FINAL

MULTI-SITE SITE INVESTIGATION REPORT

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
PLUM BROOK STATION
SANDUSKY, OHIO

Prepared for:

NASA Glenn Research Center
Plum Brook Station
6100 Columbus Avenue
Sandusky, Ohio 44870

Prepared by:

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Twinsburg, Ohio 44087

April 29, 2016

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ACRONYMS

ACM	Asbestos-Containing Material
AMSL	Above Mean Sea Level
BGS	Below Ground Surface
CB&I	CB&I Federal Services, LLC
CFR	Code of Federal Regulations
COPC	Chemical of Potential Concern
COPEC	Chemical of Potential Ecological Concern
DA2A	Disposal Area 2A
DA2B	Disposal Area 2B
DEM	Digital Elevation Model
DL	Detection Limit
DNAP	Division of Natural Areas and Preserves
DNT	Dinitrotoluene
DOI	Department of the Interior
DPT	Direct-Push Technology
ECCR	Erie County Conservation League
EcoSSL	Ecological Soil Screening Level
Eden	Eden Environmental, Inc.
EE/CA	Engineering Evaluation/Cost Assessment
EMS	Environmental Management Systems
ESL	Ecological Screening Level
ESV	Ecological Screening Value
FBI	Federal Bureau of Investigation
FCR	Field Change Request
FEMA	Federal Emergency Management Agency
FGDC	Federal Geographic Data Committee
FIRM	Flood Insurance Rate Map
FR3	Firing Range 3
FR4	Firing Range 4
FRBG	Fox Road Burning Ground
FY	Fiscal Year
gpd	Gallons per Day
gpm	Gallons per Minute
GPS	Global Positioning System
GRC	John H. Glenn Research Center
HELP	Huron/Erie Lake Plain
HQ	Hazard Quotient
ICP	Inductively Coupled Plasma
ICS	Interference Check Student
IDW	Investigation-Derived Waste
IS	Internal Standard
L/min	Liters per Minute
LBP	Lead-Based Paint
LCS	Laboratory Control Sample
LOQ	Level of Quantitation
MCL	Maximum Contaminant Level
MDC	Maximum Detected Concentration
MK	Morrison Knudsen Corporation
MS	Matrix Spike

ACRONYMS (Continued)

MSD	Matrix Spike Duplicate
NASA	National Aeronautics and Space Administration
NAWQC	National Ambient Water Quality Criteria
NESHAP	Natural Emission Standards for Hazardous Air Pollutants
NFA	No Further Action
ODNR	Ohio Department of Natural Resources
Ohio ANG	Ohio Air National Guard
Ohio EPA	Ohio Environmental Protection Agency
OMZM	Outside Mixing Zone Maximum
ORAM	Ohio Rapid Assessment Method
PAH	Polycyclic Aromatic Hydrocarbon
PBOW	Plum Brook Ordnance Works
PBS	Plum Brook Station
PBT	Persistent, Bioaccumulative, and Toxic
PCB	Polychlorinated Biphenyl
PETN	Pentaerythritol Tetranitate
PID	Photoionization Detector
PPE	Personal Protective Equipment
PRG	Preliminary Remediation Goal
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RDA	Recommended Dietary Allowance
RDI	Recommended Daily Intake
RI	Remedial Investigation
RL	Reporting Limit
RSL	Regional Screening Level
SAIC	Science Applications International Corporation
SAP	Sampling and Analysis Plan
SI	Site Investigation
SIR	Site Investigation Report
SMP	Species Management Plan
SOR	Sum of Ratios
SRBG	Snake Road Burning Ground
SRC	Site-Related Chemical
SRV	Sediment Reference Value
SVOC	Semivolatile Organic Compound
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
TEC	Threshold Effect Concentration
TNT	Trinitrotoluene
TPH	Total Petroleum Hydrocarbons
TRBG	Taylor Road Burning Ground
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VAP	Voluntary Action Program
VOC	Volatile Organic Compound

ACRONYMS (Continued)

WM	Waste Management
WQC	Water Quality Criteria
WWTP	Wastewater Treatment Plant
WWTP1	Wastewater Treatment Plant #1
WWTP2	Wastewater Treatment Plant #2
WWTP3	Wastewater Treatment Plant #3
XRF	X-Ray Fluorescence

EXECUTIVE SUMMARY

This Site Investigation Report (SIR) presents the results and recommendations from the Site Investigation (SI) activities conducted in August 2015 at four sites located within the National Aeronautics and Space Administration (NASA) Plum Brook Station (PBS) in Sandusky, Ohio. The objective of the SI was to determine the presence or absence of contamination and provide one of the following recommendations:

- No further action (NFA) for a given media at each site
- Conduct further evaluation in a Remedial Investigation (RI)
- Conduct Engineering Evaluation/Cost Analysis (EE/CA) and/or interim removal action.

The four sites discussed herein include:

- Disposal Area 2A (DA2A)
- Fox Road Burning Ground (FRBG)
- Snake Road Burning Ground (SRBG)
- Taylor Road Burning Ground (TRBG).

SI activities were conducted in accordance with the October 2011 Multi-Site Site Characterization Sampling and Analysis Plan (SAP) prepared by Science Applications International Corporation (SAIC). Soil (surface and subsurface) and sediment samples were collected from each site, and surface water samples were collected from DA2A. Samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), herbicides, pesticides, polychlorinated biphenyls (PCBs), explosives, and metals. Analytical data were screened based upon the following criteria:

- U.S. Environmental Protection Agency (USEPA) Region 9 Preliminary Remediation Goals (PRGs)
- Ohio Environmental Protection Agency (Ohio EPA) Sediment Reference Values (SRVs)
- Ohio EPA Ecological Screening Levels (ESLs)
- Ohio EPA Regional Screening Levels (RSLs)
- Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
- Background values for NASA PBS (soil only).

These screening criteria were utilized to determine if contamination exists at concentrations indicative of an unacceptable risk to human health or the environment and also to identify the required laboratory analytical reporting limits.

ES.1 RESULTS AND CONCLUSIONS

The results for each of the four AOCs are presented below.

ES.1.1 Disposal Area 2A

SI activities at DA2A included 40 soil borings, 40 shallow surface soil samples, 35 subsurface samples, 10 sediment samples, and 7 surface water samples. Samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, target analyte list (TAL) metals, and asbestos (0- to 2-foot interval only). Multiple compounds were detected in each medium sampled. In addition, each medium contained

multiple compounds at concentrations greater than relevant screening criteria. Sample results indicate the site has been impacted by historical site use.

Ecological risk screening and human health risk assessments were conducted to identify potential risks and determine the need for additional evaluation. The ecological risk screening identified 36 chemicals of potential ecological concern (COPECs) in surface soil, 23 COPECs in sediment, and 7 COPECs in surface water. COPECs for soil and sediment included one or more metal, SVOC, PCB, and pesticide. Surface water COPECs included one or more metal and pesticide.

Human health risk assessment identified multiple metals, PCBs, and SVOCs as chemicals of potential concern (COPCs) in shallow and subsurface soil. Several SVOCs were identified as COPCs in sediment and several pesticides were identified as COPCs in surface water.

Asbestos sampling identified chrysotile, amosite, and/or tremolite asbestos at concentrations greater than 1 percent in 18 samples. Asbestos containing material (ACM) included soil, tar, roofing material, paper, linoleum, transite, caulk, fibrous material, and cementitious material.

ES.1.2 Fox Road Burning Ground

SI activities at the FRBG included 27 soil borings, 27 shallow surface soil samples, 29 subsurface samples, and 3 sediment samples. Samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, explosives, and asbestos (0- to 2 foot interval only). Multiple compounds were detected in each medium sampled. In addition, each medium contained multiple compounds at concentrations greater than relevant screening criteria. Sample results indicate the site has been impacted by historical site use.

Ecological risk screening and human health risk assessments were conducted to identify potential risks and determine the need for additional evaluation. The ecological risk screening identified 25 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. No COPECs were identified for sediment.

Human health risk assessment identified multiple PCBs and SVOCs as COPC for surface soil in the Subsurface Debris Area of the FRBG. No COPCs were identified in subsurface soil or sediment.

Asbestos sampling at the FRBG indicated 1 out of 27 samples contained chrysolite asbestos at less than 1 percent. No other asbestos was detected.

ES.1.3 Snake Road Burning Ground

SI activities at the SRBG included 11 soil borings, 11 shallow surface soil samples, 22 subsurface samples, and 3 sediment samples. Samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, explosives, and asbestos (0- to 2-foot interval only). Multiple compounds were detected in the samples, including several compounds at concentrations greater than relevant screening criteria. Sample results indicate the site has been impacted by historical site use.

Ecological risk screening and human health risk assessments were conducted to identify potential risks and determine the need for additional evaluation. The ecological risk screening identified 25 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. No COPECs were identified for sediment.

Human health risk assessment identified one or more metal, PCB, SVOC, and explosive compound as COPCs for surface soil. No COPCs were identified in subsurface soil or sediment.

Asbestos sampling at the SRBG indicated 2 out of 20 samples contained chrysolite and/or amosite asbestos at concentrations greater than 1 percent. ACM was identified as transite material.

ES.1.4 Taylor Road Burning Ground

SI activities at the TRBG included 11 soil borings, 11 shallow surface soil samples, 18 subsurface samples, and 8 sediment samples. Samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, explosives, and asbestos (0- to 2-foot interval only). Multiple compounds were detected in each medium sampled. In addition, each medium contained one or more compounds at concentrations greater than relevant screening criteria. Sample results indicate the site has been impacted by historical site use.

Ecological risk screening and human health risk assessments were conducted to identify potential risks and determine the need for additional evaluation. The ecological risk screening identified 20 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. Thirty-six COPECs were identified in sediment, including one or more metal, SVOC, PCB, and pesticide.

Human health risk assessment identified lead and PCBs as COPC for surface soil. Benzo(a)pyrene, PCB-1254, and PCB-1260 were identified as COPCs in subsurface soil in the Primary Burn Area. SVOCs and PCB were identified as COPCs in sediment in the West Ditch.

Asbestos sampling at the TRBG indicated 3 out of 20 samples contained chrysolite and/or amosite asbestos at concentrations greater than 1 percent. ACM included cementitious material and soil.

ES.2 RECOMMENDATIONS

ES.2.1 Disposal Area 2A

Results of the SI activities indicate that the site has been impacted by previous site usage. Further evaluation in an RI is recommended for surface soil, sediment, and surface water to fully evaluate the potential risk of the identified COPECs to ecological receptors. Further evaluation in an RI is recommended to evaluate the potential risk to human health related to the COPCs identified in surface soil, subsurface soil, sediment, and surface water. In addition, an EE/CA is recommended to address the presence of ACM and to mitigate potential risks to human health and ecological receptors, and an interim removal action is recommended for the debris fields and surface soil with concentrations above RSLs.

ES.2.2 Fox Road Burning Ground

Results of the SI activities indicate that the site has been impacted by previous site usage. Further evaluation in an RI is recommended for surface soil to fully evaluate the potential risk of the identified COPECs to ecological receptors. Further evaluation in an RI is recommended to evaluate the potential risk to human health related to the COPCs identified in surface soil in the Subsurface Debris Area. Based on sampling results, additional ACM assessment is not warranted. However, an interim removal action is recommended for debris observed during the SI.

ES.2.3 Snake Road Burning Ground

Results of the SI activities indicate that the site has been impacted by previous site usage. Further evaluation in an RI is recommended for surface soil to fully evaluate the potential risk of the identified COPECs to ecological receptors. Further evaluation in an RI is recommended to evaluate the potential risk to human health related to the COPCs identified in surface soil. Based on sampling results, additional ACM assessment is not warranted.

ES.2.4 Taylor Road Burning Ground

Results of the SI activities indicate that the site has been impacted by previous site usage. Further evaluation in an RI is recommended for surface soil and sediment to fully evaluate the potential risk of the identified COPECs to ecological receptors. Further evaluation in an RI is recommended to evaluate the potential risk to human health related to the COPCs identified in surface soil, subsurface soil, and sediment. In addition, an EE/CA is recommended to address the presence of ACM and to mitigate potential risks to human health and ecological receptors, and an interim removal action is recommended for the debris observed during the SI.

1.0 INTRODUCTION

Leidos has prepared this Site Investigation Report (SIR) on behalf of the National Aeronautics and Space Administration (NASA) as part of a Site Investigation (SI) at multiple locations within the Plum Brook Station (PBS) in Sandusky, Ohio (**Figure 1**). This report summarizes SI activities conducted at four of the seven sites identified in the 2011 Multi-Site Site Characterization Sampling and Analysis Plan (SAP) (SAIC 2011). The four sites discussed in this SIR include:

- Disposal Area 2A (DA2A)
- Fox Road Burning Ground (FRBG)
- Snake Road Burning Ground (SRBG)
- Taylor Road Burning Ground (TRBG).

Three additional sites [Disposal Area 2B (DA2B), Firing Range 3 and 4 (FR3 and FR4), and Erie County Conservation League (ECCL) Firing Range] were discussed in the SAP, however SI activities for these sites are not included in this SIR. Remedial activities were completed by others at DA2B concurrent with the SI activities described herein. Details pertaining to the remedial activities at DA2B are presented in *Plan of Operations: Acid Area 2 Remedial Action – Remediation of Contaminated Soil Plum Brook Ordnance Works Sandusky, Ohio* by Oneida Total Integrated Enterprises, LLC (2015). SI activities at FR3 and FR4 were reported in the December 2015 *NASA Plum Brook Station Firing Range Site Investigation Report* (Leidos 2015). The proposed work for the ECCL Firing Range was postponed by NASA and therefore is not discussed herein. Lastly, the SAP included SI activities for the Wastewater Treatment Plant #2 (WWTP2) portion of DA2A; however, site activities for WWTP2 were presented under separate cover in the Remedial Investigation (RI) Report (CB&I 2015) prepared by CB&I Federal Services, LLC (CB&I) for the U.S. Army Corps of Engineers (USACE).

SI field activities at DA2A, the FRBG, the SRBG, and the TRBG were conducted between August 3 and August 21, 2015. This SIR describes SI field activities, presents analytical results of environmental sampling, and provides recommendations specific to each site. SI activities were conducted in accordance with U.S. Environmental Protection Agency (USEPA), Ohio Environmental Protection Agency (Ohio EPA), and NASA guidance. USEPA guidance documents relevant to this project include *Guidance for Conducting Preliminary Assessments Under CERCLA* (USEPA 1991), *Guidance for Performing Site Inspections under CERCLA* (USEPA 1992), and *Federal Facilities Remedial Preliminary Assessment Summary Guide* (USEPA 2005). Ohio EPA follows the USEPA Region 9 guidance with regard to screening criteria (i.e., Regional Screening Levels [RSLs] and maximum contaminant levels [MCLs]).

1.1 PROJECT OBJECTIVES AND SCOPE

The primary objectives of the SI were to determine the presence or absence of contamination in surface soil, subsurface soil, sediment, and surface water at each site and to either:

- Obtain a no further action (NFA) decision with regulatory concurrence for qualifying sites, or
- Identify the data quality objectives for conducting follow-on RIs at sites that do not meet the criteria for NFA
- Identify qualifying sites for interim removal actions and Engineering Evaluation/Cost Analysis (EE/CA).

Groundwater at PBS is being investigated under separate contracts and is not included in the scope of work of this SIR.

1.2 REPORT ORGANIZATION

This SIR was developed in accordance with the *Guidance for Performing Site Inspections Under CERCLA* (USEPA 1992) and documents the following key components of the SI program for the subject sites:

- Background Information (location, physical setting, site history)
- Previous Investigations (potential source areas, characterization data)
- Site Characterization Data Collection Program (data quality objectives, environmental sampling)
- Sampling Results
- Environmental Hazard Assessments
- Conclusions and Recommendations.

2.0 BACKGROUND INFORMATION

The following sections provide background information for PBS and each of the project sites, including location, site history, physical setting, land use, and related information. Additional background details are available in the SAP.

2.1 LOCATION

PBS is located in southern Erie County, Ohio, approximately 3 miles south of Sandusky, Ohio and approximately 50 miles west of the NASA John H. Glenn Research Center (GRC) in Cleveland, Ohio (**Figure 1**). The PBS facility encompasses approximately 6,400 acres and is depicted in two adjacent U.S. Geological Survey (USGS) 7.5 minute series topographic maps: Sandusky Quadrangle (northern portion of facility) and Kimball Quadrangle (southern portion of facility). Most of PBS is in Perkins and Oxford Townships, with some lands in Huron and Milan Townships. The site boundaries are Bogart Road to the north, Mason Road to the south, U.S. Highway 250 to the east, and County Road 43 to the west. The northernmost point is at latitude 41°23'39"N and the southernmost point is at 41°20'04"N. The westernmost point is at longitude 82°43'12"W and the easternmost point is at 82°38'39"W. **Figure 2** shows the location of NASA PBS on the USGS topographic maps (both quadrangles combined). The locations of the four sites discussed in this SIR are depicted in **Figure 3** with reference to an aerial photograph.

2.2 SITE HISTORY

PBS is operated as a satellite facility (or component installation) of the NASA GRC. Use of PBS by the Federal Government began in 1941 when the U.S. Army established the Plum Brook Ordnance Works (PBOW) for the manufacture of munitions and related materials, including trinitrotoluene (TNT), dinitrotoluene (DNT), and ponolite. The PBOW facility consisted of 9,009 acres inland, 1.35 acres for 2 pumping stations on Lake Erie, and approximately 700 buildings. Munitions production took place from 1941 to 1945, after which buildings and production lines were decontaminated and decommissioned. Between 1941 and 1945, it is estimated that more than one billion pounds of ordnance were manufactured.

In 1956, NASA obtained 500 acres in the northern portion of the site for construction of a nuclear test reactor. This reactor was the first of 15 test facilities eventually constructed and operated by NASA during the period from 1958 to 1973. Between 1958 and 1960, NASA demolished hundreds of buildings, renovated approximately 41 buildings, and utilized 99 magazines (Gray and Pape 2008). In 1963, NASA acquired an additional 6,000 acres and took control over what is now referred to as PBS. From 1967 through 1971, NASA purchased approximately 2,000 acres outside of the fence line from local farmers as "buffer."

On April 18, 1978, NASA declared approximately 2,152 acres of PBOW as excess. This excess included approximately 1,500 acres outside the fence and was sold as farmland (NASA 2013). The 46 acres outside of the fence in the northeastern corner of the PBOW facility near the guard house was conveyed to the Perkins Township Board of Education for use as a bus transportation area. In addition, the 2,152 acres of PBOW declared as excess included a 604-acre parcel in the western part of the fenced area known as "Parcel 59." This area, although previously declared excess, was not transferred and remains under NASA control. According to a NASA newsletter, NASA presently controls approximately

6,432 acres (NASA 2013); this includes approximately 5,500 acres within the fence line and 900 acres outside of the fence, which have been leased for agriculture (NASA 2012a).

At present, NASA operates PBS as a space research facility in support of the GRC. Most of the aerospace testing facilities built in the 1960s at PBS have been demolished, or are currently on standby or inactive status. Additional tenants at PBS include the U.S. Department of Agriculture (USDA), U.S. Department of the Interior (DOI), the Federal Bureau of Investigation (FBI), and the Ohio Air National Guard (Ohio ANG). Additional details regarding the site history are presented in the *Preliminary Assessment/Visual Site Inspection Report for NASA Plum Brook Station* (Tech Law 1998).

2.3 SITE SETTING

PBS is situated in an area known for its agricultural productivity and is bordered by farmland, some of which is leased to local farmers by NASA. The area surrounding PBS is largely rural and agricultural, with some recent development. Some food processing facilities are located in the area, including dairy and meat processing operations. Tourism and recreation are important economic influences in the Sandusky area. The Erie County Perkins School District currently uses certain former NASA facilities, located near the current PBS main gate and outside the fenced area, for transportation and storage purposes. Intensive commercial development, consisting of highway-oriented uses (e.g., motels, restaurants, and service stations) and shopping malls, predominate immediately to the east along U.S. Highway 250 and its intersections with Bogart Road and State Highway 2 in Sandusky. A U.S. Army Reserve Center is situated adjacent to the southeast corner, just off Mason Road (SAIC 2013).

An 8-foot security fence surrounds approximately 5,000 acres of PBS. Most of the land at PBS consists of forestland and old fields. An estimated 75 percent of NASA's property at PBS is considered unused. The remaining land is used for offices, test facilities, roads, and infrastructure. Public access is restricted at PBS and access to the site is gained through the security guard house located on Columbus Avenue. The guard house is staffed by armed guards 24 hours per day. During each 8-hour shift, a security guard patrols the inside perimeter road (Patrol Road) of the facility. Persons gain access to the station by showing the guard a badge that authorizes entry.

2.3.1 Disposal Area 2A

DA2A is located in the northwestern portion of PBS (**Figure 3**) and is in the immediate vicinity of former WWTP2 and a powerhouse ash pit (CB&I 2015). WWTP2 was constructed in association with PBOW in 1941 and was operational until 1945 when production at PBOW ceased.

Three wastewater treatment plans (WWTPs) were present at PBOW [Wastewater Treatment Plant #1 (WWTP1), WWTP2, and Wastewater Treatment Plant #3 (WWTP3)]. The purpose of the treatment plants was to reduce the volume of wastewater discharged from each of the manufacturing areas to the wastewater ponds (i.e., WWTP2 discharged to the West Area Red Water Ponds and WWTP1 discharged to the Pentolite Road Red Water Pond). The influent wastewater that was transferred and received from TNT manufacturing areas consisted of spent sulfuric and nitric acids and red water from the TNT purification process. Red water was an aqueous waste produced from the TNT purification process using sellite (sodium bisulfite). Chemicals in the waste streams included sodium salts of sulfite, sulfate, nitrite, nitrate, sulfonates of unwanted TNT isomers, trinitrobenzoic acid, trinitrobenzaldehyde, trinitrobenzyl alcohol, nitrotoluenes, and DNTs (Dames & Moore 1997a).

Each of the WWTPs consisted of a neutral storage tank, an equalization tank, a condensate storage tank, an evaporator building, an incinerator, and a thick liquid storage tank (USACE 2000). WWTP1 and

WWTP2 also included a caustic storage tank and a raw waste storage tank. The WWTP1 and WWTP2 plants received wastewater directly from the TNT manufacturing settling basins and neutralized the wastewater (slurry) through a chemical depuration process. TNT manufacturing wastes were transferred to WWTP2 by below-ground 4- to 6-inch-diameter wood stave sewer pipelines (USACE 1995).The liquid was thickened by evaporation and incinerated. The incinerators were located to the east of the storage tanks at WWTP1 and to the south of the storage tanks at WWTP2. Ash from the incinerator was disposed of in nearby ash pits associated with the WWTPs. Alternately, raw wastewater was discharged directly from WWTP2 to the West Area Red Water Ponds during times of heavy production or transferred to WWTP3 via the 4-inch steel sewer line.

WWTP2 is estimated to have been approximately 275 feet long and approximately 225 feet wide, an area of approximately 1.4 acres. WWTP2 was not used for any known purposes after PBOW production ceased in 1945 (CB&I 2015).

CB&I (2015) reported that aerial photographs confirm that only limited demolition activity had occurred at PBOW by 1958. Most of the WWTP2 structures were present in 1958, with the exception of the incinerator building and the raw wastewater storage tank. By 1964, significant site demolition had been performed by NASA, and all of the TNT production-related buildings were removed except for those at Acid Area No. 3. Review of aerial photographs suggest that WWTP2 was apparently used as the main disposal area for concrete and metal debris during demolition.

DA2A is located in the immediate vicinity of former WWTP2 and includes areas along the west and east banks of Pipe Creek (**Figure 3**). Based on historical data, DA2A is assumed to have received waste from WWTP2, including ash, spilled wastewater, and construction/demolition debris. DA2A is forested area with some areas of heavy shrub/scrub vegetation. As summarized in the SAP, DA2A consists of two debris areas (East Debris field and West Debris field) located along either side of Pipe Creek. During this SI, the West and East Debris fields were observed to contain large concrete culverts and footers, building materials, metal rebar, brick, and scrap metal, which remain in large piles throughout both sides of Pipe Creek.

DA2A is currently composed of mixed deciduous forest habitat bisected by Pipe Creek. Pipe Creek is a perennial stream that flows south to north through DA2A, with the West Debris field on the southwestern side of the creek and the East Debris field on the northeastern side of the creek; the East Debris Field is bracketed to the north and south by drainage ditches. Small wetlands abut Pipe Creek and/or are in close proximity of the two debris fields.

2.3.2 Fox Road Burning Ground

The FRBG is located in the eastern central portion of PBS (**Figure 3)** and also includes the area known as Disposal Area 1A and Burn Pit 5 (SAIC 1991). Between approximately 1954 and 1958, portions of PBOW were deconstructed and decontaminated. CB&I (2015) reported that the decontamination included removal and disposal of contaminated surface and subsurface soil around the buildings and wooden and ceramic waste disposal lines containing TNT. The material is reported to include thousands of pounds of TNT recovered from catch basins. The materials were reportedly burned at burning grounds located at several areas, including the FRBG.

Between 1963 and 1964, additional decontamination activities were conducted. These activities included destruction of all buildings by fire and decontamination of sump basins, followed by removal of debris and concrete foundations. Materials from the areas, including soil, were thermally treated and the area was then rough graded. The process also included removal and burning of wastewater lines contaminated with nitroaromatic compounds. According to a records review (Dames & Moore 1997b), this burning was

performed on July 10, 1963, near the intersection of Fox Road and Snake Road, and is suspected to have also occurred at the Additional Burning Ground area (CB&I 2015).

The FRBG is currently composed of forest and shrubland with a wetland present on the eastern portion of the site. The FRBG includes the areas referred to as the General Area, Subsurface Debris Area, and Concrete Pits. The western half of the General Area was a mixture of flat, grassy area with some mature trees, areas of heavy shrub/scrub vegetation, and few soil piles. Access pathways to groundwater monitoring wells and wildlife management areas (i.e., hunting zone) are maintained by NASA. The eastern half of the General Area and the Subsurface Debris Area are mature forest. The Concrete Pits are remains of a suspected maintenance area (large concrete slab, two shallow pits with steps) and are located in a forested area west of the General Area.

2.3.3 Snake Road Burning Ground

The SRBG is located in the central portion of PBS (**Figure 3)** west of Snake Road and north of West Scheid Road. As discussed above, between approximately 1954 and 1958, portions of PBOW were deconstructed and decontaminated. CB&I (2015) report that the decontamination included removal and disposal of contaminated surface and subsurface soil around the buildings and wooden and ceramic waste disposal lines containing TNT. The material is reported to include thousands of pounds of TNT recovered from catch basins. The materials were reportedly burning at burning grounds located at several areas, including the SRBG.

Between 1963 and 1964, additional decontamination activities were conducted. These activities included destruction of all buildings by fire and decontamination of sump basins, followed by removal of debris and concrete foundations. Materials from the areas, including soil, were thermally treated and the area was then rough graded. The process also included removal and burning of wastewater lines contaminated with nitroaromatic compounds. According to a records review (Dames & Moore 1997b), this burning was performed on July 10, 1963, near the intersection of Fox Road and Snake Road, and is suspected to have also occurred at the Additional Burning Ground area (CB&I 2015).

The SRBG is within a large grassy field with areas of thick shrub/scrub vegetation. Access pathways to groundwater monitoring wells are maintained by NASA. During the SI kickoff meeting in July 2015, the NASA Natural Resources Program Manager stated that NASA routinely conducts controlled burns at the SRBG in late winter/early spring.

2.3.4 Taylor Road Burning Ground

The TRBG is located in the west-central portion of PBS (**Figure 3)**, southeast of the intersection of Taylor Road and Ransom Road. As discussed above, between approximately 1954 and 1958, portions of PBOW were deconstructed and decontaminated. CB&I (2015) reported that the decontamination included removal and disposal of contaminated surface and subsurface soil around the buildings and wooden and ceramic waste disposal lines containing TNT. The material is reported to include thousands of pounds of TNT recovered from catch basins. The materials were reportedly burning at burning grounds located at several areas potentially including the TRBG.

The TRBG is currently composed primarily of field, surrounded by shrub and forested area with a wetland present on the western portion of the site. The TRBG includes three contiguous areas for investigation: the Primary Burn Area, Secondary Burn Area, and Subsurface Debris Area. These areas are flanked by drainage ditches to the east and west. The western ditch is an ephemeral waterway and small (0.3-acre) wetland. The eastern ditch is also an ephermal waterway. Both ditches drain to another ditch situated along the north side of a former railroad bed, located just south of the TRBG. The area

surrounding the Primary Burn Area, Secondary Burn Area, and Subsurface Debris Area are mature wooded forest. The Primary Burn Area, Secondary Burn Area, and Subsurface Debris Area are a mixture of flat, grassy area with some mature trees, areas of heavy shrub/scrub vegetation, and few soil piles. Access pathways to the areas are maintained by NASA.

2.4 PHYSICAL SETTING

The following sections summarize the physical setting for PBS including topography, water resources, hydrology, geology, and soil.

2.4.1 Climate

At PBS, the climate is continental in character and influenced by proximity to Lake Erie, which is approximately 6 km (4 miles) to the north. Summers are moderately warm and humid with temperatures occasionally exceeding 32ºC (90ºF). Winters are cold and cloudy with temperatures falling below 18ºC (0ºF) an average of 5 days per year. Annual temperature extremes typically occur after late June and in January. First frost typically occurs in October.

Based on long-term statewide weather records, Ohio receives an average of 38 inches of precipitation per year. Of these, about 10 inches (26 percent) become runoff, which moves immediately to surface water bodies like streams and lakes. Twenty-six of the 38 total inches enter the soil surface through infiltration. Twenty of these 26 inches go into soil storage and later are returned to the atmosphere by the combination of evaporation and transpiration (Ohio State University 2013). Accordingly, the Ohio Department of Natural Resources (ODNR) estimates average annual water loss for the area, which includes PBS, to be between 22 and 23 inches (Harstine 1991). The 2-year, 24-hour rain event was estimated at 6.4 cm (2.5 inches) for the part of the United States containing Erie County (USDA 1963). Daily high and low temperatures and precipitation data are published in a Cooperative Data Report for this location. More detailed climatological data for PBS can be obtained from the National Weather Service. **Table 2-1** provides a climate data summary for Cleveland, Ohio based on data obtained from the National Weather Service at http://www.weather.gov/cle/CLENormals.

The predominant wind direction is south to southwest throughout the year. Wind direction was measured via an onsite wind monitoring tower in 2008 (Green Energy Ohio 2009).

2.4.2 Topography

PBS is situated on land that was once a lake bottom formed from glacial melt waters. The area is relatively flat and slopes gently northward. The average slope of the land is less than 6 percent. Topographic relief across NASA PBS is approximately 50 feet, with higher elevations [±675 feet above mean sea level (AMSL)] present along the south-southwestern facility boundary and lower elevations (±625 feet AMSL) present along the northern facility boundary. The lowest ground surface elevations at NASA PBS are associated with the two primary surface water drainages features: Plum Brook (north central portion of facility) and Pipe Creek (northwestern portion of facility). The general topography of PBS and the surrounding area is shown in **Figure 2**.

2.4.3 Wetlands and Waterways

Erie County drains northward into Lake Erie. There are 17 distinct watershed areas in the county. The primary watersheds include Mills Creek and Pipe Creek to the west, the Huron River in the central part of

the county, Old Woman Creek in the east-central part of the county, and the Vermilion River on the eastern edge of the county. The other watersheds are drained by small creeks (USDA 2006).

A total of 11 streams pass through or originate at PBS and converge into Ransom Brook, Storrs Ditch, Plum Brook, or Sawmill Creek – all of which flow to the north and Lake Erie (MK 1994). **Figure 4** illustrates the primary surface water drainage features at PBS. The only flood hazard area, per the 2008 Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), also is shown in the vicinity of DA2A (i.e., Pipe Creek).

A FEMA Zone A floodplain is present along Pipe Creek in the western part of PBS in the vicinity of DA2A. Pipe Creek fulfills the criteria for an area of special flood hazard (the Special Flood Hazard Area, which is defined as an area of land that would be inundated by a flood having a 1 percent chance of occurring in any given year). No other FEMA-mapped floodplains occur on the PBS property. No PBS facilities remain in the Zone A floodplain.

In 2011 and 2012, comprehensive wetlands and waterways delineations were conducted at PBS. The wetland delineations were completed in accordance with methods described in the *Corps of Engineers Wetlands Delineation Manual* and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and Northcentral Region.* Results of the delineations were presented in the *Wetlands and Other Waters Delineation Report* (Enviroscience 2012). Wetlands also were categorized using version 5 of Ohio Rapid Assessment Method (ORAM) for Wetlands.

According to the *Wetlands and Other Waters Delineation Report*, a total of 421.958 acres of waterways and wetlands were delineated within PBS, including 1,050 wetlands; 373 waterways totaling 308,726 linear feet; and 15 ponds totaling 14.908 acres (Enviroscience 2012). As of 2013, the delineated wetland boundaries and ORAM quality scores have not been verified by USACE or Ohio EPA, respectively. Prior to the start of any project that may disturb protected waters, boundaries and quality scores must be verified by the above agencies, and corresponding permits and approvals must be authorized by USACE and/or Ohio EPA before the activity can commence.

2.4.4 Soil

PBS is situated in the Ohio Lake Plain physiographic region. The soil is light-textured and often sandy with moderate to slightly acid pH. Four general soil type units are present according to USDA mapping done in 2006 for the Erie County Soil Survey (USDA- 2006). These four general soil types are Pewamo-Bennington, Hornell-Fries-Colwood, Milton-Millsdale-Castalia, and Kibbie-Colwood-Elnora. The general distribution of soil types present at PBS is illustrated in **Figure 5**.

Pewamo-Bennington soil can be found in the southeastern tip of PBS; Hornell-Fries-Colwood soil are located in the south-middle section of the station; Milton-Millsdale-Castalia soil can be found south of Taylor Road; and Kibbie-Colwood-Elnora soil make up the western and northern sections of PBS.

Pewamo-Bennington soil are very deep, level to gently sloping, very poorly drained and somewhat poorly drained soil that formed in till or in lacustrine deposits and till. Hornell-Fries-Colwood soil are moderately deep and deep, level to gently sloping, somewhat poorly drained to very poorly drained soil formed in till or lacustrine deposits overlying shale. Milton-Millsdale-Castalia soil are moderately deep, level to moderately steep, very poorly drained and well drained soil that formed in till, lacustrine deposits, and residuum derived from limestone or dolostone or in beach or eolian deposits intermixed with limestone fragments overlying limestone or dolostone. Kibbie-Colwood-Elnora soil are very deep, level to gently sloping, moderately well drained to very poorly drained soil that formed in lacustrine deposits or glaciofluvial deposits.

The thickness and composition of glacial till vary widely within Erie County. Soil formation in the till is generally only a few feet thick. Where these till layers were very thin or eroded away, soil formed in older, harder till. The clay content of the till is highest near Lake Erie and lowest near bedrock areas where glacial ice sheets eroded and transported some of the coarser local material (USDA 2006).

2.4.5 Geology and Hydrogeology

The bedrock in northern Ohio consists of Devonian and Silurian age carbonates (limestone and dolomite) and clastics (shale, siltstone, and sandstone) (USDA 2006). These units uncomfortably overlie older sedimentary sequences of Ordovician and Cambrian Age rocks, which in turn uncomfortably overlie pre-Cambrian basement rocks. PBS is situated along the eastern flank of the Findlay Arch where bedrock dips gently to the east. The bedrock formations become progressively younger from west to east. Depth to the bedrock at PBS varies from 0.7 to 7.6 meters (2 to 25 feet) with scattered bedrock outcrops.

Four Devonian Age formations comprise the upper bedrock surface across PBS, from youngest to oldest:

- Ohio Shale (black, thin bedded with bituminous and carbonaceous material)
- Plum Brook Shale/Prout Limestone (light gray, calcareous)
- Delaware Limestone (buff, earthy, fossiliferous, interbedded with brown crystalline dolomite)
- Columbus Limestone (brown to gray, fine crystalline, fossiliferous, with tan to buff gray sandy dolomite at base).

The Columbus and Delaware Limestone Formations are the upper bedrock surface in the northern and western portions of PBS, and the Plum Brook Shale/Prout Limestone and Ohio Shale Formations are the upper bedrock surface in the eastern and southern portions (MK 1994). **Figure 6** presents the bedrock geology at PBS.

Regional groundwater flow is to the north-northwest toward Lake Erie. Local groundwater flow generally follows regional flow with local variations due to topography. Groundwater in the limestone Formations typically occurs in joints and along bedding planes, and in karst-solution features. Aquifer yields vary from up to 1,893 liters per minute (L/min) [500 gallons per minute (gpm)] in limestone to 38 L/min (10 gpm) or less in unconsolidated materials.

At PBS, the groundwater has been divided into three zones based on location and yield. Zone 1 occurs in the north and northwestern portion of the station. It has been characterized as yielding from 379 to 1,893 L/min (100 to 500 gpm) from karstic limestone approximately 30 meters (100 feet) below grade. Zone 2 is in the northern portion of PBS and has yields of 57 L/min (15 gpm) or less from limestone approximately 91 meters (300 feet) below grade. Zone 3 is located in the eastern and southern portion of the site in predominantly shale bedrock. In addition to being found in the shale, groundwater is located in thin sand and gravel horizons interbedded with silt and clay deposits. Most Zone 3 wells are poor yielding, many of them providing less than 11 L/min [3 gallons per day (gpd)] [Shaw 2008].

The two main water-bearing zones at PBS are the overburden and the bedrock. Data from recent groundwater investigations conducted by USACE found that groundwater in the overburden occurs in discontinuous pockets during dry time periods. During these periods of low precipitation, only limited contaminant migration occurs due to less infiltration. During wetter periods, the general groundwater flow direction in the overburden is to the north-northeast, largely mirroring surface topography. The flow also corresponds somewhat to the topography of the top of the bedrock. In contrast, the bedrock water-bearing zone is saturated year round and flow occurs through secondary porosity (i.e. fractures). The rate of groundwater flow in the bedrock is controlled by the frequency, orientation, density, and connectivity of the fractures.

2.5 WATER RESOURCES

The Erie County Health Department does not allow the use of surface water as private drinking water. The majority of residents of Erie County receive water from public utilities whose primary sources are surface water. Erie County's primary groundwater source is the limestone and dolomite aquifer found in the western end of the county (Shaw 2008). Groundwater wells in the central and eastern portions of the county tap lower-yielding shale and sandy zones in the overburden (IT 2002).

Residences to the north and east of PBS are connected to city, county, or rural services. A few wells in the vicinity of PBS were determined to be used for private and public consumption; however, none within the facility boundary are used (Shaw 2008). There are six known private wells within 1 mile downgradient from PBS. The nearest known downgradient private well is approximately 256 meters (840 feet) northeast of the facility boundary. Owners of five of these wells agreed to participate in a well survey and sampling event conducted by USACE in September 2003. The survey found that none of these five wells were being used as a source of drinking water during this time. Three of the wells were being used for watering lawns and gardens, one was being used to irrigate an herb farm, and the remaining well was not used for any purpose (Shaw 2008).

Groundwater at PBS is not used for drinking water. There are no injection wells onsite. Approximately 187 monitoring wells have been installed by NASA and USACE (Humphries 2013). Historical groundwater investigations found localized areas with several contaminants including nitroaromatics, volatile organic compound (VOCs), semivolatile organic compound (SVOCs), and metals. The observed contamination has either been remediated or is in the process of remediation.

2.6 BIOTIC RESOURCES

Much of the information in this section was taken from the Protected Species Management Strategy for NASA GRC at Lewis Field and PBS (ODNR 2002) and the Biological Inventory of Plum Brook Station (ODNR 1995). The PBS site is part of a regional ecosystem encompassing Sandusky, parts of Lake Erie, and several Lake Erie Islands.

2.6.1 Flora

The Division of Natural Areas and Preserves (DNAP) conducted a botanical survey of PBS in 1994. During that survey, 327 species of vascular plants were cataloged, of which 12 were listed by the Division as Ohio rare species. In 2001, DNAP conducted a follow-up survey in which 312 of the species found in 1994 were identified and 219 new additions were made. PBS occupies an area that is known to have been an extensive prairie complex prior to the European settlement of the area. Many species that are associated with Ohio prairies were located during both surveys.

Plant communities were classified according to the Federal Geographic Data Committee (FGDC) Vegetation Classification Standard (FGDC 1997). The following 15 formations and 14 alliances were identified at PBS during the 2001 survey:

- **Forest Formations**
    - Formation: I.A.8.N.c. Conical-crowned temperate or subpolar needle-leaved evergreen forest
    - Formation: I.B.2.C.b. Orchards and groves (fruit and nut trees)
    - Formation: I.B.2.N.a. Lowland or submontane cold-deciduous forest
        - *Fagus grandifolia – Acer saccharum – (Liriodendron tulipifera)* Forest Alliance (FU1)
        - *Quercus alba – (Quercus rubra, Carya spp.)* Forest Alliance (FU2)

        - *Quercus rubra – Acer saccharum – (Quercus alba)* Forest Alliance (FU3)
        - *Quercus veluntina – Quercus alba* Forest Alliance (FU4)
    - Formation: I.B.2.N.d. Temporarily flooded cold-deciduous forest
        - *Fraxinus pennsylvanica – Ulmus americana – Celtis (occidentalis, laevigata)* Temporarily Flooded Forest Alliance (FL1)
        - *Salix nigra* Temporarily Flooded Forest Alliance (FL2)
    - Formation: I.B.2.N.e. Seasonally flooded cold-deciduous forest
        - *Acer rubrum – Fraxinus pennsylvanica* Seasonally Flooded Forest Alliance (FL3)
        - *Quercus palustris – (Quercus bicolor)* Seasonally Flooded Forest Alliance (FL4)

- **Shrubland Formations**

    - Formation: III.B.2.N.a. Temperate cold-deciduous shrubland
    - Formation: III.B.2.N.c. Intermittently flooded cold-deciduous shrubland
    - Formation: III.B.2.N.f. Semi-permanently flooded cold-deciduous shrubland
        - *Cephalanthus occidentalis* Semi-permanently Flooded Shrubland Alliance (SL3)
    - Formation: III.B.2.N.g. Saturated cold-deciduous shrubland
        - *Cornus spp. – Salix spp.* Saturated Shrubland Alliance (SL4)

- **Herbaceous Vegetation Formations**

    - Formation: A.5.C.b. Landscaped urban/suburban/rural (residential yards, nurseries)
    - Formation: V.A.5.N.c. Medium-tall sod temperate or subpolar grassland
    - Formation: V.A.5.N.k. Seasonally flooded temperate or subpolar grassland
        - *Phalaris rundinacea* Seasonally Flooded Herbaceous Alliance (HL2)
        - *Typha spp. – (Scirpus spp. – Juncus spp.)* Seasonally Flooded Herbaceous Alliance (HL3)
        - *Phragmites australis* Seasonally Flooded Herbaceous Alliance (HL4)
    - Formation: V.B.2.N.a. Tall temperate or subpolar perennial forb vegetation
    - Formation: V.B.2.N.c. Intermittently flooded temperate perennial forb vegetation
    - Formation: V.C.2.N.a. Permanently flooded temperate or subpolar hydromorphic rooted vegetation
        - *Potamogeton spp. – Ceratophyllum spp. – Elodea spp.* Permanently Flooded Herbaceous Alliance (HL5).

In 2011-2012, wetlands were formally delineated for all of PBS in accordance with methods described in the Corps of Engineers Wetlands Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and Northcentral Region (Enviroscience 2012). A total of 1,050 wetlands totaling 421.958 acres, 373 waterways totaling 308,726 linear feet, and 15 ponds totaling 14.908 acres were delineated. As part of the wetland delineation effort, 10 upland and wetland vegetative communities were identified at PBS.

2.6.2 Fauna

Animals inventoried at PBS during the 2001 surveys for the Protected Species Management Strategy included birds, amphibians, reptiles, fish, lepidoptera, and bats. A total of 125 bird species were identified during the 2001 summer birding season, including 11 species that were considered to be late migrants through the area and 7 species that were classified as visitors only. A general analysis of the results indicates very little change in the species diversity on the station since the 1994 surveys conducted for the Biological Inventory of PBS (ODNR 2002).

In 2001, amphibians and/or reptiles were recorded from 116 localities in PBS. There were 15 localities from 1994 where animals were no longer found, but animals were found at 29 new locations. Twenty-one species have been found, including two salamanders, six frogs, one lizard, five turtles, and seven snakes. Two new native species, the milk snake and blue-tail skink, were found as well as an introduced species, the red-eared slider. The gray tree frog has been deleted from the list. In addition, the area lies within the range of 19 other species, and it is possible that one or more of these may yet be discovered here (ODNR 2002).

During the fish survey conducted in support of the 1995 Biological Inventory of PBS, 3,028 individuals, representing 13 species and 1 hybrid, were collected, compared to 2,156 individuals, representing 15 species and 1 hybrid collected in 2001. The small, intermittent nature of the streams in the study area, coupled with extensive channel modifications and habitat degradations, has resulted in lower species diversity than would be found in more pristine headwater streams of similar size. With the exception of the brook stickleback, all of the species captured in this study were common species statewide, exhibiting high degrees of tolerance to habitat and water quality degradations. A small population of sticklebacks was discovered in a small, shallow pool below a culvert in one of the tributary ditches feeding into Pipe Creek in 1993. This population was still there in 2001 (ODNR 2002).

In a 1994 summer survey of PBS, 41 species of butterflies were recorded. During the summer of 2001, 53 species of butterflies were recorded. Three species observed in 1994 were not seen in 2001. However, 14 species not recorded in 1994 were found in 2001. As of 2001, the surveys conducted that year raised the number of species recorded from Erie County from 59 to 70 (ODNR 2002).

After an extensive survey of PBS during the summer of 2001, a total of 450 species of moths were recorded. A previous survey in 1994 recorded 385 species of moths. At the time of the 2001 moth survey, six species were listed as uncommon, three species were rare, and three species were of special interest. One species on the ODNR's Ohio's Endangered Wildlife List was recorded (ODNR 2002).

Distribution, diversity, and relative abundance of the Chiropterans (bats) at PBS were studied from April through September 2001. Methodology included visual and acoustical surveying of the grounds and buildings; the mist netting of wooded, riparian, and open sites; and radio tracking of selected bats within the station. Eight species of bats totaling 238 were captured at 17 of the 21 mist net sites at PBS. There was no evidence of the Indiana bat. Several maternity colonies were located utilized by three different species (ODNR 2002).

In 2010 and 2012, additional bat mist netting surveys were conducted. In 2010, bats were captured at each of four mist net sites, with a total of five species of bats recorded. The results of this survey were found to be qualitatively similar to the more extensive mist netting survey conducted in 2001 (West 2010) and described above. In 2012, bat mist netting was conducted at eight sites on PBS; a total of six bat species were captured during the mist netting effort. Acoustic detection of bat calls also was used during the 2012 bat survey. Like the 2010 bat survey, the results of the 2012 survey were found to be very similar to those of the 2011 bat mist netting survey, conducted at PBS (West 2012).

In 2009 and 2010, various bird surveys were conducted onsite by the USDA's Wildlife Services and National Wildlife Research Center (Seamans et al. 2011). As part of this effort, passerine and diurnal raptors were surveyed during their fall (2009) and spring (2010) migratory periods. In the fall of 2009, 40 species of passerines and 10 species of diurnal raptors were identified. In the spring of 2010, 51 species of passerines and 13 species of diurnal raptors were identified. In addition, in 2010, USDA conducted a breeding bird survey, which found 54 species of such birds at PBS (Seamans et al. 2011).

In 2012, a survey for a candidate species for the Federal endangered species list, the Eastern Massasauga rattlesnake (*Sistrurus catenatus*), was conducted. The survey sites chosen for this effort were specific to the habitat requirements of the Eastern Massasauga, so it could not be considered a comprehensive snake or reptile survey. However, though no Eastern Massasaugas were found onsite, three species of snakes were recorded during the survey (Lipps 2012).

2.6.3 Unique and Important Habitats

PBS contains vast natural resources in the form of a complex mosaic of plant communities in various successional stages and hydrologic regimes. Much of PBS is undeveloped natural areas or recovering natural areas previously used for agriculture. The size and diversity of natural habitats at PBS support a large number of plant and animal species (ODNR 1995, ODNR 2002). Many of these areas contain rare plants species and rare plant communities, including rare prairie species and remnant oak savannas.

At PBS, eight core sites containing areas of special vegetation significance were identified as priority areas for management in Volume III of the *Protected Species Management Plan* (NASA 2007). These include specific sites with identified populations of rare or state-listed plant species as of the species surveys conducted in 2001 in support of the *Protected Species Management Plan*. They can be small and local, or somewhat extensive in area, but in all cases their distinguishing characteristic is that they support a growth of rare plants or can be restored to a condition that supports rare plants. The loss of the most important sites likely would mean the irretrievable loss of the local rare plants, many of which are exceptionally rare or state-listed and found nowhere else in the region or state.

In response to the management recommendations put forth in the *Protected Species Management Plan*, the PBS Species Management Plan (SMP) was created in 2007 (NASA 2007). The SMP discusses current management goals, as well as targets for 1, 2, 5, and 10 years into the future, based on data from the *Protected Species Management Plan* and additional recommendations from environmental personnel. The goals outlined in the SMP are updated every fiscal year (FY) as a series of specific objectives and targets that measure compliance with GRC's Environmental Management Systems (EMS) metrics for stewardship for natural resources at PBS (NASA 2012b). As of FY 2012, PBS is in compliance with EMS targets for species management.

Table 2-1. Climate Data Summary – Cleveland, Ohio

Month	Total Precipitation Normal	Mean Max Temperature Normal	Mean Min Temperature Normal	Mean Avg Temperature Normal	Normal Snowfall
January	2.72	34.4	21.7	28.1	18.7
February	2.34	37.5	23.6	30.5	14.9
March	2.93	46.6	30.2	38.4	12.6
April	3.49	59.1	40.4	49.8	3.3
May	3.66	69.5	50.1	59.8	--
June	3.43	78.6	59.8	69.2	--
July	3.46	82.6	64.3	73.5	--
August	3.51	80.8	63.1	72.0	--
September	3.81	73.9	56.0	65.0	--
October	3.07	62.3	45.4	53.8	0.2
November	3.62	50.8	36.9	43.9	4.3
December	3.10	38.3	26.4	32.4	14.1
Sum / Average	39.14	59.5	43.2	51.4	68.1

Source: http://www.weather.gov/cle/CLENormals (accessed 12/3/15)

3.0 PREVIOUS INVESTIGATIONS

Multiple environmental investigations have been conducted at PBS and the PBOW for numerous sites at the facility. The following list identifies the previous environmental investigation documents associated with one or more of the sites discussed in this SIR:

- *Plum Brook Station Preliminary Assessment* – Science Applications International Corporation (SAIC), June (SAIC 1991)
- *Phase I Site Characterization of Disposal Area Three, Plum Brook Station, Ohio* – H^+GCL, June (H^+GCL 1992)
- *Site Inspection Report* – Morrison Knudsen Corporation, January (MK 1994)
- *Records Review Report, Plum Brook Ordnance Works, Sandusky, Ohio* – Dames & Moore, April (Dames & Moore 1995)
- *Preliminary Assessment/Visual Site Inspection Report for NASA Plum Brook Station* – Tech Law, August (Tech Law 1998)
- *Final Preliminary Assessment of Erie County Conservation League Firing Range* – SAIC, April (SAIC 2010b)
- *NASA Plum Brook Station Firing Ranges and Construction Debris Pile, Site Investigation Report*, revision 1 - – Leidos, December (Leidos 2015)
- *Final NASA Plum Brook Station Firing Range Site Investigation Report, Revision 0* – SAIC, April (SAIC 2010a)
- *Sitewide Groundwater Investigation Final Report for Plum Brook Ordnance Works, Plum Brook Station/NASA, Sandusky, Ohio* April (Dames & Moore 1997b)
- *Sitewide Groundwater Investigation, Former Plum Brook Ordnance Works, Sandusky, Ohio, Revision 1* September (IT 1997)
- *Red Water Ponds Focused Remedial Investigation Final Report for Plum Brook Ordnance Works, Plum Brook Station/NASA, Sandusky, Ohio* April (Dames & Moore 1997a)
- *2001 Groundwater Remedial Investigation, Former Plum Brook Ordnance Works, Sandusky, Ohio, Revision 0*, March (IT 2002).

The documents listed above were reviewed prior to the SAP and were utilized to determine background information necessary for the SI. Historical facility maps and site maps obtained from these documents were scanned, imported into ArcGIS, and geo-referenced to allow for spatially consistent evaluation/comparison to the extent practical. In addition, a reconnaissance of each current project site was conducted in January 2011 by SAIC and consisted of a visual inspection of current conditions, identification of notable site features (e.g., topography, surface water drainage pathways, surface/subsurface debris) and documentation of site features using a portable Global Positioning System (GPS) unit. The results of the site reconnaissance and document review were presented in the SAP and are summarized in the following sections.

3.1 DISPOSAL AREA 2A

While extensive information is available for investigations at WWTP2 and nearby TNT areas, review of available literature provided little information regarding previous investigations at DA2A. The 1994 SI Report (MK 1994) described the potential for pesticides, polychlorinated biphenyls (PCBs), and organics contamination in surface soil, sediment, and surface water at DA2A. Relatively low-level concentrations of organic contaminants were identified Pipe Creek sediment adjacent to the site. Pesticide, PCB, and SVOC contamination (including polycyclic aromatic hydrocarbons [PAHs]) were identified in three

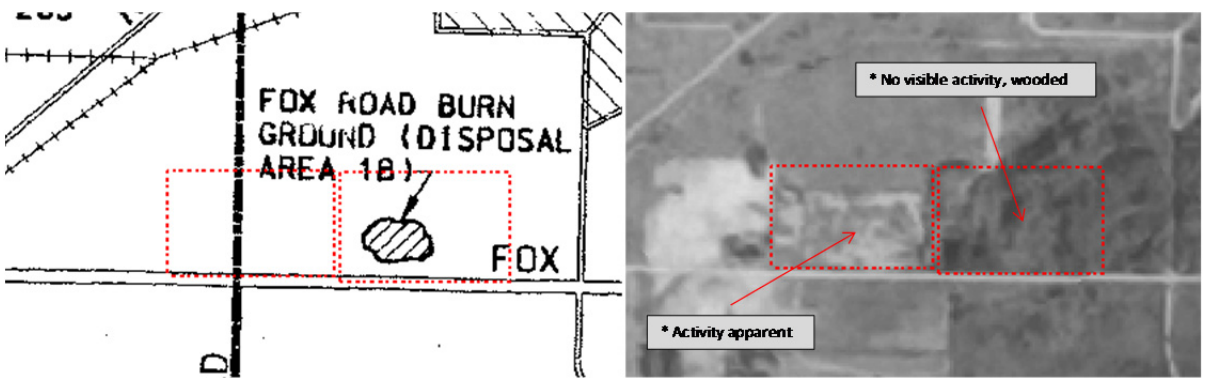
surface soil samples collected at this site. Between May 2011 and May 2012 CB&I conducted site activities at WWTP2, including soil and groundwater sampling. Sampling results indicated the presence of PCBs, SVOCs, and metals in soil and SVOCs and explosives in groundwater. CB&I concluded that former site operations impacted the surface and subsurface soil and minimally impacted groundwater.

Site reconnaissance via terrain analysis using aerial photography and Digital Elevation Models (DEMs) indicated two areas (east and west of Pipe Creek) in the vicinity of DA2A with hummocky uneven terrain indicative of disposal areas. The SI Report (MK 1994) identified only the west debris field. The east debris field was identified during the initial site reconnaissance prior to the SAP. Signage identifying asbestos contamination in the area was observed during the site reconnaissance conducted in January 2011.

3.2 FOX ROAD BURNING GROUND

The SI Report (MK 1994) references the 1990 IT Corporation investigation which included six surface soil samples. Sample results indicated the presence of VOCs, SVOCs, and explosive compounds. Morrison Knudsen Corporation collected four surface soil samples from FRBG and detected VOCs and SVOCs at low concentrations. The SI Report (MK 1994) identified the potential for soil, sediment, and surface water impacts due to potential contaminant releases at the site and listed VOCs, SVOCs, metals, pesticides, PCBs, and explosives as potential contaminants.

In the images below, the Primary Burn Area is visible in a 1960 aerial photograph and a potential secondary burn location is identified in a map from the SI Report (MK 1994). Georeferencing these images via ArcGIS provided a single reference area to be applied to both images (dashed red outlines).



3.3 SNAKE ROAD BURNING GROUND

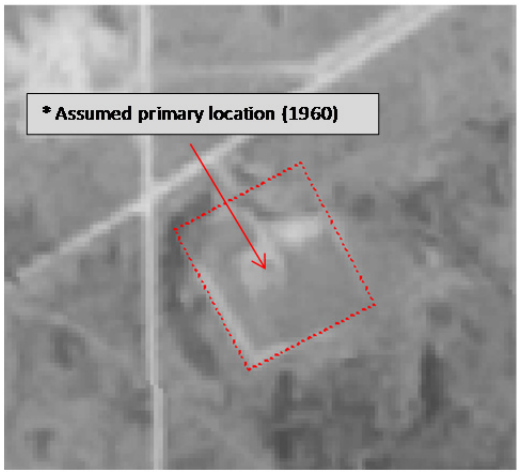
The SI Report (MK 1994) references the 1990 IT Corporation investigation results that addressed surface soil only – with no detected contamination. The 1992 H^{+}GCL investigation of the site (previously known as "Disposal Area Three") included the collection of five surface soil samples, with NFA recommended based on analytical sample results.

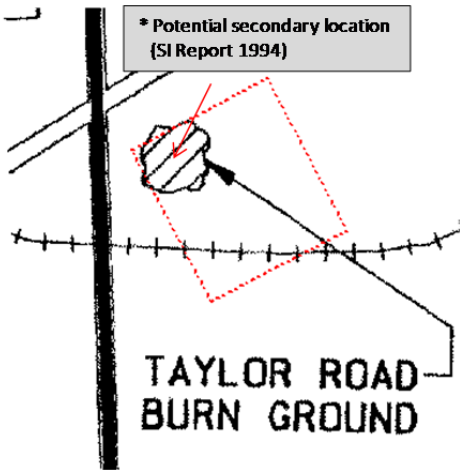
Similar to the FRBG discussed previously, the specific location(s) used for burning waste materials at the site are not clear based on available historical information. In the image below, the Primary Burn Area is visible in a 1960 aerial photograph (right) and the same location is shown on a 2006 aerial photograph

(left). Georeferencing these images via ArcGIS provided a single reference area to be applied to both images (dashed yellow outlines). There are minimal physical features currently present at the site to help define the former location of the Primary Burn Area and the spatial accuracy of the SI Report (MK 1994) maps is questionable; however, the location of monitoring wells at the site are helpful for relative orienation.

3.4 TAYLOR ROAD BURNING GROUND

The SI Report (MK 1994) referenced a 1990 IT Corporation investigation that addressed surface soil only – with no contamination detected. The specific location(s) used for burning waste materials at the Taylor Road site are not clear based on vailable historical information. In the images below, the Primary Burn Area is visible in a 1960 aerial photograph and a potential secondary burn location is identified in a map from the SI Report (MK 1994). Georeferencing these images via ArcGIS provided a single reference area for both images (dashed red outline).





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4.0 SITE CHARACTERIZATION FIELD PROGRAM

The site characterization field program included collection of soil, sediment, and surface water samples to assess the presence, nature, and extent of contamination at the sites. This section summarizes the SI field activities and presents the analytical results for soil (surface and subsurface), sediment, and surface water sampling. All sampling and analytical activities were conducted in accordance with the procedures specified in the final SAP (SAIC 2011).

4.1 GENERAL APPROACH

The following sections describe the methodology utilized for the SI field sampling.

4.1.1 Soil Sampling

Soil sample locations were based on preliminary site reconnaissance and were identified in the field based on proximity to waste materials/debris, small-scale physical site features (e.g., soil piles, berms, stressed vegetated areas), and field screening. Field screening for lead-based paint (LBP) was conducted using a portable X-ray fluorescence (XRF) analyzer. The presence of LBP helped to determine the need for adjacent and/or additional surface soil sampling. In addition, visual inspection and sample collection for asbestos-containing material (ACM) was conducted by an Asbestos Hazard Evaluation Specialist licensed by the State of Ohio Department of Health. Additional information regarding the ACM sampling is presented in **Section 4.1.4**.

Soil boring activities were conducted using either hand augers or Geoprobe® direct-push technology (DPT). NASA provided utility clearance for all SI sites prior to field activities. Borings were advanced to approximately 10 feet below ground surface (BGS) or refusal, whichever was encountered first. Each boring was logged for lithologic description and field screened with a photoionization detector (PID). If painted debris and/or other material that was suspected to contain lead, then an XRF was utilized to scan the sample. Analytical samples were collected from 0 to 2 feet BGS, 2 to 6 feet BGS, and 6 to 10 feet BGS. Quality assurance/quality control (QA/QC) sampling included collection of 1 field blank and 1 equipment rinsate blank per 10 field samples. Samples were analyzed for the following:

- VOCs
- SVOCs
- Herbicides
- Pesticides
- PCBs
- Explosives
- Metals (Target Compound List).

Borings advanced with a hand auger method utilized a stainless steel bucket auger head attached to an extension rod and T-shaped bar. Material collected in the bucket from each interval was transferred with a stainless steel spoon to a stainless steel bowl and screened for organic vapors with a PID. The soil was then homogenized, as necessary. In the event a distinct portion of the sample exhibited a significantly elevated PID reading, that interval was isolated and submitted for VOC analysis. At locations where hand auguring was not feasible, the DPT sampler was utilized to advance the borehole in 5-foot intervals for the collection of soil cores. Single-use disposable acetate liners were used to collect soil samples.

At each borehole, the soil lithology was logged by a Leidos field geologist to identify soil type, texture, lithologic characteristics, saturated zones, and areas of fill and debris. Materials from the boreholes were screened with a PID and the results were recorded on the boring logs. Boreholes were backfilled with bentonite. Location-specific details, including drilling method, total depth, sample interval, and screening results, are recorded on the soil boring logs included as **Appendix A**.

To avoid cross-contamination or outside contamination of the samples, all non-disposable equipment used during the field investigations was decontaminated. Decontamination of soil sampling equipment (stainless steel hand augers, stainless steel bowls, Geoprobe® rods, shoes, probes, and couplings) was performed in accordance with the chemical decontamination method described in the final SAP (SAIC 2011). All liquid decontamination waste was containerized and managed as described in Section 4.1.9.

4.1.2 Surface Water Sampling

Collocated sediment and surface water samples were collected from drainage ditches/swales to identify potential impacts due to runoff from the disposal areas. Sample locations were selected based on site conditions and the presence of any discharge/influent pipes or other surface water inflows. In flowing water bodies, sample collection was initiated at the downstream location and continued upstream to minimize the effects of sediment turbidity on surface water quality. For analysis of compounds that required pre-preserved containers, the water sample was collected using a disposable non-preserved container and transferred to the appropriate preserved container. Field notes were recorded on the sediment boring logs (**Appendix A**). QA/QC sampling included collection of 1 field blank and 1 equipment rinsate blank per 10 field samples. Samples were analyzed for the following:

- VOCs
- SVOCs
- Herbicides
- Pesticides
- PCBs
- Explosives
- Metals (Target Compound List).

4.1.3 Sediment Sampling

Collocated sediment and surface water samples were collected from drainage ditches/swales to identify potential impacts due to runoff from the disposal areas. Sample locations were selected based on site conditions and the presence of any discharge/influent pipes or other surface water inflows. Sediment samples were collected using a hand auger to advance a borehole to approximately 2 feet below grade, as described in Section 6.1 of the SAP (SAIC 2011). Sediment samples were collected as wet sediment where surface water was present and as dry sediment if surface water was not present (e.g., dry seasonal drainages).

As the borehole was advanced, the bucket of the auger and the borehole were scanned with a PID. Samples collected for VOC analysis were retrieved directly from the auger bucket. The remainder of the material from each interval was transferred with a stainless steel spoon to a stainless steel bowl and screened for organic vapors with a PID. The soil was then homogenized, as necessary. The soil lithology was logged by the field geologist and recorded on boring logs (**Appendix A**). QA/QC sampling included collection of 1 field blank and 1 equipment rinsate blank per 10 field samples. Samples were analyzed for the following:

- VOCs

- SVOCs
- Herbicides
- Pesticides
- PCBs
- Explosives
- Metals (Target Compound List).

4.1.4 Waste Debris Characterization

Waste debris characterization included field screening and sample analysis for LBP and ACM. Field screening for LBP was conducted using a portable XRF analyzer. The presence of LBP helped to determine the need for adjacent and/or additional surface soil sampling. In addition, visual inspection and sample collection for ACM was conducted by an Asbestos Hazard Evaluation Specialist licensed by the State of Ohio. Screening results were recorded in field logbooks. For the purposes of the SI, any material containing greater than 1 percent asbestos is considered to be ACM.

ACM field evaluation and sampling was performed by Mr. Eric Brown (Evaluation Specialist #ES34113) of Eden Environmental, Inc. (Eden) under subcontract to Leidos. Eden's scope of work included collection of suspected ACM from surface debris and collection of soil samples from undisturbed Geoprobe® acetate liners (collected by Leidos). ACM sampling and evaluation was performed in accordance with the guidance provided in *Simplified Sampling Scheme for Friable Materials* (USEPA 1985)*, National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Asbestos,* [40 Code of Federal Regulations (CFR) Part 61, Subpart M], applicable Ohio regulations, and *Comparison of the Alternative Asbestos Control Method and the NESHAP Method for Demolition of Asbestos-Containing Buildings* (USEPA 2009). Samples were segregated and identified based on material type, including: tar, brick, ceramic pipe, pipe insulator, linoleum, wallboard, adhesive, caulk, roofing material, soil, and unidentified material. Following sample collection, Eden transferred the sample containers to Leidos and Leidos shipped the containers under standard chain-of-custody procedures to EMLab P&K in Arvada, Colorado for analysis of asbestos content via USEPA Method 600/R-93/116. Additional details related to the ACM field evaluation are presented in Eden's Soil and Material Sampling Report, which is included in **Appendix D**.

4.1.5 Location Surveys

Sample locations and notable site features were field surveyed with a handheld global positioning system (GPS) unit with horizontal accuracy within +/- 1 meter. GPS data were downloaded and transferred for use in ArcGIS mapping applications during data evaluation and reporting.

4.1.6 Data Screening Criteria

Data screening criteria for the analytical data include:

- USEPA Region 9 Preliminary Remediation Goals (PRGs)
- Ohio EPA Sediment Reference Values (SRVs)
- Ohio EPA Ecological Screening Levels (ESLs)
- Ohio EPA Regional Screening Levels (RSLs)
- Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
- Background values for NASA PBS (soil only).

These screening criteria were utilized to determine if contamination exists at concentrations indicative of an unacceptable risk to human health or the environment. These criteria also were used to identify the required laboratory analytical reporting limits to ensure the data collected meet the needs of current and potential future risk evaluations.

4.1.7 Data Validation

Analytical data were validated following receipt to ensure that the precision and accuracy of the data were adequate for their intended use. Data presentation tables and analytical data packages are provided in **Appendix B**.

4.1.7.1 Analytical Detection Limits and Estimated Data

Within this report, detected concentrations below the level of quantitation (LOQ) are shown with a 'J' flag. The LOQ is the lowest concentration of a substance that produces a quantitative result within specified limits of precision and bias. Measurements between the detection limit and the LOQ ensure the presence of the analyte with confidence, but their numeric values are estimates (DoD 2009). Note that the analytical reports from the laboratory (TestAmerica) provided in **Appendix B** refer to the LOQ as the reporting limit (RL). Non-detects reported by the laboratory are reported at the LOQ, followed by a 'U' flag.

The detection limit (DL) is the smallest concentration of a substance that can be demonstrated to be different from zero or a blank concentration at a 99 percent confidence level. Although a result at or above the DL indicates that the analyte is present, the absence of a result at or above the DL is inconclusive (i.e., one cannot confidently state whether the analyte is present or absent) because the false negative rate at the DL is 50 percent. Note that the analytical reports from TestAmerica, provided in **Appendix B**, refer to the DL as the method detection limit.

4.1.7.2 Data Validation Qualifiers and Data Usability

Consistent with the data quality requirements presented in the Quality Assurance Project Plan (QAPP), all project data and associated QC were evaluated and qualified per the outcome of the review. As a result of the data evaluation and validation, individual sample results were qualified, as necessary, to designate usability of the data toward meeting project objectives. The primary qualifiers used are defined as follows:

- **U** = The analyte was analyzed for but was not detected above the level of the associated value.
- **J** = Estimated concentration because the result was below the sample quantitation limit or quality control criteria were not met.
- **UJ** = The analyte was analyzed for but not detected above the associated value; however, the reported value is an estimate and demonstrates a decreased knowledge of its accuracy or precision.
- **R** = The sample result was rejected due to serious deficiencies in the ability to meet QC criteria. The presence or absence of the analyte could not be verified.

Data qualification was based on deviations from the cited methods, the criteria specified in the QAPP and using applicable USEPA guidance. This data quality assessment resulted in data that are considered: 1) usable as a quantitative concentration, 2) usable with caution as an estimated concentration, or 3) unusable due to non-compliant QC results.

Data for SVOCs were qualified as non-detect (U, UJ) based on blank contamination (method, field, or equipment blanks results) and as estimated (J, UJ) based on holding time exceedances, matrix spike/matrix spike duplicate (MS/MSD) results, surrogate or internal standard (IS) results, or calibration standards that exceeded control limits. Six SVOCs evaluated as part of the soil MS/MSD analysis had spiked recovery less than 10 percent and were therefore qualified as unusable (R) in one or more parent samples; data for these compounds should be used with caution. Two SVOCs evaluated as part of the sediment MS/MSD analysis had spiked recovery less than 10 percent and were therefore qualified as unusable (R) in one or more parent samples. Two spiked compounds evaluated as part of the surface water MS/MSD analysis had spiked recovery less than 10 percent and was therefore qualified as unusable (R) in the parent sample. There were 17,083 discrete SVOC results generated, of which 40 results were qualified unusable (0.23 percent) and an additional 818 discrete data points were qualified as estimated, with 99.7 percent of the SVOC data deemed usable.

Data for VOCs were qualified as non-detect (U, UJ) based on blank contamination (method or trip blanks results) and as estimated (J, UJ) based on MS/MSD and laboratory control sample (LCS) results, surrogate or IS results, or calibration standards that exceeded control limits. Nine soil samples had one or more compounds deemed unusable (R) due to IS or MS/MSD results. There were 13,444 discrete VOC results generated, of which 47 results were qualified unusable (0.35 percent) and an additional 1,171 discrete data points were qualified as estimated, with 99.8 percent of the VOC data deemed usable.

Data for explosives were qualified as estimated (J, UJ) based on MS/MSD and LCS results, surrogate results, or confirmation results that exceeded control limits. No sample results were rejected. There were 2,567 discrete explosives results generated, of which 12 discrete data points were qualified as estimated, with 100 percent of the explosives data deemed usable.

Data for herbicides were qualified as estimated (J, UJ) based on MS/MSD and LCS results, surrogate results, or confirmation results that exceeded control limits. No sample results were rejected. There were 2,533 discrete herbicides results generated, of which 223 discrete data points were qualified as estimated, with 100 percent of the herbicides data deemed usable.

Data for pesticides and PCBs were as estimated (J, UJ) based on holding time exceedances, MS/MSD and LCS results, surrogate results, confirmation results, or calibration standards that exceeded control limits. Two soil samples had 4,4′-DDT results deemed unusable (R) due to non-compliant breakdown standard results. There were 7,629 discrete pesticide and PCBs results generated, of which 2 results were qualified unusable (0.03 percent) and an additional 1,443 discrete data points were qualified as estimated, with more than 99.9 percent of the pesticides and PCBs data deemed usable.

Data for metals results were qualified as non-detect (U, UJ) based on blank contamination (instrument, method, field, or equipment blanks results) and as estimated (J, UJ) due to MS/MSD results, inductively coupled plasma (ICP) interference check standard (ICS) results, or serial dilution results. Two soil samples had manganese results deemed unusable (R) due to MS/MSD results. There were 5,587 discrete metals results generated, of which 2 (0.035 percent) were qualified as unusable and an additional 1,576 results were qualified as estimated, with more than 99.9 percent of the metals data deemed usable.

4.1.8 Deviations from the Work Plan

No Field Change Requests (FCRs) were submitted for this project.

4.1.9 Investigation-Derived Waste

Investigation-derived waste (IDW) includes all material generated during the sampling activities that cannot be effectively reused, recycled, or decontaminated in the field. IDW generated during field activities was managed to prevent the release of contamination. IDW produced during field activities included the following:

- Decontamination liquids
- Soil cuttings
- Disposable acetate liners
- Contact personal protective equipment (PPE)
- Sanitary trash.

Four 55-gallon drums containing soil cuttings, one 55-gallon drum of liquid IDW, one 15-gallon drum of nitric acid, and one 30-gallon drum of isopropanol decontamination waste were generated. One composited, solid waste characterization sample was collected from the soil IDW and one liquid waste characterization sample was collected from the liquid IDW. Samples were analyzed for toxicity characteristic leaching procedure (TCLP) VOCs and TCLP SVOCs. Nitric acid and isopropanol decontamination wastes were characterized as hazardous waste (corrosive, flammable) by NASA Waste Management (WM); therefore, no characterization samples were collected.

Contact waste, consisting of acetate liners, plastic bags, and PPE, was managed in drums and contractor garbage bags pending soil IDW characterization. Sanitary trash, including non-contact PPE, was disposed of in an onsite waste receptacle. In addition to the 4 drums of soil cutting IDW and 1 drum of liquid IDW, 1 drum, 1 5-gallon bucket of contact waste and PPE, and 10 heavy-duty liner bags of additional IDW were generated during the SI. This IDW was staged outside of the Interconnect Building (Building 2932) and transferred to the environmental hazardous waste storage building (Building 9206) in the custody of NASA WM personnel prior to demobilization.

Laboratory analytical results indicate that solid and liquid wastes generated during the investigation were non-hazardous. Nitric acid and isopropanol wastes were removed and properly disposed of offsite by Chemtron Corporation on behalf of NASA WM on September 10, 2015. Nonhazardous liquid and soil IDW generated during SI activities were removed and properly disposed of offsite by Chemtron Corporation on behalf of NASA WM on November, 19, 2015. Acetate liners and contact PPE were disposed of in sanitary trash by NASA WM. IDW paperwork is provided in **Appendix C**.

4.2 DISPOSAL AREA 2A

The following sections describe the SI field activities and soil, sediment, and surface water sampling results at the DA2A (West and East Debris Fields). Photographs of SI field activities are presented in **Appendix E**.

4.2.1 Field Activities

Forty soil borings were advanced at locations within the debris field and adjacent to materials potentially impacted by LBP or asbestos. Surface soil samples (0 to 2 feet BGS) were collected from each soil boring; however, subsurface samples (2 to 10 feet BGS) were only collected from 20 soil borings. A total of 40 surface soil samples plus 4 duplicates and 35 subsurface samples (20 samples from 2 to 6 feet BGS and 15 samples from 6 to 10 feet BGS) plus 4 duplicates were collected and submitted for analysis of VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, and asbestos (0- to 2-foot interval only).

Collocated sediment and surface water samples were collected from within drainage ditches/swales adjacent to the East Debris Field and from Pipe Creek. Ten sediment samples plus one field duplicate were collected using a hand auger to a total depth of approximately 2 feet below the top of sediment. Each sample was a vertical composite of the entire sample interval. Sediment samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, and asbestos.

Seven surface water samples plus one field duplicate were collected from DA2A at locations coinciding with seven of the sediment sample locations. Daily water flow was observed in Pipe Creek; however, the northern drainage ditch only had flow temporarily following a significant rain event. The northern drainage ditch was observed to be dry within 2 days. The southern drainage ditch was observed to be dry; therefore, no surface water samples were collected at three locations. Surface water samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, and TAL metals.

Eden conducted a visual inspection of debris in both debris fields for asbestos and painted debris. Eden sampled debris with 12 different types of known or potentially ACM; a total of 24 samples (minimum 2 samples per type) were collected and submitted for asbestos analysis. Two surface soil locations were selected near asbestos debris areas by Eden. Eight debris locations with painted surfaces (includes two pails with hardened resin-like material) were screened with the portable XRF. Two positive results for LBP were observed (painted drum lid and coated metal beam in West Debris Field). Therefore, two paint chip samples were collected to confirm LBP. It was not feasible to collect surface soil samples near the debris with LBP because the locations were on concrete and metal debris piles. Sample locations are presented in Eden's report, which is included in **Appendix D**.

Figure 7 shows the SI sample locations at DA2A. **Tables 4-1** through **4-4** summarize the samples collected for laboratory analysis at each boring location and depth interval, as well as co-located sediment/surface water locations, and debris samples.

4.2.2 Results

Multiple compounds were detected in each medium sampled. In addition, each medium contained multiple compounds at concentrations greater than ecological and/or human health screening criteria. This section presents the compounds that exceeded screening levels for each medium. **Tables 4-5** through **4-8** present the analytical detections for the surface soil, subsurface soil, sediment, and surface water samples.

4.2.2.1 Surface Soil

Multiple compounds were detected in surface soil at concentrations greater than ecological and/or human health screening levels. **Figures 8, 9,** and **10** display the sample locations and exceedances.

