.	5063.	5168.
%RSD	.61205	.32271	1.4045

Sample Name: mss1034767 Acquired: 08/11/2021 20:36:20 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ag3382	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**242.**	**194.**	**152000.**	**1140.**	**4270.**	**81.6**	**175000.**	**76.9**	**911.**	**491.**
Stddev	1.	2.	1140.	28.	37.	.7	1360.	.5	1.	2.
%RSD	.281	1.17	.746	2.51	.863	.803	.781	.607	.142	.370

Elem	Cu2230	Cu2247	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1370.**	**3630.**	**149000.**	**84900.**	**10800.**	**1570.**	**897.**	**904.**	**1050000.**	**51400.**
Stddev	4.	15.	1180.	662.	72.	3.	2.	1.	1920.	123.
%RSD	.259	.412	.789	.780	.662	.161	.175	.146	.182	.239

Elem	Se2062	Tl1908	V_2908	Zn2062	Zn2138	Na5895	Si2516	B_2496	B_2497	K_7698
Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**2220.**	**3230.**	**1090.**	**1630.**	**1640.**	**78.5**	**22600.**	**39.7**	**24.0**	**88.7**
Stddev	23.	5.	11.	1.	2.	.7	188.	.4	1.2	.8
%RSD	1.03	.169	.963	.059	.120	.887	.829	1.12	4.87	.848

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**188740.**	**1537200.**	**363400.**
Stddev	217.	6559.	2061.
%RSD	.11518	.42667	.56710

Sample Name: msds1034767 Acquired: 08/11/2021 20:43:25 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ag3382	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**158.**	**130.**	**144000.**	**667.**	**4260.**	**81.9**	**179000.**	**76.6**	**881.**	**490.**
Stddev	1.	2.	791.	13.	23.	.6	806.	.4	.	3.
%RSD	.389	1.90	.551	1.98	.531	.726	.449	.465	.050	.592

Elem	Cu2230	Cu2247	Fe2599	Mg2790	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1090.**	**3360.**	**155000.**	**86400.**	**10800.**	**10.6**	**1.52**	**861.**	**868.**	**1050000.**
Stddev	2.	15.	917.	720.	68.	.7	1.30	1.	1.	1270.
%RSD	.179	.446	.590	.833	.629	6.64	85.9	.074	.092	.120

Elem	Sb2068	Se2062	Tl1908	V_2908	Zn2062	Zn2138	Na5895	Si2516	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L
Avg	**23500.**	**2110.**	**3150.**	**1120.**	**1570.**	**1560.**	**79.1**	**21500.**	**35.8**	**21.7**
Stddev	62.	39.	6.	5.	5.	1.	.4	83.	.8	1.8
%RSD	.264	1.87	.181	.454	.336	.071	.533	.385	2.17	8.19

Elem	K_7698
Units	mg/L
Avg	**87.2**
Stddev	.3
%RSD	.360

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**188810.**	**1524700.**	**356880.**
Stddev	245.	3613.	2119.
%RSD	.12988	.23698	.59379

Sample Name: pdss1034767 Acquired: 08/11/2021 20:50:38 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**88.7**	**150000.**	**3600.**	**5110.**	**97.9**	**374000.**	**86.5**	**1050.**	**599.**	**621.**	**237000.**
Stddev	.3	759.	5.	26.	.7	1070.	.2	5.	5.	1.	1020.
%RSD	.300	.508	.125	.509	.733	.287	.265	.491	.765	.209	.432

Elem	Fe2599	Mg2025	Mg2790	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se2062	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**232000.**	**170000.**	**182000.**	**12300.**	**2020.**	**985.**	**990.**	**126000.**	**1790.**	**3630.**	**3490.**
Stddev	1020.	940.	875.	62.	6.	1.	1.	198.	9.	35.	6.
%RSD	.439	.552	.481	.508	.318	.093	.092	.157	.490	.956	.165

Elem	V_2908	Zn2062	Zn2138	Na5895	Si2516	B_2496	K_7698
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**1370.**	**1690.**	**1700.**	**176.**	**17600.**	**31.6**	**103.**
Stddev	7.	1.	1.	1.	108.	.8	.
%RSD	.496	.080	.074	.435	.613	2.58	.271

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**183610.**	**1500700.**	**353570.**
Stddev	213.	5943.	1418.
%RSD	.11599	.39601	.40115

Sample Name: 1034768 Acquired: 08/11/2021 20:58:07 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.18**	**170000.**	**43.8**	**2780.**	**15.3**	**3930.**	**-2.04**	**129.**	**321.**	**115.**	**196000.**
Stddev	.71	1730.	5.9	29.	.2	15.	.46	.	3.	1.	1950.
%RSD	60.0	1.02	13.4	1.04	1.44	.380	22.7	.308	.891	.898	.998

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**191000.**	**5120.**	**25600.**	**11.3**	**103.**	**451.**	**-4.79**	**14.4**	**30.3**	**450.**	**404.**
Stddev	1920.	24.	272.	.4	.	2.	2.67	4.2	1.9	2.	1.
%RSD	1.01	.459	1.06	3.41	.172	.463	55.8	29.2	6.21	.348	.275

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**383.**	**.069**	**11600.**	**11.8**	**4.74**	**5.64**
Stddev	2.	.016	116.	.6	.08	.06
%RSD	.394	23.5	1.01	5.26	1.75	1.06

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199650.**	**1597400.**	**366810.**
Stddev	493.	6640.	3871.
%RSD	.24673	.41569	1.0552

Sample Name: 1034769 Acquired: 08/11/2021 21:06:01 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.57**	**234000.**	**41.8**	**1150.**	**5.84**	**9550.**	**-4.65**	**60.3**	**297.**	**122.**	**391000.**
Stddev	.38	1750.	4.3	11.	.09	30.	.67	.5	1.	1.	3000.
%RSD	14.6	.748	10.4	.932	1.60	.310	14.5	.758	.278	.928	.768

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2169	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**379000.**	**8000.**	**2370.**	**8.60**	**86.8**	**1840.**	**-7.16**	**3.09**	**67.2**	**934.**	**240.**
Stddev	2020.	75.	18.	.32	.5	15.	3.42	5.56	1.3	5.	1.
%RSD	.532	.939	.748	3.68	.555	.838	47.8	180.	1.94	.495	.234

Elem	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**237.**	**.079**	**11300.**	**11.2**	**15.4**
Stddev	.	.005	100.	1.6	.1
%RSD	.170	6.63	.885	13.9	.429

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195760.**	**1573800.**	**365740.**
Stddev	258.	7804.	1729.
%RSD	.13178	.49584	.47283

Sample Name: 1034770 Acquired: 08/11/2021 21:13:48 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.42**	**160000.**	**37.3**	**1220.**	**5.72**	**19400.**	**-3.45**	**92.4**	**298.**	**115.**	**287000.**
Stddev	.28	2370.	3.2	20.	.11	86.	.50	.4	1.	1.	3850.
%RSD	19.4	1.48	8.53	1.62	1.83	.440	14.6	.430	.228	1.03	1.34

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**280000.**	**9200.**	**3910.**	**11.1**	**73.5**	**494.**	**1370.**	**-6.83**	**4.46**	**47.2**	**584.**
Stddev	4340.	68.	51.	.2	1.0	13.	2.	4.25	2.09	3.2	1.
%RSD	1.55	.735	1.30	1.85	1.30	2.62	.150	62.3	46.9	6.79	.116

Elem	Zn2062	Zn2138	Na5889	Si2516	B_2496	K_7698
Units	ug/L	ug/L	mg/L	ug/L	ug/L	mg/L
Avg	**312.**	**300.**	**.049**	**12600.**	**14.9**	**11.9**
Stddev	.	1.	.003	157.	1.0	.1
%RSD	.118	.289	5.28	1.24	7.00	.928

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196770.**	**1566500.**	**366930.**
Stddev	72.	1863.	3422.
%RSD	.03676	.11894	.93248

Sample Name: 1034771 Acquired: 08/11/2021 21:21:36 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.34**	**138000.**	**45.7**	**1410.**	**5.94**	**24900.**	**-3.35**	**286.**	**321.**	**90.1**	**338000.**
Stddev	.48	2220.	6.5	28.	.16	24.	.78	2.	1.	1.0	5350.
%RSD	35.6	1.62	14.2	1.95	2.76	.095	23.4	.576	.372	1.07	1.59

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2169	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**329000.**	**9990.**	**11800.**	**8.57**	**68.9**	**2130.**	**10.0**	**7.63**	**58.3**	**517.**	**168.**
Stddev	4590.	223.	196.	.55	.9	11.	5.5	2.81	.7	1.	1.
%RSD	1.39	2.23	1.66	6.39	1.36	.527	54.8	36.9	1.26	.168	.469

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**.037**	**12700.**	**13.4**	**8.09**	**8.72**
Stddev	.006	198.	1.8	.16	.01
%RSD	17.4	1.56	13.3	2.03	.076

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196430.**	**1574900.**	**362540.**
Stddev	587.	4969.	5335.
%RSD	.29891	.31551	1.4717

Sample Name: ccv1 Acquired: 08/11/2021 21:29:34 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**540.**	**4680.**	**5120.**	**4740.**	**490.**	**4640.**	**501.**	**5200.**	**4650.**	**4800.**	**4890.**	**5100.**
Stddev	2.	15.	25.	17.	1.	11.	1.	16.	9.	12.	13.	37.
%RSD	.369	.316	.488	.357	.138	.244	.147	.308	.188	.258	.259	.728
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4880.**	**4720.**	**4670.**	**4650.**	**5090.**	**4980.**	**4980.**	**4900.**	**5040.**	**4950.**	**4910.**	**5120.**
Stddev	14.	23.	57.	15.	10.	9.	21.	18.	31.	10.	2.	4.
%RSD	.284	.481	1.23	.324	.192	.179	.426	.363	.620	.196	.048	.076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4850.**	**47.9**	**5120.**	**4960.**	**5190.**	**47.6**
Stddev	10.	.2	7.	18.	32.	.1
%RSD	.210	.320	.132	.352	.610	.260
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/11/2021 21:29:34 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198600.**	**1589500.**	**362650.**
Stddev	455.	5080.	903.
%RSD	.22892	.31960	.24888

Sample Name: ccv2 Acquired: 08/11/2021 21:36:23 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**46.8**	**518.**	**478.**	**511.**	**517.**	**504.**	**45.3**	**495.**	**46.9**	**525.**	**479.**	**505.**
Stddev	.3	1.	5.	5.	5.	.	.8	7.	.3	1.	2.	1.
%RSD	.647	.170	1.11	1.03	.870	.069	1.66	1.45	.628	.186	.488	.191
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**530.**	**498.**	**488.**	**511.**	**498.**	**509.**	**518.**	**525.**	**517.**	**510.**	**522.**	**497.**
Stddev	3.	10.	22.	2.	2.	1.	1.	.	3.	2.	2.	5.
%RSD	.603	1.93	4.53	.388	.447	.167	.126	.077	.629	.389	.340	.971
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**524.**	**528.**	**528.**	**509.**	**4.78**	**496.**	**516.**	**521.**	**4.76**	**4.72**
Stddev	4.	2.	1.	1.	.07	11.	8.	4.	.11	.08
%RSD	.723	.433	.243	.213	1.37	2.12	1.58	.682	2.36	1.64
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/11/2021 21:36:23 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**200670.**	**1622800.**	**361570.**
Stddev	516.	6236.	3827.
%RSD	.25726	.38428	1.0584

Sample Name: ccb Acquired: 08/11/2021 21:43:23 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.114**	**-.372**	**-20.2**	**-1.78**	**-.033**	**.178**	**.065**	**.069**	**-1.01**	**1.16**	**-.334**	**-.321**
Stddev	.358	.352	4.1	1.62	.263	.125	.809	.077	.23	.74	1.04	.571
%RSD	314.	94.6	20.4	90.9	808.	70.4	1250.	112.	22.7	63.4	311.	178.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-4.00**	**9.88**	**.716**	**-.171**	**.824**	**-1.47**	**-.206**	**-5.25**	**1.41**	**-.552**	**.385**	**-2.95**
Stddev	1.21	24.5	.031	.027	.375	.28	2.77	1.76	4.66	2.75	.242	.17
%RSD	30.1	248.	4.39	15.9	45.5	19.2	1340.	33.6	330.	498.	62.9	5.66
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.189**	**4.49**	**.588**	**.032**	**-.148**
Stddev	.003	5.11	.441	.025	.037
%RSD	1.82	114.	75.1	77.5	25.3
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/11/2021 21:43:23 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**203390.**	**1628000.**	**368800.**
Stddev	393.	6549.	1209.
%RSD	.19316	.40225	.32781

Sample Name: 1034772 Acquired: 08/11/2021 21:51:04 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.164**	**106000.**	**33.8**	**1600.**	**8.58**	**17300.**	**-.551**	**102.**	**200.**	**93.8**	**149000.**
Stddev	.265	1620.	2.4	27.	.18	110.	.323	1.	1.	.9	2050.
%RSD	162.	1.52	7.05	1.68	2.07	.636	58.5	.663	.732	.944	1.38

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**146000.**	**6960.**	**15000.**	**9.01**	**58.3**	**407.**	**-7.09**	**9.47**	**24.2**	**352.**	**558.**
Stddev	2270.	86.	212.	.30	.6	6.	1.69	2.64	2.5	2.	4.
%RSD	1.56	1.23	1.42	3.34	1.07	1.36	23.8	27.9	10.3	.596	.715

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**531.**	**-.002**	**11600.**	**18.8**	**7.90**	**8.55**
Stddev	5.	.004	124.	.3	.12	.05
%RSD	.922	254.	1.07	1.59	1.51	.627

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198770.**	**1594300.**	**362270.**
Stddev	1066.	6468.	3021.
%RSD	.53632	.40567	.83405

Sample Name: ccv1 Acquired: 08/11/2021 23:05:52 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3158	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**548.**	**4850.**	**5120.**	**4900.**	**494.**	**4660.**	**506.**	**5270.**	**4930.**	**4840.**	**4990.**	**5040.**
Stddev	2.	96.	19.	104.	10.	20.	1.	27.	25.	6.	8.	26.
%RSD	.354	1.98	.380	2.13	1.94	.439	.225	.512	.504	.126	.154	.515
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4970.**	**4930.**	**4790.**	**4860.**	**5150.**	**5060.**	**5000.**	**5080.**	**5160.**	**5000.**	**5060.**	**5160.**
Stddev	110.	103.	76.	90.	6.	9.	9.	11.	32.	21.	99.	17.
%RSD	2.21	2.10	1.59	1.85	.116	.185	.179	.220	.615	.412	1.96	.329
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4950.**	**48.9**	**5190.**	**5100.**	**5120.**	**48.3**
Stddev	10.	1.1	124.	100.	27.	.1
%RSD	.204	2.14	2.39	1.97	.519	.250
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/11/2021 23:05:52 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198050.**	**1606500.**	**355770.**
Stddev	341.	7912.	6539.
%RSD	.17237	.49253	1.8379

Sample Name: ccv2 Acquired: 08/11/2021 23:12:41 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**46.9**	**521.**	**480.**	**509.**	**523.**	**506.**	**46.1**	**497.**	**47.1**	**526.**	**495.**	**503.**
Stddev	.1	2.	3.	5.	5.	1.	.1	4.	.1	2.	2.	1.
%RSD	.229	.384	.563	.913	.942	.216	.197	.895	.279	.296	.495	.271
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**528.**	**500.**	**478.**	**509.**	**499.**	**509.**	**521.**	**523.**	**516.**	**510.**	**524.**	**505.**
Stddev	2.	7.	28.	1.	1.	1.	2.	2.	3.	2.	7.	4.
%RSD	.309	1.33	5.86	.237	.188	.194	.313	.409	.566	.342	1.33	.846
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**520.**	**529.**	**529.**	**512.**	**4.74**	**491.**	**515.**	**521.**	**4.73**	**4.74**
Stddev	3.	2.	3.	2.	.04	6.	5.	1.	.05	.05
%RSD	.668	.297	.494	.311	.897	1.25	.880	.214	1.13	1.05
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/11/2021 23:12:41 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**200610.**	**1627000.**	**361320.**
Stddev	454.	4465.	2723.
%RSD	.22629	.27440	.75359

Sample Name: ccb Acquired: 08/11/2021 23:19:42 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.400**	**-.497**	**-20.7**	**-2.96**	**-.032**	**-.060**	**.377**	**.064**	**-.930**	**1.34**	**-.298**	**-.988**
Stddev	.421	.092	3.1	3.28	.117	.116	.258	.206	.176	1.39	1.07	.438
%RSD	105.	18.5	14.9	111.	368.	192.	68.5	323.	18.9	104.	357.	44.3
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.96**	**7.47**	**.782**	**-.166**	**.964**	**-1.40**	**-.993**	**-4.62**	**1.85**	**-.003**	**.169**	**-2.92**
Stddev	1.69	18.7	.074	.019	.336	.51	.981	2.57	2.07	1.11	.362	.16
%RSD	56.9	250.	9.52	11.7	34.9	36.6	98.8	55.5	112.	34700.	214.	5.43
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.176**	**8.82**	**.757**	**.064**	**-.144**
Stddev	.005	1.53	.450	.017	.060
%RSD	2.74	17.4	59.4	26.2	41.8
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/11/2021 23:19:42 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**203840.**	**1641900.**	**362630.**
Stddev	188.	16897.	3346.
%RSD	.09219	1.0291	.92259

Sample Name: ccv1 Acquired: 08/12/2021 12:18:10 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3179	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**553.**	**4870.**	**5170.**	**5010.**	**492.**	**4900.**	**515.**	**5200.**	**5130.**	**4840.**	**5030.**	**4900.**
Stddev	1.	64.	12.	69.	7.	112.	.	19.	16.	5.	5.	25.
%RSD	.111	1.31	.235	1.38	1.37	2.29	.090	.368	.313	.102	.093	.515
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4940.**	**5030.**	**4870.**	**5000.**	**5200.**	**5110.**	**5000.**	**5270.**	**5250.**	**5040.**	**5120.**	**5210.**
Stddev	48.	56.	48.	64.	4.	7.	13.	10.	21.	6.	62.	9.
%RSD	.980	1.11	.983	1.28	.076	.138	.260	.182	.399	.116	1.21	.181
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**4980.**	**50.6**	**5020.**	**5130.**	**4990.**	**46.1**
Stddev	6.	.7	74.	70.	27.	.2
%RSD	.126	1.36	1.47	1.37	.537	.417
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/12/2021 12:18:10 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196620.**	**1621300.**	**316390.**
Stddev	243.	6086.	3576.
%RSD	.12379	.37536	1.1304

Sample Name: ccv2 Acquired: 08/12/2021 12:24:58 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**47.9**	**535.**	**501.**	**526.**	**535.**	**521.**	**45.7**	**509.**	**48.3**	**540.**	**534.**	**512.**
Stddev	.9	4.	6.	5.	3.	3.	.4	5.	.3	3.	3.	3.
%RSD	1.86	.810	1.25	.955	.627	.607	.885	.940	.594	.561	.559	.669
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**515.**	**532.**	**503.**	**494.**	**498.**	**525.**	**535.**	**531.**	**521.**	**514.**	**530.**	**516.**
Stddev	2.	3.	17.	2.	2.	3.	3.	4.	7.	6.	3.	4.
%RSD	.457	.612	3.39	.349	.385	.585	.599	.718	1.38	1.11	.582	.846
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**531.**	**529.**	**544.**	**524.**	**5.16**	**502.**	**535.**	**511.**	**5.47**	**4.96**
Stddev	4.	2.	3.	3.	.05	5.	5.	1.	.06	.04
%RSD	.758	.443	.511	.532	.955	.903	.845	.169	1.18	.733
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/12/2021 12:24:58 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199170.**	**1659100.**	**316130.**
Stddev	828.	5359.	2741.
%RSD	.41578	.32299	.86698

Sample Name: ccb Acquired: 08/12/2021 12:32:04 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2055	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.181**	**-.569**	**-18.3**	**.665**	**.272**	**.030**	**-6.13**	**.039**	**-.998**	**-.688**	**-.550**	**.401**
Stddev	1.31	.192	2.2	1.80	.140	.128	.05	.104	.203	.198	.519	.774
%RSD	726.	33.7	12.2	271.	51.4	424.	.753	266.	20.3	28.8	94.4	193.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.38**	**-20.9**	**-.639**	**-.283**	**.711**	**-2.07**	**2.05**	**-8.07**	**1.42**	**.783**	**.150**	**-3.44**
Stddev	1.02	14.0	.034	.034	.409	.31	2.38	2.71	1.21	1.17	.236	.05
%RSD	43.1	67.2	5.31	12.1	57.5	14.9	116.	33.6	85.0	149.	158.	1.37
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664
Units	mg/L	ug/L	ug/L	mg/L
Avg	**-.163**	**-.486**	**.911**	**.132**
Stddev	.006	2.71	.735	.019
%RSD	3.91	557.	80.7	14.0
Check ?	None	None	None	None
Value				
Range				

Sample Name: ccb Acquired: 08/12/2021 12:32:04 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**202610.**	**1690400.**	**321680.**
Stddev	261.	13032.	9974.
%RSD	.12895	.77090	3.1006

Sample Name: 1034767 x15 Acquired: 08/12/2021 13:10:14 Type: Unk
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3131	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2343	Fe2395
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.641**	**15600.**	**2.79**	**111.**	**1.14**	**2100.**	**-.653**	**6.31**	**30.5**	**14.3**	**21600.**	**26300.**
Stddev	.577	720.	4.58	10.	.08	113.	.146	.65	2.5	1.3	1420.	1210.
%RSD	90.0	4.62	164.	9.18	6.67	5.35	22.3	10.2	8.35	8.86	6.56	4.62

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Ni2316	Pb2169	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**27100.**	**1000.**	**819.**	**984.**	**1270.**	**3.20**	**4.26**	**9380.**	**68.8**	**-.768**	**3.26**	**47.4**
Stddev	1300.	55.	53.	65.	57.	.50	.54	840.	8.2	2.66	1.10	2.9
%RSD	4.78	5.47	6.52	6.56	4.48	15.5	12.7	8.96	11.9	346.	33.8	6.10

Elem	Zn2138	Na5889	Si2516	B_2496	K_7664	K_7698
Units	ug/L	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**55.0**	**-.072**	**1580.**	**1.25**	**1.48**	**1.23**
Stddev	5.1	.007	59.	.39	.06	.07
%RSD	9.33	9.35	3.72	30.9	4.12	5.79

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**197970.**	**1650300.**	**312810.**
Stddev	416.	11107.	1659.
%RSD	.20996	.67303	.53022

Sample Name: ccv1 Acquired: 08/12/2021 13:25:12 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3131	Ca3179	Cd2265	Co2388	Cr2677	Cu2230	Cu2247	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**556.**	**4950.**	**5150.**	**5060.**	**495.**	**5000.**	**518.**	**5150.**	**5330.**	**4840.**	**5070.**	**4770.**
Stddev	1.	61.	27.	76.	7.	118.	1.	23.	31.	18.	14.	23.
%RSD	.183	1.24	.516	1.49	1.35	2.35	.264	.453	.579	.370	.279	.479
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2395	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4940.**	**5090.**	**4900.**	**5090.**	**5240.**	**5150.**	**4980.**	**5440.**	**5360.**	**5050.**	**5190.**	**5220.**
Stddev	81.	66.	42.	67.	19.	14.	10.	14.	40.	21.	69.	18.
%RSD	1.63	1.31	.855	1.32	.371	.270	.197	.265	.753	.406	1.33	.335
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138	Na5895	Si2516	Sr4215	B_2496	K_7698
Units	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L
Avg	**5050.**	**51.0**	**5060.**	**5180.**	**4910.**	**45.0**
Stddev	17.	.7	86.	72.	19.	.1
%RSD	.341	1.31	1.69	1.39	.379	.266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 08/12/2021 13:25:12 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**194970.**	**1636300.**	**308100.**
Stddev	351.	7231.	3581.
%RSD	.17979	.44191	1.1624

Sample Name: ccv2 Acquired: 08/12/2021 13:31:51 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2055	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**48.3**	**542.**	**512.**	**532.**	**538.**	**525.**	**46.3**	**521.**	**48.9**	**546.**	**527.**	**514.**
Stddev	1.0	1.	6.	5.	7.	1.	.7	6.	.1	.	.	1.
%RSD	2.08	.224	1.10	.856	1.24	.245	1.58	1.07	.190	.072	.051	.100
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2343	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**505.**	**544.**	**504.**	**487.**	**498.**	**532.**	**542.**	**532.**	**523.**	**507.**	**533.**	**526.**
Stddev	3.	3.	13.	2.	1.	1.	1.	1.	2.	3.	6.	5.
%RSD	.531	.532	2.55	.402	.264	.175	.251	.150	.288	.571	1.08	.921
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Sr4215	B_2496	K_7664	K_7698
Units	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	mg/L	mg/L
Avg	**540.**	**527.**	**546.**	**534.**	**5.21**	**504.**	**546.**	**506.**	**5.27**	**4.72**
Stddev	3.	2.	1.	1.	.06	13.	6.	1.	.06	.07
%RSD	.487	.372	.224	.102	1.10	2.53	1.09	.283	1.16	1.58
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 08/12/2021 13:31:51 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196680.**	**1656700.**	**307980.**
Stddev	50.	6392.	3018.
%RSD	.02552	.38583	.97988

Sample Name: ccb Acquired: 08/12/2021 13:38:54 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3131	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2343
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.138**	**-.351**	**-20.2**	**1.26**	**-.216**	**.259**	**-6.01**	**.106**	**-1.12**	**1.43**	**.073**	**1.15**
Stddev	.558	.391	2.4	2.19	.234	.072	.03	.122	.23	.66	.638	.35
%RSD	404.	111.	12.1	174.	108.	27.8	.451	115.	20.9	46.3	879.	30.8
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-3.28**	**-8.48**	**-.607**	**-.211**	**1.24**	**-1.90**	**.536**	**-6.47**	**-.485**	**-.936**	**.166**	**-3.34**
Stddev	2.25	8.71	.023	.027	.22	.21	1.53	3.39	1.67	2.02	.174	.08
%RSD	68.6	103.	3.72	13.0	17.4	11.2	285.	52.3	345.	216.	105.	2.30
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Na5889	Si2516	B_2496	K_7664	K_7698
Units	mg/L	ug/L	ug/L	mg/L	mg/L
Avg	**-.182**	**1.85**	**.978**	**.105**	**-.116**
Stddev	.004	2.87	.664	.021	.035
%RSD	1.95	155.	67.9	20.4	29.9
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 08/12/2021 13:38:54 Type: QC
Method: DOD Calibration Updated 060614(v4449) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**199100.**	**1669100.**	**308750.**
Stddev	189.	8573.	2795.
%RSD	.09468	.51364	.90535

METALS
LOGBOOK
DOCUMENTS

MICP SOIL QSM Analytical Run
194303 on 8/17/2021

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	1037541							MICP SOIL QSM				
					ICV				0			
	1037542							MICP SOIL QSM				
					ICVLL				0			
	1037543							MICP SOIL QSM				
					ICB				0			
	1037544							MICP SOIL QSM				
					ICSA				0			
	1037545							MICP SOIL QSM				
					ICSAB				0			
	1034934							ICP QSM 5.0 6010D				
					LCSS				82041			
	1034933							ICP QSM 5.0 6010D				
					MBS				82041			
163670	1034747		8/2/2021	10:30		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		J-1-06							82041			
163670	1034748		8/2/2021	10:42		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		J-5-06							82041			
163670	1034749		8/2/2021	10:54		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		J-9-06							82041			
163670	1034750		8/2/2021	12:29		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		H-2-06							82041			
163670	1034751		8/2/2021	12:06		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		F-11-06							82041			
163670	1034752		8/2/2021	11:45		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		F-1-06							82041			
163670	1034753		8/2/2021	12:11		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		G-3-06							82041			
	1037548							MICP SOIL QSM				
					CCV1				0			
	1037549							MICP SOIL QSM				
					CCV2				0			
	1037553							MICP SOIL QSM				
					CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp56F4.tmp

MICP SOIL QSM Analytical Run
194303 on 8/17/2021

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
163670	1034754		8/2/2021 12:15		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		G-5-06						82041			
163670	1034755		8/2/2021 12:41		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		H-8-06						82041			
163670	1034756		8/2/2021 11:05		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		I-1-06						82041			
163670	1034757		8/2/2021 11:11		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		I-3-06						82041			
163670	1034758		8/2/2021 11:32		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		I-10-06						82041			
163670	1034759		8/2/2021 15:18		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		B-8-06						82041			
163670	1034760		8/2/2021 15:06		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		B-4-06						82041			
163670	1034761		8/2/2021 14:09		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		D-3-06						82041			
163670	1034762		8/2/2021 14:31		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		C-4-06		Designated MS/MSD				82041			
	1038266						ICP QSM 5.0 6010D				
				L 1034762							
	1037554						MICP SOIL QSM				
				CCV1				0			
	1037555						MICP SOIL QSM				
				CCV2				0			
	1037556						MICP SOIL QSM				
				CCB				0			
	1034930		8/2/2021 14:31				ICP QSM 5.0 6010D				
		C-4-06		DUP 1034762				82041			
	1034931		8/2/2021 14:31				ICP QSM 5.0 6010D				
		C-4-06		MSS 1034762				82041			
	1034932		8/2/2021 14:31				ICP QSM 5.0 6010D				
		C-4-06		MSDS 1034931				82041			
	1037557						ICP QSM 5.0 6010D				
				PDSS 1034762				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp56F4.tmp

MICP SOIL QSM Analytical Run
194303 on 8/17/2021

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
163670	1034764		8/3/2021	13:50		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		A-11-612							82041			
163670	1034765		8/2/2021	11:45		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		F-1-06-FD							82041			
163670	1034766		8/2/2021	11:32		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		I-10-06-FD							82041			
	1037558							MICP SOIL QSM				
					CCV1				0			
	1037559							MICP SOIL QSM				
					CCV2				0			
	1037560							MICP SOIL QSM				
					CCB				0			
	1037561							MICP SOIL QSM				
					CCV1				0			
	1037562							MICP SOIL QSM				
					CCV2				0			
	1037563							MICP SOIL QSM				
					CCB				0			
163670	1034763		8/2/2021	15:56		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		A-11-06							82041			
	1037564							MICP SOIL QSM				
					CCV1				0			
	1037565							MICP SOIL QSM				
					CCV2				0			
	1037566							MICP SOIL QSM				
					CCB				0			

47 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp56F4.tmp

MICP SOIL QSM Analytical Run
194304 on 8/17/2021

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	1037567								MICP SOIL QSM				
					ICV					0			
	1037568								MICP SOIL QSM				
					ICVLL					0			
	1037569								MICP SOIL QSM				
					ICB					0			
	1037570								MICP SOIL QSM				
					ICSA					0			
	1037571								MICP SOIL QSM				
					ICSAB					0			
	1037573								MICP SOIL QSM				
					CCV1					0			
	1037574								MICP SOIL QSM				
					CCV2					0			
	1037575								MICP SOIL QSM				
					CCB					0			
	1034936								ICP QSM 5.0 6010D				
					LCSS					82042			
	1034935								ICP QSM 5.0 6010D				
					MBS					82042			
	1037576								MICP SOIL QSM				
					CCV1					0			
	1037577								MICP SOIL QSM				
					CCV2					0			
	1037578								MICP SOIL QSM				
					CCB					0			
	1034937		8/2/2021	15:56					ICP QSM 5.0 6010D				
		A-11-06-FD			DUP	1034767				82042			
	1034938		8/2/2021	15:56					ICP QSM 5.0 6010D				
		A-11-06-FD			MSS	1034767				82042			
	1034939		8/2/2021	15:56					ICP QSM 5.0 6010D				
		A-11-06-FD			MSDS	1034938				82042			
	1037579								ICP QSM 5.0 6010D				
					PDSS	1034767				0			
163670	1034768		8/2/2021	16:25			WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S		**4**
		E-10-06								82042			
163670	1034769		8/3/2021	14:00			WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S		**4**
		A-11-1224								82042			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: Metals C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp4D8D.tmp Page 1 of 1

MICP SOIL QSM Analytical Run
194304 on 8/17/2021

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
163670	1034770		8/3/2021	14:30		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		A-12-06							82042			
163670	1034771		8/3/2021	14:27		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		AA-12-06							82042			
	1037888							MICP SOIL QSM				
					CCV1				0			
	1037889							MICP SOIL QSM				
					CCV2				0			
	1037890							MICP SOIL QSM				
					CCB				0			
163670	1034772		8/2/2021	14:44		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		C-10-06							82042			
	1037580							MICP SOIL QSM				
					CCV1				0			
	1037581							MICP SOIL QSM				
					CCV2				0			
	1037585							MICP SOIL QSM				
					CCB				0			
	1037586							MICP SOIL QSM				
					CCV1				0			
	1037587							MICP SOIL QSM				
					CCV2				0			
	1037588							MICP SOIL QSM				
					CCB				0			
163670	1034767		8/2/2021	15:56		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	ICP QSM 5.0 6010D		S	4	
		A-11-06-FD							82042			
	1037589							MICP SOIL QSM				
					CCV1				0			
	1037590							MICP SOIL QSM				
					CCV2				0			
	1037591							MICP SOIL QSM				
					CCB				0			