Twenty-two metals were detected in the surface soil samples, eight of which were present at concentrations greater than relevant ecological and/or human health screening criteria. Out of the 40 surface soil samples (plus 4 duplicates), 16 of the samples did not contain metals at concentrations greater than relevant screening levels. The following lists the metals exceeding screening levels:

- Cadmium exceeded ESLs in 20 samples
- Mercury exceeded ESLs in 17 samples
- Lead exceeded ESLs in 11 samples and ecological and human health screening levels in 5 samples
- Zinc exceeded ESLs in nine samples
- Antimony, nickel, silver, and chromium exceeded ESLs in four or fewer samples.

Thirty-one SVOCs were detected in the surface soil samples, 14 of which were present at concentrations greater than relevant ecological and/or human health screening levels. The following lists the SVOCs exceeding screening levels:

- 2,6-Dinitrotoluene (2,6-DNT) exceeded ESLs in one sample
- Benz(a)anthracene exceeded human health screening levels in 18 samples and ecological screening/human health screening levels in 2 samples
- Benzaldehyde exceeded ESLs in 20 samples
- Benzo(a)pyrene exceeded human health screening levels in 29 samples and ecological screening/human health screening levels in 6 samples
- Benzo(b)fluoranthene exceeded human health screening levels in 25 samples
- Benzo(k)fluoranthene exceeded human health screening levels in four samples
- Bis(2-ethylhexyl)phthalate exceeded ESLs in one sample
- Caprolactam exceeded ESLs in one sample
- Carbazole exceeded ecological screening/human health screening levels in 12 samples
- Chrysene exceeded ESLs in two samples
- Dibenz(a,h)anthracene exceeded human health screening levels in 19 samples
- Dibenzofuran exceeded ESLs in 26 samples
- Indeno(1,2,3-cd)pyrene exceeded human health screening levels in 16 samples
- Naphthalene exceeded ESLs in three samples.

Ten pesticides were detected in surface soil, eight of which were present at concentrations greater than relevant ESLs. One herbicide was detected at a concentration greater than relevant ESLs. No pesticides or herbicides were detected at concentrations greater than human health screening levels. The following lists the pesticides and herbicides exceeding screening levels:

- 4,4′-DDE exceeded ESLs in two samples
- Dieldrin exceeded ESLs in three samples
- Endosulfan sulfate exceeded ESLs in one sample
- Endrin aldehyde exceeded ESLs in two samples
- Methoxychlor exceeded ESLs in two samples
- alpha-Chlordane exceeded ESLs in one sample
- beta-BHC exceeded ESLs in eight samples
- gamma-Chlordane exceeded ESLs in two samples
- Dalapon exceeded ESLs in one sample.

Five PCBs were detected in surface soil, three of which were present at concentrations greater than ecological and/or human health screening levels. The following lists the PCBs exceeding screening levels:

- PCB-1254 exceeded human health screening levels in one sample and ecological and human health screening levels in three samples
- PCB-1260 exceeded human health screening levels in two samples and ecological and human health screening levels in six samples
- PCB-1262 exceeded ecological and human health screening levels in one sample.

Eight VOCs were detected in surface soil, two of which exceeded relevant screening levels. Cyclohexane exceeded ESLs in two samples and methylcyclohexane exceeded ecological and human health screening levels in two samples.

4.2.2.2 Subsurface Soil

Multiple compounds were detected in subsurface soil at concentrations greater than ecological and/or human health screening levels. The majority of the exceedances occurred in the shallower sample (i.e., 2 to 6 feet BGS) instead of the 6- to 10-foot BGS interval. **Figures 8, 9,** and **10** display the exceedances by location.

Twenty-two metals were detected in the subsurface soil samples, seven of which were present at concentrations greater than relevant ecological and/or human health screening criteria. Out of the 35 subsurface soil samples (plus 4 duplicates), 7 of the samples did not contain metals at concentrations greater than relevant screening levels. The following lists the metals exceeding screening levels:

- Cadmium exceeded ESLs in 10 samples
- Lead exceeded ESLs in 12 samples and ecological and human health screening levels in 2 samples
- Mercury exceeded ESLs in 11 samples and ecological and human health screening levels in 2 samples
- Barium, chromium, silver, and zinc exceeded ESLs in five or fewer samples.

A total of 28 SVOCs were detected in subsurface samples, including 11 SVOCs at concentrations greater than ecological and/or human health screening levels. The following lists the SVOCs exceeding screening levels:

- Benz(a)anthracene exceeded human health screening levels in 14 samples and ecological screening/human health screening levels in 2 samples
- Benzaldehyde exceeded ESLs in five samples
- Benzo(a)pyrene exceeded human health screening levels in 19 samples and ecological screening/human health screening levels in 3 samples
- Benzo(b)fluoranthene exceeded human health screening levels in 19 samples
- Benzo(k)fluoranthene exceeded human health screening levels in three samples
- Carbazole exceeded ecological and human health screening levels in 10 samples
- Dibenz(a,h)anthracene exceeded human health screening levels in 18 samples
- Dibenzofuran exceeded ESLs in 18 samples
- Indeno(1,2,3-cd)pyrene exceeded human health screening levels in 13 samples
- Naphthalene exceeded ESLs in three samples
- M+p Methylphenol exceeded human health screening levels in one sample.

Nine pesticides were detected in subsurface soil, including six compounds at concentrations greater than ecological and/or human health screening levels. No herbicides were detected in subsurface soil. The following lists the pesticides exceeding screening levels:

- Dieldrin exceeded ESLs in four samples and ecological screening/human health screening levels in three samples
- Endosulfan sulfate exceeded ESLs in one sample
- Endrin exceeded ESLs in one sample
- Endrin aldehyde exceeded ESLs in three samples
- Methoxychlor exceeded ESLs in one sample
- beta-BHC exceeded ESLs in seven samples.

Four PCBs were detected in subsurface soil, three of which were present at concentrations greater than ecological and/or human health screening levels. The following lists the PCBs exceeding screening levels:

- PCB-1254 exceeded human health screening levels in two samples
- PCB-1260 exceeded human health screening levels in one sample and ecological and human health screening levels in nine samples
- PCB-1262 exceeded ecological and human health screening levels in two samples.

Ten VOCs were detected in subsurface soil, three of which were present at concentrations greater than ecological and/or human health screening values. The following lists the VOCs exceeding screening levels:

- Cyclohexane exceeded ecological screening values (ESVs) in four samples
- Isopropylbenzene (cumene) exceeded ESVs in five samples
- Methylcyclohexane exceeded both ecological and human health screening values in five samples.

4.2.2.3 Sediment

Multiple compounds were detected in sediment samples, including several compounds at concentrations greater than ecological and/or human health screening values. RSL values were utilized for human health screening values because there are not currently background values established for sediment and SRVs were developed for ecological risk screening. **Figures 11** and **12** display the exceedances by location.

Twenty-one metals were detected in sediment samples, including three metals at concentrations greater than ecological and/or human health screening values. The following lists the metals exceeding screening levels:

- Arsenic concentrations exceeded human health screening values in 10 samples and ecological and human health screening values in 1 sample
- Chromium exceeded human health screening values in 11 samples
- Silver exceeded ESVs in one sample.

Twenty-one SVOCs were detected in sediment samples, including 16 SVOCs at concentrations greater than ecological and/or human health screening values. The following lists the SVOC exceeding screening values:

- 2-Methylnaphthalene exceeded ESVs in three samples
- Acenaphthylene exceeded ESVs in four samples
- Anthracene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, phenanthrene, and pyrene exceeded ESVs in one sample
- Benz(a)anthracene exceeded ecological and human health screening values in one sample
- Benzaldehyde exceeded ESVs in two samples
- Benzo(a)pyrene exceeded human health screening values in seven samples and ecological and human health screening values in one sample
- Benzo(b)fluoranthene exceeded human health screening values in one sample
- Carbazole exceeded ecological and human health screening values in one sample
- Dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene exceeded ecological and human health screening values in one sample.

Three pesticides were detected in sediment, all of which were present at concentrations greater than ecological and/or human health screening values. No herbicides were detected in sediment. The following lists the pesticides exceeding screening levels:

- 4,4′-DDD exceeded ESVs in three samples
- 4,4′-DDE exceeded ESVs in four samples
- Beta-BHC exceeded ESVs in one sample.

One PCB and three VOCs were detected in sediment samples; however, none were detected at concentrations greater than ecological and/or human health screening levels.

4.2.2.4 Surface Water

Several compounds were detected in surface water samples, including several at concentrations greater than ecological and/or human health screening values. **Figure 13** displays the exceedances by location.

Nineteen metals were detected in surface water samples, including four metals at concentrations greater than ecological and/or human health screening levels. The following lists the metals exceeding screening levels:

- Arsenic was detected at concentrations greater than human health screening levels in 10 samples and greater than ecological and human health screening levels in 1 sample
- Chromium concentrations exceeded human health screening levels in 11 samples
- Silver concentrations exceeded ESLs in one sample
- Iron exceeded ESLs in three samples.

The SVOC caprolactam was detected at a concentration greater than the ecological and human health screening level in one sample. No other SVOCs were detected. Concentrations of the pesticide beta-BHC were greater than ESLs in one sample. Concentrations of the herbicide dalaphon were greater than ESLs in one sample. No PCBs were detected. The VOC acetone was detected, but the concentration was less than ecological and/or human health screening levels.

4.2.2.5 Asbestos Samples

Asbestos (chrysotile, amosite, tremolite, crocidolite, and/or actinolite) was detected in 6 of the material samples, 15 of the soil samples, and 3 of the white, cementitious/fibrous samples segregated from the soil samples. Asbestos sampling identified chrysotile, amosite, and/or tremolite asbestos in a total of 32 samples. ACM included soil, tar, roofing material, paper, linoleum, transite, caulk, fibrous material, and cementitious material. A copy of Eden's report and sample location maps are provided in **Appendix D**.

4.3 FOX ROAD BURNING GROUND

The following sections describe the SI field activities and sampling results at the FRBG. Photographs of SI field activities are presented in **Appendix E**.

4.3.1 Field Activities

Samples were collected from surface soil (0 to 2 feet BGS) and subsurface soil (2 to 6 and 6 to 10 feet BGS) at locations within the General Area, within and around the Subsurface Debris Area, and between the concrete pits located within the FRBG. A total of 27 surface soil samples plus 3 duplicate samples

were collected from 27 different boring locations. A total of 29 subsurface soil samples plus 4 duplicate samples were collected from 18 different boring locations. Soil samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, explosives, TAL metals, and asbestos (only 0- to 2-foot interval).

Surface samples and subsurface samples were collected from the same boring but from different depth intervals. Nine locations were inaccessible to a Geoprobe® and, therefore, only surface samples were collected using a hand auger. Borings FRBG-SL-016 and FRBG-SL-018 were located on top of a soil pile, adjacent to rusty steel drums, a vertical pipe, and black tar material (potential ACM). Surface debris including fragments of asphalt and concrete was observed within and around a soil pile where boring FRBG-SL-015 was located. Boring FRBG-SL-013 was drilled through a concrete slab between the concrete pits.

Sediment samples were collected from a drainage ditch adjacent to the Subsurface Debris Area to identify potential impacts due to runoff from the disposal area. Three sediment samples (plus one duplicate) were collected using a hand auger to advance a boring to a total depth of approximately 2 feet below the top of sediment. Each sample was a vertical composite of the entire sample interval. No surface water was observed in the drainage ditch; however, water was encountered below grade. Sediment samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, explosives, TAL metals, and asbestos.

Eden conducted a visual inspection of identified debris areas for asbestos and painted debris. Eden collected a total of 27 samples, including 25 soil samples, 1 sample of a black tar-like substance, and 1 sample from white cementitious material. Initially, two samples of the black tar-like substance were collected; however, laboratory personnel lost one of the samples (FRBGGDD0001). During field activities, one debris location with painted surfaces was observed and screened with the portable XRF within the Subsurface Debris Area. The scanning of the debris did not indicate the presence of lead; therefore, no sample was collected. Sample locations are presented in Eden's report, which is included in **Appendix D**.

Figure 14 shows the sample locations at the FRBG. **Tables 4-9** through **4-11** summarize the samples collected for laboratory analysis at each boring location and depth interval, as well as sediment sample locations, and debris samples.

4.3.2 Results

Multiple compounds were detected in each medium sampled. In addition, each medium contained one or more compounds at concentrations greater than ecological and/or human health screening levels. This section presents the compounds that exceeded screening values for each medium. **Tables 4-12** through **4-14** present the analytical detections for the surface soil, subsurface soil, and sediment samples.

4.3.2.1 Surface Soil

Multiple compounds were detected in surface soil at concentrations greater than ecological and/or human health screening levels. **Figures 15** and **16** display the exceedances by location.

Twenty metals were detected in the surface soil samples, three of which were present at concentrations greater than relevant ecological and/or human health screening criteria. Out of the 27 surface soil samples (plus 3 duplicates), 24 of the samples did not contain metals at concentrations greater than relevant screening levels. The following lists the metals exceeding screening levels:

- Cadmium exceeded ESLs in three samples
- Mercury exceeded ESLs in two samples

- Thallium exceeded ecological and human health screening levels in one sample.

Twenty-seven SVOCs were detected in the surface soil samples, eight of which were present at concentrations greater than relevant ecological and/or human health screening levels. The following lists the SVOCs exceeding screening levels:

- Benz(a)anthracene exceeded human health screening levels in one sample
- Benzaldehyde exceeded ESLs in 15 samples
- Benzo(a)pyrene exceeded human health screening levels in 13 samples
- Benzo(b)fluoranthene exceeded human health screening levels in five samples
- Caprolactam exceeded ESLs in two samples
- Dibenz(a,h)anthracene exceeded human health screening levels in two samples
- Dibenzofuran exceeded ESLs in 10 samples
- Naphthalene exceeded ESLs in five samples.

Six pesticides and one herbicide were detected in surface soil samples, and one pesticide and one herbicide were present at concentrations greater than relevant ecological and/or human health screening levels. The pesticide beta-BHC was detected in five samples at concentrations greater than ESLs. The herbicide dalaphon was detected in three samples at concentrations greater than ESLs.

Three PCBs were detected in surface soil samples, all of which were present in concentrations greater than ecological and/or human health screening levels. PCB-1254 was present in one sample at a concentration greater than both ecological and human health screening levels. PCB-1260 and PCB-1262 were present in one sample at a concentration greater than human health screening levels.

Six explosive compounds were detected in surface soil, five of which were present in concentrations greater than ecological and/or human health screening levels. The following lists the explosive compounds exceeding screening levels:

- 2,4,6-TNT, 2-Amino-4,6-DNT, and 4-Amino-2,6-DNT were detected in five samples at concentrations greater than ESLs
- 3,5-Dinitroaniline was detected in three samples at concentrations greater than both ecological and human health screening levels
- 2,6-DNT was detected in one sample at a concentration greater than ESLs.

Ten VOCs were detected in surface soil, two of which were present in concentrations greater than ecological and/or human health screening levels. Cyclohexane was detected in five samples at concentrations greater than ESLs. Methylcyclohexane was detected in five samples at concentrations greater than both ecological and human health screening levels. Additioanly, the sample collected at FRBG-SL-020 within the mound of unknow white substance did not contain exposives or ACM.

4.3.2.2 Subsurface Soil

Multiple compounds were detected in subsurface soil at concentrations greater than ecological and/or human health screening levels. **Figures 15** and **16** display the exceedances by location.

Twenty-one metals were detected in the subsurface soil samples, three of which were present at concentrations greater than ESLs. Sample FRBG-SL-024, collected from 2 to 6 feet BGS, contained concentrations of cadmium, lead, and mercury greater than ESLs. No other samples contained metal concentrations greater than ecological or human health screening levels.

Twenty-one SVOCs were detected in the subsurface soil samples, five of which were present at concentrations greater than relevant ecological and/or human health screening levels. The following lists the SVOCs exceeding screening levels:

- Benzo(a)pyrene exceeded human health screening levels in three samples
- Benzo(b)fluoranthene exceeded human health screening levels in one sample
- Dibenz(a,h)anthracene exceeded human health screening levels in one sample
- Dibenzofuran exceeded human health screening levels in four samples
- Naphthalene exceeded human health screening levels in two samples.

Five pesticides were detected in subsurface soil samples, one of which was present at concentrations greater than ESLs. The pesticide beta-BHC was detected in three samples at concentrations greater than ESLs. No herbicides were detected in subsurface samples.

PCB-1260 was detected in one sample at a concentration greater than the human health screening level. No other PCBs were detected and PCB-1260 was only detected in one sample (FRBG-SL-024 collected from 2 to 6 feet BGS).

Seven explosive compounds were detected in subsurface soil, six of which were present at concentrations greater than ecological and/or human health screening levels. The following lists the explosive compounds exceeding screening levels:

- 2,4,6-TNT, 2-Amino-4,6-DNT, and 4-Amino-2,6-DNT were detected in three samples at concentrations greater than ESLs
- 2,6-DNT and 3,5-Dinitroaniline were detected in one sample at concentrations greater than both ecological and human health screening levels
- Pentaerythritol tetranitate (PETN) was detected in one samples at a concentration greater than ESLs.

Nine VOCs were detected in subsurface soil, three of which were present in concentrations greater than ecological and/or human health screening levels. Cyclohexane and isopropylbenzene (cumene) was detected in one sample at concentrations greater than ESLs. Methylcyclohexane was detected in two samples at concentrations greater than both ecological and human health screening levels.

4.3.2.3 Sediment

Multiple compounds were detected in sediment at concentrations greater than ecological and/or human health screening levels. RSL values were utilized for human health screening values because there are not currently background values established for sediment and SRVs were developed for ecological risk screening. **Figure 17** displays the exceedances by location.

Fifteen metals were detected in sediment samples, three of which were detected at concentrations greater than ecological and/or human health screening levels. Antimony was detected in one sample at a concentration greater than ESLs. Arsenic and chromium were found in four samples at concentrations greater than human health screening levels.

Fourteen SVOC were detected in sediment samples, four of which were detected at concentrations greater than human health screening levels. 2-Methylnaphthalene and n-Nitroso-di-n-propylamine were detected in one sample at concentrations greater than human health screening levels. Benzaldehyde and caprolactam were detected in two samples at concentrations greater than human health screening levels.

The VOC toluene was detected in one sample at a concentration less than ecological and human health screening levels. No herbicides, PCBs, or explosives were detected in sediment samples.

4.3.2.4 Asbestos Samples

Out of the 27 samples collected for asbestos analysis, 1 sample contained chrysolite asbestos at less than 1 percent. No other asbestos was detected. A copy of Eden's report and sample location maps are provided in **Appendix D**.

4.4 SNAKE ROAD BURNING GROUND

The following sections describe the SI field activities and soil and groundwater sampling results at the SRBG. Photographs of SI field activities are presented in **Appendix E**.

4.4.1 Field Activities

Soil samples were collected from surface (0 to 2 feet BGS) and subsurface (2 to 6 and 6 to 10 feet BGS) depth intervals within the SRBG. Soil borings were advanced at 11 locations, including 2 borings on top of accessible soil piles using a Geoprobe®. Eleven surface soil samples plus 1 duplicate and 22 subsurface soil samples plus 3 duplicates were collected and analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, explosives, TAL metals, and asbestos (only 0- to 2-foot interval).

Sediment samples were collected from three locations within a drainage ditch northeast of the former burning ground to identify potential impacts due to runoff from the burning ground. Three sediment samples plus one duplicate were collected using a hand auger to a total depth of approximately 2 feet below the top of sediment. Each sample was a vertical composite of the entire sample interval. No surface water was observed in the drainage ditch. Sediment samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, explosives, TAL metals, and asbestos.

Leidos observed metal debris (shredded steel drum, steel drum lid, and steel posts) and cinder blocks, as well as potential ACM following brush clearing conducted by NASA. Eden conducted a visual inspection of the potential ACM. Eden collected a total of 20 samples, including 2 samples of transite, 2 samples of fibrous material, 2 samples of cementitious material, and 14 soil samples. Three surface soil samples were collected with a hand auger, and 11 subsurface soil samples were collected with a Geoprobe® from distinct locations at the site. No painted debris was observed during site walks; therefore, no XRF screening was performed for LBP. Sample locations are presented in Eden's report which is included in **Appendix D**.

Figure 18 shows the sample locations at the SRBG. **Tables 4-15** through **4-17** summarize the samples collected for laboratory analysis at each boring location and depth interval, as well as sediment samples locations, and debris samples.

4.4.2 Results

Multiple compounds were detected in the samples, including several compounds at concentrations greater than relevant ecological and/or human health screening levels. This section presents the compounds that exceeded screening values for each medium. **Tables 4-18** through **4-20** present the analytical detections for the surface soil, subsurface soil, and sediment samples.

4.4.2.1 Surface Soil

Multiple compounds were detected in surface soil at concentrations greater than ecological and/or human health screening levels. **Figures 19** and **20** display the exceedances by locations.

Twenty-one metals were detected in the surface soil samples, six of which were present at concentrations greater than relevant ecological and/or human health screening criteria. Out of the 11 surface soil samples (plus 1 duplicate), 5 of the samples did not contain metals at concentrations greater than relevant screening levels. The following lists the metals exceeding screening levels:

- Cadmium exceeded ESLs in six samples
- Chromium exceeded ecological and human health screening levels in one sample
- Lead exceeded ESLs in five samples and ecological and human health screening levels in one sample
- Mercury exceeded ESLs in five samples
- Silver exceeded ecological and human health screening levels in one sample
- Zinc exceeded ESLs in two samples.

Twenty-four SVOCs were detected in the surface soil samples, nine of which were present at concentrations greater than relevant ecological and/or human health screening levels. The following lists the SVOCs exceeding screening levels:

- Benz(a)anthracene exceeded human health screening levels in two samples
- Benzaldehyde exceeded ESLs in five samples
- Benzo(a)pyrene exceeded human health screening levels in eight samples
- Benzo(b)fluoranthene exceeded human health screening levels in four samples
- Caprolactam exceeded ESLs in one sample
- Carbazole exceeded ecological and human health screening levels in two samples
- Dibenz(a,h)anthracene exceeded human health screening levels in four samples
- Dibenzofuran exceeded ecological and human health screening levels in four samples
- Indeno(1,2,3-cd)pyrene exceeded human health screening levels in one sample.

Five pesticides were detected in surface soil samples, one of which was present at concentrations greater than relevant ecological and/or human health screening levels. 4,4′-DDE was detected in one sample at a concentration greater than ESLs. No herbicides were detected in surface soil samples.

Four PCBs were detected in surface soil samples, all of which were present at concentrations greater than ecological and/or human health screening levels. The following lists the PCBs exceeding screening levels:

- PCB-1248 and PCB-1254 were present in one sample at concentrations greater than both ecological and human health screening levels
- PCB-1260 was present in three samples at concentrations greater than both ecological and human health screening levels
- PCB-1268 was present in one sample at a concentration greater than human health screening levels.

Seven explosive compounds were detected in surface soil, six (6) of which were present in concentrations greater than ecological and/or human health screening levels. The following lists the explosive compounds exceeding screening levels:

- 2,4,6-TNT was detected in four samples at concentrations greater than ESLs
- 2,6-DNT was detected in three samples at concentrations greater than ESLs
- 2,4-DNT and 2-Amino-4,6-DNT were detected in one sample at concentrations greater than ESLs
- 3,5-Dinitroaniline was detected in two samples at concentrations greater than both ecological and human health screening levels
- 4-Amino-2,6-DNT was detected in two samples at concentrations greater than ESLs.

Two VOCs were detected in surface soil; however, concentrations were less than ecological and human health screening levels.

4.4.2.2 Subsurface Soil

Multiple compounds were detected in surface soil at concentrations greater than ecological and/or human health screening levels. **Figures 19** and **20** display the exceedances by location.

Twenty-four metals were detected in the subsurface soil samples, three of which were present at concentrations greater than relevant ecological and/or human health screening criteria in one or more sample. Out of the 22 subsurface soil samples (plus 3 duplicates), 16 of the samples did not contain metals at concentrations greater than relevant screening levels. Concentrations of mercury and selenium exceeded ESLs in one sample each, and concentrations of thallium exceeded both ecological and human health screening levels in eight samples.

Twenty-three SVOCs were detected in the subsurface soil samples, five of which were present at concentrations greater than relevant ecological and/or human health screening levels. The following lists the SVOCs exceeding screening levels:

- Benzaldehyde exceeded ESLs in one sample
- Benzo(a)pyrene exceeded human health screening levels in four samples
- Caprolactam exceeded ESLs in two samples
- Dibenzofuran exceeded ESLs in nine samples
- Naphthalene exceeded ESLs in eight samples.

Eight pesticides detected in subsurface soil samples, three of which were present at concentrations greater than relevant ecological and/or human health screening levels. The herbicide dalaphon was detected in one sample at a concentration greater than ESLs; no other herbicides were detected. The following lists the pesticides exceeding screening levels:

- Alpha-chlordane was detected in one sample at a concentration greater than ESLs
- Beta-BHC was detected in two samples at concentrations greater than ESLs
- Delta-BHC was detected in three samples at concentrations greater than human health screening levels.

PCB-1260 was detected in four samples at concentrations less than ecological and human health screening levels. No other PCBs were detected.

Two explosive compounds were detected in subsurface soil, one of which was present at a concentration greater than ESLs. 2,6-DNT was detected in one sample at a concentration greater than ESLs. No other explosive compounds were detected at concentrations greater than ecological and/or human health screening levels.

Sixteen VOCs were detected in subsurface soil, three of which were present at concentrations greater than ecological and/or human health screening levels. The following lists the pesticides exceeding screening levels:

- Cyclohexane was detected in six samples at concentrations greater than ESLs
- Isopropylbenzene (cumene) was detected in two samples at concentrations greater than ESLs
- Methylcyclohexane was detected in six samples at concentrations greater than both ecological and human health screening levels.

4.4.2.3 Sediment

Multiple compounds were detected in surface soil at concentrations greater than ecological and/or human health screening levels. RSL values were utilized for human health screening values because there are not currently background values established for sediment, and SRVs were developed for ecological risk screening. **Figure 21** displays the exceedances by locations.

Twenty metals were detected in sediment samples, two of which were detected at concentrations greater than ecological and/or human health screening levels. Arsenic and chromium were found in each of the three sediment samples and the duplicate sample at concentrations greater than human health screening levels.

Ten SVOC and six pesticides were detected in sediment samples, all of which were present at concentrations less than ecological and human health screening levels. No VOCs, herbicides, PCBs, or explosive compounds were detected in the sediment samples.

4.4.2.4 Asbestos Samples

Out of the 20 samples collected for asbestos analysis, 6 samples contained chrysolite or amosite asbestos. The two samples of the transite material both contained 25 percent chrysotile. Four soil samples contained less than 1 percent amosite and/or chrysolite. A copy of Eden's report and sample location maps are provided in **Appendix D**.

4.5 TAYLOR ROAD BURNING GROUND

The following sections describe the SI field activities and soil and groundwater sampling results at the TRBG. Photographs of SI field activities are presented in **Appendix E**.

4.5.1 Field Activities

Soil samples were collected from surface (0 to 2 feet BGS) and subsurface (2 to 6 and 6 to 10 feet BGS) depth intervals from the Primary Burn Area, Secondary Burn Area, and Subsurface Debris Area within the TRBG. Soil borings were advanced at 11 locations using a Geoprobe®. Eleven surface soil samples plus 1 duplicate and 18 subsurface soil samples plus 3 duplicates were collected and analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, explosives, TAL metals, and asbestos (only 0- to 2-foot interval).

Sediment samples were collected from a total of eight locations within the two drainage ditches located along the east and west side of the former burning ground to identify potential impacts due to runoff from the burning ground. Eight sediment samples plus one duplicate were collected using a hand auger to a total depth of approximately 2 feet below the top of sediment. Each sample was a vertical composite of the entire sample interval. No surface water was observed in the drainage ditch. Sediment samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, explosives, TAL metals, and asbestos.

Leidos performed a site walk to identify painted debris. No painted debris was observed; therefore, no XRF screening was performed. Eden conducted an ACM assessment at the site, which included collection of 19 surface soil samples. One of the soil samples (TRBGSL0001) was split into a brown soil portion and a white cementitious portion and analyzed separately for asbestos.

Figure 22 shows the sample locations at the TRBG. **Tables 4-21** and **4-22** summarize the samples collected for laboratory analysis at each boring location and depth interval, as well as sediment samples locations, and debris samples.

4.5.2 Results

Multiple compounds were detected in each medium sampled. In addition, each medium contained one or more compounds at concentrations greater than relevant ecological and/or human health screening levels. This section presents the compounds that exceeded screening values for each medium. **Tables 4-23** through **4-25** present the analytical detections for the surface soil, subsurface soil, and sediment samples.

4.5.2.1 Surface Soil

Multiple compounds were detected in surface soil at concentrations greater than ecological and/or human health screening levels. **Figure 23** displays the exceedances by location.

Twenty metals were detected in the surface soil samples, four of which were present at concentrations greater than relevant ecological and/or human health screening criteria. Out of the 11 surface soil samples (plus 1 duplicate), 7 of the samples did not contain metals at concentrations greater than relevant screening levels. The following lists the metals exceeding screening levels:

- Cadmium exceeded ESLs in four samples
- Lead exceeded ESLs in three samples and ecological and human health screening levels in one sample
- Mercury exceeded ESLs in five samples
- Zinc exceeded ESLs in two samples.

Eighteen SVOCs were detected in the surface soil samples, three of which were present at concentrations greater than relevant ecological and/or human health screening levels. The following lists the SVOCs exceeding screening levels:

- Benzaldehyde exceeded ESLs in one sample
- Benzo(a)pyrene exceeded human health screening levels in five samples
- Dibenzofuran exceeded ESLs in five samples.

Seven pesticides were detected in surface soil samples, three of which were present at concentrations greater than relevant ecological and/or human health screening levels. Endosulfan sulfate, endrin aldehyde, and beta-BHC were each detected in one sample at concentrations greater than ESLs. No herbicides were detected in surface soil samples.

Two PCBs were detected in surface soil samples, one of which was present at concentrations greater than ecological and/or human health screening levels. PCB-1260 was present in two samples at concentrations greater than both ecological and human health screening levels.

Five explosive compounds were detected in surface soil, four of which were present in concentrations greater than ecological and/or human health screening levels. The following lists the explosive compounds exceeding screening levels:

- 2,4,6-TNT was detected in two samples at concentrations greater than ESLs
- 2-Amino-4,6-DNT and 4-Amino-2,6-DNT were detected in one sample at concentrations greater than ESLs
- 3,5-Dinitroaniline was detected in one sample at a concentration greater than both ecological and human health screening levels.

One VOC was detected in surface soil; however, concentrations were less than ecological and human health screening levels.

4.5.2.2 Subsurface Soil

Multiple compounds were detected in subsurface soil at concentrations greater than ecological and/or human health screening levels. **Figure 23** displays the exceedances by location.

Twenty-one metals were detected in the subsurface soil samples, six of which were present at concentrations greater than ESLs. The following lists the metals exceeding screening levels:

- Cadmium was detected in four samples at concentrations greater than ESLs
- Lead, mercury, and zinc were detected in two samples at concentrations greater than ESLs
- Chromium was detected in one sample at a concentration greater than both ecological and human health screening levels
- Thallium was detected in two samples at concentrations greater than both ecological and human health screening levels.

Twenty-three SVOCs were detected in the subsurface soil samples, four of which were present at concentrations greater than relevant ecological and/or human health screening levels. The following lists the SVOCs exceeding screening levels:

- Benzaldehyde exceeded ESLs in one sample
- Benzo(a)pyrene exceeded human health screening levels in two samples
- Dibenzofuran exceeded ESLs in three samples
- Naphthalene exceeded ESLs in two samples.

Eight pesticides were detected in subsurface soil samples, four of which were present at concentrations greater than ESLs. 4,4′-DDE, dieldrin, alpha-chlordane, and beta-BHC were each detected in one sample at concentrations greater than ESLs. The herbicide dalaphon was detected in one sample and the concentration was greater than ESLs. No other herbicides were detected in subsurface samples.

PCB-1254 was detected in one sample and the concentration was greater than ESLs. PCB-1260 was detected in two samples; however, the concentrations were less than ecological and human health screening levels. No other PCBs were detected.

Two explosive compounds were detected in subsurface soil, one of which was present at concentrations greater than ecological and/or human health screening levels. 4-Amino-2,6-DNT was detected in one sample at a concentration greater than ESLs.

Thirteen VOCs were detected in subsurface soil, three of which were present in concentrations greater than ecological and/or human health screening levels. Cyclohexane and isopropylbenzene (cumene) were detected in one sample at concentrations greater than ESLs. Methylcyclohexane was detected in one sample at a concentration greater than both ecological and human health screening levels.

4.5.2.3 Sediment

Multiple compounds were detected in sediment at concentrations greater than ecological and/or human health screening levels. RSL values were utilized for human health screening values because there are not currently background values established for sediment, and SRVs were developed for ecological risk screening. **Figure 24** displays the exceedances by location.

Nineteen metals were detected in sediment samples, 11 of which were detected at concentrations greater than ecological and/or human health screening levels. The following lists the metals exceeding screening levels:

- Antimony, barium, cadmium, mercury, nickel, silver, and zinc were all detected in the same sample (TRBG-SDSW-004) at concentrations greater than ESLs. Concentrations of these compounds did not exceed ecological or human health screening levels in any other sample.
- Selenium was detected in one sample (TRBG-SDSW-001) at a concentration greater than ESLs.
- Lead was detected in one sample at a concentration greater than both ecological and human health screening levels.
- Arsenic was detected in seven samples at concentrations greater than human health screening levels and in two samples at concentrations greater than both ecological and human health screening levels.
- Chromium was detected in eight samples at concentrations greater than human health screening levels and in one sample at a concentration greater than both ecological and human health screening levels.

Twenty-three SVOCs were detected in sediment samples, 18 of which were detected at concentrations greater than ecological and/or human health screening levels. Benzaldehyde and benzo(a)pyrene were detected in sample TRBG-SDSW-001 at concentrations greater than ecological and human health screening levels, respectively; the remaining SVOCs were all detected in sample TRBG-SDSW-004. The majority of SVOCs detected in sample TRBG-SDSW-004 exceed ESLs, one SVOC exceeds human health screening levels, and four SVOCs exceed both ecological and human health screening levels.

Eight pesticides and one herbicide were detected in the sediment samples. The pesticides 4,4′-DDE, endosulfan I, endosulfan sulfate, endrin, and beta-BHC were detected in one sample (TRBG-SDSW-004) at concentrations greater than ESLs. The herbicide dalaphon was detected in three samples at concentrations greater than ESLs. No other herbicides were detected.

PCB-1254 was the only PCB detected. PCB-1254 was present in sample TRBG-SDSW-004 at a concentration greater than both ecological and human health screening values. No explosive compounds were detected in sediment samples. Two VOCs were detected in sediment samples, but the concentrations were less than ecological and human health screening levels.

The VOC toluene was detected in one sample at a concentration less than ecological and human health screening levels. No herbicides, PCBs, or explosives were detected in sediment samples.

4.5.2.4 Asbestos Samples

Out of the 20 samples collected for asbestos analysis, 3 samples contained chrysolite or amosite asbestos at concentrations greater than 1 percent. The soil sample and cementitious material sample collected from location TRBGSL0001 both contained asbestos. A copy of Eden's report and sample location maps are provided in **Appendix D**.

Table 4-1. Soil Sample Location Summary: Disposal Area 2A

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-001	DA2ASL0001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (central portion) near tire, wood, and concrete debris (suspected ACM pipes within concrete block per AHES).
DA2A-SL-002	DA2ASL0002	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (southern portion) within concrete and metal debris pile. (no Geoprobe® access).
DA2A-SL-003	DA2ASL0003 DA2ASL9008	0-2	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (southwest portion) near surface debris pile with suspected and known ACM (transite, firebricks) per AHES. Refusal at 1.25 ft BGS.
DA2A-SL-004	DA2ASL0004	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (southwest) near small soil pile, adjacent to concrete and metal debris piles. Observed to be sand.
DA2A-SL-005	DA2ASL0005	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field near debris pile (concrete and rebar, suspected ACM- black paper on corrugated metal).
DA2A-SL-006	DA2ASL0006 DA2ASL0006MS/MSD	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field near concrete debris at base of slope (no Geoprobe® access).
DA2A-SL-007	DA2ASL0007	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (central portion) within depression adjacent to concrete debris.

Table 4-1. Soil Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-008	DA2ASL0008	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (southern portion) adjacent to black-stained telephone poles and other concrete debris (no Geoprobe® access).
DA2A-SL-009	DA2ASL0009	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (north-east portion) between concrete/metal debris and Pipe Creek (no Geoprobe® access).
DA2A-SL-010	DA2ASL0010	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (east-north portion) between concrete/metal debris and Pipe Creek (no Geoprobe® access).
DA2A-SL-011	DA2ASL0011	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (south-east portion) between concrete debris pile and Pipe Creek (no Geoprobe® access).
DA2A-SL-012	DA2ASL0012	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field (southeast portion) between concrete/metal debris pile and Pipe Creek (no Geoprobe® access).
DA2A-SL-013	DA2ASL0013	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	7.4	Characterize West Debris Field (northern portion) along Concrete/Metal Debris Pile.
	DA2ASL0014	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
	DA2ASL0015	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		

Table 4-1. Soil Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-014	DA2ASL0016	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	7.5	Characterize West Debris Field (northern portion) along concrete/metal debris pile.
	DA2ASL0017	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
	DA2ASL0018	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-015	DA2ASL0019 DA2ASL9001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	7.5	Characterize West Debris Field (northernmost area) adjacent to concrete/metal debris pile, and Pipe Creek.
	DA2ASL0020 DA2ASL0020MS/MSD	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
	DA2ASL0021	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-016	DA2ASL0022	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	7.3	Characterize West Debris Field (north-west portion) near debris pile. Brick at 1.1 ft BGS (PID 20.4 ppm).
	DA2ASL0023 DA2ASL9002	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Crushed concrete 3.3-3.9 ft BGS.
	DA2ASL0024	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-017	DA2ASL0025	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize West Debris Field near debris pile. Debris (gravel, brick, rubber) in 0.5-2 ft BGS interval. Potential firebrick in 0-2 ft DPT core.
	DA2ASL0026	2.0-2.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Concrete in 2.25-2.5 ft BGS interval; refusal at 2.5 ft BGS.

Table 4-1. Soil Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-018	DA2ASL0028	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	7.3	Characterize West Debris Field (western portion) near wood, tire, and concrete debris.
	DA2ASL0029	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
	DA2ASL0030	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-019	DA2ASL0031	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	7.4	Characterize West Debris Field (central portion) near concrete debris pile.
	DA2ASL0032	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
	DA2ASL0033	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-020	DA2ASL0034	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	7.1	Characterize West Debris Field (western portion) near concrete debris pile. Concrete observed in 0.2-0.5 ft BGS interval.
	DA2ASL0035	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
	DA2ASL0036 DA2ASL0036MS/MSD	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-021	DA2ASL0037	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	7.1	Characterize West Debris Field (western portion) near concrete debris pile near large concrete culvert pipes and other debris in area.
	DA2ASL0038	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (brick, concrete, wood, gravel) in 2.2-3.7 ft BGS) interval.
	DA2ASL0039	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		

Table 4-1. Soil Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-022	DA2ASL0040	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	8.0	Characterize West Debris Field (south-west portion) near clay pipes, concrete, and metal debris. Encountered debris (wood, concrete, potential ACM) in 1.6-4 ft BGS interval.
	DA2ASL0041	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (wood, concrete, potential ACM) in 1.6-4 ft BGS interval; crushed concrete at 4-4.75 ft BGS interval (petroleum odor, PID 17.3 ppm).
	DA2ASL0042 DA2ASL9003	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-023	DA2ASL0043	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	8.0	Characterize West Debris Field (west-south edge) near debris pile. Encountered debris (plastic, gravel, wood) in 1.3-2.3 ft BGS interval.
	DA2ASL0044	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
	DA2ASL0045	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-024	DA2ASL0046	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	8.1	Characterize West Debris Field (southernmost area) near metal and concrete debris and Pipe Creek.
	DA2ASL0047	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
	DA2ASL0048	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		

Table 4-1. Soil Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-025	DA2ASL0049	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (central portion) on top of 3 ft high by 20 ft wide soil pile (no Geoprobe® access).
DA2A-SL-026	DA2ASL0050	0-2	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field in central depressed area (no Geoprobe® access). Refusal at 1.5 ft BGS (shale).
DA2A-SL-027	DA2ASL0051 DA2ASL0051MS/MSD	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (south-east portion) within bottom of ravine filled with concrete and metal debris (non-LBP paint can) (no Geoprobe® access).
DA2A-SL-028	DA2ASL0052 DA2ASL9007	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (southern portion) along top of debris-filled ravine (no Geoprobe® access).
DA2A-SL-029	DA2ASL0053	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field, west edge of debris-pile/ravine (concrete/metal) along Pike Creek. Shale encountered at 2 ft BGS.
DA2A-SL-030	DA2ASL0054	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (central portion) within depressed area near debris.
DA2A-SL-031	DA2ASL0055	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (northern edge) near debris [pails filled with resin (not LBP), black roofing material (potential ACM)].

Table 4-1. Soil Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-032	DA2ASL0056	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (north-west portion) in depressed area near Concrete culverts, metal, RR ties, and other debris.
DA2A-SL-033	DA2ASL0057	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (south-east portion) above debris-filled ravine. Encountered debris (brick, gravel, concrete, charred wood) in 0.5-3 ft BGS interval.
	DA2ASL0058 DA2ASL9004	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (brick, gravel, concrete, charred wood) in 0.5-3 ft BGS interval; concrete 3-8.25 ft.
	DA2ASL0059	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Concrete, strong petrol odor (PID 1.0 ppm).
DA2A-SL-034	DA2ASL0060	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (south-central portion) adjacent to debris-filled ravine.
	DA2ASL0061	2.0-5.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (gravel, brick, wood) in 3.2-5 ft BGS interval. Refusal at 5 ft BGS.
DA2A-SL-035	DA2ASL0063	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (central portion) adjacent to debris-filled ravine.
	DA2ASL0064	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (gravel, brick, organic) in 4.7-7.6 ft BGS interval.
	DA2ASL0065	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (gravel, brick, organic) in 4.7-7.6 ft BGS interval; crushed concrete 7.6-7.8 ft.

Table 4-1. Soil Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-036	DA2ASL0066 DA2ASL9006	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos		Characterize East Debris Field (central portion) near burned material and soil piles.
	DA2ASL0067	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Refusal at 4.5 ft BGS.
DA2A-SL-037	DA2ASL0069	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos		Characterize East Debris Field (east-north portion). Encountered debris (gravel, wood, concrete) in 0.9-3.4 ft BGS interval.
	DA2ASL0070 DA2ASL0070MS/MSD	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (gravel, wood, concrete) in 0.9-3.4 ft BGS interval; concrete 3.4-3.7 ft.
	DA2ASL0071	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		
DA2A-SL-038	DA2ASL0072	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (eastern portion) within clearing (flat and no trees); Encountered debris (wood, gravel, brick) in 0-1 ft BGS interval; concrete/brick 1-3 ft.
	DA2ASL0073	2.0-5.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (concrete/brick) in 1-3 ft interval. Refusal (metal debris) at 5 ft BGS.
DA2A-SL-039	DA2ASL0075	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (central portion) near soil pile.
	DA2ASL0076	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered debris (glass, gravel, brick, burned material) in 1.9-5.3 ft BGS interval; crushed concrete 5.3-6 ft BGS. Refusal at 6 ft BGS.

Table 4-1. Soil Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SL-040	DA2ASL0078	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Characterize East Debris Field (central portion) within clearing (no trees), and nearby debris. Encountered debris (green glass, metal) in 1-4.7 ft BGS interval.
	DA2ASL0079	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered concrete in 3.7-4 ft BGS interval.
	DA2ASL0080 DA2ASL9005	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals		Encountered decaying wood in 8-8.7 ft BGS interval.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
AHES = Asbestos Hazard Evaluation Specialist
BGS = Below Ground Surface
ft = Feet
Herb = Herbicide
ID = Identifier
LBP = Lead-Based Paint
NA = Not Applicable
PCB = Polychlorinated Biphenyl
Pest = Pesticide
PID = Photoionization Detector
ppm = Parts per Million
RR = Railroad
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-2. Sediment Sample Location Summary: Disposal Area 2A

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SDSW-0001	DA2ASD0001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Upstream location of northern drainage ditch. Some flow after rainfall (observed to be dry previous week).
DA2A-SDSW-0002	DA2ASD0002	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Midstream location of northern drainage ditch. Some flow after rainfall (observed to be dry previous week).
DA2A-SDSW-0003	DA2ASD0003 DA2ASD9001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Downstream location of northern drainage ditch. Some flow after rainfall (observed to be dry previous week).
DA2A-SDSW-0004	DA2ASD0004	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Upstream location of southern drainage ditch. Dry/no surface water sample collected.
DA2A-SDSW-0005	DA2ASD0005	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Midstream location of southern drainage ditch. Dry/no surface water sample collected.
DA2A-SDSW-0006	DA2ASD0006	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Downstream location of southern drainage ditch. Dry/no surface water sample collected.
DA2A-SDSW-0007	DA2ASD0007 DA2ASD0007MS/MSD	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Downstream location of Pipe Creek just south of Maintenance Road. Flowing.

Table 4-2. Sediment Sample Location Summary: Disposal Area 2A (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SDSW-0008	DA2ASD0008	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Mid-downstream location of Pipe Creek near southern extent of East Debris Field, and north of West Debris Field.
DA2A-SDSW-0009	DA2ASD0009	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Mid-upstream location of Pipe Creek at approximately halfway extent of West Debris Field.
DA2A-SDSW-0010	DA2ASD0010	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Upstream location of Pipe Creek near southern extent of West Debris Field.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
BGS = Below Ground Surface
ft = Feet
Herb = Herbicide
ID = Identifier
NA = Not Applicable
PCB = Polychlorinated Biphenyl
Pest = Pesticide
PID = Photoionization Detector
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-3. Surface Water Sample Location Summary: Disposal Area 2A

Station ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SDSW-0001	DA2ASW0001	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Upstream location of northern drainage ditch. Some flow after rainfall (observed to be dry previous week).
DA2A-SDSW-0002	DA2ASW0002	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Midstream location of northern drainage ditch. Some flow after rainfall (observed to be dry previous week).
DA2A-SDSW-0003	DA2ASW0003	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Downstream location of northern drainage ditch. Some flow after rainfall (observed to be dry previous week).
DA2A-SDSW-0004	NA	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Upstream location of southern drainage ditch. Dry/no surface water sample collected.
DA2A-SDSW-0005	NA	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Midstream location of southern drainage ditch. Dry/no surface water sample collected.
DA2A-SDSW-0006	NA	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Downstream location of southern drainage ditch. Dry/no surface water sample collected.
DA2A-SDSW-0007	DA2ASW0007 DA2ASW9001 DA2ASW0007MS/MSD	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Downstream location of Pipe Creek just south of Maintenance Road. Flowing.

Table 4-3. Surface Water Sample Location Summary: Disposal Area 2A (Continued)

Station ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
DA2A-SDSW-0008	DA2ASW0008	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Mid-downstream location of Pipe Creek near southern extent of East Debris Field, and north of West Debris Field. Flowing.
DA2A-SDSW-0009	DA2ASW0009	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Mid-upstream location of Pipe Creek at approximately halfway extent of West Debris Field. Flowing.
DA2A-SDSW-0010	DA2ASW0010	NA	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Upstream location of Pipe Creek near southern extent of West Debris Field. Flowing.

Note: Only asbestos analysis on primary samples.
ACM = Asbestos-Containing Material
BGS = Below Ground Surface
ft = Feet
Herb = Herbicide
ID = Identifier
LF = Linear Feet
NA = Not Applicable
PCB = Polychlorinated Biphenyl
Pest = Pesticide
PID = Photoionization Detector
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-4. Debris Sample Location Summary: Disposal Area 2A

Station ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (description of ACM, painted debris, estimated quantity, co-located sample(s), etc.)
DA2A-DD-001	DA2ADD0001	0	Lead-Based Paint	NA	West Debris Field, 1 coated metal beam.
DA2A-DD-002	DA2ADD0002	0	Lead-Based Paint	NA	West Debris Field, 1 yellow painted drum lid.
DA2A-DD-013	DA2ADD0013	0	Asbestos	NA	East Debris Field, tar on flashing (est. 0.5 SF) (NF).
DA2A-DD-014	DA2ADD0014	0	Asbestos	NA	East Debris Field, tar on several concrete culvert pipes (100 SF) (F).
DA2A-DD-015	DA2ADD0015	0	Asbestos	NA	East Debris Field, tar on several concrete culvert pipes (100 SF) (F)
DA2A-DD-016	DA2ADD0016	0	Asbestos	NA	East Debris Field, light-colored firebricks (est. 500) (NF).
DA2A-DD-017	DA2ADD0017	0	Asbestos	NA	East Debris Field, 12-inch black ceramic/metallic pipe (est. 150 SF in area) (NF).
DA2A-DD-018	DA2ADD0018	0	Asbestos	NA	East Debris Field, 12-inch black ceramic/metallic pipe (est. 150 SF in area) (NF).
DA2A-DD-019	DA2ADD0019	0	Asbestos	NA	East Debris Field, ceramic electric insulator (2 inches) (est. 50), (NF).
DA2A-DD-020	DA2ADD0020	0	Asbestos	NA	East Debris Field, ceramic electric insulator (2 inches) (est. 50), (NF).
DA2A-DD-021	DA2ADD0021	0	Asbestos	NA	East Debris Field, tar on flashing (est. 0.5 SF) (NF).

Table 4-4. Debris Sample Location Summary: Disposal Area 2A (Continued)

Station ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (description of ACM, painted debris, estimated quantity, co-located sample(s), etc.)
DA2A-DD-022	DA2ADD0022	0	Asbestos	NA	East Debris Field, black roofing material (est. 450 SF) (F).
DA2A-DD-023	DA2ADD0023	0	Asbestos	NA	East Debris Field, black roofing material (est. 450 SF) (F); near DA2A-SL-031.
DA2A-DD-024	DA2ADD0024	0	Asbestos	NA	West Debris Field, black paper on corrugated metal (est. 160 SF) (F).
DA2A-DD-025	DA2ADD0025	0	Asbestos	NA	West Debris Field, black paper on corrugated metal (est. 160 SF) (F).
DA2A-DD-026	DA2ADD0026	0	Asbestos	NA	West Debris Field, light-colored firebricks (est. 500) (NF); adjacent to DA2A-SL-003.
DA2A-DD-027	DA2ADD0027	0	Asbestos	NA	West Debris Field, white linoleum (est. 10 SF) (F).
DA2A-DD-028	DA2ADD0028	0	Asbestos	NA	West Debris Field, white linoleum (est. 10 SF) (F).
DA2A-DD-029	DA2ADD0029	0	Asbestos	NA	West Debris Field, white wall board (20 SF) (NF).
DA2A-DD-030	DA2ADD0030	0	Asbestos	NA	West Debris Field, white wall board (20 SF) (NF).
DA2A-DD-031	DA2ADD0031	0	Asbestos	NA	West Debris Field, (2) 2-inch black fibrous/tar pipe in concrete block (8 LF) (NF); co-located with DA2A-SL-001.

Table 4-4. Debris Sample Location Summary: Disposal Area 2A (Continued)

Station ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (description of ACM, painted debris, estimated quantity, co-located sample(s), etc.)
DA2A-DD-032	DA2ADD0032	0	Asbestos	NA	West Debris Field, (2) 2-inch black fibrous/tar pipe in concrete block (8 LF) (NF); co-located with DA2A-SL-002.
DA2A-DD-033	DA2ADD0033	0	Asbestos	NA	West Debris Field, transite sheeting (20 SF) (F). Near DA2A-SL-003.
DA2A-DD-034	DA2ADD0034	0	Asbestos	NA	West Debris Field, transite sheeting (20 SF) (F). Near DA2A-SL-003.
DA2A-DD-035	DA2ADD0035	0	Asbestos	NA	West Debris Field, caulk on tub (12 SF) (F).
DA2A-DD-036	DA2ADD0036	0	Asbestos	NA	West Debris Field, caulk on tub (12 SF) (F).

Note: Only asbestos analysis on primary samples.
ACM = Asbestos-containing Material
BGS = Below Ground Surface
F= Friable
ft = Feet
NA = Not Applicable
NF = Not Friable
SF= Square Feet
LF= Linear Feet

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples

				Station	DA2A-SL-001	DA2A-SL-002	DA2A-SL-003	DA2A-SL-003	DA2A-SL-004	DA2A-SL-005	DA2A-SL-006	DA2A-SL-007	DA2A-SL-008
				Sample ID	DA2ASL0001	DA2ASL0002	DA2ASL9008	DA2ASL0003	DA2ASL0004	DA2ASL0005	DA2ASL0006	DA2ASL0007	DA2ASL0008
				Sample Type	GR	GR	FD	GR	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/12/15	08/12/15	08/13/15	08/13/15	08/12/15	08/12/15	08/13/15	08/13/15	08/12/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?									
Metals													
Aluminum	15500	77000	50	N	5400	9000	6300	8000	180	7100	7900	3100	6100
Antimony	9.3	31	0.27	N	<2.1 U	<2 U	2	7.6	<2.1 U	<2.7 U	<2 UJ	0.86 J	<2 U
Arsenic	36.5	0.68	18	N	5.8	7.2	8.5	12	1.4 J	7.4	7.7	5	6.3
Barium	826	15000	330	N	32	55	66	99	22	43	36	59	47
Beryllium	1	160	21	N	0.36 J	<0.51 U	0.57	0.88	<0.52 U	<0.67 U	0.38 J	0.23 J	<0.5 U
Cadmium		71	0.36	N	0.23 J	0.16 J	0.49 #	0.62 #	0.65 #	0.53 J#	0.13 J	0.79 #	0.96 #
Calcium	52300			N	36000	2400 J	55000	39000	3400 J	12000 J	2500 J	36000	12000 J
Chromium	29	0.3	26	N	8.9	13	17	32 *#	45 *#	13	12	8.1	11
Cobalt	116	23	13	N	5.9	9.9	22	36	1.2	6.9	6.8	3.6	6.6
Iron	234000	55000		N	15000	19000	14000	18000	13000	16000	17000	10000	14000
Lead	48.6	400	11	Y	11 J	19	57 #	83 #	4000 *#	660 *#	15 J	350 #	54 #
Magnesium	10400			N	7700	2100 J	7000 J	9200 J	<520 U	4600 J	2400 J	3300 J	4000 J
Manganese	3510	1800	220	N	490	330	790	1200	90	280	250	220	290
Mercury	0.085	9.4	0.0005	Y	0.043 J	0.05 J	1.6 #	1.9 #	0.027 J	1.1 #	0.064 J	0.83 #	0.088 J#
Nickel	55.1	1500	38	N	18	22	31	52	10	21	17	12	18
Potassium	3390			N	910 J	800 J	800 J	990 J	<520 U	1200 J	660 J	750 J	790 J
Selenium	2	390	0.52	N	<2.1 U	<2 U	0.57 J	0.69 J	<2.1 U	0.6 J	0.57 J	0.44 J	0.58 J
Silver	11.1	390	4.2	N	<1 U	<1 U	<0.87 U	0.2 J	<1 U	<1.3 U	<0.98 U	<1.1 U	0.07 J
Sodium				N	<510 U	<510 U	<430 U	<590 U	<520 U	<670 U	<490 U	<550 U	<500 U
Thallium	1.3	0.78	1	N	0.17 J	<2 U	0.29 J	0.53 J	<2.1 U	<2.7 U	0.18 J	<2.2 U	<2 U
Vanadium	40.9	390	7.8	N	16	20	13	15	0.75 J	18	19	11	14
Zinc	322	23000	46	N	62	68	600 #	1000 #	170	110	48 J	300	810 #
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	<0.15 U	<0.059 U	<0.28 U	<0.059 U	<0.52 U	<0.07 U	<0.059 U	<0.13 U	0.011 J
2,4-Dinitrotoluene		1.7	1.28	N	<0.59 U	<0.23 U	<1.1 U	<0.24 U	<2.1 U	<0.28 U	<0.24 U	<0.51 U	<0.26 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.59 U	<0.23 U	<1.1 U	<0.24 U	<2.1 U	<0.28 U	<0.24 U	<0.51 U	<0.26 U
2-Methylnaphthalene		240	3.24	N	0.026	<0.0078 U	0.032 J	0.039	0.036 J	0.006 J	<0.0079 U	0.022	0.032
Acenaphthene		3600	20	N	0.044	<0.0078 U	0.034 J	0.013	0.55	<0.0094 U	<0.0079 U	<0.017 U	0.013
Acenaphthylene		1800	682	N	0.25	<0.0078 U	0.27	0.16	<0.07 U	0.02	<0.0079 U	0.053	0.04
Acetophenone		7800	300	N	<0.3 U	<0.12 U	<0.56 U	<0.12 U	<1 U	<0.14 U	<0.12 U	0.035 J	<0.13 U
Anthracene		18000	1480	N	0.27	<0.0078 U	0.19	0.1	1.3	0.023	<0.0079 U	0.059	0.073
Benz(a)anthracene		0.16	5.21	N	1.1 *	0.0059 J	0.97 *	0.5 *	7.2 *#	0.1	0.0069 J	0.26 *	0.33 *
Benzaldehyde		7800		N	0.057 J#	<0.12 U	<0.56 U	0.031 J#	<1 U	0.035 J#	<0.12 U	0.14 J#	0.022 J#
Benzo(a)pyrene		0.016	1.52	N	1.3 *	0.0067 J	0.98 *	0.57 *	7.8 *#	0.11 *	0.0071 J	0.27 *	0.46 *
Benzo(b)fluoranthene		0.16	59.8	N	1.7 *	0.0094	1.4 *	0.84 *	12 *	0.19 *	0.013	0.53 *	0.76 *
Benzo(ghi)perylene		1800	119	Y	0.44	<0.0078 U	0.69	0.19	2.2	0.039	<0.0079 U	0.15	0.14
Benzo(k)fluoranthene		1.6	148	N	0.94	<0.0078 U	0.63	0.43	6.1 *	0.094	0.0052 J	0.22	0.45
Bis(2-ethylhexyl)phthalate		39	0.925	N	0.18 J	0.024 J	5.5 #	0.25	<0.73 U	<0.098 U	0.024 J	<0.18 U	<0.09 U
Butyl benzyl phthalate		290	0.239	N	0.084 J	<0.082 U	<0.39 U	<0.083 U	<0.73 U	<0.098 U	<0.083 U	<0.18 U	<0.09 U
Caprolactam		31000		N	<0.98 U	<0.39 U	<1.8 U	<0.39 U	<3.5 U	<0.46 U	<0.39 U	0.14 J#	<0.43 U
Carbazole				N	0.1 J*#	<0.059 U	<0.28 U	0.037 J*#	0.77 *#	<0.07 U	<0.059 U	<0.13 U	0.035 J*#
Chrysene		16	4.73	N	1.1	0.0067 J	1.1	0.53	7.9 #	0.12	0.0068 J	0.35	0.53
Di-n-butyl phthalate		6300	200	N	<0.21 U	<0.082 U	<0.39 U	<0.083 U	<0.73 U	<0.098 U	<0.083 U	<0.18 U	<0.09 U
Dibenz(a,h)anthracene		0.016	18.4	N	0.16 *	<0.0078 U	0.18 *	0.06 *	0.73 *	<0.0094 U	<0.0079 U	0.058 *	0.057 *
Dibenzofuran		73		N	0.065 J#	<0.059 U	0.038 J#	0.025 J#	0.17 J#	0.014 J#	<0.059 U	0.038 J#	0.043 J#
Fluoranthene		2400	122	N	2.1	0.01	2	1	11	0.2	0.012	0.43	0.59
Fluorene		2400	30	N	0.089	<0.0078 U	0.062	0.029	0.36	0.0063 J	<0.0079 U	0.009 J	0.016

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	**DA2A-SL-001**	**DA2A-SL-002**	**DA2A-SL-003**	**DA2A-SL-003**	**DA2A-SL-004**	**DA2A-SL-005**	**DA2A-SL-006**	**DA2A-SL-007**	**DA2A-SL-008**
				Sample ID	**DA2ASL0001**	**DA2ASL0002**	**DA2ASL9008**	**DA2ASL0003**	**DA2ASL0004**	**DA2ASL0005**	**DA2ASL0006**	**DA2ASL0007**	**DA2ASL0008**
				Sample Type	**GR**	**GR**	**FD**	**GR**	**GR**	**GR**	**GR**	**GR**	**GR**
				Depth (ft)	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**
				Date	**08/12/15**	**08/12/15**	**08/13/15**	**08/13/15**	**08/12/15**	**08/12/15**	**08/13/15**	**08/13/15**	**08/12/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.42 ***	**0.011**	**0.63 ***	**0.18 ***	**2 ***	**0.046**	<0.0079 U	**0.16 ***	**0.14**
Naphthalene		3.8	0.0994	N	**0.028**	<0.0078 U	**0.028 J**	**0.032**	<0.07 U	<0.0094 U	<0.0079 U	**0.013 J**	**0.08**
Pentachlorophenol		1	2.1	N	<0.44 U	<0.18 U	<0.84 UJ	<0.18 U	<1.6 U	<0.21 U	<0.18 U	<0.38 UJ	<0.19 U
Phenanthrene		1800	45.7	N	**1**	<0.0078 U	**0.79**	**0.33**	**5**	**0.075**	**0.0048 J**	**0.12**	**0.29**
Phenol		19000	30	N	**0.025 J**	<0.059 U	<0.28 U	<0.059 U	<0.52 U	**0.04 J**	<0.059 U	**0.42**	**0.012 J**
Pyrene		1800	78.5	N	**1.6**	**0.0082**	**1.8**	**0.9**	**9.6**	**0.16**	**0.0099**	**0.43**	**0.47**
Pyrene		1800	78.5	N	**1.6**	**0.0082**	**1.8**	**0.9**	**9.6**	**0.16**	**0.0099**	**0.43**	**0.47**
Organics – Pesticides													
4,4'-DDE		2	0.021	Y	**0.0033 J**	<0.0099 U	**0.0036 J**	**0.0023 J**	**0.061 J#**	<0.12 U	**0.00034 J**	**0.036 J#**	**0.0058 J**
4,4'-DDT		1.9	0.021	Y	<0.02 U	<0.0099 U	<0.018 U	<0.01 U	<0.088 U	<0.12 U	<0.002 U	<0.22 U	**<0.022 R**
Dieldrin		0.034	0.0049	Y	<0.02 U	<0.0099 U	<0.018 U	<0.01 U	<0.088 U	<0.12 U	<0.002 U	<0.22 U	<0.022 U
Endosulfan I		470	0.119	N	<0.02 U	<0.0099 U	<0.018 U	<0.01 U	<0.088 U	<0.12 U	**0.00036 J**	<0.22 U	<0.022 U
Endosulfan sulfate		470	0.0358	N	<0.02 U	<0.0099 U	<0.018 U	<0.01 U	<0.088 U	<0.12 U	<0.002 U	**0.15 J#**	<0.022 U
Endrin aldehyde		19	0.0105	N	<0.02 U	<0.0099 U	<0.018 U	<0.01 U	**0.079 J#**	<0.12 U	**0.00063 J**	**0.11 J#**	**0.0057 J**
Methoxychlor		320	0.0199	Y	**0.0086 J**	<0.019 U	**0.012 J**	**0.0074 J**	<0.17 U	<0.23 U	<0.0039 U	<0.43 U	<0.043 U
alpha-Chlordane		1.7		Y	<0.02 U	<0.0099 U	<0.018 U	<0.01 U	<0.088 U	<0.12 U	<0.002 U	<0.22 U	<0.022 U
beta-BHC		0.3	0.004	Y	<0.02 U	<0.0099 U	<0.018 U	<0.01 U	<0.088 U	<0.12 U	<0.002 U	<0.22 U	<0.022 U
gamma-Chlordane		1.7		Y	<0.02 U	<0.0099 U	<0.018 U	<0.01 U	<0.088 U	<0.12 U	<0.002 U	<0.22 U	<0.022 U
Organics – Herbicides													
Dalapon		1900		N	<0.14 U	<0.14 U	<0.13 U	<0.14 U	<0.13 U	<0.17 U	**0.059 J#**	<0.15 U	<0.15 U
Organics – PCBs													
PCB-1242		0.23	0.371	Y	<0.039 U	<0.038 U	<0.036 U	<0.04 U	<1.7 U	<0.45 U	<0.039 U	<4.3 U	<0.043 U
PCB-1248		0.23	0.371	Y	<0.039 U	<0.038 U	<0.036 U	<0.04 U	<1.7 U	<0.45 U	<0.039 U	<4.3 U	<0.043 U
PCB-1254		0.24	0.371	Y	<0.039 U	<0.038 U	<0.036 U	<0.04 U	**9.1 *#**	<0.45 U	**0.035 J**	<4.3 U	<0.043 U
PCB-1260		0.24	0.371	Y	<0.039 U	**0.011 J**	**0.1**	**0.075**	<1.7 U	**5.2 *#**	<0.039 U	**33 *#**	**0.17**
PCB-1262			0.371	Y	<0.039 U	<0.038 U	<0.036 U	<0.04 U	<1.7 U	<0.45 U	<0.039 U	<4.3 U	<0.043 U
Organics – Volatile													
Acetone		61000	2.5	N	<0.024 U	<0.022 U	<0.022 U	<0.023 U	<0.02 U	<0.026 U	<0.023 U	<0.025 U	<0.024 U
Cyclohexane		6500		N	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.01 U	<0.013 U	<0.011 U	<0.012 U	<0.012 U
Ethylbenzene		5.8	5.16	N	<0.0059 U	<0.0055 U	<0.0054 U	<0.0057 U	<0.0051 U	<0.0066 U	<0.0057 U	<0.0062 U	<0.006 U
M + P Xylene		650	10	N	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.01 U	<0.013 U	<0.011 U	<0.012 U	<0.012 U
Methylcyclohexane				N	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.01 U	<0.013 U	<0.011 U	<0.012 U	<0.012 U
Methylene chloride		57	4.05	N	<0.0059 UJ	<0.0055 U	<0.0054 U	<0.0057 U	<0.0051 UJ	<0.0066 UJ	<0.0057 U	<0.0062 U	<0.006 UJ
Toluene		4900	200	N	<0.0059 U	<0.0055 U	**0.00057 J**	<0.0057 U	<0.0051 U	<0.0066 U	<0.0057 U	<0.0062 U	<0.006 U
o-Xylene		650	10	N	<0.0059 U	<0.0055 U	<0.0054 U	<0.0057 U	<0.0051 U	<0.0066 U	<0.0057 U	<0.0062 U	<0.006 U

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	DA2A-SL-009	DA2A-SL-010	DA2A-SL-011	DA2A-SL-012	DA2A-SL-013	DA2A-SL-014	DA2A-SL-015	DA2A-SL-015	DA2A-SL-016
				Sample ID	DA2ASL0009	DA2ASL0010	DA2ASL0011	DA2ASL0012	DA2ASL0013	DA2ASL0016	DA2ASL9001	DA2ASL0019	DA2ASL0022
				Sample Type	GR	GR	GR	GR	GR	GR	FD	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/13/15	08/13/15	08/13/15	08/13/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Metals													
Aluminum	15500	77000	50	N	**5400**	**5000**	**11000**	**6500**	**5200**	**5200**	**5800**	**5600**	**4500**
Antimony	9.3	31	0.27	N	<1.9 U	<2.3 U	<2 U	<2.2 U	<1.8 U	<1.7 U	<2.1 U	<1.7 U	<2 U
Arsenic	36.5	0.68	18	N	**6.1**	**4.8**	**8.3**	**5.7**	**3.5**	**5.8**	**5.7**	**4.8**	**11**
Barium	826	15000	330	N	**41**	**37**	**64**	**47**	**33**	**35**	**49**	**47**	**110**
Beryllium	1	160	21	N	**0.4 J**	**0.34 J**	**0.64**	**0.44 J**	**0.29 J**	**0.3 J**	**0.39 J**	**0.36 J**	**0.49 J**
Cadmium		71	0.36	N	**0.3 J**	**0.17 J**	**0.23 J**	**0.26 J**	**0.14 J**	**0.22 J**	**0.19 J**	**0.2 J**	**0.37 J#**
Calcium	52300			N	**49000**	**4200 J**	**2000 J**	**3600 J**	**1700 J**	**44000**	**7800 J**	**7600 J**	**69000**
Chromium	29	0.3	26	N	**8.7**	**7.9**	**16**	**11**	**6.9**	**9.8**	**9.7**	**9**	**7.4**
Cobalt	116	23	13	N	**7.5**	**6.9**	**17**	**8.9**	**4.2**	**5.4**	**9.4**	**8.4**	**17**
Iron	234000	55000		N	**17000**	**12000**	**23000**	**16000**	**9900**	**11000**	**15000**	**13000**	**16000**
Lead	48.6	400	11	Y	**18**	**11 J**	**13 J**	**12 J**	**25**	**160 #**	**10 J**	**10 J**	**2900 *#**
Magnesium	10400			N	**5300 J**	**1900 J**	**2700 J**	**2100 J**	**1000 J**	**9000 J**	**3600 J**	**3000 J**	**5400 J**
Manganese	3510	1800	220	N	**370**	**250**	**520**	**430**	**250**	**280**	**340**	**400**	**900**
Mercury	0.085	9.4	0.0005	Y	**0.049 J**	**0.049 J**	**0.051 J**	**0.049 J**	**0.068 J**	**0.49 #**	**0.036 J**	**0.039 J**	**0.14 #**
Nickel	55.1	1500	38	N	**22**	**18**	**32**	**23**	**10**	**16 J**	**23**	**21**	**36**
Potassium	3390			N	**1100 J**	**740 J**	**830 J**	**890 J**	<460 U	**640**	**780 J**	**810**	**760 J**
Selenium	2	390	0.52	N	**0.38 J**	<2.3 U	<2 U	<2.2 U	<1.8 U	<1.7 U	<2.1 U	**0.38 J**	<2 U
Silver	11.1	390	4.2	N	<0.93 U	<1.1 U	<1 U	<1.1 U	<0.92 U	<0.83 U	<1.1 U	<0.86 U	<1 U
Sodium				N	<460 U	<570 U	<510 U	<540 U	<460 U	<410 U	<530 U	<430 U	<500 U
Thallium	1.3	0.78	1	N	<1.9 U	<2.3 U	<2 U	<2.2 U	<1.8 U	<1.7 U	<2.1 U	<1.7 U	**0.58 J**
Vanadium	40.9	390	7.8	N	**12**	**11**	**23**	**14**	**13**	**14**	**14**	**13**	**12**
Zinc	322	23000	46	N	**56**	**48 J**	**83**	**71**	**30 J**	**43 J**	**56**	**55**	**87**
Organics –Semivolatile													
1,1'-Biphenyl		47	60	N	<0.061 U	<0.059 U	<0.06 U	<0.061 U	<0.057 U	<0.055 U	<0.059 U	<0.059 U	<0.11 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.23 U	<0.22 U	<0.24 U	<0.23 U	<0.43 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.23 U	<0.22 U	<0.24 U	<0.23 U	<0.43 U
2-Methylnaphthalene		240	3.24	N	**0.0048 J**	<0.0079 U	<0.0079 U	<0.0081 U	<0.0076 U	**0.0075**	<0.0079 U	<0.0078 U	**0.17**
Acenaphthene		3600	20	N	<0.0081 U	<0.0079 U	<0.0079 U	<0.0081 U	<0.0076 U	<0.0073 U	<0.0079 U	<0.0078 U	<0.014 U
Acenaphthylene		1800	682	N	<0.0081 U	<0.0079 U	<0.0079 U	<0.0081 U	<0.0076 U	**0.0048 J**	<0.0079 U	<0.0078 U	**0.015**
Acetophenone		7800	300	N	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.11 U	<0.11 U	<0.12 U	<0.12 U	<0.22 U
Anthracene		18000	1480	N	**0.0049 J**	<0.0079 U	<0.0079 U	<0.0081 U	<0.0076 U	<0.0073 U	<0.0079 U	<0.0078 U	<0.014 U
Benz(a)anthracene		0.16	5.21	N	**0.02**	**0.014**	<0.0079 U	**0.0078 J**	**0.012**	**0.02**	**0.0057 J**	**0.0087**	**0.062**
Benzaldehyde		7800		N	**0.039 J#**	**0.018 J#**	<0.12 U	**0.026 J#**	**0.025 J#**	**0.015 J#**	**0.018 J#**	**0.022 J#**	<0.22 U
Benzo(a)pyrene		0.016	1.52	N	**0.023 ***	**0.023 ***	<0.0079 U	**0.01**	**0.014**	**0.024 ***	**0.0047 J**	**0.0097**	**0.061 ***
Benzo(b)fluoranthene		0.16	59.8	N	**0.041**	**0.043**	<0.0079 U	**0.016**	**0.021**	**0.034**	**0.0091**	**0.013**	**0.079**
Benzo(ghi)perylene		1800	119	Y	**0.01**	**0.012**	<0.0079 U	<0.0081 U	**0.0074 J**	**0.013**	<0.0079 U	**0.0093**	**0.034**
Benzo(k)fluoranthene		1.6	148	N	**0.02**	**0.018**	<0.0079 U	**0.0077 J**	**0.01**	**0.017**	<0.0079 U	**0.0071 J**	**0.04**
Bis(2-ethylhexyl)phthalate		39	0.925	N	**0.037 J**	**0.025 J**	**0.035 J**	**0.025 J**	<0.08 U	<0.077 U	**0.29**	<0.082 U	<0.15 U
Butyl benzyl phthalate		290	0.239	N	<0.085 U	<0.082 U	<0.083 U	<0.085 U	<0.08 U	<0.077 U	<0.083 U	<0.082 U	<0.15 U
Caprolactam		31000		N	<0.4 U	<0.39 U	<0.39 U	<0.4 U	<0.38 U	<0.36 U	<0.39 U	<0.39 U	<0.72 U
Carbazole				N	<0.061 U	<0.059 U	<0.06 U	<0.061 U	<0.057 U	<0.055 U	<0.059 U	<0.059 U	<0.11 U
Chrysene		16	4.73	N	**0.033**	**0.024**	<0.0079 U	**0.012**	**0.015**	**0.029**	**0.0074 J**	**0.013**	**0.09**
Di-n-butyl phthalate		6300	200	N	**0.021 J**	<0.082 U	<0.083 U	<0.085 U	<0.08 U	<0.077 U	<0.083 U	<0.082 U	<0.15 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0081 U	<0.0079 U	<0.0079 U	<0.0081 U	<0.0076 U	<0.0073 U	<0.0079 U	<0.0078 U	<0.014 U
Dibenzofuran		73		N	**0.011 J#**	<0.059 U	<0.06 U	<0.061 U	<0.057 U	<0.055 U	<0.059 U	<0.059 U	<0.11 U
Fluoranthene		2400	122	N	**0.048**	**0.03**	**0.0066 J**	**0.018**	**0.022**	**0.036**	**0.0096**	**0.016**	**0.13**
Fluorene		2400	30	N	<0.0081 U	<0.0079 U	<0.0079 U	<0.0081 U	<0.0076 U	<0.0073 U	<0.0079 U	<0.0078 U	<0.014 U

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	**DA2A-SL-009**	**DA2A-SL-010**	**DA2A-SL-011**	**DA2A-SL-012**	**DA2A-SL-013**	**DA2A-SL-014**	**DA2A-SL-015**	**DA2A-SL-015**	**DA2A-SL-016**
				Sample ID	**DA2ASL0009**	**DA2ASL0010**	**DA2ASL0011**	**DA2ASL0012**	**DA2ASL0013**	**DA2ASL0016**	**DA2ASL9001**	**DA2ASL0019**	**DA2ASL0022**
				Sample Type	**GR**	**GR**	**GR**	**GR**	**GR**	**GR**	**FD**	**GR**	**GR**
				Depth (ft)	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**
				Date	**08/13/15**	**08/13/15**	**08/13/15**	**08/13/15**	**08/10/15**	**08/10/15**	**08/10/15**	**08/10/15**	**08/10/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.017**	**0.018**	<0.0079 U	<0.0081 U	**0.014**	**0.018**	<0.0079 U	**0.013**	**0.043**
Naphthalene		3.8	0.0994	N	<0.0081 U	<0.0079 U	<0.0079 U	<0.0081 U	<0.0076 U	<0.0073 U	<0.0079 U	<0.0078 U	**0.045**
Pentachlorophenol		1	2.1	N	<0.18 U	<0.18 U	<0.18 U	<0.18 U	<0.17 U	<0.17 U	<0.18 U	<0.18 U	<0.33 U
Phenanthrene		1800	45.7	N	**0.022**	**0.013**	<0.0079 U	**0.0088**	**0.0062 J**	**0.016**	<0.0079 U	**0.0065 J**	**0.096**
Phenol		19000	30	N	**0.052 J**	<0.059 U	<0.06 U	<0.061 U	<0.057 U	<0.055 U	<0.059 U	<0.059 U	<0.11 U
Pyrene		1800	78.5	N	**0.04**	**0.026**	**0.0054 J**	**0.014**	**0.018**	**0.027**	**0.0081**	**0.012**	**0.099**
Pyrene		1800	78.5	N	**0.04**	**0.026**	**0.0054 J**	**0.014**	**0.018**	**0.027**	**0.0081**	**0.012**	**0.099**
Organics – Pesticides													
4,4'-DDE		2	0.021	Y	**0.0077 J**	**0.013 J**	<0.002 U	**0.0019 J**	**0.00058 J**	<0.038 UJ	**0.0031 J**	<0.019 U	<0.21 U
4,4'-DDT		1.9	0.021	Y	**0.0036 J**	**0.0052 J**	<0.002 U	**0.0014 J**	<0.002 U	<0.038 UJ	<0.0054 U	<0.019 U	<0.21 U
Dieldrin		0.034	0.0049	Y	<0.01 U	<0.02 U	<0.002 U	<0.0021 U	<0.002 U	**0.0053 J#**	<0.0054 U	<0.019 U	<0.21 U
Endosulfan I		470	0.119	N	**0.0025 J**	<0.02 U	<0.002 U	<0.0021 U	<0.002 U	<0.038 UJ	<0.0054 U	<0.019 U	<0.21 U
Endosulfan sulfate		470	0.0358	N	<0.01 U	<0.02 U	<0.002 U	<0.0021 U	**0.0011 J**	<0.038 UJ	<0.0054 U	<0.019 U	<0.21 U
Endrin aldehyde		19	0.0105	N	<0.01 U	<0.02 U	<0.002 U	<0.0021 U	**0.00048 J**	<0.038 UJ	<0.0054 U	<0.019 U	<0.21 U
Methoxychlor		320	0.0199	Y	<0.02 U	<0.038 U	<0.0039 U	<0.004 U	<0.0038 UJ	<0.073 UJ	<0.011 U	<0.038 U	<0.4 U
alpha-Chlordane		1.7		Y	<0.01 U	<0.02 U	<0.002 U	<0.0021 U	<0.002 U	<0.038 UJ	<0.0054 U	<0.019 U	<0.21 U
beta-BHC		0.3	0.004	Y	<0.01 U	<0.02 U	<0.002 U	<0.0021 U	**0.0018 J**	**0.0096 J#**	**0.0034 J**	<0.019 U	<0.21 U
gamma-Chlordane		1.7		Y	<0.01 U	<0.02 U	<0.002 U	**0.0017 J#**	<0.002 U	<0.038 UJ	<0.0054 U	<0.019 U	<0.21 U
Organic – Herbicides													
Dalapon		1900		N	<0.15 U	<0.14 U	<0.14 U	<0.15 U	<0.14 U	<0.13 U	<0.14 U	<0.14 U	<0.13 U
Organics – PCBs													
PCB-1242		0.23	0.371	Y	<0.04 U	<0.038 U	<0.039 U	<0.04 U	<0.038 U	<0.073 U	<0.11 U	<0.038 U	<0.2 U
PCB-1248		0.23	0.371	Y	<0.04 U	<0.038 U	<0.039 U	<0.04 U	<0.038 U	<0.073 U	<0.11 U	<0.038 U	<0.2 U
PCB-1254		0.24	0.371	Y	<0.04 U	<0.038 U	<0.039 U	<0.04 U	<0.038 U	<0.073 U	<0.11 U	<0.038 U	<0.2 U
PCB-1260		0.24	0.371	Y	**0.038 J**	**0.048**	<0.039 U	**0.016 J**	**0.094**	**0.49 *#**	<0.11 U	<0.038 U	<0.2 U
PCB-1262			0.371	Y	<0.04 U	<0.038 U	<0.039 U	<0.04 U	<0.038 U	<0.073 U	<0.11 U	<0.038 U	<0.2 U
Organics – Volatile													
Acetone		61000	2.5	N	<0.023 U	<0.02 U	<0.021 U	<0.024 U	<0.022 U	<0.021 U	<0.02 U	<0.023 U	<0.02 U
Cyclohexane		6500		N	<0.011 U	<0.0098 U	<0.011 U	<0.012 U	<0.011 U	<0.011 U	<0.0099 U	<0.011 U	<0.01 U
Ethylbenzene		5.8	5.16	N	<0.0057 U	<0.0049 U	<0.0053 U	<0.006 U	<0.0056 U	<0.0053 U	<0.005 U	<0.0057 U	<0.0051 U
M + P Xylene		650	10	N	<0.011 U	<0.0098 U	<0.011 U	<0.012 U	<0.011 U	<0.011 U	<0.0099 U	<0.011 U	**0.00071 J**
Methylcyclohexane				N	<0.011 U	<0.0098 U	<0.011 U	<0.012 U	<0.011 U	<0.011 U	<0.0099 U	<0.011 U	<0.01 U
Methylene chloride		57	4.05	N	<0.0057 UJ	<0.0049 U	<0.0053 U	<0.006 U	**0.0019 J**	**0.0022 J**	<0.005 U	**0.0023 J**	**0.0011 J**
Toluene		4900	200	N	<0.0057 U	<0.0049 U	<0.0053 U	**0.00045 J**	<0.0056 U	<0.0053 U	<0.005 U	<0.0057 U	<0.0051 U
o-Xylene		650	10	N	<0.0057 U	<0.0049 U	<0.0053 U	<0.006 U	<0.0056 U	<0.0053 U	<0.005 U	<0.0057 U	<0.0051 U

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	DA2A-SL-017	DA2A-SL-018	DA2A-SL-019	DA2A-SL-020	DA2A-SL-021	DA2A-SL-022	DA2A-SL-023	DA2A-SL-024	DA2A-SL-025
				Sample ID	DA2ASL0025	DA2ASL0028	DA2ASL0031	DA2ASL0034	DA2ASL0037	DA2ASL0040	DA2ASL0043	DA2ASL0046	DA2ASL0049
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/12/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Metals													
Aluminum	15500	77000	50	N	**5900**	**5200**	**2900**	**6100**	**3600**	**6000**	**5500**	**7400**	**5400**
Antimony	9.3	31	0.27	N	**22 #**	<2 U	<1.7 U	<1.9 U	<2.3 U	**1.3 J**	**0.85 J**	<2 U	<1.9 U
Arsenic	36.5	0.68	18	N	**12**	**6.3**	**11**	**7**	**5.3**	**10**	**5.9**	**7.5**	**5.7**
Barium	826	15000	330	N	**84**	**33**	**27**	**33**	**34**	**63**	**44**	**52**	**36**
Beryllium	1	160	21	N	**0.63**	**0.32 J**	**0.4 J**	**0.39 J**	**0.24 J**	**0.44**	**0.33 J**	**0.4 J**	<0.47 U
Cadmium		71	0.36	N	**0.69 #**	**0.2 J**	**0.35 J**	**0.14 J**	**0.48 J#**	**0.82 #**	**1.1 #**	**0.11 J**	**0.19 J**
Calcium	52300			N	**40000**	**70000**	**90000**	**53000**	**53000**	**24000 J**	**21000**	**3200 J**	**25000 J**
Chromium	29	0.3	26	N	**37 *#**	**7.8**	**5**	**9.9**	**16**	**14**	**11**	**11**	**9.5**
Cobalt	116	23	13	N	**34**	**4.8**	**8.6**	**7.1**	**6.1**	**9**	**6.1**	**10**	**5.6**
Iron	234000	55000		N	**20000**	**11000**	**16000**	**14000**	**12000**	**19000**	**14000**	**18000**	**13000**
Lead	48.6	400	11	Y	**730 *#**	**8.9 J**	**12 J**	**11 J**	**940 *#**	**130 #**	**240 #**	**9.7 J**	**13 J**
Magnesium	10400			N	**7100 J**	**9300 J**	**9900 J**	**6800 J**	**6900 J**	**4400**	**4100 J**	**2300 J**	**5000 J**
Manganese	3510	1800	220	N	**640**	**250**	**600**	**250**	**260**	**580**	**320**	**380**	**260**
Mercury	0.085	9.4	0.0005	Y	**2.3 #**	**0.042 J**	**0.045 J**	**0.036 J**	**0.083 J**	**0.18 #**	**0.2 #**	**0.031 J**	**0.093 J#**
Nickel	55.1	1500	38	N	**42**	**13**	**29**	**23**	**17**	**22**	**19**	**22**	**15**
Potassium	3390			N	**970 J**	<500 U	**680 J**	**620 J**	<570 U	**710 J**	**790 J**	**520 J**	**790 J**
Selenium	2	390	0.52	N	**0.55 J**	<2 U	<1.7 U	<1.9 U	<2.3 U	**0.55 J**	**0.61 J**	<2 U	<1.9 U
Silver	11.1	390	4.2	N	<0.94 U	<1 U	<0.84 U	<0.94 U	<1.1 U	**0.08 J**	**0.27 J**	<0.99 U	<0.93 U
Sodium				N	<470 U	<500 U	<420 U	<470 U	<570 U	**53 J**	<490 U	<500 U	<470 U
Thallium	1.3	0.78	1	N	**0.37 J**	<2 U	**0.64 J**	<1.9 U	<2.3 U	**0.11 J**	<2 U	<2 U	<1.9 U
Vanadium	40.9	390	7.8	N	**13**	**14**	**10**	**17**	**10**	**17**	**13**	**17**	**16**
Zinc	322	23000	46	N	**1500 #**	**35 J**	**97**	**45 J**	**150**	**400 #**	**330 #**	**59**	**47 J**
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	<0.58 U	**0.033 J**	<0.55 U	<0.057 U	<0.14 U	<0.28 U	<0.12 U	<0.058 U	<0.23 U
2,4-Dinitrotoluene		1.7	1.28	N	<2.3 U	<0.89 U	<2.2 U	<0.23 U	<0.57 U	<1.1 U	<0.47 U	<0.23 U	<0.92 U
2,6-Dinitrotoluene		0.36	0.0328	N	<2.3 U	<0.89 U	<2.2 U	<0.23 U	<0.57 U	<1.1 U	<0.47 U	<0.23 U	<0.92 U
2-Methylnaphthalene		240	3.24	N	**0.13**	**0.31**	**0.086**	**0.049**	**0.057**	**0.071**	**0.014 J**	<0.0077 U	**0.023 J**
Acenaphthene		3600	20	N	**0.39**	<0.03 U	**0.28**	<0.0076 U	**0.059**	**0.093**	**0.012 J**	<0.0077 U	**0.051**
Acenaphthylene		1800	682	N	**0.58**	**0.057**	**0.51**	**0.29**	**0.31**	**0.41**	**0.12**	<0.0077 U	**0.64**
Acetophenone		7800	300	N	<1.2 U	<0.44 U	<1.1 U	<0.11 U	<0.28 U	<0.56 U	<0.24 U	<0.12 U	<0.46 U
Anthracene		18000	1480	N	**1.6**	**0.055**	**1.7**	**0.092**	**0.24**	**0.57**	**0.066**	<0.0077 U	**0.49**
Benz(a)anthracene		0.16	5.21	N	**4.2 ***	**0.25 ***	**6.1 *#**	**0.74 ***	**1.4 ***	**1.8 ***	**0.35 ***	<0.0077 U	**2.1 ***
Benzaldehyde		7800		N	<1.2 U	<0.44 U	<1.1 U	<0.11 U	<0.28 U	<0.56 U	**0.11 J#**	<0.12 U	<0.46 U
Benzo(a)pyrene		0.016	1.52	N	**4 *#**	**0.25 ***	**5.8 *#**	**1.1 ***	**1.7 *#**	**1.8 *#**	**0.48 ***	<0.0077 U	**2.1 *#**
Benzo(b)fluoranthene		0.16	59.8	N	**5.7 ***	**0.31 ***	**8.2 ***	**1.5 ***	**2.3 ***	**2.6 ***	**0.61 ***	<0.0077 U	**3.1 ***
Benzo(ghi)perylene		1800	119	Y	**1.2**	**0.096**	**1.9**	**0.46**	**0.52**	**0.55**	**0.28**	<0.0077 U	**0.64**
Benzo(k)fluoranthene		1.6	148	N	**2.8 ***	**0.18**	**4.2 ***	**0.74**	**1.3**	**1.2**	**0.3**	<0.0077 U	**1.8 ***
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.82 U	<0.31 U	<0.77 U	<0.079 U	**0.15 J**	<0.39 U	<0.17 U	<0.081 U	<0.32 U
Butyl benzyl phthalate		290	0.239	N	<0.82 U	<0.31 U	<0.77 U	<0.079 U	<0.2 U	<0.39 U	<0.17 U	<0.081 U	<0.32 U
Caprolactam		31000		N	<3.9 U	<1.5 U	<3.6 U	<0.37 U	<0.94 U	<1.8 U	<0.78 U	<0.38 U	<1.5 U
Carbazole				N	**0.6 *#**	<0.22 U	**0.74 *#**	<0.057 U	**0.1 J*#**	**0.17 J*#**	<0.12 U	<0.058 U	**0.15 J*#**
Chrysene		16	4.73	N	**4.3**	**0.32**	**5.8 #**	**0.74**	**1.5**	**1.6**	**0.42**	<0.0077 U	**2.1**
Di-n-butyl phthalate		6300	200	N	<0.82 U	<0.31 U	<0.77 U	<0.079 U	<0.2 U	<0.39 U	<0.17 U	<0.081 U	<0.32 U
Dibenz(a,h)anthracene		0.016	18.4	N	**0.47 ***	**0.058 ***	**0.73 ***	**0.15 ***	**0.19 ***	**0.22 ***	<0.016 U	<0.0077 U	**0.24 ***
Dibenzofuran		73		N	**0.44 J#**	**0.081 J#**	**0.32 J#**	**0.016 J#**	**0.054 J#**	**0.099 J#**	**0.017 J#**	<0.058 U	**0.065 J#**
Fluoranthene		2400	122	N	**11**	**0.41**	**13**	**1**	**2.4**	**3.8**	**0.6**	<0.0077 U	**4.7**
Fluorene		2400	30	N	**0.72**	<0.03 U	**0.83**	<0.0076 U	**0.079**	**0.23**	**0.019**	<0.0077 U	**0.19**
Indeno(1,2,3-cd)pyrene		0.16	109	N	**1.3 ***	**0.12**	**1.8 ***	**0.42 ***	**0.51 ***	**0.55 ***	**0.23 ***	<0.0077 U	**0.66 ***

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	DA2A-SL-017	DA2A-SL-018	DA2A-SL-019	DA2A-SL-020	DA2A-SL-021	DA2A-SL-022	DA2A-SL-023	DA2A-SL-024	DA2A-SL-025
				Sample ID	DA2ASL0025	DA2ASL0028	DA2ASL0031	DA2ASL0034	DA2ASL0037	DA2ASL0040	DA2ASL0043	DA2ASL0046	DA2ASL0049
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/12/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Naphthalene		3.8	0.0994	N	**0.2 #**	**0.22 #**	**0.088**	**0.056**	**0.22 #**	**0.068**	**0.031**	<0.0077 U	**0.023 J**
Pentachlorophenol		1	2.1	N	<1.8 U	<0.67 U	<1.6 U	<0.17 U	<0.43 U	<0.83 U	<0.36 U	<0.17 U	<0.69 U
Phenanthrene		1800	45.7	N	**6.3**	**0.26**	**6.9**	**0.22**	**0.76**	**2**	**0.16**	<0.0077 U	**2**
Phenol		19000	30	N	<0.58 U	<0.22 U	<0.55 U	<0.057 U	<0.14 U	<0.28 U	<0.12 U	<0.058 U	<0.23 U
Pyrene		1800	78.5	N	**7.5**	**0.33**	**8.9**	**0.86**	**1.9**	**2.7**	**0.48**	<0.0077 U	**3.5**
Pyrene		1800	78.5	N	**7.5**	**0.33**	**8.9**	**0.86**	**1.9**	**2.7**	**0.48**	<0.0077 U	**3.5**
Organics – Pesticides													
4,4'-DDE		2	0.021	Y	<0.098 U	<0.0094 U	<0.041 U	<0.02 U	**0.011 J**	<0.19 U	**0.012 J**	<0.002 U	<0.039 U
4,4'-DDT		1.9	0.021	Y	<0.098 U	<0.0094 U	<0.041 U	<0.02 U	<0.039 U	<0.19 U	<0.04 U	<0.002 U	<0.039 U
Dieldrin		0.034	0.0049	Y	<0.098 U	<0.0094 U	<0.041 U	<0.02 U	<0.039 U	<0.19 U	<0.04 U	<0.002 U	<0.039 U
Endosulfan I		470	0.119	N	<0.098 U	<0.0094 U	<0.041 U	<0.02 U	<0.039 U	<0.19 U	<0.04 U	<0.002 U	<0.039 U
Endosulfan sulfate		470	0.0358	N	<0.098 U	<0.0094 U	<0.041 U	<0.02 U	**0.025 J**	<0.19 U	**0.012 J**	<0.002 U	<0.039 U
Endrin aldehyde		19	0.0105	N	<0.098 U	<0.0094 U	<0.041 U	<0.02 U	<0.039 U	<0.19 U	<0.04 U	<0.002 U	<0.039 U
Methoxychlor		320	0.0199	Y	<0.19 U	<0.018 U	**0.016 J**	<0.038 U	**0.021 J#**	<0.37 U	<0.078 U	<0.0038 U	**0.02 J#**
alpha-Chlordane		1.7		Y	<0.098 U	<0.0094 U	<0.041 U	<0.02 U	<0.039 U	<0.19 U	<0.04 U	<0.002 U	<0.039 U
beta-BHC		0.3	0.004	Y	<0.098 U	<0.0094 U	**0.014 J#**	**0.0049 J#**	<0.039 U	<0.19 U	**0.038 J#**	<0.002 U	<0.039 U
gamma-Chlordane		1.7		Y	<0.098 U	<0.0094 U	<0.041 U	<0.02 U	<0.039 U	<0.19 U	<0.04 U	<0.002 U	<0.039 U
Organics – Herbicides													
Dalapon		1900		N	<0.14 U	<0.13 U	<0.13 U	<0.14 U	<0.14 UJ	<0.13 U	<0.14 U	<0.14 U	<0.13 U
Organics – PCBs													
PCB-1242		0.23	0.371	Y	**0.15 J**	<0.037 U	<0.08 U	<0.038 U	<0.38 U	<0.18 U	<0.2 U	<0.038 U	<0.038 U
PCB-1248		0.23	0.371	Y	<0.38 U	<0.037 U	<0.08 U	<0.038 U	<0.38 U	<0.18 U	<0.2 U	<0.038 U	<0.038 U
PCB-1254		0.24	0.371	Y	<0.38 U	<0.037 U	<0.08 U	<0.038 U	**2.2 *#**	<0.18 U	<0.2 U	<0.038 U	<0.038 U
PCB-1260		0.24	0.371	Y	**1.5 J*#**	**0.019 J**	<0.08 U	<0.038 U	<0.38 U	**0.33 ***	**0.69 *#**	<0.038 U	<0.038 U
PCB-1262			0.371	Y	<0.38 U	<0.037 U	<0.08 U	<0.038 U	<0.38 U	<0.18 U	<0.2 U	<0.038 U	<0.038 U
Organics – Volatile													
Acetone		61000	2.5	N	<0.022 U	<0.022 U	<0.021 U	<0.021 U	<0.022 U	<0.022 U	**0.0095 J**	<0.02 U	<0.022 U
Cyclohexane		6500		N	<0.011 U	<0.011 U	<0.01 U	<0.011 U	<0.011 U	**0.0012 J#**	<0.011 U	<0.0099 U	<0.011 U
Ethylbenzene		5.8	5.16	N	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0055 U	**0.00064 J**	<0.0057 U	<0.005 U	<0.0055 U
M + P Xylene		650	10	N	<0.011 U	<0.011 U	<0.01 U	<0.011 U	<0.011 U	**0.0037 J**	<0.011 U	<0.0099 U	<0.011 U
Methylcyclohexane				N	<0.011 U	<0.011 U	<0.01 U	<0.011 U	<0.011 U	**0.0015 J*#**	<0.011 U	<0.0099 U	<0.011 U
Methylene chloride		57	4.05	N	**0.00087 J**	**0.002 J**	**0.0027 J**	<0.0053 U	<0.0085 UJ	**0.0018 J**	<0.0057 U	<0.005 U	<0.0055 UJ
Toluene		4900	200	N	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0055 U	<0.0054 U	<0.0057 U	<0.005 U	<0.0055 U
o-Xylene		650	10	N	<0.0055 U	<0.0054 U	<0.0052 U	<0.0053 U	<0.0055 U	**0.0019 J**	<0.0057 U	<0.005 U	<0.0055 U

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	DA2A-SL-017	DA2A-SL-018	DA2A-SL-026	DA2A-SL-027	DA2A-SL-028	DA2A-SL-028	DA2A-SL-029	DA2A-SL-030	DA2A-SL-031	DA2A-SL-032	DA2A-SL-033
				Sample ID	DA2ASL0025	DA2ASL0028	DA2ASL0050	DA2ASL0051	DA2ASL9007	DA2ASL0052	DA2ASL0053	DA2ASL0054	DA2ASL0055	DA2ASL0056	DA2ASL0057
				Sample Type	GR	GR	GR	GR	FD	GR	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/10/15	08/10/15	08/12/15	08/12/15	08/12/15	08/12/15	08/12/15	08/12/15	08/12/15	08/12/15	08/11/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?											
Metals															
Aluminum	15500	77000	50	N	5900	5200	6300	4400	4600	5200	4200	7700	7700	7900	4700
Antimony	9.3	31	0.27	N	22 #	<2 U	0.66 J	<2 UJ	<2 U	<2 U	<1.9 U	<2.1 U	0.66 J	<1.9 U	<2.2 U
Arsenic	36.5	0.68	18	N	12	6.3	8.2	3.9	3.6	3.7	5.3	5.4	5.9	5.7	5.7
Barium	826	15000	330	N	84	33	44	22	21 J	22	35	62	48	63	36
Beryllium	1	160	21	N	0.63	0.32 J	0.4 J	0.25 J	0.23 J	0.24 J	0.33 J	0.47 J	0.43 J	0.59	0.33 J
Cadmium		71	0.36	N	0.69 #	0.2 J	0.34 J	0.36 J#	0.16 J	0.17 J	0.24 J	0.2 J	0.44 J#	0.29 J	0.39 J#
Calcium	52300			N	40000	70000	8200 J	2500 J	1900 J	6300 J	9100 J	8900 J	19000 J	4000 J	69000
Chromium	29	0.3	26	N	37 *#	7.8	9.8	6.8	5.6	6.2	7.4	12	12	12	7.5
Cobalt	116	23	13	N	34	4.8	8.9	3.7	2.9	3	8	8	8.1	12	5
Iron	234000	55000		N	20000	11000	14000	8200	7900	8100	12000	15000	16000	17000	11000
Lead	48.6	400	11	Y	730 *#	8.9 J	22	13 J	6 J	5.7 J	26	170 #	21	23	14 J
Magnesium	10400			N	7100 J	9300 J	2800 J	1000 J	880 J	1600 J	2400 J	2100 J	5000 J	2800 J	12000
Manganese	3510	1800	220	N	640	250	320	170 J	120	130	300	310	260	280	270
Mercury	0.085	9.4	0.0005	Y	2.3 #	0.042 J	0.11 #	0.034 J	0.035 J	0.037 J	0.043 J	0.05 J	0.073 J	0.063 J	0.07 J
Nickel	55.1	1500	38	N	42	13	19	9.1	7.4	7.8	20	19	20	29	15
Potassium	3390			N	970 J	<500 U	890 J	610 J	<500 U	520 J	690 J	990 J	1600 J	1500 J	820 J
Selenium	2	390	0.52	N	0.55 J	<2 U	0.49 J	<2 U	<2 U	<2 U	0.39 J	<2.1 U	<1.9 U	0.38 J	<2.2 U
Silver	11.1	390	4.2	N	<0.94 U	<1 U	<1.2 U	<1 U	<0.99 U	<0.98 U	<0.94 U	<1.1 U	<0.96 U	<0.96 U	<1.1 U
Sodium				N	<470 U	<500 U	<580 U	<500 U	<500 U	<490 U	<470 U	<530 U	<480 U	<480 U	<540 U
Thallium	1.3	0.78	1	N	0.37 J	<2 U	0.2 J	<2 U	<2 U	<2 U	0.12 J	0.14 J	<1.9 U	<1.9 U	<2.2 U
Vanadium	40.9	390	7.8	N	13	14	19	11	11	12	10	16	17	18	13
Zinc	322	23000	46	N	1500 #	35 J	65	44 J	22 J	24 J	58	62	370 #	120	54
Organics – Semivolatile															
1,1'-Biphenyl		47	60	N	<0.58 U	0.033 J	<0.061 U	<0.055 U	<0.055 U	<0.054 U	<0.059 U	<0.056 U	<0.063 U	<0.061 U	<0.061 U
2,4-Dinitrotoluene		1.7	1.28	N	<2.3 U	<0.89 U	<0.24 U	<0.22 U	<0.22 U	<0.22 U	<0.24 U	<0.23 U	<0.25 U	<0.25 U	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<2.3 U	<0.89 U	<0.24 U	<0.22 U	<0.22 U	<0.22 U	<0.24 U	<0.23 U	<0.25 U	<0.25 U	<0.24 U
2-Methylnaphthalene		240	3.24	N	0.13	0.31	0.077	<0.0073 U	<0.0074 U	<0.0073 U	<0.0079 U	<0.0075 U	0.0056 J	<0.0082 U	0.054
Acenaphthene		3600	20	N	0.39	<0.03 U	0.0091	<0.0073 U	<0.0074 U	<0.0073 U	<0.0079 U	<0.0075 U	<0.0084 U	<0.0082 U	<0.0081 U
Acenaphthylene		1800	682	N	0.58	0.057	0.1	0.014	0.011	0.01	0.0096	<0.0075 U	0.017	<0.0082 U	0.083
Acetophenone		7800	300	N	<1.2 U	<0.44 U	<0.12 U	<0.11 U	<0.11 U	<0.11 U	0.012 J	<0.11 U	<0.13 U	<0.12 U	<0.12 U
Anthracene		18000	1480	N	1.6	0.055	0.074	0.0081	0.0064 J	0.0046 J	0.0075 J	<0.0075 U	0.023	<0.0082 U	0.043
Benz(a)anthracene		0.16	5.21	N	4.2 *	0.25 *	0.52 *	0.06	0.041	0.04	0.046	0.02	0.098	0.011	0.25 *
Benzaldehyde		7800		N	<1.2 U	<0.44 U	<0.12 U	0.013 J#	<0.11 U	<0.11 U	0.047 J#	<0.11 U	0.03 J#	<0.12 U	0.055 J#
Benzo(a)pyrene		0.016	1.52	N	4 *#	0.25 *	0.58 *	0.074 *	0.043 *	0.043 *	0.05 *	0.021 *	0.11 *	0.014	0.31 *
Benzo(b)fluoranthene		0.16	59.8	N	5.7 *	0.31 *	0.86 *	0.11	0.063	0.076	0.079	0.036	0.17 *	0.026	0.46 *
Benzo(ghi)perylene		1800	119	Y	1.2	0.096	0.19	0.023	0.019	0.013	0.019	0.0076	0.03	<0.0082 U	0.14
Benzo(k)fluoranthene		1.6	148	N	2.8 *	0.18	0.43	0.056	0.032	0.035	0.04	0.019	0.09	0.01	0.19
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.82 U	<0.31 U	<0.086 U	<0.077 U	0.021 J	<0.076 U	0.024 J	<0.079 U	0.07 J	<0.086 U	<0.085 U
Butyl benzyl phthalate		290	0.239	N	<0.82 U	<0.31 U	<0.086 U	<0.077 U	<0.078 U	<0.076 U	<0.083 U	<0.079 U	<0.088 U	<0.086 U	<0.085 U
Caprolactam		31000		N	<3.9 U	<1.5 U	<0.4 U	<0.36 U	<0.37 U	<0.36 U	<0.39 U	<0.37 U	<0.42 U	<0.41 U	<0.4 U
Carbazole				N	0.6 *#	<0.22 U	<0.061 U	<0.055 U	<0.055 U	<0.054 U	<0.059 U	<0.056 U	<0.063 U	<0.061 U	<0.061 U
Chrysene		16	4.73	N	4.3	0.32	0.55	0.068	0.044	0.043	0.05	0.023	0.11	0.016	0.32
Di-n-butyl phthalate		6300	200	N	<0.82 U	<0.31 U	<0.086 U	<0.077 U	<0.078 U	<0.076 U	<0.083 U	<0.079 U	<0.088 U	<0.086 U	<0.085 U
Dibenz(a,h)anthracene		0.016	18.4	N	0.47 *	0.058 *	0.064 *	<0.0073 U	0.015	<0.0073 U	<0.0079 U	<0.0075 U	<0.0084 U	<0.0082 U	<0.0081 U
Dibenzofuran		73		N	0.44 J#	0.081 J#	0.014 J#	<0.055 U	<0.055 U	<0.054 U	0.011 J#	<0.056 U	0.02 J#	<0.061 U	0.02 J#
Fluoranthene		2400	122	N	11	0.41	0.96	0.11	0.061	0.063	0.083	0.039	0.21	0.019	0.52
Fluorene		2400	30	N	0.72	<0.03 U	0.016	<0.0073 U	<0.0074 U	<0.0073 U	<0.0079 U	<0.0075 U	0.0093	<0.0082 U	0.018
Indeno(1,2,3-cd)pyrene		0.16	109	N	1.3 *	0.12	0.18 *	0.026	0.026	0.021	0.023	0.015	0.036	<0.0082 U	0.14

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	**DA2A-SL-017**	**DA2A-SL-018**	**DA2A-SL-026**	**DA2A-SL-027**	**DA2A-SL-028**	**DA2A-SL-028**	**DA2A-SL-029**	**DA2A-SL-030**	**DA2A-SL-031**	**DA2A-SL-032**	**DA2A-SL-033**
				Sample ID	**DA2ASL0025**	**DA2ASL0028**	**DA2ASL0050**	**DA2ASL0051**	**DA2ASL9007**	**DA2ASL0052**	**DA2ASL0053**	**DA2ASL0054**	**DA2ASL0055**	**DA2ASL0056**	**DA2ASL0057**
				Sample Type	**GR**	**GR**	**GR**	**GR**	**FD**	**GR**	**GR**	**GR**	**GR**	**GR**	**GR**
				Depth (ft)	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**
				Date	**08/10/15**	**08/10/15**	**08/12/15**	**08/12/15**	**08/12/15**	**08/12/15**	**08/12/15**	**08/12/15**	**08/12/15**	**08/12/15**	**08/11/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**											
Naphthalene		3.8	0.0994	N	**0.2 #**	**0.22 #**	**0.039**	<0.0073 U	<0.0074 U	<0.0073 U	**0.012**	<0.0075 U	**0.0065 J**	<0.0082 U	**0.039**
Pentachlorophenol		1	2.1	N	<1.8 U	<0.67 U	<0.18 U	<0.17 U	<0.17 U	<0.16 U	<0.18 U	<0.17 U	<0.19 U	<0.18 U	<0.18 U
Phenanthrene		1800	45.7	N	**6.3**	**0.26**	**0.27**	**0.033**	**0.014**	**0.013**	**0.029**	**0.018**	**0.097**	**0.0065 J**	**0.19**
Phenol		19000	30	N	<0.58 U	<0.22 U	<0.061 U	**0.091**	<0.055 U	<0.054 U	<0.059 U	<0.056 U	<0.063 U	**0.0094 J**	<0.061 U
Pyrene		1800	78.5	N	**7.5**	**0.33**	**0.79**	**0.092**	**0.054**	**0.058**	**0.069**	**0.033**	**0.17**	**0.017**	**0.41**
Pyrene		1800	78.5	N	**7.5**	**0.33**	**0.79**	**0.092**	**0.054**	**0.058**	**0.069**	**0.033**	**0.17**	**0.017**	**0.41**
Organics – Pesticides															
4,4'-DDE		2	0.021	Y	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	**0.018**	<0.019 U	**0.0041 J**	<0.01 U	<0.021 U
4,4'-DDT		1.9	0.021	Y	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	**0.0088 J**	<0.019 U	<0.021 U	<0.01 U	<0.021 U
Dieldrin		0.034	0.0049	Y	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	<0.01 U	<0.019 U	<0.021 U	<0.01 U	<0.021 U
Endosulfan I		470	0.119	N	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	<0.01 U	<0.019 U	<0.021 U	<0.01 U	<0.021 U
Endosulfan sulfate		470	0.0358	N	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	<0.01 U	<0.019 U	<0.021 U	<0.01 U	<0.021 U
Endrin aldehyde		19	0.0105	N	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	**0.0038 J**	**0.0049 J**	<0.021 U	<0.01 U	<0.021 U
Methoxychlor		320	0.0199	Y	<0.19 U	<0.018 U	**0.013 J**	<0.019 U	<0.018 U	<0.18 U	<0.019 U	<0.037 U	<0.041 U	<0.02 U	<0.041 U
alpha-Chlordane		1.7		Y	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	<0.01 U	<0.019 U	<0.021 U	<0.01 U	<0.021 U
beta-BHC		0.3	0.004	Y	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	<0.01 U	<0.019 U	<0.021 U	<0.01 U	<0.021 U
gamma-Chlordane		1.7		Y	<0.098 U	<0.0094 U	<0.042 U	<0.0095 U	<0.0094 U	<0.092 U	<0.01 U	<0.019 U	<0.021 U	<0.01 U	<0.021 U
Organics – Herbicides															
Dalapon		1900		N	<0.14 U	<0.13 U	<0.15 U	<0.13 UJ	<0.13 U	<0.13 U	<0.14 U	<0.13 U	<0.15 U	<0.15 UJ	<0.14 U
Organics – PCBs															
PCB-1242		0.23	0.371	Y	**0.15 J**	<0.037 U	<0.041 U	<0.037 U	<0.037 U	<0.036 U	<0.039 U	<0.037 U	<0.041 U	<0.041 U	<0.041 U
PCB-1248		0.23	0.371	Y	<0.38 U	<0.037 U	<0.041 U	<0.037 U	<0.037 U	<0.036 U	<0.039 U	<0.037 U	**0.14**	<0.041 U	<0.041 U
PCB-1254		0.24	0.371	Y	<0.38 U	<0.037 U	<0.041 U	<0.037 U	<0.037 U	<0.036 U	<0.039 U	<0.037 U	<0.041 U	<0.041 U	<0.041 U
PCB-1260		0.24	0.371	Y	**1.5 J*#**	**0.019 J**	**0.04 J**	<0.037 U	<0.037 U	<0.036 U	**0.28 ***	**0.58 *#**	**0.04 J**	**0.022 J**	**0.043**
PCB-1262			0.371	Y	<0.38 U	<0.037 U	<0.041 U	<0.037 U	<0.037 U	<0.036 U	<0.039 U	<0.037 U	<0.041 U	<0.041 U	<0.041 U
Organics – Volatile															
Acetone		61000	2.5	N	<0.022 U	<0.022 U	<0.024 U	<0.021 U	<0.02 U	<0.021 U	<0.023 U	<0.022 U	<0.025 U	<0.025 U	<0.023 U
Cyclohexane		6500		N	<0.011 U	<0.011 U	<0.012 U	<0.01 U	<0.0098 U	<0.01 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	<0.012 U
Ethylbenzene		5.8	5.16	N	<0.0055 U	<0.0054 U	<0.0059 U	<0.0052 U	<0.0049 U	<0.0052 U	<0.0058 U	<0.0055 U	<0.0061 U	<0.0061 U	<0.0059 U
M + P Xylene		650	10	N	<0.011 U	<0.011 U	<0.012 U	<0.01 U	<0.0098 U	<0.01 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	<0.012 U
Methylcyclohexane				N	<0.011 U	<0.011 U	<0.012 U	<0.01 U	<0.0098 U	<0.01 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	<0.012 U
Methylene chloride		57	4.05	N	**0.00087 J**	**0.002 J**	<0.0059 UJ	<0.0052 UJ	<0.0049 U	<0.0052 UJ	<0.0058 UJ	<0.0055 UJ	<0.0061 UJ	<0.0061 UJ	<0.0059 U
Toluene		4900	200	N	<0.0055 U	<0.0054 U	<0.0059 U	<0.0052 U	<0.0049 U	<0.0052 U	<0.0058 U	<0.0055 U	<0.0061 U	<0.0061 U	<0.0059 U
o-Xylene		650	10	N	<0.0055 U	<0.0054 U	<0.0059 U	<0.0052 U	<0.0049 U	<0.0052 U	<0.0058 U	<0.0055 U	<0.0061 U	<0.0061 U	<0.0059 U

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	DA2A-SL-034	DA2A-SL-035	DA2A-SL-036	DA2A-SL-036	DA2A-SL-037	DA2A-SL-038	DA2A-SL-039	DA2A-SL-040
				Sample ID	DA2ASL0060	DA2ASL0063	DA2ASL9006	DA2ASL0066	DA2ASL0069	DA2ASL0072	DA2ASL0075	DA2ASL0078
				Sample Type	GR	GR	FD	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**								
Metals												
Aluminum	15500	77000	50	N	**4500**	**3900**	**7600**	**4900**	**4600**	**4600**	**5500**	**10000**
Antimony	9.3	31	0.27	N	<1.9 U	<2.1 U	<2.1 U	<2.4 U	<2.1 U	<1.7 U	<1.9 U	**5.9 J**
Arsenic	36.5	0.68	18	N	**6.9**	**5.8**	**6.8**	**4.7**	**5.8**	**8.3**	**8.1**	**18**
Barium	826	15000	330	N	**45**	**38**	**56**	**35**	**33**	**51**	**55**	**200**
Beryllium	1	160	21	N	**0.32 J**	**0.28 J**	**0.52 J**	**0.27 J**	**0.32 J**	**0.4 J**	**0.39 J**	**0.34 J**
Cadmium		71	0.36	N	**0.63 #**	**0.63 #**	**0.27 J**	**0.39 J#**	**0.24 J**	**0.36 J#**	**2.1 J#**	**6 J#**
Calcium	52300			N	**20000 J**	**30000 J**	**23000 J**	**13000 J**	**83000**	**33000 J**	**62000**	**42000**
Chromium	29	0.3	26	N	**14**	**8.2**	**12 J**	**12**	**8.7**	**12**	**15**	**420 *#**
Cobalt	116	23	13	N	**5.4**	**4.9**	**9.8**	**3.9**	**4.2**	**6.7**	**6.7**	**16**
Iron	234000	55000		N	**12000**	**10000**	**18000**	**11000**	**12000**	**16000**	**15000**	**120000**
Lead	48.6	400	11	Y	**53 #**	**34**	**15 J**	**27**	**22**	**48 J**	**77 J#**	**360 J#**
Magnesium	10400			N	**3400 J**	**4700 J**	**4400 J**	**3500 J**	**10000**	**5300 J**	**10000**	**4300 J**
Manganese	3510	1800	220	N	**210**	**280**	**450**	**260**	**380**	**540**	**330**	**790**
Mercury	0.085	9.4	0.0005	Y	**0.52 #**	**0.15 #**	**0.051 J**	**0.072 J**	**0.055 J**	**1 #**	**0.17 #**	**0.83 #**
Nickel	55.1	1500	38	N	**20**	**15**	**27 J**	**12**	**15**	**20 J**	**22 J**	**340 J#**
Potassium	3390			N	**680 J**	**750 J**	**1200 J**	<590 U	**660 J**	**700 J**	**890 J**	**700 J**
Selenium	2	390	0.52	N	**0.5 J**	**0.43 J**	**0.75 J**	<2.4 U	**0.49 J**	**0.47 J**	**0.36 J**	**0.88 J**
Silver	11.1	390	4.2	N	**1.3**	**0.28 J**	<1.1 U	**1.1 J**	<1.1 U	**0.34 J**	**1.8**	**40 #**
Sodium				N	<470 U	<540 U	<530 U	<590 U	<530 U	<440 U	<470 U	<540 U
Thallium	1.3	0.78	1	N	**0.28 J**	<2.1 U	**0.2 J**	<2.4 U	**0.3 J**	**0.36 J**	**0.14 J**	**0.77 J**
Vanadium	40.9	390	7.8	N	**13**	**11**	**16**	**15**	**12**	**12**	**14**	**17**
Zinc	322	23000	46	N	**130**	**120**	**79**	**65**	**47 J**	**66**	**830 #**	**810 #**
Organics – Semivolatile												
1,1'-Biphenyl		47	60	N	<0.056 U	<0.065 U	<0.062 U	<0.066 U	<0.11 U	<0.056 U	<0.062 U	**0.0083 J**
2,4-Dinitrotoluene		1.7	1.28	N	<0.22 U	<0.26 U	<0.25 U	<0.27 U	<0.44 U	**0.26**	<0.25 U	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.22 U	<0.26 U	<0.25 U	<0.27 U	<0.44 U	**0.057 J#**	<0.25 U	<0.24 U
2-Methylnaphthalene		240	3.24	N	**0.018**	**0.029**	**0.006 J**	**0.0076 J**	**0.033**	**0.2**	**0.042**	**0.04**
Acenaphthene		3600	20	N	<0.0074 U	<0.0087 U	<0.0083 U	<0.0089 U	**0.027**	<0.0075 U	**0.016**	<0.0081 U
Acenaphthylene		1800	682	N	**0.066**	**0.04**	**0.0056 J**	**0.065**	**0.27**	**0.028**	**0.053**	**0.017**
Acetophenone		7800	300	N	<0.11 U	<0.13 U	<0.12 U	<0.13 U	<0.22 U	<0.11 U	<0.12 U	<0.12 U
Anthracene		18000	1480	N	**0.075**	**0.018**	**0.0021 J**	**0.069**	**0.16**	**0.02**	**0.056**	**0.021**
Benz(a)anthracene		0.16	5.21	N	**0.37 ***	**0.13**	**0.019**	**0.46 ***	**0.86 ***	**0.12**	**0.22 ***	**0.11**
Benzaldehyde		7800		N	**0.018 J#**	**0.058 J#**	<0.12 U	<0.13 U	<0.22 U	<0.11 U	<0.12 U	**0.024 J#**
Benzo(a)pyrene		0.016	1.52	N	**0.39 ***	**0.16 ***	**0.026 ***	**0.53 ***	**0.93 ***	**0.14 ***	**0.24 ***	**0.12 ***
Benzo(b)fluoranthene		0.16	59.8	N	**0.6 ***	**0.27 ***	**0.042**	**0.75 ***	**1.5 ***	**0.21 ***	**0.39 ***	**0.22 ***
Benzo(ghi)perylene		1800	119	Y	**0.18**	**0.073**	**0.014**	**0.26**	**0.29**	**0.049**	**0.072**	**0.037**
Benzo(k)fluoranthene		1.6	148	N	**0.27**	**0.11**	**0.018**	**0.32**	**0.71**	**0.13**	**0.23**	**0.12**
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.078 U	<0.091 U	<0.087 U	<0.093 U	<0.15 U	<0.078 U	<0.087 U	**0.067 J**
Butyl benzyl phthalate		290	0.239	N	<0.078 U	<0.091 U	<0.087 U	<0.093 U	<0.15 U	<0.078 U	<0.087 U	<0.085 U
Caprolactam		31000		N	<0.37 U	<0.43 U	<0.41 U	<0.44 U	<0.72 U	<0.37 U	<0.41 U	<0.4 U
Carbazole				N	<0.056 U	<0.065 U	<0.062 U	**0.037 J*#**	**0.068 J*#**	<0.056 U	**0.053 J*#**	<0.06 U
Chrysene		16	4.73	N	**0.41**	**0.17**	**0.035**	**0.51**	**0.83**	**0.14**	**0.25**	**0.13**
Di-n-butyl phthalate		6300	200	N	<0.078 U	<0.091 U	<0.087 U	<0.093 U	<0.15 U	<0.078 U	**0.019 J**	**0.027 J**
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0074 U	<0.0087 U	<0.0083 U	**0.082 ***	**0.079 ***	**0.023 ***	**0.034 ***	**0.021 ***
Dibenzofuran		73		N	**0.014 J#**	<0.065 U	<0.062 U	**0.013 J#**	**0.031 J#**	**0.011 J#**	**0.023 J#**	**0.012 J#**
Fluoranthene		2400	122	N	**0.65**	**0.24**	**0.042**	**1**	**1.7**	**0.22**	**0.45**	**0.19**
Fluorene		2400	30	N	**0.028**	<0.0087 U	<0.0083 U	**0.023**	**0.074**	**0.0067 J**	**0.026**	**0.0066 J**
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.19 ***	**0.072**	**0.018**	**0.24 ***	**0.26 ***	**0.054**	**0.079**	**0.043**

Table 4-5. Analytical Detections: Disposal Area 2A Surface Soil Samples (Continued)

				Station	**DA2A-SL-034**	**DA2A-SL-035**	**DA2A-SL-036**	**DA2A-SL-036**	**DA2A-SL-037**	**DA2A-SL-038**	**DA2A-SL-039**	**DA2A-SL-040**
				Sample ID	**DA2ASL0060**	**DA2ASL0063**	**DA2ASL9006**	**DA2ASL0066**	**DA2ASL0069**	**DA2ASL0072**	**DA2ASL0075**	**DA2ASL0078**
				Sample Type	**GR**	**GR**	**FD**	**GR**	**GR**	**GR**	**GR**	**GR**
				Depth (ft)	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**
				Date	**08/11/15**	**08/11/15**	**08/11/15**	**08/11/15**	**08/11/15**	**08/11/15**	**08/11/15**	**08/11/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**								
Naphthalene		3.8	0.0994	N	**0.013**	**0.01**	<0.0083 U	**0.011**	**0.04**	**0.087**	**0.027**	**0.025**
Pentachlorophenol		1	2.1	N	<0.17 U	<0.19 U	<0.19 U	<0.2 U	<0.33 U	<0.17 U	**0.016 J**	<0.18 U
Phenanthrene		1800	45.7	N	**0.23**	**0.064**	**0.022**	**0.34**	**0.57**	**0.11**	**0.26**	**0.086**
Phenol		19000	30	N	<0.056 U	<0.065 U	<0.062 U	<0.066 U	<0.11 U	<0.056 U	<0.062 U	<0.06 U
Pyrene		1800	78.5	N	**0.56**	**0.22**	**0.033**	**0.73**	**1.9**	**0.17**	**0.32**	**0.15**
Pyrene		1800	78.5	N	**0.56**	**0.22**	**0.033**	**0.73**	**1.9**	**0.17**	**0.32**	**0.15**
Organics – Pesticides												
4,4'-DDE		2	0.021	Y	<0.038 U	<0.044 U	**0.001 J**	<0.011 U	**0.0035 J**	<0.038 U	<0.042 U	**0.0075 J**
4,4'-DDT		1.9	0.021	Y	<0.038 U	<0.044 U	**0.00079 J**	<0.011 U	<0.018 U	<0.038 U	<0.042 U	<0.041 U
Dieldrin		0.034	0.0049	Y	**0.016 J#**	<0.044 U	<0.0021 U	<0.011 U	<0.018 U	<0.038 U	**0.026 J#**	<0.041 U
Endosulfan I		470	0.119	N	<0.038 U	<0.044 U	<0.0021 U	<0.011 U	<0.018 U	<0.038 U	<0.042 U	<0.041 U
Endosulfan sulfate		470	0.0358	N	<0.038 U	<0.044 U	<0.0021 U	<0.011 U	<0.018 U	<0.038 U	<0.042 U	**0.01 J**
Endrin aldehyde		19	0.0105	N	<0.038 U	<0.044 U	<0.0021 U	<0.011 U	<0.018 U	<0.038 U	<0.042 U	<0.041 U
Methoxychlor		320	0.0199	Y	<0.073 U	<0.085 U	<0.0041 U	<0.022 U	<0.035 U	<0.074 U	<0.081 U	<0.079 U
alpha-Chlordane		1.7		Y	**0.052 #**	<0.044 U	<0.0021 U	<0.011 U	<0.018 U	<0.038 U	<0.042 U	<0.041 U
beta-BHC		0.3	0.004	Y	**0.014 J#**	**0.014 J#**	<0.0021 U	<0.011 U	**0.015 J#**	**0.0086 J#**	<0.042 U	<0.041 U
gamma-Chlordane		1.7		Y	**0.037 J#**	<0.044 U	<0.0021 U	<0.011 U	<0.018 U	<0.038 U	<0.042 U	<0.041 U
Organics – Herbicides												
Dalapon		1900		N	<0.13 U	<0.15 U	<0.14 U	<0.16 U	<0.13 U	<0.13 U	<0.15 U	<0.14 U
Organics – PCBs												
PCB-1242		0.23	0.371	Y	<0.18 U	<0.043 U	<0.041 U	<0.044 U	<0.071 U	<0.037 U	<0.041 U	<0.2 U
PCB-1248		0.23	0.371	Y	<0.18 U	<0.043 U	<0.041 U	<0.044 U	<0.071 U	<0.037 U	<0.041 U	<0.2 U
PCB-1254		0.24	0.371	Y	**0.19**	<0.043 U	<0.041 U	**0.089**	**0.34 ***	<0.037 U	<0.041 U	**0.72 *#**
PCB-1260		0.24	0.371	Y	<0.18 U	<0.043 U	<0.041 U	<0.044 U	<0.071 U	**0.066**	**0.051**	<0.2 U
PCB-1262			0.371	Y	<0.18 U	**0.6 *#**	<0.041 U	<0.044 U	<0.071 U	<0.037 U	<0.041 U	<0.2 U
Organics – Volatile												
Acetone		61000	2.5	N	<0.02 U	<0.024 U	<0.022 U	<0.026 UJ	<0.021 U	<0.02 U	<0.023 U	<0.024 U
Cyclohexane		6500		N	<0.01 U	<0.012 U	<0.011 U	<0.013 U	<0.01 U	**0.0014 J#**	<0.012 U	<0.012 U
Ethylbenzene		5.8	5.16	N	<0.0051 U	<0.0061 U	<0.0056 U	<0.0065 U	<0.0051 U	<0.0051 U	<0.0058 U	<0.0059 U
M + P Xylene		650	10	N	<0.01 U	<0.012 U	<0.011 U	<0.013 U	<0.01 U	**0.0015 J**	<0.012 U	<0.012 U
Methylcyclohexane				N	<0.01 U	<0.012 U	<0.011 U	<0.013 U	<0.01 U	**0.002 J*#**	<0.012 U	<0.012 U
Methylene chloride		57	4.05	N	<0.0051 UJ	<0.0061 U	<0.0056 U	<0.0065 UJ	<0.0051 UJ	<0.0051 U	<0.0058 U	<0.0059 U
Toluene		4900	200	N	<0.0051 U	<0.0061 U	<0.0056 U	<0.0065 U	<0.0051 U	<0.0051 U	<0.0058 U	<0.0059 U
o-Xylene		650	10	N	<0.0051 U	<0.0061 U	<0.0056 U	<0.0065 U	<0.0051 U	**0.00066 J**	<0.0058 U	<0.0059 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.

Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples

				Station	DA2A-SL-013	DA2A-SL-013	DA2A-SL-014	DA2A-SL-014	DA2A-SL-015	DA2A-SL-015	DA2A-SL-016	DA2A-SL-016	DA2A-SL-016
				Sample ID	DA2ASL0014	DA2ASL0015	DA2ASL0017	DA2ASL0018	DA2ASL0020	DA2ASL0021	DA2ASL9002	DA2ASL0023	DA2ASL0024
				Sample Type	GR	GR	GR	GR	GR	GR	FD	GR	GR
				Depth (ft)	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	2.0 - 6.0	6.0 - 10.0
				Date	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Metals													
Aluminum	15500	77000	50	N	**7300**	**7600**	**5900**	**5600**	**5400**	**7800**	**9000**	**8900**	**8400**
Antimony	9.3	31	0.27	N	<1.9 U	<2 U	<2.1 U	<2.4 U	<1.9 UJ	<2.1 U	<1.8 U	<2 U	<2 U
Arsenic	36.5	0.68	18	N	**5.2**	**10**	**5.4**	**3.3**	**4.3**	**3.3**	**9.3**	**10**	**8.1**
Barium	826	15000	330	N	**51**	**59**	**53**	**42**	**50**	**60**	**64**	**68**	**57**
Beryllium	1	160	21	N	**0.46 J**	**0.51**	**0.44 J**	**0.35 J**	**0.39 J**	**0.49 J**	**0.5**	**0.5 J**	**0.47 J**
Cadmium		71	0.36	N	**0.14 J**	**0.18 J**	**0.19 J**	**0.15 J**	**0.11 J**	**0.066 J**	**0.21 J**	**0.29 J**	**0.14 J**
Calcium	52300			N	**2200 J**	**2200 J**	**2200 J**	**6700 J**	**2200 J**	**16000 J**	**9200 J**	**25000 J**	**39000**
Chromium	29	0.3	26	N	**11**	**12**	**9.3**	**9.1**	**8.6 J**	**12**	**14**	**13**	**14**
Cobalt	116	23	13	N	**8.4**	**12**	**9.7**	**8.1**	**7.8**	**7.4**	**9.1**	**9.3**	**9.1**
Iron	234000	55000		N	**15000**	**21000**	**16000**	**11000**	**13000 J**	**14000**	**20000**	**20000**	**18000**
Lead	48.6	400	11	Y	**8.9 J**	**10 J**	**9.5 J**	**9.4 J**	**7.8 J**	**8.2 J**	**100 #**	**62 #**	**10 J**
Magnesium	10400			N	**2000 J**	**2800 J**	**2000 J**	**2600 J**	**1800 J**	**5000 J**	**3600 J**	**4600 J**	**13000**
Manganese	3510	1800	220	N	**260**	**410**	**240**	**230**	**270 J**	**150**	**320**	**480**	**310**
Mercury	0.085	9.4	0.00051	Y	**0.042 J**	**0.031 J**	**0.037 J**	**0.025 J**	**0.032 J**	**0.021 J**	**10 *#**	**12 *#**	**0.029 J**
Nickel	55.1	1500	38	N	**21**	**30**	**24**	**19**	**19**	**23**	**29**	**31**	**25**
Potassium	3390			N	**720 J**	**1000 J**	**550 J**	**770 J**	**510 J**	**1500 J**	**880 J**	**860 J**	**1100 J**
Selenium	2	390	0.52	N	<1.9 U	**0.7 J**	<2.1 U	<2.4 U	<1.9 U	<2.1 U	<1.8 U	<2 U	<2 U
Silver	11.1	390	4.2	N	<0.97 U	<1 U	<1.1 U	<1.2 U	<0.94 U	<1 U	<0.92 U	<1 U	<1 U
Sodium				N	<490 U	<500 U	<530 U	<590 U	<470 U	<520 U	<460 U	<510 U	<510 U
Thallium	1.3	0.78	1	N	<1.9 U	<2 U	<2.1 U	<2.4 U	<1.9 U	<2.1 U	**0.15 J**	<2 U	<2 U
Vanadium	40.9	390	7.8	N	**16**	**20**	**14**	**13**	**12 J**	**15**	**23**	**22**	**19**
Zinc	322	23000	46	N	**56**	**67**	**60**	<47 U	**49 J**	**45 J**	**71**	**69**	**58**
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	<0.06 U	<0.06 U	<0.058 U	<0.058 U	<0.058 UJ	<0.06 U	<0.59 U	<0.06 U	<0.062 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.24 U	<0.23 U	<0.23 U	<0.23 U	<0.24 U	<2.4 U	<0.24 U	<0.25 U
2-Methylnaphthalene		240	3.24	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	<0.078 U	**0.04**	<0.0083 U
Acenaphthene		3600	20	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	<0.078 U	**0.008 J**	<0.0083 U
Acenaphthylene		1800	682	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	<0.078 U	**0.12**	<0.0083 U
Acetophenone		7800	300	N	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 UJ	<0.12 U	<1.2 U	<0.12 U	<0.12 U
Anthracene		18000	1480	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	<0.078 U	**0.079**	<0.0083 U
Benz(a)anthracene		0.16	5.21	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	**0.12**	**0.41 ***	<0.0083 U
Benzaldehyde		7800		N	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<1.2 U	**0.014 J#**	<0.12 U
Benzo(a)pyrene		0.016	1.52	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	**0.15 ***	**0.43 ***	<0.0083 U
Benzo(b)fluoranthene		0.16	59.8	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	**0.22 ***	**0.61 ***	<0.0083 U
Benzo(ghi)perylene		1800	119	Y	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	<0.078 U	**0.26**	<0.0083 U
Benzo(k)fluoranthene		1.6	148	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	**0.11**	**0.22**	<0.0083 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.084 U	<0.084 U	<0.081 U	<0.081 U	<0.081 UJ	<0.084 U	<0.82 U	<0.084 U	<0.087 U
Butyl benzyl phthalate		290	0.239	N	<0.084 U	<0.084 U	<0.081 U	<0.081 U	<0.081 UJ	<0.084 U	<0.82 U	<0.084 U	<0.087 U
Carbazole				N	<0.06 U	<0.06 U	<0.058 U	<0.058 U	<0.058 U	<0.06 U	<0.59 U	<0.06 U	<0.062 U
Chrysene		16	4.73	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	**0.13**	**0.44**	<0.0083 U
Di-n-butyl phthalate		6300	200	N	<0.084 U	<0.084 U	<0.081 U	<0.081 U	<0.081 UJ	<0.084 U	<0.82 U	<0.084 U	<0.087 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	<0.078 U	**0.069 ***	<0.0083 U
Dibenzofuran		73		N	<0.06 U	<0.06 U	<0.058 U	<0.058 U	<0.058 U	<0.06 U	<0.59 U	**0.0093 J#**	<0.062 U
Fluoranthene		2400	122	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	**0.2**	**0.78**	<0.0083 U
Fluorene		2400	30	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	<0.078 U	**0.014**	<0.0083 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	**0.13**	**0.25 ***	<0.0083 U
Naphthalene		3.8	0.0994	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	<0.078 U	**0.018**	<0.0083 U
Phenanthrene		1800	45.7	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	**0.015**	**0.083**	**0.25**	<0.0083 U

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	DA2A-SL-013	DA2A-SL-013	DA2A-SL-014	DA2A-SL-014	DA2A-SL-015	DA2A-SL-015	DA2A-SL-016	DA2A-SL-016	DA2A-SL-016
				Sample ID	DA2ASL0014	DA2ASL0015	DA2ASL0017	DA2ASL0018	DA2ASL0020	DA2ASL0021	DA2ASL9002	DA2ASL0023	DA2ASL0024
				Sample Type	GR	GR	GR	GR	GR	GR	FD	GR	GR
				Depth (ft)	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	2.0 - 6.0	6.0 - 10.0
				Date	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Phenol		19000	30	N	<0.06 U	<0.06 U	**0.021 J**	<0.058 U	<0.058 U	<0.06 U	<0.59 UJ	<0.06 U	<0.062 U
Pyrene		1800	78.5	N	<0.008 U	<0.008 U	<0.0077 U	<0.0078 U	<0.0077 U	<0.008 U	**0.19**	**0.64**	<0.0083 U
m+p Methylphenol			3.49	N	<0.48 U	<0.48 U	<0.46 U	<0.46 U	<0.46 U	<0.48 U	<4.7 UJ	<0.48 U	<0.5 U
Organics – Pesticides													
4,4'-DDE		2	0.021	Y	<0.002 UJ	<0.0021 UJ	<0.02 U	<0.002 U	<0.002 U	<0.021 U	<0.02 U	<0.041 U	<0.011 U
4,4'-DDT		1.9	0.021	Y	<0.002 U	<0.0021 UJ	<0.02 U	<0.002 U	<0.002 U	<0.021 U	<0.02 U	<0.041 U	<0.011 U
Dieldrin		0.034	0.0049	Y	<0.002 U	<0.0021 UJ	<0.02 U	<0.002 U	<0.002 U	<0.021 U	<0.02 U	<0.041 U	<0.011 U
Endosulfan sulfate		470	0.0358	N	<0.002 U	<0.0021 UJ	<0.02 U	<0.002 U	<0.002 U	<0.021 U	<0.02 U	<0.041 U	<0.011 U
Endrin		19	0.0101	N	<0.002 U	<0.0021 UJ	<0.02 U	<0.002 U	<0.002 U	<0.021 U	<0.02 U	<0.041 U	<0.011 U
Endrin aldehyde		19	0.0105	N	<0.002 U	<0.0021 UJ	<0.02 U	<0.002 U	<0.002 U	<0.021 U	<0.02 U	<0.041 U	<0.011 U
Methoxychlor		320	0.0199	Y	<0.004 UJ	<0.004 UJ	<0.039 U	<0.0039 U	<0.0038 U	<0.041 U	<0.039 U	<0.08 U	<0.021 U
alpha-BHC		0.086	0.0994	Y	<0.002 U	<0.0021 UJ	<0.02 U	<0.002 U	<0.002 U	<0.021 U	<0.02 U	<0.041 U	<0.011 U
beta-BHC		0.3	0.00398	Y	<0.002 U	<0.0021 UJ	<0.02 U	**0.001 J**	**0.0017 J**	<0.021 U	<0.02 U	<0.041 U	<0.011 U
Organics – PCBs													
PCB-1242		0.23	0.371	Y	<0.04 U	<0.04 U	<0.039 U	<0.039 U	<0.038 U	<0.082 U	<0.039 U	<0.04 U	<0.041 U
PCB-1254		0.24	0.371	Y	<0.04 U	<0.04 U	<0.039 U	<0.039 U	<0.038 U	<0.082 U	<0.039 U	<0.04 U	<0.041 U
PCB-1260		0.24	0.371	Y	<0.04 U	<0.04 U	<0.039 U	<0.039 U	<0.038 U	<0.082 U	**0.021 J**	**0.011 J**	<0.041 U
PCB-1262			0.371	Y	<0.04 U	<0.04 U	<0.039 U	<0.039 U	<0.038 U	<0.082 U	<0.039 U	<0.04 U	<0.041 U
Organics – Volatile													
2-Butanone		27000	89.6	N	<0.022 U	<0.024 U	<0.023 U	<0.023 U	<0.022 U	<0.023 U	**0.011 J**	**0.0047 J**	<0.024 U
Acetone		61000	2.5	N	<0.022 U	<0.024 U	<0.023 U	<0.023 U	<0.022 U	<0.023 U	<0.056 UJ	<0.023 UJ	<0.024 U
Cyclohexane		6500		N	<0.011 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	**0.0029 J#**	**0.0032 J#**	<0.012 U
Ethylbenzene		5.8	5.16	N	<0.0055 U	<0.006 U	<0.0057 U	<0.0057 U	<0.0056 U	<0.0058 U	**0.0071**	**0.0033 J**	<0.0061 U
Isopropylbenzene		1900		N	<0.0055 U	<0.006 U	<0.0057 U	<0.0057 U	<0.0056 U	<0.0058 U	**0.0055 #**	**0.0028 J#**	<0.0061 U
M + P Xylene		650	10	N	<0.011 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	**0.057**	**0.03 J**	<0.012 U
Methylcyclohexane				N	<0.011 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	**0.0071 J*#**	**0.0057 J*#**	<0.012 U
Methylene chloride		57	4.05	N	**0.00097 J**	<0.006 U	<0.0057 U	<0.0057 U	<0.0056 U	**0.0024 J**	<0.0049 U	**0.0016 J**	**0.0026 J**
Toluene		4900	200	N	<0.0055 U	<0.006 U	<0.0057 U	<0.0057 U	<0.0056 U	<0.0058 U	**0.0048 J**	<0.0058 UJ	<0.0061 U
o-Xylene		650	10	N	<0.0055 U	<0.006 U	<0.0057 U	<0.0057 U	<0.0056 U	<0.0058 U	**0.025**	**0.013 J**	<0.0061 U

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	DA2A-SL-017	DA2A-SL-018	DA2A-SL-018	DA2A-SL-019	DA2A-SL-019	DA2A-SL-020	DA2A-SL-020	DA2A-SL-021	DA2A-SL-021
				Sample ID	DA2ASL0026	DA2ASL0029	DA2ASL0030	DA2ASL0032	DA2ASL0033	DA2ASL0035	DA2ASL0036	DA2ASL0038	DA2ASL0039
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 2.5	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0
				Date	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Metals													
Aluminum	15500	77000	50	N	**4700**	**5100**	**7300**	**8500**	**7500**	**8200**	**5300**	**4700**	**6600**
Antimony	9.3	31	0.27	N	**2.4**	**0.81 J**	<1.8 U	<2.4 U	<2.3 U	<2 U	**0.59 J**	<2 U	<1.8 U
Arsenic	36.5	0.68	18	N	**8.6**	**7.5**	**8.4**	**11**	**12**	**26**	**10**	**3.4**	**2.9**
Barium	826	15000	330	N	**85**	**35**	**46**	**53**	**64**	**60**	**43**	**42**	**50**
Beryllium	1	160	21	N	**0.29 J**	**0.35 J**	**0.41 J**	**0.5 J**	**0.43 J**	**0.5 J**	**0.31 J**	**0.29 J**	**0.4 J**
Cadmium		71	0.36	N	**0.32 J**	**0.27 J**	**0.2 J**	**0.24 J**	**0.22 J**	**0.32 J**	**0.2 J**	**0.21 J**	**0.14 J**
Calcium	52300			N	**84000**	**130000**	**43000**	**30000 J**	**45000**	**11000 J**	**49000 J**	**12000 J**	**1900 J**
Chromium	29	0.3	26	N	**15**	**9.2**	**12**	**14**	**13**	**14**	**9.4 J**	**6.6**	**9.8**
Cobalt	116	23	13	N	**5.4**	**8.9**	**9.4**	**10**	**11**	**14**	**7.2**	**3.5**	**4.8**
Iron	234000	55000		N	**17000**	**13000**	**17000**	**21000**	**20000**	**24000**	**15000 J**	**8700**	**11000**
Lead	48.6	400	11	Y	**690 *#**	**23**	**10 J**	**44**	**11 J**	**12 J**	<8.6 UJ	**31**	**6.4 J**
Magnesium	10400			N	**7900 J**	**12000**	**14000**	**10000 J**	**14000**	**7100 J**	**16000**	**2500 J**	**1700 J**
Manganese	3510	1800	220	N	**620**	**560**	**310**	**460**	**400**	**680**	**360 J**	**210**	**170**
Mercury	0.085	9.4	0.00051	Y	**2.5 #**	**0.039 J**	<0.14 U	**0.079 J**	**0.036 J**	**0.038 J**	**0.02 J**	**0.043 J**	**0.039 J**
Nickel	55.1	1500	38	N	**20**	**26**	**25**	**30**	**31**	**40**	**21**	**8.8**	**14**
Potassium	3390			N	**620 J**	**690 J**	**1300 J**	**1000 J**	**1300 J**	**980 J**	**1000 J**	<500 U	**580 J**
Selenium	2	390	0.52	N	<1.9 U	<1.9 U	<1.8 U	**0.53 J**	<2.3 U	<2 U	**1.2 J**	<2 U	<1.8 U
Silver	11.1	390	4.2	N	<0.93 U	<0.97 U	<0.91 U	<1.2 U	<1.1 U	<1 U	<1 U	<1 U	<0.9 U
Sodium				N	<470 U	<490 U	<460 U	<600 U	<570 U	**66 J**	<520 U	<500 U	<450 U
Thallium	1.3	0.78	1	N	<1.9 U	<1.9 U	<1.8 U	<2.4 U	<2.3 U	**0.23 J**	<2.1 U	<2 U	<1.8 U
Vanadium	40.9	390	7.8	N	**13**	**15**	**19**	**22**	**19**	**26**	**15 J**	**12**	**15**
Zinc	322	23000	46	N	**120**	**63**	**57**	**71**	**60**	**67**	**47 J**	**45 J**	**42 J**
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	<0.56 U	<0.056 U	<0.063 U	<0.061 U	<0.062 U	<0.063 U	<0.063 U	<0.059 U	<0.06 U
2,4-Dinitrotoluene		1.7	1.28	N	<2.2 U	<0.22 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.23 U	<0.24 U
2-Methylnaphthalene		240	3.24	N	**0.21**	**0.02**	<0.0085 U	**0.01**	<0.0083 U	<0.0084 U	<0.0085 U	**0.023**	<0.008 U
Acenaphthene		3600	20	N	**0.062 J**	**0.029**	<0.0085 U	**0.0088**	<0.0083 U	<0.0084 U	<0.0085 U	<0.0078 U	<0.008 U
Acenaphthylene		1800	682	N	**0.14**	**0.12**	<0.0085 U	**0.13**	<0.0083 U	<0.0084 U	**0.0047 J**	**0.0073 J**	<0.008 U
Acetophenone		7800	300	N	<1.1 U	<0.11 U	<0.13 U	<0.12 U	<0.12 U	<0.13 U	<0.13 U	<0.12 U	<0.12 U
Anthracene		18000	1480	N	**0.23**	**0.13**	<0.0085 U	**0.13**	<0.0083 U	<0.0084 U	<0.0085 U	**0.0062 J**	<0.008 U
Benz(a)anthracene		0.16	5.21	N	**0.91 ***	**0.43 ***	<0.0085 U	**0.65 ***	<0.0083 U	<0.0084 U	**0.014**	**0.029**	<0.008 U
Benzaldehyde		7800		N	<1.1 U	<0.11 U	<0.13 U	<0.12 U	<0.12 U	<0.13 U	<0.13 U	**0.017 J#**	<0.12 U
Benzo(a)pyrene		0.016	1.52	N	**0.93 ***	**0.42 ***	<0.0085 U	**0.64 J***	<0.0083 U	<0.0084 U	**0.019 ***	**0.033 ***	<0.008 U
Benzo(b)fluoranthene		0.16	59.8	N	**1.3 ***	**0.57 ***	<0.0085 U	**0.8 J***	<0.0083 U	<0.0084 U	**0.024**	**0.059**	<0.008 U
Benzo(ghi)perylene		1800	119	Y	**0.34**	**0.25**	<0.0085 U	**0.38**	<0.0083 U	<0.0084 U	**0.0088**	**0.015**	<0.008 U
Benzo(k)fluoranthene		1.6	148	N	**0.68**	**0.26**	<0.0085 U	**0.37**	<0.0083 U	<0.0084 U	**0.014**	**0.026**	<0.008 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.78 U	**0.037 J**	<0.089 U	**0.023 J**	**0.028 J**	<0.089 U	<0.089 U	**0.022 J**	<0.084 U
Butyl benzyl phthalate		290	0.239	N	<0.78 U	<0.078 U	<0.089 U	<0.085 U	<0.087 U	<0.089 U	<0.089 U	<0.082 U	<0.084 U
Carbazole				N	<0.56 U	**0.041 J*#**	<0.063 U	<0.061 U	<0.062 U	<0.063 U	<0.063 U	<0.059 U	<0.06 U
Chrysene		16	4.73	N	**0.99**	**0.46**	<0.0085 U	**0.63**	<0.0083 U	<0.0084 U	**0.017**	**0.034**	<0.008 U
Di-n-butyl phthalate		6300	200	N	<0.78 U	<0.078 U	<0.089 U	**0.018 J**	<0.087 U	<0.089 U	<0.089 U	<0.082 U	<0.084 U
Dibenz(a,h)anthracene		0.016	18.4	N	**0.19 ***	**0.078 ***	<0.0085 U	**0.11 ***	<0.0083 U	<0.0084 U	<0.0085 U	<0.0078 U	<0.008 U
Dibenzofuran		73		N	**0.091 J#**	**0.024 J#**	<0.063 U	**0.0098 J#**	<0.062 U	<0.063 U	<0.063 U	<0.059 U	<0.06 U
Fluoranthene		2400	122	N	**1.9**	**0.92**	<0.0085 U	**1.1 J**	<0.0083 U	<0.0084 U	**0.014**	**0.059**	<0.008 U
Fluorene		2400	30	N	**0.11**	**0.058**	<0.0085 U	**0.026**	<0.0083 U	<0.0084 U	<0.0085 U	**0.0047 J**	<0.008 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.38 ***	**0.25 ***	<0.0085 U	**0.36 ***	<0.0083 U	<0.0084 U	**0.016**	**0.019**	<0.008 U
Naphthalene		3.8	0.0994	N	**0.11 #**	**0.013**	<0.0085 U	**0.008 J**	<0.0083 U	<0.0084 U	<0.0085 U	**0.013**	<0.008 U
Phenanthrene		1800	45.7	N	**1**	**0.51**	<0.0085 U	**0.27**	<0.0083 U	<0.0084 U	<0.0085 U	**0.044**	<0.008 U

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	DA2A-SL-017	DA2A-SL-018	DA2A-SL-018	DA2A-SL-019	DA2A-SL-019	DA2A-SL-020	DA2A-SL-020	DA2A-SL-021	DA2A-SL-021
				Sample ID	DA2ASL0026	DA2ASL0029	DA2ASL0030	DA2ASL0032	DA2ASL0033	DA2ASL0035	DA2ASL0036	DA2ASL0038	DA2ASL0039
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 2.5	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0
				Date	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Phenol		19000	30	N	<0.56 U	<0.056 U	<0.063 U	<0.061 U	<0.062 U	<0.063 U	<0.063 U	<0.059 U	<0.06 U
Pyrene		1800	78.5	N	**1.5**	**0.73**	<0.0085 U	**0.96 J**	<0.0083 U	<0.0084 U	**0.014**	**0.053**	<0.008 U
m+p Methylphenol			3.49	N	<4.5 U	<0.45 U	<0.51 U	<0.49 U	<0.5 U	<0.51 U	<0.51 U	<0.47 U	<0.48 U
Organics – Pesticides													
4,4'-DDE		2	0.021	Y	<0.13 U	<0.019 U	<0.0022 U	<0.021 U	<0.0021 U	<0.0021 U	<0.0021 U	<0.041 U	<0.041 U
4,4'-DDT		1.9	0.021	Y	<0.13 U	<0.019 U	<0.0022 U	<0.021 U	<0.0021 U	<0.0021 U	<0.0021 U	<0.041 U	<0.041 U
Dieldrin		0.034	0.0049	Y	<0.13 U	<0.019 U	<0.0022 U	<0.021 U	<0.0021 U	<0.0021 U	<0.0021 U	<0.041 U	<0.041 U
Endosulfan sulfate		470	0.0358	N	<0.13 U	<0.019 U	<0.0022 U	<0.021 U	<0.0021 U	<0.0021 U	<0.0021 U	<0.041 U	<0.041 U
Endrin		19	0.0101	N	<0.13 U	<0.019 U	<0.0022 U	<0.021 U	<0.0021 U	<0.0021 U	<0.0021 U	<0.041 U	<0.041 U
Endrin aldehyde		19	0.0105	N	<0.13 U	<0.019 U	<0.0022 U	<0.021 U	<0.0021 U	<0.0021 U	<0.0021 U	<0.041 U	<0.041 U
Methoxychlor		320	0.0199	Y	<0.25 U	<0.038 U	<0.0042 U	<0.04 U	<0.0042 U	<0.0042 U	<0.0041 U	<0.079 U	<0.079 U
alpha-BHC		0.086	0.0994	Y	<0.13 U	<0.019 U	<0.0022 U	<0.021 U	<0.0021 U	<0.0021 U	<0.0021 U	<0.041 U	<0.041 U
beta-BHC		0.3	0.00398	Y	**0.096 J#**	**0.015 J#**	<0.0022 U	<0.021 U	<0.0021 U	**0.0006 J**	**0.00077 J**	<0.041 U	<0.041 U
Organics – PCBs													
PCB-1242		0.23	0.371	Y	<0.64 U	<0.038 U	<0.042 U	<0.04 U	<0.042 U	**0.038 J**	**0.043**	<0.2 U	<0.039 U
PCB-1254		0.24	0.371	Y	<0.64 U	<0.038 U	<0.042 U	<0.04 U	<0.042 U	<0.042 U	<0.041 U	<0.2 U	<0.039 U
PCB-1260		0.24	0.371	Y	**2.5 J*#**	**0.26 ***	<0.042 U	**0.047**	<0.042 U	<0.042 U	<0.041 U	**0.81 *#**	<0.039 U
PCB-1262			0.371	Y	<0.64 U	<0.038 U	<0.042 U	<0.04 U	<0.042 U	<0.042 U	<0.041 U	<0.2 U	<0.039 U
Organics – Volatile													
2-Butanone		27000	89.6	N	<0.021 U	<0.022 U	<0.025 U	<0.023 U	<0.023 U	<0.024 U	<0.025 U	**0.0083 J**	**0.0061 J**
Acetone		61000	2.5	N	<0.021 U	<0.022 U	<0.025 U	<0.023 U	<0.023 U	<0.024 U	<0.025 U	**0.042**	**0.044**
Cyclohexane		6500		N	<0.011 U	<0.011 U	<0.013 U	<0.012 U	<0.012 U	<0.012 U	<0.013 U	<0.012 U	<0.012 U
Ethylbenzene		5.8	5.16	N	<0.0053 U	<0.0056 U	<0.0063 U	<0.0058 U	<0.0058 U	<0.006 U	<0.0063 U	<0.0059 U	<0.006 U
Isopropylbenzene		1900		N	<0.0053 U	<0.0056 U	<0.0063 U	<0.0058 U	<0.0058 U	<0.006 U	<0.0063 U	<0.0059 U	<0.006 U
M + P Xylene		650	10	N	<0.011 U	<0.011 U	<0.013 U	<0.012 U	<0.012 U	<0.012 U	<0.013 U	<0.012 U	<0.012 U
Methylcyclohexane				N	<0.011 U	<0.011 U	<0.013 U	<0.012 U	<0.012 U	<0.012 U	<0.013 U	<0.012 U	<0.012 U
Methylene chloride		57	4.05	N	<0.0053 U	**0.0016 J**	<0.0063 U	**0.0028 J**	<0.0058 U	<0.0085 UJ	<0.0063 U	<0.0059 U	<0.006 U
Toluene		4900	200	N	<0.0053 U	<0.0056 U	<0.0063 U	<0.0058 U	<0.0058 U	<0.006 U	<0.0063 U	<0.0059 U	<0.006 U
o-Xylene		650	10	N	<0.0053 U	<0.0056 U	<0.0063 U	<0.0058 U	<0.0058 U	<0.006 U	<0.0063 U	<0.0059 U	<0.006 U