35 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp4D8D.tmp

PrepWrkSht2
on 8/17/2021

Prep Batch: **82041**

Prepped By: _____

Date Prepped: _____

Date Entered: _____

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time	Due Date	SDG Level
	1034933	MBS	0	ICP QSM 5.0 6010D			SOLID			
	1034934	LCSS	0	ICP QSM 5.0 6010D			SOLID			
163670	1034747			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	J-1-06	SOIL	8/2/21 10:30	8/18/21	4
	1034748			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	J-5-06	SOIL	8/2/21 10:42	8/18/21	4
	1034749		0	ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	J-9-06	SOIL	8/2/21 10:54	8/18/21	4
	1034750		0	ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	H-2-06	SOIL	8/2/21 12:29	8/18/21	4
	1034751		0	ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	F-11-06	SOIL	8/2/21 12:06	8/18/21	4
	1034752		0	ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	F-1-06	SOIL	8/2/21 11:45	8/18/21	4
	1034753		0	ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	G-3-06	SOIL	8/2/21 12:11	8/18/21	4
	1034754			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	G-5-06	SOIL	8/2/21 12:15	8/18/21	4
	1034755			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	H-8-06	SOIL	8/2/21 12:41	8/18/21	4
	1034756			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	I-1-06	SOIL	8/2/21 11:05	8/18/21	4
	1034757			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	I-3-06	SOIL	8/2/21 11:11	8/18/21	4
	1034758			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	I-10-06	SOIL	8/2/21 11:32	8/18/21	4
	1034759			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	B-8-06	SOIL	8/2/21 15:18	8/18/21	4
	1034760			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	B-4-06	SOIL	8/2/21 15:06	8/18/21	4
	1034761			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	D-3-06	SOIL	8/2/21 14:09	8/18/21	4

PrepWrkSht2
on 8/17/2021

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
163670	1034762	*		ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	C-4-06	SOIL	8/2/21	14:31	8/18/21	4
	1034763		0	ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	A-11-06	SOIL	8/2/21	15:56	8/18/21	4
	1034764			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	A-11-612	SOIL	8/3/21	13:50	8/18/21	4
	1034765			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	F-1-06-FD	SOIL	8/2/21	11:45	8/18/21	4
	1034766			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	I-10-06-FD	SOIL	8/2/21	11:32	8/18/21	4
	1034930	DUP	1034762	ICP QSM 5.0 6010D		C-4-06	SOIL	8/2/21	14:31		
	1034931	MSS	1034762	ICP QSM 5.0 6010D		C-4-06	SOIL	8/2/21	14:31		
	1034932	MSDS	1034931	ICP QSM 5.0 6010D		C-4-06	SOIL	8/2/21	14:31		

Control Spike/Control Spike Dup Reference Number:_____ Methanol Supplier/Lot #:_____

Notes:_____

Distibution:

C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp5184.tmp

PrepWrkSht2
on 8/17/2021

Prep Batch: **82042**

Prepped By: _____

Date Prepped: _____

Date Entered: _____

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time	Due Date	SDG Level
	1034935	MBS	0	ICP QSM 5.0 6010D			SOLID			
	1034936	LCSS	0	ICP QSM 5.0 6010D			SOLID			
163670	1034767		0	ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	A-11-06-FD	SOIL	8/2/21 15:56	8/18/21	4
	1034768			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	E-10-06	SOIL	8/2/21 16:25	8/18/21	4
	1034769			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	A-11-1224	SOIL	8/3/21 14:00	8/18/21	4
	1034770			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	A-12-06	SOIL	8/3/21 14:30	8/18/21	4
	1034771			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	AA-12-06	SOIL	8/3/21 14:27	8/18/21	4
	1034772			ICP QSM 5.0 6010D	WESTON SOLUTIONS, INC.	C-10-06	SOIL	8/2/21 14:44	8/18/21	4
	1034937	DUP	1034767	ICP QSM 5.0 6010D		A-11-06-FD	SOIL	8/2/21 15:56		
	1034938	MSS	1034767	ICP QSM 5.0 6010D		A-11-06-FD	SOIL	8/2/21 15:56		
	1034939	MSDS	1034938	ICP QSM 5.0 6010D		A-11-06-FD	SOIL	8/2/21 15:56		

Control Spike/Control Spike Dup Reference Number:_____ Methanol Supplier/Lot #:_____

Notes:_____

Distibution: C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmpE062.tmp

Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA As & Se Liquids

Prep Batch #:	82041
Prep Method:	3050
Analyst:	NAH
Date:	08/09/2021
Start Time:	10:46

Prep Analyst: MRZ
Balance ID: V0BO1

End Date: 08/09/2021
End Time: 13:02

Reagent:	Ref. #
Nitric Acid:	AB.700
Hydrochloric Acid:	AB.702
Hydrogen Peroxide:	AB.709

Digestion Tube Lot #: 3375
Block Used: D1
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC,corrected): 92
Final-Digestion Temp (ºC,corrected): 91

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
1034933	(MB)		2.00		50
1034934	(LCS)		2.00		50
1034747			2.01		50
1034748	**Comments:**		1.99		50
1034749			1.99		50
1034750			1.98		50
1034751			1.97		50
1034752			1.98		50
1034753			1.98		50
1034754			2.03		50
1034755			2.00		50
1034756			1.96		50
1034757			2.04		50
1034758			1.95		50
1034759			1.96		50
1034760			2.05		50
1034761			1.95		50
1034762			1.95		50
1034763			1.94		50
1034764			2.02		50
1034765			1.96		50
1034766			1.96		50
1034930	(DUP)		1.96		50
1034931	(MS)	Parent Sample	1.95		50
1034932	(MSD)	1034762	1.95		50
	(DUP)				50
	(MS)	Parent Sample			50
	(MSD)				50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
1	M14874
0.5	M14887
0.5	M14834
0.1	M14684

LCS Spike Amount (ml)	Spike Ref. #
1	M14874
0.5	M14887
0.5	M14834
0.1	M14684

Reviewed x

08/17/202113:48

Metals Digestion Bench Sheet

Program: QSM
*Matrix: SOIL

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA As & Se Liquids

Prep Batch #:	82042
Prep Method:	3050
Analyst:	NAH
Date:	08/09/2021
Start Time:	10:46

Prep Analyst: MRZ
Balance ID: V0BO1

End Date: 08/09/2021
End Time: 13:02

Reagent:	Ref. #
Nitric Acid:	AB.700
Hydrochloric Acid:	AB.702
Hydrogen Peroxide:	AB.709

Digestion Tube Lot #: 3375
Block Used: D1
Cell Position for Temp. Check: 90
Initial-DigestionTemp (ºC,corrected): 92
Final-Digestion Temp (ºC,corrected): 91

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
1034935	(MB)		2.00		50
1034936	(LCS)		2.00		50
1034767			1.95		50
1034768	**Comments:**		1.96		50
1034769			1.96		50
1034770			1.92		50
1034771			2.01		50
1034772			1.95		50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
1034937	(DUP)		1.95		50
1034938	(MS)	Parent Sample	1.95		50
1034939	(MSD)	1034767	1.94		50
	(DUP)				50
	(MS)	Parent Sample			50
	(MSD)				50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
1	M14874
0.5	M14887
0.5	M14834
0.1	M14684

LCS Spike Amount (ml)	Spike Ref. #
1	M14874
0.5	M14887
0.5	M14834
0.1	M14684

Reviewed x

08/17/202114:15

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 8/11/21	Data File: 0080alk.ff	Date of review: 8/18/21
Cal Std ID: 114811 LIMS # : 194303	Analyst: JJ	Reviewer: MOS	Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			
Prep Batch Check			

QC Parameters : 6010 / 200.7 / OSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.998 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 82041 Dig. Meth. 3050	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 10347G2 matrix = S	✓	✓	✓	✓	MS, MSD for PDS pair. Dup for 4.
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 8/11/21	Data File: 000Read05	Date of review: 8/19/21
Cal Std ID: 199811 LIMS #: 199304	Analyst: [illegible]	Reviewer: MOS	Approved? Yes No

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Prep Batch Check

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 82042 Dig. Meth. 3050	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 10347G7 matrix = S	✓	✓	✓	✓	"4" "M"
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					

CT Laboratories, LLC

ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	Version	Comments
7/6/2021	0957 / 2104	[illegible]	070621	DOD Cal u	193248 193286 193285 193288	280	M14811 M14820 M14821	V4414 V4415	M14822 M14[illegible] M14823 M14824
7/7/21	1112 / 2224	[illegible]	070721	DOD Cal u	193350 193286 193351 193349 193224	280	M14811 M14820 M14821	V4416	M14822 M14[illegible] M14823 M14824
7/13/21	1422 / 0650	[illegible]	071321	DOD Cal u	193440 193443 193441 193380 193447, 193444, 42 193439, 436 193528, 19 193438, 35, 37	280	M14942 M14944 M14943	V4418 V4417 V4425	M14811 M14[illegible] M14823 M14824
7/14/21	0719 / 2345	[illegible]	071421	DOD Cal u	193514 193530 193524 193533 193442 193531 193529 193534 193532, 24 193548 193528	280	M14942 M14944 M14943	V4420 V4419	M14811 M14[illegible] M14823 M14824
7/19/21	0834 / 7/20 2231	[illegible]	071921	DOD Cal u 193470	193439 193573 193607 193676, 72 193661 193652 193617 193667, 68 193604 193671 193665 193677 193667 193668 193666 193669	280	M14942 M14944 M14943	V4422 V4426 V4424	M14811 M14[illegible] M14823 M14824
7/26/21	0847 / 6/27 1801	[illegible]	072621	DOD Cal u	193678 193858 193532 193820 193533 193741 193737 193818 193814 193819 193822 193815	270	M14942 M14944 M14943	V4429 V4428	M14811 M14[illegible] M14823 M14824
7/28/21	0705 / 1213	[illegible]	072621B	DOD Cal u	[illegible] 193866 193817 193861 193826 193827 193828 193923 193829 193930, 193927, 193929 193924 193862 193860, 64 193823 193860 193855 193975	270	M14942 M14944 M14943	V4430	M14811 M14[illegible] M14823 M14824
7/29/21	1331 / 7/30 1228	[illegible]	072921	DOD Cal u	193991 193927 193975 194015, 14 193977 194023 193990 194018 194019, 20, 193977 194124 194056	270	M14942 M14944 M14943	V4431	M14811 M14[illegible] M14823 M14824
8/3/21	0834 / 8/4 0523	[illegible]	080321	DOD Cal u	194129 194188 194082, 81 194053 194118 194116 194080 194054 194080 194079 194055 194058	270	M14942 M14944 M14943	V4434 V4433 V4435	M14811 M14[illegible] M14823 M14824
8/5/21	0913 / 1822	[illegible]	080521	DOD Cal u	194125 194176 194127 194179 194175	270	M14942 M14944 M14943	V4441 V4439 V4444	M14811 M14[illegible] M14823 M14824
8/9/21	0826 / 8/10 0916	[illegible]	080921	DOD Cal u	194229 194265, 64 194252 194265, 64 194253 194224 194226 194223, 22 194225, 27, 28, 21 194250	270	M14942 M14944 M14943	V4443 V4442	M14811 M14[illegible] M14823 M14824
8/10/21	1157 / 8/12 1338	[illegible]	081021	DOD Cal u	194340 194305 194306 194303 194418 194307 194304 194811 194822 194329 194339 194410	270	M14942 M14944 M14943	V4448 V4447	M14811 M14[illegible] M14823 M14824

11 11

Comments:

Checked By / Date:

Type	Date/Time	Message	User name	Application	Sequence Name
	08/11/2021 07:29:51	Plasma On	NAH	iTEVA Control Center	
	08/11/2021 11:27:38	Autosampler Run Started	NAH	Analyst	
	08/11/2021 11:27:38	Sequence Started	NAH	Analyst	S_DOD Calibration
	08/11/2021 11:28:00	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	08/11/2021 11:34:26	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	08/11/2021 11:36:27	Plasma off	NAH	iTEVA Control Center	
	08/11/2021 11:36:28	Plasma extinguished successfully	NAH	Analyst	
	08/11/2021 11:38:04	Plasma On	NAH	iTEVA Control Center	
	08/11/2021 11:38:11	Plasma ignition successful	NAH	Analyst	
	08/11/2021 11:38:58	D33534 - Debug:Wavelength check : x = 0.659, y =-0.976	NAH	Analyst	
	08/11/2021 11:41:15	E9000 - : Plasma went out unexpectedly; please refer to error messag	NAH	iTEVA Control Center	
	08/11/2021 11:42:16	Plasma On	NAH	iTEVA Control Center	
	08/11/2021 11:42:22	Plasma ignition successful	NAH	Analyst	
	08/11/2021 11:43:06	D33534 - Debug:Wavelength check : x = 0.709, y =-1.001	NAH	Analyst	
	08/11/2021 11:49:53	E9000 - : Plasma went out unexpectedly; please refer to error messag	NAH	iTEVA Control Center	
	08/11/2021 11:51:00	Plasma On	NAH	iTEVA Control Center	
	08/11/2021 11:51:06	Plasma ignition successful	NAH	Analyst	
	08/11/2021 11:51:53	D33534 - Debug:Wavelength check : x = 0.701, y =-0.982	NAH	Analyst	
	08/11/2021 11:56:43	Sequence Started	NAH	Analyst	S_DOD Calibration
	08/11/2021 11:56:43	Autosampler Run Started	NAH	Analyst	
	08/11/2021 11:57:05	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	08/11/2021 11:57:22	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	08/11/2021 11:57:33	Sequence Started	NAH	Analyst	S_DOD Calibration
	08/11/2021 11:57:33	Autosampler Run Started	NAH	Analyst	
	08/11/2021 11:57:55	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	08/11/2021 12:05:42	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	08/11/2021 12:10:09	Closing will close the method and all associated samples.	NAH	Analyst	
	08/11/2021 12:10:31	Closing will close the method and all associated samples.	NAH	Analyst	
	08/11/2021 12:15:30	Running CalStd3=1 (3)	NAH	Analyst	S_DOD Calibration
	08/11/2021 12:24:26	Running CalStd4=5 (4)	NAH	Analyst	S_DOD Calibration
	08/11/2021 12:27:06	Closing will close the method and all associated samples.	NAH	Analyst	
	08/11/2021 12:32:39	Running CalStd5=10 (5)	NAH	Analyst	S_DOD Calibration
	08/11/2021 12:40:29	Running CalStd6=20 (6)	NAH	Analyst	S_DOD Calibration
	08/11/2021 12:48:13	Running CalStd7=50 (7)	NAH	Analyst	S_DOD Calibration
	08/11/2021 12:55:54	Running CalStd8=100 (8)	NAH	Analyst	S_DOD Calibration
	08/11/2021 13:03:30	Running CalStd9=1000 (9)	NAH	Analyst	S_DOD Calibration
	08/11/2021 13:10:35	Running CalStd10=10000 (10)	NAH	Analyst	S_DOD Calibration
	08/11/2021 13:11:30	Closing will close the method and all associated samples.	NAH	Analyst	
	08/11/2021 13:11:34	Closing will close the method and all associated samples.	NAH	Analyst	
	08/11/2021 13:18:34	Running CalStd12=100K (11)	NAH	Analyst	S_DOD Calibration
	08/11/2021 13:26:32	Running CalStd13=100000 (12)	NAH	Analyst	S_DOD Calibration
	08/11/2021 13:34:23	Running CalStd14=500000 (13)	NAH	Analyst	S_DOD Calibration
	08/11/2021 13:42:39	Running CalibStd15=1000k (14)	NAH	Analyst	S_DOD Calibration
	08/11/2021 13:51:30	Running Ag Ba 1000, 50000 (15)	NAH	Analyst	S_DOD Calibration
	08/11/2021 13:59:36	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	08/11/2021 14:07:23	Running icv (16)	NAH	Analyst	S_DOD Calibration
	08/11/2021 14:14:56	Running icv (16)	NAH	Analyst	S_DOD Calibration
	08/11/2021 14:22:30	Running ICVLL (24)	NAH	Analyst	S_DOD Calibration
	08/11/2021 14:30:02	Running icb (17)	NAH	Analyst	S_DOD Calibration
	08/11/2021 14:38:26	Running icb (17)	NAH	Analyst	S_DOD Calibration
	08/11/2021 14:46:09	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	08/11/2021 14:53:45	Running ICSA (20)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	08/11/2021 15:01:55	Running ICSAB (21)	NAH	Analyst	S_DOD Calibration
	08/11/2021 15:09:32	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	08/11/2021 15:17:12	Running ICVLL ag ag (1)	NAH	Analyst	S_DOD Calibration
	08/11/2021 15:24:51	Running lcss82041 (2)	NAH	Analyst	S_DOD Calibration
	08/11/2021 15:31:54	Running mbs82041 (3)	NAH	Analyst	S_DOD Calibration
	08/11/2021 15:39:35	Running 1034747 (4)	NAH	Analyst	S_DOD Calibration
	08/11/2021 15:47:31	Running 1034748 (5)	NAH	Analyst	S_DOD Calibration
	08/11/2021 15:55:01	Running 1034749 (6)	NAH	Analyst	S_DOD Calibration
	08/11/2021 16:02:43	Running 1034750 (7)	NAH	Analyst	S_DOD Calibration
	08/11/2021 16:10:23	Running 1034751 (8)	NAH	Analyst	S_DOD Calibration
	08/11/2021 16:18:22	Running 1034752 (9)	NAH	Analyst	S_DOD Calibration
	08/11/2021 16:26:01	Running 1034753 (10)	NAH	Analyst	S_DOD Calibration
	08/11/2021 16:34:04	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	08/11/2021 16:40:52	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	08/11/2021 16:47:52	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	08/11/2021 16:55:34	Running 1034754 (11)	NAH	Analyst	S_DOD Calibration
	08/11/2021 17:03:25	Running 1034755 (12)	NAH	Analyst	S_DOD Calibration
	08/11/2021 17:11:25	Running 1034756 (13)	NAH	Analyst	S_DOD Calibration
	08/11/2021 17:19:30	Running 1034757 (14)	NAH	Analyst	S_DOD Calibration
	08/11/2021 17:27:00	Running 1034758 (15)	NAH	Analyst	S_DOD Calibration
	08/11/2021 17:34:59	Running 1034759 (16)	NAH	Analyst	S_DOD Calibration
	08/11/2021 17:43:01	Running 1034760 (17)	NAH	Analyst	S_DOD Calibration
	08/11/2021 17:51:01	Running 1034761 (18)	NAH	Analyst	S_DOD Calibration
	08/11/2021 17:58:41	Running 1034762 (19)	NAH	Analyst	S_DOD Calibration
	08/11/2021 18:06:21	Running l1034762 (20)	NAH	Analyst	S_DOD Calibration
	08/11/2021 18:13:56	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	08/11/2021 18:20:45	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	08/11/2021 18:27:45	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	08/11/2021 18:35:27	Running dup1034762 (21)	NAH	Analyst	S_DOD Calibration
	08/11/2021 18:43:00	Running mss1034762 (22)	NAH	Analyst	S_DOD Calibration
	08/11/2021 18:50:10	Running msds1034762 (23)	NAH	Analyst	S_DOD Calibration
	08/11/2021 18:57:21	Running pdss1034762 (24)	NAH	Analyst	S_DOD Calibration
	08/11/2021 19:04:39	Running 1034763 (25)	NAH	Analyst	S_DOD Calibration
	08/11/2021 19:12:34	Running 1034764 (26)	NAH	Analyst	S_DOD Calibration
	08/11/2021 19:20:31	Running 1034765 (27)	NAH	Analyst	S_DOD Calibration
	08/11/2021 19:28:14	Running 1034766 (28)	NAH	Analyst	S_DOD Calibration
	08/11/2021 19:36:24	Running lcss82042 (29)	NAH	Analyst	S_DOD Calibration
	08/11/2021 19:43:30	Running mbs82042 (30)	NAH	Analyst	S_DOD Calibration
	08/11/2021 19:51:11	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	08/11/2021 19:58:00	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	08/11/2021 20:05:00	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	08/11/2021 20:12:42	Running 1034767 (31)	NAH	Analyst	S_DOD Calibration
	08/11/2021 20:20:36	Running l1034767 (32)	NAH	Analyst	S_DOD Calibration
	08/11/2021 20:28:22	Running dup1034767 (33)	NAH	Analyst	S_DOD Calibration
	08/11/2021 20:36:20	Running mss1034767 (34)	NAH	Analyst	S_DOD Calibration
	08/11/2021 20:43:25	Running msds1034767 (35)	NAH	Analyst	S_DOD Calibration
	08/11/2021 20:50:38	Running pdss1034767 (36)	NAH	Analyst	S_DOD Calibration
	08/11/2021 20:58:07	Running 1034768 (37)	NAH	Analyst	S_DOD Calibration
	08/11/2021 21:06:01	Running 1034769 (38)	NAH	Analyst	S_DOD Calibration
	08/11/2021 21:13:48	Running 1034770 (39)	NAH	Analyst	S_DOD Calibration
	08/11/2021 21:21:36	Running 1034771 (40)	NAH	Analyst	S_DOD Calibration
	08/11/2021 21:29:34	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	08/11/2021 21:36:23	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	08/11/2021 21:43:23	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	08/11/2021 21:51:04	Running 1034772 (41)	NAH	Analyst	S_DOD Calibration
	08/11/2021 21:59:01	Running lcss82040 (42)	NAH	Analyst	S_DOD Calibration
	08/11/2021 22:06:06	Running mbs82040 (43)	NAH	Analyst	S_DOD Calibration
	08/11/2021 22:13:48	Running 1034900 (44)	NAH	Analyst	S_DOD Calibration
	08/11/2021 22:21:00	Running l1034900 (45)	NAH	Analyst	S_DOD Calibration
	08/11/2021 22:28:52	Running dup1034900 (46)	NAH	Analyst	S_DOD Calibration
	08/11/2021 22:36:23	Running mss1034900 (47)	NAH	Analyst	S_DOD Calibration
	08/11/2021 22:43:37	Running msds1034900 (48)	NAH	Analyst	S_DOD Calibration
	08/11/2021 22:50:39	Running pdss1034900 (49)	NAH	Analyst	S_DOD Calibration
	08/11/2021 22:58:20	Running 1034901 (50)	NAH	Analyst	S_DOD Calibration
	08/11/2021 23:05:52	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	08/11/2021 23:12:41	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	08/11/2021 23:19:42	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	08/11/2021 23:27:23	Running 1034902 (51)	NAH	Analyst	S_DOD Calibration
	08/11/2021 23:34:49	Running 1034903 (52)	NAH	Analyst	S_DOD Calibration
	08/11/2021 23:42:20	Running lcsw82036 (53)	NAH	Analyst	S_DOD Calibration
	08/11/2021 23:49:46	Running mbw82036 (54)	NAH	Analyst	S_DOD Calibration
	08/11/2021 23:57:27	Running 1034746 (55)	NAH	Analyst	S_DOD Calibration
	08/12/2021 00:05:04	Running msw1034746 (56)	NAH	Analyst	S_DOD Calibration
	08/12/2021 00:12:29	Running msdw1034746 (57)	NAH	Analyst	S_DOD Calibration
	08/12/2021 00:19:53	Running pdsw1034746 (58)	NAH	Analyst	S_DOD Calibration
	08/12/2021 00:27:34	Running 1034833 (59)	NAH	Analyst	S_DOD Calibration
	08/12/2021 00:35:39	Running 1034839 (60)	NAH	Analyst	S_DOD Calibration
	08/12/2021 00:43:49	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	08/12/2021 00:50:38	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	08/12/2021 00:57:38	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	08/12/2021 01:05:20	Running 1034840 (61)	NAH	Analyst	S_DOD Calibration
	08/12/2021 01:13:01	Running 1034841 (62)	NAH	Analyst	S_DOD Calibration
	08/12/2021 01:21:21	Running 1034842 (63)	NAH	Analyst	S_DOD Calibration
	08/12/2021 01:29:18	Running lcsw82045 (64)	NAH	Analyst	S_DOD Calibration
	08/12/2021 01:36:47	Running mbw82045 (65)	NAH	Analyst	S_DOD Calibration
	08/12/2021 01:44:30	Running 1034775 (66)	NAH	Analyst	S_DOD Calibration
	08/12/2021 01:52:14	Running msw1034775 (67)	NAH	Analyst	S_DOD Calibration
	08/12/2021 01:59:43	Running msdw1034775 (68)	NAH	Analyst	S_DOD Calibration
	08/12/2021 02:07:13	Running pdsw1034775 (69)	NAH	Analyst	S_DOD Calibration
	08/12/2021 02:14:36	Running 1034776 (70)	NAH	Analyst	S_DOD Calibration
	08/12/2021 02:22:17	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	08/12/2021 02:29:05	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	08/12/2021 02:36:06	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	08/12/2021 02:44:01	Running 1034777 (71)	NAH	Analyst	S_DOD Calibration
	08/12/2021 02:51:44	Running 1034778 (72)	NAH	Analyst	S_DOD Calibration
	08/12/2021 02:59:26	Running 1034779 (73)	NAH	Analyst	S_DOD Calibration
	08/12/2021 03:07:10	Running 1034780 (74)	NAH	Analyst	S_DOD Calibration
	08/12/2021 03:14:53	Running 1034781 (75)	NAH	Analyst	S_DOD Calibration
	08/12/2021 03:22:36	Running 1034782 (76)	NAH	Analyst	S_DOD Calibration
	08/12/2021 03:30:18	Running 1034783 (77)	NAH	Analyst	S_DOD Calibration
	08/12/2021 03:38:01	Running 1034784 (78)	NAH	Analyst	S_DOD Calibration
	08/12/2021 03:45:44	Running 1034785 (79)	NAH	Analyst	S_DOD Calibration
	08/12/2021 03:53:27	Running lcsw82039 (80)	NAH	Analyst	S_DOD Calibration
	08/12/2021 04:00:57	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	08/12/2021 04:07:47	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	08/12/2021 04:14:48	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	08/12/2021 04:22:34	Running mbw82039 (81)	NAH	Analyst	S_DOD Calibration
	08/12/2021 04:30:17	Running 1034732 (82)	NAH	Analyst	S_DOD Calibration
	08/12/2021 04:38:21	Running l1034732 (83)	NAH	Analyst	S_DOD Calibration
	08/12/2021 04:46:19	Running msw1034732 (84)	NAH	Analyst	S_DOD Calibration
	08/12/2021 04:53:41	Running pdsw1034732 (85)	NAH	Analyst	S_DOD Calibration
	08/12/2021 05:01:13	Running 1034735 (86)	NAH	Analyst	S_DOD Calibration
	08/12/2021 05:09:22	Running 1035355 (87)	NAH	Analyst	S_DOD Calibration
	08/12/2021 05:17:33	Running 1035372 (88)	NAH	Analyst	S_DOD Calibration
	08/12/2021 05:25:35	Running msw1035372 (89)	NAH	Analyst	S_DOD Calibration
	08/12/2021 05:33:06	Running msdw1035372 (90)	NAH	Analyst	S_DOD Calibration
	08/12/2021 05:40:38	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	08/12/2021 05:47:29	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	08/12/2021 05:54:30	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	08/12/2021 06:02:15	Running lcsw (91)	NAH	Analyst	S_DOD Calibration
	08/12/2021 06:10:01	Running mbw (92)	NAH	Analyst	S_DOD Calibration
	08/12/2021 06:17:44	Running 1033480 (93)	NAH	Analyst	S_DOD Calibration
	08/12/2021 06:26:15	Running 1034323 (94)	NAH	Analyst	S_DOD Calibration
	08/12/2021 06:34:38	Running msw1034323 (95)	NAH	Analyst	S_DOD Calibration
	08/12/2021 06:42:30	Running lcss82061 (96)	NAH	Analyst	S_DOD Calibration
	08/12/2021 06:49:37	Running mbs82061 (97)	NAH	Analyst	S_DOD Calibration
	08/12/2021 06:57:21	Running 1035499 (98)	NAH	Analyst	S_DOD Calibration
	08/12/2021 07:05:00	Running mss1035499 (99)	NAH	Analyst	S_DOD Calibration
	08/12/2021 07:11:58	Running msds1035499 (100)	NAH	Analyst	S_DOD Calibration
	08/12/2021 07:18:59	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	08/12/2021 07:25:50	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	08/12/2021 07:32:51	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	08/12/2021 07:40:38	Running pdss1035499 (101)	NAH	Analyst	S_DOD Calibration
	08/12/2021 07:48:24	Running lcsw82065 (102)	NAH	Analyst	S_DOD Calibration
	08/12/2021 07:55:55	Running mbw82065 (103)	NAH	Analyst	S_DOD Calibration
	08/12/2021 08:03:38	Running 1035031 (104)	NAH	Analyst	S_DOD Calibration
	08/12/2021 08:11:39	Running msw1035031 (105)	NAH	Analyst	S_DOD Calibration
	08/12/2021 08:19:13	Running msdw1035031 (106)	NAH	Analyst	S_DOD Calibration
	08/12/2021 08:26:49	Running pdsw1035031 (107)	NAH	Analyst	S_DOD Calibration
	08/12/2021 08:34:25	Running AB.610 (108)	NAH	Analyst	S_DOD Calibration
	08/12/2021 08:42:10	Running lcss82085 (109)	NAH	Analyst	S_DOD Calibration
	08/12/2021 08:49:20	Running mbs82085 (110)	NAH	Analyst	S_DOD Calibration
	08/12/2021 08:57:03	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	08/12/2021 09:03:54	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	08/12/2021 09:10:57	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	08/12/2021 09:18:43	Running 1035735 (111)	NAH	Analyst	S_DOD Calibration
	08/12/2021 09:26:20	Running mss1035735 (112)	NAH	Analyst	S_DOD Calibration
	08/12/2021 09:33:34	Running msds1035735 (113)	NAH	Analyst	S_DOD Calibration
	08/12/2021 09:40:34	Running 1035812 (114)	NAH	Analyst	S_DOD Calibration
	08/12/2021 09:48:18	Running 1035814 (115)	NAH	Analyst	S_DOD Calibration
	08/12/2021 09:56:47	Running lcsw82080 (116)	NAH	Analyst	S_DOD Calibration
	08/12/2021 10:04:18	Running mbw82080 (117)	NAH	Analyst	S_DOD Calibration
	08/12/2021 10:12:06	Running 1035526 (118)	NAH	Analyst	S_DOD Calibration
	08/12/2021 10:19:59	Running msw1035526 (119)	NAH	Analyst	S_DOD Calibration
	08/12/2021 10:27:50	Running msdw1035526 (120)	NAH	Analyst	S_DOD Calibration
	08/12/2021 10:35:42	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	08/12/2021 10:42:25	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	08/12/2021 10:49:26	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	08/12/2021 10:57:13	Running pdsw1035526 (121)	NAH	Analyst	S_DOD Calibration
	08/12/2021 11:00:08	Closing will close the method and all associated samples.	NAH	Analyst	
	08/12/2021 11:04:39	Running pdss1035735 (122)	NAH	Analyst	S_DOD Calibration
	08/12/2021 11:12:08	Running 1036144 (123)	NAH	Analyst	S_DOD Calibration
	08/12/2021 11:20:21	Running 1036145 (124)	NAH	Analyst	S_DOD Calibration
	08/12/2021 11:28:52	Running 1036146 (125)	NAH	Analyst	S_DOD Calibration
	08/12/2021 11:36:59	Running 1036188 (126)	NAH	Analyst	S_DOD Calibration
	08/12/2021 11:45:10	Running 1036190 (127)	NAH	Analyst	S_DOD Calibration
	08/12/2021 11:53:20	Running 1036191 (128)	NAH	Analyst	S_DOD Calibration
	08/12/2021 12:01:30	Running 1036192 (129)	NAH	Analyst	S_DOD Calibration
	08/12/2021 12:10:23	Running 1036194 (130)	NAH	Analyst	S_DOD Calibration
	08/12/2021 12:18:10	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	08/12/2021 12:24:58	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	08/12/2021 12:32:04	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	08/12/2021 12:39:53	Running 1036197 (131)	NAH	Analyst	S_DOD Calibration
	08/12/2021 12:47:58	Running msw1036197 (132)	NAH	Analyst	S_DOD Calibration
	08/12/2021 12:55:27	Running msdw1036197 (133)	NAH	Analyst	S_DOD Calibration
	08/12/2021 13:02:52	Running 1034763 x15 (25)	NAH	Analyst	S_DOD Calibration
	08/12/2021 13:10:14	Running 1034767 x15 (31)	NAH	Analyst	S_DOD Calibration
	08/12/2021 13:17:36	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	08/12/2021 13:25:12	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	08/12/2021 13:31:51	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	08/12/2021 13:38:54	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	08/12/2021 13:46:36	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	08/12/2021 13:46:39		NAH	iTEVA Control Center	
	08/12/2021 13:55:11	iTEVA loaded	NAH	iTEVA Control Center	
	08/12/2021 13:55:30	Connected to instrument 20082101	NAH	iTEVA Control Center	
	08/12/2021 13:56:07	Plasma On	NAH	iTEVA Control Center	
	08/12/2021 14:08:08	Plasma extinguished successfully	NAH	Analyst	
	08/12/2021 14:08:09	Plasma off	NAH	iTEVA Control Center	
	08/13/2021 08:05:14	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	08/13/2021 08:27:46	Plasma On	NAH	iTEVA Control Center	
	08/13/2021 08:27:53	Plasma ignition successful	NAH	iTEVA Control Center	
	08/13/2021 08:28:39	D33534 - Debug:Wavelength check : x = 0.710, y =-0.991	NAH	iTEVA Control Center	
	08/13/2021 11:52:05	Plasma off	NAH	iTEVA Control Center	
	08/13/2021 11:52:05	Plasma extinguished successfully	NAH	Analyst	
	08/13/2021 14:12:24	iTEVA loaded	NAH	iTEVA Control Center	
	08/13/2021 14:12:43	Connected to instrument 20082101	NAH	iTEVA Control Center	
	08/16/2021 07:03:43	Plasma On	NAH	iTEVA Control Center	
	08/16/2021 07:03:49	Plasma ignition successful	NAH	Analyst	
	08/16/2021 07:04:29	D33534 - Debug:Wavelength check : x = 0.745, y =-0.950	NAH	Analyst	
	08/16/2021 12:21:59	Autosampler Run Started	NAH	Analyst	
	08/16/2021 12:21:59	Sequence Started	NAH	Analyst	S_DOD Calibration
	08/16/2021 12:22:20	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	08/16/2021 12:30:06	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	08/16/2021 12:37:50	Running CalStd3=1 (3)	NAH	Analyst	S_DOD Calibration
	08/16/2021 12:45:34	Running CalStd4=5 (4)	NAH	Analyst	S_DOD Calibration
	08/16/2021 12:53:20	Running CalStd5=10 (5)	NAH	Analyst	S_DOD Calibration
	08/16/2021 13:01:05	Running CalStd6=20 (6)	NAH	Analyst	S_DOD Calibration
	08/16/2021 13:08:45	Running CalStd7=50 (7)	NAH	Analyst	S_DOD Calibration

Standard ID#:	M15009	Vendor:	ThermoFisher Scientific
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	08/23/2021	Lot #:	225022
Expiration Date (if any):	03/31/2022	Catalog #:	39043

Standard ID#:	M15008	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Palladium Matrix Modifier
Date Received:	08/19/2021	Lot #:	2113302-100
Expiration Date (if any):	08/31/2022	Catalog #:	HP1900-100

Standard Log #:	M15003	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	08/18/2021	Expiration Date:	09/18/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M15004	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	08/18/2021	Expiration Date:	09/18/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14799 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M15005	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	08/18/2021	Expiration Date:	08/19/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M15006	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	08/18/2021	Expiration Date:	09/18/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14886 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M15007	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/18/2021	Expiration Date:	09/18/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14939 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M15000	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/18/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M15001	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/18/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M15002	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/18/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14997	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	08/13/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14797 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14998	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	08/13/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14797 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14999	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	08/13/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14798 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M14992	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	08/10/2021	Expiration Date:	09/10/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14993	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	08/10/2021	Expiration Date:	09/10/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14799 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14994	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	08/10/2021	Expiration Date:	08/11/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14995	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	08/11/2021	Expiration Date:	09/11/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14886 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14996	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/11/2021	Expiration Date:	09/11/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14844 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14989	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/10/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14990	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/10/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14991	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/10/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14987	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	08/09/2021	Lot #:	5-190MF
Expiration Date (if any):	08/30/2022	Catalog #:	XCTWI-1-500

Standard ID#:	M14988	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	08/09/2021	Lot #:	5-189MF
Expiration Date (if any):	08/30/2021	Catalog #:	XSPIKE-1-250

Standard Log #:	M14982	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	08/03/2021	Expiration Date:	09/03/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14983	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	08/03/2021	Expiration Date:	09/03/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14799 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14984	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	08/03/2021	Expiration Date:	08/04/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14985	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	08/04/2021	Expiration Date:	09/04/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14886 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14986	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/04/2021	Expiration Date:	09/04/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14844 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14979	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/03/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14980	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/03/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14981	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/03/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14978	Vendor:	Enviromental Express
Analyst:	BMM	Chemical:	Acid Washed TCLP Filters
Date Received:	05/20/2021	Lot #:	400175-1116-T
Expiration Date (if any):		Catalog #:	FG77150MM

Standard Log #:	M14973	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/27/2021	Expiration Date:	08/27/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14974	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/27/2021	Expiration Date:	08/27/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14799 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14975	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/27/2021	Expiration Date:	07/28/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14976	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/29/2021	Expiration Date:	08/29/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14886 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14977	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/29/2021	Expiration Date:	08/29/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14844 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14970	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/27/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14971	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/27/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14972	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/27/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14966	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 10,000 mg/L
Date Received:	07/27/2021	Lot #:	1101946-16
Expiration Date (if any):	01/2023	Catalog #:	S4400-100074

Standard ID#:	M14967	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 mk/L
Date Received:	07/27/2021	Lot #:	1109477-26
Expiration Date (if any):	01/2023	Catalog #:	4400-10M671

Standard ID#:	M14968	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	07/27/2021	Lot #:	1047570-64
Expiration Date (if any):	01/2023	Catalog #:	S4400-1000504F

Standard ID#:	M14969	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000
Date Received:	07/27/2021	Lot #:	1055526-35
Expiration Date (if any):	01/2023	Catalog #:	4400-10M521

		Instrument:	CETAC
Standard Log #:	M14963	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/21/2021	Expiration Date:	08/21/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14844 and brought up to volume.		