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	DA2A-SL-022	DA2A-SL-022	DA2A-SL-022	DA2A-SL-023	DA2A-SL-023	DA2A-SL-024	DA2A-SL-024	DA2A-SL-033	DA2A-SL-033
				Sample ID	DA2ASL0041	DA2ASL9003	DA2ASL0042	DA2ASL0044	DA2ASL0045	DA2ASL0047	DA2ASL0048	DA2ASL9004	DA2ASL0058
				Sample Type	GR	FD	GR	GR	GR	GR	GR	FD	GR
				Depth (ft)	2.0 - 6.0	6.0 - 10.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	2.0 - 6.0
				Date	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/11/15	08/11/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Metals													
Aluminum	15500	77000	50	N	**6300**	**7800**	**4900**	**8600**	**6400**	**7000**	**9700**	**4000**	**4800**
Antimony	9.3	31	0.27	N	**9.1**	<2.1 U	<1.9 U	<2 U	<2.2 U	<2.1 U	<2.2 U	**1.6 J**	<3.3 U
Arsenic	36.5	0.68	18	N	**8.2**	**7.4**	**8.8**	**7.2**	**6.9**	**8.2**	**7.8**	**11**	**11**
Barium	826	15000	330	N	**95**	**110**	**78**	**67**	**56**	**58**	**65**	**29**	**37**
Beryllium	1	160	21	N	**0.38 J**	**0.51 J**	**0.37 J**	**0.48 J**	**0.39 J**	**0.46 J**	**0.55**	**0.37 J**	**0.44 J**
Cadmium		71	0.36	N	**0.57 #**	**0.37 J#**	**0.3 J**	**0.29 J**	**0.13 J**	**0.16 J**	**0.13 J**	**0.19 J**	**0.24 J**
Calcium	52300			N	**38000**	**2000 J**	**2600 J**	**7200 J**	**3700 J**	**5200 J**	**16000 J**	**110000**	**120000**
Chromium	29	0.3	26	N	**15**	**12**	**8.6**	**13**	**11**	**11**	**15**	**6.9 J**	**8.3**
Cobalt	116	23	13	N	**5.5**	**13**	**12**	**11**	**11**	**13**	**12**	**7.5**	**8**
Iron	234000	55000		N	**14000**	**20000**	**16000**	**18000**	**17000**	**18000**	**21000**	**13000**	**14000**
Lead	48.6	400	11	Y	**97 #**	**8.5 J**	**7.8 J**	**68 #**	**8.3 J**	**12 J**	**10 J**	**12 J**	**16 J**
Magnesium	10400			N	**5300 J**	**2400 J**	**1700 J**	**2700 J**	**2600 J**	**2800 J**	**4700 J**	**13000**	**14000**
Manganese	3510	1800	220	N	**510**	**1300**	**1000**	**480**	**530**	**470**	**480**	**350**	**320**
Mercury	0.085	9.4	0.00051	Y	**0.12 #**	**0.033 J**	**0.022 J**	**0.056 J**	**0.023 J**	**0.025 J**	**0.024 J**	**0.078 J**	**0.092 J#**
Nickel	55.1	1500	38	N	**26**	**32**	**26**	**23**	**25**	**25**	**30**	**25 J**	**26 J**
Potassium	3390			N	**520 J**	**750 J**	<480 U	**740 J**	**600 J**	**560 J**	**1500 J**	**940 J**	**1100 J**
Selenium	2	390	0.52	N	<1.8 U	**0.36 J**	<1.9 U	<2 U	<2.2 U	**0.47 J**	<2.2 U	**0.37 J**	<2.1 U
Silver	11.1	390	4.2	N	<0.92 U	**0.091 J**	<0.95 U	<1 U	<1.1 U	<1 U	<1.1 U	<0.84 U	<1.1 U
Sodium				N	<460 U	<530 U	<480 U	<510 U	<550 U	<510 U	<550 U	<420 U	<530 U
Thallium	1.3	0.78	1	N	<1.8 U	<2.1 U	<1.9 U	<2 U	<2.2 U	<2.1 U	<2.2 U	**0.52 J**	**0.34 J**
Vanadium	40.9	390	7.8	N	**12**	**19**	**14**	**19**	**15**	**18**	**21**	**12**	**14**
Zinc	322	23000	46	N	**480 #**	**72**	**54**	**140**	**58**	**63**	**62**	**57**	**70**
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	**0.033 J**	<0.058 U	<0.058 U	<0.06 U	<0.059 U	<0.058 U	<0.062 U	<1.1 U	**0.1 J**
2,4-Dinitrotoluene		1.7	1.28	N	<0.46 U	<0.23 U	<0.23 U	<0.24 U	<0.24 U	<0.23 U	<0.25 U	<4.3 U	<4.3 U
2-Methylnaphthalene		240	3.24	N	**0.12**	<0.0077 U	<0.0078 U	**0.0082**	<0.0079 U	<0.0077 U	<0.0083 U	**0.57**	**0.65**
Acenaphthene		3600	20	N	**0.56**	**0.0063 J**	**0.013**	**0.0093**	<0.0079 U	<0.0077 U	<0.0083 U	**0.28**	**0.4**
Acenaphthylene		1800	682	N	**0.082**	<0.0077 U	<0.0078 U	**0.13**	<0.0079 U	<0.0077 U	<0.0083 U	**1.2**	**1.2**
Acetophenone		7800	300	N	<0.23 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<2.2 U	<2.2 U
Anthracene		18000	1480	N	**0.25**	**0.0048 J**	**0.0069 J**	**0.11**	<0.0079 U	<0.0077 U	<0.0083 U	**2.7**	**3.3**
Benz(a)anthracene		0.16	5.21	N	**0.73 ***	**0.012**	**0.018**	**0.67 ***	**0.0091**	<0.0077 U	<0.0083 U	**7.8 *#**	**8.4 *#**
Benzaldehyde		7800		N	<0.23 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<2.2 U	<2.2 U
Benzo(a)pyrene		0.016	1.52	N	**0.7 ***	**0.0087**	**0.015**	**0.54 ***	**0.0085**	<0.0077 U	<0.0083 U	**7 *#**	**6.9 *#**
Benzo(b)fluoranthene		0.16	59.8	N	**1.3 ***	**0.017**	**0.027**	**0.81 ***	**0.013**	<0.0077 U	<0.0083 U	**9.1 ***	**9.6 ***
Benzo(ghi)perylene		1800	119	Y	**0.19**	<0.0077 U	<0.0078 U	**0.2**	<0.0079 U	<0.0077 U	<0.0083 U	**2.4**	**3.3**
Benzo(k)fluoranthene		1.6	148	N	**0.58**	**0.0091**	**0.013**	**0.5**	<0.0079 U	<0.0077 U	<0.0083 U	**5.7 ***	**3.7 ***
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.16 U	<0.081 U	<0.082 U	<0.083 U	<0.083 U	<0.081 U	<0.087 U	<1.5 U	<1.5 U
Butyl benzyl phthalate		290	0.239	N	<0.16 U	<0.081 U	<0.082 U	<0.083 U	<0.083 U	<0.081 U	<0.087 U	<1.5 U	<1.5 U
Carbazole				N	**0.091 J*#**	<0.058 U	<0.058 U	<0.06 U	<0.059 U	<0.058 U	<0.062 U	**1 J*#**	**1.4 *#**
Chrysene		16	4.73	N	**0.92**	**0.015**	**0.025**	**0.65**	**0.0098**	<0.0077 U	<0.0083 U	**7 #**	**8.1 #**
Di-n-butyl phthalate		6300	200	N	<0.16 U	<0.081 U	<0.082 U	<0.083 U	<0.083 U	<0.081 U	<0.087 U	<1.5 U	<1.5 U
Dibenz(a,h)anthracene		0.016	18.4	N	**0.075 ***	<0.0077 U	<0.0078 U	**0.076 ***	<0.0079 U	<0.0077 U	<0.0083 U	**0.83 ***	**1.3 ***
Dibenzofuran		73		N	**0.27 #**	**0.0039 J#**	**0.0059 J#**	**0.013 J#**	<0.059 U	<0.058 U	<0.062 U	**0.51 J#**	**0.89 J#**
Fluoranthene		2400	122	N	**1.8**	**0.033**	**0.049**	**1**	**0.014**	<0.0077 U	<0.0083 U	**16**	**20**
Fluorene		2400	30	N	**0.35**	**0.0066 J**	**0.01**	**0.02**	<0.0079 U	<0.0077 U	<0.0083 U	**0.97**	**1.4**
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.19 ***	<0.0077 U	<0.0078 U	**0.2 ***	<0.0079 U	<0.0077 U	<0.0083 U	**2.3 ***	**3.6 ***
Naphthalene		3.8	0.0994	N	**0.053**	<0.0077 U	<0.0078 U	**0.012**	<0.0079 U	<0.0077 U	<0.0083 U	**0.52 #**	**0.5 #**
Phenanthrene		1800	45.7	N	**1.4**	**0.03**	**0.047**	**0.23**	**0.0064 J**	<0.0077 U	<0.0083 U	**9.1**	**13**

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	DA2A-SL-022	DA2A-SL-022	DA2A-SL-022	DA2A-SL-023	DA2A-SL-023	DA2A-SL-024	DA2A-SL-024	DA2A-SL-033	DA2A-SL-033
				Sample ID	DA2ASL0041	DA2ASL9003	DA2ASL0042	DA2ASL0044	DA2ASL0045	DA2ASL0047	DA2ASL0048	DA2ASL9004	DA2ASL0058
				Sample Type	GR	FD	GR	GR	GR	GR	GR	FD	GR
				Depth (ft)	2.0 - 6.0	6.0 - 10.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	2.0 - 6.0
				Date	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/10/15	08/11/15	08/11/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Phenol		19000	30	N	<0.12 U	<0.058 U	<0.058 U	<0.06 U	<0.059 U	<0.058 U	<0.062 U	<1.1 U	<1.1 U
Pyrene		1800	78.5	N	**1.7**	**0.026**	**0.041**	**0.78**	**0.011**	<0.0077 U	<0.0083 U	**14**	**14**
m+p Methylphenol			3.49	N	<0.92 U	<0.46 U	<0.47 U	<0.48 U	<0.48 U	<0.46 U	<0.5 U	<8.7 U	<8.6 U
Organics – Pesticides													
4,4'-DDE		2	0.021	Y	<0.11 U	<0.002 U	<0.02 U	<0.041 U	<0.0096 U	<0.002 U	<0.021 U	<0.091 U	<0.093 U
4,4'-DDT		1.9	0.021	Y	<0.11 U	<0.002 U	<0.02 U	<0.041 U	<0.0096 U	<0.002 U	<0.021 U	<0.091 U	<0.093 U
Dieldrin		0.034	0.0049	Y	<0.11 U	<0.002 U	<0.02 U	<0.041 U	<0.0096 U	<0.002 U	<0.021 U	<0.091 U	<0.093 U
Endosulfan sulfate		470	0.0358	N	<0.11 U	<0.002 U	<0.02 U	<0.041 U	<0.0096 U	<0.002 U	<0.021 U	<0.091 U	<0.093 U
Endrin		19	0.0101	N	<0.11 U	<0.002 U	<0.02 U	<0.041 U	<0.0096 U	<0.002 U	<0.021 U	<0.091 U	<0.093 U
Endrin aldehyde		19	0.0105	N	<0.11 U	<0.002 U	<0.02 U	<0.041 U	<0.0096 U	<0.002 U	<0.021 U	<0.091 U	<0.093 U
Methoxychlor		320	0.0199	Y	<0.22 U	<0.0039 UJ	<0.039 U	<0.079 U	<0.019 U	<0.0039 U	<0.042 U	<0.18 U	<0.18 U
alpha-BHC		0.086	0.0994	Y	<0.11 U	<0.002 U	<0.02 U	<0.041 U	<0.0096 U	<0.002 U	<0.021 U	<0.091 U	<0.093 U
beta-BHC		0.3	0.00398	Y	**0.065 J#**	**0.00091 J**	<0.02 U	<0.041 U	<0.0096 U	<0.002 U	<0.021 U	**0.14 J#**	<0.093 U
Organics – PCBs													
PCB-1242		0.23	0.371	Y	<0.55 U	<0.039 U	<0.039 U	<0.2 U	<0.19 U	<0.039 U	<0.042 U	<0.035 U	<0.036 U
PCB-1254		0.24	0.371	Y	<0.55 U	<0.039 U	<0.039 U	<0.2 U	<0.19 U	<0.039 U	<0.042 U	<0.035 U	<0.036 U
PCB-1260		0.24	0.371	Y	**4.1 *#**	<0.039 U	<0.039 U	**0.48 *#**	<0.19 U	<0.039 U	<0.042 U	<0.035 U	**0.024 J**
PCB-1262			0.371	Y	<0.55 U	<0.039 U	<0.039 U	<0.2 U	<0.19 U	<0.039 U	<0.042 U	<0.035 U	<0.036 U
Organics – Volatile													
2-Butanone		27000	89.6	N	**0.0033 J**	<0.021 U	<0.023 U	<0.022 U	<0.023 U	<0.022 U	<0.024 UJ	<0.02 U	<0.019 U
Acetone		61000	2.5	N	**0.026**	<0.021 U	<0.023 U	<0.022 U	<0.023 U	<0.022 U	<0.024 U	<0.02 U	<0.019 U
Cyclohexane		6500		N	<0.011 U	<0.011 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	<0.01 U	<0.0094 U
Ethylbenzene		5.8	5.16	N	**0.00041 J**	<0.0053 U	<0.0059 U	<0.0054 U	<0.0057 U	<0.0055 U	<0.0059 U	<0.005 U	**0.00046 J**
Isopropylbenzene		1900		N	**0.00043 J#**	<0.0053 U	<0.0059 U	<0.0054 U	<0.0057 U	<0.0055 U	<0.0059 U	<0.005 U	<0.0047 U
M + P Xylene		650	10	N	**0.0039 J**	**0.0006 J**	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	<0.01 U	**0.0011 J**
Methylcyclohexane				N	<0.011 U	<0.011 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	<0.01 U	**0.0037 J*#**
Methylene chloride		57	4.05	N	<0.0054 U	<0.0053 U	<0.0059 U	<0.0054 U	<0.0057 U	<0.0055 U	**0.0011 J**	<0.005 U	<0.0047 U
Toluene		4900	200	N	<0.0054 U	<0.0053 U	<0.0059 U	<0.0054 U	<0.0057 U	<0.0055 U	<0.0059 U	<0.005 U	<0.0047 U
o-Xylene		650	10	N	**0.002 J**	<0.0053 U	<0.0059 U	<0.0054 U	<0.0057 U	<0.0055 U	<0.0059 U	<0.005 U	**0.00067 J**

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	DA2A-SL-033	DA2A-SL-034	DA2A-SL-035	DA2A-SL-035	DA2A-SL-036	DA2A-SL-037	DA2A-SL-037	DA2A-SL-038	DA2A-SL-039
				Sample ID	DA2ASL0059	DA2ASL0061	DA2ASL0064	DA2ASL0065	DA2ASL0067	DA2ASL0070	DA2ASL0071	DA2ASL0073	DA2ASL0076
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	6.0 - 10.0	2.0 - 5.0	2.0 - 6.0	6.0 - 10.0	2.0 - 4.5	2.0 - 6.0	6.0 - 10.0	2.0 - 5.0	2.0 - 6.0
				Date	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Metals													
Aluminum	15500	77000	50	N	**5200**	**5300**	**5200**	**8000**	**6500**	**4900**	**9100**	**7200**	**8800**
Antimony	9.3	31	0.27	N	<1.9 U	<1.9 U	<1.6 U	<2 U	<2.2 U	**1.1 J**	<2.1 U	<2.4 U	<2 U
Arsenic	36.5	0.68	18	N	**6**	**12**	**8.1**	**13**	**7.8**	**9.3**	**6**	**9.3**	**7.4**
Barium	826	15000	330	N	**37**	**120**	**930 #**	**130**	**61**	**72 J**	**54**	**100**	**110**
Beryllium	1	160	21	N	**0.33 J**	**0.41 J**	**0.33 J**	**0.55**	**0.4 J**	**0.45 J**	**0.49 J**	**0.63 J**	**0.35 J**
Cadmium		71	0.36	N	**0.15 J**	**2.1 #**	**0.43 #**	**0.35 J**	**0.69 #**	**0.33 J**	**0.3 J**	**0.4 J#**	**0.61 J#**
Calcium	52300			N	**54000**	**54000**	**63000**	**35000**	**24000 J**	**29000 J**	**26000 J**	**49000**	**69000**
Chromium	29	0.3	26	N	**8.3**	**37 *#**	**12**	**12**	**11**	**44 J*#**	**15**	**18**	**28**
Cobalt	116	23	13	N	**5.8**	**6.1**	**6**	**9.9**	**6.2**	**7**	**10**	**6.2**	**6**
Iron	234000	55000		N	**12000**	**23000**	**14000**	**22000**	**15000**	**16000 J**	**19000**	**26000**	**15000**
Lead	48.6	400	11	Y	**9.9 J**	**220 #**	**110 #**	**95 #**	**38**	**62 J#**	**15 J**	**800 J*#**	**280 J#**
Magnesium	10400			N	**9400 J**	**8000 J**	**8400 J**	**5400 J**	**5800 J**	**4900 J**	**10000**	**7000 J**	**9600 J**
Manganese	3510	1800	220	N	**290**	**480**	**300**	**710**	**320**	**640 J**	**660**	**730**	**470**
Mercury	0.085	9.4	0.00051	Y	**0.027 J**	**0.51 #**	**0.071 J**	**0.31 #**	**0.13 #**	**0.11 #**	**0.04 J**	**0.083 J**	**0.085 J#**
Nickel	55.1	1500	38	N	**17**	**35**	**26**	**22**	**18**	**40 J**	**32 J**	**27 J**	**29 J**
Potassium	3390			N	**660 J**	**650 J**	**890 J**	**790 J**	**700 J**	**710 J**	**1700 J**	**760 J**	**780 J**
Selenium	2	390	0.52	N	<1.9 U	**0.36 J**	**0.28 J**	**0.71 J**	**0.47 J**	**0.65 J**	**0.43 J**	**0.62 J**	**0.43 J**
Silver	11.1	390	4.2	N	<0.93 U	**3.2**	**0.32 J**	<1 U	**2.1**	<1.1 U	<1.1 U	<1.2 U	**0.5 J**
Sodium				N	<460 U	<490 U	<390 U	<510 U	<550 U	<550 U	<530 U	<600 U	<500 U
Thallium	1.3	0.78	1	N	<1.9 U	**0.23 J**	**0.19 J**	**0.23 J**	**0.17 J**	**0.8 J**	<2.1 U	**0.25 J**	<2 U
Vanadium	40.9	390	7.8	N	**14**	**17**	**14**	**18**	**15**	**14**	**21**	**13**	**14**
Zinc	322	23000	46	N	**38 J**	**690 #**	**170**	**100**	**120**	**110 J**	**63**	**94**	**170**
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	**0.019 J**	**0.012 J**	<0.057 U	<0.059 U	<0.059 U	<0.11 U	<0.061 U	<0.061 U	<0.39 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.22 U	**0.058 J**	<0.23 U	<0.24 U	<0.23 U	<0.45 U	<0.24 U	**0.2 J**	<1.6 U
2-Methylnaphthalene		240	3.24	N	**0.11**	**0.063**	**0.047**	**0.022**	**0.018**	**0.03**	<0.0081 U	**0.11**	**0.04 J**
Acenaphthene		3600	20	N	<0.0073 U	**0.093**	**0.014**	**0.042**	<0.0078 U	**0.025**	<0.0081 U	<0.0082 U	**0.22**
Acenaphthylene		1800	682	N	<0.0073 U	**0.043**	**0.012**	**0.015**	**0.021**	**0.14**	<0.0081 U	**0.025**	**0.034 J**
Acetophenone		7800	300	N	<0.11 U	**0.027 J**	<0.11 U	<0.12 U	<0.12 U	<0.23 U	<0.12 U	<0.12 U	<0.78 U
Anthracene		18000	1480	N	**0.0083**	**0.21**	**0.052**	**0.18**	**0.017**	**0.15 J**	<0.0081 U	**0.017**	**0.82**
Benz(a)anthracene		0.16	5.21	N	**0.046**	**0.69 ***	**0.25 ***	**0.61 ***	**0.097**	**0.72 J***	**0.0046 J**	**0.096**	**2.4 ***
Benzaldehyde		7800		N	<0.11 U	**0.046 J#**	<0.11 U	<0.12 U	**0.014 J#**	<0.23 U	<0.12 U	**0.025 J#**	<0.78 U
Benzo(a)pyrene		0.016	1.52	N	**0.057 ***	**0.71 ***	**0.36 ***	**0.79 ***	**0.11 ***	**0.79 J***	**0.0051 J**	**0.12 ***	**2.7 *#**
Benzo(b)fluoranthene		0.16	59.8	N	**0.091**	**0.97 ***	**0.53 ***	**1.2 ***	**0.16 ***	**1.2 J***	**0.0076 J**	**0.18 ***	**3.8 ***
Benzo(ghi)perylene		1800	119	Y	**0.042**	**0.23**	**0.13**	**0.27**	**0.053**	**0.28**	<0.0081 U	**0.047**	**0.82**
Benzo(k)fluoranthene		1.6	148	N	**0.031**	**0.57**	**0.24**	**0.64**	**0.083**	**0.69 J**	<0.0081 U	**0.083**	**1.9 ***
Bis(2-ethylhexyl)phthalate		39	0.925	N	**0.021 J**	**0.058 J**	<0.08 U	<0.083 U	<0.082 U	<0.16 U	<0.085 U	**0.059 J**	<0.54 U
Butyl benzyl phthalate		290	0.239	N	<0.077 U	<0.083 U	<0.08 U	<0.083 U	<0.082 U	<0.16 U	<0.085 U	<0.086 U	<0.54 U
Carbazole				N	<0.055 U	**0.074 *#**	<0.057 U	**0.08 *#**	<0.059 U	**0.077 J*#**	<0.061 U	<0.061 U	**0.37 J*#**
Chrysene		16	4.73	N	**0.086**	**0.71**	**0.27**	**0.62**	**0.13**	**0.79 J**	**0.0069 J**	**0.12**	**2.3**
Di-n-butyl phthalate		6300	200	N	<0.077 U	**0.024 J**	<0.08 U	**0.018 J**	<0.082 U	<0.16 U	<0.085 U	**0.53**	<0.54 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0073 U	**0.085 ***	**0.046 ***	**0.091 ***	**0.024 ***	**0.1 ***	<0.0081 U	**0.023 ***	**0.29 ***
Dibenzofuran		73		N	<0.055 U	**0.045 J#**	**0.011 J#**	**0.032 J#**	<0.059 U	**0.03 J#**	<0.061 U	**0.0091 J#**	**0.16 J#**
Fluoranthene		2400	122	N	**0.11**	**1.3**	**0.39**	**1**	**0.22**	**1.5 J**	**0.0087**	**0.16**	**4.8**
Fluorene		2400	30	N	**0.012**	**0.075**	**0.014**	**0.044**	<0.0078 U	**0.066**	<0.0081 U	<0.0082 U	**0.25**
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.035**	**0.21 ***	**0.12**	**0.25 ***	**0.054**	**0.26 ***	<0.0081 U	**0.05**	**0.75 ***
Naphthalene		3.8	0.0994	N	**0.033**	**0.063**	**0.016**	**0.019**	**0.012**	**0.026**	<0.0081 U	**0.045**	**0.03 J**
Phenanthrene		1800	45.7	N	**0.093**	**0.62**	**0.2**	**0.57**	**0.099**	**0.65 J**	**0.0049 J**	**0.073**	**3.1**

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	DA2A-SL-033	DA2A-SL-034	DA2A-SL-035	DA2A-SL-035	DA2A-SL-036	DA2A-SL-037	DA2A-SL-037	DA2A-SL-038	DA2A-SL-039
				Sample ID	DA2ASL0059	DA2ASL0061	DA2ASL0064	DA2ASL0065	DA2ASL0067	DA2ASL0070	DA2ASL0071	DA2ASL0073	DA2ASL0076
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	6.0 - 10.0	2.0 - 5.0	2.0 - 6.0	6.0 - 10.0	2.0 - 4.5	2.0 - 6.0	6.0 - 10.0	2.0 - 5.0	2.0 - 6.0
				Date	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Phenol		19000	30	N	<0.055 U	**0.0095 J**	<0.057 U	<0.059 U	<0.059 U	<0.11 U	<0.061 U	<0.061 U	<0.39 U
Pyrene		1800	78.5	N	**0.096**	**0.98**	**0.33**	**0.85**	**0.17**	**1.2 J**	**0.0076 J**	**0.14**	**4.1**
m+p Methylphenol			3.49	N	<0.44 U	<0.47 U	<0.46 U	<0.47 U	<0.47 U	<0.91 U	<0.48 U	**0.027 J***	<3.1 U
Organics – Pesticides													
4,4'-DDE		2	0.021	Y	<0.0092 U	**0.017 J**	<0.096 U	<0.04 U	**0.0017 J**	<0.039 U	<0.1 U	**0.01 J**	**0.0088 J**
4,4'-DDT		1.9	0.021	Y	<0.0092 U	**0.012 J**	<0.096 U	<0.04 U	<0.01 U	<0.039 U	<0.1 U	**0.017 J**	<0.039 U
Dieldrin		0.034	0.0049	Y	<0.0092 U	**0.011 J#**	**0.058 J*#**	**0.39 *#**	<0.01 U	<0.039 U	<0.1 U	**0.0099 J#**	**0.26 *#**
Endosulfan sulfate		470	0.0358	N	<0.0092 U	**0.038 J#**	<0.096 U	**0.023 J**	<0.01 U	<0.039 U	<0.1 U	<0.042 U	**0.0095 J**
Endrin		19	0.0101	N	<0.0092 U	<0.048 U	<0.096 U	**0.013 J#**	<0.01 U	<0.039 U	<0.1 U	<0.042 U	<0.039 U
Endrin aldehyde		19	0.0105	N	<0.0092 U	**0.013 J#**	**0.023 J#**	<0.04 U	<0.01 U	<0.039 U	<0.1 U	**0.027 J#**	<0.039 U
Methoxychlor		320	0.0199	Y	<0.018 U	<0.094 U	**0.035 J#**	<0.077 U	<0.019 U	<0.076 U	<0.2 U	<0.081 U	<0.076 U
alpha-BHC		0.086	0.0994	Y	<0.0092 U	<0.048 U	<0.096 U	<0.04 U	**0.0041 J**	<0.039 U	<0.1 U	<0.042 U	<0.039 U
beta-BHC		0.3	0.00398	Y	<0.0092 U	**0.014 J#**	<0.096 U	<0.04 U	**0.0032 J**	<0.039 U	<0.1 U	<0.042 U	**0.013 J#**
Organics – PCBs													
PCB-1242		0.23	0.371	Y	<0.036 U	<0.19 U	<0.74 U	<0.39 U	<0.039 U	<0.76 U	<0.039 U	<0.81 U	<0.038 U
PCB-1254		0.24	0.371	Y	<0.036 U	<0.19 U	<0.74 U	<0.39 U	<0.039 U	**0.81 *#**	**0.13**	<0.81 U	<0.038 U
PCB-1260		0.24	0.371	Y	**0.019 J**	<0.19 U	**5.4 J*#**	**1.3 J*#**	**0.013 J**	<0.76 U	<0.039 U	<0.81 U	**0.48 J*#**
PCB-1262			0.371	Y	<0.036 U	**1.1 J*#**	<0.74 U	<0.39 U	<0.039 U	<0.76 U	<0.039 U	**3.3 *#**	<0.038 U
Organics – Volatile													
2-Butanone		27000	89.6	N	<0.021 U	<0.022 U	<0.022 U	<0.02 U	<0.023 U	<0.02 U	<0.023 U	<0.024 U	<0.022 U
Acetone		61000	2.5	N	<0.021 U	<0.022 U	<0.022 U	<0.02 U	<0.023 U	<0.02 U	<0.023 U	<0.024 U	<0.022 U
Cyclohexane		6500		N	**0.003 J#**	<0.011 U	<0.011 U	<0.01 U	<0.011 U	<0.01 U	<0.011 U	**0.0021 J#**	<0.011 U
Ethylbenzene		5.8	5.16	N	**0.0016 J**	<0.0054 U	<0.0056 U	<0.005 U	<0.0056 U	<0.0051 U	<0.0056 U	**0.00086 J**	<0.0056 U
Isopropylbenzene		1900		N	**0.0014 J#**	<0.0054 U	<0.0056 U	<0.005 U	<0.0056 U	<0.0051 U	<0.0056 U	**0.00035 J#**	<0.0056 U
M + P Xylene		650	10	N	**0.017**	<0.011 U	**0.00048 J**	<0.01 U	<0.011 U	**0.00082 J**	<0.011 U	**0.0056 J**	<0.011 U
Methylcyclohexane				N	**0.0041 J*#**	<0.011 U	<0.011 U	<0.01 U	<0.011 U	<0.01 U	<0.011 U	**0.0027 J*#**	<0.011 U
Methylene chloride		57	4.05	N	<0.0052 UJ	<0.0054 UJ	<0.0056 UJ	<0.005 UJ	<0.0056 UJ	<0.0051 U	<0.0056 U	<0.0059 U	<0.0064 U
Toluene		4900	200	N	<0.0052 U	<0.0054 U	<0.0056 U	<0.005 U	<0.0056 U	<0.0051 U	<0.0056 U	**0.002 J**	<0.0056 U
o-Xylene		650	10	N	**0.012**	<0.0054 U	<0.0056 U	<0.005 U	<0.0056 U	<0.0051 U	<0.0056 U	**0.0026 J**	<0.0056 U

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	DA2A-SL-040	DA2A-SL-040	DA2A-SL-040
				Sample ID	DA2ASL0079	DA2ASL9005	DA2ASL0080
				Sample Type	GR	FD	GR
				Depth (ft)	2.0 - 6.0	6.0 - 10.0	6.0 - 10.0
				Date	08/11/15	08/11/15	08/11/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**			
Metals							
Aluminum	15500	77000	50	N	**10000**	**9900**	**5100**
Antimony	9.3	31	0.27	N	**6.6 J**	**1.6 J**	<2.4 U
Arsenic	36.5	0.68	18	N	**15**	**11**	**9.3**
Barium	826	15000	330	N	**230**	**240**	**110**
Beryllium	1	160	21	N	**0.39 J**	**0.45 J**	**0.29 J**
Cadmium		71	0.36	N	**7.8 J#**	**2.2 J#**	**3.4 J#**
Calcium	52300			N	**57000**	**76000**	**130000**
Chromium	29	0.3	26	N	**56 *#**	**52 J*#**	**160 *#**
Cobalt	116	23	13	N	**7.9**	**8.2**	**6.2**
Iron	234000	55000		N	**27000**	**25000**	**18000**
Lead	48.6	400	11	Y	**280 J#**	**180 J#**	**140 J#**
Magnesium	10400			N	**5800 J**	**7600 J**	**11000**
Manganese	3510	1800	220	N	**960**	**550**	**490**
Mercury	0.085	9.4	0.00051	Y	**0.54 #**	**0.37 #**	**1.2 #**
Nickel	55.1	1500	38	N	**50 J**	**47 J**	**130 J#**
Potassium	3390			N	**850 J**	**1100 J**	**580 J**
Selenium	2	390	0.52	N	<2.2 U	<2.2 U	**0.39 J**
Silver	11.1	390	4.2	N	**28 #**	**8.9**	**19 #**
Sodium				N	<540 U	<130 U	<500 U
Thallium	1.3	0.78	1	N	**0.42 J**	<2.2 U	**0.29 J**
Vanadium	40.9	390	7.8	N	**17**	**19**	**10**
Zinc	322	23000	46	N	**630 #**	**520 #**	**990 #**
Organics – Semivolatile							
1,1'-Biphenyl		47	60	N	**0.015 J**	<0.075 U	<0.24 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.3 U	<0.96 U
2-Methylnaphthalene		240	3.24	N	**0.092**	**0.1**	**0.033**
Acenaphthene		3600	20	N	**0.018**	**0.012**	<0.032 U
Acenaphthylene		1800	682	N	**0.031**	**0.025**	**0.21**
Acetophenone		7800	300	N	<0.12 U	<0.15 U	<0.48 U
Anthracene		18000	1480	N	**0.08**	**0.059**	**0.28**
Benz(a)anthracene		0.16	5.21	N	**0.3 ***	**0.24 ***	**1.1 ***
Benzaldehyde		7800		N	<0.12 U	<0.15 U	<0.48 U
Benzo(a)pyrene		0.016	1.52	N	**0.33 ***	**0.3 ***	**0.93 ***
Benzo(b)fluoranthene		0.16	59.8	N	**0.45 ***	**0.42 ***	**1.5 ***
Benzo(ghi)perylene		1800	119	Y	**0.15**	**0.16**	**0.26**
Benzo(k)fluoranthene		1.6	148	N	**0.24**	**0.21**	**0.79**
Bis(2-ethylhexyl)phthalate		39	0.925	N	**0.051 J**	**0.049 J**	<0.34 U
Butyl benzyl phthalate		290	0.239	N	**0.029 J**	<0.11 U	<0.34 U
Carbazole				N	**0.034 J*#**	<0.075 U	**0.13 J*#**
Chrysene		16	4.73	N	**0.32**	**0.26**	**1.1**
Di-n-butyl phthalate		6300	200	N	<0.086 U	<0.11 U	<0.34 U
Dibenz(a,h)anthracene		0.016	18.4	N	**0.052 ***	**0.044 ***	**0.11 ***
Dibenzofuran		73		N	**0.033 J#**	**0.02 J#**	<0.24 U
Fluoranthene		2400	122	N	**0.55**	**0.4**	**2.9**
Fluorene		2400	30	N	**0.028**	**0.016**	**0.055**
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.14**	**0.12**	**0.27 ***
Naphthalene		3.8	0.0994	N	**0.049**	**0.05**	**0.024 J**
Phenanthrene		1800	45.7	N	**0.31**	**0.22**	**0.96**

Table 4-6. Analytical Detections: Disposal Area 2A Subsurface Soil Samples (Continued)

				Station	**DA2A-SL-040**	**DA2A-SL-040**	**DA2A-SL-040**
				Sample ID	**DA2ASL0079**	**DA2ASL9005**	**DA2ASL0080**
				Sample Type	**GR**	**FD**	**GR**
				Depth (ft)	**2.0 - 6.0**	**6.0 - 10.0**	**6.0 - 10.0**
				Date	**08/11/15**	**08/11/15**	**08/11/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**			
Phenol		19000	30	N	<0.061 U	<0.075 U	<0.24 U
Pyrene		1800	78.5	N	**0.4**	**0.31**	**2.4**
m+p Methylphenol			3.49	N	<0.49 U	<0.6 U	<1.9 U
Organics – Pesticides							
4,4'-DDE		2	0.021	Y	**0.011 J**	<0.051 U	**0.016 J**
4,4'-DDT		1.9	0.021	Y	<0.042 U	<0.051 U	<0.04 U
Dieldrin		0.034	0.0049	Y	**0.024 J#**	**0.022 J#**	<0.04 U
Endosulfan sulfate		470	0.0358	N	**0.02 J**	<0.051 U	<0.04 U
Endrin		19	0.0101	N	<0.042 U	<0.051 U	<0.04 U
Endrin aldehyde		19	0.0105	N	<0.042 U	<0.051 U	<0.04 U
Methoxychlor		320	0.0199	Y	<0.082 U	<0.099 U	<0.078 U
alpha-BHC		0.086	0.0994	Y	<0.042 U	<0.051 U	<0.04 U
beta-BHC		0.3	0.00398	Y	**0.077 #**	<0.051 U	<0.04 U
Organics – PCBs							
PCB-1242		0.23	0.371	Y	<0.21 U	<0.25 U	<0.2 U
PCB-1254		0.24	0.371	Y	<0.21 U	<0.25 U	**0.47 *#**
PCB-1260		0.24	0.371	Y	**0.64 *#**	**0.87 *#**	<0.2 U
PCB-1262			0.371	Y	<0.21 U	<0.25 U	<0.2 U
Organics – Volatile							
2-Butanone		27000	89.6	N	<0.023 U	<0.028 U	<0.023 U
Acetone		61000	2.5	N	<0.023 U	<0.028 U	<0.023 U
Cyclohexane		6500		N	<0.012 U	<0.014 U	<0.012 U
Ethylbenzene		5.8	5.16	N	<0.0058 U	<0.0071 U	<0.0058 U
Isopropylbenzene		1900		N	<0.0058 U	<0.0071 U	<0.0058 U
M + P Xylene		650	10	N	<0.012 U	<0.014 U	<0.012 U
Methylcyclohexane				N	<0.012 U	<0.014 U	<0.012 U
Methylene chloride		57	4.05	N	<0.0058 U	<0.0071 UJ	<0.0094 U
Toluene		4900	200	N	<0.0058 U	<0.0071 U	<0.0058 U
o-Xylene		650	10	N	<0.0058 U	<0.0071 U	<0.0058 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result of potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

Table 4-7. Analytical Detections: Disposal Area 2A Sediment Samples

				Station	DA2A-SDSW-001	DA2A-SDSW-002	DA2A-SDSW-003	DA2A-SDSW-003	DA2A-SDSW-004	DA2A-SDSW-005	DA2A-SDSW-006	DA2A-SDSW-007
				Sample ID	DA2ASD0001	DA2ASD0002	DA2ASD9001	DA2ASD0003	DA2ASD0004	DA2ASD0005	DA2ASD0006	DA2ASD0007
				Sample Type	GR	GR	FD	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/11/15	08/11/15	08/11/15	08/11/15	08/12/15	08/12/15	08/12/15	08/11/15
Analyte (mg/kg)	**RSL**	**Ohio SRV**	**ESV**	**PBT Chemical?**								
Metals												
Aluminum	77000	42000		N	**6700**	**6700**	**6600**	**6400**	**5300**	**9300**	**4100**	**3200**
Antimony	31	0.84		N	<2.5 U	<2.7 U	<2.8 U	<2.7 U	<1.7 U	<2.6 U	**0.51 J**	<2.5 UJ
Arsenic	0.68	11	9.79	N	**8.7 ***	**10 ***	**5.6 ***	**6 ***	**5.3 ***	**5.2 ***	**4.6 ***	**5 ***
Barium	15000	210		N	**71**	**50**	**62**	**87**	**41**	**77**	**45**	**27**
Beryllium	160	0.8		N	**0.48 J**	**0.47 J**	**0.46 J**	**0.45 J**	**0.36 J**	**0.61 J**	**0.23 J**	**0.27 J**
Cadmium	71	0.96	0.99	N	**0.32 J**	**0.21 J**	**0.25 J**	**0.23 J**	**0.24 J**	**0.3 J**	**0.47 J**	**0.11 J**
Calcium		1E+05		N	**17000 J**	**9600 J**	**11000 J**	**12000 J**	**52000**	**4100 J**	**44000**	**12000 J**
Chromium	0.3	51	43.4	N	**11 ***	**11 ***	**10 ***	**11 ***	**9 J***	**14 J***	**7.5 J***	**5.5 ***
Cobalt	23	12	50	N	**12**	**8.5**	**8.6**	**8.3**	**7.5**	**9.5**	**2.9**	**7.7**
Iron	55000	44000		N	**19000**	**19000**	**14000**	**15000**	**12000**	**17000**	**9200**	**11000**
Lead	400	47	35.8	Y	**14 J**	**13 J**	**12 J**	**11 J**	**11 J**	**16 J**	**23 J**	**9.1**
Magnesium		29000		N	**6600 J**	**4600 J**	**4100 J**	**5400 J**	**8500 J**	**2700 J**	**7200 J**	**3500 J**
Manganese	1800	1000		N	**680**	**250**	**240**	**370**	**330**	**290**	**240**	**190 J**
Mercury	9.4	0.12	0.18	Y	**0.039 J**	**0.044 J**	**0.049 J**	**0.042 J**	**0.047 J**	**0.067 J**	**0.081 J**	<0.12 U
Nickel	1500	36	22.7	N	**27**	**24**	**22**	**22**	**19 J**	**24 J**	**8.9 J**	**17**
Potassium		12000		N	**850 J**	**1000 J**	**890 J**	**810 J**	**1100 J**	**1700 J**	<530 U	**550 J**
Selenium	390	1.4		N	**0.48 J**	<2.7 U	**0.6 J**	<2.7 U	<1.7 U	**0.87 J**	<2.1 U	<2.5 U
Silver	390	0.43	0.5	N	<1.2 U	<1.4 U	<1.4 U	<1.3 U	<0.87 U	<1.3 U	**0.91 J#**	<1.2 U
Thallium	0.78	4.7		N	<2.5 U	**0.29 J**	<2.8 U	<2.7 U	<1.7 U	<2.6 U	<2.1 U	<2.5 U
Vanadium	390	40		N	**18**	**17**	**16**	**17**	**12**	**18**	**13**	**9.1**
Zinc	23000	190	121	N	**71**	**59**	**63**	**52**	**52**	**83**	**63**	**40**
Organics – Semivolatile												
2-Methylnaphthalene	240		0.0202	N	**0.01**	**0.005 J**	<0.0096 U	**0.024 #**	<0.0079 U	**0.037 #**	<0.008 UJ	**0.0083 J**
Acenaphthylene	1800		0.0059	N	**0.0081 J#**	**0.0056 J**	<0.0096 U	<0.0097 U	<0.0079 U	**0.0089 #**	**0.051 J#**	<0.0092 U
Anthracene	18000		0.0572	N	<0.01 U	<0.0097 U	<0.0096 U	**0.0056 J**	**0.0052 J**	<0.0087 U	**0.058 J#**	<0.0092 U
Benz(a)anthracene	0.16		0.108	N	**0.027**	**0.023**	**0.013**	**0.029**	**0.031**	**0.024**	**0.37 J*#**	<0.0092 U
Benzaldehyde	7800			N	<0.15 U	<0.15 U	<0.14 U	<0.15 U	**0.015 J#**	**0.022 J#**	<0.12 UJ	<0.14 U
Benzo(a)pyrene	0.016		0.15	N	**0.034 ***	**0.028 ***	**0.014**	**0.026 ***	**0.031 ***	**0.03 ***	**0.42 J*#**	**0.013**
Benzo(b)fluoranthene	0.16		10.4	N	**0.055**	**0.043**	<0.0096 U	**0.043**	**0.06**	**0.05**	**0.61 J***	**0.021**
Benzo(ghi)perylene	1800		0.17	Y	**0.016**	**0.011**	**0.011**	**0.021**	**0.028**	**0.028**	**0.29 J#**	**0.0096**
Benzo(k)fluoranthene	1.6		0.24	N	**0.027**	**0.026**	<0.0096 U	**0.015**	**0.022**	**0.018**	**0.25 J#**	**0.007 J**
Bis(2-ethylhexyl)phthalate	39		0.182	N	<0.11 U	<0.1 U	<0.1 U	**0.028 J**	**0.026 J**	<0.091 U	<0.084 UJ	<0.096 U
Carbazole				N	<0.075 U	<0.073 U	<0.072 U	<0.073 U	<0.06 U	<0.065 U	**0.032 J*#**	<0.069 U
Chrysene	16		0.166	N	**0.039**	**0.03**	**0.018**	**0.037**	**0.049**	**0.035**	**0.44 J#**	<0.0092 U
Di-n-butyl phthalate	6300		1.114	N	<0.11 U	<0.1 U	<0.1 U	<0.1 U	<0.083 U	<0.091 U	<0.084 UJ	<0.096 U
Dibenz(a,h)anthracene	0.016		0.033	N	<0.01 U	<0.0097 U	<0.0096 U	<0.0097 U	<0.0079 U	<0.0087 U	**0.089 J*#**	<0.0092 U
Dibenzofuran	73		0.449	N	<0.075 U	<0.073 U	<0.072 U	**0.012 J**	<0.06 U	**0.0088 J**	**0.0055 J**	<0.069 U
Fluoranthene	2400		0.423	N	**0.063**	**0.052**	**0.037**	**0.057**	**0.056**	**0.054**	**0.89 J#**	**0.043**
Fluorene	2400		0.0774	N	<0.01 U	<0.0097 U	<0.0096 U	<0.0097 U	<0.0079 U	<0.0087 U	**0.017 J**	**0.006 J**
Indeno(1,2,3-cd)pyrene	0.16		0.2	N	**0.024**	**0.02**	**0.011**	**0.016**	**0.024**	**0.019**	**0.29 J*#**	**0.0082 J**
Naphthalene	3.8		0.176	N	**0.007 J**	<0.0097 U	<0.0096 U	**0.016**	<0.0079 U	**0.023**	<0.008 UJ	<0.0092 U
Phenanthrene	1800		0.204	N	**0.025**	**0.019**	**0.013**	**0.043**	**0.016**	**0.024**	**0.3 J#**	**0.035**
Pyrene	1800		0.195	N	**0.05**	**0.041**	**0.029**	**0.055**	**0.057**	**0.049**	**0.74 J#**	**0.038**
Organics – Pesticides												
4,4'-DDD	2.3		0.0049	Y	**0.0057 J#**	**0.013 J#**	**0.01 J#**	<0.025 U	<0.008 U	<0.011 U	<0.02 U	<0.12 U
4,4'-DDE	2		0.0032	Y	**0.014 J#**	**0.034 #**	**0.034 J#**	**0.0076 J#**	<0.008 U	<0.011 U	<0.02 U	<0.12 U
beta-BHC	0.3		0.005	Y	<0.025 U	<0.025 U	<0.05 U	<0.025 U	**0.0021 J**	**0.0053 J#**	<0.02 U	<0.12 U

Table 4-7. Analytical Detections: Disposal Area 2A Sediment Samples (Continued)

				Station	**DA2A-SDSW-001**	**DA2A-SDSW-002**	**DA2A-SDSW-003**	**DA2A-SDSW-003**	**DA2A-SDSW-004**	**DA2A-SDSW-005**	**DA2A-SDSW-006**	**DA2A-SDSW-007**
				Sample ID	**DA2ASD0001**	**DA2ASD0002**	**DA2ASD9001**	**DA2ASD0003**	**DA2ASD0004**	**DA2ASD0005**	**DA2ASD0006**	**DA2ASD0007**
				Sample Type	**GR**	**GR**	**FD**	**GR**	**GR**	**GR**	**GR**	**GR**
				Depth (ft)	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**
				Date	**08/11/15**	**08/11/15**	**08/11/15**	**08/11/15**	**08/12/15**	**08/12/15**	**08/12/15**	**08/11/15**
Analyte (mg/kg)	**RSL**	**Ohio SRV**	**ESV**	**PBT Chemical?**								
Organics – PCBs												
PCB-1254	0.24		0.0598	Y	<0.049 U	<0.048 U	<0.048 U	<0.048 U	<0.15 U	<0.043 U	**0.024 J**	<0.046 U
Organics – Volatile												
2-Butanone	27000		0.0424	N	<0.029 U	<0.025 U	<0.025 U	<0.027 U	<0.023 U	<0.025 U	<0.024 U	**0.0027 J**
Acetone	61000		0.0099	N	<0.029 U	<0.025 U	<0.025 U	<0.027 U	<0.023 U	<0.025 U	<0.024 U	**0.0077 J**
Carbon disulfide	770		0.0239	N	<0.0073 U	<0.0064 U	<0.0063 U	<0.0068 U	<0.0056 U	<0.0061 U	<0.0061 U	<0.0067 U

Table 4-7. Analytical Detections: Disposal Area 2A Sediment Samples (Continued)

				Station	DA2A-SDSW-008	DA2A-SDSW-009	DA2A-SDSW-010
				Sample ID	DA2ASD0008	DA2ASD0009	DA2ASD0010
				Sample Type	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/12/15	08/12/15	08/12/15
Analyte (mg/kg)	**RSL**	**Ohio SRV**	**ESV**	**PBT Chemical?**			
Metals							
Aluminum	77000	42000		N	**3400**	**3800**	**7000**
Antimony	31	0.84		N	<2.1 U	<2.5 U	<2.3 U
Arsenic	0.68	11	9.79	N	**12 *#**	**6.5 ***	**7.8 ***
Barium	15000	210		N	**22**	**30**	**64**
Beryllium	160	0.8		N	**0.32 J**	**0.31 J**	**0.39 J**
Cadmium	71	0.96	0.99	N	**0.096 J**	**0.19 J**	**0.085 J**
Calcium		1E+05		N	**34000 J**	**14000 J**	**38000**
Chromium	0.3	51	43.4	N	**6.4 J***	**6.6 J***	**12 J***
Cobalt	23	12	50	N	**9.6**	**8.6**	**8.4**
Iron	55000	44000		N	**18000**	**13000**	**19000**
Lead	400	47	35.8	Y	**8.9 J**	**11 J**	**7.8 J**
Magnesium		29000		N	**8000 J**	**3200 J**	**8100**
Manganese	1800	1000		N	**440**	**280**	**400**
Mercury	9.4	0.12	0.18	Y	**0.022 J**	**0.023 J**	**0.022 J**
Nickel	1500	36	22.7	N	**25 J**	**21 J**	**25 J**
Potassium		12000		N	**600 J**	**620 J**	**1200 J**
Selenium	390	1.4		N	<2.1 U	**0.87 J**	**0.74 J**
Silver	390	0.43	0.5	N	<1 U	<1.2 U	<1.2 U
Thallium	0.78	4.7		N	<2.1 U	<2.5 U	<2.3 U
Vanadium	390	40		N	**9.5**	**8.7**	**14**
Zinc	23000	190	121	N	**48 J**	**87**	**56**
Organics – Semivolatile							
2-Methylnaphthalene	240		0.0202	N	**0.023 #**	**0.011**	<0.008 U
Acenaphthylene	1800		0.0059	N	<0.0088 U	**0.0095 #**	<0.008 U
Anthracene	18000		0.0572	N	<0.0088 U	**0.013**	<0.008 U
Benz(a)anthracene	0.16		0.108	N	**0.018**	**0.03**	<0.008 U
Benzaldehyde	7800			N	<0.13 U	<0.13 U	<0.12 U
Benzo(a)pyrene	0.016		0.15	N	**0.018 ***	**0.03 ***	<0.008 U
Benzo(b)fluoranthene	0.16		10.4	N	**0.021**	**0.043**	**0.0065 J**
Benzo(ghi)perylene	1800		0.17	Y	**0.015**	**0.014**	**0.0085**
Benzo(k)fluoranthene	1.6		0.24	N	<0.0088 U	<0.009 U	<0.008 U
Bis(2-ethylhexyl)phthalate	39		0.182	N	<0.093 U	**0.026 J**	<0.084 U
Carbazole				N	<0.066 U	<0.067 U	<0.06 U
Chrysene	16		0.166	N	**0.032**	**0.044**	**0.026**
Di-n-butyl phthalate	6300		1.114	N	**0.043 J**	<0.094 U	<0.084 U
Dibenz(a,h)anthracene	0.016		0.033	N	<0.0088 U	<0.009 U	<0.008 U
Dibenzofuran	73		0.449	N	**0.01 J**	<0.067 U	<0.06 U
Fluoranthene	2400		0.423	N	**0.045**	**0.074**	**0.0042 J**
Fluorene	2400		0.0774	N	**0.0077 J**	<0.009 U	<0.008 U
Indeno(1,2,3-cd)pyrene	0.16		0.2	N	**0.012**	**0.012**	<0.008 U
Naphthalene	3.8		0.176	N	**0.0051 J**	<0.009 U	<0.008 U
Phenanthrene	1800		0.204	N	**0.057**	**0.057**	**0.013**
Pyrene	1800		0.195	N	**0.05**	**0.061**	**0.013**
Organics – Pesticides							
4,4'-DDD	2.3		0.0049	Y	<0.045 U	<0.11 U	<0.02 U
4,4'-DDE	2		0.0032	Y	<0.045 U	<0.11 U	<0.02 U
beta-BHC	0.3		0.005	Y	<0.045 U	<0.11 U	<0.02 U

Table 4-7. Analytical Detections: Disposal Area 2A Sediment Samples (Continued)

				Station	DA2A-SDSW-008	DA2A-SDSW-009	DA2A-SDSW-010
				Sample ID	DA2ASD0008	DA2ASD0009	DA2ASD0010
				Sample Type	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/12/15	08/12/15	08/12/15
Analyte (mg/kg)	**RSL**	**Ohio SRV**	**ESV**	**PBT Chemical?**			
Organics – PCBs							
PCB-1254	0.24		0.0598	Y	<0.044 U	<0.045 U	<0.039 U
Organics – Volatile							
2-Butanone	27000		0.0424	N	<0.023 U	**0.014 J**	<0.023 U
Acetone	61000		0.0099	N	<0.023 U	<0.089 UJ	<0.023 UJ
Carbon disulfide	770		0.0239	N	<0.0058 U	**0.00072 J**	<0.0058 U

Result Qualifiers.
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level
SRV = Sediment Reference Value

Table 4-8. Analytical Detections: Disposal Area 2A Surface Water Samples

						Station	DA2A-SDSW-001	DA2A-SDSW-002	DA2A-SDSW-003	DA2A-SDSW-007	DA2A-SDSW-007	DA2A-SDSW-008	DA2A-SDSW-009	DA2A-SDSW-010
						Sample ID	DA2ASW0001	DA2ASW0002	DA2ASW0003	DA2ASW9001	DA2ASW0007	DA2ASW0008	DA2ASW0009	DA2ASW0010
						Sample Type	GR	GR	GR	FD	GR	GR	GR	GR
						Date	08/11/15	08/11/15	08/11/15	08/11/15	08/11/15	08/12/15	08/12/15	08/12/15
Analyte (µg/L)	**Tap RSL**	**MCL**	**Ohio HH Drinking Water**	**Ohio HH Nondrinking Water**	**ESV**	**PBT Chemical?**								
Metals														
Aluminum	20000		970	4500	87	N	**130 #**	**380 #**	**160 #**	**850 #**	**740 #**	**2900 #**	**930 #**	**1500 #**
Antimony	7.8	6	9.7	780	900	N	**0.42 J**	**0.25 J**	**0.22 J**	**0.26 J**	**0.45 J**	**0.29 J**	**0.25 J**	**0.31 J**
Arsenic	0.052	10	10	580	340	N	**2.7 J***	**2.8 J***	**2.5 J***	**1.7 J***	**1.8 J***	**2.5 J***	**1.8 J***	**2 J***
Barium	3800	2000	2000	160000	2000	N	**39**	**47**	**47**	**46**	**48**	**61**	**50**	**57**
Beryllium	25	4	17	130	93	N	**0.25 J**	**0.17 J**	**0.11 J**	**0.1 J**	**0.15 J**	**0.21 J**	**0.12 J**	**0.12 J**
Cadmium	9.2	5	14	730	4.5	N	**0.31 J**	**0.083 J**	<1 U	<1 U	**0.21 J**	**0.071 J**	<1 U	<1 U
Calcium						N	**83000**	**98000**	**100000**	**69000**	**72000**	**65000**	**64000**	**67000**
Cobalt	6				220	N	**0.51 J**	**0.62 J**	**0.45 J**	**0.71 J**	**0.7 J**	**2.2**	**0.85 J**	**1.1**
Iron	14000		300		1000	N	**650**	**960**	**590**	**860**	**690**	**3000 #**	**900**	**1300 #**
Lead	15	15			97	Y	<1 U	<1 U	<1 U	<1 U	<1 U	**2.3**	<1 U	<1 U
Magnesium						N	<20000 U	**24000**	**24000**	**21000**	**21000**	**19000**	**18000**	**19000**
Manganese	430		50	61000	120	N	**180 #**	**250 #**	**180 #**	**39**	**37**	**120 #**	**54**	**62**
Nickel	390		470	43000	470	N	**1.4 J**	**1.9 J**	**1.6 J**	**4.3**	**4.1**	**8.8**	**5.4**	**7.1**
Potassium						N	**3400**	**3900**	**3800**	**5000**	**5100**	**6300**	**5900**	**6300**
Selenium	100	50	130	3100	4.61	N	**0.63 J**	**0.46 J**	**0.38 J**	**0.44 J**	**0.69 J**	**0.47 J**	**0.38 J**	**0.34 J**
Sodium						N	**4700**	**5200**	**5400**	**53000**	**55000**	**62000**	**64000**	**67000**
Thallium	0.2	2			79	N	**0.16 J**	<2 U	<2 U	<2 U	**0.16 J**	**0.12 J**	<2 U	**0.085 J**
Vanadium	86				150	N	<5 U	<5 U	<5 U	<5 U	<5 U	**6.1**	<5 U	<5 U
Zinc	6000		5000	35000	120	N	<20 U	<20 U	<20 U	<20 U	<20 U	**16 J**	<20 U	**11 J**
Organics – Semivolatile														
Caprolactam	9900					N	<4.8 U	<5.3 U	<4.8 U	<5.1 U	**<5 R**	<5.2 U	<5.4 U	**0.34 J#**
Organics – Pesticides														
beta-BHC	0.025		0.013	0.014	0.495	Y	<0.049 U	<0.048 U	<0.049 U	<0.048 U	<0.048 U	**0.024 J**	<0.048 U	**0.046 J***
Organics – Herbicides														
Dalapon	600	200				N	<2 U	<2 U	<2 U	<2 U	<2 U	<2 U	**1.6 J#**	<2 U
Organics – Volatile														
Acetone	14000				1500	N	<10 U	<10 U	<10 U	**1 J**	<10 U	**1.1 J**	**1.3 J**	<10 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

µg/L = Micrograms per Liter
ESV = Ecological Screening Value
HH = Human Health
MCL = Maximum Contaminant Level
PBT = Persistent, Bioaccumulative, and Toxic
RSL = Regional Screening Level

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Table 4-9. Soil Sample Location Summary: Fox Road Burning Ground

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
FRBG-SL-001	FRBGSL0001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Characterize south-east of general area. Refusal at 2.0 ft BGS.
FRBG-SL-002	FRBGSL0004	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.0	Characterize north-east of General Area near potential historical hauling route. Refusal at 9.0 ft BGS.
	FRBGSL0005	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0006	6.0-9.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-003	FRBGSL0007	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Characterize south-central of General Area near potential historical hauling road. Refusal at 5.5 ft BGS.
	FRBGSL0008	2.0-5.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-004	FRBGSL0010	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.4	Characterize southern General Area. Refusal at 6.0 ft BGS.
	FRBGSL0011	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-005	FRBGSL0013 FRBGSL0013MS/MSD	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.6	Characterize General Area along access road, base of slope off road. Refusal at 7.5 ft BGS.
	FRBGSL0014 FRBGSL0014MS/MSD	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0015	6.0-7.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		

Table 4-9. Soil Sample Location Summary: Fox Road Burning Ground (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
FRBG-SL-006	FRBGSL0016	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.0	Characterize northern portion of General Area near soil pile containing asphalt debris, and near sand borrow pit. Refusal at 7.0 ft BGS.
	FRBGSL0017	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0018	6.0-7.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-007	FRBGSL0019	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.3	Characterize central portion of General Area. Debris located in area. Petroleum odor (shale) 6-8 ft BGS. Refusal at 8.0 ft BGS.
	FRBGSL0020	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0021	6.0-8	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-008	FRBGSL0022	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.9	Characterize south-central portion of General Area near access road. Bare area with shale fragments at surface. Refusal at 5.5 ft BGS.
	FRBGSL0023	2.0-5.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-009	FRBGSL0025	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.1	Characterize General Area near tall vertical pipe sticking out of ground and downslope of soil pile and metal drum. Faint petroleum odor (shale) at 5.2 ft BGS. Refusal at 6.0 ft BGS.
	FRBGSL0026 FRBGSL9001	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-010	FRBGSL0028 FRBGSL9003	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.2	Characterize north-west portion of General Area. Bare area with no vegetation.
	FRBGSL0029	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 6.0 ft BGS.

Table 4-9. Soil Sample Location Summary: Fox Road Burning Ground (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
FRBG-SL-011	FRBGSL0031	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.7	Characterize western portion of General Area. Bare area with minimal vegetation.
	FRBGSL0032	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 6.0 ft BGS.
FRBG-SL-012	FRBGSL0034	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.1	Characterize south-west portion of General Area with low vegetation, shale, and gravel at surface.
	FRBGSL0035	2.0-5.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Petroleum odor (shale). Refusal at 5.5 ft BGS.
FRBG-SL-013	FRBGSL0037	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives	3.9	Characterize remnants of concrete slab and two concrete pits. Potential historical vehicle maintenance area. PID= 3.8 ppm. Refusal at 7.0 ft BGS.
	FRBGSL0038 FRBGSL9004	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0039	6.0-7.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-014	FRBGSL0040	0- 2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives	NA	Characterize soil pile on southern edge of General Area.
FRBG-SL-015	FRBGSL0041 FRBGSL0041MS/MSD	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives	NA	Characterize large soil pile with visible asphalt and cement debris on surface.
FRBG-SL-016	FGBRSL0042 FRBGSL9002	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives	NA	Characterize soil pile near steel drum within north-west portion of General Area.
FRBG-SL-017	FRBGSL0043 FRBGSL9005	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Characterize soil berm around outer edge of Subsurface Debris Area, near portion of a steel drum.

Table 4-9. Soil Sample Location Summary: Fox Road Burning Ground (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
FRBG-SL-018	FRBGSL0044	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives	NA	Characterize Soil Pile within north-west portion of General Area. Black tar-like material (roofing or ACM) on surface. AHES collected debris samples (FRBG-DD-001/-002).
FRBG-SL-019	FRBGSL0045	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Characterize soil pile in brushy area within north-west portion of General Area.
FRBG-SL-020	FRBGSL0046	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Soil mound, contained unidentifiable white substance - sticky, chalk-like material, pH 7, friable (nonfibrous). Sampled by AHES.
FRBG-SL-021	FRBGSL0047	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Characterize soil berm within north portion of Subsurface Debris Area.
FRBG-SL-022	FRBGSL0048	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	6.8	Characterize south-west portion of Subsurface Debris Area near soil berm.
	FRBGSL0049	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0050 FRBGSL9007	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-023	FRBGSL0051	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	6.5	Characterize area along historical haul route in southern portion of Subsurface Debris Area
	FRBGSL0052	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0053	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		

Table 4-9. Soil Sample Location Summary: Fox Road Burning Ground (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
FRBG-SL-024	FRBGSL0054	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	6.9	Characterize elevated area with adjacent depressions within southern portion of Subsurface Debris Area. Nearby construction swale with metal debris.
	FRBGSL0055	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0056 FRBGSL0056MS/MSD	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-025	FRBGSL0057	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.6	Characterize low vegetation area along historical haul route in north-east portion of Subsurface Debris Area. Refusal at 8.0 ft BGS.
	FRBGSL0058	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0059	6.0-8.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-026	FRBGSL0060	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	6.3	Characterize grassy area near soil berm (FRBG-SL-021) within northern portion of Subsurface Debris Area. Near metal debris (posts).
	FRBGSL0061 FRBGSL9006	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	FRBGSL0062	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
FRBG-SL-027	FRBGSL0063	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.0	Characterize eastern portion of Subsurface Debris Area. Near drainage ditch.
	FRBGSL0064	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		White fibrous debris and glass at 3.4 ft BGS. Evidence of burning at 4.5 ft BGS.
	FRBGSL0065	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Petroleum odor at 9.7 ft BGS (shale).

Note: Only asbestos analysis on primary samples.
ACM = Asbestos-Containing Material
AHES = Asbestos Hazard Evaluation Specialist
BGS = Below Ground Surface
ft = Feet
Herb = Herbicide
ID = Identifier
NA = Not Applicable
PCB = Polychlorinated Biphenyl
Pest = Pesticide
PID = Photoionization Detector
ppm = Parts per Million
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-10. Sediment Sample Location Summary: Fox Road Burning Ground

Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
FRBG-SDSW-001	FRBGSD0001 FRBGSL0001MS/MSD	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Upstream in drainage ditch, Ditch was dry (no sample collected) but saturated at 1.5 ft BGS.
FRBG-SDSW-002	FRBGSD0002	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Midpoint in drainage ditch. Ditch was dry (no sample collected) but saturated at 0.7 ft BGS.
FRBG-SDSW-003	FRBGSSD0003 FRBGSD9001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Downstream in drainage ditch. Ditch was dry (no sample collected) but saturated at 0.7 ft BGS.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
BGS = Below Ground Surface
ft = Feet
Herb = Herbicide
ID = Identifier
NA = Not Applicable
PCB = Polychlorinated Biphenyl
Pest = Pesticide
PID = Photoionization Detector
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-11. Debris Sample Location Summary: Fox Road Burning Ground

Station ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (description of ACM, painted debris, estimated quantity, co-located sample(s), etc.)
FRBG-DD-001	FRBGDD0001	0	Asbestos	NA	Tar and chip fragments on top of soil pile in General Area, nonfriable, co-located with FRBG-SL-018.
FRBG-DD-002	FRBGDD0002	0	Asbestos	NA	Tar and chip fragments on top of soil pile in General Area, nonfriable, ~8 ft northeast of FRBG-SL-018.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
BGS = Below Ground Surface
ft = Feet
ID = Identifier
NA = Not Applicable

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Table 4-12. Analytical Detections: Fox Road Burning Ground Surface Soil Samples

				Station	FRBG-SL-001	FRBG-SL-002	FRBG-SL-003	FRBG-SL-004	FRBG-SL-005	FRBG-SL-006	FRBG-SL-007	FRBG-SL-008	FRBG-SL-009	FRBG-SL-010
				Sample ID	FRBGSL0001	FRBGSL0004	FRBGSL0007	FRBGSL0010	FRBGSL0013	FRBGSL0016	FRBGSL0019	FRBGSL0022	FRBGSL0025	FRBGSL9003
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR	FD
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/14	08/05/15	08/05/15	08/05/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?										
Metals														
Aluminum	15500	77000	50	N	5800	5200	4500	4000	3000	3500	4700	4200	5600	3700
Antimony	9.3	31	0.27	N	<2.7 U	<2.3 U	<1.9 U	<1.9 U	1.1 J	<1.8 U	<2.2 U	<2 U	<2.3 U	<1.8 U
Arsenic	36.5	0.68	18	N	6.6	3.5	3.2	10	7.7	5	2.1	3.5	1.8	9.6
Barium	826	15000	330	N	160	25	19 J	<19 U	33	26	<22 U	21 J	<23 U	18 J
Beryllium	1	160	21	N	0.53 J	0.3 J	0.23 J	0.24 J	0.16 J	0.24 J	<0.55 U	0.32 J	0.17 J	0.19 J
Cadmium		71	0.36	N	0.19 J	0.1 J	0.089 J	0.066 J	0.046 J	0.18 J	0.043 J	0.88 #	0.073 J	<0.45 U
Calcium	52300			N	61000	5500 J	1100 J	640 J	11000 J	12000 J	1700 J	1100 J	610 J	<450 U
Chromium	29	0.3	26	N	8.5	9.2	6.6	6.2	4.7	5.3	6	5.9	6.6	8.4
Cobalt	116	23	13	N	4.8	3.4	2.2	2.1	2.2	2.4	2.2	3.4	2	1.9
Iron	234000	55000		N	44000	11000	8300	13000	12000	9400	7300	8800	6900	19000
Lead	48.6	400	11	Y	12 J	9.7 J	8.6 J	11 J	13 J	33	4.7 J	7.9 J	3.6 J	14 J
Magnesium	10400			N	30000	950 J	490 J	<460 U	1400 J	2200 J	680 J	<510 U	570 J	520 J
Manganese	3510	1800	220	N	2700	160	70	24	74	130	63	28	43	51
Mercury	0.085	9.4	0.00051	Y	0.051 J	0.033 J	<0.14 U	0.035 J	<0.12 U	0.048 J	0.023 J	0.038 J	0.029 J	<0.12 U
Nickel	55.1	1500	38	N	16	9.6	5.4	8.8	8.4	8.3	<5.3 U	13	<4.5 U	10
Potassium	3390			N	<680 U	<580 U	<480 U	<460 U	<560 U	<460 U	<550 U	<510 U	<560 U	550 J
Selenium	2	390	0.52	N	1 J	<2.3 U	<1.9 U	0.73 J	0.49 J	0.49 J	<2.2 U	0.36 J	<2.3 U	0.71 J
Thallium	1.3	0.78	1	N	0.37 J	<2.3 U	<1.9 U	0.12 J	0.21 J	0.12 J	<2.2 U	<2 U	<2.3 U	0.68 J
Vanadium	40.9	390	7.8	N	21	19	13	15	10	12	13	13	14	18
Zinc	322	23000	46	N	33 J	27 J	40 J	19 J	20 J	49 J	15 J	130	29 J	16 J
Organics – Semivolatile														
1,1'-Biphenyl		47	60	N	<0.075 U	<0.062 U	<0.058 U	0.0069 J	0.0081 J	<0.057 U	<0.06 U	<0.061 U	<0.064 U	<2.8 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.3 U	<0.25 U	<0.23 U	<0.23 U	0.034 J	<0.23 U	<0.24 U	<0.25 U	<0.26 U	<11 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.3 U	<0.25 U	<0.23 U	<0.23 U	<0.23 U	<0.23 U	<0.24 U	<0.25 U	<0.26 U	<11 U
2-Methylnaphthalene		240	3.24	N	<0.01 U	0.0047 J	0.016	0.15	0.16	0.079	<0.0081 U	0.012	<0.0085 U	0.68
Acenaphthene		3600	20	N	<0.01 U	<0.0083 U	<0.0077 U	<0.0078 U	<0.0075 U	<0.0076 U	<0.0081 U	<0.0082 U	<0.0085 U	<0.37 U
Acenaphthylene		1800	682	N	<0.01 U	0.0051 J	0.012	<0.0078 U	0.0081	0.004 J	<0.0081 U	0.0064 J	<0.0085 U	<0.37 U
Anthracene		18000	1480	N	<0.01 U	<0.0083 U	0.0095	<0.0078 U	<0.0075 U	<0.0076 U	<0.0081 U	<0.0082 U	<0.0085 U	<0.37 U
Benz(a)anthracene		0.16	5.21	N	0.0088 J	0.011	0.054	0.0071 J	0.023	0.016	0.0041 J	0.046	<0.0085 U	<0.37 U
Benzaldehyde		7800		N	0.064 J#	0.022 J#	<0.12 U	0.017 J#	<0.11 U	0.023 J#	<0.12 U	<0.12 U	<0.13 U	<5.6 U
Benzo(a)pyrene		0.016	1.52	N	0.0092 J	0.015	0.053 *	0.0067 J	0.028 *	0.015	<0.0081 U	0.065 *	<0.0085 U	<0.37 U
Benzo(b)fluoranthene		0.16	59.8	N	0.011	0.019	0.082	0.013	0.05	0.035	0.005 J	0.17 *	<0.0085 U	<0.37 U
Benzo(ghi)perylene		1800	119	Y	0.0095 J	0.014	0.039	0.007 J	0.028	0.011	<0.0081 U	0.18	<0.0085 U	<0.37 U
Benzo(k)fluoranthene		1.6	148	N	<0.01 U	0.015	0.036	0.0053 J	0.017	0.011	<0.0081 U	0.075	<0.0085 U	<0.37 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	0.078 J	0.056 J	0.028 J	<0.082 U	<0.079 U	<0.08 U	<0.085 U	<0.086 U	<0.089 U	<3.9 U
Caprolactam		31000		N	<0.5 U	<0.41 U	0.064 J#	<0.39 U	<0.37 U	<0.38 U	<0.4 U	<0.41 U	<0.42 U	<18 U
Chrysene		16	4.73	N	0.014	0.02	0.067	0.021	0.049	0.026	0.0052 J	0.067	<0.0085 U	<0.37 U
Di-n-butyl phthalate		6300	200	N	0.029 J	0.019 J	0.023 J	<0.082 U	<0.079 U	<0.08 U	<0.085 U	0.018 J	<0.089 U	<3.9 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.01 U	<0.0083 U	0.012	<0.0078 U	0.011	<0.0076 U	<0.0081 U	0.037 *	<0.0085 U	<0.37 U
Dibenzofuran		73		N	<0.075 U	<0.062 U	<0.058 U	<0.059 U	0.011 J#	<0.057 U	<0.06 U	<0.061 U	<0.064 U	<2.8 U
Fluoranthene		2400	122	N	0.02	0.032	0.11	0.014	0.043	0.035	0.0074 J	0.063	<0.0085 U	<0.37 U
Fluorene		2400	30	N	<0.01 U	<0.0083 U	<0.0077 U	<0.0078 U	<0.0075 U	<0.0076 U	<0.0081 U	<0.0082 U	<0.0085 U	<0.37 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	0.008 J	0.011	0.034	<0.0078 U	0.024	0.011	<0.0081 U	0.15	<0.0085 U	<0.37 U
Isophorone		570	139	N	<0.075 U	<0.062 U	<0.058 U	<0.059 U	<0.056 U	<0.057 U	<0.06 U	<0.061 U	<0.064 U	<2.8 U
Naphthalene		3.8	0.0994	N	<0.01 U	<0.0083 U	0.0071 J	0.057	0.054	0.028	<0.0081 U	0.0046 J	<0.0085 U	0.31 J#
Phenanthrene		1800	45.7	N	0.011	0.013	0.043	0.061	0.077	0.056	0.005 J	0.036	<0.0085 U	<0.37 U
Phenol		19000	30	N	0.013 J	0.012 J	0.035 J	<0.059 U	<0.056 U	<0.057 U	<0.06 U	<0.061 U	<0.064 U	<2.8 U
Pyrene		1800	78.5	N	0.015	0.024	0.086	0.015	0.041	0.028	0.0056 J	0.054	<0.0085 U	<0.37 U

Table 4-12. Analytical Detections: Fox Road Burning Ground Surface Soil Samples (Continued)

				Station	FRBG-SL-001	FRBG-SL-002	FRBG-SL-003	FRBG-SL-004	FRBG-SL-005	FRBG-SL-006	FRBG-SL-007	FRBG-SL-008	FRBG-SL-009	FRBG-SL-010
				Sample ID	FRBGSL0001	FRBGSL0004	FRBGSL0007	FRBGSL0010	FRBGSL0013	FRBGSL0016	FRBGSL0019	FRBGSL0022	FRBGSL0025	FRBGSL9003
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR	FD
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/14	08/05/15	08/05/15	08/05/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?										
Organics – Pesticides														
4,4'-DDE		2	0.021	Y	<0.0025 UJ	<0.0021 UJ	<0.02 U	<0.04 U	<0.095 U	<0.039 U	<0.002 UJ	<0.01 UJ	<0.0022 UJ	<0.094 U
4,4'-DDT		1.9	0.021	Y	<0.0025 UJ	<0.0021 UJ	<0.02 U	<0.04 U	<0.095 U	<0.039 U	<0.002 UJ	<0.01 UJ	<0.0022 UJ	<0.094 U
Endosulfan sulfate		470	0.0358	N	<0.0025 UJ	<0.0021 UJ	<0.02 U	<0.04 U	<0.095 U	<0.039 U	<0.002 UJ	<0.01 UJ	<0.0022 UJ	<0.094 U
Methoxychlor		320	0.0199	Y	<0.0049 UJ	<0.0041 UJ	<0.039 U	<0.077 U	<0.18 U	<0.077 U	<0.004 UJ	<0.02 UJ	<0.0042 UJ	<0.18 U
alpha-BHC		0.086	0.0994	Y	<0.0025 UJ	<0.0021 UJ	<0.02 U	<0.04 U	<0.095 U	<0.039 U	<0.002 UJ	<0.01 UJ	<0.0022 UJ	<0.094 U
beta-BHC		0.3	0.00398	Y	**0.0012 J**	**0.00093 J**	**0.0081 J#**	<0.04 U	<0.095 U	**0.013 J#**	<0.002 UJ	**0.003 J**	**0.00082 J**	<0.094 U
Organics – Herbicides														
Dalapon		1900		N	<0.18 U	**0.14 J#**	<0.14 UJ	<0.14 U	<0.13 U	<0.14 U	<0.14 U	<0.15 U	<0.15 UJ	<0.13 U
Organics – PCBs														
PCB-1254		0.24	0.371	Y	<0.049 U	<0.041 U	<0.039 U	<0.039 U	<0.037 U	<0.038 U	<0.04 UJ	<0.041 U	<0.042 U	<0.037 U
PCB-1260		0.24	0.371	Y	<0.049 U	<0.041 U	<0.039 U	<0.039 U	<0.037 U	<0.038 U	<0.04 UJ	<0.041 U	<0.042 U	**0.013 J**
PCB-1262			0.371	Y	<0.049 U	<0.041 U	<0.039 U	<0.039 U	<0.037 U	**0.026 J***	<0.04 UJ	<0.041 U	<0.042 U	<0.037 U
Organics – Explosives														
2,4,6-Trinitrotoluene		21		N	<0.25 U	<0.25 U	<0.25 U	<0.24 U	**0.82 J#**	**0.46 #**	<0.23 U	<0.24 U	<0.25 U	<0.24 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.25 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.24 U	<0.23 U	<0.24 U	<0.25 U	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.25 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.24 U	<0.23 U	<0.24 U	<0.25 U	<0.24 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.25 U	<0.25 U	<0.25 U	<0.24 U	**1.1 J#**	**0.46 #**	<0.23 U	<0.24 U	<0.25 U	<0.24 U
3,5-Dinitroaniline				N	<0.5 U	<0.5 U	<0.5 U	<0.49 U	**0.057 J*#**	**0.034 J*#**	<0.47 U	<0.49 U	<0.49 U	<0.48 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.25 U	<0.25 U	<0.25 U	<0.24 U	**0.82 J#**	**0.32 #**	<0.23 U	<0.24 U	<0.25 U	<0.24 U
Organics – Volatile														
2-Butanone		27000	89.6	N	<0.029 U	<0.024 U	<0.023 U	<0.024 U	<0.022 U	<0.022 U	<0.024 U	<0.024 U	<0.025 U	**0.0016 J**
Benzene		1.2	0.255	N	<0.0073 U	<0.006 U	<0.0058 U	<0.0059 U	<0.0054 U	<0.0056 U	<0.006 U	<0.0061 U	<0.0062 U	<0.0054 U
Carbon disulfide		770	0.0941	N	<0.0073 U	<0.006 U	<0.0058 U	<0.0059 U	<0.0054 U	<0.0056 U	<0.006 U	<0.0061 U	<0.0062 U	<0.0054 U
Cyclohexane		6500		N	<0.015 U	<0.012 U	<0.012 U	<0.012 U	**0.00072 J#**	<0.011 U	<0.012 U	<0.012 U	<0.012 U	**0.0017 J#**
Ethylbenzene		5.8	5.16	N	<0.0073 U	<0.006 U	<0.0058 U	<0.0059 U	**0.00095 J**	<0.0056 U	<0.006 U	<0.0061 U	<0.0062 U	**0.00092 J**
M + P Xylene		650	10	N	<0.015 U	<0.012 U	<0.012 U	**0.0011 J**	**0.0028 J**	<0.011 U	<0.012 U	<0.012 U	<0.012 U	**0.0027 J**
Methylcyclohexane				N	<0.015 U	<0.012 U	<0.012 U	<0.012 U	**0.0014 J*#**	<0.011 U	<0.012 U	<0.012 U	<0.012 U	**0.0027 J*#**
Methylene chloride		57	4.05	N	<0.0073 U	<0.006 U	<0.0058 U	**0.0025 J**	**0.0026 J**	<0.0056 U	**0.0015 J**	**0.0031 J**	<0.0062 U	<0.0024 UJ
Toluene		4900	200	N	<0.0073 U	<0.006 U	<0.0058 U	**0.00086 J**	**0.0029 J**	<0.0056 U	<0.006 U	<0.0061 U	<0.0062 U	**0.00048 J**
o-Xylene		650	10	N	<0.0073 U	<0.006 U	<0.0058 U	<0.0059 U	**0.0011 J**	<0.0056 U	<0.006 U	<0.0061 U	<0.0062 U	**0.0017 J**

Table 4-12. Analytical Detections: Fox Road Burning Ground Surface Soil Samples (Continued)

				Station	FRBG-SL-010	FRBG-SL-011	FRBG-SL-012	FRBG-SL-013	FRBG-SL-014	FRBG-SL-015	FRBG-SL-016	FRBG-SL-016	FRBG-SL-017	FRBG-SL-017
				Sample ID	FRBGSL0028	FRBGSL0031	FRBGSL0034	FRBGSL0037	FRBGSL0040	FRBGSL0041	FRBGSL9002	FRBGSL0042	FRBGSL9005	FRBGSL0043
				Sample Type	GR	GR	GR	GR	GR	GR	FD	GR	FD	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/06/15	08/06/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Metals														
Aluminum	15500	77000	50	N	**3900**	**5300**	**5100**	**7800**	**4700**	**4000**	**4400**	**4700**	**4300**	**3900**
Antimony	9.3	31	0.27	N	<1.9 U	<2 U	<2.1 U	**0.59 J**	<2.6 U	**0.54 J**	<1.8 U	<2 U	<1.8 U	<1.9 U
Arsenic	36.5	0.68	18	N	**8.9**	**9.2**	**9.8**	**3**	**1.8 J**	**1.8**	**2.2**	**2.5**	**9**	**7.4**
Barium	826	15000	330	N	**19 J**	**26**	**33**	**29**	<26 U	<20 U	**18 J**	<20 U	**22**	**21 J**
Beryllium	1	160	21	N	**0.18 J**	**0.33 J**	**0.47 J**	**0.28 J**	**0.21 J**	**0.2 J**	**0.23 J**	**0.22 J**	**0.19 J**	**0.18 J**
Cadmium		71	0.36	N	<0.48 U	**0.069 J**	**0.4 J#**	**0.088 J**	<0.66 U	<0.49 U	**0.071 J**	<0.5 U	<0.44 U	<0.47 U
Calcium	52300			N	<480 U	**910 J**	**960 J**	**22000 J**	**1200 J**	**9200 J**	**550 J**	**660 J**	<440 U	<470 U
Chromium	29	0.3	26	N	**8.1**	**6**	**6.9**	**7.4**	**6.6**	**4.7**	**4.7**	**5.3**	**6.9**	**5.9**
Cobalt	116	23	13	N	**1.7**	**2.6**	**20**	**2.3**	**2.7**	**2**	**2**	**2.2**	**1.4**	**1.4**
Iron	234000	55000		N	**16000**	**12000**	**15000**	**8400**	**9800**	**6300**	**6500**	**6900**	**16000**	**12000**
Lead	48.6	400	11	Y	**14 J**	**11 J**	**15 J**	**5.6 J**	**3.8 J**	**4.8**	**7 J**	**7.6 J**	**11 J**	**11 J**
Magnesium	10400			N	**530 J**	<500 U	<520 U	**2200 J**	**760 J**	**1200 J**	**520 J**	**580 J**	**520 J**	**490 J**
Manganese	3510	1800	220	N	**55**	**140**	**32**	**140**	**160**	**97 J**	**63**	**71**	**52**	**52**
Mercury	0.085	9.4	0.00051	Y	**0.042 J**	**0.043 J**	**0.053 J**	**0.043 J**	**0.026 J**	<0.11 U	<0.12 U	**0.028 J**	<0.11 U	**0.047 J**
Nickel	55.1	1500	38	N	**8.7**	**9.5**	**44**	<6 U	**5.9**	**6.6**	**5.7**	**6.2**	**6.7**	**6.4**
Potassium	3390			N	**600 J**	<500 U	**640 J**	<600 U	<660 U	<490 U	<450 U	<500 U	<440 U	<470 U
Selenium	2	390	0.52	N	**0.56 J**	<2 U	**0.95 J**	<2.4 U	<2.6 U	<2 U	<1.8 U	<2 U	**0.44 J**	**0.48 J**
Thallium	1.3	0.78	1	N	**0.51 J**	<2 U	**0.44 J**	<2.4 U	<2.6 U	<2 U	<1.8 U	<2 U	**0.41 J**	**0.29 J**
Vanadium	40.9	390	7.8	N	**18**	**14**	**16**	**15**	**15**	**11**	**8.7**	**9.7**	**13**	**11**
Zinc	322	23000	46	N	**15 J**	**20 J**	**46 J**	**21 J**	**18 J**	**19 J**	**20 J**	**22 J**	**18 J**	**19 J**
Organics – Semivolatile														
1,1'-Biphenyl		47	60	N	<0.56 U	**0.0064 J**	**0.017 J**	**0.0077 J**	<0.066 U	**0.0088 J**	<0.055 U	<0.055 U	<0.052 U	**0.0052 J**
2,4-Dinitrotoluene		1.7	1.28	N	<2.3 U	<0.25 U	<0.24 U	<0.27 U	<0.26 U	<0.21 U	<0.22 U	<0.22 U	<0.21 U	<0.21 U
2,6-Dinitrotoluene		0.36	0.0328	N	<2.3 U	<0.25 U	<0.24 U	<0.27 U	<0.26 U	<0.21 U	<0.22 U	<0.22 U	<0.21 U	<0.21 U
2-Methylnaphthalene		240	3.24	N	**0.55**	**0.085**	**0.51**	**0.051**	<0.0088 U	**0.035**	**0.0086**	**0.043**	**0.16**	**0.16**
Acenaphthene		3600	20	N	<0.075 U	<0.0082 U	<0.0079 U	<0.009 U	<0.0088 U	**0.0079**	<0.0074 U	<0.0074 U	<0.007 U	<0.0071 U
Acenaphthylene		1800	682	N	<0.075 U	**0.0044 J**	<0.0079 U	<0.009 U	<0.0088 U	**0.035**	<0.0074 U	<0.0074 U	<0.007 U	**0.0039 J**
Anthracene		18000	1480	N	<0.075 U	<0.0082 U	**0.01**	<0.009 U	<0.0088 U	**0.033**	<0.0074 U	<0.0074 U	<0.007 U	**0.0055 J**
Benz(a)anthracene		0.16	5.21	N	<0.075 U	**0.013**	**0.049**	<0.009 U	<0.0088 U	**0.079**	**0.0087**	**0.011**	<0.007 U	**0.015**
Benzaldehyde		7800		N	<1.1 U	<0.12 U	<0.12 U	<0.13 U	<0.13 U	**0.089 J#**	**0.11 #**	**0.035 J#**	**0.097 J#**	**0.055 J#**
Benzo(a)pyrene		0.016	1.52	N	<0.075 U	**0.012**	**0.036 ***	<0.009 U	<0.0088 U	**0.12 J***	**0.0097**	**0.012**	**0.0092**	**0.016 ***
Benzo(b)fluoranthene		0.16	59.8	N	<0.075 U	**0.024**	**0.093**	<0.009 U	<0.0088 U	**0.18 J***	**0.018**	**0.02**	**0.02**	**0.029**
Benzo(ghi)perylene		1800	119	Y	<0.075 U	**0.0094**	**0.02**	<0.009 U	<0.0088 U	**0.11 J**	**0.0081**	**0.0064 J**	<0.007 U	**0.0092**
Benzo(k)fluoranthene		1.6	148	N	<0.075 U	**0.0057 J**	**0.029**	<0.009 U	<0.0088 U	**0.08 J**	**0.0047 J**	**0.0068 J**	**0.0083**	**0.012**
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.79 U	<0.087 U	<0.083 U	<0.094 U	<0.092 U	<0.075 UJ	<0.077 U	<0.078 U	<0.073 U	<0.075 U
Caprolactam		31000		N	<3.7 U	<0.41 U	<0.39 U	**0.074 J#**	<0.43 U	<0.35 U	<0.36 U	<0.37 U	<0.35 U	<0.35 U
Chrysene		16	4.73	N	<0.075 U	**0.021**	**0.094**	<0.009 U	<0.0088 U	**0.17**	**0.012**	**0.017**	**0.029**	**0.039**
Di-n-butyl phthalate		6300	200	N	<0.79 U	<0.087 U	<0.083 U	<0.094 U	<0.092 U	<0.075 UJ	<0.077 U	<0.078 U	<0.073 U	<0.075 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.075 U	<0.0082 U	<0.0079 U	<0.009 U	<0.0088 U	<0.0071 UJ	<0.0074 U	<0.0074 U	<0.007 U	<0.0071 U
Dibenzofuran		73		N	<0.56 U	**0.015 J#**	**0.036 J#**	<0.067 U	<0.066 U	**0.0089 J#**	<0.055 U	<0.055 U	**0.017 J#**	**0.021 J#**
Fluoranthene		2400	122	N	<0.075 U	**0.024**	**0.087**	**0.024**	<0.0088 U	**0.15**	**0.021**	**0.024**	**0.021**	**0.039**
Fluorene		2400	30	N	<0.075 U	<0.0082 U	<0.0079 U	<0.009 U	<0.0088 U	**0.0097**	<0.0074 U	<0.0074 U	<0.007 U	<0.0071 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.075 U	**0.0084**	**0.023**	<0.009 U	<0.0088 U	**0.065 J**	**0.0076**	**0.0058 J**	<0.007 U	**0.0093**
Isophorone		570	139	N	<0.56 U	<0.062 U	<0.059 U	**0.043 J**	<0.066 U	<0.054 U	<0.055 U	<0.055 U	<0.052 U	<0.053 U
Naphthalene		3.8	0.0994	N	**0.22 #**	**0.05**	**0.2 #**	**0.012**	<0.0088 U	**0.0099**	**0.0039 J**	**0.015**	**0.05**	**0.043**
Phenanthrene		1800	45.7	N	**0.18**	**0.037**	**0.19**	**0.06**	<0.0088 U	**0.12**	**0.012**	**0.024**	**0.089**	**0.093**
Phenol		19000	30	N	<0.56 U	<0.062 U	<0.059 U	<0.067 U	<0.066 U	<0.054 U	<0.055 U	<0.055 U	<0.052 U	<0.053 U
Pyrene		1800	78.5	N	<0.075 U	**0.021**	**0.073**	**0.019**	<0.0088 U	**0.26**	**0.016**	**0.019**	**0.025**	**0.036**

Table 4-12. Analytical Detections: Fox Road Burning Ground Surface Soil Samples (Continued)

				Station	FRBG-SL-010	FRBG-SL-011	FRBG-SL-012	FRBG-SL-013	FRBG-SL-014	FRBG-SL-015	FRBG-SL-016	FRBG-SL-016	FRBG-SL-017	FRBG-SL-017
				Sample ID	FRBGSL0028	FRBGSL0031	FRBGSL0034	FRBGSL0037	FRBGSL0040	FRBGSL0041	FRBGSL9002	FRBGSL0042	FRBGSL9005	FRBGSL0043
				Sample Type	GR	GR	GR	GR	GR	GR	FD	GR	FD	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/06/15	08/06/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Organics – Pesticides														
4,4'-DDE		2	0.021	Y	<0.095 U	<0.042 U	<0.2 U	<0.0023 U	<0.0022 U	<0.036 U	<0.0095 U	<0.038 U	<0.089 U	<0.091 U
4,4'-DDT		1.9	0.021	Y	<0.095 U	<0.042 U	<0.2 U	<0.0023 U	<0.0022 U	<0.036 U	<0.0095 U	<0.038 U	<0.089 U	<0.091 U
Endosulfan sulfate		470	0.0358	N	<0.095 U	<0.042 U	<0.2 U	<0.0023 U	<0.0022 U	<0.036 U	<0.0095 U	<0.038 U	<0.089 U	<0.091 U
Methoxychlor		320	0.0199	Y	<0.18 U	<0.081 U	<0.4 U	<0.0044 U	<0.0043 U	<0.07 U	<0.018 U	<0.074 U	<0.17 UJ	<0.18 U
alpha-BHC		0.086	0.0994	Y	<0.095 U	<0.042 U	<0.2 U	<0.0023 U	<0.0022 U	<0.036 U	<0.0095 U	<0.038 U	<0.089 U	<0.091 U
beta-BHC		0.3	0.00398	Y	**0.024 J#**	<0.042 U	**0.05 J#**	<0.0023 U	<0.0022 U	<0.036 U	<0.0095 U	<0.038 U	<0.089 U	<0.091 U
Organics – Herbicides														
Dalapon		1900		N	**0.083 J#**	<0.14 U	<0.14 UJ	<0.16 U	<0.16 U	<0.13 U	<0.13 U	<0.13 U	<0.13 U	<0.13 U
Organics – PCBs														
PCB-1254		0.24	0.371	Y	<0.037 U	<0.04 U	<0.04 U	<0.044 U	<0.043 U	<0.035 U	<0.037 U	<0.037 U	<0.034 U	<0.036 U
PCB-1260		0.24	0.371	Y	**0.017 J**	<0.04 U	<0.04 U	<0.044 U	<0.043 U	<0.035 U	<0.037 U	<0.037 U	<0.034 U	<0.036 U
PCB-1262			0.371	Y	<0.037 U	<0.04 U	<0.04 U	<0.044 U	<0.043 U	<0.035 U	<0.037 U	<0.037 U	<0.034 U	<0.036 U
Organics – Explosives														
2,4,6-Trinitrotoluene		21		N	<0.25 U	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.24 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.25 U	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.25 U	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.24 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.25 U	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.24 U
3,5-Dinitroaniline				N	<0.5 U	<0.48 U	<0.48 U	<0.47 U	<0.49 U	<0.5 U	<0.49 U	<0.48 U	<0.5 U	<0.48 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.25 U	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.24 U
Organics – Volatile														
2-Butanone		27000	89.6	N	<0.022 U	<0.024 U	<0.024 U	<0.027 U	<0.025 U	<0.021 U	<0.02 U	<0.022 U	<0.02 U	<0.021 U
Benzene		1.2	0.255	N	<0.0055 U	<0.0059 U	**0.0067**	<0.0067 U	<0.0062 U	<0.0052 U	<0.0049 U	<0.0054 U	<0.005 U	<0.0052 U
Carbon disulfide		770	0.0941	N	<0.0055 U	<0.0059 U	**0.0017 J**	<0.0067 U	<0.0062 U	<0.0052 U	<0.0049 U	<0.0054 U	<0.005 U	<0.0052 U
Cyclohexane		6500		N	**0.0012 J#**	<0.012 U	**0.0095 J#**	<0.013 U	<0.012 U	<0.01 U	<0.0098 U	<0.011 U	<0.01 U	<0.01 U
Ethylbenzene		5.8	5.16	N	<0.0055 U	<0.0059 U	**0.0029 J**	<0.0067 U	<0.0062 U	<0.0052 U	<0.0049 U	<0.0054 U	<0.005 U	<0.0052 U
M + P Xylene		650	10	N	**0.0012 J**	<0.012 U	**0.0091 J**	**0.0013 J**	<0.012 U	<0.01 U	**0.00045 J**	<0.011 U	<0.01 U	<0.01 U
Methylcyclohexane				N	**0.002 J*#**	<0.012 U	**0.012 *#**	<0.013 U	<0.012 U	<0.01 U	<0.0098 U	<0.011 U	<0.01 U	<0.01 U
Methylene chloride		57	4.05	N	**0.0024 J**	<0.0059 U	**0.002 J**	<0.0067 U	<0.0062 U	<0.0052 UJ	<0.0049 U	<0.0054 U	<0.005 U	<0.0052 U
Toluene		4900	200	N	**0.0025 J**	**0.00038 J**	**0.021**	<0.0067 U	<0.0062 U	<0.0052 U	<0.0049 U	<0.0054 U	<0.005 U	<0.0052 U
o-Xylene		650	10	N	**0.00068 J**	<0.0059 U	**0.0044 J**	<0.0067 U	<0.0062 U	<0.0052 U	<0.0049 U	<0.0054 U	<0.005 U	<0.0052 U

Table 4-12. Analytical Detections: Fox Road Burning Ground Surface Soil Samples (Continued)

				Station	FRBG-SL-018	FRBG-SL-019	FRBG-SL-020	FRBG-SL-021	FRBG-SL-022	FRBG-SL-023	FRBG-SL-024	FRBG-SL-025	FRBG-SL-026	FRBG-SL-027
				Sample ID	FRBGSL0044	FRBGSL0045	FRBGSL0046	FRBGSL0047	FRBGSL0048	FRBGSL0051	FRBGSL0054	FRBGSL0057	FRBGSL0060	FRBGSL0063
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/06/15	08/06/15	08/13/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?										
Metals														
Aluminum	15500	77000	50	N	**2700**	**4200**	**1300**	**4200**	**3300**	**4900**	**3900**	**2100**	**4800**	**3600**
Antimony	9.3	31	0.27	N	<1.9 U	<2 U	<2.9 U	<2.1 U	<2.1 U	<1.9 U	<1.8 U	<2.1 U	<1.9 U	<2.1 U
Arsenic	36.5	0.68	18	N	**5.6**	**7.6**	**0.93 J**	**4.7**	**10**	**1.2 J**	**3**	**24**	**3.6**	**3.2**
Barium	826	15000	330	N	<19 U	**28**	<29 U	**24**	<21 U	<19 U	**25**	**29**	**25**	**23**
Beryllium	1	160	21	N	**0.2 J**	**0.31 J**	<0.71 U	**0.25 J**	**0.16 J**	**0.098 J**	**0.2 J**	**0.21 J**	**0.24 J**	**0.2 J**
Cadmium		71	0.36	N	<0.48 U	**0.22 J**	**0.25 J**	<0.53 U	<0.53 U	**0.053 J**	**0.2 J**	**0.035 J**	**0.092 J**	**0.46 J#**
Calcium	52300			N	**5500 J**	**3900 J**	**150000**	**2700 J**	<530 U	**750 J**	**4400 J**	**7200 J**	**1600 J**	**4000 J**
Chromium	29	0.3	26	N	**4.4**	**6.3**	**3.1**	**5.7**	**5.8**	**4.9**	**7.1**	**6.5**	**5.1**	**5.9**
Cobalt	116	23	13	N	**4.2**	**4.7**	**0.19 J**	**2.6**	**1 J**	**1.5**	**3**	**2.7**	**2.2**	**2**
Iron	234000	55000		N	**9600**	**11000**	**1600**	**9400**	**16000**	**4600**	**8200**	**29000**	**7600**	**12000**
Lead	48.6	400	11	Y	**7 J**	**25**	**9.4 J**	**19**	**11 J**	**4.9 J**	**44**	**24**	**12 J**	**31**
Magnesium	10400			N	**1800 J**	**1300 J**	**86000**	**1300 J**	<530 U	**500 J**	**1000 J**	**1100 J**	**670 J**	**770 J**
Manganese	3510	1800	220	N	**160**	**140**	**65**	**120**	**52**	**41**	**120**	**55**	**120**	**170**
Mercury	0.085	9.4	0.00051	Y	**0.028 J**	**0.042 J**	**0.043 J**	**0.046 J**	**0.042 J**	**0.24 #**	**0.33 #**	<0.12 U	<0.11 U	<0.11 U
Nickel	55.1	1500	38	N	**12**	**15**	**2 J**	**8.9**	**7.5**	**4.3**	**8.8**	**16**	**6.7**	**10**
Potassium	3390			N	<480 U	<500 U	<710 U	<530 U	**580 J**	<470 U	<450 U	**1400 J**	<470 U	<530 U
Selenium	2	390	0.52	N	<1.9 U	**0.8 J**	<2.9 U	**0.39 J**	**0.5 J**	<1.9 U	**0.31 J**	**1.4 J**	<1.9 U	<2.1 U
Thallium	1.3	0.78	1	N	**0.15 J**	**0.23 J**	<2.9 U	<2.1 U	**0.57 J**	<1.9 U	<1.8 U	**2.1 *#**	<1.9 U	<2.1 U
Vanadium	40.9	390	7.8	N	**9.4**	**12**	**2.6 J**	**9.5**	**12**	**7.1**	**9.8**	**15**	**9.1**	**6.8**
Zinc	322	23000	46	N	**30 J**	**60**	**27 J**	**46 J**	**13 J**	**12 J**	**74**	**13 J**	**26 J**	**85**
Organics – Semivolatile														
1,1'-Biphenyl		47	60	N	**0.0048 J**	**0.012 J**	<0.074 U	**0.0049 J**	**0.0059 J**	<0.056 U	<0.058 U	**0.026 J**	<0.055 U	<0.055 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.21 U	<0.23 U	<0.29 U	**0.033 J**	<0.22 U	<0.22 U	**0.097 J**	<0.87 U	<0.22 U	<0.22 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.21 U	<0.23 U	<0.29 U	<0.21 U	<0.22 U	<0.22 U	**0.041 J#**	<0.87 U	<0.22 U	<0.22 U
2-Methylnaphthalene		240	3.24	N	**0.12**	**0.24**	<0.0098 U	**0.13**	**0.13**	<0.0074 U	**0.06**	**0.9**	**0.012**	**0.016**
Acenaphthene		3600	20	N	<0.0071 U	<0.0076 U	<0.0098 U	<0.0071 U	<0.0075 U	<0.0074 U	<0.0077 U	<0.029 U	<0.0074 U	<0.0073 U
Acenaphthylene		1800	682	N	<0.0071 U	**0.024**	**0.076**	**0.012**	<0.0075 U	<0.0074 U	**0.0044 J**	<0.029 U	**0.0055 J**	**0.007 J**
Anthracene		18000	1480	N	<0.0071 U	**0.022**	**0.036**	**0.016**	<0.0075 U	<0.0074 U	<0.0077 U	<0.029 U	**0.0048 J**	**0.012**
Benz(a)anthracene		0.16	5.21	N	**0.0049 J**	**0.097**	**0.36 ***	**0.067**	**0.0063 J**	<0.0074 U	**0.024**	**0.043**	**0.022**	**0.033**
Benzaldehyde		7800		N	**0.028 J#**	**0.033 J#**	**0.032 J#**	**0.02 J#**	**0.12 #**	<0.11 U	<0.12 U	<0.43 U	<0.11 U	**0.052 J#**
Benzo(a)pyrene		0.016	1.52	N	**0.01**	**0.1 ***	**0.35 ***	**0.12 ***	<0.0075 U	<0.0074 U	**0.027 ***	**0.038 ***	**0.022 ***	**0.026 ***
Benzo(b)fluoranthene		0.16	59.8	N	**0.013**	**0.18 ***	**0.59 ***	**0.22 ***	**0.016**	<0.0074 U	**0.061**	**0.044**	**0.04**	**0.045**
Benzo(ghi)perylene		1800	119	Y	<0.0071 U	**0.038**	**0.11**	**0.057**	<0.0075 U	<0.0074 U	**0.029**	**0.03**	**0.02**	**0.015**
Benzo(k)fluoranthene		1.6	148	N	<0.0071 U	**0.043**	**0.29**	**0.067**	<0.0075 U	<0.0074 U	**0.012**	<0.029 U	**0.014**	**0.016**
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.075 U	<0.08 U	**0.03 J**	<0.075 U	<0.078 U	<0.078 U	<0.081 U	<0.3 U	<0.077 U	<0.076 U
Caprolactam		31000		N	<0.35 U	<0.38 U	<0.49 U	<0.35 U	<0.37 U	<0.37 U	<0.38 U	<1.4 U	<0.36 U	<0.36 U
Chrysene		16	4.73	N	**0.023**	**0.14**	**0.42**	**0.12**	**0.03**	<0.0074 U	**0.035**	**0.1**	**0.028**	**0.039**
Di-n-butyl phthalate		6300	200	N	<0.075 U	<0.08 U	<0.1 U	<0.075 U	<0.078 U	<0.078 U	<0.081 U	<0.3 U	<0.077 U	<0.076 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0071 U	**0.014**	**0.041 ***	**0.015**	<0.0075 U	<0.0074 U	**0.0077**	<0.029 U	<0.0074 U	<0.0073 U
Dibenzofuran		73		N	**0.0076 J#**	**0.035 J#**	<0.074 U	**0.01 J#**	<0.056 U	<0.056 U	<0.058 U	**0.036 J#**	<0.055 U	<0.055 U
Fluoranthene		2400	122	N	**0.011**	**0.19**	**0.92**	**0.058**	**0.014**	<0.0074 U	**0.031**	**0.079**	**0.038**	**0.068**
Fluorene		2400	30	N	<0.0071 U	**0.007 J**	<0.0098 U	<0.0071 U	<0.0075 U	<0.0074 U	<0.0077 U	<0.029 U	<0.0074 U	<0.0073 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.0071 U	**0.038**	**0.11**	**0.056**	<0.0075 U	<0.0074 U	**0.022**	**0.022 J**	**0.018**	**0.014**
Isophorone		570	139	N	<0.053 U	<0.057 U	<0.074 U	<0.053 U	<0.056 U	<0.056 U	<0.058 U	<0.22 U	<0.055 U	<0.055 U
Naphthalene		3.8	0.0994	N	**0.042**	**0.12 #**	**0.014**	**0.041**	**0.035**	<0.0074 U	**0.027**	**0.34 #**	<0.0074 U	**0.01**
Phenanthrene		1800	45.7	N	**0.051**	**0.19**	**0.1**	**0.069**	**0.098**	<0.0074 U	**0.028**	**0.3**	**0.019**	**0.035**
Phenol		19000	30	N	<0.053 U	<0.057 U	<0.074 U	<0.053 U	<0.056 U	<0.056 U	<0.058 U	<0.22 U	<0.055 U	<0.055 U
Pyrene		1800	78.5	N	**0.013**	**0.15**	**0.8**	**0.076**	**0.018**	<0.0074 U	**0.03**	**0.092**	**0.035**	**0.056**

Table 4-12. Analytical Detections: Fox Road Burning Ground Surface Soil Samples (Continued)

				Station	FRBG-SL-018	FRBG-SL-019	FRBG-SL-020	FRBG-SL-021	FRBG-SL-022	FRBG-SL-023	FRBG-SL-024	FRBG-SL-025	FRBG-SL-026	FRBG-SL-027
				Sample ID	FRBGSL0044	FRBGSL0045	FRBGSL0046	FRBGSL0047	FRBGSL0048	FRBGSL0051	FRBGSL0054	FRBGSL0057	FRBGSL0060	FRBGSL0063
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/06/15	08/06/15	08/13/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Organics – Pesticides														
4,4'-DDE		2	0.021	Y	<0.036 U	<0.039 UJ	<0.012 U	<0.036 U	<0.038 U	**0.00042 J**	<0.039 U	<0.093 U	<0.019 U	**0.011 J**
4,4'-DDT		1.9	0.021	Y	<0.036 U	<0.039 UJ	**<0.012 R**	<0.036 U	<0.038 U	**0.0011 J**	<0.039 U	<0.093 U	<0.019 U	<0.019 U
Endosulfan sulfate		470	0.0358	N	<0.036 U	<0.039 UJ	<0.012 U	**0.018 J**	<0.038 U	<0.0019 U	<0.039 U	<0.093 U	<0.019 U	**0.0068 J**
Methoxychlor		320	0.0199	Y	<0.07 U	<0.075 UJ	**0.0045 J**	<0.071 U	<0.075 U	<0.0036 U	<0.076 U	<0.18 U	<0.036 U	<0.037 U
alpha-BHC		0.086	0.0994	Y	<0.036 U	<0.039 UJ	<0.012 U	<0.036 U	<0.038 U	**0.0011 J**	<0.039 U	<0.093 U	<0.019 U	<0.019 U
beta-BHC		0.3	0.00398	Y	<0.036 U	<0.039 UJ	<0.012 U	<0.036 U	<0.038 U	<0.0019 U	<0.039 U	<0.093 U	<0.019 U	**0.005 J#**
Organics – Herbicides														
Dalapon		1900		N	<0.13 U	**0.074 J#**	<0.17 U	<0.13 U	<0.13 U	<0.13 U	<0.14 U	<0.13 U	<0.13 U	<0.13 U
Organics – PCBs														
PCB-1254		0.24	0.371	Y	<0.035 U	<0.037 U	<0.048 U	<0.035 U	<0.037 U	<0.036 U	<0.038 U	<0.036 U	<0.036 U	**0.52 *#**
PCB-1260		0.24	0.371	Y	<0.035 U	<0.037 U	<0.048 U	**0.31 ***	<0.037 U	<0.036 U	**0.042**	<0.036 U	<0.036 U	<0.18 U
PCB-1262			0.371	Y	<0.035 U	<0.037 U	<0.048 U	<0.035 U	<0.037 U	<0.036 U	<0.038 U	<0.036 U	<0.036 U	<0.18 U
Organics – Explosives														
2,4,6-Trinitrotoluene		21		N	<0.24 U	<0.25 U	<0.24 U	**0.34 #**	<0.25 U	<0.24 U	**0.12 J#**	<0.24 U	<0.25 U	**0.1 J#**
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	**0.075 J**	**0.045 J**	<0.25 U	**0.041 J**
2,6-Dinitrotoluene		0.36	0.0328	N	<0.24 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	**0.044 J#**	<0.24 U	<0.25 U	<0.25 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.24 U	<0.25 U	<0.24 U	**0.16 J#**	<0.25 U	<0.24 U	**0.11 J#**	<0.24 U	<0.25 U	**0.15 J#**
3,5-Dinitroaniline				N	<0.48 U	<0.49 U	<0.49 U	<0.49 U	<0.5 U	<0.48 U	**0.04 J*#**	<0.49 U	<0.5 U	<0.5 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.24 U	<0.25 U	<0.24 U	**0.13 J#**	<0.25 U	<0.24 U	**0.091 J#**	<0.24 U	<0.25 U	**0.097 J#**
Organics – Volatile														
2-Butanone		27000	89.6	N	<0.021 U	<0.022 U	**0.012 J**	<0.021 U	<0.021 U	<0.022 U	**0.0065 J**	<0.022 U	<0.022 U	<0.022 U
Benzene		1.2	0.255	N	<0.0052 U	<0.0055 U	<0.0069 UJ	<0.0051 U	<0.0052 U	<0.0054 U	<0.0049 U	<0.0054 U	<0.0054 U	<0.0054 U
Carbon disulfide		770	0.0941	N	<0.0052 U	<0.0055 U	<0.0069 UJ	<0.0051 U	<0.0052 U	<0.0054 U	<0.0049 U	<0.0054 U	<0.0054 U	<0.0054 U
Cyclohexane		6500		N	<0.01 U	<0.011 U	<0.014 UJ	<0.01 U	<0.01 U	<0.011 U	<0.0099 U	**0.00064 J#**	<0.011 U	<0.011 U
Ethylbenzene		5.8	5.16	N	<0.0052 U	<0.0055 U	<0.0069 UJ	<0.0051 U	<0.0052 U	<0.0054 U	<0.0049 U	<0.0054 U	<0.0054 U	<0.0054 U
M + P Xylene		650	10	N	**0.00054 J**	<0.011 U	<0.014 UJ	<0.01 U	<0.01 U	<0.011 U	<0.0099 U	**0.00061 J**	<0.011 U	<0.011 U
Methylcyclohexane				N	<0.01 U	<0.011 U	<0.014 UJ	<0.01 U	<0.01 U	<0.011 U	<0.0099 U	**0.0011 J*#**	<0.011 U	<0.011 U
Methylene chloride		57	4.05	N	<0.0052 U	<0.0055 U	<0.008 UJ	<0.0051 UJ	<0.0052 UJ	<0.0054 U	<0.0049 U	<0.0054 UJ	<0.0054 UJ	<0.0054 UJ
Toluene		4900	200	N	<0.0052 U	<0.0055 U	<0.0069 UJ	<0.0051 U	<0.0052 U	<0.0054 U	<0.0049 U	<0.0054 U	<0.0054 U	<0.0054 U
o-Xylene		650	10	N	<0.0052 U	<0.0055 U	<0.0069 UJ	<0.0051 U	<0.0052 U	<0.0054 U	<0.0049 U	<0.0054 U	<0.0054 U	<0.0054 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

Table 4-13. Analytical Detections: Fox Road Burning Ground Subsurface Soil Samples

				Station	FRBG-SL-002	FRBG-SL-002	FRBG-SL-003	FRBG-SL-004	FRBG-SL-005	FRBG-SL-005	FRBG-SL-006	FRBG-SL-006	FRBG-SL-007
				Sample ID	FRBGSL0005	FRBGSL0006	FRBGSL0008	FRBGSL0011	FRBGSL0014	FRBGSL0015	FRBGSL0017	FRBGSL0018	FRBGSL0020
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 6.0	6.0 - 9.0	2.0 - 5.5	2.0 - 6.0	2.0 - 6.0	6.0 - 7.5	2.0 - 6.0	6.0 - 7.0	2.0 - 6.0
				Date	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Metals													
Aluminum	15500	77000	50	N	**3700**	**6400**	**5300**	**2300**	**5400 J**	**3100**	**5200**	**2700**	**4400**
Antimony	9.3	31	0.27	N	<2.5 U	<1.9 U	<1.8 U	<2.1 U	<2.3 UJ	<1.7 U	<2.3 U	<1.9 U	<2 U
Arsenic	36.5	0.68	18	N	**3**	**14**	**15**	**2.8**	**3.4**	**7.4**	**1.8**	**6.7**	**2.9**
Barium	826	15000	330	N	<25 U	**30**	**89**	<21 U	<23 U	<17 U	<23 U	**21 J**	<20 U
Beryllium	1	160	21	N	**0.25 J**	**0.41 J**	**0.61**	<0.51 U	**0.24 J**	**0.32 J**	**0.22 J**	**0.29 J**	**0.22 J**
Cadmium		71	0.36	N	**0.064 J**	**0.14 J**	**0.24 J**	**0.085 J**	**0.054 J**	**0.29 J**	**0.037 J**	**0.17 J**	**0.045 J**
Calcium	52300			N	**5900 J**	**32000 J**	**3800 J**	**9000 J**	**1200 J**	**64000**	**950 J**	**50000**	**2200 J**
Chromium	29	0.3	26	N	**8.8**	**9.9**	**9.8**	**7**	**8.7**	**5.4**	**6.8**	**5.5**	**8.2**
Cobalt	116	23	13	N	**1.7**	**12**	**9.2**	**3**	**3.4**	**6.9**	**2**	**4.7**	**3**
Iron	234000	55000		N	**10000**	**20000**	**30000**	**8200**	**9800 J**	**15000**	**7700**	**20000**	**9100**
Lead	48.6	400	11	Y	**3.4 J**	**11 J**	**12 J**	**3.3 J**	**3.8 J**	**8.9 J**	**3.4 J**	**17 J**	**3.4 J**
Magnesium	10400			N	**1700 J**	**9800 J**	**2000 J**	**2300 J**	**720 J**	**23000**	<570 U	**22000**	**940 J**
Manganese	3510	1800	220	N	**47**	**330**	**1100**	**66**	<150 UJ	**600**	**82**	**810**	**87**
Mercury	0.085	9.4	0.00051	Y	<0.14 U	**0.017 J**	**0.056 J**	<0.14 U	<0.12 U	**0.033 J**	**0.029 J**	**0.037 J**	**0.022 J**
Nickel	55.1	1500	38	N	**5.8**	**34**	**34**	**8.6**	**9.2**	**23**	<4.6 U	**17**	**8.2**
Potassium	3390			N	<620 U	**1500 J**	<460 U	<510 U	<590 U	**580 J**	<570 U	<470 U	<510 U
Selenium	2	390	0.52	N	**0.52 J**	**0.53 J**	**0.38 J**	<2.1 U	<2.3 U	**0.3 J**	<2.3 U	**0.37 J**	<2 U
Silver	11.1	390	4.2	N	<1.2 U	<0.97 U	**0.094 J**	<1 U	<1.2 U	<0.86 U	<1.1 U	<0.94 U	<1 U
Thallium	1.3	0.78	1	N	<2.5 U	**0.44 J**	**0.79 J**	<2.1 U	<2.3 U	**0.38 J**	<2.3 U	**0.36 J**	<2 U
Vanadium	40.9	390	7.8	N	**22**	**13**	**24**	**15**	**17**	**10**	**15**	**12**	**15**
Zinc	322	23000	46	N	**16 J**	**57**	**77**	**26 J**	**24 J**	**80**	**15 J**	**42 J**	**20 J**
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	<0.063 U	<0.056 U	<0.057 U	**0.0059 J**	<0.06 U	<0.057 U	<0.06 U	<0.058 U	<0.06 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.25 U	<0.22 U	<0.23 U	<0.24 U	<0.24 U	<0.23 U	<0.24 U	<0.23 U	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.25 U	<0.22 U	<0.23 U	<0.24 U	<0.24 U	<0.23 U	<0.24 U	<0.23 U	<0.24 U
2-Methylnaphthalene		240	3.24	N	<0.0084 U	**0.05**	<0.0077 U	**0.21**	<0.008 U	**0.055**	<0.008 U	**0.0066 J**	<0.008 U
Acenaphthylene		1800	682	N	<0.0084 U	<0.0074 U	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	<0.0077 U	<0.008 U
Anthracene		18000	1480	N	<0.0084 U	**0.0063 J**	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	<0.0077 U	<0.008 U
Benz(a)anthracene		0.16	5.21	N	<0.0084 U	<0.0074 U	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	**0.0054 J**	<0.008 U
Benzo(a)pyrene		0.016	1.52	N	<0.0084 U	<0.0074 U	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	**0.0043 J**	<0.008 U
Benzo(b)fluoranthene		0.16	59.8	N	<0.0084 U	<0.0074 U	<0.0077 U	<0.0081 U	<0.008 U	**0.0045 J**	<0.008 U	**0.01**	<0.008 U
Benzo(ghi)perylene		1800	119	Y	<0.0084 U	**0.018**	<0.0077 U	<0.0081 U	<0.008 U	**0.005 J**	<0.008 U	**0.0042 J**	<0.008 U
Benzo(k)fluoranthene		1.6	148	N	<0.0084 U	<0.0074 U	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	<0.0077 U	<0.008 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	**0.05 J**	**0.043 J**	**0.034 J**	<0.16 U	<0.084 U	<0.079 U	<0.084 U	<0.081 U	<0.084 U
Chrysene		16	4.73	N	<0.0084 U	**0.027**	**0.0053 J**	<0.0081 U	<0.008 U	**0.013**	<0.008 U	**0.0085**	<0.008 U
Di-n-butyl phthalate		6300	200	N	**0.025 J**	**0.02 J**	**0.03 J**	<0.038 U	<0.084 U	<0.079 U	<0.084 U	<0.081 U	<0.084 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0084 U	<0.0074 U	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	<0.0077 U	<0.008 U
Dibenzofuran		73		N	<0.063 U	<0.056 U	<0.057 U	<0.061 U	<0.06 U	<0.057 U	<0.06 U	<0.058 U	<0.06 U
Fluoranthene		2400	122	N	<0.0084 U	<0.0074 U	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	**0.0097**	<0.008 U
Fluorene		2400	30	N	<0.0084 U	**0.0092**	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	<0.0077 U	<0.008 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.0084 U	<0.0074 U	<0.0077 U	<0.0081 U	<0.008 U	<0.0075 U	<0.008 U	<0.0077 U	<0.008 U
Naphthalene		3.8	0.0994	N	<0.0084 U	**0.019**	<0.0077 U	**0.096**	<0.008 U	**0.022**	<0.008 U	<0.0077 U	<0.008 U
Phenanthrene		1800	45.7	N	<0.0084 U	**0.039**	<0.0077 U	**0.034**	<0.008 U	**0.025**	<0.008 U	**0.012**	<0.008 U
Phenol		19000	30	N	**0.013 J**	<0.056 U	<0.057 U	<0.061 U	<0.06 U	<0.057 U	<0.06 U	<0.058 U	<0.06 U
Pyrene		1800	78.5	N	<0.0084 U	**0.011**	<0.0077 U	<0.0081 U	<0.008 U	**0.0068 J**	<0.008 U	**0.0087**	<0.008 U

Table 4-13. Analytical Detections: Fox Road Burning Ground Subsurface Soil Samples (Continued)

				Station	FRBG-SL-002	FRBG-SL-002	FRBG-SL-003	FRBG-SL-004	FRBG-SL-005	FRBG-SL-005	FRBG-SL-006	FRBG-SL-006	FRBG-SL-007
				Sample ID	FRBGSL0005	FRBGSL0006	FRBGSL0008	FRBGSL0011	FRBGSL0014	FRBGSL0015	FRBGSL0017	FRBGSL0018	FRBGSL0020
				Sample Type	GR	GR	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 6.0	6.0 - 9.0	2.0 - 5.5	2.0 - 6.0	2.0 - 6.0	6.0 - 7.5	2.0 - 6.0	6.0 - 7.0	2.0 - 6.0
				Date	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Organics – Pesticides													
4,4'-DDD		2.3	0.021	Y	<0.0022 UJ	<0.038 U	<0.0019 UJ	<0.002 U	<0.01 U	<0.02 U	<0.0021 UJ	<0.0099 U	<0.002 UJ
4,4'-DDT		1.9	0.021	Y	<0.0022 UJ	<0.038 U	<0.0019 UJ	<0.002 U	<0.01 U	<0.02 U	<0.0021 UJ	<0.0099 U	<0.002 UJ
Endosulfan sulfate		470	0.0358	N	<0.0022 UJ	<0.038 U	<0.0019 UJ	<0.002 U	<0.01 U	<0.02 U	<0.0021 UJ	<0.0099 U	<0.002 UJ
alpha-BHC		0.086	0.0994	Y	<0.0022 UJ	<0.038 U	<0.0019 UJ	<0.002 U	<0.01 U	<0.02 U	<0.0021 UJ	<0.0099 U	<0.002 UJ
beta-BHC		0.3	0.00398	Y	<0.0022 UJ	**0.012 J#**	<0.0019 UJ	**0.0012 J**	<0.01 U	<0.02 U	**0.0013 J**	<0.0099 U	**0.00086 J**
Organics – PCBs													
PCB-1260		0.24	0.371	Y	<0.042 U	<0.037 U	<0.038 U	<0.04 U	<0.039 U	<0.038 U	<0.04 U	<0.038 U	<0.039 U
Organics – Explosives													
1,3,5-Trinitrobenzene		2200	0.376	N	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
2,4,6-Trinitrotoluene		21		N	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	**0.11 J#**	<0.25 U	**0.17 J#**	<0.24 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	**0.29 #**	<0.25 U	**0.12 J#**	<0.24 U
3,5-Dinitroaniline				N	<0.49 U	<0.49 U	<0.48 U	<0.5 U	<0.5 U	<0.49 U	<0.5 U	<0.5 U	<0.48 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	**0.2 J#**	<0.25 U	**0.071 J#**	<0.24 U
PETN		130		N	<0.49 U	<0.49 U	<0.48 U	<0.5 U	<0.5 U	<0.49 U	<0.5 U	<0.5 U	<0.48 U
Organics – Volatile													
2-Butanone		27000	89.6	N	<0.025 U	<0.021 UJ	<0.022 U	<0.023 U	<0.023 U	<0.022 U	<0.023 U	<0.023 U	<0.023 U
Cyclohexane		6500		N	<0.013 U	<0.011 UJ	<0.011 U	<0.011 U	<0.012 U	**0.0084 J#**	<0.012 U	<0.011 U	<0.011 U
Ethylbenzene		5.8	5.16	N	<0.0063 U	<0.0054 UJ	<0.0056 U	<0.0057 U	<0.0058 U	**0.0024 J**	<0.0058 U	<0.0057 U	<0.0057 U
Isopropylbenzene		1900		N	<0.0063 U	<0.0054 UJ	<0.0056 U	<0.0057 U	<0.0058 U	**0.0003 J#**	<0.0058 U	<0.0057 U	<0.0057 U
M + P Xylene		650	10	N	<0.013 U	<0.011 UJ	<0.011 U	<0.011 U	<0.012 U	**0.0094 J**	<0.012 U	<0.011 U	<0.011 U
Methylcyclohexane				N	<0.013 U	<0.011 UJ	<0.011 U	**0.00083 J*#**	<0.012 U	**0.014 *#**	<0.012 U	<0.011 U	<0.011 U
Methylene chloride		57	4.05	N	<0.0063 U	**0.0036 J**	<0.0056 U	<0.0057 U	<0.0058 U	**0.001 J**	<0.0058 U	<0.0057 U	**0.0021 J**
Toluene		4900	200	N	<0.0063 U	<0.0054 UJ	<0.0056 U	<0.0057 U	<0.0058 U	**0.012**	<0.0058 U	<0.0057 U	<0.0057 U
o-Xylene		650	10	N	<0.0063 U	<0.0054 UJ	<0.0056 U	<0.0057 U	<0.0058 U	**0.0043 J**	<0.0058 U	<0.0057 U	<0.0057 U

Table 4-13. Analytical Detections: Fox Road Burning Ground Subsurface Soil Samples (Continued)

Station					FRBG-SL-007	FRBG-SL-008	FRBG-SL-009	FRBG-SL-009	FRBG-SL-010	FRBG-SL-011	FRBG-SL-012	FRBG-SL-013	FRBG-SL-013
Sample ID					FRBGSL0021	FRBGSL0023	FRBGSL9001	FRBGSL0026	FRBGSL0029	FRBGSL0032	FRBGSL0035	FRBGSL9004	FRBGSL0038
Sample Type					GR	GR	FD	GR	GR	GR	GR	FD	GR
Depth (ft)					6.0 - 8.0	2.0 - 5.5	2.0 - 6.0	2.0 - 6.0	2.0 - 6.0	2.0 - 6.0	2.0 - 5.5	2.0 - 6.0	2.0 - 6.0
Date					08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15	08/05/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?									
Metals													
Aluminum	15500	77000	50	N	**1900**	**2400**	**3300**	**3100**	**2900**	**3300**	**2200**	**3400**	**4200**
Antimony	9.3	31	0.27	N	<1.9 U	<2 U	<1.7 U	<2.1 U	<2.3 U	<2.4 U	**0.56 J**	<2.1 U	<2.4 U
Arsenic	36.5	0.68	18	N	**9.8**	**2.5**	**2.6**	**3.4**	**2**	**3.3**	**3.9**	**2.7**	**2.5**
Barium	826	15000	330	N	<19 U	<20 U	<17 U	<21 U	<23 U	<24 U	<20 U	<21 U	<24 U
Beryllium	1	160	21	N	**0.3 J**	<0.5 U	**0.18 J**	**0.18 J**	**0.2 J**	**0.27 J**	<0.51 U	**0.18 J**	**0.19 J**
Cadmium		71	0.36	N	**0.18 J**	**0.17 J**	**0.094 J**	**0.12 J**	**0.23 J**	**0.08 J**	**0.053 J**	**0.033 J**	**0.028 J**
Calcium	52300			N	**20000 J**	**18000 J**	**18000 J**	**22000 J**	**18000 J**	**15000 J**	**18000 J**	**1400 J**	**1800 J**
Chromium	29	0.3	26	N	**3.9**	**5.6**	**6**	**5.6**	**4.9**	**8.3**	**5.3**	**6.2**	**6.9**
Cobalt	116	23	13	N	**7.3**	**3.4**	**2.8**	**3.1**	**11**	**2.4**	**2**	**1.9**	**2.5**
Iron	234000	55000		N	**8400**	**6000**	**8100**	**7400**	**6300**	**12000**	**14000**	**6600**	**6200**
Lead	48.6	400	11	Y	**9.3 J**	**2.9 J**	**3 J**	**4.4 J**	**3 J**	**3.9 J**	**2.4 J**	**2.7 J**	**3.7 J**
Magnesium	10400			N	**4500 J**	**6300 J**	**4100 J**	**4500 J**	**4300 J**	**4300 J**	**6800 J**	**640 J**	**750 J**
Manganese	3510	1800	220	N	**79**	**77**	**130**	**150**	**400**	**180**	**150**	**60**	**59**
Mercury	0.085	9.4	0.00051	Y	**0.02 J**	<0.13 U	<0.12 U	<0.14 U	<0.13 U	<0.14 U	**0.02 J**	<0.13 U	<0.11 U
Nickel	55.1	1500	38	N	**24**	**8**	**8.3**	**11**	**16**	**8.1**	<5.7 U	**5**	**7.7**
Potassium	3390			N	<480 U	<500 U	<430 U	<520 U	<570 U	<590 U	<510 U	<520 U	<610 U
Selenium	2	390	0.52	N	**1.2 J**	<2 U	<1.7 U	**0.39 J**	<2.3 U	<2.4 U	<2 U	<2.1 U	<2.4 U
Silver	11.1	390	4.2	N	<0.96 U	<1 U	<0.86 U	<1 U	<1.1 U	<1.2 U	<1 U	<1 U	<1.2 U
Thallium	1.3	0.78	1	N	**0.71 J**	<2 U	<1.7 U	<2.1 U	<2.3 U	<2.4 U	<2 U	<2.1 U	<2.4 U
Vanadium	40.9	390	7.8	N	**11**	**14**	**13**	**12**	**11**	**22**	**13**	**14**	**14**
Zinc	322	23000	46	N	**50 J**	**50 J**	**26 J**	**42 J**	**36 J**	**20 J**	**16 J**	**15 J**	**21 J**
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	**0.019 J**	<0.061 U	<0.062 U	<0.06 U	<0.061 U	**0.0051 J**	<0.062 U	<0.063 U	<0.061 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.22 U	<0.24 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.22 U	<0.24 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
2-Methylnaphthalene		240	3.24	N	**0.66**	**0.13**	**0.048**	**0.05**	<0.0082 U	**0.22**	**0.013**	<0.0084 U	<0.0081 U
Acenaphthylene		1800	682	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Anthracene		18000	1480	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Benz(a)anthracene		0.16	5.21	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Benzo(a)pyrene		0.016	1.52	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Benzo(b)fluoranthene		0.16	59.8	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Benzo(ghi)perylene		1800	119	Y	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Benzo(k)fluoranthene		1.6	148	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.078 U	<0.085 U	<0.087 U	<0.084 U	<0.086 U	<0.086 U	<0.086 U	<0.088 U	<0.085 U
Chrysene		16	4.73	N	**0.02**	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Di-n-butyl phthalate		6300	200	N	<0.078 U	<0.085 U	<0.087 U	<0.084 U	<0.086 U	<0.086 U	<0.086 U	<0.088 U	<0.085 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Dibenzofuran		73		N	**0.02 J#**	<0.061 U	<0.062 U	<0.06 U	<0.061 U	**0.0087 J#**	<0.062 U	<0.063 U	<0.061 U
Fluoranthene		2400	122	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Fluorene		2400	30	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.0074 U	<0.0081 U	<0.0083 U	<0.008 U	<0.0082 U	<0.0082 U	<0.0082 U	<0.0084 U	<0.0081 U
Naphthalene		3.8	0.0994	N	**0.27 #**	**0.055**	**0.012**	**0.02**	<0.0082 U	**0.083**	<0.0082 U	<0.0084 U	<0.0081 U
Phenanthrene		1800	45.7	N	**0.11**	**0.022**	**0.012**	**0.0087**	<0.0082 U	**0.038**	<0.0082 U	<0.0084 U	<0.0081 U
Phenol		19000	30	N	<0.056 U	<0.061 U	<0.062 U	<0.06 U	<0.061 U	<0.061 U	<0.062 U	<0.063 U	<0.061 U
Pyrene		1800	78.5	N	**0.012**	**0.0046 J**	<0.0083 U	<0.008 U	<0.0082 U	**0.0049 J**	<0.0082 U	<0.0084 U	<0.0081 U

Table 4-13. Analytical Detections: Fox Road Burning Ground Subsurface Soil Samples (Continued)

Station					**FRBG-SL-007**	**FRBG-SL-008**	**FRBG-SL-009**	**FRBG-SL-009**	**FRBG-SL-010**	**FRBG-SL-011**	**FRBG-SL-012**	**FRBG-SL-013**	**FRBG-SL-013**
Sample ID					**FRBGSL0021**	**FRBGSL0023**	**FRBGSL9001**	**FRBGSL0026**	**FRBGSL0029**	**FRBGSL0032**	**FRBGSL0035**	**FRBGSL9004**	**FRBGSL0038**
Sample Type					**GR**	**GR**	**FD**	**GR**	**GR**	**GR**	**GR**	**FD**	**GR**
Depth (ft)					**6.0 - 8.0**	**2.0 - 5.5**	**2.0 - 6.0**	**2.0 - 6.0**	**2.0 - 6.0**	**2.0 - 6.0**	**2.0 - 5.5**	**2.0 - 6.0**	**2.0 - 6.0**
Date					**08/05/15**	**08/05/15**	**08/05/15**	**08/05/15**	**08/05/15**	**08/05/15**	**08/05/15**	**08/05/15**	**08/05/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Organics – Pesticides													
4,4'-DDD		2.3	0.021	Y	<0.0096 U	<0.01 UJ	<0.0021 UJ	<0.002 UJ	<0.021 U	<0.0021 UJ	<0.021 U	<0.0021 UJ	<0.0021 UJ
4,4'-DDT		1.9	0.021	Y	<0.0096 U	<0.01 UJ	<0.0021 UJ	<0.002 UJ	<0.021 U	<0.0021 UJ	<0.021 U	<0.0021 UJ	<0.0021 UJ
Endosulfan sulfate		470	0.0358	N	<0.0096 U	<0.01 UJ	<0.0021 UJ	<0.002 UJ	<0.021 U	<0.0021 UJ	<0.021 U	<0.0021 UJ	<0.0021 UJ
alpha-BHC		0.086	0.0994	Y	<0.0096 U	<0.01 UJ	**0.0018 J**	<0.002 UJ	<0.021 U	<0.0021 UJ	<0.021 U	<0.0021 UJ	<0.0021 UJ
beta-BHC		0.3	0.00398	Y	**0.0054 J#**	<0.01 UJ	**0.00067 J**	**0.00052 J**	<0.021 U	**0.00065 J**	<0.021 U	<0.0021 UJ	<0.0021 UJ
Organics – PCBs													
PCB-1260		0.24	0.371	Y	<0.037 U	<0.04 U	<0.041 U	<0.04 U	<0.04 U	<0.041 U	<0.041 U	<0.041 U	<0.041 UJ
Organics – Explosives													
1,3,5-Trinitrobenzene		2200	0.376	N	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	<0.25 U
2,4,6-Trinitrotoluene		21		N	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	<0.25 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	<0.25 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	<0.25 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	<0.25 U
3,5-Dinitroaniline				N	<0.49 U	<0.47 U	<0.49 U	<0.5 U	<0.48 U	<0.49 U	<0.49 U	<0.48 U	<0.5 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	<0.25 U
PETN		130		N	<0.49 U	<0.47 U	<0.49 U	<0.5 U	<0.48 U	<0.49 U	<0.49 U	<0.48 U	<0.5 U
Organics – Volatile													
2-Butanone		27000	89.6	N	<0.022 U	<0.024 U	<0.022 U	<0.024 U	<0.023 U	<0.024 U	**0.0084 J**	<0.024 U	<0.025 U
Cyclohexane		6500		N	<0.011 U	<0.012 U	<0.011 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	<0.012 U	<0.012 U
Ethylbenzene		5.8	5.16	N	<0.0055 U	<0.006 U	<0.0054 U	<0.006 U	<0.0057 U	<0.0061 U	<0.0061 U	<0.0059 U	<0.0062 U
Isopropylbenzene		1900		N	<0.0055 U	<0.006 U	<0.0054 U	<0.006 U	<0.0057 U	<0.0061 U	<0.0061 U	<0.0059 U	<0.0062 U
M + P Xylene		650	10	N	<0.011 U	<0.012 U	<0.011 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	<0.012 U	<0.012 U
Methylcyclohexane				N	<0.011 U	<0.012 U	<0.011 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	<0.012 U	<0.012 U
Methylene chloride		57	4.05	N	**0.0051 J**	<0.006 U	<0.0054 U	**0.0022 J**	<0.0057 U	**0.00098 J**	<0.0061 U	<0.0059 U	<0.0062 U
Toluene		4900	200	N	<0.0055 U	<0.006 U	<0.0054 U	<0.006 U	<0.0057 U	<0.0061 U	<0.0061 U	<0.0059 U	<0.0062 U
o-Xylene		650	10	N	<0.0055 U	<0.006 U	<0.0054 U	<0.006 U	<0.0057 U	<0.0061 U	<0.0061 U	<0.0059 U	<0.0062 U

Table 4-13. Analytical Detections: Fox Road Burning Ground Subsurface Soil Samples (Continued)

Station					FRBG-SL-013	FRBG-SL-022	FRBG-SL-022	FRBG-SL-022	FRBG-SL-023	FRBG-SL-023	FRBG-SL-024	FRBG-SL-024	FRBG-SL-025
Sample ID					FRBGSL0039	FRBGSL0049	FRBGSL9007	FRBGSL0050	FRBGSL0052	FRBGSL0053	FRBGSL0055	FRBGSL0056	FRBGSL0058
Sample Type					GR	GR	FD	GR	GR	GR	GR	GR	GR
Depth (ft)					6.0 - 7.0	2.0 - 6.0	6.0 - 10.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0
Date					08/05/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?									
Metals													
Aluminum	15500	77000	50	N	**2100**	**4300**	**1600**	**1600**	**3700**	**3300**	**4600**	**2900**	**3900**
Antimony	9.3	31	0.27	N	**0.71 J**	<2.1 U	<2 U	**0.6 J**	<1.8 U	<2.1 U	<2.1 U	<2.1 UJ	<2.3 U
Arsenic	36.5	0.68	18	N	**2.3**	**2.6**	**1.4 J**	**1.5**	**1.4**	**1.4 J**	**5.4**	**1.7**	**2**
Barium	826	15000	330	N	<21 U	<21 U	<20 U	<21 U	<18 U	<21 U	**83**	<21 U	<23 U
Beryllium	1	160	21	N	**0.19 J**	**0.19 J**	**0.11 J**	**0.1 J**	<0.45 U	**0.32 J**	**0.26 J**	**0.16 J**	<0.57 U
Cadmium		71	0.36	N	<0.53 U	<0.52 U	**0.096 J**	**0.085 J**	**0.043 J**	**0.15 J**	**0.48 J#**	**0.1 J**	**0.032 J**
Calcium	52300			N	**77000**	<520 U	**38000**	**36000**	**950 J**	**9800 J**	**7700 J**	**8400 J**	**670 J**
Chromium	29	0.3	26	N	**6**	**6**	**4.6**	**3.9**	**4.4**	**5.3**	**22**	**6.6**	**6.4**
Cobalt	116	23	13	N	**2.6**	**3.1**	**1.6**	**1.6**	**5.4**	**4.8**	**4.4**	**3.8**	**2.4**
Iron	234000	55000		N	**10000**	**7900**	**6000**	**4700**	**5000**	**3900**	**19000**	**5200 J**	**7000**
Lead	48.6	400	11	Y	**4.8 J**	**2.5 J**	**2.4 J**	**2.2 J**	**3.6 J**	**3 J**	**240 #**	**2.8 J**	**3 J**
Magnesium	10400			N	**36000**	**650 J**	**9600 J**	**8000 J**	**680 J**	**3900 J**	**2100 J**	**4100 J**	<570 U
Manganese	3510	1800	220	N	**820**	**99**	**140**	**140**	**290**	**50**	**310**	**56 J**	**110**
Mercury	0.085	9.4	0.00051	Y	<0.11 U	**0.029 J**	<0.13 U	<0.13 U	<0.12 U	<0.11 U	**0.43 #**	<0.12 U	<0.12 U
Nickel	55.1	1500	38	N	**8.2**	**6.5**	**4.8 J**	**4.8**	**5.9**	**14**	**16**	**8.4**	**5.1**
Potassium	3390			N	**540 J**	<520 U	<510 U	<510 U	<450 U	<520 U	<520 U	<530 U	<570 U
Selenium	2	390	0.52	N	<2.1 U	<2.1 U	<2 U	<2.1 U	<1.8 U	<2.1 U	<2.1 U	<2.1 U	<2.3 U
Silver	11.1	390	4.2	N	<1.1 U	<1 U	<1 U	<1 U	<0.9 U	<1 U	**0.59 J**	<1.1 U	<1.1 U
Thallium	1.3	0.78	1	N	<2.1 U	<2.1 U	<2 U	<2.1 U	<1.8 U	<2.1 U	<2.1 U	<2.1 U	<2.3 U
Vanadium	40.9	390	7.8	N	**12**	**13**	**11**	**7.3**	**10**	**9.8**	**11**	**13**	**11**
Zinc	322	23000	46	N	**18 J**	**15 J**	**16 J**	**15 J**	**15 J**	**27 J**	**310**	**21 J**	**12 J**
Organics – Semivolatile													
1,1'-Biphenyl		47	60	N	<0.056 U	<0.055 U	<0.06 U	<0.06 U	<0.057 U	<0.062 U	**0.0077 J**	<0.061 U	<0.059 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.22 U	<0.22 U	<0.24 U	<0.24 U	<0.23 U	<0.25 U	**1**	<0.25 U	<0.23 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.22 U	<0.22 U	<0.24 U	<0.24 U	<0.23 U	<0.25 U	**0.37 *#**	<0.25 U	<0.23 U
2-Methylnaphthalene		240	3.24	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.02**	<0.0082 U	**0.006 J**
Acenaphthylene		1800	682	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.0083**	<0.0082 U	<0.0078 U
Anthracene		18000	1480	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.015**	<0.0082 U	<0.0078 U
Benz(a)anthracene		0.16	5.21	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.082**	<0.0082 U	<0.0078 U
Benzo(a)pyrene		0.016	1.52	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.09 ***	<0.0082 U	<0.0078 U
Benzo(b)fluoranthene		0.16	59.8	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.24 ***	<0.0082 U	<0.0078 U
Benzo(ghi)perylene		1800	119	Y	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.13**	<0.0082 U	<0.0078 U
Benzo(k)fluoranthene		1.6	148	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.072**	<0.0082 U	<0.0078 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.078 U	<0.077 U	<0.084 U	<0.084 U	<0.08 U	<0.086 U	<0.079 U	<0.086 U	<0.082 U
Chrysene		16	4.73	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.15**	<0.0082 U	<0.0078 U
Di-n-butyl phthalate		6300	200	N	<0.078 U	<0.077 U	<0.084 U	<0.084 U	<0.08 U	<0.086 U	<0.079 U	<0.086 U	<0.082 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.035 ***	<0.0082 U	<0.0078 U
Dibenzofuran		73		N	<0.056 U	<0.055 U	<0.06 U	<0.06 U	<0.057 U	<0.062 U	**0.016 J#**	<0.061 U	<0.059 U
Fluoranthene		2400	122	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.18**	<0.0082 U	<0.0078 U
Fluorene		2400	30	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	<0.0075 U	<0.0082 U	<0.0078 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.093**	<0.0082 U	<0.0078 U
Naphthalene		3.8	0.0994	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.02**	<0.0082 U	<0.0078 U
Phenanthrene		1800	45.7	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.11**	<0.0082 U	<0.0078 U
Phenol		19000	30	N	<0.056 U	<0.055 U	<0.06 U	<0.06 U	<0.057 U	<0.062 U	<0.056 U	<0.061 U	<0.059 U
Pyrene		1800	78.5	N	<0.0074 U	<0.0074 U	<0.008 U	<0.008 U	<0.0076 U	<0.0082 U	**0.14**	<0.0082 U	<0.0078 U

Table 4-13. Analytical Detections: Fox Road Burning Ground Subsurface Soil Samples (Continued)

Station					**FRBG-SL-013**	**FRBG-SL-022**	**FRBG-SL-022**	**FRBG-SL-022**	**FRBG-SL-023**	**FRBG-SL-023**	**FRBG-SL-024**	**FRBG-SL-024**	**FRBG-SL-025**
Sample ID					**FRBGSL0039**	**FRBGSL0049**	**FRBGSL9007**	**FRBGSL0050**	**FRBGSL0052**	**FRBGSL0053**	**FRBGSL0055**	**FRBGSL0056**	**FRBGSL0058**
Sample Type					**GR**	**GR**	**FD**	**GR**	**GR**	**GR**	**GR**	**GR**	**GR**
Depth (ft)					**6.0 - 7.0**	**2.0 - 6.0**	**6.0 - 10.0**	**6.0 - 10.0**	**2.0 - 6.0**	**6.0 - 10.0**	**2.0 - 6.0**	**6.0 - 10.0**	**2.0 - 6.0**
Date					**08/05/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**									
Organics – Pesticides													
4,4'-DDD		2.3	0.021	Y	<0.0019 UJ	<0.0019 U	<0.002 UJ	<0.002 U	<0.0019 U	<0.002 UJ	<0.038 U	<0.0021 UJ	<0.02 U
4,4'-DDT		1.9	0.021	Y	<0.0019 UJ	<0.0019 U	<0.002 UJ	<0.002 U	<0.0019 U	<0.002 UJ	**0.016 J**	<0.0021 UJ	<0.02 U
Endosulfan sulfate		470	0.0358	N	<0.0019 UJ	<0.0019 U	<0.002 UJ	<0.002 U	<0.0019 U	<0.002 UJ	**0.019 J**	<0.0021 UJ	<0.02 U
alpha-BHC		0.086	0.0994	Y	<0.0019 UJ	<0.0019 U	<0.002 UJ	<0.002 U	<0.0019 U	<0.002 UJ	<0.038 U	<0.0021 UJ	<0.02 U
beta-BHC		0.3	0.00398	Y	<0.0019 UJ	<0.0019 U	<0.002 UJ	<0.002 U	<0.0019 U	<0.002 UJ	<0.038 U	<0.0021 UJ	<0.02 U
Organics – PCBs													
PCB-1260		0.24	0.371	Y	<0.038 U	<0.036 U	<0.039 U	<0.039 U	<0.038 U	<0.04 U	**0.33 ***	<0.04 U	<0.038 U
Organics – Explosives													
1,3,5-Trinitrobenzene		2200	0.376	N	<0.24 U	<0.23 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	**0.12 J**	<0.25 U	<0.25 U
2,4,6-Trinitrotoluene		21		N	<0.24 U	<0.23 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	**0.96 #**	<0.25 U	<0.25 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.23 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	**0.62**	<0.25 U	<0.25 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.24 U	<0.23 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	**0.37 *#**	<0.25 U	<0.25 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.24 U	<0.23 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	**0.98 #**	<0.25 U	<0.25 U
3,5-Dinitroaniline				N	<0.47 U	<0.47 U	<0.48 U	<0.49 U	<0.5 U	<0.48 U	**0.33 J*#**	<0.5 U	<0.49 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.24 U	<0.23 U	<0.24 U	<0.24 U	<0.25 U	<0.24 U	**0.81 #**	<0.25 U	<0.25 U
PETN		130		N	<0.47 U	<0.47 U	<0.48 U	<0.49 U	<0.5 U	<0.48 U	**1.6 #**	<0.5 U	<0.49 U
Organics – Volatile													
2-Butanone		27000	89.6	N	<0.022 U	<0.02 U	<0.023 U	<0.021 U	<0.02 U	**0.0019 J**	<0.022 U	**0.0016 J**	**0.0015 J**
Cyclohexane		6500		N	<0.011 U	<0.01 U	<0.011 U	<0.011 U	<0.01 U	<0.012 U	<0.011 U	<0.012 U	<0.011 U
Ethylbenzene		5.8	5.16	N	<0.0056 U	<0.005 U	<0.0057 U	<0.0053 U	<0.005 U	<0.0059 U	<0.0056 U	<0.0059 U	<0.0056 U
Isopropylbenzene		1900		N	<0.0056 U	<0.005 U	<0.0057 U	<0.0053 U	<0.005 U	<0.0059 U	<0.0056 U	<0.0059 U	<0.0056 U
M + P Xylene		650	10	N	<0.011 U	<0.01 U	<0.011 U	<0.011 U	<0.01 U	<0.012 U	<0.011 U	<0.012 U	<0.011 U
Methylcyclohexane				N	<0.011 U	<0.01 U	<0.011 U	<0.011 U	<0.01 U	<0.012 U	<0.011 U	<0.012 U	<0.011 U
Methylene chloride		57	4.05	N	<0.0056 U	<0.005 UJ	<0.0057 UJ	<0.0053 UJ	<0.005 UJ	<0.0059 UJ	<0.0056 UJ	<0.0059 UJ	<0.0056 UJ
Toluene		4900	200	N	<0.0056 U	<0.005 U	<0.0057 U	<0.0053 U	<0.005 U	<0.0059 U	**0.00032 J**	<0.0059 U	<0.0056 U
o-Xylene		650	10	N	<0.0056 U	<0.005 U	<0.0057 U	<0.0053 U	<0.005 U	<0.0059 U	<0.0056 U	<0.0059 U	<0.0056 U

Table 4-13. Analytical Detections: Fox Road Burning Ground Subsurface Soil Samples (Continued)

Station					**FRBG-SL-013**	**FRBG-SL-025**	**FRBG-SL-026**	**FRBG-SL-026**	**FRBG-SL-026**	**FRBG-SL-027**	**FRBG-SL-027**
Sample ID					**FRBGSL0039**	**FRBGSL0059**	**FRBGSL9006**	**FRBGSL0061**	**FRBGSL0062**	**FRBGSL0064**	**FRBGSL0065**
Sample Type					**GR**	**GR**	**FD**	**GR**	**GR**	**GR**	**GR**
Depth (ft)					**6.0 - 7.0**	**6.0 - 8.0**	**2.0 - 6.0**	**2.0 - 6.0**	**6.0 - 10.0**	**2.0 - 6.0**	**6.0 - 10.0**
Date					**08/05/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**							
Metals											
Aluminum	15500	77000	50	N	**2100**	**2400**	**4300**	**4000**	**2600**	**3700**	**2600**
Antimony	9.3	31	0.27	N	**0.71 J**	<1.7 U	<1.9 U	<2.1 U	<2.1 U	<1.7 U	<2.2 U
Arsenic	36.5	0.68	18	N	**2.3**	**3.4**	**2.1**	**2.6**	**1.2 J**	**2.2**	**8.4**
Barium	826	15000	330	N	<21 U	<17 U	<19 U	<21 U	<21 U	**20 J**	<22 U
Beryllium	1	160	21	N	**0.19 J**	**0.29 J**	**0.17 J**	**0.18 J**	<0.52 U	**0.19 J**	**0.34 J**
Cadmium		71	0.36	N	<0.53 U	**0.12 J**	<0.48 U	**0.025 J**	**0.14 J**	**0.096 J**	**0.17 J**
Calcium	52300			N	**77000**	**38000**	**900 J**	**700 J**	**14000 J**	**16000 J**	**26000 J**
Chromium	29	0.3	26	N	**6**	**4.4**	**6.1**	**5.3**	**6.1**	**5.9**	**5**
Cobalt	116	23	13	N	**2.6**	**5.4**	**2.2**	**2.5**	**4.2**	**2.4**	**7.3**
Iron	234000	55000		N	**10000**	**11000**	**6800**	**7400**	**5800**	**7000**	**11000**
Lead	48.6	400	11	Y	**4.8 J**	**3.2 J**	**3.4 J**	**3.1 J**	**2.6 J**	**7.4 J**	**10 J**
Magnesium	10400			N	**36000**	**13000**	**590 J**	**580 J**	**4000 J**	**4300 J**	**6700 J**
Manganese	3510	1800	220	N	**820**	**710**	**90**	**170**	**60**	**90**	**120**
Mercury	0.085	9.4	0.00051	Y	<0.11 U	<0.13 U	<0.12 U	<0.11 U	<0.11 U	<0.12 U	<0.12 U
Nickel	55.1	1500	38	N	**8.2**	**20**	**5.4**	**4.4**	**13**	**8.1**	**25**
Potassium	3390			N	**540 J**	<430 U	<480 U	<530 U	<520 U	<430 U	**710 J**
Selenium	2	390	0.52	N	<2.1 U	<1.7 U	<1.9 U	<2.1 U	<2.1 U	<1.7 U	**0.45 J**
Silver	11.1	390	4.2	N	<1.1 U	<0.86 U	<0.95 U	<1.1 U	<1 U	<0.86 U	<1.1 U
Thallium	1.3	0.78	1	N	<2.1 U	<1.7 U	<1.9 U	<2.1 U	<2.1 U	<1.7 U	**0.52 J**
Vanadium	40.9	390	7.8	N	**12**	**10**	**12**	**12**	**13**	**12**	**12**
Zinc	322	23000	46	N	**18 J**	**40 J**	**16 J**	**13 J**	**20 J**	**26 J**	**44 J**
Organics – Semivolatile											
1,1'-Biphenyl		47	60	N	<0.056 U	<0.061 U	<0.057 U	<0.056 U	<0.061 U	**0.014 J**	**0.024 J**
2,4-Dinitrotoluene		1.7	1.28	N	<0.22 U	<0.25 U	<0.23 U	<0.22 U	<0.24 U	<0.25 U	<0.89 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.22 U	<0.25 U	<0.23 U	<0.22 U	<0.24 U	<0.25 U	<0.89 U
2-Methylnaphthalene		240	3.24	N	<0.0074 U	**0.089**	<0.0076 U	<0.0074 U	<0.0081 U	**0.05**	**0.84**
Acenaphthylene		1800	682	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.0063 J**	**0.04**
Anthracene		18000	1480	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.018**	**0.027 J**
Benz(a)anthracene		0.16	5.21	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.042**	**0.11**
Benzo(a)pyrene		0.016	1.52	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.026 ***	**0.078 ***
Benzo(b)fluoranthene		0.16	59.8	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.05**	**0.14**
Benzo(ghi)perylene		1800	119	Y	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.023**	**0.05**
Benzo(k)fluoranthene		1.6	148	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.019**	**0.068**
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.078 U	<0.086 U	<0.08 U	<0.078 U	<0.086 U	<0.089 U	<0.31 U
Chrysene		16	4.73	N	<0.0074 U	**0.0065 J**	<0.0076 U	<0.0074 U	<0.0081 U	**0.055**	**0.16**
Di-n-butyl phthalate		6300	200	N	<0.078 U	<0.086 U	**0.017 J**	<0.078 U	<0.086 U	<0.089 U	<0.31 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	<0.0085 U	<0.03 U
Dibenzofuran		73		N	<0.056 U	<0.061 U	<0.057 U	<0.056 U	<0.061 U	**0.026 J#**	<0.22 U
Fluoranthene		2400	122	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.092**	**0.18**
Fluorene		2400	30	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.0043 J**	<0.03 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.0074 U	<0.0082 U	<0.0076 U	<0.0074 U	<0.0081 U	**0.022**	**0.043**
Naphthalene		3.8	0.0994	N	<0.0074 U	**0.023**	<0.0076 U	<0.0074 U	<0.0081 U	**0.036**	**0.31 #**
Phenanthrene		1800	45.7	N	<0.0074 U	**0.029**	<0.0076 U	<0.0074 U	<0.0081 U	**0.083**	**0.19**
Phenol		19000	30	N	<0.056 U	<0.061 U	<0.057 U	<0.056 U	<0.061 U	<0.064 U	<0.22 U
Pyrene		1800	78.5	N	<0.0074 U	**0.0053 J**	<0.0076 U	<0.0074 U	<0.0081 U	**0.067**	**0.18**

Table 4-13. Analytical Detections: Fox Road Burning Ground Subsurface Soil Samples (Continued)

Station					**FRBG-SL-013**	**FRBG-SL-025**	**FRBG-SL-026**	**FRBG-SL-026**	**FRBG-SL-026**	**FRBG-SL-027**	**FRBG-SL-027**
Sample ID					**FRBGSL0039**	**FRBGSL0059**	**FRBGSL9006**	**FRBGSL0061**	**FRBGSL0062**	**FRBGSL0064**	**FRBGSL0065**
Sample Type					**GR**	**GR**	**FD**	**GR**	**GR**	**GR**	**GR**
Depth (ft)					**6.0 - 7.0**	**6.0 - 8.0**	**2.0 - 6.0**	**2.0 - 6.0**	**6.0 - 10.0**	**2.0 - 6.0**	**6.0 - 10.0**
Date					**08/05/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**	**08/06/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**							
Organics – Pesticides											
4,4'-DDD		2.3	0.021	Y	<0.0019 UJ	<0.01 U	<0.002 UJ	<0.0019 U	<0.0021 UJ	<0.044 U	**0.0013 J**
4,4'-DDT		1.9	0.021	Y	<0.0019 UJ	<0.01 U	<0.002 UJ	<0.0019 U	<0.0021 UJ	<0.044 U	**0.0069 J**
Endosulfan sulfate		470	0.0358	N	<0.0019 UJ	<0.01 U	<0.002 UJ	<0.0019 U	<0.0021 UJ	<0.044 U	<0.0094 U
alpha-BHC		0.086	0.0994	Y	<0.0019 UJ	<0.01 U	<0.002 UJ	<0.0019 U	<0.0021 UJ	<0.044 U	<0.0094 U
beta-BHC		0.3	0.00398	Y	<0.0019 UJ	<0.01 U	<0.002 UJ	<0.0019 U	<0.0021 UJ	**0.032 J#**	**0.0025 J**
Organics – PCBs											
PCB-1260		0.24	0.371	Y	<0.038 U	<0.04 U	<0.038 U	<0.037 U	<0.04 U	<0.043 U	<0.037 U
Organics – Explosives											
1,3,5-Trinitrobenzene		2200	0.376	N	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U
2,4,6-Trinitrotoluene		21		N	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U
3,5-Dinitroaniline				N	<0.47 U	<0.49 U	<0.5 U	<0.47 U	<0.48 U	<0.5 U	<0.5 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.24 U	<0.25 U	<0.25 U
PETN		130		N	<0.47 U	<0.49 U	<0.5 U	<0.47 U	<0.48 U	<0.5 U	<0.5 U
Organics – Volatile											
2-Butanone		27000	89.6	N	<0.022 U	<0.023 U	<0.022 U	<0.021 U	<0.024 U	<0.024 U	<0.021 U
Cyclohexane		6500		N	<0.011 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	<0.012 U	<0.011 U
Ethylbenzene		5.8	5.16	N	<0.0056 U	<0.0057 U	<0.0055 U	<0.0053 U	<0.006 U	<0.006 U	<0.0053 U
Isopropylbenzene		1900		N	<0.0056 U	<0.0057 U	<0.0055 U	<0.0053 U	<0.006 U	<0.006 U	<0.0053 U
M + P Xylene		650	10	N	<0.011 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	<0.012 U	<0.011 U
Methylcyclohexane				N	<0.011 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U	<0.012 U	<0.011 U
Methylene chloride		57	4.05	N	<0.0056 U	<0.0057 UJ	<0.0055 UJ	<0.0053 UJ	<0.006 UJ	<0.006 UJ	<0.0053 UJ
Toluene		4900	200	N	<0.0056 U	<0.0057 U	<0.0055 U	<0.0053 U	<0.006 U	<0.006 U	<0.0053 U
o-Xylene		650	10	N	<0.0056 U	<0.0057 U	<0.0055 U	<0.0053 U	<0.006 U	<0.006 U	<0.0053 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

Table 4-14. Analytical Detections: Fox Road Burning Ground Sediment Samples

				Station	FRBG-SDSW-001	FRBG-SDSW-002	FRBG-SDSW-003	FRBG-SDSW-003
				Sample ID	FRBGSD0001	FRBGSD0002	FRBGSD9001	FRBGSD0003
				Sample Type	GR	GR	FD	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/06/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	**RSL**	**Ohio SRV**	**ESV**	**PBT Chemical?**				
				Metals				
Aluminum	77000	42000		N	**1800**	**1900**	**1600**	**1700**
Antimony	31	0.84		N	**0.97 J#**	**0.82 J**	**0.65 J**	**0.65 J**
Arsenic	0.68	11	9.79	N	**0.86 J***	**2.9 ***	**0.93 J***	**0.87 J***
Beryllium	160	0.8		N	**0.11 J**	**0.15 J**	**0.097 J**	**0.12 J**
Cadmium	71	0.96	0.99	N	**0.11 J**	**0.2 J**	**0.18 J**	**0.17 J**
Calcium		110000		N	**15000 J**	**33000 J**	**32000 J**	**32000 J**
Chromium	0.3	51	43.4	N	**4.7 ***	**6.3 ***	**4.7 ***	**5.7 ***
Cobalt	23	12	50	N	**1.6**	**3.1**	**1.5**	**1.8**
Iron	55000	44000		N	**5000**	**5700**	**4600**	**5800**
Lead	400	47	35.8	Y	**2.7 J**	**4.5 J**	**3 J**	**3.2 J**
Magnesium		29000		N	**5300 J**	**7300 J**	**7700 J**	**8100 J**
Manganese	1800	1000		N	**73**	**110**	**99**	**110**
Nickel	1500	36	22.7	N	**4.8**	**12**	**5 J**	**5.8**
Vanadium	390	40		N	**10**	**10**	**8**	**10**
Zinc	23000	190	121	N	**21 J**	**51**	**23 J**	**28 J**
				Organics – Semivolatile				
2-Methylnaphthalene	240		0.0202	N	<0.0092 U	**0.059 #**	<0.0095 U	<0.0094 U
Benz(a)anthracene	0.16		0.108	N	**0.0066 J**	<0.0095 U	<0.0095 U	<0.0094 U
Benzaldehyde	7800			N	<0.14 U	**0.044 J#**	<0.14 U	**0.018 J#**
Bis(2-ethylhexyl)phthalate	39		0.182	N	**0.054 J**	**0.071 J**	**0.07 J**	**0.057 J**
Caprolactam	31000			N	**0.052 J#**	<0.47 U	**0.076 J#**	<0.46 U
Chrysene	16		0.166	N	**0.0093**	**0.012**	<0.0095 U	<0.0094 U
Di-n-butyl phthalate	6300		1.114	N	**0.04 J**	**0.036 J**	**0.024 J**	**0.022 J**
Dibenzofuran	73		0.449	N	<0.069 U	**0.0096 J**	<0.071 U	<0.07 U
Fluoranthene	2400		0.423	N	**0.0062 J**	<0.0095 U	<0.0095 U	<0.0094 U
N-Nitroso-di-n-propylamine	0.078			N	<0.069 U	<0.071 U	<0.071 U	**0.021 J#**
Naphthalene	3.8		0.176	N	<0.0092 U	**0.016**	<0.0095 U	<0.0094 U
Phenanthrene	1800		0.204	N	**0.0059 J**	**0.031**	<0.0095 U	<0.0094 U
Phenol	19000		0.0491	N	<0.069 U	**0.026 J**	**0.013 J**	<0.07 U
Pyrene	1800		0.195	N	**0.0086 J**	**0.011**	<0.0095 U	<0.0094 U
				Organics – Volatile				
Toluene	4900		1.22	N	<0.0069 U	<0.0069 U	<0.0068 U	**0.0026 J**

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

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Table 4-15. Soil Sample Location Summary: Snake Road Burning Ground

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
SRBG-SL-001	SRBGSL0001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.0	Characterize Primary Burn Area; surface evidence of burning, potential ACM (transite fragments).
	SRBGSL0002	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0003	6.0-8.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 8.0 ft BGS.
SRBG-SL-002	SRBGSL0004	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	5.0	Characterize Secondary Fire Training Area; debris located in ground, potential ACM (transite fragment).
	SRBGSL0005	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0006	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
SRBG-SL-003	SRBGSL0007	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.0	Characterize Primary Burn Area; metal debris (shredded drum) on ground.
	SRBGSL0008 SRBGSL9004	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0009	6.0-9.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 9.0 ft BGS.
SRBG-SL-004	SRBGSL0010	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.3	Characterize Primary Burn Area; steel drum lid.
	SRBGSL0011 SRBGSL9004	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0012	6.0-9.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 9.0 ft BGS.