Standard Log #:	M14964	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/22/2021	Expiration Date:	07/22/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14964. Dilute to 20 L and mix.		

Standard Log #:	M14965	Reagent:	TCLP 1 N HCL
Analyst:	BMM		
Prep Date:	07/23/2021	Expiration Date:	07/23/2022
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.704 and brought up to volume.		

Standard Log #:	M14959	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/20/2021	Expiration Date:	08/20/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14960	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/20/2021	Expiration Date:	08/20/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14799 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14961	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/20/2021	Expiration Date:	07/21/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14962	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/21/2021	Expiration Date:	08/21/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14886 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14956	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/20/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14957	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/20/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14958	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/20/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14955	Vendor:	GFS Chemicals
Analyst:	NAH	Chemical:	AMCO Clear 2.0 NTU
Date Received:	07/16/2021	Lot #:	21150075
Expiration Date (if any):	07/22/2022	Catalog #:	8008

Standard Log #:	M14950	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/14/2021	Expiration Date:	08/14/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14951	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/14/2021	Expiration Date:	08/14/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14799 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14952	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/14/2021	Expiration Date:	07/15/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14953	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/15/2021	Expiration Date:	08/15/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14954	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/15/2021	Expiration Date:	08/15/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14844 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14947	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/14/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14948	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/14/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14949	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/14/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6500
Standard Log #:	M14944	Standard:	ICV Std.
Analyst:	nah	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	07/09/2021	Expiration Date:	08/2022
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14874, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14833, **0.5 mL** Mo (1000 mg/L) M14888, **0.5 mL** B (1000 mg/L) M14675, **0.5 mL** Sr (1000 mg/L) M14683, **0.5 mL** Li (1000 mg/L) M14681, **0.5 mL** Sn (1000 mg/L) M14774, **0.5 mL** Ti (1000 mg/L) M14674, **0.5 mL** W (1000 mg/L) XXXXXXX, **0.5 mL** Si (1000 mg/L) M14680, **0.5 mL** S (10000 mg/L) M14570, **0.5 mL** K (10000 mg/L) M14887, and **0.5 mL** Na (10000 mg/L) M14736		

Standard Log #:	M14945	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/12/2021	Expiration Date:	07/12/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14785. Dilute to 20 L and mix.		

Standard Log #:	M14946	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	07/14/2021	Expiration Date:	12/14/2021
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH WC272 and brought up to volume.		

Standard ID#:	M14939	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	07/09/2021	Lot #:	L069-02
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14940	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	07/09/2021	Lot #:	L069-02
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14941	Vendor:	GFS
Analyst:	NAH	Chemical:	AMCO Clear 0.1 ntu
Date Received:	07/12/2021	Lot #:	Returned to manufacturer
Expiration Date (if any):	not used	Catalog #:	not used

		Instrument:	ICP 6500
Standard Log #:	M14942	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	07/09/2021	Expiration Date:	09/2021
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M14833 and 15 **mL** 10000 mg/L Fe M14676 5.0 **mL** 1000 mg/L V M14198 5.0 **mL** 1000 mg/L Ce M14682 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14943	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.**
Prep Date:	07/09/2021	Expiration Date:	12/2021
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14833, **15 mL** Fe (10,000 mg/L) M14676, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14685, **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M14788, **2.5 mLs Na 10,000 ug/mL** M14736 **,2.5 mLs k 10,000 ug/mL** M14370 **2.5 mLs S 10,000 ug/mL** M14677, **0.5 mls Si 1000 ug/mL** M14735 and brought up to volume with milli-Q .		

Standard Log #:	M14938	Reagent:	TCLP EXTRACTION FLUID #2
Analyst:	BMM	pH:	2.88 ± 0.05
Prep Date:	07/08/2021	Expiration Date:	07/08/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703. Dilute to 20 L and mix.		

Standard Log #:	M14933	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/07/2021	Expiration Date:	08/07/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14934	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/07/2021	Expiration Date:	08/07/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14799 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14935	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/07/2021	Expiration Date:	07/08/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14936	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/08/2021	Expiration Date:	08/08/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14937	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/08/2021	Expiration Date:	08/08/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14844 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14930	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/07/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14931	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/07/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14932	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/07/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14925	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/01/2021	Expiration Date:	08/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14926	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/01/2021	Expiration Date:	08/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14799 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14927	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/01/2021	Expiration Date:	07/02/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14928	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/01/2021	Expiration Date:	08/01/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14929	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/01/2021	Expiration Date:	08/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14845 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14922	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/30/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14923	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/30/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14924	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/30/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14921	Vendor:	LabChem
Analyst:	NAH	Chemical:	Turbidity Standard(Formazin) 4000NT
Date Received:	06/25/2021	Lot #:	L147-07
Expiration Date (if any):	06/08/2022	Catalog #:	LC26290

		Instrument:	ICP 6500
Standard Log #:	M14919	Standard:	ICSA3_Cr_Cu_Co_Mo
Analyst:	NAH	Concentrations:	**10,000 ug/L** Cr, Cu, Co and Mo
Prep Date:	06/24/2021	Expiration Date:	09/2021
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M14205 0.5 **mL** 10000 mg/L Cu M14199 5.0 **mL** 1000 mg/L Co M14204 5.0 **mL** 1000 mg/L Mo M14888 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14920	Standard:	ICSA4_Ni_Ti
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ni and Ti
Prep Date:	06/24/2021	Expiration Date:	09/2021
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M14196 5.0 **mL** 10000 mg/L Ti M14674 brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M14916	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/23/2021	Expiration Date:	07/23/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14845 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14917	Standard:	ICSA1_Mn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Mn
Prep Date:	06/24/2021	Expiration Date:	09/2021
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M14200 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14918	Standard:	ICSA2_Ba_Be_Sn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ba, Be, and Sn
Prep Date:	06/24/2021	Expiration Date:	09/2021
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M14772 5.0 **mL** 10000 mg/L Be M14203 5.0 **mL** 10000 mg/L Sn M14774 brought up to volume with milli-Q H_2O.		

Standard Log #:	M14912	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/22/2021	Expiration Date:	07/22/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14913	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/22/2021	Expiration Date:	07/22/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14914	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/22/2021	Expiration Date:	06/23/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14915	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/23/2021	Expiration Date:	07/23/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14909	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/22/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14910	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/22/2021	Expiration Date:	11/30/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14911	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/22/2021	Expiration Date:	05/02/2022
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14904	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/16/2021	Expiration Date:	07/16/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14905	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/16/2021	Expiration Date:	07/16/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14906	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/16/2021	Expiration Date:	06/17/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14907	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/17/2021	Expiration Date:	07/17/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14886 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14908	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/17/2021	Expiration Date:	07/17/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14845 and brought up to volume.		

Standard Log #:	M14903	Instrument:	ICP 6500
Analyst:	NAH	Standard:	Dissolved MDL Verificaion
Prep Date:	06/16/2021	Expiration Date:	09/2021

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	2.7	M14623	1000	0.135
Al	10	M14736	**10000**	.05
As	20	M14621	1000	1
Ba	2	M14772	1000	0.1
Be	1	M14203	1000	0.05
Ca	50	M14740	**10000**	0.25
Cd	0.5	M14201	1000	.025
Co	2.5	M14204	1000	0.125
Cr	5	M14205	**10000**	.025
Cu	10	M14199	**10000**	.05
Fe	40	M14738	**10000**	0.2
Mg	25	M14676	**10000**	0.125
Mn	3	M14200	**10000**	.015
Mo	2.5	M14888	1000	0.125
Ni	3	M14196	1000	0.15
Pb	20	M14202	**10000**	0.1
Sb	10	M14622	1000	0.5
Se	20	M14624	1000	1
Tl	20	M14626	1000	1
V	3	M14198	1000	0.15
Zn	5	M14197	**10000**	0.025
Na	150	M14736	**10000**	0.75
K	150	M14741	**10000**	0.75
B	20	M14675	1000	1
Si	200	M14735	1000	10
Li	10	M14681	1000	0.5
Sr	20	M14775	1000	1
Sn	20	M14774	1000	1
Ti	5	M14674	1000	0.25
S	200	M14773	**10000**	10

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14902	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL spike Soln.
Prep Date:	06/16/2021	Expiration Date:	09//2021

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	40	M14623	1000	2
Al	800	M14736	**10000**	4
As	40	M14621	1000	2
Ba	20	M14772	1000	1
Be	8	M14203	1000	0.4
Ca	1000	M14740	**10000**	5
Cd	10	M14201	1000	0.5
Co	20	M14204	1000	1
Cr	20	M14205	**10000**	0.1
Cu	20	M14199	**10000**	0.1
Fe	600	M14738	**10000**	3
Mg	1000	M14676	**10000**	5
Mn	20	M14200	**10000**	0.1
Mo	20	M14888	1000	1
Ni	20	M14196	1000	1
Pb	20	M14202	**10000**	0.1
Sb	40	M14622	1000	2
Se	40	M14624	1000	2
Tl	40	M14626	1000	2
V	20	M14198	1000	1
Zn	20	M14197	**10000**	0.1
Na	10000	M14736	**10000**	50
K	10000	M14741	**10000**	50
B	40	M14675	1000	2
Si	200	M14735	1000	10
Li	20	M14681	1000	1
Sr	20	M14775	1000	1
Sn	40	M14774	1000	2
Ti	20	M14674	1000	1
S	400	M14773	**10000**	20

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14901	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ Solid QSM
Prep Date:	06/16/2021	Expiration Date:	09/2021

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	40	M14623	1000	2
Al	800	M14736	**10000**	4
As	40	M14621	1000	2
Ba	40	M14772	1000	2
Be	8	M14203	1000	0.4
Ca	1000	M14740	**10000**	5
Cd	10	M14201	1000	0.5
Co	20	M14204	1000	1
Cr	20	M14205	**10000**	0.1
Cu	20	M14199	**10000**	0.1
Fe	600	M14738	**10000**	3
Mg	1000	M14676	**10000**	5
Mn	20	M14200	**10000**	0.1
Mo	20	M14888	1000	1
Ni	20	M14196	1000	1
Pb	20	M14202	**10000**	0.1
Sb	40	M14622	1000	2
Se	40	M14624	1000	2
Tl	40	M14626	1000	2
V	20	M14198	1000	1
Zn	20	M14197	**10000**	0.1
Na	10000	M14736	**10000**	50
K	10000	M14741	**10000**	50
B	40	M14675	1000	2
Si	200	M14735	1000	10
Li	20	M14681	1000	1
Sr	20	M14775	1000	1
Sn	40	M14774	1000	2
Ti	20	M14674	1000	1
S	400	M14773	**10000**	20

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14900	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ water QSM
Prep Date:	06/16/2021	Expiration Date:	09/2021

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M14623	1000	0.25
Al	120	M14737	**10000**	0.6
As	40	M14621	1000	2
Ba	4	M14772	1000	0.2
Be	8	M14203	1000	0.4
Ca	100	M14740	**10000**	0.5
Cd	2	M14201	1000	0.1
Co	5	M14204	1000	0.25
Cr	5	M14205	**10000**	0.025
Cu	40	M14199	**10000**	0.2
Fe	80	M14738	**10000**	0.4
Mg	40	M14676	**10000**	0.2
Mn	5	M14200	**10000**	0.025
Mo	5	M14888	1000	0.25
Ni	5	M14196	1000	0.25
Pb	20	M14202	**10000**	0.1
Sb	20	M14622	1000	1.0
Se	40	M14624	1000	2
Tl	40	M14626	1000	2
V	5	M14198	1000	0.25
Zn	20	M14197	**10000**	0.1
Na	700	M14736	**10000**	3.5
K	500	M14741	**10000**	2.5
B	40	M14675	1000	2
Si	200	M14735	1000	10
Li	20	M14681	1000	1
Sr	20	M14775	1000	1
Sn	40	M14774	1000	2
Ti	20	M14674	1000	1
S	400	M14773	**10000**	20

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M14897	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/14/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14797 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14898	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/14/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14797 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14899	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/14/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14798 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M14892	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/08/2021	Expiration Date:	07/08/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14893	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/08/2021	Expiration Date:	07/08/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14894	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/08/2021	Expiration Date:	06/09/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.705 in a hood.		

Standard Log #:	M14895	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/09/2021	Expiration Date:	07/09/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14886 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14896	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/09/2021	Expiration Date:	07/09/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14845 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14889	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/08/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14890	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/08/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14891	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/08/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14886	Vendor:	ThermoFisher Scientific
Analyst:	MDS	Chemical:	Hydroxylamine Sulfate
Date Received:	06/04/2021	Lot #:	Y20F051
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M14887	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	06/04/2021	Lot #:	1053109-69
Expiration Date (if any):	11/2022	Catalog #:	4400-10M411500

Standard ID#:	M14888	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	06/04/2021	Lot #:	1075718-15
Expiration Date (if any):	11/2022	Catalog #:	S4400-1000343

Standard Log #:	M14885	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	06/03/2021	Expiration Date:	06/03/2022
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14883	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/03/2021	Expiration Date:	06/03/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14785. Dilute to 20 L and mix.		

Standard Log #:	M14884	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/03/2021	Expiration Date:	06/03/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14785. Dilute to 20 L and mix.		

Standard Log #:	M14878	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/01/2021	Expiration Date:	07/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14879	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/01/2021	Expiration Date:	07/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14880	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/01/2021	Expiration Date:	06/02/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14881	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/02/2021	Expiration Date:	07/02/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14882	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/02/2021	Expiration Date:	07/02/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14845 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14875	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/01/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14876	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/01/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14877	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/01/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14874	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/24/2021	Lot #:	16-115AB
Expiration Date (if any):	05/30/2022	Catalog #:	XSPIKE-1-250

Standard Log #:	M14869	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/18/2021	Expiration Date:	06/18/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14870	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/18/2021	Expiration Date:	06/18/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14871	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/18/2021	Expiration Date:	05/19/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14872	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/19/2021	Expiration Date:	06/19/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14873	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/19/2021	Expiration Date:	06/19/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14713 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14866	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/18/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14867	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/18/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14868	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/18/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14865	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	05/12/2021	Expiration Date:	09/30/2021
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M14508 and **10 mL** Mg (10,000 mg/L) M14676 and brought up to volume.		

Standard Log #:	M14860	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/11/2021	Expiration Date:	06/11/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M14724 and brought up to volume.		

Standard Log #:	M14861	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/11/2021	Expiration Date:	06/11/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14862	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/11/2021	Expiration Date:	05/12/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14863	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/12/2021	Expiration Date:	06/12/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14864	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/12/2021	Expiration Date:	06/12/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14713 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14857	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/11/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14858	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/11/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14859	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/11/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14854	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/05/2021	Expiration Date:	06/05/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14713 and brought up to volume.		

Standard Log #:	M14855	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/05/2021	Expiration Date:	05/05/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14785. Dilute to 20 L and mix.		

Standard Log #:	M14856	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/05/2021	Expiration Date:	05/05/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14785. Dilute to 20 L and mix.		

Standard Log #:	M14850	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/04/2021	Expiration Date:	06/04/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14851	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/04/2021	Expiration Date:	06/04/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14852	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/04/2021	Expiration Date:	05/05/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14853	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/05/2021	Expiration Date:	06/05/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14847	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/04/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14848	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/04/2021	Expiration Date:	05/02/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14849	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/04/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14846	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	ACID WASHED TCLP FILTERS
Date Received:	04/29/2021	Lot #:	400175-1081-AG
Expiration Date (if any):	N/A	Catalog #:	FG77150MM

		Instrument:	CETAC
Standard Log #:	M14842	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/28/2021	Expiration Date:	05/28/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14713 and brought up to volume.		

Standard Log #:	M14843	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/19/2021	Expiration Date:	04/19/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14785. Dilute to 20 L and mix.		

Standard ID#:	M14844	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	04/28/2021	Lot #:	L060-06
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14845	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	04/28/2021	Lot #:	L060-06
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M14838	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/27/2021	Expiration Date:	05/27/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14839	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/27/2021	Expiration Date:	05/27/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14840	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/27/2021	Expiration Date:	04/28/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14841	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/28/2021	Expiration Date:	05/28/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14835	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/27/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14836	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/27/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14837	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/27/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14832	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/21/2021	Expiration Date:	05/21/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14713 and brought up to volume.		

Standard ID#:	M14833	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	04/21/2021	Lot #:	18-102WLX
Expiration Date (if any):	04/30/2022	Catalog #:	INT-A1

Standard ID#:	M14834	Vendor:	Custom Assurance Std
Analyst:	NAH	Chemical:	Ca 20000 Mg,Na 10000: THardness
Date Received:	04/21/2021	Lot #:	16-022AB
Expiration Date (if any):	04/30/2022	Catalog #:	XCTIWI-1-500

Standard Log #:	M14828	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/20/2021	Expiration Date:	05/20/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14829	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/20/2021	Expiration Date:	05/20/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14830	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/20/2021	Expiration Date:	04/21/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14831	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/21/2021	Expiration Date:	05/21/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14825	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/20/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14826	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/20/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14827	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/20/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6500
Standard Log #:	M14824	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	04/15/2021	Expiration Date:	09/21
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14788 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M14685 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14821	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.**
Prep Date:	04/15/2021	Expiration Date:	06/21
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14395 , **15 mL** Fe (10,000 mg/L) M14738 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14685 , **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M14788 , **2.5 mLs Na 10,000 ug/mL** M14736 ,**2.5 mLs k 10,000 ug/mL** 14625 **2.5 mLs S 10,000 ug/mL** M14570 , **0.5 mls Si 1000 ug/mL** M14477 and brought up to volume with milli-Q .	

		Instrument:	ICP 6500
Standard Log #:	M14822	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	04/15/2021	Expiration Date:	06/21
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M14395 and 15 **mL** 10000 mg/L Fe M14738 5.0 **mL** 1000 mg/L V M14198 5.0 **mL** 1000 mg/L Ce M14682 and brought up to volume with milli-Q H_2O.	

		Instrument:	ICP 6500
Standard Log #:	M14823	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	04/15/2021	Expiration Date:	09/21
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14788 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M14685 and brought up to volume with milli-Q H_2O.	

MRL BASE STD M14820 Analyst NAH

Prep Date 04/15/2021

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M14623	1000	1	XX
Al	400	M14737	10000	2	XX
Ba	10	M14772	1000	0.5	XX
Be	4	M14203	1000	0.2	09/21
Cd	5	M14740	1000	0.25	09/21
Co	10	M14204	1000	0.5	09/21
Cr	10	M14205	10000	0.05	09/21
Cu	10	M14199	10000	0.05	09/21
Mg	500	M14676	10000	2.5	XX
Mn	10	M14200	10000	0.05	09/21
Mo	10	M14684	1000	0.5	XX
Ni	10	M14196	1000	0.5	09/21
Pb	10	M14202	10000	0.05	09/21
Sb	20	M14622	1000	1	XX
V	10	M14198	1000	0.5	09/21
Zn	10	M14197	10000	0.05	09/21
K	1000	M14741	10000	5	XX
Na	1000	M14736	10000	5	XX
As	20	M14621	1000	1	XX
Ca	500	M14740	10000	2.5	XX
Fe	300	M14738	10000	1.5	XX
Se	20	M14624	1000	1	XX
Tl	20	M14674	1000	1	XX
Si	100	M14735	1000	5	XX
B	20	M14675	1000	1	09/21
Li	20	M14681	1000	1	XX
W	50	MXXX	1000	2.5	XXXXX
Ti	10	M14674	1000	0.5	XX
Sr	10	M14775	1000	0.5	XX
Sn	50	M14774	1000	2.5	XX
S	300	M14773	10000	1.5	XX

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M14815	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/14/2021	Expiration Date:	05/14/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14816	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/14/2021	Expiration Date:	05/14/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14817	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/14/2021	Expiration Date:	04/15/2021
Prep:	Carefully mixed **3** parts HCl AB.704 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14818	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/15/2021	Expiration Date:	05/15/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14819	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/15/2021	Expiration Date:	05/15/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.704 and dissolved **100 g** Stannous chloride M14714 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14812	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/14/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14813	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/14/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14814	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/14/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6500
Standard Log #:	M14811	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	04/13/2021	Expiration Date:	09/2021

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14788, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14685 and **1 mL** of Si (1000 mg/L) M14477.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M14625.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M14199, **10 mL** of Mn (10,000 mg/L) M14200, **10 mL** of Cr (10,000 mg/L) M14205, **10 mL** Pb (10,000 mg/L) M14202, **10 mL** of Zn (10,000 mg/L) M14197 and **10 mL** of Na (10,000 mg/L) M14736.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M14676, **10 mL** of Fe (10,000 mg/L) M14676, **10 mL** of Ca (10,000 mg/L) M14740 and **10 mL** Al (10,000 mg/L) M14478.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

		Instrument:	GFAA
Standard Log #:	M14808	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/12/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14797 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14809	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/12/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14797 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14810	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/12/2021	Expiration Date:	04/12/2022
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14798 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M14803	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/06/2021	Expiration Date:	05/06/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14804	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/06/2021	Expiration Date:	05/06/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14805	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/06/2021	Expiration Date:	04/07/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14806	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/07/2021	Expiration Date:	05/07/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14807	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/07/2021	Expiration Date:	05/07/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14714 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14800	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/06/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14801	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/06/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14802	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/06/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14799	Vendor:	Acros Organics
Analyst:	MDS	Chemical:	Potassium Persulfate
Date Received:	04/06/2021	Lot #:	A0417285
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M14797	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	04/05/2021	Lot #:	S2-MEB703691
Expiration Date (if any):	04/12/2021	Catalog #:	CTI-SPK-1

Standard ID#:	M14798	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE
Date Received:	04/05/2021	Lot #:	S2-MEB703690
Expiration Date (if any):	04/12/2021	Catalog #:	CTI-GFCAL-1

Standard Log #:	M14792	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/30/2021	Expiration Date:	04/30/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14793	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/30/2021	Expiration Date:	03/31/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14794	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/31/2021	Expiration Date:	05/01/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

Standard Log #:	M14795	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/31/2021	Expiration Date:	05/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14796	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/31/2021	Expiration Date:	05/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14714 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14789	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/30/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14790	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/30/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14791	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/30/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14787	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Phosphorus 10,000 mg/L
Date Received:	03/29/2021	Lot #:	AR18-111PY
Expiration Date (if any):	3/29/2022	Catalog #:	PLP9-3Y

Standard ID#:	M14788	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	03/29/2021	Lot #:	4-070MF
Expiration Date (if any):	03/29/2021	Catalog #:	XCTWI-5-500

Standard Log #:	M14786	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/25/2021	Expiration Date:	03/25/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14785. Dilute to 20 L and mix.		

Standard Log #:	M14785	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	03/24/2021	Expiration Date:	08/24/2021
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH WC208 and brought up to volume.		

Standard Log #:	M14780	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/23/2021	Expiration Date:	04/23/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14781	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/23/2021	Expiration Date:	04/23/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14782	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/23/2021	Expiration Date:	03/24/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14783	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/24/2021	Expiration Date:	04/24/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14611 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14784	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/24/2021	Expiration Date:	04/24/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14714 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14777	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/23/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14778	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/23/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14779	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/23/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14772	Vendor:	CPI
Analyst:	NAH	Chemical:	Ba 1000 mg/mL
Date Received:	03/22/2021	Lot #:	994634-134
Expiration Date (if any):	09/2022	Catalog #:	S4400-100041

Standard ID#:	M14773	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/mL
Date Received:	03/22/2021	Lot #:	1050965-34
Expiration Date (if any):	09/2022	Catalog #:	4400-10M544

Standard ID#:	M14774	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/mL
Date Received:	03/22/2021	Lot #:	1066479-21
Expiration Date (if any):	09/2022	Catalog #:	S4400-1000613

Standard ID#:	M14775	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/mL
Date Received:	03/22/2021	Lot #:	1096004-1
Expiration Date (if any):	09/2022	Catalog #:	S4400-1000531

Standard ID#:	M14776	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	03/23/2021	Lot #:	56-049CR
Expiration Date (if any):	03/30/2022	Catalog #:	XSPIKE-1-250

Standard Log #:	M14767	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/16/2021	Expiration Date:	04/16/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14768	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/16/2021	Expiration Date:	03/17/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14769	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/16/2021	Expiration Date:	04/16/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

Standard Log #:	M14770	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/17/2021	Expiration Date:	04/17/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14771	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/17/2021	Expiration Date:	04/17/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14714 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14764	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/16/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14765	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/16/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14766	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/16/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14763	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	TCLP Acid Washed Filters
Date Received:	01/05/21	Lot #:	400182-0364-T
Expiration Date (if any):	N/A	Catalog #:	FG77150MM

Standard Log #:	M14758	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/09/2021	Expiration Date:	04/09/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14759	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/09/2021	Expiration Date:	03/10/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14760	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/10/2021	Expiration Date:	04/10/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

Standard Log #:	M14761	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/10/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14762	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/10/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14598 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14755	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/09/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14756	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/09/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14757	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/09/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14754	Vendor:	ThermoFisher Scientific
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Mod.
Date Received:	03/04/2021	Lot #:	225022
Expiration Date (if any):	03/31/2022	Catalog #:	39043

		Instrument:	GFAA
Standard Log #:	M14751	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/03/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14752	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/03/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14753	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/03/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M14748	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/02/2021	Expiration Date:	04/02/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14749	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/02/2021	Expiration Date:	04/02/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14598 and brought up to volume.		

Standard Log #:	M14750	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/02/2021	Expiration Date:	03/02/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14545. Dilute to 20 L and mix.		

Standard Log #:	M14745	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/01/2021	Expiration Date:	04/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14746	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/01/2021	Expiration Date:	04/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14747	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/01/2021	Expiration Date:	03/02/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14742	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/01/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14743	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/01/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14744	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/01/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14740	Vendor:	CPI INTERNATIONAL
Analyst:	MDS	Chemical:	Calcium 10,000 µg/mL
Date Received:	02/25/2021	Lot #:	1072921-23
Expiration Date (if any):	08/20/2022	Catalog #:	4400-10M91

Standard ID#:	M14741	Vendor:	CPI INTERNATIONAL
Analyst:	MDS	Chemical:	Potassium 10,000 µg/mL
Date Received:	02/25/2021	Lot #:	1053109-37
Expiration Date (if any):	08/20/2022	Catalog #:	4400-10M411

Standard ID#:	M14735	Vendor:	CPI INTERNATIONAL
Analyst:	MDS	Chemical:	Silicon 1000 µg/mL
Date Received:	02/25/2021	Lot #:	1047570-64
Expiration Date (if any):	08/20/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14736	Vendor:	CPI INTERNATIONAL
Analyst:	MDS	Chemical:	Sodium 10,000 µg/mL
Date Received:	02/25/2021	Lot #:	1055526-35
Expiration Date (if any):	08/20/2022	Catalog #:	4400-10M521

Standard ID#:	M14737	Vendor:	CPI INTERNATIONAL
Analyst:	MDS	Chemical:	Aluminum 10,000 µg/mL
Date Received:	02/25/2021	Lot #:	1077245-17
Expiration Date (if any):	08/20/2022	Catalog #:	4400-10M11

Standard ID#:	M14738	Vendor:	CPI INTERNATIONAL
Analyst:	MDS	Chemical:	Iron 10,000 µg/mL
Date Received:	02/25/2021	Lot #:	1034257-40
Expiration Date (if any):	08/20/2022	Catalog #:	4400-10M261

Standard ID#:	M14739	Vendor:	CPI INTERNATIONAL
Analyst:	MDS	Chemical:	Magnesium 10,000 µg/mL
Date Received:	02/25/2021	Lot #:	1075232-5
Expiration Date (if any):	08/20/2022	Catalog #:	4400-10M311

Standard Log #:	M14731	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	02/16/2021	Expiration Date:	03/16/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14732	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	02/16/2021	Expiration Date:	03/16/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

Standard Log #:	M14733	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	02/17/2021	Expiration Date:	03/17/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14734	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/17/2021	Expiration Date:	03/17/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14598 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14728	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/16/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14729	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/16/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14730	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/16/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14725	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	02/15/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14726	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	02/15/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14727	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	02/15/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M14720	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	02/09/2021	Expiration Date:	03/09/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14721	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	02/09/2021	Expiration Date:	03/09/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

Standard Log #:	M14722	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	02/10/2021	Expiration Date:	03/10/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14723	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/10/2021	Expiration Date:	03/10/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14598 and brought up to volume.		

Standard ID#:	M14724	Vendor:	ThermoFisher Scientific
Analyst:	MDS	Chemical:	Potassium Permanganate
Date Received:	02/08/2021	Lot #:	201466
Expiration Date (if any):	Suggested Retest 04/202	Catalog #:	P279

		Instrument:	HydraII
Standard Log #:	M14717	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/09/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14718	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/09/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14719	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/09/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14713	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	02/05/2021	Lot #:	L022-06
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14714	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	02/05/2021	Lot #:	L022-06
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14715 (1) & (2)	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	02/3/2021	Lot #:	2023715-500
Expiration Date (if any):	08/31/2022	Catalog #:	10M67-1-500

Standard ID#:	M14716	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Phosphorus 10000 mg/L
Date Received:	02/08/2021	Lot #:	AR18-111PY
Expiration Date (if any):	02/28/2022	Catalog #:	PLP9--3Y

Standard Log #:	M14708	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	02/02/2021	Expiration Date:	03/02/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14709	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	02/02/2021	Expiration Date:	03/02/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14710	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	02/02/2021	Expiration Date:	02/03/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14711	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	02/03/2021	Expiration Date:	03/03/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14712	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/03/2021	Expiration Date:	03/03/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14598 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14705	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/02/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14706	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/02/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14707	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/02/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14702	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	01/27/2021	Expiration Date:	01/27/2022
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14703	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	01/28/2021	Expiration Date:	02/28/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14704	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/28/2021	Expiration Date:	02/28/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14598 and brought up to volume.		