Table 4-15. Soil Sample Location Summary: Snake Road Burning Ground (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
SRBG-SL-005	SRBGSL0013	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.3	Characterize Secondary Fire Training Area; metal pipe sticking out of ground; nearby potential ACM (transite fragment).
	SRBGSL0014	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0015	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
SRBG-SL-006	SRBGSL0016	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	6.3	Characterize Secondary Fire Training Area; metal debris on berm.
	SRBGSL0017 SRBGSL9002	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0018	6.0-8.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 8.5 ft BGS.
SRBG-SL-007	SRBGSL0019 SRBGSL9001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	5.0	Characterize Secondary Fire Training Area; metal debris (sign and pipe); white styrofoam piece in top of DPT core.
	SRBGSL0020 SRBGSL0020MD/MSD	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0021 SRBGSL0021MS/MSD	6.0-8	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 8.0 ft BGS.
SRBG-SL-008	SRBGSL0022	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	5.0	Characterize Secondary Fire Training Area; appeared to be excavated area (est. 2 ft depth) with adjacent spoil pile, metal debris.
	SRBGSL0023	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0024	6.0-8.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 8.5 ft BGS.

Table 4-15. Soil Sample Location Summary: Snake Road Burning Ground (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
SRBG-SL-009	SRBGSL0025	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	5.0	Characterize Primary Burn Area; debris on ground (film, cinder blocks, potential ACM-firebrick).
	SRBGSL0026	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0027	6.0-9.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 9.0 ft BGS.
SRBG-SL-010	SRBGSL0028	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	5.0	Characterize Primary Burn Area; soil pile present (15 ft x 15 ft x 3 ft), debris on pile (potential ACM-white cloth).
	SRBGSL0029	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0030	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
SRBG-SL-011	SRBGSL0031	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	5.0	Characterize Secondary Fire Training Area; low spot in northwest area near large dead tree, and between split of access roads.
	SRBGSL0032	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	SRBGSL0033	6.0-7.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 7.5 ft BGS.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
BGS = Below Ground Surface
DPT = Direct-Push Technology
ft = Feet
Herb = Herbicide
ID = Identifier
PCB = Polychlorinated Biphenyl
Pest = Pesticide
PID = Photoionization Detector
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-16. Sediment Sample Location Summary: Snake Road Burning Ground

Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
SRBG-SDSW-001	SRBGSD0001 SRBGSD9001 SRBGSD0001MS/MSD	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Drainage ditch – upstream location; dry – no surface water collected.
SRBG-SDSW-002	SRBGSD0002	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Drainage ditch – midstream location; dry – no surface water collected.
SRBG-SDSW-003	SRBGSD0003	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	NA	Drainage ditch – downstream location; dry – no surface water collected.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
BGS = Below Ground Surface
ft = Feet
Herb = Herbicide
ID = Identifier
NA = Not Applicable
PCB = Polychlorinated Biphenyl
Pest = Pesticide
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-17. Debris Sample Location Summary: Snake Road Burning Ground

Station ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (description of ACM, painted debris, estimated quantity, co-located sample(s), etc.)
SRBG-DD-001	SRBGDD0001	0	Asbestos	NA	Transite near SRBG-SL-001, friable.
SRBG-DD-002	SRBGDD0002	0	Asbestos	NA	Transite near SRBG-SL-005, friable.
SRBG-DD-003	SRBGDD0003	0	Asbestos	NA	White cloth on soil pile (15 ft x 15 ft x 3 ft), friable; co-located with SRBG-SL-010.
SRBG-DD-004	SRBGDD0004	0	Asbestos	NA	White cloth on soil pile (15 ft x 15 ft x 3 ft), friable; co-located with SRBG-SL-010.
SRBG-DD-005	SRBGDD0005	0	Asbestos	NA	Light-colored brick (firebrick), nonfriable.
SRBG-DD-006	SRBGDD0006	0	Asbestos	NA	Light-colored brick (firebrick), nonfriable.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
BGS = Below Ground Surface
ft = Feet
ID = Identifier
NA = Not Applicable

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Table 4-18. Analytical Detections: Snake Road Burning Ground Surface Soil Samples

				Station	SRBG-SL-001	SRBG-SL-002	SRBG-SL-003	SRBG-SL-004	SRBG-SL-005	SRBG-SL-006	SRBG-SL-007	SRBG-SL-007	SRBG-SL-008	SRBG-SL-009	SRBG-SL-010	SRBG-SL-011
				Sample ID	SRBGSL0001	SRBGSL0004	SRBGSL0007	SRBGSL0010	SRBGSL0013	SRBGSL0016	SRBGSL9001	SRBGSL0019	SRBGSL0022	SRBGSL0025	SRBGSL0028	SRBGSL0031
				Sample Type	GR	GR	GR	GR	GR	GR	FD	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**												
Metals																
Aluminum	15500	77000	50	N	**6400**	**6700**	**5200**	**4400**	**6100**	**5100**	**7200**	**8100**	**5100**	**6200**	**5400**	**6300**
Antimony	9.3	31	0.27	N	**1.6 J**	**2.2**	**1.1 J**	<1.9 U	**1.8 J**	<2 U	<2.3 U	**0.9 J**	**0.56 J**	<2.6 U	<2 U	<1.9 U
Arsenic	36.5	0.68	18	N	**9.7**	**9.4**	**10**	**7.5**	**9.7**	**8.9**	**12**	**21**	**6**	**6.7**	**6**	**4.2**
Barium	826	15000	330	N	**130**	**61**	**270**	**100**	**57**	**40**	**27**	**24**	<18 U	**120**	**63**	**27**
Beryllium	1	160	21	N	**0.42 J**	**0.46 J**	**0.45 J**	**0.41 J**	**0.39 J**	**0.42 J**	**0.43 J**	**0.55**	**0.27 J**	**0.36 J**	**0.32 J**	**0.38 J**
Cadmium		71	0.36	N	**2.4 #**	**0.66 #**	**1.5 #**	**0.42 J#**	**0.96 #**	**0.1 J**	**0.043 J**	<0.51 U	**0.064 J**	**0.69 #**	**0.22 J**	<0.48 U
Calcium	52300			N	**25000 J**	**4300 J**	**25000 J**	**2600 J**	**3900 J**	**2500 J**	**1400 J**	**990 J**	**1100 J**	**2100 J**	**16000 J**	**760 J**
Chromium	29	0.3	26	N	**26**	**15**	**13**	**8.8**	**52 *#**	**5.9**	**7.6**	**9**	**6.7**	**8.5**	**7.7**	**7.7**
Cobalt	116	23	13	N	**4.7**	**4.2**	**4.3**	**3.6**	**3.3**	**4**	**3**	**3.7**	**2.4**	**3.1**	**4.9**	**2.9**
Iron	234000	55000		N	**17000**	**16000**	**14000**	**13000**	**13000**	**13000**	**23000**	**30000**	**8800**	**13000**	**11000**	**10000**
Lead	48.6	400	11	Y	**340 #**	**120 #**	**410 *#**	**360 #**	**63 #**	**19**	**15 J**	**16 J**	**32**	**37**	**140 #**	**8.2 J**
Magnesium	10400			N	**3200 J**	**1500 J**	**3400 J**	**1300 J**	**1400 J**	**850 J**	**760 J**	**860 J**	**860 J**	<650 U	**2300 J**	**660 J**
Manganese	3510	1800	220	N	**300**	**180**	**310**	**150**	**110**	**190**	**88**	**53**	**55**	**170**	**220**	**62**
Mercury	0.085	9.4	0.0005	Y	**0.54 J#**	**0.17 #**	**0.2 #**	**0.14 #**	**0.44 #**	**0.052 J**	**0.06 J**	**0.048 J**	**0.043 J**	**0.068 J**	**0.063 J**	**0.023 J**
Nickel	55.1	1500	38	N	**25**	**16**	**20**	**14**	**14**	**10**	**8.9**	**11**	**10**	**9.4**	**15**	**9.7**
Potassium	3390			N	**1100 J**	**680 J**	**680 J**	<490 U	**600 J**	**1000**	**720 J**	**800 J**	**620 J**	**510 J**	**600 J**	<480 U
Selenium	2	390	0.52	N	<2.2 U	<2.1 U	**0.48 J**	**0.39 J**	<1.9 U	<2 U	**0.66 J**	**0.86 J**	<1.8 U	**0.71 J**	<2 U	**0.37 J**
Silver	11.1	390	4.2	N	**3.8**	**1.9**	**4.2**	**1.9**	**2.3**	<1 U	<1.1 U	<1 U	<0.9 U	**1000 *#**	**0.83 J**	<0.95 U
Thallium	1.3	0.78	1	N	**0.3 J**	**0.19 J**	**0.15 J**	**0.22 J**	<1.9 U	**0.26 J**	**0.28 J**	**0.59 J**	<1.8 U	<2.6 U	<2 U	<1.9 U
Vanadium	40.9	390	7.8	N	**15**	**16**	**13**	**12**	**14**	**12**	**16**	**22**	**16**	**11**	**12**	**16**
Zinc	322	23000	46	N	**490 #**	**230**	**280**	**130**	**190**	**42 J**	**28 J**	**33 J**	**82**	**1000 #**	**73**	**19 J**
Organics – Semivolatile																
1,1'-Biphenyl		47	60	N	**0.0088 J**	**0.01 J**	**0.011 J**	<0.058 U	<0.059 U	<0.06 U	<0.062 U	<0.061 U	**0.023 J**	<0.07 UJ	<0.056 U	<0.063 UJ
2,4-Dinitrotoluene		1.7	1.28	N	**0.99 J**	**0.048 J**	**0.28**	**0.22 J**	<0.24 U	<0.24 U	<0.25 U	<0.24 U	<0.96 U	<0.28 UJ	**0.042 J**	<0.25 UJ
2,6-Dinitrotoluene		0.36	0.0328	N	**0.31 #**	<0.24 U	**0.077 J#**	**0.1 J#**	<0.24 U	<0.24 U	<0.25 U	<0.24 U	<0.96 U	<0.28 UJ	<0.23 U	<0.25 UJ
2-Methylnaphthalene		240	3.24	N	**0.026**	**0.028**	**0.049**	**0.011**	<0.0079 U	**0.0066 J**	**0.0076 J**	**0.0051 J**	**0.059**	**0.0083 J**	**0.0064 J**	<0.0084 UJ
Acenaphthene		3600	20	N	<0.0079 U	**0.0087**	<0.0077 U	<0.0078 U	**0.034**	<0.008 U	<0.0083 U	<0.0081 U	<0.032 U	<0.0094 UJ	<0.0075 U	<0.0084 UJ
Acenaphthylene		1800	682	N	**0.037**	**0.066**	**0.041**	**0.01**	<0.0079 U	**0.0053 J**	<0.0083 U	<0.0081 U	<0.032 U	<0.0094 UJ	**0.02**	<0.0084 UJ
Acetophenone		7800	300	N	**0.012 J**	<0.12 U	**0.018 J**	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.48 U	<0.14 UJ	<0.11 U	<0.13 UJ
Anthracene		18000	1480	N	**0.039**	**0.28**	**0.029**	**0.0093**	**0.087**	<0.008 U	<0.0083 U	<0.0081 U	<0.032 U	**0.0071 J**	**0.032**	<0.0084 UJ
Benz(a)anthracene		0.16	5.21	N	**0.15**	**0.45 ***	**0.15**	**0.044**	**0.26 ***	**0.023**	**0.0044 J**	<0.0081 U	**0.024 J**	**0.018 J**	**0.037**	<0.0084 UJ
Benzaldehyde		7800		N	**0.017 J#**	**0.014 J#**	**0.031 J#**	**0.017 J#**	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.48 U	**0.017 J#**	<0.11 U	<0.13 UJ
Benzo(a)pyrene		0.016	1.52	N	**0.27 ***	**1 ***	**0.17 ***	**0.047 ***	**0.26 ***	**0.022 ***	<0.0083 U	<0.0081 U	**0.023 J***	**0.014 J**	**0.061 ***	<0.0084 UJ
Benzo(b)fluoranthene		0.16	59.8	N	**0.63 ***	**1.7 ***	**0.32 ***	**0.092**	**0.33 ***	**0.04**	**0.007 J**	<0.0081 U	**0.046**	**0.024 J**	**0.12**	<0.0084 UJ
Benzo(ghi)perylene		1800	119	Y	**0.12**	**1**	**0.14**	**0.039**	**0.14**	**0.013**	<0.0083 U	<0.0081 U	**0.09**	**0.0092 J**	**0.051**	<0.0084 UJ
Benzo(k)fluoranthene		1.6	148	N	**0.29**	**0.41**	**0.11**	**0.037**	**0.15**	**0.014**	<0.0083 U	<0.0081 U	<0.032 U	**0.008 J**	**0.037**	<0.0084 UJ
Bis(2-ethylhexyl)phthalate		39	0.925	N	**0.03 J**	<0.084 U	**0.31**	<0.082 U	<0.083 U	<0.084 U	<0.087 U	<0.085 U	<0.34 U	<0.098 UJ	<0.079 U	<0.088 UJ
Caprolactam		31000		N	<0.39 U	<0.4 U	**0.048 J#**	<0.39 U	<0.39 U	<0.4 U	<0.41 U	<0.4 U	<1.6 U	<0.46 UJ	<0.37 U	<0.42 UJ
Carbazole				N	<0.059 U	**0.074 *#**	<0.058 U	<0.058 U	**0.056 J*#**	<0.06 U	<0.062 U	<0.061 U	<0.24 U	<0.07 UJ	<0.056 U	<0.063 UJ
Chrysene		16	4.73	N	**0.29**	**1.1**	**0.21**	**0.067**	**0.27**	**0.03**	**0.0064 J**	<0.0081 U	**0.032**	**0.02 J**	**0.066**	<0.0084 UJ
Di-n-butyl phthalate		6300	200	N	**0.097**	<0.084 U	<0.081 U	<0.082 U	<0.083 U	<0.084 U	<0.087 U	<0.085 U	<0.34 U	<0.098 UJ	<0.079 U	<0.088 UJ
Dibenz(a,h)anthracene		0.016	18.4	N	**0.046 ***	**0.37 ***	**0.045 ***	**0.012**	**0.043 ***	**0.0047 J**	<0.0083 U	<0.0081 U	<0.032 U	<0.0094 UJ	<0.0075 U	<0.0084 UJ
Dibenzofuran		73		N	**0.025 J#**	**0.045 J#**	**0.017 J#**	<0.058 U	**0.01 J#**	<0.06 U	<0.062 U	<0.061 U	<0.24 U	<0.07 UJ	<0.056 U	<0.063 UJ
Fluoranthene		2400	122	N	**0.21**	**0.71**	**0.22**	**0.077**	**0.55**	**0.04**	**0.008 J**	**0.0047 J**	**0.05**	**0.034 J**	**0.055**	<0.0084 UJ
Fluorene		2400	30	N	**0.006 J**	**0.014**	**0.0044 J**	<0.0078 U	**0.03**	<0.008 U	<0.0083 U	<0.0081 U	<0.032 U	<0.0094 UJ	<0.0075 U	<0.0084 UJ
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.11**	**0.94 ***	**0.13**	**0.038**	**0.14**	**0.013**	<0.0083 U	<0.0081 U	**0.034**	**0.0078 J**	**0.036**	<0.0084 UJ
Naphthalene		3.8	0.0994	N	**0.034**	**0.074**	**0.042**	**0.011**	**0.0047 J**	<0.008 U	<0.0083 U	<0.0081 U	**0.035**	**0.01 J**	**0.0043 J**	**0.0054 J**
Phenanthrene		1800	45.7	N	**0.12**	**0.26**	**0.093**	**0.033**	**0.33**	**0.022**	**0.0054 J**	<0.0081 U	**0.075**	**0.027 J**	**0.023**	<0.0084 UJ
Pyrene		1800	78.5	N	**0.19**	**0.5**	**0.22**	**0.074**	**0.52**	**0.04**	**0.0064 J**	<0.0081 U	**0.24**	**0.028 J**	**0.053**	<0.0084 UJ

Table 4-18. Analytical Detections: Snake Road Burning Ground Surface Soil Samples (Continued)

				Station	SRBG-SL-001	SRBG-SL-002	SRBG-SL-003	SRBG-SL-004	SRBG-SL-005	SRBG-SL-006	SRBG-SL-007	SRBG-SL-007	SRBG-SL-008	SRBG-SL-009	SRBG-SL-010	SRBG-SL-011
				Sample ID	SRBGSL0001	SRBGSL0004	SRBGSL0007	SRBGSL0010	SRBGSL0013	SRBGSL0016	SRBGSL9001	SRBGSL0019	SRBGSL0022	SRBGSL0025	SRBGSL0028	SRBGSL0031
				Sample Type	GR	GR	GR	GR	GR	GR	FD	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**												
Organics – Pesticides																
4,4'-DDE		2	0.021	Y	<0.02 UJ	**0.033 J#**	**0.0074 J**	<0.04 U	**0.002 J**	<0.099 U	<0.0021 U	<0.002 U	<0.021 U	<0.048 U	<0.038 U	<0.0022 UJ
4,4'-DDT		1.9	0.021	Y	<0.02 UJ	<0.041 U	<0.039 U	<0.04 U	<0.01 U	<0.099 U	<0.0021 U	<0.002 U	**0.017 J**	<0.048 U	<0.038 U	<0.0022 UJ
Endosulfan sulfate		470	0.0358	N	<0.02 U	**0.012 J**	**0.017 J**	<0.04 U	<0.01 U	<0.099 U	<0.0021 U	**0.00053 J**	<0.021 U	<0.048 U	<0.038 U	<0.0022 U
alpha-BHC		0.086	0.0994	Y	<0.02 UJ	<0.041 U	<0.039 U	<0.04 U	<0.01 U	<0.099 U	**0.0018 J**	**0.0011 J**	<0.021 U	<0.048 U	<0.038 U	<0.0022 UJ
beta-BHC		0.3	0.004	Y	<0.02 UJ	<0.041 U	<0.039 U	<0.04 U	<0.01 U	<0.099 U	<0.0021 U	**0.00096 J**	<0.021 U	<0.048 U	<0.038 U	**0.0015 J**
Organics – PCBs																
PCB-1248		0.23	0.371	Y	<0.19 U	<0.2 U	<0.19 U	<0.19 U	<0.04 U	<0.038 U	<0.041 U	<0.04 U	<0.04 U	**3 *#**	<0.037 U	<0.042 U
PCB-1254		0.24	0.371	Y	<0.19 U	**1.4 *#**	<0.19 U	<0.19 U	**0.17 J**	<0.038 U	<0.041 U	<0.04 U	<0.04 U	<0.46 U	<0.037 U	<0.042 U
PCB-1260		0.24	0.371	Y	**0.82 *#**	<0.2 U	**0.77 *#**	**1.2 *#**	<0.04 U	<0.038 U	<0.041 U	<0.04 U	<0.04 U	<0.46 U	**0.11**	<0.042 U
PCB-1268			0.371	Y	<0.19 U	<0.2 U	<0.19 U	<0.19 U	**0.13 J***	<0.038 U	<0.041 U	<0.04 U	<0.04 U	<0.46 U	<0.037 U	<0.042 U
Organics – Explosives																
1,3,5-Trinitrobenzene		2200	0.376	N	<0.25 U	<0.24 U	**0.052 J**	<0.24 U	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
2,4,6-Trinitrotoluene		21		N	**0.28 J#**	<0.24 U	**0.36 J#**	**16 J#**	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	**0.12 J#**	<0.24 U
2,4-Dinitrotoluene		1.7	1.28	N	**0.24 J**	<0.24 U	**0.26**	**1.4 #**	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	**0.1 J#**	<0.24 U	**0.14 J#**	**0.62 *#**	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.25 U	<0.24 U	<0.25 U	**0.68 #**	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
3,5-Dinitroaniline				N	<0.49 U	<0.49 U	**0.15 J*#**	**0.082 J*#**	<0.48 U	<0.49 U	<0.49 U	<0.48 U	<0.5 U	<0.5 U	<0.49 U	<0.48 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.25 U	<0.24 U	**0.24 J#**	**0.51 #**	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U
Organics – Volatile																
1,4-Dichlorobenzene		2.6	20	N	<0.0052 U	<0.0052 U	<0.0049 UJ	<0.0058 U	**0.00034 J**	<0.0058 U	<0.0062 U	<0.0052 UJ	<0.0053 UJ	<0.0069 U	<0.0055 UJ	<0.0059 U
Toluene		4900	200	N	<0.0052 U	<0.0052 U	<0.0049 U	<0.0058 U	<0.0053 U	**0.00068 J**	<0.0062 U	<0.0052 U	<0.0053 U	<0.0069 U	<0.0055 U	<0.0059 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.
ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

Table 4-19. Analytical Detections: Snake Road Burning Ground Subsurface Soil Samples

Station					SRBG-SL-001	SRBG-SL-001	SRBG-SL-002	SRBG-SL-002	SRBG-SL-003	SRBG-SL-003	SRBG-SL-003	SRBG-SL-004	SRBG-SL-004	SRBG-SL-004
Sample ID					**SRBGSL0002**	**SRBGSL0003**	**SRBGSL0005**	**SRBGSL0006**	**SRBGSL9004**	**SRBGSL0008**	**SRBGSL0009**	**SRBGSL9003**	**SRBGSL0011**	**SRBGSL0012**
Sample Type					**GR**	**GR**	**GR**	**GR**	**FD**	**GR**	**GR**	**FD**	**GR**	**GR**
Depth (ft)					**2.0 - 6.0**	**6.0 - 8.0**	**2.0 - 6.0**	**6.0 - 10.0**	**2.0 - 6.0**	**2.0 - 6.0**	**6.0 - 9.0**	**2.0 - 6.0**	**2.0 - 6.0**	**6.0 - 9.0**
Date					**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Metals														
Aluminum	15500	77000	50	N	**8100**	**2100**	**7700**	**3500**	**5200**	**7100**	**3300**	**6600**	**7600**	**4200**
Antimony	9.3	31	0.27	N	**0.62 J**	<2.2 U	<1.7 U	<2 U	<2 U	**0.91 J**	<2.1 U	<2.1 U	**1.1 J**	<2.1 U
Arsenic	36.5	0.68	18	N	**11**	**9.7**	**10**	**18**	**12**	**16**	**7.7**	**21**	**16**	**7.6**
Barium	826	15000	330	N	**38**	<15 U	**34**	**21 J**	**21 J**	<23 U	<21 U	**24**	**32**	<21 U
Beryllium	1	160	21	N	**0.53 J**	**0.19 J**	**0.38 J**	**0.42 J**	**0.41 J**	**0.55 J**	**0.27 J**	**0.47 J**	**0.49**	**0.41 J**
Cadmium		71	0.36	N	<0.59 U	**0.12 J**	**0.019 J**	**0.057 J**	**0.034 J**	<0.59 U	**0.11 J**	**0.035 J**	**0.2 J**	**0.071 J**
Calcium	52300			N	**1300 J**	**22000 J**	**1100 J**	**3600 J**	**1900 J**	**1300 J**	**4500 J**	**2000 J**	**8100 J**	**2600 J**
Chromium	29	0.3	26	N	**8.1**	**3.6**	**7.8**	**6**	**6.7**	**9.2**	**5.2**	**9**	**9.5**	**6**
Cobalt	116	23	13	N	**6.9**	**6.6**	**3.9**	**16**	**5.2**	**4.7**	**21**	**2.2**	**2.5**	**5.4**
Iron	234000	55000		N	**20000**	**10000**	**13000**	**21000**	**16000**	**24000**	**9500**	**25000**	**22000**	**8300**
Lead	48.6	400	11	Y	**24**	**7.4 J**	**9.9 J**	**14 J**	**12 J**	**15 J**	**6.7 J**	**20**	**32**	**8.5 J**
Magnesium	10400			N	**1200 J**	**4900 J**	**710 J**	**2500 J**	**1000 J**	**1200 J**	**2800 J**	**820 J**	**1500 J**	**1500 J**
Manganese	3510	1800	220	N	**90**	**120**	**38**	**120**	**62**	**58**	**120**	**38**	**55**	**50**
Mercury	0.085	9.4	0.0005	Y	**0.03 J**	**0.032 J**	**0.023 J**	**0.04 J**	**0.045 J**	**0.037 J**	**0.016 J**	**0.018 J**	**0.15 #**	**0.019 J**
Nickel	55.1	1500	38	N	**14**	**20**	**9.6**	**52**	**13**	**14**	**24**	**7**	**8.5**	**19**
Potassium	3390			N	**660 J**	**550 J**	**580 J**	**1000 J**	**680 J**	**1100 J**	**700 J**	**590 J**	**790 J**	**650 J**
Selenium	2	390	0.52	N	<2.4 U	<2.2 U	**0.29 J**	**1.2 J**	**0.56 J**	**0.88 J**	<2.1 U	**0.8 J**	**0.51 J**	<2.1 U
Silver	11.1	390	4.2	N	<1.2 U	<1.1 U	<0.87 U	<0.98 U	<0.98 U	<1.2 U	<1.1 U	**0.34 J**	**1.1**	<1 U
Sodium				N	<590 U	<550 U	<430 U	<490 U	<490 U	<590 U	<530 U	<530 U	<450 U	<520 U
Thallium	1.3	0.78	1	N	**0.34 J**	**0.71 J**	**0.17 J**	**1.9 J*#**	**0.36 J**	**0.63 J**	**0.51 J**	**0.15 J**	**0.46 J**	**0.21 J**
Vanadium	40.9	390	7.8	N	**17 J**	**6.1**	**19**	**12**	**15**	**19**	**9.8**	**23**	**20**	**12**
Zinc	322	23000	46	N	**39**	**26 J**	**27 J**	**28 J**	**35 J**	**41 J**	**37 J**	**34 J**	**73**	**32 J**
Organics – Semivolatile														
1,1'-Biphenyl		47	60	N	<0.061 U	**0.01 J**	<0.06 U	**0.036 J**	<0.061 U	<0.061 U	**0.0062 J**	**0.0051 J**	<0.06 U	<0.06 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.25 U	<0.24 U	<0.24 U	<0.43 U	<0.25 U	<0.25 U	**0.07 J**	<0.24 UJ	**0.076 J**	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.25 U	<0.24 U	<0.24 U	<0.43 U	<0.25 U	<0.25 U	<0.24 U	<0.24 UJ	**0.034 J#**	<0.24 U
2-Methylnaphthalene		240	3.24	N	**0.0071 J**	**0.32**	<0.008 U	**1.3**	<0.0082 U	<0.0082 U	**0.22**	**0.016 J**	<0.008 U	**0.17**
Acenaphthene		3600	20	N	<0.0082 U	<0.008 U	<0.008 U	**0.018**	<0.0082 U	<0.0082 U	<0.0079 U	**0.02 J**	<0.008 U	<0.008 U
Acenaphthylene		1800	682	N	<0.0082 U	**0.0098**	<0.008 U	**0.014**	<0.0082 U	<0.0082 U	<0.0079 U	**0.0075 J**	**0.022**	<0.008 U
Anthracene		18000	1480	N	<0.0082 U	**0.0091**	<0.008 U	<0.014 U	<0.0082 U	<0.0082 U	<0.0079 U	**0.015 J**	**0.015**	<0.008 U
Benz(a)anthracene		0.16	5.21	N	<0.0082 U	**0.022**	<0.008 U	<0.014 U	<0.0082 U	<0.0082 U	<0.0079 U	**0.023 J**	**0.067**	<0.008 U
Benzaldehyde		7800		N	<0.12 U	<0.12 U	<0.12 U	<0.22 U	<0.12 U	<0.12 U	<0.12 U	<0.12 UJ	<0.12 U	<0.12 U
Benzo(a)pyrene		0.016	1.52	N	<0.0082 U	**0.028 ***	<0.008 U	<0.014 U	<0.0082 U	<0.0082 U	<0.0079 U	**0.025 J***	**0.066 ***	<0.008 U
Benzo(b)fluoranthene		0.16	59.8	N	**0.0073 J**	**0.059**	**0.006 J**	**0.0092 J**	**0.0051 J**	<0.0082 U	<0.0079 U	**0.042 J**	**0.13**	<0.008 U
Benzo(ghi)perylene		1800	119	Y	<0.0082 U	**0.02**	<0.008 U	<0.014 U	<0.0082 U	<0.0082 U	<0.0079 U	**0.021 J**	**0.046**	<0.008 U
Benzo(k)fluoranthene		1.6	148	N	<0.0082 U	**0.015**	<0.008 U	<0.014 U	<0.0082 U	<0.0082 U	<0.0079 U	**0.019 J**	**0.043**	<0.008 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.086 U	<0.084 U	**0.46**	<0.15 U	<0.086 U	<0.086 U	<0.083 U	<0.086 UJ	<0.084 U	<0.083 U
Caprolactam		31000		N	<0.41 U	<0.39 U	<0.4 U	<0.71 U	**9.7 #**	<0.4 U	<0.39 U	<0.4 UJ	<0.4 U	<0.39 U
Chrysene		16	4.73	N	**0.011**	**0.052**	<0.008 U	**0.037**	**0.0062 J**	<0.0082 U	<0.0079 U	**0.035 J**	**0.094**	**0.013**
Di-n-butyl phthalate		6300	200	N	<0.086 U	<0.084 U	<0.084 U	<0.15 U	<0.086 U	<0.056 U	<0.083 U	<0.086 UJ	<0.084 U	**0.061 J**
Dibenz(a,h)anthracene		0.016	18.4	N	<0.0082 U	<0.008 U	<0.008 U	<0.014 U	<0.0082 U	<0.0082 U	<0.0079 U	**0.0078 J**	**0.014**	<0.008 U
Dibenzofuran		73		N	<0.061 U	**0.023 J#**	<0.06 U	**0.043 J#**	<0.061 U	<0.061 U	<0.059 U	**0.015 J#**	<0.06 U	**0.0088 J#**
Fluoranthene		2400	122	N	**0.0098**	**0.039**	<0.008 U	**0.0075 J**	<0.0082 U	<0.0082 U	<0.0079 U	**0.051 J**	**0.11**	<0.008 U
Fluorene		2400	30	N	<0.0082 U	<0.008 U	<0.008 U	<0.014 U	<0.0082 U	<0.0082 U	<0.0079 U	**0.014 J**	<0.008 U	<0.008 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.0082 U	**0.016**	<0.008 U	<0.014 U	<0.0082 U	<0.0082 U	<0.0079 U	**0.014 J**	**0.044**	<0.008 U
Naphthalene		3.8	0.0994	N	**0.0078 J**	**0.14 #**	<0.008 U	**0.52 #**	<0.0082 U	<0.0082 U	**0.076**	**0.041 J**	**0.007 J**	**0.044**
Phenanthrene		1800	45.7	N	**0.013**	**0.11**	<0.008 U	**0.21**	<0.0082 U	<0.0082 U	**0.043**	**0.049 J**	**0.032**	**0.048**
Pyrene		1800	78.5	N	**0.0065 J**	**0.041**	<0.008 U	**0.031**	<0.0082 U	<0.0082 U	<0.0079 U	**0.039 J**	**0.11**	<0.008 U

Table 4-19. Analytical Detections: Snake Road Burning Ground Subsurface Soil Samples (Continued)

Station					SRBG-SL-001	SRBG-SL-001	SRBG-SL-002	SRBG-SL-002	SRBG-SL-003	SRBG-SL-003	SRBG-SL-003	SRBG-SL-004	SRBG-SL-004	SRBG-SL-004
Sample ID					**SRBGSL0002**	**SRBGSL0003**	**SRBGSL0005**	**SRBGSL0006**	**SRBGSL9004**	**SRBGSL0008**	**SRBGSL0009**	**SRBGSL9003**	**SRBGSL0011**	**SRBGSL0012**
Sample Type					**GR**	**GR**	**GR**	**GR**	**FD**	**GR**	**GR**	**FD**	**GR**	**GR**
Depth (ft)					**2.0 - 6.0**	**6.0 - 8.0**	**2.0 - 6.0**	**6.0 - 10.0**	**2.0 - 6.0**	**2.0 - 6.0**	**6.0 - 9.0**	**2.0 - 6.0**	**2.0 - 6.0**	**6.0 - 9.0**
Date					**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Organics – Pesticides														
4,4'-DDE		2	0.021	Y	<0.0021 U	<0.0021 U	<0.01 U	<0.0018 U	<0.0021 U	<0.0021 U	<0.02 U	**0.00083 J**	<0.02 U	<0.002 U
4,4'-DDT		1.9	0.021	Y	<0.0021 U	<0.0021 U	<0.01 U	<0.0018 U	<0.0021 U	<0.0021 U	<0.02 U	<0.0021 U	<0.02 U	<0.002 U
Endosulfan sulfate		470	0.0358	N	**0.00071 J**	<0.0021 U	<0.01 U	<0.0018 U	<0.0021 U	<0.0021 U	<0.02 U	**0.00059 J**	<0.02 U	<0.002 U
Endrin aldehyde		19	0.0105	N	<0.0021 U	**0.0013 J**	<0.01 U	<0.0018 U	<0.0021 U	<0.0021 U	<0.02 U	<0.0021 U	<0.02 U	**0.00041 J**
alpha-BHC		0.086	0.0994	Y	<0.0021 U	<0.0021 U	<0.01 U	<0.0018 U	<0.0021 U	<0.0021 U	<0.02 U	**0.0024**	<0.02 U	<0.002 U
alpha-Chlordane		1.7		Y	<0.0021 U	<0.0021 U	<0.01 U	<0.0018 U	<0.0021 U	<0.0021 U	<0.02 U	<0.0021 U	<0.02 U	<0.002 U
beta-BHC		0.3	0.004	Y	<0.0021 U	**0.00069 J**	<0.01 U	**0.00068 J**	**0.00059 J**	<0.0021 U	<0.02 U	**0.0027 J**	<0.02 U	**0.0013 J**
delta-BHC			9.94	Y	<0.0021 U	<0.0021 U	<0.01 U	<0.0018 U	<0.0021 U	<0.0021 U	<0.02 U	<0.0021 U	<0.02 U	**0.0016 J***
Organics – Herbicides														
Dalapon		1900		N	<0.15 U	<0.14 U	<0.14 U	<0.13 U	**0.1 J#**	<0.15 U	<0.14 UJ	<0.15 U	<0.14 U	<0.14 U
Organics – PCBs														
PCB-1260		0.24	0.371	Y	**0.026 J**	**0.018 J**	<0.04 U	<0.035 U	<0.04 U	**0.015 J**	<0.039 U	<0.041 U	**0.15**	<0.039 U
Organics – Explosive														
2,4-Dinitrotoluene		1.7	1.28	N	<0.25 U	<0.24 U	<0.24 U	<0.43 U	<0.25 U	<0.25 U	**0.07 J**	<0.24 UJ	**0.076 J**	<0.24 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.25 U	<0.24 U	<0.24 U	<0.43 U	<0.25 U	<0.25 U	<0.24 U	<0.24 UJ	**0.034 J#**	<0.24 U
Organics – Volatile														
1,1,1-Trichloroethane		8100	29.8	N	<0.0056 U	<0.0053 U	<0.0058 U	<0.0047 U	<0.0061 U	**0.024**	**0.0085**	<0.0057 U	<0.0053 U	**0.0099 J**
1,1-Dichloroethane		3.6	20.1	N	<0.0056 U	<0.0053 U	<0.0058 U	<0.0047 U	<0.0061 U	**0.0013 J**	**0.0043 J**	<0.0057 U	<0.0053 U	**0.0014 J**
2-Butanone		27000	89.6	N	<0.022 U	<0.021 U	<0.023 U	**0.0015 J**	<0.024 U	<0.023 U	<0.022 U	<0.023 U	<0.021 U	**0.0031 J**
Acetone		61000	2.5	N	<0.022 U	<0.021 U	<0.023 U	<0.019 UJ	<0.024 U	<0.023 UJ	<0.022 UJ	<0.023 U	<0.021 U	<0.022 UJ
Benzene		1.2	0.255	N	<0.0056 U	<0.0053 UJ	<0.0058 U	<0.0047 U	<0.0061 U	<0.0058 U	<0.0054 U	<0.0057 U	<0.0053 U	<0.0054 U
Carbon disulfide		770	0.0941	N	<0.0056 U	<0.0053 U	<0.0058 U	<0.0047 U	<0.0061 U	<0.0058 U	**0.00072 J**	<0.0057 U	<0.0053 U	<0.0054 U
Cyclohexane		6500		N	<0.011 U	<0.011 U	<0.012 U	<0.0094 U	<0.012 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	**0.0014 J#**
Dichlorodifluoromethane		87	39.5	N	<0.0056 U	<0.0053 UJ	<0.0058 U	<0.0047 UJ	<0.0061 U	<0.0058 UJ	<0.0054 UJ	<0.0057 U	<0.0053 U	<0.0054 U
Ethylbenzene		5.8	5.16	N	<0.0056 U	<0.0053 UJ	<0.0058 U	<0.0047 U	<0.0061 U	<0.0058 U	<0.0054 U	<0.0057 U	<0.0053 U	<0.0054 U
Isopropylbenzene		1900		N	<0.0056 U	<0.0053 U	<0.0058 U	<0.0047 U	<0.0061 U	<0.0058 U	<0.0054 U	<0.0057 U	<0.0053 U	<0.0054 U
M + P Xylene		650	10	N	<0.011 U	<0.011 UJ	<0.012 U	<0.0094 U	<0.012 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	**0.0012 J**
Methylcyclohexane				N	<0.011 U	<0.011 U	<0.012 U	<0.0094 U	<0.012 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	**0.0025 J*#**
Methylene chloride		57	4.05	N	<0.0056 UJ	<0.0053 U	<0.0058 UJ	**0.0012 J**	<0.0061 U	**0.0027 J**	<0.0054 U	<0.0057 U	<0.0053 UJ	**0.0041 J**
Toluene		4900	200	N	<0.0056 U	<0.0053 UJ	<0.0058 U	<0.0047 U	<0.0061 U	<0.0058 U	<0.0054 UJ	<0.0057 U	<0.0053 U	<0.0054 UJ
Trichloroethene		0.94	12.4	N	<0.0056 U	<0.0053 U	<0.0058 U	<0.0047 U	<0.0061 U	**0.0008 J**	<0.0054 U	<0.0057 U	<0.0053 U	<0.0054 U
o-Xylene		650	10	N	<0.0056 U	<0.0053 UJ	<0.0058 U	<0.0047 U	<0.0061 U	<0.0058 U	<0.0054 U	<0.0057 U	<0.0053 U	<0.0054 U

Table 4-19. Analytical Detections: Snake Road Burning Ground Subsurface Soil Samples (Continued)

				Station	SRBG-SL-005	SRBG-SL-005	SRBG-SL-006	SRBG-SL-006	SRBG-SL-006	SRBG-SL-007	SRBG-SL-007	SRBG-SL-008	SRBG-SL-008	SRBG-SL-009
				Sample ID	SRBGSL0014	SRBGSL0015	SRBGSL9002	SRBGSL0017	SRBGSL0018	SRBGSL0020	SRBGSL0021	SRBGSL0023	SRBGSL0024	SRBGSL0026
				Sample Type	GR	GR	FD	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	2.0 - 6.0	6.0 - 8.5	2.0 - 6.0	6.0 - 8.0	2.0 - 6.0	6.0 - 8.5	2.0 - 6.0
				Date	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Metals														
Aluminum	15500	77000	50	N	**7200**	**3400**	**6100**	**7600**	**3500**	**6100 J**	**3300**	**4700**	**4200**	**6700**
Antimony	9.3	31	0.27	N	<1.8 U	**0.45 J**	<2.3 U	**1.1 J**	<2.1 U	**1.1 J**	<1.9 UJ	**0.54 J**	**0.75 J**	<2.1 U
Arsenic	36.5	0.68	18	N	**12**	**17**	**8.7**	**34**	**28**	**28 J**	**19**	**19**	**20**	**11**
Barium	826	15000	330	N	**30**	**22**	**35**	**34**	**39**	**34**	**29**	**22**	**23**	**36**
Beryllium	1	160	21	N	**0.54**	**0.39 J**	**0.65**	**0.86**	**0.44 J**	**0.79**	**0.54**	**0.57**	**0.55 J**	**0.53**
Cadmium		71	0.36	N	<0.45 U	**0.18 J**	**0.061 J**	<0.56 U	**0.28 J**	**0.041 J**	**0.24 J**	**0.2 J**	**0.077 J**	<0.53 U
Calcium	52300			N	**1000 J**	**2300 J**	**800 J**	**990 J**	**4700 J**	**920 J**	**2000 J**	**790 J**	**5100 J**	**1000 J**
Chromium	29	0.3	26	N	**8**	**6.1**	**7.3**	**9.4**	**6.2**	**8.6**	**5.8**	**7.4**	**6.6**	**6.8**
Cobalt	116	23	13	N	**3.7**	**14**	**6.1**	**12**	**16**	**16**	**16**	**14**	**13**	**3.3**
Iron	234000	55000		N	**12000**	**17000**	**10000**	**37000**	**28000**	**30000 J**	**22000**	**19000**	**23000**	**21000**
Lead	48.6	400	11	Y	**12 J**	**14 J**	**13 J**	**20**	**16 J**	**18 J**	**17 J**	**16 J**	**14 J**	**14 J**
Magnesium	10400			N	**830 J**	**2100 J**	**1000 J**	**1200 J**	**3200 J**	**1200 J**	**1900 J**	**1200 J**	**2900 J**	**770 J**
Manganese	3510	1800	220	N	**31**	**79**	**50**	**140**	**190**	**160 R**	**120 R**	**170**	**160**	**46**
Mercury	0.085	9.4	0.0005	Y	**0.026 J**	**0.035 J**	**0.035 J**	**0.066 J**	**0.024 J**	**0.059 J**	**0.033 J**	**0.067 J**	<0.12 U	**0.029 J**
Nickel	55.1	1500	38	N	**14**	**48**	**25**	**34**	**52**	**44**	**51**	**46**	**46**	**9**
Potassium	3390			N	**660 J**	**970**	**2200 J**	**2200**	**1300 J**	**880 J**	**890 J**	**1400 J**	**1300 J**	**870 J**
Selenium	2	390	0.52	N	**0.31 J**	**1 J**	**0.42 J**	**0.92 J**	**1.5 J**	**0.63 J**	**2 #**	**1.2 J**	**1.3 J**	**0.77 J**
Silver	11.1	390	4.2	N	<0.89 U	<0.92 U	<1.1 U	<1.1 U	<1.1 U	<1.1 U	<0.93 U	<1 U	<1.1 U	**8.9**
Sodium				N	**31 J**	<460 U	<570 U	<560 U	**99 J**	<540 U	<460 U	<520 U	<570 U	<530 U
Thallium	1.3	0.78	1	N	**0.28 J**	**2 *#**	**1.5 J*#**	**0.86 J**	**1.5 J*#**	**1 J**	**1.4 J*#**	**0.93 J**	**1.7 J*#**	**0.53 J**
Vanadium	40.9	390	7.8	N	**21**	**12**	**12**	**22**	**11**	**20**	**13**	**17**	**15**	**14**
Zinc	322	23000	46	N	**30 J**	**61**	**53**	**85**	**91**	**85**	**69 J**	**80**	**56**	**42 J**
Organics – Semivolatile														
1,1'-Biphenyl		47	60	N	<0.06 U	**0.061 J**	<0.062 UJ	<0.061 U	**0.028 J**	<0.063 U	**0.039 J**	**0.018 J**	**0.031 J**	<0.062 UJ
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.45 U	<0.25 UJ	<0.24 U	<0.46 U	<0.25 U	<0.46 U	<0.25 U	<0.92 U	<0.25 UJ
2,6-Dinitrotoluene		0.36	0.0328	N	<0.24 U	<0.45 U	<0.25 UJ	<0.24 U	<0.46 U	<0.25 U	<0.46 U	<0.25 U	<0.92 U	<0.25 UJ
2-Methylnaphthalene		240	3.24	N	<0.008 U	**2**	**0.0054 J**	<0.0081 U	**0.53**	<0.0083 U	**0.95**	**0.09**	**1.2**	**0.008 J**
Acenaphthene		3600	20	N	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	<0.0084 U	**0.087**	**0.0056 J**
Acenaphthylene		1800	682	N	<0.008 U	**0.027**	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	**0.014 J**	<0.0084 U	**0.023 J**	<0.0082 UJ
Anthracene		18000	1480	N	<0.008 U	**0.011 J**	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	<0.0084 U	<0.031 U	<0.0082 UJ
Benz(a)anthracene		0.16	5.21	N	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	<0.0084 U	<0.031 U	<0.0082 UJ
Benzaldehyde		7800		N	<0.12 U	<0.23 U	<0.12 UJ	<0.12 U	<0.23 U	<0.13 U	<0.23 U	<0.13 U	**0.19 J#**	<0.12 UJ
Benzo(a)pyrene		0.016	1.52	N	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	<0.0084 U	<0.031 U	<0.0082 UJ
Benzo(b)fluoranthene		0.16	59.8	N	<0.008 U	**0.011 J**	<0.0082 UJ	<0.0081 U	**0.0092 J**	<0.0083 U	<0.015 U	**0.0064 J**	<0.031 U	<0.0082 UJ
Benzo(ghi)perylene		1800	119	Y	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	<0.0084 U	<0.031 U	<0.0082 UJ
Benzo(k)fluoranthene		1.6	148	N	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	<0.0084 U	<0.031 U	<0.0082 UJ
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.084 U	<0.16 U	<0.086 UJ	<0.085 U	<0.16 U	<0.088 U	<0.16 U	<0.089 U	<0.32 U	<0.086 UJ
Caprolactam		31000		N	<0.39 U	**4.3 #**	<0.41 UJ	<0.4 U	<0.77 U	<0.41 U	<0.76 U	<0.42 U	<1.5 U	<0.41 UJ
Chrysene		16	4.73	N	<0.008 U	**0.079**	<0.0082 UJ	<0.0081 U	**0.064**	<0.0083 U	**0.061**	**0.038**	**0.064**	<0.0082 UJ
Di-n-butyl phthalate		6300	200	N	<0.084 U	<0.16 U	<0.086 UJ	<0.085 U	<0.16 U	<0.088 U	<0.16 U	<0.089 U	<0.32 U	<0.019 UJ
Dibenz(a,h)anthracene		0.016	18.4	N	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	<0.0084 U	<0.031 U	<0.0082 UJ
Dibenzofuran		73		N	<0.06 U	**0.066 J#**	<0.062 UJ	<0.061 U	<0.12 U	<0.063 U	**0.04 J#**	<0.063 U	**0.048 J#**	<0.062 UJ
Fluoranthene		2400	122	N	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	**0.0093**	<0.031 U	<0.0082 UJ
Fluorene		2400	30	N	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	**0.0099**	<0.031 U	<0.0082 UJ
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.008 U	<0.015 U	<0.0082 UJ	<0.0081 U	<0.016 U	<0.0083 U	<0.015 U	<0.0084 U	<0.031 U	<0.0082 UJ
Naphthalene		3.8	0.0994	N	<0.008 U	**0.62 #**	**0.012 J**	<0.0081 U	**0.12 #**	<0.0083 U	**0.29 #**	**0.029**	**0.5 #**	**0.017 J**
Phenanthrene		1800	45.7	N	<0.008 U	**0.37**	<0.0082 UJ	<0.0081 U	**0.22**	<0.0083 U	**0.24**	**0.12**	**0.28**	**0.0047 J**
Pyrene		1800	78.5	N	<0.008 U	**0.047**	<0.0082 UJ	**0.0043 J**	<0.016 U	<0.0083 U	**0.042**	**0.058**	**0.039**	<0.0082 UJ

Table 4-19. Analytical Detections: Snake Road Burning Ground Subsurface Soil Samples (Continued)

				Station	SRBG-SL-005	SRBG-SL-005	SRBG-SL-006	SRBG-SL-006	SRBG-SL-006	SRBG-SL-007	SRBG-SL-007	SRBG-SL-008	SRBG-SL-008	SRBG-SL-009
				Sample ID	SRBGSL0014	SRBGSL0015	SRBGSL9002	SRBGSL0017	SRBGSL0018	SRBGSL0020	SRBGSL0021	SRBGSL0023	SRBGSL0024	SRBGSL0026
				Sample Type	GR	GR	FD	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	2.0 - 6.0	6.0 - 8.5	2.0 - 6.0	6.0 - 8.0	2.0 - 6.0	6.0 - 8.5	2.0 - 6.0
				Date	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Organics – Pesticides														
4,4'-DDE		2	0.021	Y	<0.002 UJ	<0.0019 UJ	<0.0021 U	<0.0021 U	<0.02 U	<0.0022 U	<0.0098 U	<0.021 U	<0.02 U	<0.021 U
4,4'-DDT		1.9	0.021	Y	<0.002 UJ	<0.0019 UJ	<0.0021 U	<0.0021 U	<0.02 U	<0.0022 U	<0.0098 U	**0.017 J**	<0.02 U	<0.021 U
Endosulfan sulfate		470	0.0358	N	<0.002 UJ	<0.0019 UJ	<0.0021 U	<0.0021 U	<0.02 U	<0.0022 U	<0.0098 U	<0.021 U	<0.02 U	<0.021 U
Endrin aldehyde		19	0.0105	N	<0.002 UJ	<0.0019 UJ	<0.0021 U	<0.0021 U	<0.02 U	<0.0022 U	<0.0098 U	<0.021 U	<0.02 U	<0.021 U
alpha-BHC		0.086	0.0994	Y	<0.002 UJ	<0.0019 UJ	<0.0021 U	<0.0021 U	<0.02 U	<0.0022 U	<0.0098 U	<0.021 U	<0.02 U	<0.021 U
alpha-Chlordane		1.7		Y	<0.002 UJ	<0.0019 UJ	**0.00042 J#**	<0.0021 U	<0.02 U	<0.0022 U	<0.0098 U	<0.021 U	<0.02 U	<0.021 U
beta-BHC		0.3	0.004	Y	<0.002 UJ	<0.0019 UJ	**0.0012 J**	**0.00051 J**	**0.0048 J#**	**0.00066 J**	<0.0098 U	<0.021 U	<0.02 U	<0.021 U
delta-BHC			9.94	Y	<0.002 UJ	**0.00032 J***	<0.0021 U	<0.0021 U	<0.02 U	<0.0022 UJ	<0.0098 U	<0.021 U	<0.02 U	<0.021 U
Organics – Herbicides														
Dalapon		1900		N	<0.14 U	<0.14 U	<0.15 U	<0.15 U	<0.14 U	<0.15 U	<0.14 U	<0.15 U	<0.14 U	<0.15 U
Organics – PCBs														
PCB-1260		0.24	0.371	Y	<0.039 U	<0.038 U	<0.041 U	<0.041 U	<0.038 U	<0.042 UJ	<0.038 U	<0.041 U	<0.038 U	<0.04 U
Organics – Explosive														
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.45 U	<0.25 UJ	<0.24 U	<0.46 U	<0.25 U	<0.46 U	<0.25 U	<0.92 U	<0.25 UJ
2,6-Dinitrotoluene		0.36	0.0328	N	<0.24 U	<0.45 U	<0.25 UJ	<0.24 U	<0.46 U	<0.25 U	<0.46 U	<0.25 U	<0.92 U	<0.25 UJ
Organics – Volatile														
1,1,1-Trichloroethane		8100	29.8	N	<0.0059 U	<0.0053 U	<0.0061 U	<0.0058 UJ	<0.005 UJ	<0.0062 UJ	<0.0054 UJ	<0.0058 UJ	<0.0049 UJ	<0.006 UJ
1,1-Dichloroethane		3.6	20.1	N	<0.0059 U	<0.0053 U	<0.0061 U	<0.0058 U	<0.005 U	<0.0062 U	<0.0054 UJ	**0.0017 J**	<0.0049 U	<0.006 U
2-Butanone		27000	89.6	N	<0.023 U	**0.0085 J**	<0.025 U	<0.023 U	<0.02 U	<0.025 U	<0.021 UJ	<0.023 U	<0.02 U	<0.024 U
Acetone		61000	2.5	N	<0.023 U	<0.053 UJ	<0.025 U	<0.023 U	<0.02 U	<0.025 U	<0.21 UJ	<0.023 U	<0.02 U	<0.024 U
Benzene		1.2	0.255	N	<0.0059 U	**0.0027 J**	<0.0061 U	<0.0058 U	<0.005 U	<0.0062 U	<0.0054 UJ	<0.0058 U	<0.0049 U	<0.006 U
Carbon disulfide		770	0.0941	N	<0.0059 U	**0.0063 J**	<0.0061 U	<0.0058 U	<0.005 U	<0.0062 U	**0.0015 J**	<0.0058 U	<0.0049 U	<0.006 U
Cyclohexane		6500		N	<0.012 U	**0.067 J#**	<0.012 U	<0.012 U	<0.01 U	<0.012 U	**0.00056 J#**	<0.012 U	**0.021 #**	<0.012 U
Dichlorodifluoromethane		87	39.5	N	<0.0059 UJ	**0.00064 J**	<0.0061 U	<0.0058 UJ	<0.005 UJ	<0.0062 UJ	<0.0054 UJ	<0.0058 UJ	<0.0049 UJ	<0.006 UJ
Ethylbenzene		5.8	5.16	N	<0.0059 U	**0.02 J**	<0.0061 U	<0.0058 U	<0.005 U	<0.0062 U	<0.0054 U	<0.0058 U	**0.0049**	<0.006 U
Isopropylbenzene		1900		N	<0.0059 U	**0.0027 J#**	<0.0061 U	<0.0058 U	<0.005 U	<0.0062 U	<0.0054 U	<0.0058 U	**0.00074 J#**	<0.006 U
M + P Xylene		650	10	N	<0.012 U	**0.05 J**	<0.012 U	<0.012 U	<0.01 U	<0.012 U	<0.011 U	<0.012 U	**0.014**	<0.012 U
Methylcyclohexane				N	<0.012 U	**0.073 J*#**	<0.012 U	<0.012 U	<0.01 U	<0.012 U	**0.00098 J*#**	<0.012 U	**0.029 *#**	<0.012 U
Methylene chloride		57	4.05	N	**0.0024 J**	<0.0062 UJ	<0.0061 U	<0.058 UJ	<0.005 UJ	<0.0062 UJ	<0.0054 UJ	<0.0058 UJ	<0.0049 UJ	<0.006 U
Toluene		4900	200	N	<0.0059 U	**0.07 J**	<0.0061 U	<0.0058 U	<0.005 U	<0.0062 U	<0.0054 U	<0.0058 U	**0.013**	<0.006 U
Trichloroethene		0.94	12.4	N	<0.0059 U	<0.0053 U	<0.0061 U	<0.0058 U	<0.005 U	<0.0062 U	<0.0054 U	<0.0058 U	<0.0049 U	<0.006 U
o-Xylene		650	10	N	<0.0059 U	**0.029 J**	<0.0061 U	<0.0058 U	<0.005 U	<0.0062 U	<0.0054 U	<0.0058 U	**0.0069**	<0.006 U

Table 4-19. Analytical Detections: Snake Road Burning Ground Subsurface Soil Samples (Continued)

				Station	SRBG-SL-009	SRBG-SL-010	SRBG-SL-010	SRBG-SL-011	SRBG-SL-011
				Sample ID	SRBGSL0027	SRBGSL0029	SRBGSL0030	SRBGSL0032	SRBGSL0033
				Sample Type	GR	GR	GR	GR	GR
				Depth (ft)	6.0 - 9.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 7.5
				Date	08/04/15	08/04/15	08/04/15	08/04/15	08/04/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**					
Metals									
Aluminum	15500	77000	50	N	**3200**	**5000**	**7100**	**12000**	**3600**
Antimony	9.3	31	0.27	N	<1.8 U	<2.3 U	<2.3 U	<2.1 U	<1.9 U
Arsenic	36.5	0.68	18	N	**13**	**7.5**	**7.2**	**4.8**	**19**
Barium	826	15000	330	N	**24**	**28**	**32**	**47**	**23**
Beryllium	1	160	21	N	**0.43 J**	**0.31 J**	**0.46 J**	**0.55**	**0.5**
Cadmium		71	0.36	N	**0.14 J**	<0.57 U	**0.04 J**	<0.53 U	**0.16 J**
Calcium	52300			N	**6700 J**	**6100 J**	**1700 J**	**1200 J**	**9200 J**
Chromium	29	0.3	26	N	**5.5**	**6.2**	**7.9**	**15**	**6**
Cobalt	116	23	13	N	**15**	**2.5**	**7.9**	**6.4**	**16**
Iron	234000	55000		N	**19000**	**9000**	**11000**	**16000**	**24000**
Lead	48.6	400	11	Y	**13 J**	**12 J**	**10 J**	**13 J**	**16 J**
Magnesium	10400			N	**3200 J**	**1300 J**	**1200 J**	**1200 J**	**4100 J**
Manganese	3510	1800	220	N	**110**	**55**	**71**	**43**	**190**
Mercury	0.085	9.4	0.0005	Y	**0.027 J**	**0.02 J**	**0.035 J**	**0.043 J**	**0.023 J**
Nickel	55.1	1500	38	N	**46**	**8.5**	**24**	**23**	**52**
Potassium	3390			N	**890 J**	<570 U	**790 J**	**560 J**	**1300 J**
Selenium	2	390	0.52	N	**1 J**	<2.3 U	<2.3 U	**0.51 J**	**1.3 J**
Silver	11.1	390	4.2	N	**0.11 J**	<1.1 U	<1.2 U	<1.1 U	<0.95 U
Sodium				N	<450 U	<570 U	<580 U	<530 U	<470 U
Thallium	1.3	0.78	1	N	**1.4 J*#**	<2.3 U	**0.37 J**	**0.26 J**	**1.8 J*#**
Vanadium	40.9	390	7.8	N	**11**	**12**	**14**	**27**	**13**
Zinc	322	23000	46	N	**44 J**	**23 J**	**42 J**	**39 J**	**42 J**
Organics – Semivolatile									
1,1'-Biphenyl		47	60	N	**0.016 J**	<0.06 U	<0.06 U	<0.066 U	**0.024 J**
2,4-Dinitrotoluene		1.7	1.28	N	<0.47 U	<0.24 U	<0.24 U	<0.26 U	<0.43 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.47 U	<0.24 U	<0.24 U	<0.26 U	<0.43 U
2-Methylnaphthalene		240	3.24	N	**0.53**	**0.0077 J**	**0.065**	**0.013**	**1.1**
Acenaphthene		3600	20	N	<0.016 U	<0.008 U	<0.008 U	<0.0088 U	**0.017**
Acenaphthylene		1800	682	N	**0.013 J**	**0.0052 J**	<0.008 U	<0.0088 U	**0.022**
Anthracene		18000	1480	N	<0.016 U	**0.0068 J**	<0.008 U	<0.0088 U	<0.014 U
Benz(a)anthracene		0.16	5.21	N	<0.016 U	**0.017**	<0.008 U	<0.0088 U	<0.014 U
Benzaldehyde		7800		N	<0.24 U	<0.12 U	<0.12 U	<0.13 U	<0.21 U
Benzo(a)pyrene		0.016	1.52	N	<0.016 U	**0.024 ***	<0.008 U	<0.0088 U	<0.014 U
Benzo(b)fluoranthene		0.16	59.8	N	<0.016 U	**0.06**	<0.008 U	<0.0088 U	<0.014 U
Benzo(ghi)perylene		1800	119	Y	<0.016 U	**0.018**	<0.008 U	<0.0088 U	<0.014 U
Benzo(k)fluoranthene		1.6	148	N	<0.016 U	**0.016**	<0.008 U	<0.0088 U	<0.014 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.17 U	<0.084 U	<0.084 U	<0.0093 U	<0.15 U
Caprolactam		31000		N	<0.78 U	<0.4 U	<0.4 U	<0.44 U	<0.71 U
Chrysene		16	4.73	N	**0.06**	**0.036**	**0.025**	<0.0088 U	**0.06**
Di-n-butyl phthalate		6300	200	N	<0.17 U	<0.084 U	<0.084 U	<0.093 U	<0.15 U
Dibenz(a,h)anthracene		0.016	18.4	N	<0.016 U	<0.008 U	<0.008 U	<0.0088 U	<0.014 U
Dibenzofuran		73		N	**0.025 J#**	<0.06 U	<0.06 U	<0.066 U	**0.04 J#**
Fluoranthene		2400	122	N	<0.016 U	**0.026**	<0.008 U	<0.0088 U	<0.014 U
Fluorene		2400	30	N	<0.016 U	<0.008 U	<0.008 U	<0.0088 U	<0.014 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.016 U	**0.017**	<0.008 U	<0.0088 U	<0.014 U
Naphthalene		3.8	0.0994	N	**0.15 #**	**0.0058 J**	**0.012**	**0.0046 J**	**0.36 #**
Phenanthrene		1800	45.7	N	**0.19**	**0.0097**	**0.048**	**0.01**	**0.27**
Pyrene		1800	78.5	N	**0.053**	**0.023**	**0.019**	**0.0066 J**	**0.036**

Table 4-19. Analytical Detections: Snake Road Burning Ground Subsurface Soil Samples (Continued)

				Station	**SRBG-SL-009**	**SRBG-SL-010**	**SRBG-SL-010**	**SRBG-SL-011**	**SRBG-SL-011**
				Sample ID	**SRBGSL0027**	**SRBGSL0029**	**SRBGSL0030**	**SRBGSL0032**	**SRBGSL0033**
				Sample Type	**GR**	**GR**	**GR**	**GR**	**GR**
				Depth (ft)	**6.0 - 9.0**	**2.0 - 6.0**	**6.0 - 10.0**	**2.0 - 6.0**	**6.0 - 7.5**
				Date	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**	**08/04/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**					
Organics – Pesticides									
4,4'-DDE		2	0.021	Y	<0.02 U	<0.0021 U	<0.01 U	<0.044 U	<0.037 U
4,4'-DDT		1.9	0.021	Y	<0.02 U	<0.0021 U	<0.01 U	<0.044 U	<0.037 U
Endosulfan sulfate		470	0.0358	N	<0.02 U	<0.0021 U	<0.01 U	<0.044 U	<0.037 U
Endrin aldehyde		19	0.0105	N	<0.02 U	<0.0021 U	<0.01 U	<0.044 U	<0.037 U
alpha-BHC		0.086	0.0994	Y	<0.02 U	<0.0021 U	<0.01 U	<0.044 U	<0.037 U
alpha-Chlordane		1.7		Y	<0.02 U	<0.0021 U	<0.01 U	<0.044 U	<0.037 U
beta-BHC		0.3	0.004	Y	<0.02 U	<0.0021 U	<0.01 U	**0.018 J#**	<0.037 U
delta-BHC			9.94	Y	**0.0037 J***	<0.0021 U	<0.01 U	<0.044 U	<0.037 U
Organics – Herbicides									
Dalapon		1900		N	<0.14 U	<0.14 U	<0.14 U	<0.16 U	<0.13 U
Organics – PCBs									
PCB-1260		0.24	0.371	Y	<0.039 U	<0.04 U	<0.04 U	<0.043 U	<0.036 U
Organics – Explosive									
2,4-Dinitrotoluene		1.7	1.28	N	<0.47 U	<0.24 U	<0.24 U	<0.26 U	<0.43 U
2,6-Dinitrotoluene		0.36	0.0328	N	<0.47 U	<0.24 U	<0.24 U	<0.26 U	<0.43 U
Organics – Volatile									
1,1,1-Trichloroethane		8100	29.8	N	<0.0056 U	<0.006 U	<0.0056 UJ	<0.0061 U	<0.0053 UJ
1,1-Dichloroethane		3.6	20.1	N	<0.0056 U	<0.006 U	<0.0056 UJ	<0.0061 U	<0.0053 UJ
2-Butanone		27000	89.6	N	<0.023 U	<0.024 U	<0.022 UJ	<0.025 U	**0.0044 J**
Acetone		61000	2.5	N	<0.023 U	<0.024 U	<0.032 UJ	<0.025 U	**0.057 J**
Benzene		1.2	0.255	N	<0.0056 U	<0.006 U	<0.0056 UJ	<0.0061 U	<0.0053 UJ
Carbon disulfide		770	0.0941	N	<0.0056 U	<0.006 U	**0.0015 J**	<0.0061 U	**0.015 J**
Cyclohexane		6500		N	<0.011 U	<0.012 U	**0.0019 J#**	<0.012 U	**0.00071 J#**
Dichlorodifluoromethane		87	39.5	N	<0.0056 U	<0.006 U	<0.0056 UJ	<0.0061 U	<0.0053 UJ
Ethylbenzene		5.8	5.16	N	<0.0056 U	<0.006 U	<0.0056 UJ	<0.0061 U	<0.0053 UJ
Isopropylbenzene		1900		N	<0.0056 U	<0.006 U	<0.0056 UJ	<0.0061 U	<0.0053 UJ
M + P Xylene		650	10	N	<0.011 U	<0.012 U	**0.0016 J**	<0.012 U	<0.011 UJ
Methylcyclohexane				N	<0.011 U	<0.012 U	**0.0033 J*#**	<0.012 U	**0.0013 J*#**
Methylene chloride		57	4.05	N	**0.0014 J**	**0.0014 J**	<0.0098 UJ	<0.0061 U	**0.0096 J**
Toluene		4900	200	N	**0.00066 J**	**0.0013 J**	<0.0056 UJ	<0.0061 U	**0.002 J**
Trichloroethene		0.94	12.4	N	<0.0056 U	<0.006 U	<0.0056 UJ	<0.0061 U	<0.0053 UJ
o-Xylene		650	10	N	<0.0056 U	<0.006 U	**0.001 J**	<0.0061 U	<0.0053 UJ

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.
ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

Table 4-20. Analytical Detections: Snake Road Burning Ground Sediment Samples

				Station	SRBG-SDSW-001	SRBG-SDSW-001	SRBG-SDSW-002	SRBG-SDSW-003
				Sample ID	SRBGSD9001	SRBGSD0001	SRBGSD0002	SRBGSD0003
				Sample Type	FD	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/04/15	08/04/15	08/04/15	08/04/15
Analyte (mg/kg)	**RSL**	**Ohio SRV**	**ESV**	**PBT Chemical?**				
Metals								
Aluminum	77000	42000		N	**4900**	**6400**	**4600**	**7900**
Antimony	31	0.84		N	<2 U	<2.3 UJ	<2.1 U	**0.51 J**
Arsenic	0.68	11	9.79	N	**5.6 ***	**5.8 ***	**8.3 ***	**8.5 ***
Barium	15000	210		N	**44**	**48**	**47**	**44**
Beryllium	160	0.8		N	**0.43 J**	**0.44 J**	**0.47 J**	**0.5 J**
Cadmium	71	0.96	0.99	N	**0.14 J**	**0.078 J**	**0.11 J**	**0.031 J**
Calcium		1E+05		N	**2400 J**	**2000**	**1900 J**	**550 J**
Chromium	0.3	51	43.4	N	**7.3 ***	**8.9 ***	**6.6 ***	**8.9 ***
Cobalt	23	12	50	N	**3.7**	**4.4**	**4**	**7.2**
Iron	55000	44000		N	**11000**	<12000 U	**14000**	**13000**
Lead	400	47	35.8	Y	**16 J**	**11 J**	**12 J**	**14 J**
Magnesium		29000		N	**720 J**	**820 J**	**620 J**	**710 J**
Manganese	1800	1000		N	**86**	**71**	**160**	**28**
Mercury	9.4	0.12	0.18	Y	**0.05 J**	**0.038 J**	**0.057 J**	**0.066 J**
Nickel	1500	36	22.7	N	**15**	**18**	**12**	**22**
Selenium	390	1.4		N	**0.36 J**	<2.3 U	<2.1 U	<2.1 U
Silver	390	0.43	0.5	N	**0.34 J**	**0.097 J**	<1.1 U	**0.098 J**
Thallium	0.78	4.7		N	<2 U	<2.3 U	**0.2 J**	**0.35 J**
Vanadium	390	40		N	**14**	<18 U	**15**	**18**
Zinc	23000	190	121	N	**36 J**	**28 J**	**25 J**	**31 J**
Organics – Semivolatile								
Benz(a)anthracene	0.16		0.108	N	**0.0065 J**	**0.007 J**	<0.0085 U	<0.0086 U
Benzo(a)pyrene	0.016		0.15	N	**0.0082 J**	**0.0051 J**	<0.0085 U	**0.0048 J**
Benzo(b)fluoranthene	0.16		10.4	N	**0.016**	**0.016**	**0.0057 J**	**0.0088**
Benzo(ghi)perylene	1800		0.17	Y	**0.0071 J**	<0.0084 U	<0.0085 U	<0.0086 U
Benzo(k)fluoranthene	1.6		0.24	N	**0.0055 J**	<0.0084 U	<0.0085 U	<0.0086 U
Chrysene	16		0.166	N	**0.011**	**0.0076 J**	<0.0085 U	**0.0052 J**
Fluoranthene	2400		0.423	N	**0.012**	**0.0096**	**0.0056 J**	**0.0063 J**
Indeno(1,2,3-cd)pyrene	0.16		0.2	N	**0.0078 J**	<0.0084 U	<0.0085 U	<0.0086 U
Phenanthrene	1800		0.204	N	<0.0088 U	**0.0042 J**	<0.0085 U	<0.0086 U
Pyrene	1800		0.195	N	**0.011**	**0.0082 J**	**0.0044 J**	**0.0055 J**
Organics – Pesticides								
4,4'-DDD	2.3		0.0049	Y	<0.011 U	<0.0021 U	**0.0012 J**	<0.011 U
4,4'-DDE	2		0.0032	Y	<0.011 U	**0.00078 J**	**0.0012 J**	<0.011 U
Endosulfan sulfate	470		0.0346	N	<0.011 U	<0.0021 U	**0.0011 J**	<0.011 U
Endrin	19		0.0022	N	<0.011 U	<0.0021 U	**0.001 J**	<0.011 U
Methoxychlor	320		0.0136	Y	<0.022 U	<0.0041 U	**0.00085 J**	<0.022 U
beta-BHC	0.3		0.005	Y	<0.011 U	**0.002 J**	**0.00078 J**	<0.011 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
RSL = Regional Screening Level
SRV = Sediment Reference Value

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Table 4-21. Soil Sample Location Summary: Taylor Road Burning Ground

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
TRBG-SL-001	TRBGSL0001 TRBGSL9004	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.0	Characterize north-central area of Primary Burning Area; potential ACM (transite) and burned material in DPT core.
	TRBGSL0002	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	TRBGSL0003	6.0-6.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 6.5 ft BGS.
TRBG-SL-002	TRBGSL0004	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.8	Characterize central area of Primary Burning Area.
	TRBGSL0005	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Debris in DPT core (potential ACM, metal washer, chunks of glass, burned material, brick and stone).
	TRBGSL0006 TRBGSL9003	6.0-6.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 6.5 ft BGS.
TRBG-SL-003	TRBGSL0007	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives	2.5	Characterize east portion of Primary Burning Area.
	TRBGSL0008 TRBGSL0008MS/MSD	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 6.0 ft BGS.
TRBG-SL-004	TRBGSL0010	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.5	Characterize Primary Burn Area.
	TRBGSL0011	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Debris in DPT core (brick, burned material).
	TRBGSL0012	6.0-7.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 7.0 ft BGS.

Table 4-21. Soil Sample Location Summary: Taylor Road Burning Ground (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
TRBG-SL-005	TRBGSL0013	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.5	Characterize south-west portion of Primary Burn Area, near open area within tall, dense brush area.
	TRBGSL0014 TRBGSL0014MS/MSD	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	TRBGSL0015	6.0-9.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 9.0 ft BGS.
TRBG-SL-006	TRBGSL0016	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	2.8	Characterize east portion of secondary burn area, potentially stressed vegetation (grassy, no brush/trees).
	TRBGSL0017	2.0-4.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 4.0 ft BGS.
TRBG-SL-007	TRBGSL0019	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.0	Characterize central portion of Secondary Burn Area; potentially stressed vegetation (edge of grassy and dense brush areas).
	TRBGSL0020	2.0-5.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 5.0 ft BGS.
TRBG-SL-008	TRBGSL0022	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	2.9	Characterize west portion of Secondary Burn Area, upgradient from western drainage ditch.
	TRBGSL0023	2.0-4.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 4.0 ft BGS.

Table 4-21. Soil Sample Location Summary: Taylor Road Burning Ground (Continued)

Soil Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
TRBG-SL-009	TRBGSL0025	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.6	Characterize Subsurface Debris Area (metal), at edge of cleared tall dense brush and grassy area.
	TRBGSL0026 TRBGSL9001	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	TRBGSL0027 TRGBSL9002	6.0-9.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 9.0 ft BGS.
TRBG-SL-010	TRBGSL0028	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	4.6	Characterize Subsurface Debris Area (metal), near visible metal beam sticking out of the ground, other metal debris to east.
	TRBGSL0029	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	TRBGSL0030	6.0-10.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
TRBG-SL-011	TRBGSL0031	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives, Asbestos	3.1	Characterize Subsurface Debris Area (metal), at edge of cleared tall dense brush and grassy area.
	TRBGSL0032	2.0-6.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		
	TRBGSL0033	6.0-6.5	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Explosives		Refusal at 6.5 ft BGS.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
BGS = Below Ground Surface
DPT = Direct-Push Technology
ft = Feet
Herb = Herbicide
ID = Identifier
PCB = Polychlorinated Biphenyl
Pest = Pesticide
PID = Photoionization Detector
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-22. Sediment Sample Location Summary: Taylor Road Burning Ground

Boring ID	Sample IDs	Sample Depth Interval Collected	Analyses Performed	Depth to Water Encountered During Drilling (ft BGS)	Rationale/Comments (stained, elevated PID reading, fill/debris/ACM in sample, nearby surface debris, dry/no surface water, etc.)
TRBG-SDSW-001	TRBGSD0001	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Western drainage ditch, Upstream location; dry – no surface water collected.
TRBG-SDSW-002	TRBGSD0002	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Western drainage ditch, midstream location; dry – no surface water collected.
TRBG-SDSW-003	TRBGSD0003	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Western drainage ditch, midstream location; dry – no surface water collected.
TRBG-SDSW-004	TRBGSD0004	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Western drainage ditch, downstream location; dry – no surface water collected.
TRBG-SDSW-005	TRBGSD0005	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Eastern drainage ditch, downstream location; dry – no surface water collected.
TRBG-SDSW-006	TRBGSD0006	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Eastern drainage ditch, midstream location; dry – no surface water collected.
TRBG-SDSW-007	TRBGSD0007	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Eastern drainage ditch, midstream location; dry – no surface water collected.
TRBG-SDSW-008	TRBGSD0008 TRGBSD9001 TRBGSD0008MS/MSD	0-2.0	VOC, SVOC, Herb, Pest, PCB, TAL Metals, Asbestos	NA	Eastern drainage ditch, upstream location; dry – no surface water collected.

Note: Only asbestos analysis on primary samples.

ACM = Asbestos-Containing Material
BGS = Below Ground Surface
Herb = Herbicide
ID = Identifier
NA = Not Applicable
PCB = Polychlorinated Biphenyl
Pest = Pesticide
PID = Photoionization Detector
SVOC = Semivolatile Organic Compound
TAL = Target Analyte List
VOC = Volatile Organic Compound

Table 4-23. Analytical Detections: Taylor Road Burning Ground Surface Soil Samples

				Station	TRBG-SL-001	TRBG-SL-001	TRBG-SL-002	TRBG-SL-003	TRBG-SL-004	TRBG-SL-005	TRBG-SL-006	TRBG-SL-007
				Sample ID	TRBGSL9004	TRBGSL0001	TRBGSL0004	TRBGSL0007	TRBGSL0010	TRBGSL0013	TRBGSL0016	TRBGSL0019
				Sample Type	FD	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/07/15	08/07/15	08/07/15	08/07/15	08/06/15	08/06/15	08/07/15	08/07/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**								
Metals												
Aluminum	15500	77000	50	N	**4000**	**4300**	**4800**	**4000**	**4500**	**3800**	**4200**	**3700**
Antimony	9.3	31	0.27	N	**1 J**	<1.8 U	<2.2 U	<2.1 U	**0.79 J**	<2.1 U	<2 U	<2 U
Arsenic	36.5	0.68	18	N	**7.2**	**7.2**	**8.7**	**3.9**	**5.8**	**2.9**	**2.9**	**1.2 J**
Barium	826	15000	330	N	**150**	**130**	**240**	**64**	**63**	**34**	**28**	<20 U
Beryllium	1	160	21	N	**0.29 J**	**0.31 J**	**0.32 J**	**0.28 J**	**0.34 J**	**0.2 J**	**0.31 J**	**0.12 J**
Cadmium		71	0.36	N	**0.58 J#**	**0.66 #**	**1.2 #**	**0.26 J**	**0.2 J**	**0.2 J**	**0.059 J**	**0.036 J**
Calcium	52300			N	**2400 J**	**2400 J**	**3000 J**	**1100 J**	**1200 J**	**840 J**	**900 J**	<510 U
Chromium	29	0.3	26	N	**10 J**	**12**	**13**	**5.2**	**6.3**	**3.8 J**	**4.7**	**2.9**
Cobalt	116	23	13	N	**3.1**	**2.9**	**2.2**	**3.2**	**2.9**	**1.1**	**2.7**	**0.73 J**
Iron	234000	55000		N	**13000**	**13000**	**13000**	**9500**	**14000**	**4900**	**7000**	**4100**
Lead	48.6	400	11	Y	**360 #**	**380 #**	**530 *#**	**40**	**44**	**48**	**6.7 J**	**3.5 J**
Magnesium	10400			N	**970 J**	**1100 J**	**1100 J**	**530 J**	<570 U	<530 U	**650 J**	<510 U
Manganese	3510	1800	220	N	**200**	**190**	**160**	**310**	**240**	**56**	**45**	**14**
Mercury	0.085	9.4	0.0005	Y	**0.2 #**	**0.19 #**	**0.96 #**	**0.11 J#**	**0.081 J**	**0.063 J**	**0.019 J**	<0.12 U
Nickel	55.1	1500	38	N	**11 J**	**11**	**11**	**6.4**	**6.9**	**4.1 J**	**5.9**	<4.1 U
Selenium	2	390	0.52	N	**0.49 J**	**0.43 J**	**0.62 J**	**0.37 J**	**0.57 J**	<2.1 U	<2 U	<2 U
Silver	11.1	390	4.2	N	**1.2**	**2.2**	**0.5 J**	<1.1 U	<1.1 U	<1.1 U	<1 U	<1 U
Thallium	1.3	0.78	1	N	<2 U	**0.14 J**	<2.2 U	<2.1 U	<2.3 U	<2.1 U	<2 U	<2 U
Vanadium	40.9	390	7.8	N	**9.1**	**9.8**	**10**	**8.4**	**10**	**6.7 J**	**9**	**7.1**
Zinc	322	23000	46	N	**330 #**	**300**	**570 #**	**61**	**74**	**49 J**	**20 J**	**9.4 J**
Organics – Semivolatile												
2,4-Dinitrotoluene		1.7	1.28	N	<0.23 U	<0.23 U	**0.13 J**	<0.23 U	<0.26 U	<0.22 U	<0.24 U	<0.23 U
2-Methylnaphthalene		240	3.24	N	**0.048**	**0.02**	**0.037**	**0.0067 J**	<0.0087 U	**0.0052 J**	<0.0079 U	<0.0077 U
Acenaphthylene		1800	682	N	**0.0053 J**	<0.0078 U	<0.0079 U	<0.0077 U	<0.0087 U	<0.0073 U	<0.0079 U	<0.0077 U
Anthracene		18000	1480	N	**0.0042 J**	**0.0057 J**	**0.0059 J**	<0.0077 U	<0.0087 U	<0.0073 U	<0.0079 U	<0.0077 U
Benz(a)anthracene		0.16	5.21	N	**0.032**	**0.031**	**0.036**	**0.013**	**0.01**	**0.02**	<0.0079 U	<0.0077 U
Benzaldehyde		7800		N	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.13 U	<0.11 U	<0.12 U	<0.11 U
Benzo(a)pyrene		0.016	1.52	N	**0.043 ***	**0.048 ***	**0.049 ***	**0.014**	**0.012**	**0.022 ***	<0.0079 U	<0.0077 U
Benzo(b)fluoranthene		0.16	59.8	N	**0.068**	**0.082**	**0.093**	**0.024**	**0.022**	**0.036**	<0.0079 U	<0.0077 U
Benzo(ghi)perylene		1800	119	Y	**0.037**	**0.033**	**0.034**	**0.0081**	**0.007 J**	**0.013**	<0.0079 U	<0.0077 U
Benzo(k)fluoranthene		1.6	148	N	**0.03**	**0.04**	**0.043**	**0.012**	**0.01**	**0.02**	<0.0079 U	<0.0077 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	**0.037 J**	**0.039 J**	**0.027 J**	<0.081 U	<0.091 U	<0.077 U	<0.083 U	**0.025 J**
Chrysene		16	4.73	N	**0.05**	**0.045**	**0.051**	**0.017**	**0.013**	**0.025**	<0.0079 U	<0.0077 U
Di-n-butyl phthalate		6300	200	N	**0.021 J**	**0.021 J**	**0.018 J**	<0.081 U	<0.091 U	<0.077 U	<0.083 U	<0.08 U
Dibenzofuran		73		N	**0.015 J#**	**0.011 J#**	**0.017 J#**	<0.058 U	<0.065 U	<0.055 U	<0.059 U	<0.057 U
Fluoranthene		2400	122	N	**0.065**	**0.065**	**0.065**	**0.024**	**0.022**	**0.043**	<0.0079 U	<0.0077 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.033**	**0.03**	**0.034**	**0.015**	**0.014**	**0.017**	<0.0079 U	<0.0077 U
Naphthalene		3.8	0.0994	N	**0.031**	**0.017**	**0.032**	**0.0053 J**	<0.0087 U	**0.004 J**	<0.0079 U	<0.0077 U
Phenanthrene		1800	45.7	N	**0.048**	**0.04**	**0.043**	**0.012**	**0.011**	**0.024**	<0.0079 U	<0.0077 U
Pyrene		1800	78.5	N	**0.048**	**0.048**	**0.052**	**0.018**	**0.017**	**0.034**	<0.0079 U	<0.0077 U
Organics – Pesticides												
4,4'-DDE		2	0.021	Y	**0.008 J**	**0.0076 J**	<0.02 UJ	<0.0097 UJ	**0.00047 J**	**0.00034 J**	<0.002 UJ	<0.0019 UJ
4,4'-DDT		1.9	0.021	Y	<0.039 U	<0.04 U	<0.02 UJ	<0.0097 UJ	<0.11 UJ	**0.00048 J**	<0.002 UJ	<0.0019 UJ
Aldrin		0.039	0.0033	Y	<0.039 U	<0.04 U	<0.02 UJ	<0.0097 UJ	<0.11 UJ	<0.018 UJ	<0.002 UJ	<0.0019 UJ
Endosulfan sulfate		470	0.0358	N	<0.039 U	**0.072 J#**	<0.02 UJ	<0.0097 UJ	**0.0027 J**	<0.018 UJ	<0.002 UJ	<0.0019 UJ
Endrin aldehyde		19	0.0105	N	**0.0098 J**	**0.015 J#**	<0.02 UJ	<0.0097 UJ	<0.11 UJ	<0.018 UJ	<0.002 UJ	<0.0019 UJ
Lindane		0.57	0.005	Y	<0.039 U	<0.04 U	<0.02 UJ	<0.0097 UJ	<0.11 UJ	<0.018 UJ	<0.002 UJ	<0.0019 UJ
beta-BHC		0.3	0.004	Y	<0.039 U	<0.04 U	<0.02 UJ	<0.0097 UJ	**0.0013 J**	<0.018 UJ	<0.002 UJ	<0.0019 UJ

Table 4-23. Analytical Detections: Taylor Road Burning Ground Surface Soil Samples (Continued)

				Station	TRBG-SL-001	TRBG-SL-001	TRBG-SL-002	TRBG-SL-003	TRBG-SL-004	TRBG-SL-005	TRBG-SL-006	TRBG-SL-007
				Sample ID	TRBGSL9004	TRBGSL0001	TRBGSL0004	TRBGSL0007	TRBGSL0010	TRBGSL0013	TRBGSL0016	TRBGSL0019
				Sample Type	FD	GR	GR	GR	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/07/15	08/07/15	08/07/15	08/07/15	08/06/15	08/06/15	08/07/15	08/07/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**								
Organics – PCBs												
PCB-1254		0.24	0.371	Y	<0.38 U	<0.39 U	<0.039 U	<0.038 U	<0.043 U	<0.036 U	<0.039 U	<0.038 U
PCB-1260		0.24	0.371	Y	**2.3 *#**	**3.3 *#**	**0.14**	**0.027 J**	**0.03 J**	**0.01 J**	<0.039 U	<0.038 U
Organics – Explosives												
2,4,6-Trinitrotoluene		21		N	<0.25 U	<0.24 U	**0.11 J#**	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.25 U	<0.24 U	<0.25 U	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.25 U	<0.24 U	**0.19 J#**	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U
3,5-Dinitroaniline				N	<0.49 U	<0.48 U	**0.083 J*#**	<0.47 U	<0.48 U	<0.47 U	<0.48 U	<0.5 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.25 U	<0.24 U	**0.24 J#**	<0.24 U	<0.24 U	<0.24 U	<0.24 U	<0.25 U
Organics – Volatile												
Methylene chloride		57	4.05	N	**0.004 J**	<0.0057 UJ	<0.0056 UJ	<0.0059 U	<0.0062 UJ	<0.0051 UJ	**0.0023 J**	<0.0057 U

Table 4-23. Analytical Detections: Taylor Road Burning Ground Surface Soil Samples (Continued)

				Station	TRBG-SL-008	TRBG-SL-009	TRBG-SL-010	TRBG-SL-011
				Sample ID	TRBGSL0022	TRBGSL0025	TRBGSL0028	TRBGSL0031
				Sample Type	GR	GR	GR	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/07/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**				
Metals								
Aluminum	15500	77000	50	N	**5200**	**5100**	**3900**	**4000**
Antimony	9.3	31	0.27	N	<1.9 U	<2.2 U	**1.3 J**	<1.9 U
Arsenic	36.5	0.68	18	N	**2.7**	**9.1**	**5.8**	**6.5**
Barium	826	15000	330	N	**50**	**36**	**190**	**52**
Beryllium	1	160	21	N	**0.26 J**	**0.36 J**	**0.25 J**	**0.36 J**
Cadmium		71	0.36	N	**0.041 J**	**0.037 J**	**0.88 J#**	**0.19 J**
Calcium	52300			N	**940 J**	**610 J**	**2000 J**	**1700 J**
Chromium	29	0.3	26	N	**5.6**	**9 J**	**13 J**	**8.3 J**
Cobalt	116	23	13	N	**1.4**	**2.8**	**3.5**	**4**
Iron	234000	55000		N	**7200**	**19000**	**12000**	**16000**
Lead	48.6	400	11	Y	**6.4 J**	**14 J**	**180 #**	**9.2 J**
Magnesium	10400			N	**620 J**	<560 U	**710 J**	**1400 J**
Manganese	3510	1800	220	N	**29**	**180**	**160**	**200**
Mercury	0.085	9.4	0.0005	Y	<0.12 U	**0.051 J**	**0.44 #**	**0.034 J**
Nickel	55.1	1500	38	N	**4.4**	**8.4 J**	**15 J**	**15 J**
Selenium	2	390	0.52	N	<1.9 U	**0.39 J**	<1.9 U	**0.36 J**
Silver	11.1	390	4.2	N	<0.95 U	<1.1 U	**1.7**	<0.96 U
Thallium	1.3	0.78	1	N	<1.9 U	**0.23 J**	<1.9 U	<1.9 U
Vanadium	40.9	390	7.8	N	**11**	**12 J**	**10 J**	**12**
Zinc	322	23000	46	N	**14 J**	**31 J**	**250**	**53**
Organics – Semivolatile								
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.23 U	<0.23 U	<0.24 U
2-Methylnaphthalene		240	3.24	N	<0.0081 U	**0.0044 J**	**0.056**	**0.0072 J**
Acenaphthylene		1800	682	N	<0.0081 U	<0.0078 U	<0.0077 U	<0.0079 U
Anthracene		18000	1480	N	<0.0081 U	<0.0078 U	**0.0095**	<0.0079 U
Benz(a)anthracene		0.16	5.21	N	<0.0081 U	**0.0077 J**	**0.067**	<0.0079 U
Benzaldehyde		7800		N	<0.12 U	<0.12 U	**0.06 J#**	<0.12 U
Benzo(a)pyrene		0.016	1.52	N	<0.0081 U	**0.0095**	**0.12 ***	<0.0079 U
Benzo(b)fluoranthene		0.16	59.8	N	<0.0081 U	**0.017**	**0.17 ***	**0.0079**
Benzo(ghi)perylene		1800	119	Y	<0.0081 U	<0.0078 U	**0.061**	<0.0079 U
Benzo(k)fluoranthene		1.6	148	N	<0.0081 U	**0.0098**	**0.075**	**0.004 J**
Bis(2-ethylhexyl)phthalate		39	0.925	N	**0.023 J**	<0.082 U	<0.1 U	<0.083 U
Chrysene		16	4.73	N	<0.0081 U	**0.012**	**0.089**	**0.0062 J**
Di-n-butyl phthalate		6300	200	N	<0.085 U	<0.082 U	<0.081 U	<0.083 U
Dibenzofuran		73		N	<0.061 U	**0.0093 J#**	**0.015 J#**	<0.06 U
Fluoranthene		2400	122	N	<0.0081 U	**0.019**	**0.092**	**0.0065 J**
Indeno(1,2,3-cd)pyrene		0.16	109	N	<0.0081 U	<0.0078 U	**0.057**	<0.0079 U
Naphthalene		3.8	0.0994	N	<0.0081 U	<0.0078 U	**0.042**	<0.0079 U
Phenanthrene		1800	45.7	N	<0.0081 U	**0.0091**	**0.051**	**0.0064 J**
Pyrene		1800	78.5	N	<0.0081 U	**0.015**	**0.086**	**0.0071 J**
Organics – Pesticides								
4,4'-DDE		2	0.021	Y	<0.002 U	<0.002 UJ	<0.019 UJ	**0.00038 J**
4,4'-DDT		1.9	0.021	Y	<0.002 U	<0.002 UJ	<0.019 UJ	<0.002 UJ
Aldrin		0.039	0.0033	Y	**0.0006 J**	<0.002 UJ	<0.019 UJ	<0.002 UJ
Endosulfan sulfate		470	0.0358	N	<0.002 U	<0.002 UJ	<0.019 UJ	<0.002 UJ
Endrin aldehyde		19	0.0105	N	<0.002 U	<0.002 UJ	<0.019 UJ	<0.002 UJ
Lindane		0.57	0.005	Y	<0.002 U	**0.00057 J**	<0.019 UJ	<0.002 UJ
beta-BHC		0.3	0.004	Y	**0.0011 J**	<0.002 UJ	**0.0047 J#**	<0.002 UJ

Table 4-23. Analytical Detections: Taylor Road Burning Ground Surface Soil Samples (Continued)

				Station	**TRBG-SL-008**	**TRBG-SL-009**	**TRBG-SL-010**	**TRBG-SL-011**
				Sample ID	**TRBGSL0022**	**TRBGSL0025**	**TRBGSL0028**	**TRBGSL0031**
				Sample Type	**GR**	**GR**	**GR**	**GR**
				Depth (ft)	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**	**0.0 - 2.0**
				Date	**08/07/15**	**08/06/15**	**08/06/15**	**08/06/15**
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**				
Organics – PCBs								
PCB-1254		0.24	0.371	Y	<0.039 U	<0.039 U	**0.069 J**	<0.039 U
PCB-1260		0.24	0.371	Y	<0.039 U	<0.039 U	<0.038 U	**0.016 J**
Organics – Explosives								
2,4,6-Trinitrotoluene		21		N	<0.24 U	<0.25 U	**0.041 J#**	<0.24 U
2,4-Dinitrotoluene		1.7	1.28	N	<0.24 U	<0.25 U	**0.054 J**	<0.24 U
2-Amino-4,6-Dinitrotoluene		150		N	<0.24 U	<0.25 U	<0.25 U	<0.24 U
3,5-Dinitroaniline				N	<0.47 U	<0.5 U	<0.5 U	<0.47 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.24 U	<0.25 U	<0.25 U	<0.24 U
Organics – Volatile								
Methylene chloride		57	4.05	N	**0.001 J**	<0.0058 UJ	<0.0054 UJ	<0.0057 UJ

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

Table 4-24. Analytical Detections: Taylor Road Burning Ground Subsurface Soil Samples

				Station	TRBG-SL-001	TRBG-SL-001	TRBG-SL-002	TRBG-SL-002	TRBG-SL-002	TRBG-SL-003	TRBG-SL-004	TRBG-SL-004	TRBG-SL-005	TRBG-SL-005
				Sample ID	TRBGSL0002	TRBGSL0003	TRBGSL0005	TRBGSL9003	TRBGSL0006	TRBGSL0008	TRBGSL0011	TRBGSL0012	TRBGSL0014	TRBGSL0015
				Sample Type	GR	GR	GR	FD	GR	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 6.0	6.0 - 6.5	2.0 - 6.0	6.0 - 6.5	6.0 - 6.5	2.0 - 6.0	2.0 - 6.0	6.0 - 7.0	2.0 - 6.0	6.0 - 9.0
				Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/06/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Metals														
Aluminum	15500	77000	50	N	**4500**	**4200**	**5800**	**4500**	**3500**	**3800**	**4600**	**3900**	**3600**	**2400**
Antimony	9.3	31	0.27	N	<1.8 U	<2.2 U	<2.4 U	<2.5 UJ	<2.1 U	<2 UJ	**0.52 J**	<2.1 U	**0.43 J**	<1.9 U
Arsenic	36.5	0.68	18	N	**6.5**	**6.3**	**6.3**	**5.1**	**5.1**	**3.4**	**6.1**	**4.3**	**3.3**	**5.3**
Barium	826	15000	330	N	**38**	**36**	**230**	**50**	**36**	**45**	**59**	**39**	<18 U	<19 U
Beryllium	1	160	21	N	**0.33 J**	**0.31 J**	**0.25 J**	**0.31 J**	**0.27 J**	**0.22 J**	**0.29 J**	**0.28 J**	**0.19 J**	**0.18 J**
Cadmium		71	0.36	N	**0.13 J**	**0.13 J**	**2.2 #**	**0.049 J**	**0.12 J**	**0.16 J**	**0.25 J**	**0.043 J**	**0.048 J**	**0.093 J**
Calcium	52300			N	**1400 J**	**1300 J**	**7700 J**	**2100 J**	**1500 J**	**1300 J**	**1300 J**	**2500 J**	**490 J**	**8000 J**
Chromium	29	0.3	26	N	**6.1**	**5.3**	**30 *#**	**5.9 J**	**5.5**	**5.5**	**12 J**	**5.8 J**	**3.5 J**	**4 J**
Cobalt	116	23	13	N	**7.7**	**9.2**	**3.4**	**4.6**	**5.1**	**3.1**	**6.3**	**7**	**1.6**	**4.5**
Iron	234000	55000		N	**11000**	**10000**	**15000**	**7900**	**9300**	**9100 J**	**11000**	**12000**	**5400**	**6100**
Lead	48.6	400	11	Y	**11 J**	**6.1 J**	**370 #**	**7.3 J**	**4.5 J**	**35 J**	**25**	**5.5 J**	**7.5 J**	**3.9 J**
Magnesium	10400			N	**810 J**	**740 J**	**2400 J**	**1100 J**	**820 J**	**620 J**	**680 J**	**1200 J**	**470 J**	**2600 J**
Manganese	3510	1800	220	N	**210**	**200**	**180**	**91 J**	**67**	**140 J**	**180**	**150**	**30**	**75**
Mercury	0.085	9.4	0.0005	Y	**0.076 J**	**0.017 J**	**0.9 #**	**0.045 J**	**0.021 J**	**0.06 J**	**0.049 J**	**0.019 J**	<0.11 U	<0.14 U
Nickel	55.1	1500	38	N	**17**	**16**	**31**	**14 J**	**15**	**8.5**	**15 J**	**14 J**	**5.2 J**	**16 J**
Potassium	3390			N	<440 U	<550 U	<460 U	<620 U	<540 U	<510 U	<480 U	<520 U	<450 U	<480 U
Selenium	2	390	0.52	N	<1.8 U	<2.2 U	**0.56 J**	<2.5 U	<2.1 U	**0.43 J**	<1.9 U	<2.1 U	<1.8 U	<1.9 U
Silver	11.1	390	4.2	N	<0.89 U	<1.1 U	**4.6**	<1.2 U	<1.1 U	<1 U	**0.58 J**	<1 U	<0.9 U	<0.97 U
Thallium	1.3	0.78	1	N	<1.8 U	<2.2 U	<1.9 U	**0.18 J**	<2.1 U	<2 U	<1.9 U	<2.1 U	<1.8 U	<1.9 U
Vanadium	40.9	390	7.8	N	**11**	**11**	**12**	**10**	**12**	**8.6**	**12 J**	**11 J**	**7.1 J**	**6.3 J**
Zinc	322	23000	46	N	**49 J**	**38 J**	**630 #**	**39 J**	**33 J**	**43 J**	**70**	**34 J**	**17 J**	**50 J**
Organics – Semivolatile														
1,1'-Biphenyl		47	60	N	<0.06 U	<0.06 U	**0.0069 J**	<0.063 U	<0.063 U	<0.059 U	<0.059 U	<0.062 U	<0.057 U	<0.062 U
2-Methylnaphthalene		240	3.24	N	<0.008 U	<0.0079 U	**0.021**	**0.12**	<0.0084 U	**0.0047 J**	<0.0079 U	**0.024**	<0.0076 U	<0.0083 U
Acenaphthene		3600	20	N	<0.008 U	<0.0079 U	**0.0057 J**	<0.0083 U	<0.0084 U	<0.0079 U	<0.0079 U	<0.0083 U	<0.0076 U	<0.0083 U
Acenaphthylene		1800	682	N	<0.008 U	<0.0079 U	**0.0062 J**	<0.0083 U	<0.0084 U	<0.0079 U	<0.0079 U	<0.0083 U	<0.0076 U	<0.0083 U
Anthracene		18000	1480	N	<0.008 U	<0.0079 U	**0.018**	<0.0083 U	<0.0084 U	<0.0079 U	<0.0079 U	<0.0083 U	<0.0076 U	<0.0083 U
Benz(a)anthracene		0.16	5.21	N	<0.008 U	<0.0079 U	**0.069**	<0.0083 U	<0.0084 U	**0.0064 J**	<0.0079 U	<0.0083 U	<0.0076 U	<0.0083 U
Benzaldehyde		7800		N	<0.12 U	<0.12 U	<0.12 U	<0.13 U	<0.13 U	<0.12 U	<0.12 U	<0.12 U	<0.11 U	<0.12 U
Benzo(a)pyrene		0.016	1.52	N	**0.011**	<0.0079 U	**0.083 ***	<0.0083 U	<0.0084 U	**0.0059 J**	<0.0079 U	<0.0083 U	<0.0076 U	<0.0083 U
Benzo(b)fluoranthene		0.16	59.8	N	**0.0097**	<0.0079 U	**0.14**	<0.0083 U	<0.0084 U	**0.0094**	**0.008**	<0.0083 U	**0.0066 J**	<0.0083 U
Benzo(ghi)perylene		1800	119	Y	**0.019**	<0.0079 U	**0.038**	<0.0083 U	<0.0084 U	<0.0079 U	<0.0079 U	<0.0083 U	<0.0076 U	<0.0083 U
Benzo(k)fluoranthene		1.6	148	N	<0.008 U	<0.0079 U	**0.057**	<0.0083 U	<0.0084 U	**0.005 J**	<0.0079 U	<0.0083 U	**0.0031 J**	<0.0083 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.083 U	<0.083 U	**0.23**	**0.031 J**	<0.088 U	**0.033 J**	<0.083 U	<0.087 U	<0.079 U	<0.067 U
Chrysene		16	4.73	N	**0.013**	<0.0079 U	**0.091**	**0.015**	<0.0084 U	**0.0075 J**	<0.0079 U	<0.0083 U	**0.0051 J**	<0.0083 U
Di-n-butyl phthalate		6300	200	N	<0.083 U	<0.083 U	**0.025 J**	<0.088 U	<0.088 U	**0.019 J**	<0.083 U	<0.087 U	**0.019 J**	<0.087 U
Dibenzofuran		73		N	<0.06 U	<0.06 U	**0.013 J#**	<0.063 U	<0.063 U	<0.059 U	<0.059 U	<0.062 U	<0.057 U	<0.062 U
Diethyl phthalate		51000	100	N	<0.083 U	<0.083 U	<0.083 U	<0.088 U	<0.088 U	<0.083 U	<0.083 U	<0.087 U	<0.079 U	<0.087 U
Fluoranthene		2400	122	N	**0.0056 J**	<0.0079 U	**0.15**	<0.0083 U	<0.0084 U	**0.011**	<0.0079 U	<0.0083 U	**0.0072 J**	<0.0083 U
Fluorene		2400	30	N	<0.008 U	<0.0079 U	**0.0061 J**	<0.0083 U	<0.0084 U	<0.0079 U	<0.0079 U	<0.0083 U	<0.0076 U	<0.0083 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.012**	<0.0079 U	**0.04**	<0.0083 U	<0.0084 U	<0.0079 U	<0.0079 U	<0.0083 U	<0.0076 U	<0.0083 U
Naphthalene		3.8	0.0994	N	<0.008 U	<0.0079 U	**0.022**	**0.035**	<0.0084 U	<0.0079 U	<0.0079 U	**0.0097**	<0.0076 U	<0.0083 U
Phenanthrene		1800	45.7	N	**0.0045 J**	<0.0079 U	**0.082**	**0.037**	<0.0084 U	**0.0066 J**	<0.0079 U	**0.013**	**0.007 J**	**0.0094**
Phenol		19000	30	N	<0.06 U	<0.06 U	<0.059 U	<0.063 U	<0.063 U	<0.059 U	<0.059 U	<0.062 U	**0.012 J**	<0.062 U
Pyrene		1800	78.5	N	**0.0069 J**	<0.0079 U	**0.13**	**0.01**	<0.0084 U	**0.0081**	<0.0079 U	**0.0075 J**	**0.0063 J**	**0.0086**

Table 4-24. Analytical Detections: Taylor Road Burning Ground Subsurface Soil Samples (Continued)

				Station	TRBG-SL-001	TRBG-SL-001	TRBG-SL-002	TRBG-SL-002	TRBG-SL-002	TRBG-SL-003	TRBG-SL-004	TRBG-SL-004	TRBG-SL-005	TRBG-SL-005
				Sample ID	TRBGSL0002	TRBGSL0003	TRBGSL0005	TRBGSL9003	TRBGSL0006	TRBGSL0008	TRBGSL0011	TRBGSL0012	TRBGSL0014	TRBGSL0015
				Sample Type	GR	GR	GR	FD	GR	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 6.0	6.0 - 6.5	2.0 - 6.0	6.0 - 6.5	6.0 - 6.5	2.0 - 6.0	2.0 - 6.0	6.0 - 7.0	2.0 - 6.0	6.0 - 9.0
				Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/06/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	**Background Criteria**	**RSL**	**ESV**	**PBT Chemical?**										
Organics – Pesticides														
4,4'-DDE		2	0.021	Y	<0.01 UJ	<0.002 UJ	**0.057 #**	<0.043 U	<0.0021 UJ	**0.00075 J**	**0.00091 J**	<0.0021 UJ	<0.002 UJ	<0.0021 UJ
Dieldrin		0.034	0.0049	Y	<0.01 UJ	<0.002 UJ	<0.04 U	<0.043 U	<0.0021 UJ	<0.002 UJ	<0.002 UJ	<0.0021 UJ	<0.002 UJ	<0.0021 UJ
Endosulfan sulfate		470	0.0358	N	**0.0079 J**	<0.002 UJ	<0.04 U	<0.043 U	<0.0021 UJ	<0.002 UJ	<0.002 UJ	<0.0021 UJ	<0.002 UJ	<0.0021 UJ
Endrin aldehyde		19	0.0105	N	<0.01 UJ	<0.002 UJ	<0.04 U	<0.043 U	<0.0021 UJ	<0.002 UJ	**0.00043 J**	<0.0021 UJ	<0.002 UJ	<0.0021 UJ
Methoxychlor		320	0.0199	Y	**0.0032 J**	<0.0039 UJ	<0.077 U	<0.083 U	<0.0042 UJ	<0.0039 UJ	<0.0039 UJ	<0.004 UJ	<0.0038 UJ	<0.004 UJ
alpha-BHC		0.086	0.0994	Y	<0.01 UJ	<0.002 UJ	<0.04 U	<0.043 U	<0.0021 UJ	<0.002 UJ	<0.002 UJ	<0.0021 UJ	<0.002 UJ	**0.0014 J**
alpha-Chlordane		1.7		Y	<0.01 UJ	<0.002 UJ	**0.038 J#**	<0.043 U	<0.0021 UJ	<0.002 UJ	<0.002 UJ	<0.0021 UJ	<0.002 UJ	<0.0021 UJ
beta-BHC		0.3	0.004	Y	<0.01 UJ	<0.002 UJ	<0.04 U	<0.043 U	<0.0021 UJ	**0.0016 J**	**0.0006 J**	**0.00065 J**	<0.002 UJ	**0.00053 J**
Organics – Herbicides														
Dalapon		1900		N	**0.069 J#**	<0.15 U	<0.14 U	<0.15 U	<0.15 U	<0.14 UJ	<0.14 U	<0.15 U	<0.14 U	**0.056 J#**
Organic – -PCBs														
PCB-1254		0.24	0.371	Y	<0.039 U	<0.039 U	**2.5 *#**	<0.042 U	<0.042 U	<0.039 U	<0.04 U	<0.041 U	<0.037 U	<0.041 U
PCB-1260		0.24	0.371	Y	**0.3 ***	<0.039 U	<0.39 U	<0.042 U	<0.042 U	**0.011 J**	<0.04 U	<0.041 U	<0.037 UJ	<0.041 U
Organics – Explosives														
1,3-Dinitrobenzene		6.3	0.655	N	<0.25 U	<0.24 U	<0.24 U	**0.061 J**	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.24 U	<0.25 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.25 U	<0.24 U	**0.05 J#**	<0.24 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.24 U	<0.25 U
Organics – Volatile														
2-Butanone		27000	89.6	N	<0.024 U	<0.024 U	<0.023 U	<0.024 U	<0.024 U	<0.022 U	<0.022 U	<0.023 U	**0.0014 J**	**0.0024 J**
Acetone		61000	2.5	N	<0.024 UJ	<0.024 UJ	<0.023 U	<0.024 U	<0.024 U	<0.022 U	<0.022 U	<0.023 UJ	<0.023 U	<0.031 UJ
Bromoform		19	15.9	N	<0.0059 U	<0.006 U	<0.0057 U	<0.0061 U	<0.006 U	<0.0056 U	<0.0056 U	<0.0057 U	**0.00029 J**	<0.0058 U
Carbon disulfide		770	0.0941	N	<0.0059 U	<0.006 U	<0.0057 U	<0.0061 U	<0.006 U	<0.0056 U	<0.0056 U	<0.0057 U	<0.0056 U	<0.0058 U
Cyclohexane		6500		N	<0.012 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U
Dichlorodifluoromethane		87	39.5	N	<0.0059 U	<0.006 U	<0.0057 U	<0.0061 U	<0.006 U	<0.0056 U	<0.0056 U	<0.0057 U	<0.0056 U	<0.0058 U
Ethylbenzene		5.8	5.16	N	<0.0059 U	<0.006 U	<0.0057 U	<0.0061 U	<0.006 U	<0.0056 U	<0.0056 U	<0.0057 U	<0.0056 U	<0.0058 U
Isopropylbenzene		1900		N	<0.0059 U	<0.006 U	<0.0057 U	<0.0061 U	<0.006 U	<0.0056 U	<0.0056 U	<0.0057 U	<0.0056 U	<0.0058 U
M + P Xylene		650	10	N	<0.012 U	<0.012 U	<0.011 U	**0.00077 J**	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U
Methylcyclohexane				N	<0.012 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	<0.011 U	<0.011 U	<0.011 U	<0.011 U	<0.012 U
Methylene chloride		57	4.05	N	<0.0059 UJ	<0.006 UJ	<0.0057 UJ	**0.0015 J**	<0.006 UJ	**0.0072 J**	<0.0056 UJ	<0.0057 UJ	<0.0056 U	<0.007 UJ
Tetrachloroethene		24	9.92	N	<0.0059 U	<0.006 U	**0.0035 J**	<0.0061 U	<0.006 U	<0.0056 U	<0.0056 U	<0.0057 U	<0.0056 U	<0.0058 U
o-Xylene		650	10	N	<0.0059 U	<0.006 U	<0.0057 U	<0.0061 U	<0.006 U	<0.0056 U	<0.0056 U	<0.0057 U	<0.0056 U	<0.0058 U

Table 4-24. Analytical Detections: Taylor Road Burning Ground Subsurface Soil Samples (Continued)

				Station	TRBG-SL-001	TRBG-SL-006	TRBG-SL-007	TRBG-SL-008	TRBG-SL-009	TRBG-SL-009	TRBG-SL-009	TRBG-SL-009	TRBG-SL-010	TRBG-SL-010	TRBG-SL-011	TRBG-SL-011
				Sample ID	TRBGSL0002	TRBGSL0017	TRBGSL0020	TRBGSL0023	TRBGSL9001	TRBGSL0026	TRBGSL9002	TRBGSL0027	TRBGSL0029	TRBGSL0030	TRBGSL0032	TRBGSL0033
				Sample Type	GR	GR	GR	GR	FD	GR	FD	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 6.0	2.0 - 4.0	2.0 - 5.0	2.0 - 4.0	2.0 - 6.0	2.0 - 6.0	6.0 - 9.0	6.0 - 9.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 6.5
				Date	08/07/15	08/07/15	08/07/15	08/07/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?												
Metals																
Aluminum	15500	77000	50	N	**4500**	**4800**	**5300**	**4000**	**5300**	**6400**	**2600**	**2400**	**4200**	**3800**	**4200**	**3600**
Antimony	9.3	31	0.27	N	<1.8 U	<2 U	<2.4 U	<2.1 U	<2.2 U	<2 U	<2.1 U	<2 U	**1.2 J**	<2.2 U	<2.2 U	<2.1 U
Arsenic	36.5	0.68	18	N	**6.5**	**4.9**	**1.8**	**7.9**	**13**	**15**	**8.1**	**12**	**5.1**	**5.6**	**6.2**	**4.6**
Barium	826	15000	330	N	**38**	**37**	**36**	**40**	**48**	**46**	**49**	**51**	**250**	**25**	**48**	**59**
Beryllium	1	160	21	N	**0.33 J**	**0.39 J**	**0.31 J**	**0.29 J**	**0.59 J**	**0.4 J**	**0.36 J**	**0.31 J**	**0.26 J**	**0.29 J**	**0.3 J**	**0.32 J**
Cadmium		71	0.36	N	**0.13 J**	**0.1 J**	**0.04 J**	**0.11 J**	**0.15 J**	<0.5 U	**0.71 J#**	**0.58 J#**	**1.1 J#**	**0.06 J**	**0.1 J**	**0.13 J**
Calcium	52300			N	**1400 J**	**1200 J**	**1100 J**	**1100 J**	**980 J**	**1100 J**	**13000 J**	**15000 J**	**6900 J**	**4200 J**	**3600 J**	**5800 J**
Chromium	29	0.3	26	N	**6.1**	**6.5**	**6.1**	**5.4**	**6.8 J**	**7.8 J**	**4.6 J**	**4.4 J**	**11 J**	**5.7 J**	**6 J**	**6.1 J**
Cobalt	116	23	13	N	**7.7**	**4.1**	**2**	**5.1**	**7.5**	**4.9**	**8.6**	**8.7**	**2.4**	**5.4**	**3.6**	**4.4**
Iron	234000	55000		N	**11000**	**9400**	**5900**	**11000**	**27000**	**31000**	**12000**	**18000**	**14000**	**10000**	**17000**	**12000**
Lead	48.6	400	11	Y	**11 J**	**7.5 J**	**6.1 J**	**6.8 J**	**6.9 J**	**5.5 J**	**12 J**	**13 J**	**260 #**	**6.2 J**	**5.3 J**	**7.3 J**
Magnesium	10400			N	**810 J**	**780 J**	**710 J**	**920 J**	**610 J**	**680**	**3700 J**	**4000 J**	**1000 J**	**1500 J**	**1300 J**	**1600 J**
Manganese	3510	1800	220	N	**210**	**90**	**24**	**58**	**260**	**290**	**120**	**130**	**170**	**62**	**170**	**120**
Mercury	0.085	9.4	0.0005	Y	**0.076 J**	<0.11 U	**0.046 J**	**0.016 J**	**0.032 J**	**0.061 J**	<0.11 U	**0.024 J**	**0.31 #**	**0.019 J**	<0.13 U	<0.14 U
Nickel	55.1	1500	38	N	**17**	**15**	**7.2**	**16**	**26 J**	**16 J**	**37 J**	**37 J**	**11 J**	**18 J**	**10 J**	**15 J**
Potassium	3390			N	<440 U	<500 U	<610 U	<520 U	<540 U	<500 U	**780 J**	**730 J**	<510 U	<540 U	<550 U	<530 U
Selenium	2	390	0.52	N	<1.8 U	<2 U	**0.43 J**	<2.1 U	<2.2 U	**0.36 J**	**1.1 J**	**1.1 J**	<2 U	<2.2 U	<2.2 U	<2.1 U
Silver	11.1	390	4.2	N	<0.89 U	<1 U	<1.2 U	<1 U	<1.1 U	<1 U	<1.1 U	<0.99 U	**0.58 J**	<1.1 U	<1.1 U	<1.1 U
Thallium	1.3	0.78	1	N	<1.8 U	<2 U	<2.4 U	<2.1 U	<2.2 U	**0.16 J**	**1.4 J*#**	**1.4 J*#**	<2 U	<2.2 U	<2.2 U	<2.1 U
Vanadium	40.9	390	7.8	N	**11**	**13**	**11**	**11**	**19 J**	**19 J**	**10**	**9.8 J**	**9.8 J**	**12 J**	**12**	**13**
Zinc	322	23000	46	N	**49 J**	**34 J**	**25 J**	**45 J**	**39 J**	**36 J**	**200**	**170**	**510 #**	**38 J**	**31 J**	**42 J**
Organics – Semivolatile																
1,1'-Biphenyl		47	60	N	<0.06 U	<0.06 U	<0.061 U	<0.063 U	<0.061 U	<0.06 U	<0.24 U	<0.06 U	<0.056 U	<0.06 U	<0.06 U	<0.061 U
2-Methylnaphthalene		240	3.24	N	<0.008 U	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	**1.1**	**1**	**0.018**	<0.008 U	<0.0081 U	**0.096**
Acenaphthene		3600	20	N	<0.008 U	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	<0.0075 U	<0.008 U	<0.0081 U	<0.0082 U
Acenaphthylene		1800	682	N	<0.008 U	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	<0.0075 U	<0.008 U	<0.0081 U	<0.0082 U
Anthracene		18000	1480	N	<0.008 U	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.0069 J**	<0.008 U	<0.0081 U	<0.0082 U
Benz(a)anthracene		0.16	5.21	N	<0.008 U	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.032**	<0.008 U	<0.0081 U	<0.0082 U
Benzaldehyde		7800		N	<0.12 U	<0.12 U	<0.12 U	<0.13 U	<0.12 U	<0.12 U	**0.14 J#**	<0.12 U	<0.11 U	<0.12 U	<0.12 U	<0.12 U
Benzo(a)pyrene		0.016	1.52	N	**0.011**	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.032 ***	<0.008 U	<0.0081 U	<0.0082 U
Benzo(b)fluoranthene		0.16	59.8	N	**0.0097**	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.06**	<0.008 U	<0.0081 U	<0.0082 U
Benzo(ghi)perylene		1800	119	Y	**0.019**	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.015**	<0.008 U	<0.0081 U	<0.0082 U
Benzo(k)fluoranthene		1.6	148	N	<0.008 U	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.032**	<0.008 U	<0.0081 U	<0.0082 U
Bis(2-ethylhexyl)phthalate		39	0.925	N	<0.083 U	**0.03 J**	**0.034 J**	<0.089 U	<0.085 U	<0.064 U	<0.33 U	<0.064 U	<0.079 U	<0.084 U	<0.085 U	<0.086 U
Chrysene		16	4.73	N	**0.013**	<0.0081 U	<0.0082 U	**0.0069 J**	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.039**	<0.008 U	<0.0081 U	**0.013**
Di-n-butyl phthalate		6300	200	N	<0.083 U	<0.085 U	<0.086 U	<0.089 U	<0.085 U	<0.084 U	<0.33 U	<0.084 U	<0.079 U	<0.084 U	<0.085 U	<0.086 U
Dibenzofuran		73		N	<0.06 U	<0.06 U	<0.061 U	<0.063 U	<0.061 U	<0.06 U	**0.031 J#**	**0.029 J#**	<0.056 U	<0.06 U	<0.06 U	<0.061 U
Diethyl phthalate		51000	100	N	<0.083 U	<0.085 U	<0.086 U	<0.089 U	**0.043 J**	<0.084 U	<0.33 U	<0.084 U	<0.079 U	<0.084 U	<0.085 U	<0.086 U
Fluoranthene		2400	122	N	**0.0056 J**	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.057**	<0.008 U	<0.0081 U	<0.0082 U
Fluorene		2400	30	N	<0.008 U	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	<0.0075 U	<0.008 U	<0.0081 U	<0.0082 U
Indeno(1,2,3-cd)pyrene		0.16	109	N	**0.012**	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	<0.032 U	<0.008 U	**0.021**	<0.008 U	<0.0081 U	<0.0082 U
Naphthalene		3.8	0.0994	N	<0.008 U	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	**0.48 #**	**0.44 #**	**0.022**	<0.008 U	<0.0081 U	**0.039**
Phenanthrene		1800	45.7	N	**0.0045 J**	<0.0081 U	<0.0082 U	<0.0084 U	<0.0081 U	<0.008 U	**0.2**	**0.18**	**0.033**	<0.008 U	<0.0081 U	**0.025**
Phenol		19000	30	N	<0.06 U	<0.06 U	<0.061 U	<0.063 U	<0.061 U	<0.06 U	<0.24 U	<0.06 U	<0.056 U	<0.06 U	<0.06 U	<0.061 U
Pyrene		1800	78.5	N	**0.0069 J**	<0.0081 U	<0.0082 U	**0.0089**	<0.0081 U	<0.008 U	**0.025 J**	<0.008 U	**0.049**	<0.008 U	**0.0048 J**	**0.0086**

Table 4-24. Analytical Detections: Taylor Road Burning Ground Subsurface Soil Samples (Continued)

				Sample ID	TRBGSL0002	TRBGSL0017	TRBGSL0020	TRBGSL0023	TRBGSL9001	TRBGSL0026	TRBGSL9002	TRBGSL0027	TRBGSL0029	TRBGSL0030	TRBGSL0032	TRBGSL0033
				Sample Type	GR	GR	GR	GR	FD	GR	FD	GR	GR	GR	GR	GR
				Depth (ft)	2.0 - 6.0	2.0 - 4.0	2.0 - 5.0	2.0 - 4.0	2.0 - 6.0	2.0 - 6.0	6.0 - 9.0	6.0 - 9.0	2.0 - 6.0	6.0 - 10.0	2.0 - 6.0	6.0 - 6.5
				Date	08/07/15	08/07/15	08/07/15	08/07/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15	08/06/15
Analyte (mg/kg)	Background Criteria	RSL	ESV	PBT Chemical?												
Organics – Pesticides																
4,4'-DDE		2	0.021	Y	<0.01 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.01 UJ	<0.02 UJ	**0.0024 J**	<0.002 UJ	<0.002 UJ	<0.01 UJ
Dieldrin		0.034	0.0049	Y	<0.01 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.01 UJ	<0.02 UJ	**0.0052 J#**	<0.002 UJ	<0.002 UJ	<0.01 UJ
Endosulfan sulfate		470	0.0358	N	**0.0079 J**	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.01 UJ	<0.02 UJ	<0.0095 U	<0.002 UJ	<0.002 UJ	<0.01 UJ
Endrin aldehyde		19	0.0105	N	<0.01 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.01 UJ	<0.02 UJ	<0.0095 U	<0.002 UJ	<0.002 UJ	<0.01 UJ
Methoxychlor		320	0.0199	Y	**0.0032 J**	<0.0041 UJ	<0.0041 UJ	<0.0041 UJ	<0.004 UJ	<0.004 UJ	<0.02 UJ	<0.039 UJ	<0.018 U	<0.004 UJ	<0.0039 UJ	<0.02 UJ
alpha-BHC		0.086	0.0994	Y	<0.01 UJ	<0.0021 UJ	<0.0021 UJ	**0.0011 J**	<0.0021 UJ	<0.0021 UJ	<0.01 UJ	<0.02 UJ	<0.0095 U	<0.002 UJ	<0.002 UJ	<0.01 UJ
alpha-Chlordane		1.7		Y	<0.01 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.01 UJ	<0.02 UJ	<0.0095 U	<0.002 UJ	<0.002 UJ	<0.01 UJ
beta-BHC		0.3	0.004	Y	<0.01 UJ	<0.0021 UJ	**0.00048 J**	<0.0021 UJ	<0.0021 UJ	<0.0021 UJ	<0.01 UJ	<0.02 UJ	**0.0055 J#**	<0.002 UJ	<0.002 UJ	<0.01 UJ
Organics – Herbicides																
Dalapon		1900		N	**0.069 J#**	<0.14 U	<0.15 U	<0.15 U	<0.15 U	<0.14 U	<0.14 UJ	<0.14 U	<0.13 U	<0.14 U	<0.14 U	<0.15 U
Organics – PCBs																
PCB-1254		0.24	0.371	Y	<0.039 U	<0.041 U	<0.041 U	<0.041 U	<0.04 U	<0.04 U	<0.039 U	<0.04 U	<0.037 U	<0.04 U	<0.039 U	<0.04 U
PCB-1260		0.24	0.371	Y	**0.3 ***	<0.041 U	<0.041 U	<0.041 U	<0.04 U	<0.04 U	<0.039 U	<0.04 U	**0.12**	<0.04 U	<0.039 U	<0.04 U
Organics – Explosives																
1,3-Dinitrobenzene		6.3	0.655	N	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.23 U	<0.24 U	<0.24 U	<0.24 U
4-Amino-2,6-Dinitrotoluene		150		N	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.25 U	<0.24 U	<0.25 U	<0.25 U	<0.23 U	<0.24 U	<0.24 U	<0.24 U
Organics – Volatile																
2-Butanone		27000	89.6	N	<0.024 U	<0.023 U	<0.024 U	<0.023 U	<0.024 U	<0.024 U	<0.021 UJ	<0.023 U	<0.021 U	**0.0031 J**	<0.022 U	<0.023 U
Acetone		61000	2.5	N	<0.024 UJ	<0.023 U	<0.024 U	<0.023 U	<0.024 U	<0.024 UJ	**0.032 J**	<0.047 UJ	<0.021 U	**0.027**	<0.022 U	<0.044 UJ
Bromoform		19	15.9	N	<0.0059 U	<0.0057 U	<0.006 U	<0.0057 UJ	<0.006 U	<0.006 U	<0.0052 UJ	<0.0059 U	<0.0054 U	<0.0059 U	<0.0055 U	<0.0058 U
Carbon disulfide		770	0.0941	N	<0.0059 U	<0.0057 U	<0.006 U	<0.0057 U	<0.006 U	<0.006 U	**0.0038 J**	**0.0011 J**	<0.0054 U	**0.0024 J**	<0.0055 U	**0.0011 J**
Cyclohexane		6500		N	<0.012 U	<0.011 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	**0.0044 J#**	<0.012 U	<0.011 U	<0.012 U	<0.011 U	<0.012 U
Dichlorodifluoromethane		87	39.5	N	<0.0059 U	<0.0057 U	<0.006 U	<0.0057 U	<0.006 U	<0.006 U	**0.00048 J**	<0.0059 U	<0.0054 U	<0.0059 U	<0.0055 U	<0.0058 U
Ethylbenzene		5.8	5.16	N	<0.0059 U	<0.0057 U	<0.006 U	<0.0057 UJ	<0.006 U	<0.006 U	**0.0016 J**	<0.0059 U	<0.0054 U	<0.0059 U	<0.0055 U	<0.0058 U
Isopropylbenzene		1900		N	<0.0059 U	<0.0057 U	<0.006 U	<0.0057 UJ	<0.006 U	<0.006 U	**0.00032 J#**	<0.0059 U	<0.0054 U	<0.0059 U	<0.0055 U	<0.0058 U
M + P Xylene		650	10	N	<0.012 U	<0.011 U	<0.012 U	<0.011 UJ	<0.012 U	<0.012 U	**0.0047 J**	<0.012 U	<0.011 U	<0.012 U	<0.011 U	<0.012 U
Methylcyclohexane				N	<0.012 U	<0.011 U	<0.012 U	<0.011 U	<0.012 U	<0.012 U	**0.0058 J*#**	<0.012 U	<0.011 U	<0.012 U	<0.011 U	<0.012 U
Methylene chloride		57	4.05	N	<0.0059 UJ	<0.01 U	<0.006 U	<0.0091 UJ	<0.0064 UJ	<0.006 UJ	**0.0064 J**	<0.0059 UJ	<0.0054 UJ	**0.0028 J**	<0.0055 UJ	<0.0071 UJ
Tetrachloroethene		24	9.92	N	<0.0059 U	<0.0057 U	<0.006 U	<0.0057 UJ	<0.006 U	<0.006 U	<0.0052 UJ	<0.0059 U	**0.0019 J**	<0.0059 U	<0.0055 U	<0.0058 U
o-Xylene		650	10	N	<0.0059 U	<0.0057 U	<0.006 U	<0.0057 UJ	<0.006 U	<0.006 U	**0.0027 J**	<0.0059 U	<0.0054 U	<0.0059 U	<0.0055 U	<0.0058 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level

Table 4-25. Results for Analytes Detected in Sediment at Taylor Road Burning Ground Compared to Human Health and Ecological Screening Values

				Station	TRBG-SDSW-001	TRBG-SDSW-002	TRBG-SDSW-003	TRBG-SDSW-004	TRBG-SDSW-005	TRBG-SDSW-006	TRBG-SDSW-007	TRBG-SDSW-008	TRBG-SDSW-008
				Sample ID	TRBGSD0001	TRBGSD0002	TRBGSD0003	TRBGSD0004	TRBGSD0005	TRBGSD0006	TRBGSD0007	TRBGSD9001	TRBGSD0008
				Sample Type	GR	GR	GR	GR	GR	GR	GR	FD	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
Analyte (mg/kg)	**RSL**	**Ohio SRV**	**ESV**	**PBT Chemical?**									
Metals													
Aluminum	77000	42000		N	**5000**	**5100**	**5400**	**6400**	**4600**	**4500**	**3100**	**6100**	**5500 J**
Antimony	31	0.84		N	<2.6 U	<1.9 U	<2.3 U	**5.5 J#**	<2.2 U	<1.7 U	<2.3 U	<2 U	<2.1 UJ
Arsenic	0.68	11	9.79	N	**6.5 ***	**6.5 ***	**8.3 ***	**8.5 ***	**5.7 ***	**8.9 ***	**2.4 ***	**17 *#**	**14 *#**
Barium	15000	210		N	**100**	**110**	**140**	**620 #**	**57**	**44**	<23 U	**34**	**29 J**
Beryllium	160	0.8		N	**0.55 J**	**0.52 J**	**0.63 J**	**0.36 J**	**0.32 J**	**0.29 J**	**0.18 J**	**0.45 J**	**0.4 J**
Cadmium	71	0.96	0.99	N	**0.53 J**	**0.32 J**	**0.23 J**	**4.7 J#**	**0.16 J**	**0.13 J**	**0.084 J**	**0.2 J**	**0.16 J**
Calcium		110000		N	**4500 J**	**3200 J**	**3000 J**	**22000 J**	**1200 J**	**1100 J**	**1000 J**	**1300 J**	**1100 J**
Chromium	0.3	51	43.4	N	**6.4 J***	**6.8 J***	**6.9 J***	**180 J*#**	**6.5 J***	**6.8 J***	**4.7 J***	**8.5 ***	**7.8 J***
Cobalt	23	12	50	N	**5**	**5.9**	**7.7**	**7.6**	**4**	**4.1**	**3**	**8.9**	**7.5**
Iron	55000	44000		N	**15000**	**17000**	**18000**	**32000**	**21000**	**17000**	**6600**	**40000**	**31000 J**
Lead	400	47	35.8	Y	**11 J**	**15 J**	**8.9 J**	**930 *#**	**6 J**	**4.9 J**	**5.1 J**	**12 J**	**11 J**
Magnesium		29000		N	**1500 J**	**1100 J**	**1000 J**	**6200 J**	**630 J**	**630 J**	**630 J**	**540 J**	<530 UJ
Manganese	1800	1000		N	**69**	**100**	**210**	**460**	**360**	**340**	**94**	**450**	**350 J**
Mercury	9.4	0.12	0.18	Y	**0.073 J**	**0.019 J**	**0.051 J**	**2.4 #**	**0.027 J**	**0.024 J**	**0.018 J**	**0.079 J**	**0.057 J**
Nickel	1500	36	22.7	N	**13 J**	**18 J**	**18 J**	**140 J#**	**11 J**	**13 J**	**6.7 J**	**12**	**10 J**
Selenium	390	1.4		N	**2.1 J#**	**0.68 J**	<2.3 U	**0.95 J**	<2.2 U	<1.7 U	<2.3 U	**0.99 J**	**0.54 J**
Silver	390	0.43	0.5	N	<1.3 U	**0.11 J**	<1.2 U	**18 #**	<1.1 U	<0.85 U	<1.1 U	<1 U	<1.1 U
Vanadium	390	40		N	**14**	**12**	**16**	**17**	**12**	**15**	**8.4**	**18**	**16 J**
Zinc	23000	190	121	N	**57**	**47 J**	**46 J**	**6700 #**	**50 J**	**35 J**	**22 J**	**37 J**	**34 J**
Organics – Semivolatile													
1,1'-Biphenyl	47			N	<0.069 U	<0.064 U	<0.065 U	**0.016 J#**	<0.06 U	<0.061 U	<0.06 U	<0.059 U	<0.06 U
2-Methylnaphthalene	240		0.0202	N	<0.0092 U	<0.0086 U	<0.0087 U	**0.078 #**	<0.008 U	<0.0082 U	<0.008 U	**0.0045 J**	**0.0053 J**
Acenaphthene	3600		0.0067	N	<0.0092 U	<0.0086 U	<0.0087 U	**0.026 #**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Acenaphthylene	1800		0.0059	N	<0.0092 U	<0.0086 U	<0.0087 U	**0.04 #**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Anthracene	18000		0.0572	N	<0.0092 U	<0.0086 U	<0.0087 U	**0.12 #**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Benz(a)anthracene	0.16		0.108	N	**0.019**	**0.0067 J**	**0.01**	**0.73 *#**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Benzaldehyde	7800			N	**0.021 J#**	<0.13 U	<0.13 U	<0.25 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U	<0.12 U
Benzo(a)pyrene	0.016		0.15	N	**0.024 ***	**0.0066 J**	**0.011**	**0.88 *#**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Benzo(b)fluoranthene	0.16		10.4	N	**0.036**	**0.011**	**0.017**	**1.4 ***	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	**0.005 J**
Benzo(ghi)perylene	1800		0.17	Y	<0.0092 U	<0.0086 U	**0.0078 J**	**0.3 #**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Benzo(k)fluoranthene	1.6		0.24	N	**0.018**	**0.0071 J**	**0.01**	**0.69 #**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Bis(2-ethylhexyl)phthalate	39		0.182	N	**0.048 J**	**0.026 J**	**0.041 J**	**0.21 #**	**0.039 J**	<0.086 U	<0.084 U	**0.034 J**	**0.033 J**
Chrysene	16		0.166	N	**0.027**	**0.0087**	**0.015**	**0.79 #**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	**0.0044 J**
Di-n-butyl phthalate	6300		1.114	N	**0.022 J**	<0.09 U	**0.021 J**	<0.17 U	**0.019 J**	**0.023 J**	<0.084 U	**0.02 J**	**0.019 J**
Dibenz(a,h)anthracene	0.016		0.033	N	<0.0092 U	<0.0086 U	<0.0087 U	**0.11 *#**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Dibenzofuran	73		0.449	N	<0.069 U	<0.064 U	<0.065 U	**0.062 J**	<0.06 U	<0.061 U	<0.06 U	<0.059 U	<0.06 U
Fluoranthene	2400		0.423	N	**0.05**	**0.016**	**0.025**	**0.98 #**	<0.008 U	<0.0082 U	<0.008 U	**0.0041 J**	**0.0059 J**
Fluorene	2400		0.0774	N	<0.0092 U	<0.0086 U	<0.0087 U	**0.055**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Indeno(1,2,3-cd)pyrene	0.16		0.2	N	<0.0092 U	<0.0086 U	**0.014**	**0.26 *#**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Naphthalene	3.8		0.176	N	<0.0092 U	<0.0086 U	<0.0087 U	**0.085**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	<0.008 U
Phenanthrene	1800		0.204	N	**0.02**	**0.0079 J**	**0.012**	**0.4 #**	<0.008 U	<0.0082 U	<0.008 U	<0.0078 U	**0.0049 J**
Phenol	19000		0.0491	N	**0.023 J**	**0.037 J**	<0.065 U	<0.12 U	<0.06 U	<0.061 U	<0.06 U	<0.059 U	<0.06 U
Pyrene	1800		0.195	N	**0.038**	**0.012**	**0.018**	**1.5 #**	<0.008 U	<0.0082 U	<0.008 U	**0.0035 J**	**0.0041 J**

Table 4-25. Results for Analytes Detected in Sediment at Taylor Road Burning Ground Compared to Human Health and Ecological Screening Values (Continued)

				Station	TRBG-SDSW-001	TRBG-SDSW-002	TRBG-SDSW-003	TRBG-SDSW-004	TRBG-SDSW-005	TRBG-SDSW-006	TRBG-SDSW-007	TRBG-SDSW-008	TRBG-SDSW-008
				Sample ID	TRBGSD0001	TRBGSD0002	TRBGSD0003	TRBGSD0004	TRBGSD0005	TRBGSD0006	TRBGSD0007	TRBGSD9001	TRBGSD0008
				Sample Type	GR	GR	GR	GR	GR	GR	GR	FD	GR
				Depth (ft)	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0	0.0 - 2.0
				Date	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15	08/07/15
Analyte (mg/kg)	**RSL**	**Ohio SRV**	**ESV**	**PBT Chemical?**									
Organics – Pesticides													
4,4'-DDE	2		0.0032	Y	<0.023 U	<0.011 UJ	<0.011 UJ	**0.2 J#**	<0.002 U	<0.0021 UJ	<0.002 U	<0.02 UJ	<0.002 UJ
Endosulfan I	470		0.0033	N	<0.023 U	<0.011 UJ	<0.011 UJ	**0.018 J#**	<0.002 U	<0.0021 UJ	<0.002 U	<0.02 UJ	<0.002 UJ
Endosulfan sulfate	470		0.0346	N	<0.023 U	<0.011 UJ	<0.011 UJ	**0.074 J#**	<0.002 U	<0.0021 UJ	<0.002 U	<0.02 UJ	<0.002 UJ
Endrin	19		0.0022	N	<0.023 U	<0.011 UJ	<0.011 UJ	**0.066 J#**	<0.002 U	<0.0021 UJ	<0.002 U	<0.02 UJ	<0.002 UJ
Endrin aldehyde	19		0.48	N	<0.023 U	<0.011 UJ	<0.011 UJ	<0.1 U	<0.002 U	<0.0021 UJ	<0.002 U	<0.02 UJ	**0.00049 J**
alpha-BHC	0.086		0.006	Y	<0.023 U	<0.011 UJ	<0.011 UJ	<0.1 U	<0.002 U	<0.0021 UJ	<0.002 U	<0.02 UJ	**0.0016 J**
beta-BHC	0.3		0.005	Y	<0.023 U	<0.011 UJ	<0.011 UJ	**0.042 J#**	<0.002 U	**0.0006 J**	**0.0012 J**	**0.0015 J**	<0.002 UJ
Organics – Herbicides													
Dalapon	1900			N	<0.16 U	<0.15 U	<0.15 U	**0.13 J#**	<0.14 U	**0.083 J#**	<0.14 U	<0.14 U	**0.25 J#**
Organics – PCBs													
PCB-1254	0.24		0.0598	Y	<0.045 U	<0.042 U	<0.044 U	**29 *#**	<0.039 U	<0.04 U	<0.04 U	<0.039 U	<0.039 U
Organics – Volatile													
Tetrachloroethene	24		0.99	N	<0.0067 U	<0.0055 U	<0.0064 U	**0.0019 J**	<0.0054 U	<0.006 U	<0.0051 U	<0.0055 U	<0.0059 U
Trichloroethene	0.94		0.112	N	<0.0067 U	<0.0055 U	<0.0064 U	**0.00041 J**	<0.0054 U	<0.006 U	<0.0051 U	<0.0055 U	<0.0059 U

Result Qualifiers:
U-Analyte not detected.
UJ-Analyte not detected. Quantitation limit is estimated.
J-Estimated concentration.
R-Result was rejected in validation and considered unusable.
*-Result of potential human health concern.
#-Result potential ecological concern.
*#-Result of potential human health and ecological concern.
Bolded result indicates that an analyte was detected.
Bolded analytes indicate one or more sample exceeds ecological and/or human health screening level.

ESV = Ecological Screening Value
ft = Feet
ID = Identifier
mg/kg = Milligrams per Kilogram
PBT = Persistent, Bioaccumulative, and Toxic
PCB = Polychlorinated Biphenyl
RSL = Regional Screening Level
SRV = Sediment Reference Value

5.0 ENVIRONMENTAL HAZARD ASSESSMENT

Ecological risk screening and human health risk assessments were conducted to determine the presence of any chemicals of potential ecological concern (COPECs) or chemicals of potential concern (COPCs). The following sections present the methodology utilized for the ecological risk screening and human health risk assessment. Subsequent sections present the results and findings of the screening and assessment for each site.

5.1 Methodology

5.1.1 Ecological Risk Screening

Leidos utilized the results of the surface soil, sediment, and surface water samples to conduct ecological risk screening. Surface soil (0 to 2 feet BGS) samples were evaluated for potential risk to ecological receptors instead of subsurface soil samples because that interval contains the most active biological zone (USEPA 2015a). Maximum detected concentrations (MDCs) for each medium were compared to ESVs. Comparing detected media concentrations to ESVs is the primary method of determining if there are any COPECs present or if detected chemicals can be eliminated from further ecological evaluation. MDCs of metals also were compared to background concentrations (IT 1998) for soil and sediment to determine if site concentrations were above naturally occurring concentrations of metals. For sediment, background values are SRVs; SRVs for the Huron/Erie Lake Plain (HELP) region were used for this comparison (Ohio EPA 2008). A PBT chemical screen also was applied to soil, sediment, and surface water to determine if detected analytes would accumulate through the food chain. Calcium, magnesium, potassium, and sodium are considered essential nutrients and are not expected to be toxic (USEPA 1989). As a result, the essential nutrients were eliminated from consideration as COPECs in the environmental media.

ESVs were selected according to the latest version of the *Guidance for Conducting Ecological Risk Assessments* (Ohio EPA 2008). The hierarchy of preferred sources for soil ESVs in Ohio EPA (2008) is USEPA's Ecological Soil Screening Levels (EcoSSLs) (USEPA 2015b), followed by *Preliminary Remediation Goals for Ecological Endpoints* (Efroymson et al. 1997), and then USEPA Region 5 ESLs, (USEPA 2003). The EcoSSLs are available mostly for metals and each have their own document, and each EcoSSL document has up to four values protective of different types of ecological receptors. In the case of multiple EcoSSLs, the most conservative (lowest) value above background was chosen.

For sediment, the hierarchy of preferred ESV sources is the freshwater threshold effect concentration (TEC) from MacDonald et al. (2000), followed by USEPA Region 5 ESLs (USEPA 2003). For surface water, the ESVs are from Ohio EPA Water Quality Criteria (WQC) for the Ohio River Basin [Ohio EPA Outside Mixing Zone Maximum (OMZM)], chronic National Ambient Water Quality Criteria (NAWQC), Tier II secondary chronic values (Suter & Tsao 1996), and USEPA Region 5 ESLs (USEPA 2003). ESVs, background values, and PBT information for detected analytes are listed in the analytical detection tables presented in Section 4.

5.1.2 Human Health Risk Assessment

Potential COPCs are identified by comparing measured media-specific concentrations to risk-based screening levels. This section presents the methodology and references utilized to determine the risk-based screening levels for each medium of concern.

For the soil media, USEPA RSLs for residential exposure to soil were used as conservative screening levels (USEPA 2015). The MDC of each detected chemical was compared to the RSL at a target risk of 1E-06 and target hazard quotient (HQ) of 1. In addition, a sum-of-ratios (SOR) was calculated as the sum of the MDC/RSL for all carcinogenic chemicals (at a target risk of 1E-05) and for all non-carcinogenic chemicals (at a target HQ of 1) to evaluate the potential for exposure to multiple chemicals. Special circumstances apply to some chemicals, as described below:

- Chromium is generally present in the environment as either the trivalent (Cr+3) or hexavalent (Cr+6) species, with the trivalent form generally being more stable and, therefore, more common. Trivalent chromium has not been shown to be carcinogenic. It is an essential micronutrient but can also be toxic at high doses. Hexavalent chromium is much more toxic than trivalent chromium. It is classified as a "known human carcinogen" and may also cause non-cancer effects. As part of the conservative screening approach, the RSL for hexavalent chromium (the more toxic of the two chromium species) was used.
- The residential soil RSLs for arsenic, chromium, cobalt, iron, manganese, and thallium are less than the naturally occurring background concentrations of these metals in soil at NASA PBS; therefore, the MDCs of these chemicals are compared to background concentrations to identify COPCs. Since the background concentration is not risk-based, these six metals are not included in the SOR.
- Calcium, magnesium, potassium, and sodium are considered essential nutrients. USEPA recommends these chemicals not be evaluated unless they are grossly elevated relative to background concentrations or would exhibit toxicity at the observed concentrations (USEPA 1989). Recommended dietary allowance (RDA) and recommended daily intake (RDI) values are available for these chemicals. A receptor ingesting 100 mg of soil per day would receive less than the RDA/RDI value, even if the soil consisted of the pure mineral (i.e., soil concentrations at 1,000,000 mg/kg); therefore, these nutrients are not toxic at environmental concentrations and are not evaluated further.
- The RSLs for lead are based on an acceptable blood-lead concentration rather than a specific toxic endpoint; therefore, it is not appropriate to include a ratio for lead exposure in the SOR.
- No RSLs are available for acenaphthylene, benzo(g,h,i)perylene, and phenanthrene. The RSL for pyrene is used as a proxy value for these PAHs based on similar structures and properties (NDEP 2006, VDEQ 2014).
- No RSLs are available for endosulfan sulfate and endosulfan I. The RSL for endosulfan is used as a proxy value based on similar structures and properties (VDEQ 2014).
- No RSLs are available for endrin aldehyde. The RSL for endrin is used as a proxy value based on similar structures and properties (VDEQ 2014).
- 2,4-DNT and 2,6-DNT results are reported for both SVOC and explosives analysis. Both results are included in the screening tables. When results are available from both analyses, only the results from the explosives analysis are included in the SOR.

No human health screening values are available for sediment. USEPA RSLs for residential exposure to soil were used as conservative screening levels for sediment. The MDC of each detected chemical was compared to the RSL at a target risk of 1E-06 and target HQ of 1. In addition, a SOR was calculated as the sum of the MDC/RSL for all carcinogenic chemicals (at a target risk of 1E-0) and for all non-carcinogenic chemicals (at a target HQ of 1) to evaluate the potential for exposure to multiple chemicals. Special circumstances apply to some chemicals, as described below:

- As part of the conservative screening approach, the RSL for hexavalent chromium was used to evaluate total chromium results.

- The residential soil RSLs for arsenic and chromium are less than the naturally occurring background concentrations of these metals in sediment as represented by the Ohio SRVs; therefore, the MDCs of these chemicals are compared to Ohio SRVs to identify COPCs. Since the background concentration is not risk-based, these two metals are not included in the SOR.
- Calcium, magnesium, potassium, and sodium are considered essential nutrients and are not evaluated further.
- No RSLs are available for acenaphthylene, benzo(g,h,i)perylene, and phenanthrene. The RSL for pyrene is used as a proxy value for these PAHs based on similar structures and properties (NDEP 2006, VDEQ 2014).
- No RSLs are available for endosulfan sulfate and endosulfan I. The RSL for endosulfan is used as a proxy value based on similar structures and properties (VDEQ 2014).
- No RSLs are available for endrin aldehyde. The RSL for endrin is used as a proxy value based on similar structures and properties (VDEQ 2014).

Surface water at NASA GRC is not used as a source of drinking water. The Erie County Health Department does not permit surface water to be used as a private drinking water supply. Therefore, reported concentrations are first compared to Ohio EPA surface WQC for human health for non-drinking water. These criteria include ingestion of fish from contaminated surface water. Because Ohio EPA WQC are only available for a limited number of chemicals, USEPA tap water RSLs and MCLs also are provided.

5.2 DISPOSAL AREA 2A

5.2.1 Ecological Risk Assessment

DA2A is within a 100-year floodplain. The site is composed of mixed deciduous forest habitat bisected by Pipe Creek. Pipe Creek is a perennial stream that flows south to north through DA2A, with the West Debris field on the southwestern side of the creek and the East Debris field on the northeastern side of the creek; the East Debris Field is bracketed to the north and south by drainage ditches. Small wetlands abut Pipe Creek and/or are in close proximity of the two debris fields. The mourning warbler (*Oporornis philadelphia*) is a rare species (state species of special interest) that has been observed approximately 20 feet west of DA2A in contiguous adjacent habitat.

Forty-four surface soil, 11 sediment, and 8 surface water samples were collected at DA2A and used in the ecological evaluation. Surface soil samples were collected from the East and West Debris Fields. Sixty-five analytes were considered Site-Related Chemicals (SRCs) as the MDCs exceeded the soil background values. The MDCs for 23 of 65 site-related surface soil analytes exceeded ESVs. These exceedances included metals, SVOCs, pesticides, and PCBs. The largest magnitudes of ESV exceedances were from lead, mercury, and PCB Aroclors. Nine organic SRCs (benzaldehyde, caprolactam, carbazole, dibenzofuran, alpha-chlordane, gamma-chlordane, dalapon, cyclohexane, and methylcyclohexane) lacked soil screening values. Three metal SRCs also lacked screening values, but all are essential nutrients and thus are not considered COPECs. Fifteen PBT chemicals were detected in surface soil, several of which were among the analytes that exceeded ESVs or had no ESVs. The PBT chemicals included metals, an SVOC, pesticides, and PCBs. A total of 36 COPECs (SRCs whose MDC exceeded ESVs, SRCs with no ESV, and PBT chemicals) were identified for surface soil at DA2A.