Standard Log #:	M14699	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	01/27/2021	Expiration Date:	02/27/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14700	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	01/27/2021	Expiration Date:	02/27/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14701	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	01/27/2021	Expiration Date:	01/28/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14696	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/27/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14697	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/27/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14698	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/27/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14694	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/26/2021	Expiration Date:	09/2021
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) N/A **3.2 mL** of As (1000 mg/L) M14621 **3.2 mL** of Se (1000 mg/L) M14624 **0.08 mL** of Pb (10,000 mg/L) M14202 **1.0 mL** of Tl (1000 mg/L) M14626 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M14695	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/26/2021	Expiration Date:	09/2021
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M14622 **1.0 mL** of As (1000 mg/L) M14621 **2.0 mL** of Se (1000 mg/L) M14624 **0.045 mL** of Pb (10,000 mg/L) M14202 **0.4 mL** of Tl (1000 mg/L) M14626 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M14689	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	01/19/2021	Expiration Date:	02/19/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14690	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	01/19/2021	Expiration Date:	02/19/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14691	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	01/19/2021	Expiration Date:	01/20/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14692	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	01/20/2021	Expiration Date:	02/20/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14693	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/20/2021	Expiration Date:	02/20/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14598 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14686	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/19/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14687	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/19/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14688	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/19/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14680	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	01/15/2021	Lot #:	1047870-29
Expiration Date (if any):	07/2022	Catalog #:	S4400-1000504F

Standard ID#:	M14681	Vendor:	CPI
Analyst:	NAH	Chemical:	Li 1000 mg/L
Date Received:	01/15/2021	Lot #:	104768-6
Expiration Date (if any):	07/2022	Catalog #:	S4400-1000291

Standard ID#:	M14682	Vendor:	CPI
Analyst:	NAH	Chemical:	Ce 1000 mg/L
Date Received:	01/15/2021	Lot #:	S4400-1000101
Expiration Date (if any):	07/2022	Catalog #:	S4400-1000101

Standard ID#:	M14683	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	01/15/2021	Lot #:	1096004-1
Expiration Date (if any):	07/2022	Catalog #:	S4400-1000531

Standard ID#:	M14684	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	01/15/2021	Lot #:	1075718-2
Expiration Date (if any):	07/2022	Catalog #:	S4400-1000343

Standard ID#:	M14685	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance standard
Date Received:	01/18/2021	Lot #:	XCTWI-4-500
Expiration Date (if any):	01/30/2022	Catalog #:	14-242AB

Standard ID#:	M14674	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	01/15/2021	Lot #:	1038255-27
Expiration Date (if any):	07/2022	Catalog #:	S4400-1000623

Standard ID#:	M14675	Vendor:	CPI
Analyst:	NAH	Chemical:	B 1000 mg/L
Date Received:	01/15/2021	Lot #:	1024903-65
Expiration Date (if any):	07/2022	Catalog #:	S4400-100074

Standard ID#:	M14676	Vendor:	CPI
Analyst:	NAH	Chemical:	M 10000 mg/L
Date Received:	01/15/2021	Lot #:	1013353
Expiration Date (if any):	07/2022	Catalog #:	4400-10M311

Standard ID#:	M14677	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	01/15/2021	Lot #:	1050965-25
Expiration Date (if any):	07/2022	Catalog #:	4400-10M544

Standard ID#:	M14678	Vendor:	CPI
Analyst:	NAH	Chemical:	P 10000 mg/L
Date Received:	01/15/2021	Lot #:	1079898-6
Expiration Date (if any):	07/2022	Catalog #:	S4400-10M391

Standard ID#:	M14679	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	01/15/2021	Lot #:	1034527-40
Expiration Date (if any):	07/2022	Catalog #:	4400-10M261

Standard Log #:	M14673	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/13/2021	Expiration Date:	09/2021

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M14623	1000	0.01
As	2	M14621	1000	0.1
Pb	2	M14202	10000	0.01
Sb	2	M14622	1000	0.1
Se	2	M14624	1000	0.1
Tl	2	M14626	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14670	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	01/12/2021	Expiration Date:	02/12/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14671	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/12/2021	Expiration Date:	02/12/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14597 and brought up to volume.		

Standard Log #:	M14672	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	01/12/2021	Expiration Date:	01/12/2022
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.703 and **128.6 mL** 10N NaOH M14545. Dilute to 20 L and mix.		

Standard Log #:	M14667	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	01/11/2021	Expiration Date:	02/11/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14668	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	01/11/2021	Expiration Date:	02/11/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14669	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	01/11/2021	Expiration Date:	01/12/2021
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14664	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/11/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14665	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/11/2021	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14666	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/11/2021	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14663	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	8 µg/L As 10 µg/L Pb 8 µg/L Sb 16 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	01/06/2021	Expiration Date:	09/2021

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M14621	10,000
Pb	0.1	10,000	M14202	10,000
Tl	1	1000	M14626	10,000
Se	1	1000	M14624	10,000
Sb	1	1000	M14622	10,000
Ag	0.1	1000	M14623	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	0.8	10,000	8
Pb	1.0	10,000	10
Tl	1.0	10,000	10
Se	1.6	10,000	16
Sb	0.8	10,000	8
Ag	0.6	1000	0.6

		Instrument:	GFAA
Standard Log #:	M14660	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/04/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14661	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/04/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14662	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/04/2021	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

MRL BASE STD M14659 Analyst NAH

Prep Date 01/04/2021

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M14623	1000	1	02/22
Al	400	M14478	10000	2	02/22
Ba	10	M14568	1000	0.5	05/22
Be	4	M14203	1000	0.2	09/21
Cd	5	M14201	1000	0.25	09/21
Co	10	M14204	1000	0.5	09/21
Cr	10	M14205	10000	0.05	09/21
Cu	10	M14199	10000	0.05	09/21
Mg	500	M14472	10000	2.5	02/22
Mn	10	M14200	10000	0.05	09/21
Mo	10	M14569	1000	0.5	05/22
Ni	10	M14196	1000	0.5	09/21
Pb	10	M14202	10000	0.05	09/21
Sb	20	M14622	1000	1	02/22
V	10	M14198	1000	0.5	09/21
Zn	10	M14197	10000	0.05	09/21
K	1000	M14436	10000	5	02/22
Na	1000	M14559	10000	5	02/22
As	20	M14621	1000	1	02/22
Ca	500	M14476	10000	2.5	02/22
Fe	300	M14470	10000	1.5	02/22
Se	20	M14624	1000	1	02/22
Tl	20	M14626	1000	1	02/22
Si	100	M14435	1000	5	02/22
B	20	M14131	1000	1	07/21
Li	20	M14127	1000	1	07/21
W	50	xxxxxxxx	1000	2.5	xxxxxx
Ti	10	M14009	1000	0.5	04/21
Sr	10	M14007	1000	0.5	04/21
Sn	50	M14008	1000	2.5	04/21
S	300	M14570	10000	1.5	05/22

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	ICP 6500
Standard Log #:	M14658	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.**
Prep Date:	1/04/2021	Expiration Date:	03/30/2021
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14359, **15 mL** Fe (10,000 mg/L) M14470, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14195, **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M14628, **2.5 mLs Na 10,000 ug/mL** M14473 ,**2.5 mLs k 10,000 ug/mL** M14436 **2.5 mLs S 10,000 ug/mL** M14570, **0.5 mls Si 1000 ug/mL** M14477 and brought up to volume with milli-Q .	

		Instrument:	ICP 6500
Standard Log #:	M14656	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	01/04/2021	Expiration Date:	06/30/2021
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14639, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14359, **0.5 mL** Mo (1000 mg/L) M14569, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M14008, **0.5 mL** Ti (1000 mg/L) M14009, **0.5 mL** W (1000 mg/L) xxxxxxx, **0.5 mL** Si (1000 mg/L) M14567, **0.5 mL** S (10000 mg/L) M14372, **0.5 mL** K (10000 mg/L) M14436, and **0.5 mL** Na (10000 mg/L) M14559		

		Instrument:	ICP 6500
Standard Log #:	M14657	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	01/04/2021	Expiration Date:	06/30/2021
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M14359 and 15 **mL** 10000 mg/L Fe M14470 5.0 **mL** 1000 mg/L V M14198 5.0 **mL** 1000 mg/L Ce M1359 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14655	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	01/04/2021	Expiration Date:	03/30/2021

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14628, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14195 and **1 mL** of Si (1000 mg/L) M14435 and 1 mL M13859 Ce
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M14625.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M14199, **10 mL** of Mn (10,000 mg/L) M14200, **10 mL** of Cr (10,000 mg/L) M14205, **10 mL** Pb (10,000 mg/L) M14202, **10 mL** of Zn (10,000 mg/L) M14197 and **10 mL** of Na (10,000 mg/L) M14559.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M14472, **10 mL** of Fe (10,000 mg/L) M14470, **10 mL** of Ca (10,000 mg/L) M14476 and **10 mL** Al (10,000 mg/L) M14478.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard Log #:	M14653	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	12/31/2020	Expiration Date:	01/31/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14654	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/31/2020	Expiration Date:	01/31/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14597 and brought up to volume.		

Standard Log #:	M14651	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	12/30/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14652	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	12/30/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14648	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/30/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14649	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/30/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14650	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/30/2020	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14643	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	12/22/2020	Expiration Date:	01/22/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14644	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	12/22/2020	Expiration Date:	01/22/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14645	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	12/22/2020	Expiration Date:	12/23/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14646	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	12/23/2020	Expiration Date:	01/23/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14647	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/23/2020	Expiration Date:	01/23/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14597 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14640	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/22/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14641	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/22/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14642	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/22/2020	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14637	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	ACID WASHED TCLP FILTERS
Date Received:	11/25/2020	Lot #:	400182-0316-D
Expiration Date (if any):		Catalog #:	FG77150MM

Standard Log #:	M14638	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/16/2020	Expiration Date:	12/16/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14545. Dilute to 20 L and mix.		

Standard ID#:	M14639	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12/16/2020	Lot #:	55-139CR
Expiration Date (if any):	12/30/2021	Catalog #:	XSPIKE-1-250

Standard Log #:	M14632	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	12/15/2020	Expiration Date:	01/15/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14633	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	12/15/2020	Expiration Date:	12/16/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14634	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	12/16/2020	Expiration Date:	01/16/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

Standard Log #:	M14635	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	12/16/2020	Expiration Date:	01/16/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14544 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14636	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/16/2020	Expiration Date:	01/16/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14597 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14629	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/15/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14630	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/15/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14631	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/15/2020	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14627	Vendor:	CPI
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12/15/2020	Lot #:	55-113CR
Expiration Date (if any):	12/30/2021	Catalog #:	XCTWI-1-500

Standard ID#:	M14628	Vendor:	CPI
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12/15/2020	Lot #:	55-112CR
Expiration Date (if any):	12/30/2021	Catalog #:	CTWI-5-500

Standard ID#:	M14623	Vendor:	CPI
Analyst:	NAH	Chemical:	Ag 1000 mg/L
Date Received:	12/09/2020	Lot #:	1026960-37
Expiration Date (if any):	02/2022	Catalog #:	S4400-1000511

Standard ID#:	M14624	Vendor:	CPI
Analyst:	NAH	Chemical:	Se 1000 mg/L
Date Received:	12/09/2020	Lot #:	1063158-14
Expiration Date (if any):	02/2022	Catalog #:	S4400-1000491

Standard ID#:	M14625	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	12/09/2020	Lot #:	1053109-46
Expiration Date (if any):	02/2022	Catalog #:	4400-10M411

Standard ID#:	M14626	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	12/09/2020	Lot #:	1025512-33
Expiration Date (if any):	02/2022	Catalog #:	S4400-1000581

Standard Log #:	M14619	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	12/09/2020	Expiration Date:	01/09/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14620	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/09/2020	Expiration Date:	01/09/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14510 and brought up to volume.		

Standard ID#:	M14621	Vendor:	CPI
Analyst:	NAH	Chemical:	As 1000 mg/L
Date Received:	12/09/2020	Lot #:	1034904-74
Expiration Date (if any):	02/2022	Catalog #:	S4400-100031

Standard ID#:	M14622	Vendor:	CPI
Analyst:	NAH	Chemical:	Sb 1000 mg/L
Date Received:	12/09/2020	Lot #:	1045232-19
Expiration Date (if any):	02/2022	Catalog #:	S4400-100023

Standard Log #:	M14615	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	12/08/2020	Expiration Date:	01/08/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14616	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	12/08/2020	Expiration Date:	01/08/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14617	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	12/08/2020	Expiration Date:	12/09/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14618	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/08/2020	Expiration Date:	12/08/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14545. Dilute to 20 L and mix.		

Standard ID#:	M14611	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Hydroxlyamine Sulfate
Date Received:	12/07/2020	Lot #:	189407A
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	HydraII
Standard Log #:	M14612	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/08/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14613	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/08/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14614	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/08/2020	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14610	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	12/03/2020	Expiration Date:	12/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13951	1000	0.01
As	2	M13863	1000	0.1
Pb	2	M14202	10000	0.01
Sb	2	M13950	1000	0.1
Se	2	M13948	1000	0.1
Tl	2	M14207	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14605	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	12/01/2020	Expiration Date:	01/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14606	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	12/01/2020	Expiration Date:	01/01/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14600 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14607	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	12/01/2020	Expiration Date:	12/02/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.700 in a hood.		

Standard Log #:	M14608	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	12/02/2020	Expiration Date:	01/02/2021
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14609	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/02/2020	Expiration Date:	01/02/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14510 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14602	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/01/2020	Expiration Date:	05/02/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14603	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/01/2020	Expiration Date:	05/02/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14604	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/01/2020	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14600	Vendor:	Acros Organics
Analyst:	MDS	Chemical:	Potassium Persulfate ACS
Date Received:	11/30/2020	Lot #:	A0412553
Expiration Date (if any):		Catalog #:	424185000

Standard Log #:	M14601	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/30/2020	Expiration Date:	11/30/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14545. Dilute to 20 L and mix.		

Standard ID#:	M14597	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	11/19/2020	Lot #:	K309-14
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14598	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	11/19/2020	Lot #:	K309-14
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14599	Vendor:	ThermoFisher
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	11/19/2020	Lot #:	225022
Expiration Date (if any):	03/31/2022	Catalog #:	39043

Standard Log #:	M14592	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	11/17/2020	Expiration Date:	12/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14593	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	11/17/2020	Expiration Date:	12/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14479 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14594	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	11/17/2020	Expiration Date:	11/18/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14595	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	11/18/2020	Expiration Date:	12/18/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14596	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/18/2020	Expiration Date:	12/18/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14510 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14589	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/17/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14590	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/17/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14591	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/17/2020	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14586	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/17/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14587	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/17/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14588	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/17/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14582	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	11/13/2020	Expiration Date:	07/20/2021
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M14126 and Na (10,000 mg/L) M14473 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14583	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	11/13/2020	Expiration Date:	07/20/2021
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M14473 and **0.15 mL** K (10,000 µg/mL) M14126 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14584	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	11/13/2020	Expiration Date:	07/20/2021
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M14359, **2.5 mL** of K (10,000 mg/L) M14126, **2.5 mL** of Na (10,000 mg/L) M14473 and **7.5 mL** of Fe (10,000 mg/L) M14101 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M14585	Vendor:	Environmental Epress
Analyst:	BMM	Chemical:	Acid washed TCLP Filters
Date Received:	10/29/2020	Lot #:	400157-0277-D
Expiration Date (if any):	xxxxx	Catalog #:	FG77150MM

Standard Log #:	M14579	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	11/12/2020	Expiration Date:	12/12/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14580	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/12/2020	Expiration Date:	12/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14510 and brought up to volume.		

Standard ID#:	M14581	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	11/12/2020	Lot #:	55-080CR
Expiration Date (if any):	11/30/2021	Catalog #:	XSPIKE-1-250

Standard Log #:	M14576	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	11/11/2020	Expiration Date:	12/11/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14577	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	11/11/2020	Expiration Date:	12/11/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14578	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	11/11/2020	Expiration Date:	11/12/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14573	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/11/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14574	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/11/2020	Expiration Date:	05/02/2022
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14571 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14575	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/11/2020	Expiration Date:	11/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14572 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14571	Vendor:	CPI International
Analyst:	MDS	Chemical:	Mercury 1000 µg/mL
Date Received:	11/05/2020	Lot #:	1084154-12
Expiration Date (if any):	05/02/2022	Catalog #:	S4400-1000331

Standard ID#:	M14572	Vendor:	SPEX Certiprep
Analyst:	MDS	Chemical:	Mercury 1000 µg/mL
Date Received:	11/05/2020	Lot #:	CL12-01HGY
Expiration Date (if any):	11/30/2021	Catalog #:	CLHG4-2Y

Standard ID#:	M14567	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	11/05/2020	Lot #:	1047570-22
Expiration Date (if any):	05/2022	Catalog #:	S4400-1000504F

Standard ID#:	M14568	Vendor:	CPI
Analyst:	NAH	Chemical:	Ba 1000 mg/L
Date Received:	11/05/2020	Lot #:	994634-121
Expiration Date (if any):	05/2022	Catalog #:	S4400-100041

Standard ID#:	M14569	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	11/05/2020	Lot #:	1075718-2
Expiration Date (if any):	05/2022	Catalog #:	S4400-1000343

Standard ID#:	M14570	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	11/05/2020	Lot #:	1050965-25
Expiration Date (if any):	05/2022	Catalog #:	4400-10M544

Standard Log #:	M14563	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	11/05/2020	Expiration Date:	12/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14564	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	11/05/2020	Expiration Date:	12/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

Standard Log #:	M14565	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	11/05/2020	Expiration Date:	12/05/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14566	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/05/2020	Expiration Date:	12/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14509 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14560	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14561	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14562	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6000
Standard Log #:	M14556	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	11/03/2020	Expiration Date:	02/2022
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M14471 and K (1000 µg/mL) M14475 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14557	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	11/03/2020	Expiration Date:	02/2022
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M14471 and **0.5 mL** K (1000 µg/mL) M14475 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M14558	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	11/04/2020	Lot #:	997484-34
Expiration Date (if any):	02/2022	Catalog #:	4400-10M671

Standard ID#:	M14559	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 mg/L
Date Received:	11/04/20020	Lot #:	1055526-11
Expiration Date (if any):	02/2022	Catalog #:	4400-10M521

Standard Log #:	M14554	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	10/29/2020	Expiration Date:	11/29/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14555	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/29/2020	Expiration Date:	11/29/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14509 and brought up to volume.		

Standard Log #:	M14551	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	10/28/2020	Expiration Date:	11/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14552	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	10/28/2020	Expiration Date:	11/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14553	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	10/28/2020	Expiration Date:	10/29/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14548	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/28/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14549	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/28/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14550	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/28/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14545	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	10/26/2020	Expiration Date:	03/26/2021
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH WC44 and brought up to volume.		

Standard Log #:	M14546	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/26/2020	Expiration Date:	10/26/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14545. Dilute to 20 L and mix.		

Standard Log #:	M14547	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/26/2020	Expiration Date:	10/26/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14545. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M14543	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/21/2020	Expiration Date:	11/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14509 and brought up to volume.		

Standard ID#:	M14544	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Sodium Chloride
Date Received:	10/19/2020	Lot #:	202332
Expiration Date (if any):		Catalog #:	S271-3

Standard Log #:	M14539	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	10/20/2020	Expiration Date:	11/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14540	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	10/20/2020	Expiration Date:	11/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14541	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	10/20/2020	Expiration Date:	10/21/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14542	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	10/21/2020	Expiration Date:	11/21/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14536	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/20/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14537	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/20/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14538	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/20/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14533	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/19/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14534	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/19/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14535	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/19/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M14530	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	10/14/2020	Expiration Date:	10/15/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14531	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	10/14/2020	Expiration Date:	11/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14532	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/14/2020	Expiration Date:	11/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14509 and brought up to volume.		

Standard Log #:	M14526	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	10/13/2020	Expiration Date:	11/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14527	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	10/13/2020	Expiration Date:	10/14/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14528	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	10/13/2020	Expiration Date:	11/13/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14529	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/13/2020	Expiration Date:	11/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14509 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14523	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/13/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14524	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/13/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14525	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/13/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14521	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	10/08/2020	Expiration Date:	10/09/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14522	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/09/2020	Expiration Date:	04/2021
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M14508 and **10 mL** Mg (10,000 mg/L) M13984 and brought up to volume.		

Standard Log #:	M14519	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	10/07/2020	Expiration Date:	11/07/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14520	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/08/2020	Expiration Date:	11/08/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14461 and brought up to volume.		

Standard Log #:	M14514	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	10/05/2020	Expiration Date:	11/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14515	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	10/05/2020	Expiration Date:	10/06/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14516	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	10/05/2020	Expiration Date:	11/05/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14446 and **60 g** hydroxylamine sulfate M14507 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14517	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/06/2020	Expiration Date:	11/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14461 and brought up to volume.		

Standard ID#:	M14518	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	10/05/2020	Lot #:	55-031CR
Expiration Date (if any):	09/30/2021	Catalog #:	XSPIKE-1-250

		Instrument:	HydraII
Standard Log #:	M14511	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14512	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14513	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14508	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Palladium (Matrix Modifier)
Date Received:	10/02/2020	Lot #:	2003608-100
Expiration Date (if any):	09/30/2021	Catalog #:	HP1900-100

Standard ID#:	M14509	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/05/2020	Lot #:	K269-06
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14510	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/05/2020	Lot #:	K269-06
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14507	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	09/29/2020	Lot #:	189407A
Expiration Date (if any):	05/2024	Catalog #:	H331

Standard Log #:	M14502	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	09/21/2020	Expiration Date:	10/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14503	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	09/21/2020	Expiration Date:	10/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14504	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	09/21/2020	Expiration Date:	09/22/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14505	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	09/23/2020	Expiration Date:	10/23/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14506	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/23/2020	Expiration Date:	10/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14461 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14499	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/21/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14500	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/21/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14501	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/21/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14497	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/16/2020	Expiration Date:	09/16/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard Log #:	M14498	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/16/2020	Expiration Date:	09/16/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard Log #:	M14492	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	09/15/2020	Expiration Date:	10/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14493	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	09/15/2020	Expiration Date:	10/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14494	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	09/15/2020	Expiration Date:	09/16/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14495	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	09/16/2020	Expiration Date:	10/16/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14496	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/16/2020	Expiration Date:	10/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14460 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14489	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/15/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14490	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/15/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14491	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/15/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14487	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	09/09/2020	Expiration Date:	10/09/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14416 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14488	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/09/2020	Expiration Date:	10/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14460 and brought up to volume.		

Standard Log #:	M14483	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	09/08/2020	Expiration Date:	10/08/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14484	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	09/08/2020	Expiration Date:	10/08/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14485	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	09/08/2020	Expiration Date:	09/09/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard ID#:	M14486	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	09/04/2020	Lot #:	1933801-500
Expiration Date (if any):	03/31/2022	Catalog #:	HP10M67-1-500

Standard ID#:	M14479	Vendor:	Acros Organics
Analyst:	MDS	Chemical:	Potassium Persulfate
Date Received:	09/03/2020	Lot #:	A0410243
Expiration Date (if any):		Catalog #:	202015000

		Instrument:	HydraII
Standard Log #:	M14480	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/08/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14481	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/08/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14482	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/08/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14478	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	09/01/2020	Lot #:	992536-34
Expiration Date (if any):	02/2022	Catalog #:	4400-10M11

Standard ID#:	M14471	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 1000 mg/L
Date Received:	09/01/2020	Lot #:	1038021-64
Expiration Date (if any):	02/2022	Catalog #:	4400-1000521-500

Standard ID#:	M14472	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	09/01/2020	Lot #:	1013353-76
Expiration Date (if any):	02/2022	Catalog #:	4400-10m311

Standard ID#:	M14473	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	09/01/2020	Lot #:	1055526-11
Expiration Date (if any):	02/2022	Catalog #:	4400-10M521

Standard ID#:	M14474	Vendor:	CPI
Analyst:	NAH	Chemical:	P 10000 mg/L
Date Received:	09/01/2020	Lot #:	1079898-2
Expiration Date (if any):	02/2022	Catalog #:	S4400-10M391

Standard ID#:	M14475	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	09/01/2020	Lot #:	1023166-47
Expiration Date (if any):	02/2022	Catalog #:	4400-1000411-500

Standard ID#:	M14476	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	09/01/2020	Lot #:	1072921-5
Expiration Date (if any):	02/2022	Catalog #:	4400-10M91

Standard ID#:	M14477	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	09/01/2020	Lot #:	1047570-22
Expiration Date (if any):	02/2022	Catalog #:	S4400-1000504F

Standard Log #:	M14466	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	09/01/2020	Expiration Date:	10/01/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14467	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	09/01/2020	Expiration Date:	10/01/2020
Prep:	Carefully mixed **3** parts HCl AB.698 with **1** part HNO_3 AB.694 in a hood.		

Standard Log #:	M14468	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	09/02/2020	Expiration Date:	10/02/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14469	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/02/2020	Expiration Date:	10/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.698 and dissolved **100 g** Stannous chloride M14460 and brought up to volume.		

Standard ID#:	M14470	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	09/01/2020	Lot #:	1034257-21
Expiration Date (if any):	02/2022	Catalog #:	4400-10m261

		Instrument:	HydraII
Standard Log #:	M14463	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/01/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14464	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/01/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14465	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/01/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14460	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	08/26/2020	Lot #:	K196-02
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14461	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	08/26/2020	Lot #:	K196-02
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14462	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/31/2020	Lot #:	2-155mf
Expiration Date (if any):	08/31/2021	Catalog #:	XCTWI-1-500

Standard Log #:	M14457	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	08/26/2020	Expiration Date:	09/26/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14458	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/26/2020	Expiration Date:	09/26/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14355 and brought up to volume.		

Standard Log #:	M14459	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	08/26/2020	Expiration Date:	09/26/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14453	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/25/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14454	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/25/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14455	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	08/25/2020	Expiration Date:	09/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14456	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	08/25/2020	Expiration Date:	08/26/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.694 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M14450	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	08/24/2020	Expiration Date:	06/30/2021
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M14359, **2.5 mL** of K (10,000 mg/L) M14126, **2.5 mL** of Na (10,000 mg/L) M14103 and **7.5 mL** of Fe (10,000 mg/L) M14101 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14451	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	08/24/2020	Expiration Date:	10/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13808 and **0.5 mL** K (1000 µg/mL) M13809 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M14452	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/25/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

Standard ID#:	M14446	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Sodium Chloride
Date Received:	08/24/2020	Lot #:	197591
Expiration Date (if any):		Catalog #:	S271-500

		Instrument:	ICP 6000
Standard Log #:	M14447	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	08/24/2020	Expiration Date:	10/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13808 and K (1000 µg/mL) M13809 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14448	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	08/24/2020	Expiration Date:	07/2021
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M14126 and Na (10,000 mg/L) M14103 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14449	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	08/24/2020	Expiration Date:	07/2021
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M14103 and **0.15 mL** K (10,000 µg/mL) M14126 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M14445	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/21/2020	Lot #:	2-140MF
Expiration Date (if any):	08/30/2021	Catalog #:	XCTWI-5-500

Standard Log #:	M14440	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	08/19/2020	Expiration Date:	09/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14441	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	08/19/2020	Expiration Date:	09/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14442	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	08/19/2020	Expiration Date:	08/20/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

Standard Log #:	M14443	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	08/20/2020	Expiration Date:	09/20/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14444	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/20/2020	Expiration Date:	09/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14355 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14437	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/19/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14438	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/19/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14439	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/19/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14434	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	08/17/2020	Lot #:	997484-34
Expiration Date (if any):	02/2022	Catalog #:	4400-10M671

Standard ID#:	M14435	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/L
Date Received:	08/17/2020	Lot #:	1047570-22
Expiration Date (if any):	02/2022	Catalog #:	S4400-1000504F

Standard ID#:	M14436	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	08/17/2020	Lot #:	1053109-27
Expiration Date (if any):	02/2022	Catalog #:	4400-10M411-500

Standard Log #:	M14429	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	08/12/2020	Expiration Date:	09/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14430	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	08/12/2020	Expiration Date:	09/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

Standard Log #:	M14431	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	08/13/2020	Expiration Date:	09/13/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14432	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	08/13/2020	Expiration Date:	08/14/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14433	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/13/2020	Expiration Date:	09/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14355 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14426	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/12/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14427	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/12/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14428	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/12/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14425	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/10/2020	Expiration Date:	08/10/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard Log #:	M14420	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	08/05/2020	Expiration Date:	09/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14421	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	08/05/2020	Expiration Date:	09/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14422	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	08/06/2020	Expiration Date:	08/07/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

Standard Log #:	M14423	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	08/06/2020	Expiration Date:	09/06/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14424	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/06/2020	Expiration Date:	09/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14356 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14417	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14418	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14419	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14416	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Hydroxylamine Sulfate
Date Received:	08/03/2020	Lot #:	189407A
Expiration Date (if any):		Catalog #:	H331

		Instrument:	GFAA
Standard Log #:	M14413	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/30/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14414	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/30/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14415	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/30/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M14408	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/28/2020	Expiration Date:	08/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14409	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/28/2020	Expiration Date:	08/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14410	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/28/2020	Expiration Date:	07/29/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

Standard Log #:	M14411	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/29/2020	Expiration Date:	08/29/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14346 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14412	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/29/2020	Expiration Date:	08/29/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14356 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14405	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/28/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14406	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/28/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14407	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/28/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14404	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/24/2020	Lot #:	54-207CR
Expiration Date (if any):	07/30/2020	Catalog #:	XSPIKE-1-250

Standard Log #:	M14399	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/21/2020	Expiration Date:	08/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14400	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/21/2020	Expiration Date:	08/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

Standard Log #:	M14401	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/22/2020	Expiration Date:	08/22/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14402	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/22/2020	Expiration Date:	07/23/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14403	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/22/2020	Expiration Date:	08/22/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14356 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14396	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/21/2020	Expiration Date:	07/21/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14397	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/21/2020	Expiration Date:	07/21/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14398	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/21/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14395	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	07/20/2020	Expiration Date:	09/30/2020
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13954 and **10 mL** Mg (10,000 mg/L) M13984 and brought up to volume.		

Standard Log #:	M14394	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	07/17/2020	Expiration Date:	07/17/2021
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.693 in a hood.		

Standard Log #:	M14389	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/13/2020	Expiration Date:	08/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14390	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/13/2020	Expiration Date:	08/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14391	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/13/2020	Expiration Date:	07/14/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

Standard Log #:	M14392	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/14/2020	Expiration Date:	08/14/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14393	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/14/2020	Expiration Date:	08/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14356 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14386	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/13/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14387	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/13/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14388	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/13/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14384	Vendor:	Environmantal Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	07/08/2020	Lot #:	1933801-500
Expiration Date (if any):	01/31/2022	Catalog #:	HP10M67-1-500

Standard Log #:	M14385	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	07/08/2020	Expiration Date:	12/2020

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M14202	10,000
Tl	1	1000	M14207	10,000
Se	1	1000	M13948	10,000
Sb	1	1000	M13950	10,000
Ag	0.1	1000	M13951	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

Standard Log #:	M14383	Reagent:	TCLP 1 N HCL
Analyst:	BMM		
Prep Date:	07/07/2020	Expiration Date:	07/07/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.685 and brought up to volume.		

Standard Log #:	M14381	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/03/2020	Expiration Date:	08/03/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14382	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/03/2020	Expiration Date:	08/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14278 and brought up to volume.		

Standard Log #:	M14378	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/02/2020	Expiration Date:	08/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14379	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/02/2020	Expiration Date:	08/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14380	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/02/2020	Expiration Date:	07/03/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14375	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/02/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14376	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/02/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14377	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/02/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14373	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/01/2020	Expiration Date:	07/01/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard ID#:	M14374	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	ACID WASHED TCLP FILTERS
Date Received:	06/18/2020	Lot #:	400169-0154-AG
Expiration Date (if any):	N/A	Catalog #:	FG77150MM

Standard ID#:	M14368	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	06/30/2020	Lot #:	987189-75
Expiration Date (if any):	12/2021	Catalog #:	S4400-1000343

Standard ID#:	M14369	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	06/30/2020	Lot #:	1053109-22
Expiration Date (if any):	12/2021	Catalog #:	S4400-10M411-500

Standard ID#:	M14370	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	06/30/2020	Lot #:	1053109-8
Expiration Date (if any):	12/2021	Catalog #:	4400-10M411

Standard ID#:	M14371	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06/30/2020	Lot #:	1047570-9
Expiration Date (if any):	12/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14372	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	06/30/2020	Lot #:	1050965-10
Expiration Date (if any):	12/2021	Catalog #:	4400-10M544

Standard Log #:	M14363	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/24/2020	Expiration Date:	07/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14364	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/24/2020	Expiration Date:	07/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14365	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/24/2020	Expiration Date:	06/25/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14366	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/25/2020	Expiration Date:	07/25/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14367	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/25/2020	Expiration Date:	07/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14278 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14360	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14361	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14362	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/24/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14358	Vendor:	Spex Certprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/22/2020	Lot #:	54-161CR
Expiration Date (if any):	06/30/2021	Catalog #:	XSOIKE-1-250

Standard ID#:	M14359	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/23/2020	Lot #:	52-213CRX
Expiration Date (if any):	06/30/2021	Catalog #:	INT-A1

Standard ID#:	M14355	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	06/17/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14356	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	06/17/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14357	Vendor:	Mettler toledo
Analyst:	NAH	Chemical:	Electrolyte Friscolyt-b
Date Received:	06/17/2020	Lot #:	1F091L
Expiration Date (if any):	03/31/2023	Catalog #:	51340053

Standard Log #:	M14350	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/16/2020	Expiration Date:	07/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14351	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/16/2020	Expiration Date:	07/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14352	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/16/2020	Expiration Date:	06/17/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14353	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/17/2020	Expiration Date:	07/17/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14354	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/17/2020	Expiration Date:	07/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14278 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14347	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/16/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14348	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/16/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14349	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/16/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14346	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Sodium Chloride
Date Received:	06/16/2020	Lot #:	196616
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M14344	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/12/2020	Expiration Date:	06/12/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard Log #:	M14345	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/12/2020	Expiration Date:	06/12/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

		Instrument:	ICP 6500
Standard Log #:	M14342	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	06/11/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14214, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14120, **0.5 mL** Mo (1000 mg/L) M14121, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M14008 and **0.5 mL** Ti (1000 mg/L) M14009.		

		Instrument:	ICP 6500
Standard Log #:	M14343	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/11/2020	Expiration Date:	01/30/2021
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14120, **15 mL** Fe (10,000 mg/L) M14101, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14195 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14215 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14340	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/11/2020	Expiration Date:	03/20/2021
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14215 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M14195 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14341	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/11/2020	Expiration Date:	03/20/2021
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14215 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M14195 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14337	Standard:	ICSA4_Ni_Ti
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ni and Ti
Prep Date:	06/11/2020	Expiration Date:	04/21
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M14196 5.0 **mL** 10000 mg/L Ti M14009 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14338	Standard:	ICSA2_Ba_Be_Sn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ba, Be, and Sn
Prep Date:	06/11/2020	Expiration Date:	04/21
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M14130 5.0 **mL** 10000 mg/L Be M14203 5.0 **mL** 10000 mg/L Sn M14008 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14339	Standard:	ICSA3_Cr_Cu_Co_Mo
Analyst:	NAH	Concentrations:	**10,000 ug/L** Cr, Cu, Co and Mo
Prep Date:	06/11/2020	Expiration Date:	07/21
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M14205 0.5 **mL** 10000 mg/L Cu M14199 5.0 **mL** 1000 mg/L Co M14204 5.0 **mL** 1000 mg/L Mo M14129 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14335	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/11/2020	Expiration Date:	12/2020
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14215, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14195 and **1 mL** of Si (1000 mg/L) M14006 and 1 mL M13859 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M14104. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M14199, **10 mL** of Mn (10,000 mg/L) M14200, **10 mL** of Cr (10,000 mg/L) M14205, **10 mL** Pb (10,000 mg/L) M14202, **10 mL** of Zn (10,000 mg/L) M14197 and **10 mL** of Na (10,000 mg/L) M14103. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13984, **10 mL** of Fe (10,000 mg/L) M14004, **10 mL** of Ca (10,000 mg/L) M13985 and **10 mL** Al (10,000 mg/L) M14105. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	ICP 6500
Standard Log #:	M14336	Standard:	ICSA1_Mn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Mn
Prep Date:	06/11/2020	Expiration Date:	04/21
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M14200 brought up to volume with milli-Q H_2O.		

		Instrument:	GFAA
Standard Log #:	M14332	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/11/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14333	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/11/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14334	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/11/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M14327	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/09/2020	Expiration Date:	07/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14328	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/09/2020	Expiration Date:	07/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14329	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/10/2020	Expiration Date:	07/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14278 and brought up to volume.		

Standard Log #:	M14330	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/10/2020	Expiration Date:	07/10/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14331	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/10/2020	Expiration Date:	06/11/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14324	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/09/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14325	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/09/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14326	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/09/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14323	Vendor:	ThermoFisher
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	06/08/2020	Lot #:	216646
Expiration Date (if any):	11/30/2021	Catalog #:	39043

Standard Log #:	M14318	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/03/2020	Expiration Date:	07/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14319	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/03/2020	Expiration Date:	07/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14320	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/03/2020	Expiration Date:	06/04/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14321	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/04/2020	Expiration Date:	07/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14277 and brought up to volume.		

Standard Log #:	M14322	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/04/2020	Expiration Date:	07/04/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14315	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/03/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14316	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/03/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14317	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/03/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14310	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/27/2020	Expiration Date:	06/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14311	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/27/2020	Expiration Date:	06/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14312	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/28/2020	Expiration Date:	06/28/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14313	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	05/28/2020	Expiration Date:	05/29/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14314	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/28/2020	Expiration Date:	06/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14277 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14307	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14308	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14309	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/27/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14304	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/27/2020	Expiration Date:	05/27/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard Log #:	M14305	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/27/2020	Expiration Date:	05/27/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard ID#:	M14306	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Hydroxylamine Sulfate
Date Received:	05/27/2020	Lot #:	189407A
Expiration Date (if any):		Catalog #:	H331-500

Standard Log #:	M14299	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/19/2020	Expiration Date:	06/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14300	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/19/2020	Expiration Date:	06/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14301	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/20/2020	Expiration Date:	06/20/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14302	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/19/2020	Expiration Date:	05/20/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14303	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/20/2020	Expiration Date:	06/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14277 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14296	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/19/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14297	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/19/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14298	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/19/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14291	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14292	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14293	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14294	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	05/13/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14295	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14288	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/12/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14289	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/12/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14290	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/12/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14287	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	05/08/2020	Expiration Date:	05/08/2021
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH WC07 and brought up to volume.		

Standard Log #:	M14282	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	06/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14283	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	06/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14284	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/06/2020	Expiration Date:	06/06/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14285	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	05/06/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14286	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/06/2020	Expiration Date:	06/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14279	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14280	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14281	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14277	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	05/05/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14278	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	05/05/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14276	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Sodium Chloride
Date Received:	05/01/2020	Lot #:	195918
Expiration Date (if any):		Catalog #:	S271-500

		Instrument:	CETAC
Standard Log #:	M14275	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/29/2020	Expiration Date:	04/30/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14271	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/27/2020	Expiration Date:	05/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14272	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/27/2020	Expiration Date:	05/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14273	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/28/2020	Expiration Date:	05/28/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14274	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/28/2020	Expiration Date:	05/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14268	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14269	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14270	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/27/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14266	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/22/2020	Expiration Date:	05/22/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13463 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14267	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/22/2020	Expiration Date:	05/22/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14262	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/21/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14263	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14264	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14265	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	04/22/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14259	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/21/2020	Expiration Date:	04/21/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

		Instrument:	HydraII
Standard Log #:	M14260	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/21/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14261	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/21/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M14254	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	05/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14255	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	05/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14256	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/15/2020	Expiration Date:	05/15/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14257	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/15/2020	Expiration Date:	05/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14258	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	04/15/20220
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14251	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/14/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14252	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/14/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14253	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/14/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14250	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	04/14/2020	Expiration Date:	12/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	40	M13951	1000	2
Al	800	M13982	**10000**	4
As	40	M13863	1000	2
Ba	20	M14130	1000	1
Be	8	M14203	1000	0.4
Ca	1000	M13985	**10000**	5
Cd	10	M14201	1000	0.5
Co	20	M14204	1000	1
Cr	20	M14205	**10000**	0.1
Cu	20	M14199	**10000**	0.1
Fe	600	M14101	**10000**	3
Mg	1000	M14108	**10000**	5
Mn	20	M14200	**10000**	0.1
Mo	20	M14129	1000	1
Ni	20	M14196	1000	1
Pb	20	M14202	**10000**	0.1
Sb	40	M13950	1000	2
Se	40	M13948	1000	2
Tl	40	M14207	1000	2
V	20	M14198	1000	1
Zn	20	M14197	**10000**	0.1
Na	10000	M14103	**10000**	50
K	10000	M14104	**10000**	50
B	40	M13947	1000	2
Si	200	M14106	1000	10
S	2000	M14102	**10000**	10
Li	40	M14127	1000	2
Sr	20	M14007	1000	1
Sn	100	M14008	1000	5
Ti	20	M14009	1000	10

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M14247	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14248	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14249	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M14246	Vendor:	Acros Organics
Analyst:	MDS	Chemical:	Potassium Persulfate
Date Received:	04/08/2020	Lot #:	A0412553
Expiration Date (if any):		Catalog #:	424185000

Standard Log #:	M14242	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/06/2020	Expiration Date:	05/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14243	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/06/2020	Expiration Date:	05/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14244	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/07/2020	Expiration Date:	05/07/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14245	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/07/2020	Expiration Date:	05/07/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14239	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/06/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14240	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/06/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14241	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/06/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14234	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/31/2020	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14235	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/31/2020	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14236	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	05/01/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14237	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	05/01/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14238	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	04/02/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14231	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/31/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14232	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/31/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14233	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/31/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

MRL BASE STD M14230 Analyst NAH

Prep Date 03/27/2020

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13951	1000	1	02/2021
Al	400	M14105	10000	2	07/2021
Ba	10	M14130	1000	0.5	07/2021
Be	4	M14203	1000	0.2	09/2021
Cd	5	M14201	1000	0.25	09/2021
Co	10	M14204	1000	0.5	09/2021
Cr	10	M14205	10000	0.05	09/2021
Cu	10	M14199	10000	0.05	09/2021
Mg	500	M14108	10000	2.5	07/2021
Mn	10	M14200	10000	0.05	09/2021
Mo	10	M14129	1000	0.5	07/2021
Ni	10	M14196	1000	0.5	09/2021
Pb	10	M14202	10000	0.05	09/2021
Sb	20	M13950	1000	1	02/2021
V	10	M14198	1000	0.5	09/2021
Zn	10	M14197	10000	0.05	09/2021
K	1000	M14104	10000	5	07/2021
Na	1000	M14103	10000	5	07/2021
As	20	M13863	1000	1	12/2020
Ca	500	M14107	10000	2.5	07/2021
Fe	300	M14101	10000	1.5	07/2021
Se	20	M13948	1000	1	02/2021
Tl	20	M14207	1000	1	09/2021
Si	100	M14106	1000	5	07/2021
B	20	M14131	1000	1	07/2021
Li	20	M14127	1000	1	07/2021
W	50	xxxxxxxd	1000	2.5	xxxxxxx
Ti	10	M14009	1000	0.5	04/2021
Sr	10	M14007	1000	0.5	04/2021
Sn	50	M14008	1000	2.5	04/2021
S	300	M14102	10000	1.5	07/2021

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M14224	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	04/25/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14225	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	04/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14226	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	03/26/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

Standard ID#:	M14227	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	03/25/2020	Lot #:	R2-MEB691217
Expiration Date (if any):		Catalog #:	CTI-SPK-1

Standard ID#:	M14228	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE
Date Received:	03/25/2020	Lot #:	R2-MEB691216
Expiration Date (if any):		Catalog #:	CTI-GFCAL-1

Standard ID#:	M14229	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal Standard 200 NTU
Date Received:	03/25/2020	Lot #:	A0038
Expiration Date (if any):	02/2022	Catalog #:	2660449

Standard Log #:	M14222	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/24/2020	Expiration Date:	04/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14223	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/24/2020	Expiration Date:	04/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14219	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14220	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14221	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/24/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14218	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/19/2020	Lot #:	54-035CR
Expiration Date (if any):	03/30/2021	Catalog #:	XCTWI-1-500

		Instrument:	CETAC
Standard Log #:	M14216	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	03/18/2020	Expiration Date:	03/19/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14217	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/18/2020	Expiration Date:	04/18/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

Standard Log #:	M14211	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14212	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14213	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

Standard ID#:	M14214	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/17/2020	Lot #:	54-027CR
Expiration Date (if any):	03/30/2021	Catalog #:	XSPIKE-1-250

Standard ID#:	M14215	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/17/2020	Lot #:	54-028CR
Expiration Date (if any):	03/30/2021	Catalog #:	XCTWI-5-500

		Instrument:	HydraII
Standard Log #:	M14208	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14209	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14210	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/17/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14201	Vendor:	CPI
Analyst:	NAH	Chemical:	Cd 1000 mg/L
Date Received:	03/11/2020	Lot #:	996631-64
Expiration Date (if any):	09/2021	Catalog #:	S4400-100081

Standard ID#:	M14202	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10000
Date Received:	03/11/2020	Lot #:	168223-44
Expiration Date (if any):	09/2021	Catalog #:	4400-10M281

Standard ID#:	M14203	Vendor:	CPI
Analyst:	NAH	Chemical:	Be 1000 mg/L
Date Received:	03/11/2020	Lot #:	998969-61
Expiration Date (if any):	09/2021	Catalog #:	S4400-100051

Standard ID#:	M14204	Vendor:	CPI
Analyst:	NAH	Chemical:	Co 1000 mg/L
Date Received:	03/11/2020	Lot #:	1024904-44
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000131

Standard ID#:	M14205	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10000 mg/L
Date Received:	03/11/2020	Lot #:	880115-56
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M121

Standard ID#:	M14206	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	03/11/2020	Lot #:	997484-19
Expiration Date (if any):	09/2021	Catalog #:	4400-10M671

Standard ID#:	M14207	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	03/11/2020	Lot #:	991734-85
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000581

Standard ID#:	M14195	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	03/09/2020	Lot #:	54-005CR
Expiration Date (if any):	3/30/2021	Catalog #:	XCTWI-4-500

Standard ID#:	M14196	Vendor:	CPI
Analyst:	NAH	Chemical:	Ni 1000 mg/L
Date Received:	03/11/2020	Lot #:	984273-111
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000361

Standard ID#:	M14197	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10000 mg/L
Date Received:	03/11/2020	Lot #:	1025267-1
Expiration Date (if any):	09/2021	Catalog #:	4400-10M681

Standard ID#:	M14198	Vendor:	CPI
Analyst:	NAH	Chemical:	V 1000 mg/L
Date Received:	03/11/2020	Lot #:	990117-98
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000651

Standard ID#:	M14199	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10000 mg/L
Date Received:	03/11/2020	Lot #:	982824-45
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M141

Standard ID#:	M14200	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	03/11/2020	Lot #:	985851-17
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M321

Standard ID#:	M14193	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	03/09/2020	Lot #:	189407
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M14194	Vendor:	Fisher
Analyst:	NAH	Chemical:	Sodium Chloride
Date Received:	03/09/2020	Lot #:	193465
Expiration Date (if any):		Catalog #:	S271-500

		Instrument:	CETAC
Standard Log #:	M14189	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/10/2020	Expiration Date:	04/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M14190	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14191	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14192	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M14186	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14187	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14188	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14182	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/06/2020	Expiration Date:	04/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

Standard Log #:	M14183	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/06/2020	Expiration Date:	04/06/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

Standard Log #:	M14184	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14185	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14180	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/04/2020	Expiration Date:	04/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14181	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/04/2020	Expiration Date:	03/05/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14177	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/04/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14178	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/04/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14179	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/04/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14175	Vendor:	COLE-PARMER
Analyst:	BMM	Chemical:	Acid Washed TCLP Filters
Date Received:	03/02/2020	Lot #:	400168
Expiration Date (if any):		Catalog #:	FG77150MM

Standard Log #:	M14176	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/03/2020	Expiration Date:	03/03/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

		Instrument:	ICP 6500
Standard Log #:	M14172	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14173	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	02/25/2020	Expiration Date:	01/30/2021
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M14137 and 15 **mL** 10000 mg/L Fe M14004 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13859 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14174	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.**
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14137, **15 mL** Fe (10,000 mg/L) M14004, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827, **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M14121, **2.5 mLs Na 10,000 ug/mL** M14103 ,**2.5 mLs k 10,000 ug/mL** M14126 **2.5 mLs S 10,000 ug/mL** M14102, **0.5 mls Si 1000 ug/mL** M13981 and brought up to volume with milli-Q .		

		Instrument:	ICP 6500
Standard Log #:	M14170	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14138, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14137, **0.5 mL** Mo (1000 mg/L) M14129, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M14008, **0.5 mL** Ti (1000 mg/L) M141009, **0.5 mL** W (1000 mg/L) Mxxxx, **0.5 mL** Si (1000 mg/L) M14106, **0.5 mL** S (10000 mg/L) M14102, **0.5 mL** K (10000 mg/L) M14126, and **0.5 mL** Na (10000 mg/L) M14103		

		Instrument:	ICP 6500
Standard Log #:	M14171	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M14168	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/24/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14169	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **1 mL** of Si (1000 mg/L) M14106 and 1 mL M13859 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M14104. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13618, **10 mL** of Mn (10,000 mg/L) M13616, **10 mL** of Cr (10,000 mg/L) M13617, **10 mL** Pb (10,000 mg/L) M13615, **10 mL** of Zn (10,000 mg/L) M13610 and **10 mL** of Na (10,000 mg/L) M14103. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M14108, **10 mL** of Fe (10,000 mg/L) M14004, **10 mL** of Ca (10,000 mg/L) M14107 and **10 mL** Al (10,000 mg/L) M14105. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	HydraII
Standard Log #:	M14165	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14166	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14167	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/24/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6000
Standard Log #:	M14163	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	07/2021
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M14103 and **0.15 mL** K (10,000 µg/mL) M14109 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14164	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	02/21/2020	Expiration Date:	01/30/2021
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M14120, **2.5 mL** of K (10,000 mg/L) M14109, **2.5 mL** of Na (10,000 mg/L) M14103 and **7.5 mL** of Fe (10,000 mg/L) M14101 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M14159	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/20/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M14160	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	10/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13808 and K (1000 µg/mL) M13809 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14161	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	10/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13808 and **0.5 mL** K (1000 µg/mL) M13809 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14162	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	02/21/2020	Expiration Date:	07/2021
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M14109 and Na (10,000 mg/L) M14103 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6500
Standard Log #:	M14156	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	02/19/2020	Expiration Date:	01/30/21
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14138, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14120, **0.5 mL** Mo (1000 mg/L) M14129, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M141008, **0.5 mL** Ti (1000 mg/L) M14009, **0.5 mL** W (1000 mg/L) Mxxxxxxx, **0.5 mL** Si (1000 mg/L) M13981, **0.5 mL** S (10000 mg/L) M14102, **0.5 mL** K (10000 mg/L) M14109, and **0.5 mL** Na (10000 mg/L) M14103		

Standard ID#:	M14157	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	02/19/2020	Lot #:	J347-07
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14158	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	02/19/2020	Lot #:	J347-07
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M14148	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/13/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

Standard Log #:	M14152	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14153	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14154	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14155	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14149	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14150	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14151	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/17/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	HydraII
Standard Log #:	M14145	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/11/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14146	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/11/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14147	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/11/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14144	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/06/2020	Expiration Date:	03/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14142	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/05/2020	Expiration Date:	07/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14143	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	02/05/2020	Expiration Date:	02/06/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14139	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14140	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14141	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14137	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/04/2020	Lot #:	53-196CR
Expiration Date (if any):	01/30/2021	Catalog #:	XCTIWI-1-500

Standard ID#:	M14138	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/04/2020	Lot #:	XSPIKE-1-250
Expiration Date (if any):	01/30/2021	Catalog #:	53-197CR

		Instrument:	CETAC
Standard Log #:	M14136	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/30/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14132	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/29/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14133	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/29/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14134	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/29/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14135	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	01/29/2020	Expiration Date:	01/30/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

Standard ID#:	M14125	Vendor:	CPI International
Analyst:	MDS	Chemical:	Mercury 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1009904-41
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000331

Standard ID#:	M14126	Vendor:	CPI International
Analyst:	MDS	Chemical:	Potassium 10,000 µg/mL
Date Received:	01/24/2020	Lot #:	980507-31
Expiration Date (if any):	07/20/2021	Catalog #:	4400-10M411

Standard ID#:	M14127	Vendor:	CPI International
Analyst:	MDS	Chemical:	Lithium 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1017511-7
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000291

Standard ID#:	M14128	Vendor:	CPI International
Analyst:	MDS	Chemical:	Phosphorus 10,000 µg/mL
Date Received:	01/24/2020	Lot #:	979480-24
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-10M391

Standard ID#:	M14129	Vendor:	CPI International
Analyst:	MDS	Chemical:	Molybdenum 1000 µg/mL
Date Received:	01/24/2020	Lot #:	987189-55
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000343

Standard ID#:	M14130	Vendor:	CPI International
Analyst:	MDS	Chemical:	Barium 1000 µg/mL
Date Received:	01/24/2020	Lot #:	994634-53
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-100041

Standard ID#:	M14131	Vendor:	CPI International
Analyst:	MDS	Chemical:	Boron 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1024903-6
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-100074

		Instrument:	HydraII
Standard Log #:	M14122	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/23/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14123	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/23/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14124	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/23/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14119	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Hg 1000 ug/mL
Date Received:	01/21/2020	Lot #:	CL11-96HGY
Expiration Date (if any):	01/30/2021	Catalog #:	CLHG4-2Y

Standard ID#:	M14120	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	01/21/2020	Lot #:	2-96JX
Expiration Date (if any):	01/30/2021	Catalog #:	INT-A1

Standard ID#:	M14121	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	01/21/2020	Lot #:	1-008DMP
Expiration Date (if any):	01/21/2021	Catalog #:	XCTWI-5-500

		Instrument:	CETAC
Standard Log #:	M14117	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/17/2020	Expiration Date:	02/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14118	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/17/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13951	1000	0.01
As	2	M13863	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13950	1000	0.1
Se	2	M13948	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	HydraII
Standard Log #:	M14114	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/16/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14115	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/16/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14116	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/16/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14111	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14112	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14113	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M14106	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	01/13/2020	Lot #:	175213-60
Expiration Date (if any):	07/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14107	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 ug/mL
Date Received:	01/13/2020	Lot #:	855297-68
Expiration Date (if any):	07/2021	Catalog #:	4400-10M91

Standard ID#:	M14108	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 ug/mL
Date Received:	01/13/2020	Lot #:	1013353-36
Expiration Date (if any):	07/2021	Catalog #:	4400-10M311

Standard ID#:	M14109	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000ug/mL
Date Received:	01/13/2020	Lot #:	980507-79
Expiration Date (if any):	07/2021	Catalog #:	4400-10M411

Standard Log #:	M14110	Reagent:	TCLP EXTRACTION FLUID #2
Analyst:	BMM	pH:	2.88 ± 0.05
Prep Date:	01/14/2020	Expiration Date:	01/14/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 . Dilute to 20 L and mix.		

Standard ID#:	M14100	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	01/10/2020	Lot #:	1905324-500
Expiration Date (if any):	07/31/2021	Catalog #:	HP10M67-1-500

Standard ID#:	M14101	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 ug/mL
Date Received:	01/13/2020	Lot #:	998527-45
Expiration Date (if any):	07/2021	Catalog #:	4400-10M261

Standard ID#:	M14102	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/13/2020	Lot #:	9987745-28
Expiration Date (if any):	07/2021	Catalog #:	4400-10M544

Standard ID#:	M14103	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 ug/mL
Date Received:	01/13/2020	Lot #:	752887-79
Expiration Date (if any):	01/2021	Catalog #:	4400-40M521

Standard ID#:	M14104	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	01/13/2020	Lot #:	980507-31
Expiration Date (if any):	07/2021	Catalog #:	4400-10M411

Standard ID#:	M14105	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 ug/mL
Date Received:	01/13/2020	Lot #:	992536-34
Expiration Date (if any):	07/2021	Catalog #:	4400-10M11

Standard Log #:	M14099revised below	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	01/09/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13951	1000	0.25
Al	10	M13962	**10000**	0.05
As	20	M13863	1000	1
Ba	2	M13949	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13841	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13963	**10000**	0.2
Mg	25	M13752	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13860	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13950	1000	1
Se	20	M13948	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14099	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	01/09/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13951	1000	0.25
Al	10	M13962	**10000**	0.05
As	20	M13863	1000	1
Ba	2	M13949	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13841	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13963	**10000**	0.2
Mg	25	M13752	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13860	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13950	1000	1
Se	20	M13948	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13862	**10000**	2.5
K	500	M14003	**10000**	2.5
B	20	M13947	1000	1
Si	100	M13981	1000	5
S	200	M13696	**10000**	1
Li	20	M13577	1000	1
Sr	20	M14007	1000	1
Sn	20	M14008	1000	1
Ti	20	M14009	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14097	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/09/2020	Expiration Date:	02/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14098	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	01/09/2020	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13696	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14096	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	01/08/2020	Expiration Date:	01/09/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14093	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/08/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14094	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/08/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14095	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/08/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14092	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/26/2019	Expiration Date:	01/26/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14088	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/20/2019	Expiration Date:	01/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14089	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/24/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14090	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/24/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14091	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14086	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/19/2019	Expiration Date:	12/20/2019
Prep:	Carefully mixed **3** parts HCl AB.862 with **1** part HNO_3 AB.861 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14087	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/24/2019	Expiration Date:	12/25/2019
Prep:	Carefully mixed **3** parts HCl AB.862 with **1** part HNO_3 AB.861 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14083	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14084	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14085	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14082	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Acid Washed TCLP Filters
Date Received:	12/11/2019	Lot #:	400168-9329-CM
Expiration Date (if any):		Catalog #:	FG77150MM

Standard ID#:	M14079	Vendor:	Thermofisher Scientific
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	12/12/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard ID#:	M14080	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	12/12/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14081	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	12/12/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M14078A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	12/11/2019	Expiration Date:	02/21

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13947	1000	0.8
Si	200	M13810	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14078b Combined with	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	12/11/2019	Expiration Date:	03/201

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13604	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14077	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	12/11/2019	Expiration Date:	02/20

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13851	1000	0.2
Al	36	M13982	**10000**	0.18
As	24	M13863	1000	1.2
Ba	1.8	M13949	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13841	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13983	**10000**	0.5
Mg	40	M13752	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13860	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13950	1000	0.6
Se	13	M13948	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14076	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	12/10/2019	Expiration Date:	02/20

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13951	1000	0.2
Al	9.6	M13982	**10000**	0.048
As	32	M13863	1000	1.6
Ba	2	M13949	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13841	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13983	**10000**	0.36
Mg	32	M13752	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13860	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13950	1000	1.6
Se	16	M13948	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M14074	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	12/10/2019	Expiration Date:	02/2021
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13951 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M14075	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/10/2019	Expiration Date:	12/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	GFAA
Standard Log #:	M14072	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	12/10/2019	Expiration Date:	02/2020
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13950 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13948 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M14073	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	12/10/2019	Expiration Date:	02/2020
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13950 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13948 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M14071	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	12/10/2019	Expiration Date:	02/2020

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13948	10,000
Sb	1	1000	M13950	10,000
Ag	0.1	1000	M13951	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

		Instrument:	HydraII
Standard Log #:	M14068	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/10/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14069	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	12/10/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M14070	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/10/2019	Expiration Date:	01/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14065	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/05/2019	Expiration Date:	01/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14066	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/06/2019	Expiration Date:	01/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14067	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/10/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M14063	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14064	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/04/2019	Expiration Date:	12/05/2019
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14061	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/02/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14062	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	Acid Washed TCLP Filters
Date Received:	12/02/2019	Lot #:	400168-9305-CM
Expiration Date (if any):		Catalog #:	

		Instrument:	CETAC
Standard Log #:	M14058	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/20/2019	Expiration Date:	12/20/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14059	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/02/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14060	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/02/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M14056	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/26/2019	Expiration Date:	11/26/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

Standard Log #:	M14057	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/26/2019	Expiration Date:	11/26/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

Standard ID#:	M14054	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/20/2019	Lot #:	53-042CR
Expiration Date (if any):	11/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M14055	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/20/2019	Lot #:	53-041CR
Expiration Date (if any):	11/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M14051	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14052	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14053	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M14048	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/19/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14049	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/19/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14050	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/19/2019	Expiration Date:	11/20/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14045	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/11/2019	Expiration Date:	05/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.681 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14046	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/13/19	Expiration Date:	05/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.681 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14047	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/19/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

Standard Log #:	M14044	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/13/2019	Expiration Date:	11/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M14041	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/09/2019	Expiration Date:	11/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14042	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/12/2019	Expiration Date:	11/13/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14043	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	11/12/2019	Expiration Date:	04/12/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14038	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14039	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14040	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6000
Standard Log #:	M14035	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M14008 Sr (1000 µg/mL) M14007 Ti (1000 µg/mL) M14009 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M14036	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/04/2019	Expiration Date:	02/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXX	1000	5	XX/XXXX
Ti	10/30	M14009	1000	0.5	04/2021
Sr	10/30	M14007	1000	0.5	04/2021
Sn	20/60	M14008	1000	1	04/2021

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M14037	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/04/2019	Expiration Date:	05/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M14033	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/04/2019	Expiration Date:	05/30/2020
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M14034	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/28/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M14008, **0.1 mL** of Sr (1000 µg/mL) M14007, **0.1 mL** of Ti (1000 µg/mL) M14009, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	CETAC
Standard Log #:	M14032	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/31/2019	Expiration Date:	10/31/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M14028	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	10/2020
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13947 and Si (1000 mg/L) M13810 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14029	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/30/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13947, **0.05 mL** of Si (1000 µg/mL) M13810 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M14030	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13839 and **1.0 mL** Si (1000 mg/L) M13981 and brought up to volume using milli-Q H_2O.		

Standard ID#:	M14031	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Acid Washed TCLP filters
Date Received:	10/31/2019	Lot #:	400165
Expiration Date (if any):		Catalog #:	FG77150MM

		Instrument:	HydraII
Standard Log #:	M14024	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14025	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14026	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/29/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14027	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/30/2019	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

MRL BASE STD M14024 Analyst NAH

Prep Date 10/30/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13951	1000	1	02/2021
Al	400	M13690	10000	2	06/2020
Ba	10	M13949	1000	0.5	02/2021
Be	4	M13579	1000	0.2	02/2020
Cd	5	M13570	1000	0.25	01/2020
Co	10	M13575	1000	0.5	01/2020
Cr	10	M13617	10000	0.05	03/2020
Cu	10	M13618	10000	0.05	03/2020
Mg	500	M13752	10000	2.5	09/2020
Mn	10	M13616	10000	0.05	03/2020
Mo	10	M13860	1000	0.5	12/2020
Ni	10	M13569	1000	0.5	01/2020
Pb	10	M13615	10000	0.05	03/2020
Sb	20	M13950	1000	1	02/2021
V	10	M13578	1000	0.5	02/2020
Zn	10	M13610	10000	0.05	03/2020
K	1000	M14003	10000	5	04/2021
Na	1000	M13862	10000	5	12/2020
As	20	M13763	1000	1	12/2020
Ca	500	M13985	10000	2.5	04/2021
Fe	300	M13751	10000	1.5	09/2020
Se	20	M13948	1000	1	02/2021
Tl	20	M13583	1000	1	02/2020
Si	100	M13810	1000	5	10/2020
B	20	M13947	1000	1	02/2021
Li	20	M13577	1000	1	02/2020
W	50	Mxxxxxx	1000	2.5	xxxxxxxx
Ti	10	M14009	1000	0.5	04/2021
Sr	10	M14007	1000	0.5	03/2020
Sn	50	M14008	1000	2.5	04/2021
S	300	M13604	10000	1.5	03/2020

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14022	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14023	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	10/30/2019	Expiration Date:	02/2020
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13738 and 15 **mL** 10000 mg/L Fe M14004 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13859 and brought up to volume with milli-Q H_2O.		

Standard Log #:	M14020	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14021	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

Standard ID#:	M14016	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14017	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M14018	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	10/24/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14019	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14012	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14013	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14014	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/21/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14015	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/22/2019	Expiration Date:	09/30/2020
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13954 and **10 mL** Mg (10,000 mg/L) M13752 and brought up to volume.		

Standard Log #:	M14010	Reagent:	SPLP ACID MIX
Analyst:	BMM		60/40 H_2SO_4 - HNO_3
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 200 mL volumetric flask, partially filled with DI H_2O, add **12 g** H_2SO_4 AB.674 and **8 g** HNO_3 AB.677 and bring up to volume using DI H_2O.		

Standard Log #:	M14011	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 HNO_3 - H_2SO_4 M14010.		

Standard ID#:	M14005	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	10/17/2019	Lot #:	168189-30
Expiration Date (if any):	04/2021	Catalog #:	4400-110M671

Standard ID#:	M14006	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	10/17/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14007	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	10/17/2019	Lot #:	168227-95
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000531

Standard ID#:	M14008	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	10/17/2019	Lot #:	977645-2
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000613

Standard ID#:	M14009	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	10/17/2019	Lot #:	987438-36
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000623

		Instrument:	CETAC
Standard Log #:	M14000	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/16/2019	Expiration Date:	04/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M14001	Vendor:	ThermoFisher
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	10/17/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard Log #:	M14002	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	10/17/2019	Expiration Date:	10/17/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W47366 and brought up to volume.		

Standard ID#:	M14003	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	10/17/2019	Lot #:	980507-31
Expiration Date (if any):	04/2021	Catalog #:	4400-10M411

Standard ID#:	M14004	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/17/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13997	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13998	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13999	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M13993	Vendor:	Thermo fisher Scientific
Analyst:	NAH	Chemical:	Sodium Chloride
Date Received:	10/15/2019	Lot #:	193463
Expiration Date (if any):	06/2024	Catalog #:	S271-500

Standard ID#:	M13994	Vendor:	Thermo Fisher Scientific
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	10/15/2019	Lot #:	189407
Expiration Date (if any):	05/2024	Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13995	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/15/2019	Expiration Date:	10/16/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13996	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/16/2019	Expiration Date:	10/16/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M13992	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/15/2019	Expiration Date:	01/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M13989	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	06/2020
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13696 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13990	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13991	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/14/2019	Expiration Date:	12/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13861 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	HydraII
Standard Log #:	M13986	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13987	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13988	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13982	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10000 mg/L
Date Received:	10/09/2019	Lot #:	992536-16
Expiration Date (if any):	04/2021	Catalog #:	4400-10M11

Standard ID#:	M13983	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/09/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

Standard ID#:	M13984	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	10/09/2019	Lot #:	1013353-4
Expiration Date (if any):	04/2021	Catalog #:	4400-10M311

Standard ID#:	M13985	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	10/09/2019	Lot #:	855297-68
Expiration Date (if any):	04/2021	Catalog #:	4400-10M91

		Instrument:	CETAC
Standard Log #:	M13978	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/08/2019	Expiration Date:	04/08/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13979	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/09/2019	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M13980	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	10/08/2019	Lot #:	52-248CR
Expiration Date (if any):	10/30/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13981	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/l
Date Received:	10/09/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

		Instrument:	HydraII
Standard Log #:	M13976	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13975 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13977	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/07/2019	Expiration Date:	10/07/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13973	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13974	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13975	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13970	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13971	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13972	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13969	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	10/02/2019	Expiration Date:	10/02/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13967	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13966 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13968	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/01/2019	Expiration Date:	10/01/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13964	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13965	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13966	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13963	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/30/2019	Expiration Date:	09/30/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13961	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	09/24/2019	Lot #:	7-093AB
Expiration Date (if any):	09/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	CETAC
Standard Log #:	M13962	Reagent:	Stannous Chloride Solution
Analyst:	NAH		
Prep Date:	09/25/2019	Expiration Date:	09/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13960	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/19/2019	Expiration Date:	03/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.678 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M13958	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	HydraII
Standard Log #:	M13959	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13958 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13955	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/17/2019	Expiration Date:	09/17/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13956	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13957	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M13952	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13953	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13954	Vendor:	Environmental Expresss
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/13/2019	Lot #:	1925215
Expiration Date (if any):	09/30/2020	Catalog #:	HP1900-100

		Instrument:	CETAC
Standard Log #:	M13946	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/10/2019	Expiration Date:	03/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13947	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 mg/lL
Date Received:	09/10/2019	Lot #:	982524-80
Expiration Date (if any):	02/2021	Catalog #:	S4400-100074

Standard ID#:	M13948	Vendor:	CPI
Analyst:	NAH	Chemical:	Selenium 1000 mg/L
Date Received:	09/10/2019	Lot #:	982461-61
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000491

Standard ID#:	M13949	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	09/10/2019	Lot #:	994634-28
Expiration Date (if any):	02/2021	Catalog #:	S4400-100041

Standard ID#:	M13950	Vendor:	CPI
Analyst:	NAH	Chemical:	Antimony 1000 mg/L
Date Received:	09/10/2019	Lot #:	1013797-3
Expiration Date (if any):	02/2019	Catalog #:	S4400-100023

Standard ID#:	M13951	Vendor:	CPI
Analyst:	NAH	Chemical:	Silver 1000 mg/L
Date Received:	09/10/2019	Lot #:	975475-71
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000511

		Instrument:	HydraII
Standard Log #:	M13944	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13943 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13945	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/09/2019	Expiration Date:	09/09/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13941	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13942	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13943	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13938	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13939	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13940	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13937	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **2.5 mL** of K (10,000 mg/L) M13755, **2.5 mL** of Na (10,000 mg/L) M13691 and **7.5 mL** of Fe (10,000 mg/L) M13695 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13933	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13934	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13935	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13755 and Na (10,000 mg/L) M13691 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13936	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13691 and **0.15 mL** K (10,000 µg/mL) M13755 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M13929	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13928 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13930	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/03/2019	Expiration Date:	10/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard Log #:	M13931	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13932	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	HydraII
Standard Log #:	M13926	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13927	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13928	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13924	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	08/29/2019	Lot #:	1833905
Expiration Date (if any):	02/28/2021	Catalog #:	HP10M67-1

		Instrument:	HydraII
Standard Log #:	M13920	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13919 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13921	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/28/2019	Expiration Date:	09/28/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13922	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13923	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	HydraII
Standard Log #:	M13917	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13918	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13919	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13916	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13914	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13915	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M13913 (A)	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	12/19/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13861	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13913 combined with A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	06/20/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13696	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13911	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13912	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/21/2019	Expiration Date:	08/21/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13909	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13908 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13910	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/20/2019	Expiration Date:	08/20/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13906	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13907	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13908	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13904	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13905	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13902	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/15/2019	Expiration Date:	02/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13903	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/15/2019	Lot #:	52-161Cr
Expiration Date (if any):	8/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13898	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/13/2019	Expiration Date:	08/13/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13899	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13900	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13901	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/13/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13897	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	08/12/2019	Expiration Date:	10/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

Standard Log #:	M13896	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	08/09/2019	Expiration Date:	08/09/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13895	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/06/2019	Expiration Date:	02/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13894	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13893 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13891	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13892	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13893	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13890	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/29/2019	Expiration Date:	01/29/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13888	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13889	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M13884	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	07/22/2019	Expiration Date:	
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13885	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13886	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13887	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13883	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13879	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13880	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13881	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13882	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13881 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13876	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13877	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard Log #:	M13878	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M45383. Dilute to 20 L and mix.		

Standard Log #:	M13873	Reagent:	Potassium Permanganate Solution
Analyst:	NAH		
Prep Date:	07/17/2019	Expiration Date:	07/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13874	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	07/17/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard Log #:	M13875	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	NAH		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13872	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/12/2019	Expiration Date:	07/12/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13871	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/11/2019	Expiration Date:	07/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13870	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/10/2019	Expiration Date:	07/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13869	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/08/2019	Expiration Date:	07/08/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13868	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13864	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	07/02/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13865	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard Log #:	M13866	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13867	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13858	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/26/2019	Expiration Date:	06/26/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13859	Vendor:	CPI
Analyst:	NAH	Chemical:	Ce 1000 mg/L
Date Received:	06-26-2019	Lot #:	171633-12
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000101

Standard ID#:	M13860	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	06-26-2019	Lot #:	987189-17
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000343

Standard ID#:	M13861	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06-26-2019	Lot #:	175213-60
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13862	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	06-26-2019	Lot #:	752887-32
Expiration Date (if any):	12/2020	Catalog #:	4400-10M521

Standard ID#:	M13863	Vendor:	CPI
Analyst:	NAH	Chemical:	As 1000 mg/L
Date Received:	06-26-2019	Lot #:	175385-105
Expiration Date (if any):	12/2020	Catalog #:	S4400-100031

Standard Log #:	M13856	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13857	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13855	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/19/2019	Expiration Date:	06/19/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13851	Vendor:	CPI
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06-19-2019	Lot #:	52-082CR
Expiration Date (if any):	06/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M13852	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13853	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13854	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	CETAC
Standard Log #:	M13850	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/14/2019	Expiration Date:	06/14/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13849	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	06/13/2019	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13458	1000	0.01
As	2	M13392	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13459	1000	0.1
Se	2	M13460	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13848	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13611	**10000**	0.18
As	24	M13753	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13692	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13697	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13609	**10000**	0.5
Mg	40	M13694	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13697	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13847	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13611	**10000**	0.048
As	32	M13753	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13692	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13697	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13609	**10000**	0.36
Mg	32	M13694	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13697	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13845	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M13811	10000	2.5
Na	600	M13691	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13846	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M13811	10000	13.2
Na	960	M13691	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13839	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	52-038CR
Expiration Date (if any):	05/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13840	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	5-244AB
Expiration Date (if any):	06/30/2020	Catalog #:	XCTWWI-1-500

Standard ID#:	M13841	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/11/2019	Lot #:	855297-41
Expiration Date (if any):	11/2020	Catalog #:	4400-10M91

Standard ID#:	M13842	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/11/2019	Lot #:	169484-36
Expiration Date (if any):	11/2020	Catalog #:	4400-10M11

Standard ID#:	M13843	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/11/2019	Lot #:	168189-30
Expiration Date (if any):	11/20	Catalog #:	4400-10M671

Standard ID#:	M13844	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06/11/2019	Lot #:	175213-60
Expiration Date (if any):	11/2020	Catalog #:	S4400-1000504F

		Instrument:	GFAA
Standard Log #:	M13838	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	06/07/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13836	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13837	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13835	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/06/2019	Expiration Date:	06/06/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13832	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13833	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13834	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13738, **15 mL** Fe (10,000 mg/L) M13751, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13830	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/03/2019	Expiration Date:	12/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13831	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **1 mL** of Si (1000 mg/L) M13810 and 1 mL M13703 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13811. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13618, **10 mL** of Mn (10,000 mg/L) M13616, **10 mL** of Cr (10,000 mg/L) M13617, **10 mL** Pb (10,000 mg/L) M13610, **10 mL** of Zn (10,000 mg/L) M13615 and **10 mL** of Na (10,000 mg/L) M13691. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13752, **10 mL** of Fe (10,000 mg/L) M13751, **10 mL** of Ca (10,000 mg/L) M13690 and **10 mL** Al (10,000 mg/L) M13693. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	CETAC
Standard Log #:	M13829	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/31/2019	Expiration Date:	05/31/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13828	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/30/2019	Expiration Date:	05/30/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13827	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-29-2019	Lot #:	XCTWI-4-500
Expiration Date (if any):	5/30/2020	Catalog #:	5-116AB

		Instrument:	CETAC
Standard Log #:	M13823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13824	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13825	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13826	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13818	Reagent:	TCLP 1 N HCL
Analyst:	BMM		
Prep Date:	05/22/2019	Expiration Date:	05/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.676 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13819	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/22/2019	Expiration Date:	05/22/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13817	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/16/2019	Expiration Date:	05/16/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13813	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	05/14/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13694 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13814	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13815	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13816	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13812	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/13/2019	Expiration Date:	11/13/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13808	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	158237-121
Expiration Date (if any):	10/20	Catalog #:	4400-1000521-500

Standard ID#:	M13809	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	832313-110
Expiration Date (if any):	10/20	Catalog #:	4400-1000411-500

Standard ID#:	M13810	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	05-09-2019	Lot #:	175213-60
Expiration Date (if any):	10/20	Catalog #:	S400-1000504F

Standard ID#:	M13811	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	980507-14
Expiration Date (if any):	10/20	Catalog #:	4400-10M411-500

		Instrument:	CETAC
Standard Log #:	M13805	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/07/2019	Expiration Date:	05/07/2019
Prep:	Carefully mixed **3** parts HCl AB.677 with **1** part HNO_3 AB.676 in a hood.		

Standard Log #:	M13806	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13807	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

MRL BASE STD M13804 Analyst NAH

Prep Date 05/07/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/19
Al	400	M13611	10000	2	3/20
Ba	10	M13457	1000	0.5	10/19
Be	4	M13579	1000	0.2	2/20
Cd	5	M13570	1000	0.25	1/20
Co	10	M13575	1000	0.5	1/20
Cr	10	M13617	10000	0.05	3/20
Cu	10	M13618	10000	0.05	3/20
Mg	500	M13694	10000	2.5	6/20
Mn	10	M13616	10000	0.05	3/20
Mo	10	M13697	1000	0.5	6/20
Ni	10	M13569	1000	0.5	1/20
Pb	10	M13615	10000	0.05	3/20
Sb	20	M13579	1000	1	10/19
V	10	M13578	1000	0.5	2/20
Zn	10	M13610	10000	0.05	3/20
K	1000	M13755	10000	5	9/20
Na	1000	M13691	10000	5	6/20
As	20	M13753	1000	1	10000 std 0.1, 9/20
Ca	500	M13692	10000	2.5	6/20
Fe	300	M13695	10000	1.5	6/20
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	2/20
Si	100	M13754	1000	5	9/20
B	20	M13531	1000	1	12/19
Li	20	M13577	1000	1	2/20
W	50	xxxx	1000	2.5	xxxx
Ti	10	M13573	1000	0.5	1/20
Sr	10	M13580	1000	0.5	2/20
Sn	50	M13572	1000	2.5	1/20
S	300	M13604	10000	1.5	3/20

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/19

		Instrument:	CETAC
Standard Log #:	M13800	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/06/2019	Expiration Date:	11/06/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M13801	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	12/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13531 and Si (1000 mg/L) M13731 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13802	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **1.0 mL** Si (1000 mg/L) M13754 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13803	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	05/06/2019	Expiration Date:	09/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13731 and **3 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13798	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M13799	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	05/03/2019	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXXX	1000	5	XX/XXXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M13795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/03/2019	Expiration Date:	05/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP
Standard Log #:	M13796	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	05/03/2019	Expiration Date:	02/28/2020
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13797	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	09/30/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard Log #:	M13793	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13793 and brought up to volume.		

Standard Log #:	M13794	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard ID#:	M13790	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	04/29/2019	Lot #:	1833905
Expiration Date (if any):	10/31/2020	Catalog #:	HP10M67-1

Standard ID#:	M13791	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	04/29/2019	Lot #:	51-239CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13792	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/29/2019	Expiration Date:	04/29/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13785	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678822
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-SPK-1

Standard ID#:	M13786	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678821
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-GFCAL-1

		Instrument:	GFAA
Standard Log #:	M13787	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13788	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13789	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

Standard Log #:	M13782	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/18/2019	Expiration Date:	04/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard ID#:	M13783	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	GFAA 1% Nickel Nitrate Matrix Mod.
Date Received:	04/18/2019	Lot #:	9166009
Expiration Date (if any):	09/30/2020	Catalog #:	39043

Standard Log #:	M13784	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/18/2019	Expiration Date:	10/18/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13780	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	10/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13781	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	04/17/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13779	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/12/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13693, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13778	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	04/11/2019	Expiration Date:	04/11/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13777	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/09/2019	Expiration Date:	04/09/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

Standard Log #:	M13775	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/02/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13614 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13776	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/03/2019	Expiration Date:	04/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13771	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13772	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13773	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13774	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	03/26/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13770	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/25/2019	Expiration Date:	03/25/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13768	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	03/21/2019	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13769	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	03/21/2019	Expiration Date:	09/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13765	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/21/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13766	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13767	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13763	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13764	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13761	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	03/19/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13762	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	09/19/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13758	Standard:	ICSA4_Ni_Ti
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ni and Ti
Prep Date:	03/13/2019	Expiration Date:	01/2020
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13759	Standard:	ICSA2_Ba_Be_Sn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ba, Be, and Sn
Prep Date:	03/13/2019	Expiration Date:	10/2019
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13760	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	03/13/2019	Expiration Date:	09/2019
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13756	Standard:	ICSA1_Mn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Mn
Prep Date:	03/13/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13757	Standard:	ICSA3_Cr_Cu_Co_Mo
Analyst:	NAH	Concentrations:	**10,000 ug/L** Cr, Cu, Co and Mo
Prep Date:	03/13/2019	Expiration Date:	01/20
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q H_2O.		

Standard ID#:	M13751	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	03/12/2019	Lot #:	998527-19
Expiration Date (if any):	09/2020	Catalog #:	4400-10M261

Standard ID#:	M13752	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	03/12/2019	Lot #:	982185-12
Expiration Date (if any):	09/2020	Catalog #:	4400-10M311

Standard ID#:	M13753	Vendor:	CPI
Analyst:	NAH	Chemical:	As 10000 mg/L
Date Received:	03/12/2019	Lot #:	166531-32
Expiration Date (if any):	09/2020	Catalog #:	S4400--10M31

Standard ID#:	M13754	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	03/12/2019	Lot #:	175213-60
Expiration Date (if any):	09/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13755	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	03/12/2019	Lot #:	172053-77
Expiration Date (if any):	09/2020	Catalog #:	4400-10M411

		Instrument:	CETAC
Standard Log #:	M13749	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/08/2019	Expiration Date:	03/08/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13750	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	03/08/2019	Expiration Date:	03/08/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard ID#:	M13748	Vendor:	Potters Ind. LLC (Gainger)
Analyst:	NAH	Chemical:	Glass beads Extra Fine
Date Received:	03/07/2019	Lot #:	
Expiration Date (if any):	XXXXXX	Catalog #:	6ZC13

		Instrument:	ICP
Standard Log #:	M13746	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019

Prep:

Standard Conc. (ug/L)	Pipette the following:
1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L*
10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L*
100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L*
1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L*
10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13747	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019

Prep:

Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q H_2O.
(0.5% HNO_3, 0.5% HCl)

Standard Log #:	M13743	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	02/26/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13458	1000	0.25
Al	10	M13611	**10000**	0.05
As	20	M13392	1000	1
Ba	2	M13457	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13692	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13609	**10000**	0.2
Mg	25	M13694	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13697	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13459	1000	1
Se	20	M13460	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13605	**10000**	2.5
K	500	M13733	**10000**	2.5
B	20	M13531	1000	1
Si	100	M13731	1000	5
S	200	M13604	**10000**	1
Li	20	M13537	1000	1
Sr	20	M13572	1000	1
Sn	20	M13580	1000	1
Ti	20	M13573	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	ICP 6000
Standard Log #:	M13740	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/26/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13741	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02-26-2019	Lot #:	3-153AB
Expiration Date (if any):	02/28/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13742	Vendor:	IKOHE Blasting Media
Analyst:	NAH	Chemical:	Glass Neads X-fine-20u
Date Received:	02/26/2019	Lot #:	52-144
Expiration Date (if any):	*********	Catalog #:	UL-49/52-1544

		Instrument:	CETAC
Standard Log #:	M13739	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/22/2019	Expiration Date:	02/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13734	Vendor:	SPEX CERTIPREP
Analyst:	LJF	Chemical:	HG 1000 ug/mL
Date Received:	02/21/2019	Lot #:	CL10-136HGY
Expiration Date (if any):	02/28/2020	Catalog #:	CLHG4-2Y

Standard Log #:	M13735	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13737	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	51-117CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13738	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	2-230SGX
Expiration Date (if any):	02/28/2020	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13730	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/14/2019	Expiration Date:	02/14/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13731	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	02/14/2019	Lot #:	175213-60
Expiration Date (if any):	08/20	Catalog #:	S4400-1000504F

Standard ID#:	M13732	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	139448-54
Expiration Date (if any):	08/20	Catalog #:	4400-10M671

Standard ID#:	M13733	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	172053-36
Expiration Date (if any):	08/20	Catalog #:	4400-10M411

Standard ID#:	M13727	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	02/08/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13728	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	02/08/2019	Lot #:	186819
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M13729	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/11/2019	Expiration Date:	08/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13724	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13725	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/07/2019	Expiration Date:	08/07/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13721	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	02/05/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13722	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13723	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13720	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/31/2019	Expiration Date:	01/31/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13716	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13717	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13718	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13719	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	01/30/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13713	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	01/29/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard ID#:	M13714	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	01/29/2019	Lot #:	A0391673
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13715	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	1/29/2019	Lot #:	51-013CR
Expiration Date (if any):	01/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	GFAA
Standard Log #:	M13711	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13712	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13710	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/22/2019	Expiration Date:	01/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13709	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13705	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13706	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13707	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13708	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13703	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13704	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13701	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	12/13/2018	Expiration Date:	06/13/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

Standard ID#:	M13696	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	12/11/2018	Lot #:	167967-42
Expiration Date (if any):	06/20	Catalog #:	4400-10M544

Standard ID#:	M13697	Vendor:	CPI
Analyst:	NAH	Chemical:	Moybdenum 1000 mg/L
Date Received:	12/11/2018	Lot #:	169424-59
Expiration Date (if any):	06/20	Catalog #:	4400-1000343

Standard ID#:	M13698	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/L
Date Received:	12/11/2018	Lot #:	175213-60
Expiration Date (if any):	06/20	Catalog #:	S4400-10005044F

Standard ID#:	M13699	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12/11/2018	Lot #:	50-120CR
Expiration Date (if any):	12/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13700	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/12/2018	Expiration Date:	12/12/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13689	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13690	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13691	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	752887-32
Expiration Date (if any):	06/20	Catalog #:	4400-10M521

Standard ID#:	M13692	Vendor:	CPI
Analyst:	NAH	Chemical:	Calcium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	855297-1
Expiration Date (if any):	06/20	Catalog #:	4400-10M91

Standard ID#:	M13693	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

Standard ID#:	M13694	Vendor:	CPI
Analyst:	NAH	Chemical:	Magnesium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	148250-72
Expiration Date (if any):	06/20	Catalog #:	4400-10M311

Standard ID#:	M13695	Vendor:	CPI
Analyst:	NAH	Chemical:	Iron 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13686	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13687	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13688	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13684	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/04/2018	Expiration Date:	06/04/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13683	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	10000 mg/L
Date Received:	11/30/2018	Lot #:	1805105
Expiration Date (if any):	5/31/2020	Catalog #:	HP10M67-1

Standard Log #:	M13681	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13531	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13682	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/29/2018	Expiration Date:	11/29/2018

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.

Standard Log #:	M13679	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M13517	1000	0.72
Sn	20	M13572	1000	1
Sr	3.2	M13586	1000	0.16
Ti	9.6	M13573	1000	0.48
W	24	xxxxxxxx	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13680	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13394	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13677	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13562	**10000**	0.048
As	32	M13392	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13324	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13463	**10000**	0.36
Mg	32	M13319	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13608	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13610	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13676	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13462	**10000**	0.18
As	24	M13392	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13324	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13463	**10000**	0.5
Mg	40	M13319	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13608	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13610	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13675	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/26/2018	Expiration Date:	11/26/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13671	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	11/21/2018	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13672	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13673	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13674	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13668	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/21/2018	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13669	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13670	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP
Standard Log #:	M13666	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	11/19/2018	Expiration Date:	07/2019
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13667	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/19/2018	Expiration Date:	11/19/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard Log #:	M13664	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13665	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13659	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/01/2018	Expiration Date:	11/01/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13660	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	11/01/2018	Expiration Date:	09/19
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and **15 mL** Fe (10000 mg/L) M13609 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13661	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	11/06/2018	Expiration Date:	10/19
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, **0.5 mL** Mo (1000 mg/L) M13608, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13580, **0.5 mL** Li (1000 mg/L) M13577, **0.5 mL** Sn (1000 mg/L) M13572, **0.5 mL** Ti (1000 mg/L) M13573, **0.5 mL** W (1000 mg/L) Mxxxxx, **0.5 mL** Si (1000 mg/L) M13571, **0.5 mL** S (10000 mg/L) M13530, **0.5 mL** K (10000 mg/L) M13612, and **0.5 mL** K (10000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M13657	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) XXX		

		Instrument:	ICP 6000
Standard Log #:	M13658	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/2/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13655	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13656	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	GFAA
Standard Log #:	M13651	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13652	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13653	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance std
Date Received:	10/29/2018	Lot #:	2-036AB
Expiration Date (if any):	10/30/2019	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M13648	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13649	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/30/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13650	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/27/2018	Expiration Date:	02/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13645	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/24/2018	Expiration Date:	10/24/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13646	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	10/25/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

Standard ID#:	M13647	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/24/2018	Lot #:	H226-02
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M13643	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M13639	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13640	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13641	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	10/23/2018	Expiration Date:	07/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13634	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,0000 mg/L
Date Received:	10/18/2018	Lot #:	139448-54
Expiration Date (if any):	04/20	Catalog #:	4400-10m671

Standard ID#:	M13635	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	10/18/2018	Lot #:	2-230sgx
Expiration Date (if any):	09/30/2019	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13636	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/18/2018	Expiration Date:	10/18/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13637	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance standard
Date Received:	10/18/2018	Lot #:	50-0007CR
Expiration Date (if any):	10/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13633	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/2018	Expiration Date:	10/16/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13632	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/16/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13627	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13628	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

MRL BASE STD M13626 Analyst NAH

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/2019
Al	400	M13462	10000	2	10/2019
Ba	10	M13457	1000	0.5	10/2019
Be	4	M13579	1000	0.2	02/20
Cd	5	M13570	1000	0.25	01/20
Co	10	M13575	1000	0.5	01/20
Cr	10	M13617	10000	0.05	03/20
Cu	10	M13618	10000	0.05	03/20
Mg	500	M13319	10000	2.5	04/19
Mn	10	M13616	10000	0.05	03/20
Mo	10	M13608	1000	0.5	03/20
Ni	10	M13569	1000	0.5	03/20
Pb	10	M13610	10000	0.05	03/20
Sb	20	M13459	1000	1	03/20
V	10	M13578	1000	0.5	02/20
Zn	10	M13610	10000	0.05	02/20
K	1000	M13341	10000	5	05/19
Na	1000	M13402	10000	5	08/19
As	20	M13392	1000	1	07/19
Ca	500	M13324	10000	2.5	04/19
Fe	300	M13463	10000	1.5	10/19
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	02/20
Si	100	M13394	1000	5	07/19
B	20	M13531	1000	1	07/19
Li	20	M13517	1000	1	02/20
W	50	xxxxxxx	1000	2.5	xxxxxxx
Ti	10	M13573	1000	0.5	02/20
Sr	10	M13586	1000	0.5	02/20
Sn	50	M13572	1000	2.5	02/20
S	300	M13391	10000	1.5	07/19

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M13625	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/03/2018	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume.		

Standard ID#:	M13618	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10000 mg/L
Date Received:	09/20/2018	Lot #:	148796-39
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M141

		Instrument:	CETAC
Standard Log #:	M13619	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/19/2018	Expiration Date:	09/19/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13620	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/04/2018	Lot #:	177409
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13611	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	09/20/2018	Lot #:	169484-18
Expiration Date (if any):	03/2020	Catalog #:	4400-10M11

Standard ID#:	M13612	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	09/20/2018	Lot #:	172053-36
Expiration Date (if any):	03/2020	Catalog #:	440010M411

Standard ID#:	M13613	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	09/20/2018	Lot #:	855297-1
Expiration Date (if any):	03/2020	Catalog #:	4400-10M91

Standard ID#:	M13614	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	09/20/2018	Lot #:	148250-72
Expiration Date (if any):	03/2020	Catalog #:	4400-10M311

Standard ID#:	M13615	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10000 mg/L
Date Received:	09/20/2018	Lot #:	168223-17
Expiration Date (if any):	03/2020	Catalog #:	4400-10M281

Standard ID#:	M13616	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	09/20/2018	Lot #:	167540-6
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M321

Standard ID#:	M13617	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10000 mg/L
Date Received:	09/20/2018	Lot #:	158236-7
Expiration Date (if any):	03/2020	Catalog #:	s4400-10M121

Standard ID#:	M13604	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 mg/L
Date Received:	09/20/2018	Lot #:	167967-37
Expiration Date (if any):	03/2020	Catalog #:	4400-10M544

Standard ID#:	M13605	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 mg/L
Date Received:	09/20/2018	Lot #:	752887-3
Expiration Date (if any):	03/2020	Catalog #:	4400-10M521

Standard ID#:	M13606	Vendor:	CPI
Analyst:	NAH	Chemical:	K 1000 mg/L
Date Received:	09/20/2018	Lot #:	144467-179
Expiration Date (if any):	03/2020	Catalog #:	4400-1000411-500

Standard ID#:	M13607	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 1000 mg/L
Date Received:	09/20/2018	Lot #:	158237-113
Expiration Date (if any):	03/2020	Catalog #:	4400-1000521-500

Standard ID#:	M13608	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	09/20/2018	Lot #:	169424-37
Expiration Date (if any):	03/2020	Catalog #:	S4400-1000343

Standard ID#:	M13609	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	09/20/2018	Lot #:	156651-53
Expiration Date (if any):	03/2020	Catalog #:	4400-10M261

Standard ID#:	M13610	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10000 mg/L
Date Received:	09/20/2018	Lot #:	979871-2
Expiration Date (if any):	03/2020	Catalog #:	4400-10M681

Standard Log #:	M13601	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/12/2018	Expiration Date:	09/12/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13602	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	09-12-2018	Lot #:	1-124AB
Expiration Date (if any):	09-30-2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13600	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/11/2018	Lot #:	1808015
Expiration Date (if any):	09/30/2019	Catalog #:	HP1900-100

Standard Log #:	M13599	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/08/2018	Expiration Date:	09/08/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13595	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	08/29/2018	Lot #:	49-151CR
Expiration Date (if any):	08/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13596	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/30/2018	Expiration Date:	08/30/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13597	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13598	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13588	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13589	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13590	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity std 2.0 ntu
Date Received:	08/21/2018	Lot #:	18272791
Expiration Date (if any):	08/2019	Catalog #:	8008

		Instrument:	ICP 6000
Standard Log #:	M13586	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXX		

		Instrument:	ICP 6000
Standard Log #:	M13587	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	08/20/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13584	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	08/20/2018	Expiration Date:	07/30/2019
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M13585	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M13577	Vendor:	CPI
Analyst:	NAH	Chemical:	Li 1000 mg/L
Date Received:	08/17/2018	Lot #:	751942-25
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000291

Standard ID#:	M13578	Vendor:	CPI
Analyst:	NAH	Chemical:	V 1000 mg/L
Date Received:	08/17/2018	Lot #:	152207-68
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000651

Standard ID#:	M13579	Vendor:	CPI
Analyst:	NAH	Chemical:	Be 1000 mg/L
Date Received:	08/17/2018	Lot #:	660981-5
Expiration Date (if any):	02/2020	Catalog #:	S4400-100051

Standard ID#:	M13580	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	08/17/2018	Lot #:	168227-29
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000531

Standard ID#:	M13581	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	08/17/2018	Lot #:	172053-36
Expiration Date (if any):	02/2020	Catalog #:	4400-10411

Standard ID#:	M13582	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	08/17/2018	Lot #:	1805105
Expiration Date (if any):	02/2020	Catalog #:	HP10M67-1

Standard ID#:	M13583	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	08/17/2018	Lot #:	148983-70
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000581

Standard ID#:	M13576	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/04/2018	Lot #:	49-045CR
Expiration Date (if any):	07/30/2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13569	Vendor:	CPI
Analyst:	NAH	Chemical:	Ni 1000 mg/L
Date Received:	07/27/2018	Lot #:	166665-86
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000361

Standard ID#:	M13570	Vendor:	CPI
Analyst:	NAH	Chemical:	Cd 1000 mg/L
Date Received:	07/27/2018	Lot #:	160499-32
Expiration Date (if any):	01/2020	Catalog #:	s4400-100081

Standard ID#:	M13571	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	07/27/2018	Lot #:	175213-28
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000504F

Standard ID#:	M13572	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	07/27/2018	Lot #:	144466-74
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000613

Standard ID#:	M13573	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	07/27/2018	Lot #:	152616-55
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000623

Standard ID#:	M13574	Vendor:	CPI
Analyst:	NAH	Chemical:	Hg 1000 mg/L
Date Received:	07/27/2018	Lot #:	175191-22
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000331

Standard ID#:	M13575	Vendor:	CPI
Analyst:	NAH	Chemical:	Co 1000 mg/L
Date Received:	07/27/2018	Lot #:	161693-10
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000131

Standard Log #:	M13563	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/19/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13466	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13557	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	07/17/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

		Instrument:	ICP 6000
Standard Log #:	M13558	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/17/2018	Expiration Date:	05/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q H_2O.		

Standard Log #:	M13559	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/17/2018	Expiration Date:	01/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13559 and brought up to volume.		

Standard Log #:	M13554	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	05/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13390	1000	0.8
Si	200	M13338	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13555	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13466	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M13553	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	07/12/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13547	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	07/09/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13548	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/10/2018	Expiration Date:	01/10/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13549	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/10/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

Standard Log #:	M13534	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	07/02/2018	Expiration Date:	09/16/2018

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13169	10,000
Tl	1	1000	M13124	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13535	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/02/2018	Lot #:	48-179CR
Expiration Date (if any):	06/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13526	Vendor:	CPI
Analyst:	NAH	Chemical:	YTTRIUM 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	138448-54
Expiration Date (if any):	12/2019	Catalog #:	4400-10M671

Standard ID#:	M13527	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10,000
Date Received:	06/22/2018	Lot #:	172053-32
Expiration Date (if any):	12/2019	Catalog #:	4400-104411

Standard ID#:	M13528	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	06/22/2018	Lot #:	142610-115
Expiration Date (if any):	12/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13529	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	156651-42
Expiration Date (if any):	12/2019	Catalog #:	4400-10M261

Standard ID#:	M13530	Vendor:	CPI
Analyst:	NAH	Chemical:	SULFUR 10,000ug/mL
Date Received:	06/22/2018	Lot #:	129880-46
Expiration Date (if any):	12/2019	Catalog #:	4400-10M544

Standard ID#:	M13531	Vendor:	CPI
Analyst:	NAH	Chemical:	BORON 1000 ug/mL
Date Received:	06/22/2018	Lot #:	158372-91
Expiration Date (if any):	12/2019	Catalog #:	S4400-100074

Standard ID#:	M13532	Vendor:	CPI
Analyst:	NAH	Chemical:	CUSTOM ASSURANCE STANDARD
Date Received:	06/22/2018	Lot #:	48-146CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-1-500

Standard ID#:	M13520	Vendor:	FRISCOLYT
Analyst:	NAH	Chemical:	Electrolyte Solution
Date Received:	06/13/2018	Lot #:	1DO71H
Expiration Date (if any):	12/03/2021	Catalog #:	51 340 053

		Instrument:	ICP
Standard Log #:	M13521	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	06/13/2018	Expiration Date:	10/20/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard ID#:	M13518	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2018	Lot #:	48-060CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6500
Standard Log #:	M13519	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/11/2018	Expiration Date:	06/30/2019

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M13166, **10 mL** of Mn (10,000 mg/L) M13167, **10 mL** of Cr (10,000 mg/L) M13165, **10 mL** Pb (10,000 mg/L) M13169, **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M13319, **10 mL** of Fe (10,000 mg/L) M13463, **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

		Instrument:	CETAC
Standard Log #:	M13510	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/01/2018	Expiration Date:	06/01/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13511	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/04/2018	Lot #:	176877
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13506	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-042CR
Expiration Date (if any):	05/30/2019	Catalog #:	XCTWI-4-500

Standard ID#:	M13507	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-041CR
Expiration Date (if any):	05/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13508	Vendor:	RESTEK
Analyst:	NAH	Chemical:	Diatomaceous earth (Celite 566)
Date Received:	05/22/2018	Lot #:	811030-BG
Expiration Date (if any):	N/A	Catalog #:	26033

Standard ID#:	M13495	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/15/2018	Lot #:	H052-17
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	ICP 6000
Standard Log #:	M13485	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13486	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13487	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13488	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13484	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	05/03/2018	Lot #:	1805105
Expiration Date (if any):	10/31/2019	Catalog #:	HP10M67-1

		Instrument:	ICP 6000
Standard Log #:	M13471	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13472	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/02/2018
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13473	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	04/26/2018	Expiration Date:	10/30/2018
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13467	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	04/20/2018	Lot #:	147497-47
Expiration Date (if any):	10/2019	Catalog #:	4400-10M91

Standard ID#:	M13468	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/24/2018	Lot #:	174236
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13469	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/24/2018	Expiration Date:	04/24/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13462	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	04/20/2018	Lot #:	158058-23
Expiration Date (if any):	10/2019	Catalog #:	4400-10M11

Standard ID#:	M13463	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	04/20/2018	Lot #:	156651-18
Expiration Date (if any):	10/2019	Catalog #:	4400-10M261

Standard ID#:	M13464	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	04/20/2018	Lot #:	148250-67
Expiration Date (if any):	10/2019	Catalog #:	4400-10M311

Standard ID#:	M13465	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	04/20/2018	Lot #:	172053-2
Expiration Date (if any):	10/2019	Catalog #:	4400-10M411

Standard ID#:	M13466	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	04/20/2018	Lot #:	129880-37
Expiration Date (if any):	10/2019	Catalog #:	4400-10M544

Standard ID#:	M13457	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	04/20/2018	Lot #:	158364-3
Expiration Date (if any):	10/2019	Catalog #:	S4400-100041

Standard ID#:	M13458	Vendor:	CPI
Analyst:	NAH	Chemical:	Ag 1000 mg/L
Date Received:	04/20/2018	Lot #:	162712-9
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000511

Standard ID#:	M13459	Vendor:	CPI
Analyst:	NAH	Chemical:	Sb 1000 mg/L
Date Received:	04/20/2018	Lot #:	153992-1
Expiration Date (if any):	10/2019	Catalog #:	S4400-100023

Standard ID#:	M13460	Vendor:	CPI
Analyst:	NAH	Chemical:	Se 1000 mg/L
Date Received:	04/20/2018	Lot #:	154366-16
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000491

Standard ID#:	M13461	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	04/20/2018	Lot #:	107139-108
Expiration Date (if any):	10/2019	Catalog #:	4400-10M521

Standard Log #:	M13445	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/19/2018	Expiration Date:	10/19/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12652 and brought up to volume.		

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M13446	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	04/19/2018	Expiration Date:	12/2019
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20.		

LPMT1-04
Metals Reagents and Standards
Prep Logbook
Created: 12/19/17

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Author: nhenn on: 4/19/2018 11:15:48 AM
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Project: Unassigned
Page Title: 041118

		Instrument:	ICP 6000
Standard Log #:	M13438	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	07/2019
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13439	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	01/19/2019
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M13437	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/10/2018	Expiration Date:	07/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13390	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

Standard ID#:	M13436a	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal 200 NTU
Date Received:	04/10/2018	Lot #:	A7354
Expiration Date (if any):	12/2019	Catalog #:	2660449

Standard ID#:	M13400	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	106958-116
Expiration Date (if any):	08/2019	Catalog #:	4400-10M411

Standard ID#:	M13401	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	139448-54
Expiration Date (if any):	08/2019	Catalog #:	4400-10M671

Standard ID#:	M13402	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	107139-126
Expiration Date (if any):	08/2019	Catalog #:	4400-10M521

Standard Log #:	M13388	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard Log #:	M13389	Reagent:	SPLP EXTRACTION FLUID WEST #
Analyst:	BMM	pH:	5.00 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard ID#:	M13390	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 ug/mL
Date Received:	01/23/2018	Lot #:	158372-29
Expiration Date (if any):	07/2019	Catalog #:	S4400-100074

Standard ID#:	M13391	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/23/2018	Lot #:	129880-28
Expiration Date (if any):	07/2019	Catalog #:	4400-10M544

Standard ID#:	M13392	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 ug/mL
Date Received:	01/23/2018	Lot #:	143356-61
Expiration Date (if any):	07/2019	Catalog #:	S4400-100031

Standard ID#:	M13393	Vendor:	CPI
Analyst:	NAH	Chemical:	Molybdenum 1000 ug/mL
Date Received:	01/23/2018	Lot #:	134169R-102
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000343

Standard ID#:	M13394	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	01/23/2018	Lot #:	142610-58
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13350	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	12/12/2017	Lot #:	1729606
Expiration Date (if any):	06//2019	Catalog #:	10M67-1

Standard ID#:	M13226	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	07/21/2017	Lot #:	170229
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13199	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana I soil
Date Received:	05/15/2017	Lot #:	2710a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13200	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana II soil
Date Received:	05/15/2017	Lot #:	2711a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13186	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	05/22/2017	Lot #:	166161
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13187	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	05/22/2017	Lot #:	1705408
Expiration Date (if any):	11/16/2018	Catalog #:	HP10M67-1

Standard ID#:	M13080	Vendor:	FISHER
Analyst:	LJF	Chemical:	POTASSIUM PERMANGANATE
Date Received:	01/30/2017	Lot #:	164080
Expiration Date (if any):		Catalog #:	P279-212

Standard ID#:	M13059	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	12/19/2016	Lot #:	A0375670
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13024	Vendor:	METTLER TOLEDO
Analyst:	LJF	Chemical:	FRISCOLYT
Date Received:	11/01/2016	Lot #:	1B167D
Expiration Date (if any):		Catalog #:	51340053

INORGANIC
CLP FORMS
DOCUMENTS

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	88.4	Lab Sample ID:	1034763
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	88.4					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.4	Lab Sample ID:	1034767
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194382	Analysis Date/Time	08/10/2021 10:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	86.4					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-1224

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	85.5	Lab Sample ID:	1034769
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194382	Analysis Date/Time	08/10/2021 10:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	85.5					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-612

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.7	Lab Sample ID:	1034764
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	90.7					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-12-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.2	Lab Sample ID:	1034770
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194382	Analysis Date/Time	08/10/2021 10:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	92.2					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

AA-12-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	93.5	Lab Sample ID:	1034771
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194382	Analysis Date/Time	08/10/2021 10:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	93.5					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

B-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	93.3	Lab Sample ID:	1034760
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	93.3					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

B-8-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.0	Lab Sample ID:	1034759
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	86.0					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

C-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.6	Lab Sample ID:	1034772
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194382	Analysis Date/Time	08/10/2021 10:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	92.6					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

C-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.4	Lab Sample ID:	1034762
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	94.4					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

D-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	91.6	Lab Sample ID:	1034761
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	91.6					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

E-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.9	Lab Sample ID:	1034768
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194382	Analysis Date/Time	08/10/2021 10:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	92.9					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

F-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	95.6	Lab Sample ID:	1034752
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	95.6					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

F-1-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	95.3	Lab Sample ID:	1034765
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	95.3					

CT LABORATORIES
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Sample Description

F-11-06

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.7	Lab Sample ID:	1034751
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	90.7					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

G-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.3	Lab Sample ID:	1034753
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	94.3					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

G-5-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.6	Lab Sample ID:	1034754
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	94.6					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

H-2-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.4	Lab Sample ID:	1034750
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	94.4					

CT LABORATORIES
delivering more than data from your environmental analyses

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INORGANIC ANALYSIS DATA SHEET

Sample Description

H-8-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	91.0	Lab Sample ID:	1034755
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	91.0					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.3	Lab Sample ID:	1034758
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	90.3					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-10-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	89.7	Lab Sample ID:	1034766
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	89.7					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.4	Lab Sample ID:	1034756
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	86.4					

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

I-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.5	Lab Sample ID:	1034757
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	94.5					

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	88.1	Lab Sample ID:	1034747
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	88.1					

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-5-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.9	Lab Sample ID:	1034748
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	94.9					

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-9-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.3	Lab Sample ID:	1034749
Analytical Method:	EPA 8000C	Date Received:	08/06/2021
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194381	Analysis Date/Time	08/10/2021 10:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	94.3					

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

C-4-06

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAMPL

Matrix: SOLID

SDG No.: 163670

% Solid for Sample: 94.4

Concentration Units: %

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 194381

ICAL Calibration #:

Sample #: 1036541

Parent Sample #: 1034762

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Solids, Percent	08/10/2021	10:20	8	94.4		95.2		0.844		GRA

INORGANICS
RAW DATA
DOCUMENTS

TOTAL SOLIDS (PERCENT)

LIMS #: 194381

Start Date:	**08/10/2021**	**Start Time:**	10:20		**Analyst:**	MRZ
	Sample ID#	**Dish#**	**Tared Weight g** *(D)*	**Wet Weight g** *(E)*	**Dry Weight g** *(F)*	**RESULTS % TOTAL SOLIDS**
1)	1034747	T807	2.51	13.39	12.10	88.1%
2)	1034748	T433	2.60	14.08	13.50	94.9%
3)	1034749	T434	2.58	13.25	12.64	94.3%
4)	1034750	T435	2.60	14.82	14.14	94.4%
5)	1034751	T436	2.56	14.76	13.62	90.7%
6)	1034752	T437	2.60	14.98	14.43	95.6%
7)	1034753	T438	2.59	15.56	14.82	94.3%
8)	1034754	T339	2.55	14.08	13.46	94.6%
9)	1034755	T340	2.55	14.82	13.71	91.0%
10)	1034756	T341	2.55	13.67	12.16	86.4%
11)	1034757	T142	2.50	13.97	13.34	94.5%
12)	1034758	T143	2.49	13.60	12.52	90.3%
13)	1034759	T144	2.51	13.40	11.87	86.0%
14)	1034760	T145	2.49	13.75	13.00	93.3%
15)	1034761	T126	2.54	13.60	12.67	91.6%
16)	1034763	T127	2.53	14.56	13.16	88.4%
17)	1034764	T128	2.50	13.91	12.85	90.7%
18)	1034765	T129	2.50	13.18	12.68	95.3%
19)	1034766	T150	2.51	14.79	13.53	89.7%
*20)	1034762	T151	2.52	13.86	13.22	94.4%
Dup 20)	1034762	T152	2.54	13.35	12.83	95.2%

Dry Weight = Sample + Dish (gms)		* 2nd Reading,	13.22
Wet Weight = Sample + Dish (gms)			Set RPD: 1%
	Balance: VOB-01		
			*mg Difference 0

Stop Date:	08/11/2021
Stop Time:	09:56

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of…((Sample-Dup % TS)/(Average%TS))*100

TOTAL SOLIDS (PERCENT)

LIMS #: 194382

Start Date:	08/10?2021	**Start Time:**	10:42		**Analyst:**	MRZ
	Sample ID#	**Dish#**	**Tared Weight g** *(D)*	**Wet Weight g** *(E)*	**Dry Weight g** *(F)*	**RESULTS % TOTAL SOLIDS**
1)	1034767	T153	2.49	13.39	11.91	86.4%
2)	1034768	T959	2.51	13.00	12.26	92.9%
3)	1034769	T960	2.48	13.70	12.07	85.5%
4)	1034770	T961	2.49	14.12	13.21	92.2%
5)	1034771	T962	2.48	13.66	12.93	93.5%
6)	1034772	T876	2.57	13.31	12.51	92.6%
7)						0.0%
8)						0.0%
9)						0.0%
10)						0.0%
11)						0.0%
12)						0.0%
13)						0.0%
14)						0.0%
15)						0.0%
16)						0.0%
17)						0.0%
18)						0.0%
19)						0.0%
*20)						
Dup 20)						

Dry Weight = Sample + Dish (gms)		* **2nd Reading,**	13.22
Wet Weight = Sample + Dish (gms)			Set RPD: 1%
	Balance: VOB-01		*mg Difference 0

Stop Date:	08/11/2021
Stop Time:	09:58

Calculations

*2nd reading must be within 50mg of the 1st

% Total Solids = ((*F-D*)/(*E-D*))*100

RPD, % = Absolute value of…((Sample-Dup % TS)/(Average%TS))*100

INORGANICS
LOGBOOK
DOCUMENTS

WSOLIDS Analytical Run
194381 on 8/12/2021

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
163670	1034747		8/2/2021 10:30		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034748	J-1-06	8/2/2021 10:42		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034749	J-5-06	8/2/2021 10:54		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034750	J-9-06	8/2/2021 12:29		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034751	H-2-06	8/2/2021 12:06		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034752	F-11-06	8/2/2021 11:45		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034753	F-1-06	8/2/2021 12:11		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034754	G-3-06	8/2/2021 12:15		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034755	G-5-06	8/2/2021 12:41		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034756	H-8-06	8/2/2021 11:05		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034757	I-1-06	8/2/2021 11:11		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034758	I-3-06	8/2/2021 11:32		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034759	I-10-06	8/2/2021 15:18		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034760	B-8-06	8/2/2021 15:06		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
163670	1034761	B-4-06	8/2/2021 14:09		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		D-3-06									

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: WetChem C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp6B2.tmp Page 1 of 1

WSOLIDS Analytical Run
194381 on 8/12/2021

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
163670	1034762		8/2/2021 14:31		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		C-4-06		Designated MS/MSD							
163670	1034763		8/2/2021 15:56		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		A-11-06									
163670	1034764		8/3/2021 13:50		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		A-11-612									
163670	1034765		8/2/2021 11:45		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		F-1-06-FD									
163670	1034766		8/2/2021 11:32		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		I-10-06-FD									
	1036541		8/2/2021 14:31				SOLIDS,PERCENT				
		C-4-06		DUP 1034762				0			

21 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp6B2.tmp Page 1 of 1

WSOLIDS Analytical Run
194382 on 8/12/2021

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
163670	1034767		8/2/2021 15:56		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		A-11-06-FD									
163670	1034768		8/2/2021 16:25		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		E-10-06									
163670	1034769		8/3/2021 14:00		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		A-11-1224									
163670	1034770		8/3/2021 14:30		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		A-12-06									
163670	1034771		8/3/2021 14:27		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		AA-12-06									
163670	1034772		8/2/2021 14:44		WESTON SOLUTIONS, INC.	RADFORD AAP LEAD SOIL SAMPLING	SOLIDS,PERCENT		S	4	
		C-10-06									

6 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC26-10 Data Review Checklist

		Method: Percent Solids SW846-8000C	Independent Data Review Checklist		Balance: VOB-01
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
194381, 194382, 194292, 194326,194357, 194337,	08/10/2021	MRZ	RLD	08/12/2021	Yes

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were samples analyzed within hold time?	14 days or program/project specific	Yes		Yes		Qualify data prepared after hold time
2. Were samples dried overnight?	> 8hours	Yes		Yes		If No: place samples back into oven for mimium of 8 hours of total dry time.
3. Were drying start and stop times recorded?	---	Yes		Yes		If No: record times and temperatures
4. Were duplicates analyzed at the appropriate frequency?	1 per 20 of similar matrix or at program/project specific frequency	Yes		Yes		If No: reprep samples with appropreate frequency for a duplicate.
5. Were the duplicates within acceptable limits?	Within in-house or program/project specific QC limits	Yes		Yes		If No: reprep and reanalyze samples or qualify parent sample result (Y).
6. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: analyze samples that were were missed.
7. Were nonconformities (if applicable) documented in the NCR spreadsheet?		Yes		Yes		If No: Enter nonformities into the NCR spreadsheet before data review/validation.

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 3

Company: WESTON SOLUTIONS, INC
Project Contact: TONY PACE
Telephone: 757-819-5310
Project Name: RADFORD AAP LEAD SOIL SAMPLING
Project #:
Location: RADFORD, VA
Sampled By: KORMOS / DEBEE

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 163670
Company: WESTON SOLUTIONS, INC.
Project: RADFORD AAP LEAD SOIL SAM
Logged By: erc PM: BMS

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: TONY PACE
EMAIL: pace@westonsolutions.com
Company: WESTON SOLUTIONS, INC.
Address: 2 Eaton St., Suite 603 HAMPTON, VA 23669

Invoice To:*
EMAIL: SAME AS ABOVE
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: LEAD (6010C)	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
08/02/21	1030	S	G		J-1-06	N	1	1	N	1034747
08/02/21	1042	S	G		J-5-06		1	1	N	48
08/02/21	1054	S	G		J-9-06		1	1	N	49
08/02/21	1229	S	G		H-2-06		1	1	N	50
08/02/21	1236	S	G		F-11-06		1	1	N	51
08/02/21	1145	S	G		F-1-06		1	1	N	52
08/02/21	1211	S	G		G-3-06		1	1	N	53
08/02/21	1215	S	G		G-5-06		1	1	N	54
08/02/21	1241	S	G		H-8-06		1	1	N	55
08/02/21	1105	S	G		I-1-06		1	1	N	56
08/02/21	1111	S	G		I-3-06		1	1	N	57
08/02/21	1132	S	G		I-10-06		1	1	N	58

Fill in Spaces with Bottles per Test

Relinquished By: DEK (Weston)
Date/Time: 08/03/21 1457
Received By: FEDEX #7744 4075 0885
Date/Time:

Received by: EKC
Date/Time: 8/6/21 1002
Received for Laboratory by: EKC
Date/Time: 8/6/21 1108

Lab Use Only
Ice Present Yes No
Temp 1.6 IR Gun 27
Cooler # 6454

Rev. 02/2017

CHAIN OF CUSTODY

Company: WESTON SOLUTIONS, INC
Project Contact: TONY PACE
Telephone: 757-819-5310
Project Name: ↗
Project #: RADFORD AAP - LEAD SOIL SAMPLING
Location: RADFORD, VA
Sampled By: KORMUS; BEBEE

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

163670

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: TONY PACE
EMAIL: pacea@westonsolutions.com
Company: WESTON SOLUTIONS, INC
Address: 2 EATON ST; Suite 603
HAMPTON, VA 23669

Invoice To:*
EMAIL:
Company: - SAME AS ABOVE -
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW - groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Fill in Spaces with Bottles per Test

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	LEAD (6010C)	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
08/02/21	1518	S	G		B-8-06	N	1	1	N	1034759
08/02/21	1506	S	G		B-4-06		1	1	N	60
~~08/02/21~~		~~S~~			~~D-10-06~~				~~DM~~	~~61~~
08/02/21	1409	S	G		D-3-06		1	1	N	61 ~~62~~
08/02/21	1431	S	G		C-4-06		1	2	Y	62 ~~63~~
~~08/02/21~~	~~1425~~	~~S~~	~~G~~		~~C-2-06~~			1	N	*Not included* ~~64~~
08/02/21	1556	S	G		A-11-06		1	1	N	63 ~~65~~
08/03/21	1350	S	G		A-11-612		1	1	N	64 ~~66~~
08/02/21	1145	S	G		F-1-06-FD		1	1	N	65 ~~67~~
08/02/21	1132	S	G		I-10-06-FD		1	1	N	66 ~~68~~
08/02/21	1556	S	G		A-11-06-FD		1	1	N	67 ~~69~~
08/02/21	1625	S	G		E-10-06		1	1	N	68 ~~70~~

ERC 8/6/21

Relinquished By:	Date/Time	Received By:	Date/Time
[signature] (Weston)	08/03/21 1457	FEDEX #7744 4075 0885	[signature]
Received by: ERC	Date/Time 8/6/21 1002	Received for Laboratory by: ERC	Date/Time 8/6/21 1108

Lab Use Only
Ice Present Yes No
Temp 1.6 IR Gun 27
Cooler # 6454

Rev. 02/2017

CHAIN OF CUSTODY

Company: WESTON SOLUTIONS, INC.
Project Contact: TONY PACE
Telephone: 757-819-5310
Project Name: RADFORD AAP-LEAD SOIL SAMPLING
Project #:
Location: RADFORD, VA
Sampled By: KOLMOS; BEBEE

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

18670

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: TONY PACE
EMAIL: pacea@westonsolutions.com
Company: WESTON SOLUTIONS, INC.
Address: 2 EATON ST, Suite 603 HAMPTON, VA 23669

Invoice To:*
EMAIL:
Company: — SAME AS ABOVE —
Address:

**Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions*

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: LEAD (6010C)	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
08/03/21	1400	S	G		A-11-1224	N	1	1	N	103769
08/03/21	1430	S	G		A-12-06		1	1	N	70
08/03/21	1427	S	G		AA-12-06		1	1	N	71
08/02/21	1444	S	G		C-10-06		1	1	N	72

Fill in Spaces with Bottles per Test

Relinquished By:	Date/Time	Received By:	Date/Time
(Weston)	08/03/21 1457	FEDEX # 774440250885	
Received by:	Date/Time	Received for Laboratory by:	Date/Time
BRC	8/6/21 1002	[illegible]	8/6/21 1108

Lab Use Only
Ice Present Yes No
Temp 1.6 IR Gun 27
Cooler # 6454

Cooler Receipt Form

Ice Present YES NO

Observed Temperature 1.6

Actual Temperature 1.6

IR Gun # 27

Initials ERC

Date 8/6/21 Time 1002

Cooler #: 6454

CUSTODY SEAL
DATE 08/04/21
SIGNATURE

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

CUSTODY SEAL
DATE 08/04/21
SIGNATURE

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





FedEx Ship Manager - Print Your Label(s)

ORIGIN ID:BIGA (860) 912-9892
DANE KORMOS
WESTON SOLUTIONS, INC.
1400 WESTON WAY
4-2
WEST CHESTER, PA 19380
UNITED STATES US

SHIP DATE: 04AUG21
ACTWGT: 35.00 LB
CAD: 109455225/INET4400
DIMS: 26x15x14 IN

BILL SENDER

TO SAMPLE RECEIVING
CT LABORATORIES
1230 LANGE COURT

BARABOO WI 53913
(608) 356-2760 REF 03886.552.500.1280
INV
PO DEPT

56DJ1/BAF3/FE4A

FedEx Express

E

J212021070901uv

THU - 05 AUG 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7744 4025 0885

53913
WI-US MSN

NA LNRA

PM Login Confirmation

Folder #: 163670

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP LEAD SOIL SAMPLING **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 164315

Project Manager: *BMS* **Date Received:** 08/06/21 **Log Date:** 08/06/2021

Report To: ANTHONY PACE CC:
2 EATON STREET
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 1.6 oC

SAMPLE #: 1034747 **DESCR:** J-1-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 10:30

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)	Lead			1/29/2022	8/18/2021		NeedPrep

SAMPLE #: 1034748 **DESCR:** J-5-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 10:42

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)	Lead			1/29/2022	8/18/2021		NeedPrep

C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp451B.tmp

Folder #: 163670 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP LEAD SOIL SAMPLING

SAMPLE #: 1034749 **DESCR:** J-9-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 10:54

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034750 **DESCR:** H-2-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 12:29

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034751 **DESCR:** F-11-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 12:06

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034752 **DESCR:** F-1-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 11:45

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

Folder #: 163670 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP LEAD SOIL SAMPLING

SAMPLE #: 1034753 **DESCR:** G-3-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 12:11

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034754 **DESCR:** G-5-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 12:15

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034755 **DESCR:** H-8-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 12:41

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034756 **DESCR:** I-1-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 11:05

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp451B.tmp

Folder #: 163670 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP LEAD SOIL SAMPLING

SAMPLE #: 1034757 **DESCR:** I-3-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 11:11

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034758 **DESCR:** I-10-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 11:32

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034759 **DESCR:** B-8-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 15:18

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034760 **DESCR:** B-4-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 15:06

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp451B.tmp

Folder #: 163670 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP LEAD SOIL SAMPLING

SAMPLE #: 1034761 **DESCR:** D-3-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 14:09

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034762 **DESCR:** C-4-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 14:31

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)			***DESIGNATED MATRIX SPIKE***	8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)			***DESIGNATED MATRIX SPIKE***	1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034763 **DESCR:** A-11-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 15:56

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034764 **DESCR:** A-11-612 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/3/2021 **Time:** 13:50

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp451B.tmp

Folder #: 163670 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP LEAD SOIL SAMPLING

SAMPLE #: 1034765 **DESCR:** F-1-06-FD **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 11:45

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034766 **DESCR:** I-10-06-FD **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 11:32

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034767 **DESCR:** A-11-06-FD **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 15:56

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034768 **DESCR:** E-10-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 16:25

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

Folder #: 163670 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP LEAD SOIL SAMPLING

SAMPLE #: 1034769 **DESCR:** A-11-1224 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/3/2021 **Time:** 14:00

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/17/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/30/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034770 **DESCR:** A-12-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/3/2021 **Time:** 14:30

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/17/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/30/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034771 **DESCR:** AA-12-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/3/2021 **Time:** 14:27

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/17/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/30/2022	8/18/2021		NeedPrep
			Lead						

SAMPLE #: 1034772 **DESCR:** C-10-06 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 8/2/2021 **Time:** 14:44

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/16/2021	8/18/2021		Logged
1324	ICP QSM 5.0 6010D	(EPA 6010D)				1/29/2022	8/18/2021		NeedPrep
			Lead						

Folder #: 163670 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP LEAD SOIL SAMPLING

Invoice Number: 164315 **Preliminary Invoice Estimate:** $520.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ICP QSM 5.0 6010D Lead	SOIL	26	$20.00	0.00	$520.00
SOLIDS,PERCENT	SOIL	26	$0.00	0.00	$0.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$0.00

Bottle Information

Container	# Containers	Tests
SOLIDS	**27**	%SOL,ICP

C:\Windows\ServiceProfiles\LocalService\AppData\Local\Temp\tmp451B.tmp

CT LABORATORIES

delivering more than data from your environmental analyses

Sample Condition Report

Folder #:	163670	Print Date / Time:	08/06/2021 10:59
Client:	WESTON SOLUTIONS, INC.	Received Date / Time / By:	08/06/2021 10:02 erc
Project Name:	RADFORD AAP LEAD SOIL SAMPLING	Log-In Date / Time / By:	08/06/2021 10:59 erc
Project Phase:	RADFORD, VA	Project #:	PM: BMS
Coolers:	6454	Temperature:	1.6 C On Ice: **Y**
Custody Seals Present :	**Y**	COC Present:?	**Y** Complete? **Y**
Seal Intact?	**Y**	Numbers:	DATED AND SIGNED
Ship Method:	FEDEX EXPRESS	Tracking Number:	7744 4025 0885
Adequate Packaging:	**Y**	Temp Blank Enclosed?	**Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - BOTH WERE DATED 08/04/21 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1034747 J-1-06				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type (*SOLIDS*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034748 J-5-06				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type (*SOLIDS*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034749 J-9-06				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type (*SOLIDS*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034750 H-2-06				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type (*SOLIDS*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034751 F-11-06				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type (*SOLIDS*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

1034752 F-1-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034753 G-3-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034754 G-5-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034755 H-8-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034756 I-1-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034757 I-3-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034758 I-10-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034759 B-8-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034760 B-4-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034761 D-3-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
1034762 C-4-06				
	SOLIDS	1	/	%SOL,ICP
	SOLIDS	1	N / N	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 2**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034763 A-11-06				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034764 A-11-612				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034765 F-1-06-FD				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034766 I-10-06-FD				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034767 A-11-06-FD				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034768 E-10-06				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034769 A-11-1224				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
1034770 A-12-06				
	SOLIDS	1	/	%SOL,ICP
	Total # of Containers of Type	**(*SOLIDS*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

1034771 AA-12-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

1034772 C-10-06

	SOLIDS	1	/	%SOL,ICP

Total # of Containers of Type (*SOLIDS*) = 1

Condition Code *Condition Description*

1 Sample Received OK

VALIDATA
Chemical Services, Inc.
(770) 232-0130
(770) 232-5082 (Fax)
2159 Wynnton Pointe, Duluth, GA 30097
www.datavalidator.com

DATA VALIDATION SUMMARY REPORT

COMPANY:	Weston Solutions, Inc.
SITE NAME:	Radford Army Ammunitions Plant, Lead Soil Sampling
CONTRACTED LAB:	CT Laboratories LLC
QA/QC LEVEL:	EPA Stage 2B
EPA SOW/METHODS:	EPA and SW-846 Methods
VALIDATION GUIDELINES:	*Final QAPP Resource Conservation and Recovery Act Facility Investigation, Military Munitions Response Program, Former Gun and Trench Mortar Range Munitions Response Site (RFAAP-002-R-01), Radford Army Ammunitions Plant, Radford Virginia, QSM 5.1, SW 846 Methods, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review,* 2017
SAMPLE MATRIX:	Soil
TYPE OF ANALYSIS:	Total Lead
SDG NUMBER:	163670
SAMPLING DATES:	August 2, 2021

SAMPLES:

Client Sample #	Lab Sample #	Matrix	Total Lead
J-1-06	1034747	Soil	X
J-5-06	1034748	Soil	X
J-9-06	1034749	Soil	X
H-2-06	1034750	Soil	X
F-11-06	1034751	Soil	X
F-1-06	1034752	Soil	X
G-3-06	1034753	Soil	X
G-5-06	1034754	Soil	X
H-8-06	1034755	Soil	X
I-1-06	1034756	Soil	X

Client Sample #	Lab Sample #	Matrix	Total Lead
I-3-06	1034757	Soil	X
I-10-06	1034758	Soil	X
B-8-06	1034759	Soil	X
B-4-06	1034760	Soil	X
D-3-06	1034761	Soil	X
C-4-06	1034762	Soil	X
A-11-06	1034763	Soil	X
A-11-612	1034764	Soil	X
F-1-06-FD	1034765	Soil	X
I-10-06-FD	1034766	Soil	X
A-11-06-FD	1034767	Soil	X
E-10-06	1034768	Soil	X
A-11-1224	1034769	Soil	X
A-12-06	1034770	Soil	X
AA-12-06	1034771	Soil	X
C-10-06	1034772	Soil	X
C-4-06MS	1034762MS	Soil	X
C-4-06MSD	1034762MSD	Soil	X
A-11-06-FDMS	1034767MS	Soil	X
A-11-06FDMSD	1034767MSD	Soil	X

Suffix Codes: DL = DILUTION, MS = MATRIX SPIKE, MSD = MATRIX SPIKE DUPLICATE, RE = REANALYSIS

DATA REVIEWERS: Amy L. Hogan, Kevin C. Harmon, Sandra Nacquin

DATA VALIDATION SUMMARY

CT Laboratories LLC – 163670 - Inorganics

TOTAL LEAD

SUMMARY

I.) General:

The analyses for Total Lead were performed according to SW-846 Method 6010D.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) LLCCV and CRDL:

All LLCCV and CRDL criteria were met. No data qualification was necessary

IV.) Blanks:

Method Blanks:

There were no detections in the associated method blanks. No qualification was necessary.

Calibration Blanks:

Lead (2.05 ug/L) was detected in the associated calibration blanks analyzed on 8/12/21 at 12:32. Since the lead results for the associated samples were greater than the action level, no data qualification was necessary.

V.) ICP Interference Check Sample Results:

All Interference Check Sample criteria were met. No data qualification was necessary.

VI.) ICP Serial Dilution Analysis:

Serial dilution analysis was performed using sample C-4-06. Since the parent sample result was less than the 50X the LOD, the results were not considered meaningful. No data qualification was necessary.

VII.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

VIII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using samples C-4-06 and A-11-06-FD. The parent sample result for A-11-06-FD was greater than 4X the spike concentrations so the results for this sample were not considered meaningful. The Percent Recoveries (%Rs) for C-4-06 at 71.9% and 67.2% were below the QC limits. The post spike criteria were met. The Relative Percent Differences (RPDs) for C-4-06MD (35.5%) and A-11-06FDMD (20.9%) exceeded the 20% QC limit. The lead results for all samples, which consisted entirely of positive results, were qualified as estimated (J).

IX.) Field Duplicates:

Three sets of field duplicate samples (A-11-06 / A-11-06-FD, F-1-06 / F-1-06-FD and I-10-06 / I-10-06-FD) were identified for this fraction of the SDG. The calculable Relative Percent Differences (RPDs) were 29% for the first set, 46% for the second set and 0% for the third set, which were within the 50% QC limit for soil samples. No data qualification was necessary.

X.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

Appendix A
Qualified Form Is

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	88.4	Lab Sample ID:	1034763
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	15	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/12/2021 13:02
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	4800	J	0.62	1.9	3.9	3.9

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.4	Lab Sample ID:	1034767
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	15	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/12/2021 13:10
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	3600 J	Y,M	0.62	1.9	3.8	3.8

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-1224

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	85.5	Lab Sample ID:	1034769
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 21:06
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	55	J	0.048	0.15	0.30	0.30

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-11-612

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.7	Lab Sample ID:	1034764
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 19:12
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	510	J	0.044	0.14	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

A-12-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.2	Lab Sample ID:	1034770
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 21:13
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	39	J	0.045	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

AA-12-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	93.5	Lab Sample ID:	1034771
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 21:21
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	57	J	0.043	0.13	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

B-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	93.3	Lab Sample ID:	1034760
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:43
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	15	J	0.042	0.13	0.26	0.26

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INORGANIC ANALYSIS DATA SHEET

Sample Description

B-8-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.0	Lab Sample ID:	1034759
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:34
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	17	J	0.047	0.15	0.30	0.30

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INORGANIC ANALYSIS DATA SHEET

Sample Description

C-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.6	Lab Sample ID:	1034772
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 21:51
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	11	J	0.044	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

C-4-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.4	Lab Sample ID:	1034762
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:58
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	7.2 J	Y	0.041	0.13	0.26	0.26

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INORGANIC ANALYSIS DATA SHEET

Sample Description

D-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	91.6	Lab Sample ID:	1034761
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:51
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	9.9	J	0.045	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

E-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	92.9	Lab Sample ID:	1034768
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194304	Analysis Date/Time	08/11/2021 20:58
Analytical Prep Batch #:	82042	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	12	J	0.044	0.14	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

F-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	95.6	Lab Sample ID:	1034752
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:18
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	16	J	0.042	0.13	0.26	0.26

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INORGANIC ANALYSIS DATA SHEET

Sample Description

F-1-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	95.3	Lab Sample ID:	1034765
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 19:20
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	10.0	J	0.043	0.13	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

F-11-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.7	Lab Sample ID:	1034751
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:10
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	20	J	0.045	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

G-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.3	Lab Sample ID:	1034753
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:26
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	10	J	0.043	0.13	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

G-5-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.6	Lab Sample ID:	1034754
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:55
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	16	J	0.042	0.13	0.26	0.26

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INORGANIC ANALYSIS DATA SHEET

Sample Description

H-2-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.4	Lab Sample ID:	1034750
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 16:02
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	10	J	0.043	0.13	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

H-8-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	91.0	Lab Sample ID:	1034755
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:03
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	17	J	0.044	0.14	0.27	0.27

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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-10-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	90.3	Lab Sample ID:	1034758
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:27
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	21	J	0.045	0.14	0.28	0.28

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INORGANIC ANALYSIS DATA SHEET

Sample Description

I-10-06-FD

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	89.7	Lab Sample ID:	1034766
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 19:28
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	21	J	0.046	0.14	0.28	0.28

ALH 9/8/21

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

I-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	86.4	Lab Sample ID:	1034756
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:11
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	9.1	J	0.047	0.15	0.30	0.30

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

I-3-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.5	Lab Sample ID:	1034757
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 17:19
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	7.6	J	0.041	0.13	0.26	0.26

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-1-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	88.1	Lab Sample ID:	1034747
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 15:39
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	13	J	0.045	0.14	0.28	0.28

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-5-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.9	Lab Sample ID:	1034748
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 15:47
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	15	J	0.042	0.13	0.26	0.26

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

J-9-06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP LEAD SOIL SAM
Matrix (soil/water):	SOIL	SDG No.:	163670
% Solids:	94.3	Lab Sample ID:	1034749
Analytical Method:	EPA 6010D	Date Received:	08/06/2021
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	194303	Analysis Date/Time	08/11/2021 15:55
Analytical Prep Batch #:	82041	Prep. Date/Time:	08/09/2021 10:46
ICAL Calibration #:		Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-92-1	Lead	15	J	0.043	0.13	0.27	0.27

ALH 9/8/21

APPENDIX G
MEC RISK MANAGEMENT MATRICES

MEC Risk Management Matrices

Munitions Response Site Name: Area A (New River)

Property Owner: The Commonwealth of Virginia

Component: U.S. Army

Installation/Property Name: Radford Army Ammunition Plant (AAP)

Location (City, County, State): Radford, Pulaski County, Virginia

Site Name/Project Name (Project No.): Area A (New River) (None)

These matrices were completed in accordance with the MEC Risk Management Methodology, as issued in the 03 January 2017 USACE Memorandum: Trial Period for Risk Management Methodology at Formerly Used Defense Sites (FUDS) Military Munitions Response Program (MMRP) Projects (Extended March 2020).

In accordance with 40 CFR Part 300.175(d)(4), "...the Lead Agency shall conduct a site-specific baseline risk assessment to characterize the current and potential threats to human health and the environment.". For unacceptable risks, and in accordance with 40 CFR Part 300.430(e)(i), the Lead Agency shall "Establish Remedial Action Objectives (RAOs) specifying contaminants and media of concern, potential exposure pathways, and remediation goals.". The methodology described in the Study Paper: *Decision Logic to Assess Risks Associated with Explosive Hazards, and to Develop Remedial Action Objectives (RAOs) for MRS* (USACE, 2019) is intended to satisfy the requirement for a risk assessment for FUDS MMRP projects. This same methodology is being applied to the Radford Area A.

Application of the risk methodology is first intended for use during the Remedial Investigation (RI). The Investigation at the Radford AAP Area A consisted of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI), which is the equivalent of an MMRP RI. It is also intended to support remedial alternative selection, and post-remedial action data assessment in the MMRP Feasibility Study (FS), of which the RCRA equivalent is a Corrective Measures Study. More specifically, the methodology was developed to be used to:

1. Provide information to support risk management decisions upon completion of site characterization.

2. Develop remedial action objectives.
3. Provide a basis for assessing achievement of remedial action objectives relative to acceptable end states.

A framework of logic is presented to evaluate hazards at an MRS or site such that a systematic assessment of the associated site-specific human health risks can be determined, and RAOs can be established. The process utilizes a consistent methodology to make these determinations, which depend on site-specific characterization data and specific land use conditions at each MRS/site. Data is processed similar to the Department of Army Pamphlet for Risk Management (DA Pam 385-30).

The framework utilizes MRS/site characteristics of severity, accessibility, and sensitivity to assess site-specific conditions, similar to USEPA guidance for MEC hazard assessment, and determine whether conditions are acceptable or unacceptable for an MRS/site.

When unacceptable site conditions are found, RAOs are developed to achieve acceptable end states, which would be evaluated in a Feasibility Study. Acceptable end states achieve negligible risk scenarios for an MRS and can be: A) acceptable, where unlimited use and unrestricted exposure (UU/UE) is supported, B) acceptable without additional LUCs, where UU/UE may not be supported, or C) acceptable with LUCs, where UU/UE is not supported.

Matrices are employed to evaluate risk at the MRS/site using site-specific CSM data to relate accessibility, munitions sensitivity, and severity of an explosive event if it were to occur, to determine baseline risks.

- Matrix 1, "Likelihood of Encounter," relates the site characterization data for amount of MEC potentially present to site use, including accessibility to determine the likelihood of encountering MEC at a specific site.

- Matrix 2, "Severity of Incident," assesses the likelihood of encounter from Matrix 1 as related to the severity of an unintentional detonation.

- Matrix 3, "Likelihood of Detonation," relates sensitivity of the MEC items to the likelihood for energy to be imparted on an item during an encounter by specific land users.

- Matrix 4 combines the results of the above categories to differentiate acceptable and unacceptable site conditions. A site, which results in an unacceptable initial condition will proceed to the next phase of the CERCLA response process. This matrix identifies acceptable conditions, which become possible remedial action goals that are ultimately achievable (via remedial response actions) for all portions of the MRS.

AREA A MRS RISK EVALUATION

The evaluation is performed first during the RFI to discuss the baseline conditions (i.e., the current site conditions, assuming the existing land use controls are not maintained), and would then be performed again, if needed, to evaluate each of the alternatives presented in the Corrective Measures Study to compare the conditions for post-remedy implementation. The baseline conditions for the Area A (New River) were input using the information collected during the RFI, as the 'justification' for the selections in Matrix 1-3. The inputs were evaluated by the Project Team to ensure consensus on the results for each matrix, and the ending risk determination. Access conditions, land use, and activities (including potential intrusive depths) were confirmed to ensure all scenarios for the MRS were evaluated. Based on the differences in land use and activities, Area A (New River) was evaluated separately from the Radford Former Gun and Trench Mortar Range MRS.

1. MATRIX 1. LIKELIHOOD OF ENCOUNTER

In Matrix 1, below, the "Likelihood of Encounter" is dependent on two factors, the amount of MEC items known or suspected to exist, and access conditions (e.g., accessibility and frequency of use).

"Amount of MEC" is determined using site-specific characterization data or anticipated or completed results of a remedial action. "Access Conditions" are selected based on consideration of the access and frequency of use for the MRS. "Access Conditions" should consider relevant conditions, such as topography, terrain, specific land use, and specific potential receptors via defined pathways to establish access conditions as a frequency of use.

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 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 discovered (e.g., EOD report) prior to investigation, or • A DERP response action has been conducted to physically remove MEC and known or suspected hazard remains to support this election, (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 his 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**
Matrix 1 Result: Occasional					

1.1 MATRIX 1 RESULTS JUSTIFICATION

Amount of MEC Justification:
Area A (31 acres), the designated portion of the New River, is an adjacent area to the Former Gun and Trench Mortar Range MRS that has been included in the investigation. The Former Gun and Former Trench Range MRS began operations in 1941. Based on information gathered from RFAAP employee interviews, operations were discontinued after the end of World War II (WWII). The 87-acre Former Trench Mortar Range portion of the MRS was used to test fire 4.2 inch, 60 millimeter (mm), and 81mm mortar rounds to verify the quality of propellants. Munitions items from the MRS may be located within Area A.

During the historical record review (HRR), it was disclosed during the interview process that numerous munition items had been identified over the years within the adjacent Radford Former Gun and Trench Mortar Range MRS. Additional communication with Chuckie Williams of BAE Systems in 2019 indicated a couple of the items had been located outside of the fence along the steep slope adjacent to the New River (Area A). These items indicated the potential for additional munition items to have migrated to within the New River from the adjacent MRS.

During the RFI, no MEC were identified but a total of 15 material potentially presenting an explosive hazard (MPPEH) were identified in Area A, including: (9) 4.2 inch mortars, fuzed, practice, (5) 81mm mortars fuzed, practice, (1) 4.2 inch mortar fuzed, practice. All items were inert practice rounds and were either empty, wax filled, sand filled, or filled with a gravel/asphalt. However, the items were also fuzed with point detonating (PD) fuzes. M45, M3, and M56 PD fuzes were identified. Inert practice rounds sometimes have inert fuzes, but may still contain a black powder booster or spotting charge for observation. Those fuzes would present an explosive risk. The MPPEH items were located at depths between 0 and 15 inches below ground surface (bgs). The munition items (15 MPPEH items) located within Area A (New River) are shown on **Figure G-1**, as well as the MPPEH located within the adjacent Former Gun and Former Trench Range MRS. The MPPEH within Area A originated within the MRS and moved along an erosional transportation route that deposited munition items in the river and on the shoreline. Therefore, the Amount of MEC in Area A is “MEC presence based on physical evidence (e.g., MD indicative of MEC), although the area is not a CMUA”.

Access Conditions Justifications:
Area A is a portion of the New River and is utilized by the public for recreational purposes (e.g., fishing, boating, tubing, wading, and/or swimming). The number of recreational users is unknown but assumed to not be regular use due to seasonal changes that would affect the conditions of the river. The river is used very rarely in the winter months, with the majority of use from May to September. Recreational activities that may interact with the river bottom include wading, fishing or anchoring of boats. It is unlikely that users would be regularly stopping along this stretch of river due to the steep slope on the shoreline and presence of fencing on both sides of the river. There are no known activities occurring where the same people might be accessing the area on a regular basis, but rather it is assumed that separate individuals may be accessing the site intermittently for recreational purposes during the “warmer” season of May to September. There is no anticipated change in future land use for this site, and Area A (New River) will continue to be used for recreational purposes and development is unlikely within the foreseeable future. The access conditions are “Often”.

2. MATRIX 2. SEVERITY OF INCIDENT

Matrix 2, "The Severity of Incident," relates "Likelihood of Encounter" from Matrix 1 to the severity of an unintentional detonation. The "Severity" factor is a static characteristic of each of the munitions known or suspected to exist at the property.

Severity of Incident, Matrix 2: Severity vs Likelihood of Encounter		**Likelihood of Encounter (Matrix 1 Result)**				
		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 results in 1 or more injuries requiring first aid or medical treatment.	**D**	**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 scenarios.

Matrix 2 Result: C

2.1 MATRIX 2 RESULTS JUSTIFICATION

Severity Justification:
Based on the records of MPPEH identified in Area A, no high explosive munitions were identified (nor suspected to be present), and the majority of items were fuzed wax or sand filled practice munitions. Inert practice rounds sometimes have inert fuzes, but may still contain a black powder booster or spotting charge for observation. Fuzes were not designed to produce injuries or casualties upon detonation, but injuries may occur during accidental detonation. Therefore, the Severity Associated with Specific Munitions Items was classified as "Modest".

3. MATRIX 3. LIKELIHOOD OF DETONATION

Matrix 3, "The Likelihood of Detonation," relates the sensitivity of site-specific munitions items to the likelihood for energy to be imparted on an item, such that the interaction results in detonation (incident). The "sensitivity" of a munitions item is alone a static component, inherent to the known or suspected munitions present at the site. The "Likelihood to Impart Energy" is selected from the known activities at the site that may cause an interaction that results in energy being imparted on a munitions item by human activity.

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)	**1**	**3**	**3**
	Not Sensitive	**2**	**3**	**3**
Matrix 3 Result: 3				

3.1 MATRIX 3 RESULTS JUSTIFICATION

Sensitivity Justification:

None of the munition items identified during the RFI were determined to have sensitive fuzes. Therefore, the Sensitivity was classified as "Low" susceptibility to detonation.

Likelihood to Impart Energy Justification:

Area A is a portion of the New River and is utilized by the public for recreational purposes (e.g., fishing, boating, wading, and/or swimming). Recreational activities that may interact with the river bottom include wading, fishing, or anchoring of boats. There is no anticipated change in future land use for this site, and Area A (New River) will continue to be used for recreational purposes and development is unlikely within the foreseeable future. The water acts a mitigating factor in preventing recreational users from interacting with MPPEH along the center of the river bottom because of the depth of water and speed of the river, but items were found near the shoreline where users could interact with the items. However, because the land is steeply sloped and restricted on both sides of the river with a fence further inland, it is unlikely that users would be regularly stopping along this stretch of shore. There are no known activities occurring where the same people might be accessing the area on a regular basis, but rather it is assumed that separate individuals may be accessing the site intermittently for recreational purposes during the "warmer" season of May to September. Therefore, the likelihood to impart energy on an item is "Modest.".

4. MATRIX 4. ACCEPTABLE AND UNACCEPTABLE SITE CONDITIONS

Matrix 4 represents the overall risk for the site and differentiates "acceptable" from "unacceptable" conditions. This is determined based on the likelihood of an encounter (Matrix 1), with consideration given to the severity of the incident (Matrix 2), combined with the likelihood of an interaction that results in detonation (Matrix 3). Where an unacceptable scenario is identified, this matrix is then used during the feasibility study to identify acceptable conditions that are ultimately achievable via remedial response action for all portions of the MRS. Finally, the matrices are used in a post remedy data assessment to evaluate the achievement of risk reduction for a given remedy.

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**
Matrix 4 result: Acceptable					

4.1 MATRIX 4 RESULTS

Matrix 4 Result: Acceptable under Current Land Use Conditions

MEC Risk Management Matrices

Munitions Response Site Name: Former Gun and Trench Mortar Range Munitions Response Site (MRS)

Property Owner: U.S. Government

Component: U.S. Army

Installation/Property Name: Radford Army Ammunition Plant (AAP)

Location (City, County, State): Radford, Pulaski County, Virginia

Site Name/Project Name (Project No.): Former Gun and Trench Mortar Range MRS/MMRP (RFAAP-002-R-01)

These matrices were completed in accordance with the MEC Risk Management Methodology, as issued in the 03 January 2017 USACE Memorandum: Trial Period for Risk Management Methodology at Formerly Used Defense Sites (FUDS) Military Munitions Response Program (MMRP) Projects (Extended in March 2020).

In accordance with 40 CFR Part 300.175(d)(4), "...the Lead Agency shall conduct a site-specific baseline risk assessment to characterize the current and potential threats to human health and the environment.". For unacceptable risks, and in accordance with 40 CFR Part 300.430(e)(i), the Lead Agency shall "Establish Remedial Action Objectives (RAOs) specifying contaminants and media of concern, potential exposure pathways, and remediation goals.". The methodology described in the Study Paper: *Decision Logic to Assess Risks Associated with Explosive Hazards, and to Develop Remedial Action Objectives (RAOs) for MRS* (USACE, 2019) is intended to satisfy the requirement for a risk assessment for FUDS MMRP projects. This same methodology is being applied to the Radford Former Gun and Trench Mortar Range MRS.

Application of the risk methodology is first intended for use during the Remedial Investigation (RI). The Investigation at the Radford AAP Former Gun and Trench Mortar Range MRS consisted of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI), which is the equivalent of an MMRP RI. It is also intended to support remedial alternative selection, and post-remedial action data assessment in the MMRP Feasibility Study (FS), of which the RCRA equivalent is a Corrective Measures Study. More specifically, the methodology was developed to be used to:

1. Provide information to support risk management decisions upon completion of site characterization.
2. Develop remedial action objectives.
3. Provide a basis for assessing achievement of remedial action objectives relative to acceptable end states.

A framework of logic is presented to evaluate hazards at a MRS or site such that a systematic assessment of the associated site-specific human health risks can be determined, and RAOs can be established. The process utilizes a consistent methodology to make these determinations, which depend on site-specific characterization data and specific land use conditions at each MRS/site. Data is processed similar to the Department of Army Pamphlet for Risk Management (DA Pam 385-30).

The framework utilizes MRS/site characteristics of severity, accessibility, and sensitivity to assess site-specific conditions, similar to USEPA guidance for MEC hazard assessment, and determine whether conditions are acceptable or unacceptable for an MRS/site.

When unacceptable site conditions are found, RAOs are developed to achieve acceptable end states, which would be evaluated in a Feasibility Study. Acceptable end states achieve negligible risk scenarios for an MRS and can be A) acceptable, where unlimited use and unrestricted exposure (UU/UE) is supported, B) acceptable without additional LUCs, where UU/UE may not be supported, or C) acceptable with LUCs, where UU/UE is not supported.

Matrices are employed to evaluate risk at the MRS/site using site-specific CSM data to relate accessibility, munitions sensitivity, and severity of an explosive event if it were to occur, to determine baseline risks.

- Matrix 1, "Likelihood of Encounter," relates the site characterization data for amount of MEC potentially present to site use, including accessibility, to determine the likelihood of encountering MEC at a specific site.
- Matrix 2, "Severity of Incident," assesses the likelihood of encounter from Matrix 1 as related to the severity of an unintentional detonation.
- Matrix 3, "Likelihood of Detonation," relates sensitivity of the MEC items to the likelihood for energy to be imparted on an item during an encounter by specific land users.
- Matrix 4 combines the results of the above categories to differentiate acceptable and unacceptable site conditions. A site which results in an unacceptable initial condition will proceed to the next phase of the CERCLA response process. This matrix identifies acceptable conditions, which become possible remedial action goals that are ultimately achievable (via remedial response actions) for all portions of the MRS.

FORMER GUN AND TRENCH MORTAR RANGE MRS RISK EVALUATION

The evaluation is performed first during the RFI to discuss the baseline conditions (i.e., the current site conditions, assuming the existing land use controls are not maintained), and would then be performed again, if needed, to evaluate each of the alternatives presented in the Corrective Measures Study to compare the conditions for post-remedy implementation. The baseline conditions for the Radford AAP Former Gun and Trench Mortar Range MRS were input using the information collected during the RFI, as the 'justification' for the selections in Matrix 1-3. The inputs are to be evaluated by the Project Team to ensure consensus on the results for each matrix, and the ending risk determination. Access conditions, land use, and activities (including potential intrusive depths) were confirmed to ensure all scenarios for the MRS were evaluated. Based on the differences in land use and activities, Area A (New River) was evaluated separately from the MRS. Due to the potential for future construction to be conducted within the Former Gun and Trench Mortar Range MRS, the risk was also evaluated for the scenario of potential future construction activities in comparison to current site activities.

In addition, based on the differences is density of munition items across the MRS, the MRS was subdivided between munition high-density areas and munition low-density areas, to allow for a more accurate evaluation. The Areas are shown on **Figure G-1**. The two high-density areas within the MRS are 19.6 acres and the potential high-density area adjacent to Area A is 12.4 acres. Because the high- and low-density areas, and the construction activities scenario, are presented together in each matrix, a color was used to denote the different areas/scenario. The color coding is presented in the below table. If the areas received the same scoring in a matrix, then both areas were listed in the same box with the same score.

Legend:

High-Density Areas	Low-Density Area
Current Land Use	Current Land Use
Future Construction Activities	Future Construction Activities

1. MATRIX 1. LIKELIHOOD OF ENCOUNTER

In Matrix 1, below, the "Likelihood of Encounter" is dependent on two factors, the amount of MEC items known or suspected to exist, and access conditions (e.g., accessibility and frequency of use).

"Amount of MEC" is determined using site specific characterization data or anticipated or completed results of a remedial action. "Access Conditions" are selected based on consideration of the access and frequency of use for the MRS. "Access Conditions" should consider relevant conditions, such as topography, terrain, specific land use, and specific potential receptors via defined pathways to establish access conditions as a frequency of use.

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:** High Density Construction	**Likely**	**Occasional:** High Density Current Site Conditions	**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 discovered (e.g., EOD report) prior to investigation, or • A DERP response action has been conducted to physically remove MEC and known or suspected hazard remains to support this election, (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:** Low Density Construction	**Seldom**	**Unlikely:** Low Density Current Site Conditions	**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 his 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**
Matrix 1 Result: High-Density Area (Current land use) – Occasional, High-Density Area (future construction) – Frequent Low-Density Area (Current land use) – Unlikely, Low-Density Area (future construction) - Occasional					

1.1 MATRIX 1 RESULTS JUSTIFICATION

Amount of MEC Justification:
The MRS consists of 115 acres and is comprised of two adjacent ranges: the Former Gun Range (28 acres) and the Former Trench Mortar Range (87 acres). The portions of the MRS consisting of the Active Production Facility (approximately 50 acres) and Active Test Range Area (8 acres) were inaccessible and excluded from the planned field investigation area during the RFI. The Former Gun and Former Trench Range MRS began operations in 1941. Based on information gathered from RFAAP employee interviews, operations were discontinued after the end of World War II (WWII). The 87-acre Former Trench Mortar Range portion of the MRS was used to test fire 4.2 inch, 60 millimeter (mm), and 81mm mortar rounds to verify the quality of propellants. Information gathered during the HRR and interview process also suggested that the test mortars were not filled with high explosive (HE), but rather various fillers, including concrete, gravel, Halowax, and possibly antifreeze.

During the historical record review (HRR), it was disclosed during the interview process that, while constructing the active production and Continuous Automated Multi-Base Line (CAMBL) facilities on the MRS, numerous “piles” of mortars were discovered and disposed by RFAAP personnel. Three Explosive Ordnance Incident Reports dated 10 April 2012, 9 September 2012, and 28 May 2014 were made available by BAE Systems, Inc. (BAE Systems). The incident reports detailed findings of two 60mm mortars and one unknown round within the Former Gun and Mortar Range MRS. The 10 April 2012 report states that an unidentified item (referred to as a UXO) was found and disposed of with no additional details presented in the report. The 9 September 2012 report states that an inert 60mm mortar was discovered in the active production facility within the Former Gun and Mortar Range MRS (RFAAP-002-R- 01). The mortar was reported to likely be filled with concrete. The 28 May 2014 EOD Report states that an unidentifiable 60mm item (referred to as a UXO) was safely removed from the active production facility and disposed of via demolition at an undisclosed location on RFAAP (BSEn, 2018b). Additional communication with Chuckie Williams of BAE Systems in 2019 indicated that approximately three munitions items encountered within the active production facility (as discussed above) were all encountered in the subsurface. However, approximately four or five munitions items encountered and disposed of from the northeast end of the MRS were all encountered on the surface, with a couple of the items located outside of the fence along the steep slope adjacent to the New River.

During the 2018 Site Investigation, no MEC or material potentially presenting an explosive hazard (MPPEH) were identified within the MRS. During the RFI, no MEC were identified but a total of 117 MPPEH were identified in the Former Gun and Trench Mortar Range MRS, including: (78) 4.2 inch mortars, practice, (3) 60mm mortars, practice, (36) 81mm mortars, practice. All items were inert practice rounds and were either empty, wax filled, sand filled, or filled with a gravel/asphalt. However, some of items were also fuzed with point detonating (PD) fuzes. M45, M3, and M56 PD fuzes were identified. Inert practice rounds sometimes have inert fuzes, but may still contain a black powder booster or spotting charge for observation. Those fuzes would present an explosive risk. None of the MPPEH items were located on the ground surface with the items being located at depths between 11 and 102 cm below ground surface (bgs). The MPPEH items were also clustered within two areas of the MRS within the Former Mortar Range portion of the MRS, directly adjacent to the Inaccessible Area (Shown on Appendix G Figure 1). Outside these clustered areas, little or no MPPEH items were identified, however due to historical reworking of the site, there is potential for items to be located at depths greater than able to be detected by the geophysical instrumentation used during the RFI, and items have been identified in the past during construction of facilities at depth.

A portion of the MRS was inaccessible during the RFI due to the presence of active facilities and steep slopes. Although the area along the shoreline of the New River (Area A) could not be investigated during the RFI because of the steep slope on the ridge, it is assumed that a potential high-density area is present where accumulation of munition items is likely. This potential accumulation is evidenced by the amount of munition items (15 MPPEH items) located within the adjacent Area A (New River) (**Figure G-1**), which originated within the MRS and moved along the same erosional transportation route that deposited munition items in the river and on the shoreline. Based on the differences in land use and activities, Area A (New River) was evaluated separately from the land-based MRS.

Therefore, the Amount of MEC within the High-Density Areas are “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”. And the Amount of MEC in the Low-Density Areas are “MEC presence is based on isolated historical discovered (e.g., EOD report) prior to investigation.”. Future construction would have no impact on the Amount of MEC; therefore, the amounts would remain the same for both the High-density and Low-density areas.

Access Conditions Justifications:
All RFAAP tenants are involved with industrial enterprises and no tenants are commercial businesses with customer traffic (BSEn, 2018b). The MRS is located on land owned by the U.S. government that is utilized for industrial purposes (propellant manufacturing) and is currently part of the RFAAP designated Active Production Facility and Active Test Range Areas. RFAAP is an actively guarded facility with perimeter fencing that is patrolled by armed guards. The MRS is not completely fenced south of the ridge; however, all visitors must be escorted by RFAAP personnel while inside the MRS boundary. There are no access restrictions for RFAAP personnel one onsite. The Gun Range area of the MRS is primarily open area that regularly has lawn care services but no other use. The Trench Mortar Range area of the MRS is used as material and equipment laydown areas by contractors, no subsurface activities are occurring within the MRS except for regular underground utility maintenance, but there is also the potential for building renovations in the future. There are also unused building in the northeast portion of the MRS. Receptors consist of Current and Future Visitors, Site Workers, and Construction Workers, and potential recreational users along the edge of the river. There is no anticipated change in future land use for this site, and the site will continue to be used for industrial purposes and development is unlikely within the foreseeable future. The access conditions are “Intermittent” for both the High-density and Low-density areas. If future construction is conducted within the Former Gun and Trench Mortar Range MRS, then the access conditions would increase to “regular” for both the High-density and Low-density areas.

2. MATRIX 2. SEVERITY OF INCIDENT

Matrix 2, "Severity of Incident," relates "Likelihood of Encounter" from Matrix 1 to the severity of an unintentional detonation. The "Severity" factor is a static characteristic of each of the munitions known or suspected to exist at the property.

Severity of Incident, Matrix 2: Severity vs Likelihood of Encounter		**Likelihood of Encounter (Matrix 1 Result)**				
		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** / **B**	**C**	**D**
	Minor: May results in 1 or more injuries requiring first aid or medical treatment.	**D**	**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 scenarios.

Matrix 2 Result: High-Density Area (Current land use) – C, High-Density Area (future construction) – B

Low-Density Area (Current land use) – D, Low-Density Area (future construction) – B

2.1 MATRIX 2 RESULTS JUSTIFICATION

Severity Justification:
Based on the records of MPPEH identified in the MRS no high explosive munitions were identified (nor suspected to be present), and the majority of items were fuzed wax or sand filled practice munitions. Inert practice rounds sometimes have inert fuzes, but may still contain a black powder booster or spotting charge for observation. Fuzes were not designed to produce injuries or casualties upon detonation, but injuries may occur during accidental detonation. It is assumed that the same munitions identified in the High-Density Areas have the potential of being present at depth in the Low-Density Areas. Therefore, the Severity Associated with Specific Munitions Items was classified as "Modest" for both the High-Density and Low-Density Areas. Future construction would have no impact on the severity associated with the specific munitions; therefore, the Severity would remain "Modest" for both the High-density and Low-density areas.

3. MATRIX 3. LIKELIHOOD OF DETONATION

Matrix 3, "The Likelihood of Detonation," relates the sensitivity of site-specific munitions items to the likelihood for energy to be imparted on an item, such that the interaction results in detonation (incident). The 'sensitivity" of a munitions item is alone a static component, inherent to the known or suspected munitions present at the site. The "Likelihood to Impart Energy" is selected from the known activities at the site that may cause an interaction that results in energy being imparted on a munitions item by human activity.

<table>
<tr><th colspan="2" rowspan="2">Likelihood of Detonation, Matrix 3: Munitions Sensitivity vs. Likelihood of Energy to be Imparted</th><th colspan="3">Likelihood to Impart Energy on an Item</th></tr>
<tr><th>High
e.g., areas planned for development, or seasonally tilled</th><th>Modest
e.g., undeveloped, wildlife refuge, parks</th><th>Inconsequential
e.g., not anticipated, prevented, mitigated</th></tr>
<tr><td rowspan="4">Sensitivity: Susceptibility to Detonation</td><td>High (e.g., classified as sensitive)</td><td>1</td><td>1</td><td>3</td></tr>
<tr><td>Moderate (e.g., high explosive [HE] or pyrotechnics)</td><td>1</td><td>2</td><td>3</td></tr>
<tr><td rowspan="2">Low (e.g., propellant or bulk)</td><td>1</td><td>3</td><td rowspan="2">3</td></tr>
<tr><td>1</td><td>3</td></tr>
<tr><td>Not Sensitive</td><td>2</td><td>3</td><td>3</td></tr>
<tr><td colspan="5">Matrix 3 Result: High-Density Area (Current land use) – 3, High-Density Area (future construction) – 1
Low-Density Area (Current land use) - 3, Low-Density Area (future construction) – 1</td></tr>
</table>

3.1 MATRIX 3 RESULTS JUSTIFICATION

Sensitivity Justification:

None of the munition items identified during the RFI were determined to have sensitive fuzes. It is assumed that the same munitions identified in the High-Density Areas have the potential of being present at depth in the Low-Density Areas. Therefore, the Sensitivity was classified as "Low" susceptibility to detonation for both the High-Density and Low-Density Areas. Future construction would have no impact on the sensitivity associated with the specific munitions; therefore, the Sensitivity would remain "Low" for both the High-density and Low-density areas

Likelihood to Impart Energy Justification:

The Gun Range area of the MRS is primarily open area that regulatory has lawn care services but no other use. The Trench Mortar Range area of the MRS is used as material and equipment laydown areas by contractors. no subsurface activities are occurring within the MRS except for regular underground utility maintenance, but there is also the potential for building renovations in the future. All MPPEH were located within the subsurface (11-102 cm bgs). There is no known land use along the shoreline of the New River; however, there is a potential for recreational users on the river to be accessing the shoreline, but it is unlikely that users would be regularly stopping along this stretch of shore due to the steep slope and presence of fencing on both sides of the river. There is no anticipated change in future land use for this site, and the site will continue to be used for industrial purposes and development is unlikely within the foreseeable future, but building renovations or future construction may take place. RFAAP has protocols in place to mitigate the likelihood to impart energy during subsurface activities. Training is conducted to educate the workers of the potential items and whenever an item is encountered there is a process for stopping work, leaving the item in place, and notifying the Explosive Ordnance Disposal (EOD) unit to respond and handle the item. Therefore, the likelihood to impart energy on an item is "Modest" for both the High-Density and Low-Density Areas. During future construction activities the likelihood of encountering an item is increased due to the sustained activity. While the RFAAP protocols for subsurface activities would remain in place, the likelihood to impart energy on an item is "High" for both the High-Density and Low-Density Areas.

4. MATRIX 4. ACCEPTABLE AND UNACCEPTABLE SITE CONDITIONS

Matrix 4 represents the overall risk for the site and differentiates "acceptable" from "unacceptable" conditions. This is determined based on the likelihood of an encounter (Matrix 2), with consideration given to the severity of the incident (Matrix 2), combined with the likelihood of an interaction that results in detonation (Matrix 3). Where an unacceptable scenario is identified, this matrix is then used during the feasibility study to identify acceptable conditions that are ultimately achievable via remedial response action for all portions of the MRS. Finally, the matrices are used in a post remedy data assessment to evaluate the achievement of risk reduction for a given remedy.

Acceptable and Unacceptable Site Conditions		**Result from Matrix 2**			
		A	**B**	**C**	**D**
Result from Matrix 3	**1**	**Unacceptable**	**Unacceptable** **Unacceptable**	**Unacceptable**	**Acceptable**
	2	**Unacceptable**	**Unacceptable**	**Acceptable**	**Acceptable**
	3	**Unacceptable**	**Acceptable**	**Acceptable**	**Acceptable**
Matrix 4 result:					

4.1 MATRIX 4 RESULTS

Matrix 4 Result:

High-Density Area – Acceptable under Current Site Conditions with controls in place; however, because a risk is still potentially present from items located at depth, UU/UE may not be supported.

High-Density Area – Unacceptable under Future Construction Activities

Low-Density Area – Acceptable under Current Site Conditions with controls in place; however, because a risk is still potentially present from items located at depth, UU/UE may not be supported.

Low-Density Area – Unacceptable under Future Construction Activities

Former Trench Mortar Range
(37 acres)

Former Gun Range
(28 acres)

Area A
(31 acres)

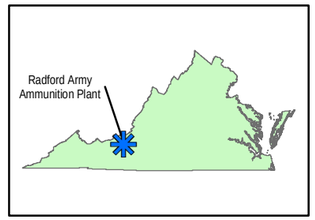
Potential MEC High
Density Area
(12 acres)

Legend

Targets Item Category

- MPPEH
- Munitions Debris
- MEC High Density Areas
- MEC Low Density Areas
- Trench Mortar Grids – AGC Survey
- Gun Range Grids – AGC Survey
- Area A
- Potential MEC High Density Area
- EM-31 Area
- Former Trench Mortar Range
- Former Gun Range
- Buildings

Imagery Source:
ESRI, Imagery Mapping Service, 2018



N

0 165 330 660
Feet

Prepared By:
Baltimore District

FIGURE G-1
RMM DENSITY MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\RMM_Density_Map.mxd, 6/28/2022 1:48:12 PM, Langloisb