The sediment and surface water samples were collected from Pipe Creek and two connected drainage ditches. Three sediment samples were collected from the southern ditch where there was no surface water. Thirty-one sediment analytes were considered site-related as the MDC exceeded the SRV. The MDCs of 18 site-related sediment analytes exceeded ESVs. These exceedances included metals, SVOCs,

and pesticides. The magnitudes of exceedance ranged from approximately 1 to 11 times screening values. Two organic SRCs (benzaldehyde and carbazole) did not have screening values. Seven PBT chemicals were detected in the sediment, several of which were among the analytes that exceeded ESVs. These PBT chemicals included metals, an SVOC, pesticides, and a PCB Aroclor. A total of 23 sediment COPECs were identified at DA2A.

The MDCs for aluminum, iron, and manganese exceeded surface water ESVs. The magnitudes of exceedance ranged from 2 to 33. Two detected organics (caprolactam and dalapon) and four essential nutrients did not have screening values. Two PBT chemicals (lead and beta-BHC) were detected at concentrations below their respective ESVs. A total of seven surface water COPECs were identified at DA2A.

Based on the results of the ecological screening, further evaluation is recommended to determine if the COPECS identified in surface soil, sediment, and surface water pose a threat of harm to ecological receptors.

5.2.2 Human Health Risk Assessment

5.2.2.1 Soil

Forty-four surface soil samples were collected at DA2A. The MDC for each of the chemicals detected in surface soil is compared to background and residential RSLs in **Table 5-1**. The MDC for chromium and lead exceed background concentrations and residential RSLs at a target risk of 1E-06 and HQ of 1. Reported concentrations of six SVOCs [benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene] and two PCBs (PCB-1254 and PCB-1260) exceed residential RSLs at a target risk of 1E-06. These chemicals are COPCs in surface soil. Reported concentrations of these COPCs exceed RSLs in samples from both the East and West Debris Fields.

The SOR for non-carcinogens in surface soil is 2. The primary contributors to this SOR are aluminum, antimony, cadmium, mercury, nickel, silver, vanadium, and zinc. With the exception of aluminum and nickel, which both affect body weight, each of these metals has a different critical effect. The SOR for nickel and mercury is 0.2; therefore, no additional non-carcinogenic chemicals are identified as COPCs based on the SOR. The SOR for carcinogens in surface soil is 85, indicating a total cancer risk greater than 1E-05. The primary contributors to this SOR are the SVOCs and PCBs identified as COPCs based on comparison to RSLs. Therefore, further evaluation of chromium, lead, PCBs, and SVOCs is recommended for surface soil at both the East and West Debris Fields in DA2A.

Thirty-nine subsurface soil samples were collected at DA2A. The MDC of each of the chemicals detected in subsurface soil is compared to background and residential RSLs in **Table 5-2**. The MDCs of chromium, lead, and mercury exceed background concentrations and residential RSLs at a target risk of 1E-06 and HQ of 1. Reported concentrations of six SVOCs [benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene], two PCBs (PCB-1254 and PCB-1260), and the pesticide dieldrin exceed residential RSLs at a target risk of 1E-06. These chemicals are COPCs in subsurface soil.

The SOR for non-carcinogens in subsurface soil is 2. The primary contributors to this SOR are mercury and antimony. The individual MDC/RSL ratio for mercury is 1; therefore, no additional non-carcinogenic chemicals are identified as COPCs based on the SOR. The SOR for carcinogens in subsurface soil is 70. The primary contributors to this SOR are the SVOCs, PCBs, and pesticide previously identified as

COPCs based on comparison to RSLs. Therefore, further evaluation of chromium, lead, mercury, PCBs, and SVOCs is recommended for subsurface soil at both the East and West Debris Fields in DA2A.

Three chemicals (methylcyclohexane, carbazole, and PCB-1262) detected in surface and subsurface soil have no RSLs for comparison. Methylcyclohexane was detected in 7 of 83 soil samples. Other VOCs, including cyclohexane, were all reported below their respective RSLs in these samples. Carbazole was detected in 22 soil samples with an MDC of 1.4 mg/kg. The Ohio EPA Voluntary Action Program (VAP) has a generic direct-contact soil standard for carbazole of 430 mg/kg for residential use [http://epa.ohio.gov/Portals/30/rules/2012/Rule%203745-300-08.pdf]. Therefore, uncertainty associated with the lack of RSLs for these two chemicals does not have a significant impact on conclusions for the site.

PCB-1262 was detected in three soil samples. No other PCBs were reported in those samples; however, other PCBs were identified as COPCs in other samples. The MDC of PCB-1262 (3.3 mg/kg) is greater than the RSL for high-risk PCBs (0.23 mg/kg). Because other PCBs are identified as COPCs, the uncertainty associated with the lack of an RSL for PCB-1262 does not have a significant impact on conclusions for the site.

5.2.2.2 Sediment

Eleven sediment samples were collected at DA2A. The MDC of each of the chemicals detected in sediment is compared to background and residential RSLs in **Table 5-3**. The MDC of arsenic (12 mg/kg) slightly exceeds the Ohio SRV (11 mg/kg) but is less than the NASA PBS background value for soil (36.5 mg/kg). Thus, arsenic is likely associated with naturally occurring background and is not recommended for further evaluation in sediment.

Reported concentrations of five SVOCs [benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene] exceed residential soil RSLs at a target risk of 1E-06. These chemicals are COPCs in sediment. The SOR for carcinogens in sediment is 4, indicating a total risk greater than 1E-05. The primary contributors to this SOR are the SVOCs. Therefore, further evaluation of SVOCs is recommended for the ditches.

The SOR for non-carcinogens in sediment is 2. The primary contributors to this SOR are aluminum, cobalt, iron, manganese, and thallium. Each of these metals has a different critical effect; therefore, no additional non-carcinogenic chemicals are identified as COPCs based on the SOR.

5.2.2.3 Surface Water

Eight surface water samples were collected at DA2A. The MDC of each of the chemicals detected in surface water is compared to background and various WQC in **Table 5-4**. The MDC for the pesticide beta-BHC exceeds the Ohio WQC for non-drinking water as well as the Ohio WQC for drinking water and the residential tap water RSL. No Ohio non-drinking WQC is available for iron, and the MDC of this metal exceeds the Ohio WQC for drinking water but is less than the residential tap water RSL. Further evaluation of pesticides in surface water is recommended.

5.3 FOX ROAD BURNING GROUND

5.3.1 Ecological Risk Assessment

The FRBG is composed of forest and shrubland with a wetland present on the eastern portion of the site. The rough green snake (*Opheodrys vernalis*) is a rare species (state listed endangered) that has been observed approximately 300 feet northwest of the site in the contiguous shrubland habitat.

Thirty surface soil and four sediment samples were collected at the FRBG and used in the ecological evaluation. Surface soil samples were collected from three discontinuous areas: a General Area, a Concrete Pit Area, and a Subsurface Debris Area. Fifty-six analytes were considered SRCs as the MDCs exceeded the soil background values. The MDCs for 7 of the 56 site-related surface soil analytes exceeded ESVs. These exceedances included metals, an SVOC, a PCB, a pesticide, and an explosive. The magnitudes of exceedances were highest for mercury and beta-BHC. Ten detected organics, including SVOCs, an herbicide, explosives, and VOCs, did not have screening values. Eleven PBT chemicals were detected in the surface soil, a few of which were among the seven analytes that exceeded ESVs. The PBT chemicals included metals, an SVOC, pesticides, and PCBs. A total of 25 COPECs (SRCs whose MDC exceeded ESVs, SRCs with no ESV, and PBT chemicals) were identified for surface soil at the FRBG.

Sediment samples were collected from a drainage ditch adjacent to and east of the Subsurface Debris Area. The ditch had no flowing or free-standing water present at the time of sample collection. Sixteen analytes were considered site-related as the MDCs exceeded the SRVs. The MDC of one site-related sediment analytes exceeded its ESV. The MDC of 2-methylnaphthalene (0.059 mg/kg) was approximately three times the sediment ESV of 0.0202 mg/kg. However, 2-methylnapthalene was only detected in one of four samples. One metal (antimony) and three organics (benzaldehyde, caprolactam, and n-nitroso-di-n-propylamine) did not have screening values. Antimony was detected at concentrations (ranging from 0.65 to 0.97 mg/kg) similar to background (0.84 mg/kg). The three organics were detected in sediment at low (below the reporting limit) concentrations. Given the low concentrations of antimony and the three organics, these constituents are not likely a concern for ecological receptors. Only one PBT chemical (lead) was detected in the sediment. The MDC of lead in sediment (4.5 mg/kg) was below the background (47 mg/kg) and ESV (35.8 mg/kg) and not a concern for ecological receptors in sediment. Given the low magnitude of ESV exceedance for 2-methylnaphthalene, low concentrations of organics without ESVs (benzaldehyde, caprolactam, and n-nitroso-di-n-propylamine), concentrations of antimony similar to background, and the low concentration of lead, no COPECs were identified for sediment at the FRBG. Furthermore, because the ditch is ephemeral and does not continuously hold water, little aquatic ecological habitat is present in the ditch. Given the limited habitat in the ditch, there is minimal ecological exposure and little potential for ecological risk.

Based on the results of the ecological risk screening, further evaluation is recommended to determine if the COPECs in soil pose a threat of harm to ecological receptors. Because no COEPCs were identified in sediment and because there is limited aquatic habitat present due to the ephemeral nature of the ditch, no further evaluation is recommended for sediment.

5.3.2 Human Health Risk Assessment

5.3.2.1 Soil

Thirty surface soil samples were collected at the FRBG. The MDC of each of the chemicals detected in surface soil is compared to background and residential RSLs in **Table 5-5**. The MDC of thallium (2.1 mg/kg) in surface soil exceeds both the background concentration (1.3 mg/kg) and the residential RSL at

a target HQ of 1. Thallium was detected in 13 of 30 surface soil samples, and all other reported thallium concentrations were less than the background concentration. Because thallium was reported slightly (less than 2x) above background in only one sample, NFA is recommended for this metal.

The MDCs of four SVOCs [benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; and dibenz(a,h)anthracene] and two PCBs (PCB-1254 and PCB-1260) in surface soil exceed residential RSLs at a target risk of 1E-06. These chemicals are COPCs in surface soil.

The SOR for non-carcinogens in surface soil is <1; therefore, no additional non-carcinogenic chemicals are identified as COPCs. The SOR for carcinogens is 3.6. The primary contributors to this SOR are the SVOCs and PCBs identified as COPCs based on comparison to RSLs. The SOR for these six previously identified COPCs is 3.4. All other individual ratios for carcinogens are <0.1; therefore, the total cancer risk potentially exceeds 1E-05, but no additional carcinogenic chemicals are identified as COPCs based on the SOR. The highest concentrations of all of these chemicals were reported at the Subsurface Debris Area. Further evaluation of this area is recommended.

PCBs were not detected above RSLs at the General Area or the Concrete Pit Area. SVOCs were detected above RSLs at the General Area and the Concrete Pit Area, but the reported concentrations are less than 10x the RSL and an SOR calculated using the maximum detected concentration of each SVOC in these areas is 1. Therefore, no further evaluation of the General Area or the Concrete Pit Area is recommended.

Three chemicals (3,5-dinitroaniline; methylcyclohexane; and PCB-1262) detected in surface soil have no RSLs for comparison. The explosive 3,5-dinitroaniline was detected in three samples. Other explosives detected in the same samples are all below their respective RSLs. Methylcyclohexane was detected in five samples. Other VOCs, including cyclohexane, were all reported below their respective RSLs in these samples. PCB-1262 was detected in one surface soil sample. No other PCBs were reported in that sample. The reported concentration of PCB-1262 (0.026 mg/kg) is less than the RSL for high-risk PCBs (0.23 mg/kg). Therefore, uncertainty associated with the lack of RSLs for these three chemicals does not have a significant impact on conclusions for the site.

Thirty-three subsurface soil samples were collected at the FRBG. The MDC of each of the chemicals detected in subsurface soil is compared to background and residential RSLs in **Table 5-6**. The MDCs of three SVOCs [benzo(a)pyrene; benzo(b)fluoranthene; and dibenz(a,h)anthracene], PCB-1260, and the explosive 2,6-DNT in subsurface soil exceed residential RSLs at a target risk of 1E-06. These chemicals are COPCs in subsurface soil. All five of these chemicals are potential carcinogens. The SOR for carcinogens is 1, indicating a total cancer risk of 1E-05. The SOR for non-carcinogens is less than 1. Therefore, no COPCs requiring further evaluation are identified in subsurface soil.

5.3.2.2 Sediment

Four sediment samples were collected at the FRBG. The MDC of each of the chemicals detected in sediment is compared to Ohio SRVs and residential soil RSLs in **Table 5-7**. Reported concentrations of all detected chemicals in sediment are less than the residential soil RSLs at a target risk of 1E-06 and target HQ of 1, and the SORs for all non-carcinogenic and carcinogenic chemicals are <1. Thus, no COPCs are identified in sediment.

5.4 SNAKE ROAD BURNING GROUND

5.4.1 Ecological Risk Assessment

The SRBG is an approximately 4.2-acre site comprised mostly of herbaceous field with some shrubland habitat. Four small, isolated wetlands are present on the Fire Training Area and Primary Burn Area, with several larger isolated wetlands surrounding it. The SRBG also is located within the Central Meadows Rare Plant Community Restoration Area and has several rare plant and animal species nearby (e.g., *Viola lanceolata, Juncus greenei, Hypericum gymnanthum, and Emydoidea blandingii*).

Twelve surface soil and four sediment samples were collected at the SRBG and used in the ecological evaluation. Surface soil samples were collected from one contiguous area, which includes both the Primary Burn Area and Secondary Fire Training Area. Forty-nine analytes were considered site-related as the MDCs exceeded the soil background values. The MDCs for 12 of the 49 site-related surface soil analytes exceeded ESVs. These exceedances included metals, PCBs, a pesticide, and explosive compounds. The magnitudes of exceedances were highest for mercury and silver. Eight organic SRCs, including SVOCs and explosives, did not have screening values. Eleven PBT chemicals were detected in the surface soil, some of which were among the 12 analytes that exceeded ESVs. The PBT chemicals included metals, an SVOC, pesticides, and PCBs. A total of 25 COPECs (SRCs whose MDC exceeded ESVs, SRCs with no ESV, and PBT chemicals) were identified for surface soil at the SRBG.

Sediment samples were collected from a dry drainage ditch northeast of the burning ground. Sixteen analytes were considered site-related as the MDCs exceeded the SRVs. None of the 16 SRCs in sediment had MDCs exceeding ESVs. Seven PBT chemicals were detected in sediment, but the MDCs were below the ESVs and SRVs (for the two inorganic PBT chemicals). As a result, PBT chemicals are not considered a concern for ecological receptors in sediment. In addition, because the ditch is ephemeral and does not continuously hold water, little aquatic ecological habitat is present. Given the limited habitat in the ditch, there is only limited ecological exposure and limited potential for ecological risk. Since there are no ESV exceedances, COPECs were not identified for sediment at the SRBG.

Based on the results of the ecological risk screening, further evaluation is recommended to determine if the COPECs in soil pose a threat of harm to ecological receptors. Because no COEPCs were identified in sediment, no further evaluation is recommended for sediment.

5.4.2 Human Health Risk Assessment

5.4.2.1 Soil

Twelve surface soil samples were collected at the SRBG. The MDC of each of the chemicals detected in surface soil is compared to background and residential RSLs in **Table 5-8**. The MDCs of three metals (chromium, lead, and silver) exceed background concentrations and residential RSLs at a target risk of 1E-06 or HQ of 1. Silver and chromium were each detected above background in only one sample. Lead was detected above background in 6 of the 12 surface soil samples. The MDCs of five SVOCs [benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene], three PCBs (PCB-1248, PCB-1254, and PCB-1260), and one explosive (2,6-DNT) exceed residential RSLs at a target risk of 1E-06. These chemicals are COPCs in surface soil.

The SOR for non-carcinogens in surface soil is 3. The primary contributor to this SOR is silver with an individual ratio of 3. All other individual ratios for non-carcinogens are $\leq$0.1; therefore, no additional non-carcinogenic chemicals are identified as COPCs based on the SOR. The SOR for carcinogens in surface soil is 13. The primary contributors to this SOR are the SVOCs, PCBs, and explosive identified

as COPCs based on comparison to RSLs. The SOR for these nine previously identified COPCs is 13. All other individual ratios for carcinogens are <0.1; therefore, no additional carcinogenic chemicals are identified as COPCs based on the SOR.

Based on these results, further evaluation of metals, SVOCs, PCBs, and explosives in surface soil at the SRBG is recommended.

Two chemicals (carbazole and PCB-1268) detected in surface soil have no RSLs for comparison. Carbazole was detected in two samples with an MDC of 0.0074 mg/kg. The Ohio EPA VAP has a generic direct-contact soil standard for carbazole of 430 mg/kg for residential use [http://epa.ohio.gov/Portals/30/rules/2012/Rule%203745-300-08.pdf]. PCB-1268 was detected in one surface soil sample. One other PCB was reported in that sample, at a concentration below its RSL. The reported concentration of PCB-1268 (0.13 mg/kg) is less than the RSL for high-risk PCBs (0.23 mg/kg). Therefore, uncertainty associated with the lack of RSLs for these two chemicals does not have a significant impact on conclusions for the site.

Twenty-five subsurface soil samples were collected at the SRBG. The MDC of each of the chemicals detected in subsurface soil is compared to background and residential RSLs in **Table 5-9**. The MDC (2 mg/kg) of thallium exceeds the background concentration (1.3 mg/kg) and residential RSL at a target HQ of 1. Thallium was detected in 24 of 25 surface soil samples with reported concentrations above background in 8 samples. All but one of these samples was collected from greater than 6 feet BGS. Concentrations in these seven samples range from 1.4 to 2 mg/kg and are very similar to background and may reflect normal variability in the results rather than contamination. One of the samples (the field duplicate of sample SRBG-SL-006 at 2 to 6 feet BGS) had a reported thallium concentration of 1.5 mg/kg while the original sample had a reported concentration of 0.86 mg/kg. Because thallium was reported slightly (less than 2x) above background in a few subsurface samples, NFA is recommended for this metal.

The MDC of benzo(a)pyrene in subsurface soil exceeds the residential RSL at a target risk of 1E-06 and is a COPC in subsurface soil. Benzo(a)pyrene is a potential carcinogen. The SOR for carcinogens is 1, indicating a total cancer risk of 1E-05. The SOR for non-carcinogens is less than 1. Therefore, no COPCs requiring further evaluation are identified in subsurface soil.

5.4.2.2 Sediment

Four sediment samples were collected at the SRBG. The MDC of each of the chemicals detected in sediment is compared to Ohio SRVs and residential soil RSLs in **Table 5-10**. Reported concentrations of all detected chemicals in sediment are less than the residential soil RSLs at a target risk of 1E-06 and target HQ of 1, and the SORs for all non-carcinogenic and carcinogenic chemicals are $\leq$1. Thus, no COPCs are identified and NFA is recommended for sediment.

5.5 TAYLOR ROAD BURNING GROUND

5.5.1 Ecological Risk Assessment

The TRBG is composed primarily of field, surrounded by shrub and forested area, with a wetland present on the western portion of the site. Rare species have not been identified at or in the vicinity of the site.

Twelve surface soil and nine sediment samples were collected at the TRBG and used in the ecological evaluation. Surface soil samples were collected from three contiguous areas: a Primary Burn Area, a

Secondary Burn Area, and a Subsurface Debris Area. Thirty-seven analytes were considered site-related because the MDCs exceeded the soil background values. The MDCs for 8 of the 37 site-related surface soil analytes exceeded ESVs. These exceedances included metals, a PCB, and pesticides. The magnitudes of exceedances were highest for mercury and lead. Six organic SRCs (benzaldehyde; dibenzofuran; 2,4,6-TNT; 2-amino-4,6-DNT; 3,5-dinitroaniline; and 4-amino-2,6-DNT) did not have soil screening values. Ten PBT chemicals were detected in the surface soil, some of which were among the eight analytes that exceeded ESVs. The PBT chemicals included metals, an SVOC, pesticides, and PCBs. A total of 20 COPECs (SRCs whose MDC exceeded the ESVs, SRCs with no ESV, and PBT chemicals) were identified for surface soil at the TRBG.

Sediment samples were collected from two dry drainage ditches bracketing the burning ground. The western ditch is an ephemeral waterway and small 0.3-acre wetland. Forty-five non-nutrient sediment analytes were considered site-related as the MDC exceeded the SRV and the MDCs of 29 site-related analytes exceeded ESVs. These exceedances included metals, SVOCs, pesticides, and a PCB. All but one of these MDCs occurs in sample TRBG-SDSW-004, which is within the wetland in the western ditch. The magnitudes of exceedances were highest for PCB-1254, 4,4′-DDE, and zinc. Three metal SRCs (antimony, barium, and selenium) and three organics (1,1'-biphenyl; benzaldehyde; and dalapon) did not have sediment screening values. Seven PBT chemicals were detected in sediment, most of which were among the 29 analytes that exceeded ESVs. The PBT chemicals included metals, an SVOC, pesticides, and a PCB. A total of 36 COPECs were identified for sediment at the TRBG. It should be noted that the elevated concentrations in TRBG-SDSW-004 (e.g., the concentrations of lead, zinc, and PCB-1254) were not elevated in the sample to the north (TRBG-SDSW-003), but there were no samples collected downstream from this location.

Based on the results of the ecological risk screening, further evaluation is recommended to determine if the COPECs in soil and sediment pose a threat of harm to ecological receptors. In addition, it is recommended that additional sediment samples be downstream from TRBG-SDSW-004.

5.5.2 Human Health Risk Assessment

5.5.2.1 Soil

Twelve surface soil samples were collected at the TRBG. The MDC of each of the chemicals detected in surface soil is compared to background and residential RSLs in **Table 5-11**. The reported concentration of lead exceeds the background concentration and residential RSL in one sample collected from the Primary Burn Area. The lead concentrations in a nearby sample and its field duplicate, also at the Primary Burn Area, are below the RSL but exceed background concentration.

The MDCs of two SVOCs [benzo(a)pyrene and benzo(b)fluoranthene] and PCB-1260 exceed residential RSLs at a target risk of 1E-06. The elevated concentrations of PCB-1260 are limited to one sample and its field duplicate at the Primary Burn Area. Therefore, lead and PCBs are COPCs and are recommended for further evaluation at the Primary Burn Area.

The SVOCs were detected above RSLs at the Subsurface Debris Area, but the reported concentrations are less than 10x the RSL and an SOR calculated using the maximum detected concentration of each SVOC at the Subsurface Debris Area is less than 1, indicating a total cancer risk of less than 1E-05. Therefore, no further evaluation of the Subsurface Debris Area is recommended.

The SOR for non-carcinogens in surface soil is <1; therefore, no additional non-carcinogenic chemicals are identified as COPCs based on the SOR. The SOR for carcinogens in surface soil is 2. The primary contributors to this SOR are the SVOCs and PCB identified as COPCs based on comparison to RSLs.

The SOR for these three previously identified COPCs is 2; therefore, no additional chemicals are identified as COPCs in surface soil based on the SOR.

No chemicals were detected above RSLs at the Secondary Burn Area; therefore, no additional evaluation of this area is recommended.

One chemical (3,5-dinitroaniline) detected in surface soil has no RSL for comparison. The explosive 3,5-dinitroaniline was detected in one sample at the Primary Burn Area. Other explosives detected in the same sample are all below their respective RSLs. Therefore, uncertainty associated with the lack of RSL for this chemical does not have a significant impact on conclusions for the site.

Twenty-one subsurface soil samples were collected at the TRBG. The MDC of each of the chemicals detected in subsurface soil is compared to background and residential RSLs in **Table 5-12**. The reported concentrations of chromium (30 mg/kg) and thallium (1.4 mg/kg) barely exceed the background concentrations (29 and 1/3 mg/kg, respectively) and residential RSL in one sample each. Reported concentrations in all other samples are below background; therefore, NFA is required for these metals.

The MDCs of benzo(a)pyrene and two PCBs (PCB-1254 and PCB-1260) exceed residential RSLs at a target risk of 1E-06 at the Primary Burn Area. The SOR for non-carcinogens in subsurface soil is <1. The SOR for carcinogens in subsurface soil is 2. The primary contributors to this SOR are benzo(a)pyrene, PCB-1254, and PCB-1260 with an SOR of 2 for these three chemicals, and further evaluation of these chemicals is warranted in subsurface soil within the Primary Burn Area. No additional chemicals are identified as COPCs in subsurface soil based on the SOR.

5.5.2.2 Sediment

Nine sediment samples were collected at the TRBG. The MDC of each of the chemicals detected in sediment is compared to Ohio SRVs and residential soil RSLs in **Table 5-13**.

The reported concentration of arsenic in one sample (14 mg/kg) and its field duplicate (17 mg/kg) exceed the Ohio SRV for sediment (11 mg/kg) and residential RSLs in the East Ditch. This arsenic concentration is less than the NASA PBS soil background concentration of 36.5 mg/kg. All other metals are below the Ohio SRV in this ditch and no organic chemicals were detected above RSLs. Therefore, no additional evaluation of the East Ditch is recommended.

The reported concentrations of lead (930 mg/kg) and chromium (180 mg/kg) in one sample in the West Ditch exceed Ohio SRVs for sediment (47 and 51 mg/kg respectively), NASA PBS background values for soil (48.6 and 29 mg/kg) and residential RSLs. The MDCs of five SVOCs [benz(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene] and PCB-1254 exceed residential RSLs at a target risk of 1E-06 in one or more samples in the West Ditch. The SOR for carcinogens in sediment is 20, indicating a total cancer risk greater than 1E-05. The primary contributors to this SOR are the SVOCs and PCB-1254. These chemicals are COPCs and warrant further evaluation in sediment in the West Ditch.

The SOR for non-carcinogens in sediment is 2. The primary contributors to this SOR are antimony, cobalt, iron, manganese, mercury, and zinc. With the exception of manganese and mercury, which both affect the central nervous system, each of these metals has a different critical effect. The SOR for manganese and mercury is 0.5; therefore, no additional non-carcinogenic chemicals are identified as COPCs based on the SOR.

5.6 ENVIRONMENTAL HAZARD ASSESSMENT SUMMARY

5.6.1 Disposal Area 2A

Ecological risk screening identified 36 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. Further evaluation is recommended to determine whether the COPECs pose a threat of harm to ecological receptors.

Twenty-three COPECs were identified in sediment including one or more metal, SVOC, PCB, and pesticide. Further evaluation is recommended to determine whether the COPECs pose a threat of harm to ecological receptors.

Seven COPECs were identified in surface water samples, including one or more metal and pesticide. Further evaluation is recommended to determine whether the COPECs pose a threat of harm to ecological receptors.

Human health risk assessment identified multiple COPCs in surface and subsurface soil. The COPCs include metals, PCB, and SVOC. Further evaluation is recommended to determine the risk to human health presented by the COPCs.

Several SVOCs were identified as COPCs in sediment, and further evaluation is recommended to determine the risk to human health presented by the COPCs.

Pesticides were identified as COPCs in surface water, and further evaluation is recommended to determine the risk to human health presented by the COPCs.

5.6.2 Fox Road Burning Ground

Ecological risk screening identified 25 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. Further evaluation is recommended to determine whether the COPECs pose a threat of harm to ecological receptors.

No COPECs were identified for sediment and, therefore, no further evaluation is recommended for this medium.

Human health risk assessment identified multiple COPCs in surface soil, specifically in the Subsurface Debris Area. The COPCs include PCB and SVOCs. Further evaluation is recommended to determine the risk to human health presented by the COPCs in this medium.

No COPCs were identified in subsurface soil or sediment, and therefore, no further evaluation is recommended for these medium.

5.6.3 Snake Road Burning Ground

Ecological risk screening identified 25 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. Further evaluation is recommended to determine whether the COPECs pose a threat of harm to ecological receptors.

No COPECs were identified for sediment and, therefore, no further evaluation is recommended for this medium.

Human health risk assessment identified multiple COPC in surface soil. The COPC include one or more metal, SVOC, PCB, and explosive compounds. Further evaluation is recommended to determine the risk to human health presented by the COPC in this medium.

No COPC were identified in subsurface soil or sediment and, therefore, no further evaluation is recommended for these media.

5.6.4 Taylor Road Burning Ground

Ecological risk screening identified 20 COPECs in surface soil, including one or more metal, SVOC, PCB, and pesticide. Further evaluation is recommended to determine whether the COPECs pose a threat of harm to ecological receptors.

Thirty-six COPECs were identified in sediment, including one or more metal, SVOC, PCB, and pesticide. Further evaluation is recommended to determine whether the COPECs pose a threat of harm to ecological receptors. Additional sediment samples located downstream from sample TRBG-SDSW-004 are recommended to define the extent of impacts in this area.

Human health risk assessment identified multiple COPCs in surface soil. The COPCs include lead and PCBs. Further evaluation is recommended to determine the risk to human health presented by the COPCs in this medium. In addition, benzo(a)pyrene, PCB-1254, and PCB-1260 were identified as COPCs in subsurface soil in the Primary Burn Area. Further evaluation is recommended to determine the risk to human health presented by the COPCs in this medium.

SVOCs and PCB were identified as COPCs in sediment in the West Ditch. Further evaluation is recommended to determine the risk to human health presented by the COPCs in this medium.

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Table 5-1. Surface Soil Screening – Disposal Area 2A: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals											
Aluminum	7429-90-5	44/ 44	180	11000	5760	15500	No	77000	(n)	No	0.1
Antimony	7440-36-0	9/ 44	0.66	22	1.75	9.3	Yes	31	(n)	No	0.7
Arsenic	7440-38-2	44/ 44	1.4	18	6.81	36.5	No	0.68	(c)	NA	NA
Barium	7440-39-3	44/ 44	21	200	49.9	826	No	15000	(n)	No	0.01
Beryllium	7440-41-7	39/ 44	0.23	0.88	0.379	1	No	160	(n)	No	0.006
Cadmium	7440-43-9	44/ 44	0.11	6	0.544	--	--	71	(n)	No	0.08
Calcium	7440-70-2	44/ 44	1700	90000	27300	52300	Yes	--		--	E
Chromium	**7440-47-3**	**44/ 44**	**5**	**420**	**21.6**	**29**	**Yes**	**0.3**	**(c)**	**NA**	**NA**
Cobalt	7440-48-4	44/ 44	1.2	36	8.91	116	No	23	(n)	NA	NA
Iron	7439-89-6	44/ 44	7900	120000	16600	234000	No	55000	(n)	NA	NA
Lead	**7439-92-1**	**44/ 44**	**5.7**	**4000**	**260**	**48.6**	**Yes**	**400**		**Yes**	**NA**
Magnesium	7439-95-4	43/ 44	880	12000	4690	10400	Yes	--		--	E
Manganese	7439-96-5	44/ 44	90	1200	378	3510	No	1800	(n)	NA	NA
Mercury	7439-97-6	44/ 44	0.027	2.3	0.297	0.085	Yes	9.4	(n)	No	0.2
Nickel	7440-02-0	44/ 44	7.4	340	27.8	55.1	Yes	1500	(n)	No	0.2
Potassium	7440-09-7	38/ 44	520	1600	757	3390	No	--		--	E
Selenium	7782-49-2	21/ 44	0.36	0.88	0.782	2	No	390	(n)	No	0.002
Silver	7440-22-4	10/ 44	0.07	40	1.42	11.1	Yes	390	(n)	No	0.1
Sodium	7440-23-5	1/ 44	53	53	248	--	--	--		--	E
Thallium	7440-28-0	17/ 44	0.11	0.77	0.751	1.3	No	0.78	(n)	NA	NA
Vanadium	7440-62-2	44/ 44	0.75	23	14	40.9	No	390	(n)	No	0.06
Zinc	7440-66-6	44/ 44	22	1500	212	322	Yes	23000	(n)	No	0.07
Organics – Semivolatile											
1,1'-Biphenyl	92-52-4	3/ 44	0.0083	0.033	0.0572	--	--	47	(n)	No	0.0007
2,4-Dinitrotoluene	121-14-2	1/ 44	0.26	0.26	0.242	--	--	1.7	(c)	No	0.02
2,6-Dinitrotoluene	606-20-2	1/ 44	0.057	0.057	0.238	--	--	0.36	(c)	No	0.02
2-Methylnaphthalene	91-57-6	29/ 44	0.0048	0.31	0.0383	--	--	240	(n)	No	0.001
Acenaphthene	83-32-9	14/ 44	0.0091	0.55	0.0393	--	--	3600	(n)	No	0.0002
Acenaphthylene[e]	208-96-8	31/ 44	0.0048	0.64	0.105	--	--	1800	(n)	No	0.0004
Acetophenone	98-86-2	2/ 44	0.012	0.035	0.116	--	--	7800	(n)	No	0.000004
Anthracene	120-12-7	31/ 44	0.0021	1.7	0.17	--	--	18000	(n)	No	0.00009
Benz(a)anthracene	**56-55-3**	**42/ 44**	**0.0057**	**7.2**	**0.703**	**--**	**--**	**0.16**	**(c)**	**Yes**	**5**
Benzaldehyde	100-52-7	20/ 44	0.013	0.14	0.106	--	--	7800	(n)	No	0.00002
Benzo(a)pyrene	**50-32-8**	**42/ 44**	**0.0047**	**7.8**	**0.743**	**--**	**--**	**0.016**	**(c)**	**Yes**	**49**
Benzo(b)fluoranthene	**205-99-2**	**42/ 44**	**0.0091**	**12**	**1.09**	**--**	**--**	**0.16**	**(c)**	**Yes**	**8**
Benzo(ghi)perylene[e]	191-24-2	37/ 44	0.0074	2.2	0.251	--	--	1800	(n)	No	0.001
Benzo(k)fluoranthene	**207-08-9**	**40/ 44**	**0.0052**	**6.1**	**0.553**	**--**	**--**	**1.6**	**(c)**	**Yes**	**0.4**
Bis(2-ethylhexyl)phthalate	117-81-7	15/ 44	0.021	5.5	0.216	--	--	39	(c)	No	0.01
Butyl benzyl phthalate	85-68-7	1/ 44	0.084	0.084	0.0834	--	--	290	(c)	No	0.00003
Caprolactam	105-60-2	1/ 44	0.14	0.14	0.389	--	--	31000	(n)	No	0.000005
Carbazole	86-74-8	12/ 44	0.035	0.77	0.0929	--	--	--		--	--
Chrysene	218-01-9	42/ 44	0.0067	7.9	0.735	--	--	16	(c)	No	0.05
Di-n-butyl phthalate	84-74-2	3/ 44	0.019	0.027	0.0825	--	--	6300	(n)	No	0.000004
Dibenz(a,h)anthracene	**53-70-3**	**20/ 44**	**0.015**	**0.73**	**0.0846**	**--**	**--**	**0.016**	**(c)**	**Yes**	**5**
Dibenzofuran	132-64-9	26/ 44	0.011	0.44	0.0504	--	--	73	(n)	No	0.006
Fluoranthene	206-44-0	43/ 44	0.0066	13	1.39	--	--	2400	(n)	No	0.005
Fluorene	86-73-7	22/ 44	0.0063	0.83	0.067	--	--	2400	(n)	No	0.0003
Indeno(1,2,3-cd)pyrene	**193-39-5**	**38/ 44**	**0.011**	**2**	**0.244**	**--**	**--**	**0.16**	**(c)**	**Yes**	**1**
Naphthalene	91-20-3	25/ 44	0.0065	0.22	0.0352	--	--	3.8	(c)	No	0.006
Pentachlorophenol	87-86-5	1/ 44	0.016	0.016	0.179	--	--	1	(c)	No	0.002
Phenanthrene[e]	85-01-8	40/ 44	0.0048	6.9	0.653	--	--	1800	(n)	No	0.004
Phenol	108-95-2	7/ 44	0.0094	0.42	0.0679	--	--	19000	(n)	No	0.00002
Pyrene	129-00-0	43/ 44	0.0054	9.6	1.07	--	--	1800	(n)	No	0.005

Table 5-1. Surface Soil Screening – Disposal Area 2A: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Organics – Pesticides											
4,4'-DDE	72-55-9	19/ 44	0.00034	0.061	0.0178	--	--	2	(c)	No	0.003
4,4'-DDT	50-29-3	5/ 43	0.00079	0.0088	0.0202	--	--	1.9	(c)	No	0.0005
Dieldrin	60-57-1	3/ 44	0.0053	0.026	0.0198	--	--	0.034	(c)	No	0.08
Endosulfan I[f]	959-98-8	2/ 44	0.00036	0.0025	0.02	--	--	470	(n)	No	0.000005
Endosulfan sulfate[f]	1031-07-8	5/ 44	0.0011	0.15	0.0207	--	--	470	(n)	No	0.0003
Endrin aldehyde[f]	7421-93-4	7/ 44	0.00048	0.11	0.0206	--	--	19	(n)	No	0.006
Methoxychlor	72-43-5	7/ 44	0.0074	0.021	0.0365	--	--	320	(n)	No	0.00007
alpha-Chlordane	5103-71-9	1/ 44	0.052	0.052	0.0208	--	--	1.7	(c)	No	0.003
beta-BHC	319-85-7	10/ 44	0.0018	0.038	0.0196	--	--	0.3	(c)	No	0.01
gamma-Chlordane	5103-74-2	2/ 44	0.0017	0.037	0.0205	--	--	1.7	(c)	No	0.002
Organics – Herbicides											
Dalapon	75-99-0	1/ 44	0.059	0.059	0.0696	--	--	1900	(n)	No	0.00003
Organics – PCBs											
PCB-1242	53469-21-9	1/ 44	0.15	0.15	0.109	--	--	0.23	(c)	No	0.07
PCB-1248	12672-29-6	1/ 44	0.14	0.14	0.113	--	--	0.23	(c)	No	0.06
PCB-1254	**11097-69-1**	**7/ 44**	**0.035**	**9.1**	**0.368**	**--**	**--**	**0.24**	**(c)**	**Yes**	**4**
PCB-1260	**11096-82-5**	**23/ 44**	**0.011**	**33**	**1.01**	**--**	**--**	**0.24**	**(c)**	**Yes**	**14**
PCB-1262	37324-23-5	1/ 44	0.6	0.6	0.123	--	--	--		--	--
Organics – Volatile											
Acetone	67-64-1	1/ 44	0.0095	0.0095	0.0111	--	--	61000	(n)	No	0.0000002
Cyclohexane	110-82-7	2/ 44	0.0012	0.0014	0.00536	--	--	6500	(n)	No	0.0000002
Ethylbenzene	100-41-4	1/ 44	0.00064	0.00064	0.00274	--	--	5.8	(c)	No	0.00001
M + P Xylene	136777-61-2	3/ 44	0.00071	0.0037	0.00532	--	--	650	(n)	No	0.000006
Methylcyclohexane	108-87-2	2/ 44	0.0015	0.002	0.00538	--	--	--		--	--
Methylene chloride	75-09-2	8/ 44	0.00087	0.0027	0.00267	--	--	57	(c)	No	0.000005
Toluene	108-88-3	2/ 44	0.00045	0.00057	0.00268	--	--	4900	(n)	No	0.0000001
o-Xylene	95-47-6	2/ 44	0.00066	0.0019	0.00272	--	--	650	(n)	No	0.000003
Sum-of-Ratios											
Carcinogens											85
Non-carcinogens											2

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Naturally occurring background concentration.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used.
[f]No reference dose or cancer potency factors are available for endosulfan sulfate or endrin aldehyde; therefore, the screening levels for endosulfan and endrin are used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic, chromium, cobalt, iron, manganese, and thallium, the risk-based screening level is less than the background concentration; therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint.
PCB = Polychlorinated Biphenyl
SL = Screening Level
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-2. Subsurface Soil Screening – Disposal Area 2A: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg)		Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
			Minimum	Maximum							
Metals											
Aluminum	7429-90-5	39/ 39	4000	10000	6880	15500	No	77000	(n)	No	0.1
Antimony	7440-36-0	8/ 39	0.59	9.1	1.44	9.3	No	31	(n)	No	0.3
Arsenic	7440-38-2	39/ 39	2.9	26	8.7	36.5	No	0.68	(c)	NA	NA
Barium	7440-39-3	39/ 39	29	930	96.7	826	Yes	15000	(n)	No	0.06
Beryllium	7440-41-7	39/ 39	0.29	0.63	0.426	1	No	160	(n)	No	0.004
Cadmium	7440-43-9	39/ 39	0.066	7.8	0.634	--	--	71	(n)	No	0.1
Calcium	7440-70-2	39/ 39	1900	130000	38000	52300	Yes	--		--	E
Chromium	**7440-47-3**	**39/ 39**	**6.6**	**160**	**19.5**	**29**	**Yes**	**0.3**	**(c)**	**NA**	**NA**
Cobalt	7440-48-4	39/ 39	3.5	14	8.55	116	No	23	(n)	NA	NA
Iron	7439-89-6	39/ 39	8700	27000	17400	234000	No	55000	(n)	NA	NA
Lead	**7439-92-1**	**38/ 39**	**6.4**	**800**	**90.4**	**48.6**	**Yes**	**400**		**Yes**	**NA**
Magnesium	7439-95-4	39/ 39	1700	16000	6790	10400	Yes	--		--	E
Manganese	7439-96-5	39/ 39	150	1300	474	3510	No	1800	(n)	NA	NA
Mercury	**7439-97-6**	**38/ 39**	**0.02**	**12**	**0.744**	**0.085**	**Yes**	**9.4**	**(n)**	**Yes**	**1.3**
Nickel	7440-02-0	39/ 39	8.8	130	29.4	55.1	Yes	1500	(n)	No	0.09
Potassium	7440-09-7	37/ 39	510	1700	839	3390	No	--		--	E
Selenium	7782-49-2	15/ 39	0.28	1.2	0.825	2	No	390	(n)	No	0.003
Silver	7440-22-4	8/ 39	0.091	28	2	11.1	Yes	390	(n)	No	0.07
Sodium	7440-23-5	1/ 39	66	66	244	--	--	--		--	E
Thallium	7440-28-0	12/ 39	0.15	0.8	0.804	1.3	No	0.78	(n)	NA	NA
Vanadium	7440-62-2	39/ 39	10	26	16.4	40.9	No	390	(n)	No	0.07
Zinc	7440-66-6	38/ 39	38	990	149	322	Yes	23000	(n)	No	0.04
Organics – Semivolatile											
1,1'-Biphenyl	92-52-4	5/ 39	0.012	0.1	0.0646	--	--	47	(n)	No	0.002
2,4-Dinitrotoluene	121-14-2	2/ 39	0.058	0.2	0.309	--	--	1.7	(c)	No	0.01
2-Methylnaphthalene	91-57-6	20/ 39	0.0082	0.65	0.0622	--	--	240	(n)	No	0.003
Acenaphthene	83-32-9	17/ 39	0.0063	0.56	0.0496	--	--	3600	(n)	No	0.0002
Acenaphthylene[e]	208-96-8	20/ 39	0.0047	1.2	0.0975	--	--	1800	(n)	No	0.0007
Acetophenone	98-86-2	1/ 39	0.027	0.027	0.155	--	--	7800	(n)	No	0.000003
Anthracene	120-12-7	22/ 39	0.0048	3.3	0.229	--	--	18000	(n)	No	0.0002
Benz(a)anthracene	**56-55-3**	**26/ 39**	**0.0046**	**8.4**	**0.687**	**--**	**--**	**0.16**	**(c)**	**Yes**	**5**
Benzaldehyde	100-52-7	5/ 39	0.014	0.046	0.151	--	--	7800	(n)	No	0.000006
Benzo(a)pyrene	**50-32-8**	**26/ 39**	**0.0051**	**7**	**0.642**	**--**	**--**	**0.016**	**(c)**	**Yes**	**44**
Benzo(b)fluoranthene	**205-99-2**	**26/ 39**	**0.0076**	**9.6**	**0.898**	**--**	**--**	**0.16**	**(c)**	**Yes**	**6**
Benzo(ghi)perylene[e]	191-24-2	21/ 39	0.0088	3.3	0.254	--	--	1800	(n)	No	0.002
Benzo(k)fluoranthene	**207-08-9**	**24/ 39**	**0.0091**	**5.7**	**0.454**	**--**	**--**	**1.6**	**(c)**	**Yes**	**0.4**
Bis(2-ethylhexyl)phthalate	117-81-7	9/ 39	0.021	0.059	0.107	--	--	39	(c)	No	0.0002
Butyl benzyl phthalate	85-68-7	1/ 39	0.029	0.029	0.108	--	--	290	(c)	No	0.00001
Carbazole	86-74-8	10/ 39	0.034	1.4	0.12	--	--	--		--	--
Chrysene	218-01-9	26/ 39	0.0069	8.1	0.671	--	--	16	(c)	No	0.05
Di-n-butyl phthalate	84-74-2	4/ 39	0.018	0.53	0.119	--	--	6300	(n)	No	0.00008
Dibenz(a,h)anthracene	**53-70-3**	**18/ 39**	**0.023**	**1.3**	**0.0952**	**--**	**--**	**0.016**	**(c)**	**Yes**	**8**
Dibenzofuran	132-64-9	18/ 39	0.0039	0.89	0.0808	--	--	73	(n)	No	0.01
Fluoranthene	206-44-0	26/ 39	0.0087	20	1.47	--	--	2400	(n)	No	0.008
Fluorene	86-73-7	20/ 39	0.0047	1.4	0.0934	--	--	2400	(n)	No	0.0006
Indeno(1,2,3-cd)pyrene	**193-39-5**	**22/ 39**	**0.016**	**3.6**	**0.257**	**--**	**--**	**0.16**	**(c)**	**Yes**	**2**
Naphthalene	91-20-3	20/ 39	0.008	0.52	0.0442	--	--	3.8	(c)	No	0.01
Phenanthrene[e]	85-01-8	26/ 39	0.0049	13	0.845	--	--	1800	(n)	No	0.007
Phenol	108-95-2	2/ 39	0.0095	0.021	0.0772	--	--	19000	(n)	No	0.000001
Pyrene	129-00-0	26/ 39	0.0076	14	1.17	--	--	1800	(n)	No	0.008
m+p Methylphenol	65794-96-9	1/ 39	0.027	0.027	0.613	--	--	320	(n)	No	0.00008

Table 5-2. Subsurface Soil Screening – Disposal Area 2A: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Organics – Pesticides											
4,4'-DDE	72-55-9	6/ 39	0.0017	0.017	0.0158	--	--	2	(c)	No	0.0009
4,4'-DDT	50-29-3	2/ 39	0.012	0.017	0.0166	--	--	1.9	(c)	No	0.0009
Dieldrin	**60-57-1**	**7/ 39**	**0.0099**	**0.39**	**0.0323**	**--**	**--**	**0.034**	**(c)**	**Yes**	**1**
Endosulfan sulfate[f]	1031-07-8	4/ 39	0.0095	0.038	0.0172	--	--	470	(n)	No	0.00008
Endrin	72-20-8	1/ 39	0.013	0.013	0.0168	--	--	19	(n)	No	0.0007
Endrin aldehyde[f]	7421-93-4	3/ 39	0.013	0.027	0.0162	--	--	19	(n)	No	0.001
Methoxychlor	72-43-5	1/ 39	0.035	0.035	0.0317	--	--	320	(n)	No	0.0001
alpha-BHC	319-84-6	1/ 39	0.0041	0.0041	0.017	--	--	0.086	(c)	No	0.005
beta-BHC	319-85-7	13/ 39	0.0006	0.14	0.0216	--	--	0.3	(c)	No	0.05
Organics – PCBs											
PCB-1242	53469-21-9	2/ 39	0.038	0.043	0.083	--	--	0.23	(c)	No	0.02
PCB-1254	**11097-69-1**	**3/ 39**	**0.13**	**0.81**	**0.105**	**--**	**--**	**0.24**	**(c)**	**Yes**	**0.3**
PCB-1260	**11096-82-5**	**16/ 39**	**0.011**	**5.4**	**0.473**	**--**	**--**	**0.24**	**(c)**	**Yes**	**2**
PCB-1262	37324-23-5	2/ 39	1.1	3.3	0.182	--	--	--		--	--
Organics – Volatile											
2-Butanone	78-93-3	5/ 39	0.0033	0.011	0.0107	--	--	27000	(n)	No	0.0000004
Acetone	67-64-1	3/ 39	0.026	0.044	0.0137	--	--	61000	(n)	No	0.0000007
Cyclohexane	110-82-7	4/ 39	0.0021	0.0032	0.00541	--	--	6500	(n)	No	0.0000005
Ethylbenzene	100-41-4	6/ 39	0.00041	0.0071	0.00277	--	--	5.8	(c)	No	0.0001
Isopropylbenzene	98-82-8	5/ 39	0.00035	0.0055	0.00275	--	--	1900	(n)	No	0.000003
M + P Xylene	136777-61-2	9/ 39	0.00048	0.057	0.00744	--	--	650	(n)	No	0.00009
Methylcyclohexane	108-87-2	5/ 39	0.0027	0.0071	0.0056	--	--	--		--	--
Methylene chloride	75-09-2	7/ 39	0.00097	0.0028	0.00273	--	--	57	(c)	No	0.000005
Toluene	108-88-3	2/ 39	0.002	0.0048	0.00286	--	--	4900	(n)	No	0.000001
o-Xylene	95-47-6	6/ 39	0.00067	0.025	0.00384	--	--	650	(n)	No	0.00004
Sum-of-Ratios											
Carcinogens											70
Non-carcinogens											2

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Naturally occurring background concentration.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used.
[f]No reference dose or cancer potency factors are available for endosulfan sulfate or endrin aldehyde; therefore, the screening levels for endosulfan and endrin are used.
-- = No value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic, chromium, cobalt, iron, manganese, and thallium, the risk-based screening level is less than the background concentration; therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint.
PCB = Polychlorinated Biphenyl
SL = Screening Level
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-3. Sediment Screening – Disposal Area 2A: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg)		Average Concentration[a] (mg/kg)	Ohio SRV[b] (mg/kg)	MDC exceeds Ohio SRV?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
			Minimum	Maximum							
Metals											
Aluminum	7429-90-5	11/ 11	3200	9300	5680	42000	No	77000	(n)	No	0.1
Antimony	7440-36-0	1/ 11	0.51	0.51	1.16	0.84	No	31	(n)	No	0.02
Arsenic	**7440-38-2**	**11/ 11**	**4.6**	**12**	**6.97**	**11**	Yes	**0.68**	**(c)**	NA	**NA**
Barium	7440-39-3	11/ 11	22	87	52.4	210	No	15000	(n)	No	0.006
Beryllium	7440-41-7	11/ 11	0.23	0.61	0.395	0.8	No	160	(n)	No	0.004
Cadmium	7440-43-9	11/ 11	0.085	0.47	0.227	0.96	No	71	(n)	No	0.007
Calcium	7440-70-2	11/ 11	4100	52000	22500	110000	No	--		--	E
Chromium	7440-47-3	11/ 11	5.5	14	9.45	51	No	0.3	(c)	NA	NA
Cobalt	7440-48-4	11/ 11	2.9	12	8.33	12	No	23	(n)	No	0.5
Iron	7439-89-6	11/ 11	9200	19000	15100	44000	No	55000	(n)	No	0.3
Lead	7439-92-1	11/ 11	7.8	23	12.4	47	No	400		No	NA
Magnesium	7439-95-4	11/ 11	2700	8500	5630	29000	No	--		--	E
Manganese	7439-96-5	11/ 11	190	680	337	1000	No	1800	(n)	No	0.4
Mercury	7439-97-6	10/ 11	0.022	0.081	0.0451	0.12	No	9.4	(n)	No	0.009
Nickel	7440-02-0	11/ 11	8.9	27	21.4	36	No	1500	(n)	No	0.02
Potassium	7440-09-7	10/ 11	550	1700	871	12000	No	--		--	E
Selenium	7782-49-2	5/ 11	0.48	0.87	0.951	1.4	No	390	(n)	No	0.002
Silver	7440-22-4	1/ 11	0.91	0.91	0.631	0.43	Yes	390	(n)	No	0.002
Thallium	7440-28-0	1/ 11	0.29	0.29	1.11	4.7	No	0.78	(n)	No	0.4
Vanadium	7440-62-2	11/ 11	8.7	18	13.8	40	No	390	(n)	No	0.05
Zinc	7440-66-6	11/ 11	40	87	61.3	190	No	23000	(n)	No	0.004
Organics – Semivolatile											
2-Methylnaphthalene	91-57-6	7/ 11	0.005	0.037	0.0123	--	--	240	(n)	No	0.0002
Acenaphthylene[e]	208-96-8	5/ 11	0.0056	0.051	0.00997	--	--	1800	(n)	No	0.00003
Anthracene	120-12-7	4/ 11	0.0052	0.058	0.0103	--	--	18000	(n)	No	0.000003
Benz(a)anthracene	**56-55-3**	**9/ 11**	**0.013**	**0.37**	**0.0521**	--	--	**0.16**	**(c)**	**Yes**	**0.2**
Benzaldehyde	100-52-7	2/ 11	0.015	0.022	0.0593	--	--	7800	(n)	No	0.000003
Benzo(a)pyrene	**50-32-8**	**10/ 11**	**0.013**	**0.42**	**0.0589**	--	--	**0.016**	**(c)**	**Yes**	**3**
Benzo(b)fluoranthene	**205-99-2**	**10/ 11**	**0.0065**	**0.61**	**0.087**	--	--	**0.16**	**(c)**	**Yes**	**0.4**
Benzo(ghi)perylene[e]	191-24-2	11/ 11	0.0085	0.29	0.0411	--	--	1800	(n)	No	0.0002
Benzo(k)fluoranthene	207-08-9	7/ 11	0.007	0.25	0.0348	--	--	1.6	(c)	No	0.02
Bis(2-ethylhexyl)phthalate	117-81-7	3/ 11	0.026	0.028	0.0417	--	--	39	(c)	No	0.00007
Carbazole	86-74-8	1/ 11	0.032	0.032	0.0338	--	--	--		No	NA
Chrysene	218-01-9	10/ 11	0.018	0.44	0.0686	--	--	16	(c)	No	0.003
Di-n-butyl phthalate	84-74-2	1/ 11	0.043	0.043	0.0467	--	--	6300	(n)	No	0.000007
Dibenz(a,h)anthracene	**53-70-3**	**1/ 11**	**0.089**	**0.089**	**0.0122**	--	--	**0.016**	**(c)**	**Yes**	**0.6**
Dibenzofuran	132-64-9	4/ 11	0.0055	0.012	0.0249	--	--	73	(n)	No	0.0002
Fluoranthene	206-44-0	11/ 11	0.0042	0.89	0.125	--	--	2400	(n)	No	0.0004
Fluorene	86-73-7	3/ 11	0.006	0.017	0.00609	--	--	2400	(n)	No	0.000007
Indeno(1,2,3-cd)pyrene	**193-39-5**	**10/ 11**	**0.0082**	**0.29**	**0.04**	--	--	**0.16**	**(c)**	**Yes**	**0.2**
Naphthalene	91-20-3	4/ 11	0.0051	0.023	0.00744	--	--	3.8	(c)	No	0.0006
Phenanthrene[e]	85-01-8	11/ 11	0.013	0.3	0.0547	--	--	1800	(n)	No	0.0002
Pyrene	129-00-0	11/ 11	0.013	0.74	0.108	--	--	1800	(n)	No	0.0004
Organics – Pesticides											
4,4'-DDD	72-54-8	3/ 11	0.0057	0.013	0.0189	--	--	2.3	(c)	No	0.0006
4,4'-DDE	72-55-9	4/ 11	0.0076	0.034	0.0233	--	--	2	(c)	No	0.002
beta-BHC	319-85-7	2/ 11	0.0021	0.0053	0.0207	--	--	0.3	(c)	No	0.002
Organics – PCBs											
PCB-1254	11097-69-1	1/ 11	0.024	0.024	0.0276	--	--	0.24	(c)	No	0.01

Table 5-3. Sediment Screening – Disposal Area 2A: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg)		Average Concentration[a] (mg/kg)	Ohio SRV[b] (mg/kg)	MDC exceeds Ohio SRV?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
			Minimum	Maximum							
Organics – Volatile											
2-Butanone	78-93-3	2/ 11	0.0027	0.014	0.0117	--	--	27000	(n)	No	0.0000005
Acetone	67-64-1	1/ 11	0.0077	0.0077	0.0149	--	--	61000	(n)	No	0.0000001
Carbon disulfide	75-15-0	1/ 11	0.00072	0.00072	0.00292	--	--	770	(n)	No	0.0000009
Sum-of-Ratios											
Carcinogens											4
Non-carcinogens											1.9

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Ohio Sediment Reference Values (SRV) represent naturally occurring background levels of metals in unimpacted sediments.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used (NDEP 2006).
[f]No reference dose or cancer potency factors are available for endosulfan sulfate, endosulfan I, or endrin aldehyde; therefore, the screening levels for endosulfan and endrin are used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic and chromium, because the risk-based screening level is less than the Ohio SRV (background) concentration, the non-risk-based SRV is used as the point of comparison. Calcium and Magnesium are essential nutrients.
PCB = Polychlorinated Biphenyl
SL = Screening Level
SRV = Sediment Reference Value
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-4. Surface Water Screening – Disposal Area 2A: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg)		Average Concentration[a] (mg/kg)	Ohio Water Quality Criteria[b] (µg/L)		USEPA Tap Water RSL[c] (HQ=1, Risk=1E-06) (µg/L)		MCL (µg/L)
			Minimum	Maximum		Nondrinking	Drinking			
Metals										
Aluminum	7429-90-5	8/ 8	130	2900	949	4500	970	20000	(n)	--
Antimony	7440-36-0	8/ 8	0.22	0.45	0.306	780	9.7	7.8	(n)	6
Arsenic	7440-38-2	8/ 8	1.7	2.8	2.23	580	10	0.052	(c)	10
Barium	7440-39-3	8/ 8	39	61	49.4	160000	2000	3800	(n)	2000
Beryllium	7440-41-7	8/ 8	0.1	0.25	0.154	130	17	25	(n)	4
Cadmium	7440-43-9	4/ 8	0.071	0.31	0.334	730	14	9.2	(n)	5
Calcium	7440-70-2	8/ 8	64000	100000	77300	--	--	--		--
Cobalt	7440-48-4	8/ 8	0.45	2.2	0.893	--	--	6	(n)	--
Iron	7439-89-6	8/ 8	590	3000	1120	--	300	14000	(n)	--
Lead	7439-92-1	1/ 8	2.3	2.3	0.725	--	--	15		15
Magnesium	7439-95-4	7/ 8	18000	24000	19500	--	--	--		--
Manganese	7439-96-5	8/ 8	37	250	115	61000	50	430	(n)	--
Nickel	7440-02-0	8/ 8	1.4	8.8	4.33	43000	470	390	(n)	--
Potassium	7440-09-7	8/ 8	3400	6300	4960	--	--	--		--
Selenium	7782-49-2	8/ 8	0.34	0.69	0.474	3100	130	100	(n)	50
Sodium	7440-23-5	8/ 8	4700	67000	39500	--	--	--		--
Thallium	7440-28-0	4/ 8	0.085	0.16	0.566	--	--	0.2	(n)	2
Vanadium	7440-62-2	1/ 8	6.1	6.1	2.95	--	--	86	(n)	--
Zinc	7440-66-6	2/ 8	11	16	10.9	35000	5000	6000	(n)	--
Organics – Semivolatile										
Caprolactam	105-60-2	1/ 7	0.34	0.34	2.23	--	--	9900	(n)	--
Organics – Pesticides										
beta-BHC	319-85-7	2/ 8	0.024	0.046	0.0269	0.014	0.013	0.025	(c)	--
Organics – Herbicides										
Dalapon	75-99-0	1/ 8	1.6	1.6	1.08	--	--	600	(n)	200
Organics – Volatile										
Acetone	67-64-1	3/ 8	1	1.3	3.55	--	--	14000	(n)	--

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Ohio Surface Water Quality Criteria for Lake Erie drainage basin from http://www.epa.state.oh.us/portals/35/rules/01-33.pdf.
[c]USEPA tap water regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
-- = No Value Available
µg/L = Micrograms per Liter
CAS = Chemical Abstract Service
HQ = Hazard Quotient
MCL = Federal Maximum Contaminant Level for drinking water
mg/kg = Milligrams per Kilogram
RSL = Regional Screening Level
USEPA = U.S. Environmental Protection Agency

Table 5-5. Surface Soil Screening – Fox Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals											
Aluminum	7429-90-5	30/ 30	1300	7800	4240	15500	No	77000	(n)	No	0.1
Antimony	7440-36-0	3/ 30	0.54	1.1	1	9.3	No	31	(n)	No	0.04
Arsenic	7440-38-2	30/ 30	0.93	24	5.75	36.5	No	0.68	(c)	NA	NA
Barium	7440-39-3	20/ 30	18	160	24.4	826	No	15000	(n)	No	0.01
Beryllium	7440-41-7	28/ 30	0.098	0.53	0.246	1	No	160	(n)	No	0.003
Cadmium	7440-43-9	20/ 30	0.035	0.88	0.204	--	--	71	(n)	No	0.01
Calcium	7440-70-2	25/ 30	550	150000	10400	52300	Yes	--		--	E
Chromium	7440-47-3	30/ 30	3.1	9.2	6.16	29	No	0.3	(c)	NA	NA
Cobalt	7440-48-4	30/ 30	0.19	20	2.97	116	No	23	(n)	NA	NA
Iron	7439-89-6	30/ 30	1600	44000	11900	234000	No	55000	(n)	NA	NA
Lead	7439-92-1	30/ 30	3.6	44	13.2	48.6	No	400		No	NA
Magnesium	7439-95-4	25/ 30	490	86000	4640	10400	Yes	--		--	E
Manganese	7439-96-5	30/ 30	24	2700	175	3510	No	1800	(n)	NA	NA
Mercury	7439-97-6	21/ 30	0.023	0.33	0.0613	0.085	Yes	9.4	(n)	No	0.04
Nickel	7440-02-0	27/ 30	2	44	9.28	55.1	No	1500	(n)	No	0.03
Potassium	7440-09-7	5/ 30	550	1400	344	3390	No	--		--	E
Selenium	7782-49-2	15/ 30	0.31	1.4	0.857	2	No	390	(n)	No	0.004
Thallium	**7440-28-0**	**13/ 30**	**0.12**	**2.1**	**0.81**	**1.3**	**Yes**	**0.78**	**(n)**	**NA**	**NA**
Vanadium	7440-62-2	30/ 30	2.6	21	12.4	40.9	No	390	(n)	No	0.05
Zinc	7440-66-6	30/ 30	12	130	32.7	322	No	23000	(n)	No	0.006
Organics – Semivolatile											
1,1'-Biphenyl	92-52-4	12/ 30	0.0048	0.026	0.0758	--	--	47	(n)	No	0.0006
2,4-Dinitrotoluene	121-14-2	3/ 30	0.033	0.097	0.336	--	--	1.7	(c)	No	NA
2,6-Dinitrotoluene	606-20-2	1/ 30	0.041	0.041	0.34	--	--	0.36	(c)	No	NA
2-Methylnaphthalene	91-57-6	24/ 30	0.0047	0.9	0.145	--	--	240	(n)	No	0.004
Acenaphthene	83-32-9	1/ 30	0.0079	0.0079	0.0116	--	--	3600	(n)	No	0.000002
Acenaphthylene[e]	208-96-8	14/ 30	0.0039	0.076	0.0166	--	--	1800	(n)	No	0.00004
Anthracene	120-12-7	9/ 30	0.0048	0.036	0.0153	--	--	18000	(n)	No	0.000002
Benz(a)anthracene	**56-55-3**	**23/ 30**	**0.0041**	**0.36**	**0.0415**	**--**	**--**	**0.16**	**(c)**	**Yes**	**0.2**
Benzaldehyde	100-52-7	15/ 30	0.017	0.12	0.169	--	--	7800	(n)	No	0.00002
Benzo(a)pyrene	**50-32-8**	**22/ 30**	**0.0067**	**0.35**	**0.0449**	**--**	**--**	**0.016**	**(c)**	**Yes**	**2**
Benzo(b)fluoranthene	**205-99-2**	**24/ 30**	**0.005**	**0.59**	**0.0739**	**--**	**--**	**0.16**	**(c)**	**Yes**	**0.4**
Benzo(ghi)perylene[e]	191-24-2	20/ 30	0.0064	0.18	0.0335	--	--	1800	(n)	No	0.0001
Benzo(k)fluoranthene	207-08-9	19/ 30	0.0047	0.29	0.0339	--	--	1.6	(c)	No	0.02
Bis(2-ethylhexyl)phthalate	117-81-7	4/ 30	0.028	0.078	0.12	--	--	39	(c)	No	0.0002
Caprolactam	105-60-2	2/ 30	0.064	0.074	0.551	--	--	31000	(n)	No	0.000002
Chrysene	218-01-9	24/ 30	0.0052	0.42	0.0609	--	--	16	(c)	No	0.003
Di-n-butyl phthalate	84-74-2	4/ 30	0.018	0.029	0.117	--	--	6300	(n)	No	0.000005
Dibenz(a,h)anthracene	**53-70-3**	**7/ 30**	**0.0077**	**0.041**	**0.0151**	**--**	**--**	**0.016**	**(c)**	**Yes**	**0.3**
Dibenzofuran	132-64-9	10/ 30	0.0076	0.036	0.0808	--	--	73	(n)	No	0.0005
Fluoranthene	206-44-0	25/ 30	0.0074	0.92	0.0786	--	--	2400	(n)	No	0.0004
Fluorene	86-73-7	2/ 30	0.007	0.0097	0.0118	--	--	2400	(n)	No	0.000004
Indeno(1,2,3-cd)pyrene	193-39-5	19/ 30	0.0058	0.15	0.0298	--	--	0.16	(c)	No	0.09
Isophorone	78-59-1	1/ 30	0.043	0.043	0.0865	--	--	570	(c)	No	0.000008
Naphthalene	91-20-3	23/ 30	0.0039	0.34	0.0574	--	--	3.8	(c)	No	0.009
Phenanthrene[e]	85-01-8	26/ 30	0.005	0.3	0.0731	--	--	1800	(n)	No	0.0002
Phenol	108-95-2	3/ 30	0.012	0.035	0.085	--	--	19000	(n)	No	0.000002
Pyrene	129-00-0	25/ 30	0.0056	0.8	0.0747	--	--	1800	(n)	No	0.0004

Table 5-5. Surface Soil Screening – Fox Road Burning Ground: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Organics – Pesticides											
4,4'-DDE	72-55-9	2/ 30	0.00042	0.011	0.0208	--	--	2	(c)	No	0.0006
4,4'-DDT	50-29-3	1/ 29	0.0011	0.0011	0.0213	--	--	1.9	(c)	No	0.00006
Endosulfan sulfate[f]	1031-07-8	2/ 30	0.0068	0.018	0.0207	--	--	470	(n)	No	0.00004
Methoxychlor	72-43-5	1/ 30	0.0045	0.0045	0.0401	--	--	320	(n)	No	0.00001
alpha-BHC	319-84-6	1/ 30	0.0011	0.0011	0.0208	--	--	0.086	(c)	No	0.001
beta-BHC	319-85-7	9/ 30	0.00082	0.05	0.0178	--	--	0.3	(c)	No	0.02
Dalapon	75-99-0	3/ 30	0.074	0.14	0.0727	--	--	1900	(n)	No	0.00007
Organics – PCBs											
PCB-1254	**11097-69-1**	**1/ 30**	**0.52**	**0.52**	**0.0361**	**--**	**--**	**0.24**	**(c)**	**Yes**	**0.2**
PCB-1260	**11096-82-5**	**4/ 30**	**0.013**	**0.31**	**0.032**	**--**	**--**	**0.24**	**(c)**	**Yes**	**0.1**
PCB-1262	37324-23-5	1/ 30	0.026	0.026	0.022	--	--	--		--	--
Organics – Explosives											
2,4,6-Trinitrotoluene	118-96-7	5/ 30	0.1	0.82	0.163	--	--	21	(c)	No	0.004
2,4-Dinitrotoluene	121-14-2	3/ 30	0.041	0.075	0.115	--	--	1.7	(c)	No	0.004
2,6-Dinitrotoluene	606-20-2	1/ 30	0.044	0.044	0.119	--	--	0.36	(c)	No	0.01
2-Amino-4,6-Dinitrotoluene	35572-78-2	5/ 30	0.11	1.1	0.168	--	--	150	(n)	No	0.007
3,5-Dinitroaniline	618-87-1	3/ 30	0.034	0.057	0.225	--	--	--		--	--
4-Amino-2,6-Dinitrotoluene	19406-51-0	5/ 30	0.091	0.82	0.15	--	--	150	(n)	No	0.005
Organics – Volatile											
2-Butanone	78-93-3	3/ 30	0.0016	0.012	0.0109	--	--	27000	(n)	No	0.0000004
Benzene	71-43-2	1/ 30	0.0067	0.0067	0.00296	--	--	1.2	(c)	No	0.0006
Carbon disulfide	75-15-0	1/ 30	0.0017	0.0017	0.00279	--	--	770	(n)	No	0.000002
Cyclohexane	110-82-7	5/ 30	0.00064	0.0095	0.00519	--	--	6500	(n)	No	0.000001
Ethylbenzene	100-41-4	3/ 30	0.00092	0.0029	0.00271	--	--	5.8	(c)	No	0.00005
M + P Xylene	136777-61-2	9/ 30	0.00045	0.0091	0.00464	--	--	650	(n)	No	0.00001
Methylcyclohexane	108-87-2	5/ 30	0.0011	0.012	0.00537	--	--	--		--	--
Methylene chloride	75-09-2	6/ 30	0.0015	0.0031	0.00269	--	--	57	(c)	No	0.000005
Toluene	108-88-3	6/ 30	0.00038	0.021	0.0032	--	--	4900	(n)	No	0.000004
o-Xylene	95-47-6	4/ 30	0.00068	0.0044	0.00273	--	--	650	(n)	No	0.000007
Sum-of-Ratios											
Carcinogens											4
Non-carcinogens											0.3

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Naturally occurring background concentration.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used.
[f]No reference dose or cancer potency factors are available for endosulfan sulfate; therefore, the screening level for endosulfan is used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic, chromium, cobalt, iron, manganese, and thallium, the risk-based screening level is less than the background concentration; therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint. 2,4-dinitrotoluene and 2,6-dinitrotoluene were reported in the analysis for both semi-volatile organic chemicals and explosives. Only the results for explosives are included in the SOR.
PCB = Polychlorinated Biphenyl
SL = Screening Level
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-6. Subsurface Soil Screening – Fox Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals											
Aluminum	7429-90-5	33/ 33	1600	6400	3420	15500	No	77000	(n)	No	0.08
Antimony	7440-36-0	3/ 33	0.56	0.71	0.99	9.3	No	31	(n)	No	0.02
Arsenic	7440-38-2	33/ 33	1.2	15	3.92	36.5	No	0.68	(c)	NA	NA
Barium	7440-39-3	5/ 33	20	89	16.2	826	No	15000	(n)	No	0.006
Beryllium	7440-41-7	27/ 33	0.1	0.61	0.245	1	No	160	(n)	No	0.004
Cadmium	7440-43-9	30/ 33	0.025	0.48	0.134	--	--	71	(n)	No	0.007
Calcium	7440-70-2	32/ 33	670	77000	17400	52300	Yes	--		--	E
Chromium	7440-47-3	33/ 33	3.9	22	6.69	29	No	0.3	(c)	NA	NA
Cobalt	7440-48-4	33/ 33	1.6	12	4.12	116	No	23	(n)	NA	NA
Iron	7439-89-6	33/ 33	3900	30000	9770	234000	No	55000	(n)	NA	NA
Lead	7439-92-1	33/ 33	2.2	240	12	48.6	Yes	400		No	NA
Magnesium	7439-95-4	31/ 33	580	36000	5860	10400	Yes	--		--	E
Manganese	7439-96-5	32/ 33	47	1100	234	3510	No	1800	(n)	NA	NA
Mercury	7439-97-6	10/ 33	0.017	0.43	0.0642	0.085	Yes	9.4	(n)	No	0.05
Nickel	7440-02-0	31/ 33	4.4	34	11.6	55.1	No	1500	(n)	No	0.02
Potassium	7440-09-7	4/ 33	540	1500	328	3390	No	--		--	E
Selenium	7782-49-2	8/ 33	0.3	1.2	0.91	2	No	390	(n)	No	0.003
Silver	7440-22-4	2/ 33	0.094	0.59	0.5	11.1	No	390	(n)	No	0.002
Thallium	7440-28-0	6/ 33	0.36	0.79	0.952	1.3	No	0.78	(n)	NA	NA
Vanadium	7440-62-2	33/ 33	7.3	24	13.2	40.9	No	390	(n)	No	0.06
Zinc	7440-66-6	33/ 33	12	310	37.6	322	No	23000	(n)	No	0.01
Organics – Semivolatile											
1,1'-Biphenyl	92-52-4	6/ 33	0.0051	0.024	0.0266	--	--	47	(n)	No	0.0005
2,4-Dinitrotoluene	121-14-2	1/ 33	1	1	0.155	--	--	1.7	(c)	No	NA
2,6-Dinitrotoluene	**606-20-2**	**1/ 33**	**0.37**	**0.37**	**0.136**	**--**	**--**	**0.36**	**(c)**	**Yes**	NA
2-Methylnaphthalene	91-57-6	15/ 33	0.006	0.84	0.0763	--	--	240	(n)	No	0.004
Acenaphthylene[e]	208-96-8	3/ 33	0.0063	0.04	0.00525	--	--	1800	(n)	No	0.00002
Anthracene	120-12-7	4/ 33	0.0063	0.027	0.0055	--	--	18000	(n)	No	0.000002
Benz(a)anthracene	56-55-3	4/ 33	0.0054	0.11	0.0107	--	--	0.16	(c)	No	0.07
Benzo(a)pyrene	**50-32-8**	**4/ 33**	**0.0043**	**0.09**	**0.00949**	**--**	**--**	**0.016**	**(c)**	**Yes**	**0.6**
Benzo(b)fluoranthene	**205-99-2**	**5/ 33**	**0.0045**	**0.24**	**0.0168**	**--**	**--**	**0.16**	**(c)**	**Yes**	**0.2**
Benzo(ghi)perylene[e]	191-24-2	6/ 33	0.0042	0.13	0.0102	--	--	1800	(n)	No	0.00007
Benzo(k)fluoranthene	207-08-9	3/ 33	0.019	0.072	0.00842	--	--	1.6	(c)	No	0.005
Bis(2-ethylhexyl)phthalate	117-81-7	3/ 33	0.034	0.05	0.0463	--	--	39	(c)	No	0.0001
Chrysene	218-01-9	9/ 33	0.0053	0.16	0.0164	--	--	16	(c)	No	0.001
Di-n-butyl phthalate	84-74-2	4/ 33	0.017	0.03	0.0422	--	--	6300	(n)	No	0.000005
Dibenz(a,h)anthracene	**53-70-3**	**1/ 33**	**0.035**	**0.035**	**0.00524**	**--**	**--**	**0.016**	**(c)**	**Yes**	**0.2**
Dibenzofuran	132-64-9	4/ 33	0.0087	0.026	0.0307	--	--	73	(n)	No	0.0004
Fluoranthene	206-44-0	4/ 33	0.0097	0.18	0.0175	--	--	2400	(n)	No	0.00008
Fluorene	86-73-7	2/ 33	0.0043	0.0092	0.00447	--	--	2400	(n)	No	0.000004
Indeno(1,2,3-cd)pyrene	193-39-5	3/ 33	0.022	0.093	0.00839	--	--	0.16	(c)	No	0.06
Naphthalene	91-20-3	12/ 33	0.012	0.31	0.0318	--	--	3.8	(c)	No	0.008
Phenanthrene[e]	85-01-8	13/ 33	0.0087	0.19	0.024	--	--	1800	(n)	No	0.0001
Phenol	108-95-2	1/ 33	0.013	0.013	0.0316	--	--	19000	(n)	No	0.0000007
Pyrene	129-00-0	10/ 33	0.0046	0.18	0.0161	--	--	1800	(n)	No	0.0001
Organics – Pesticides											
4,4'-DDD	72-54-8	1/ 33	0.0013	0.0013	0.00446	--	--	2.3	(c)	No	0.00006
4,4'-DDT	50-29-3	2/ 33	0.0069	0.016	0.00454	--	--	1.9	(c)	No	0.0008
Endosulfan sulfate[f]	1031-07-8	1/ 33	0.019	0.019	0.00457	--	--	470	(n)	No	0.00004
alpha-BHC	319-84-6	1/ 33	0.0018	0.0018	0.00459	--	--	0.086	(c)	No	0.002
beta-BHC	319-85-7	10/ 33	0.00052	0.032	0.00458	--	--	0.3	(c)	No	0.01

Table 5-6. Subsurface Soil Screening – Fox Road Burning Ground: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Organics – PCBs											
PCB-1260	**11096-82-5**	**1/ 33**	**0.33**	**0.33**	**0.029**	**--**	**--**	**0.24**	**(c)**	**Yes**	**0.1**
Organics – Explosives											
1,3,5-Trinitrobenzene	99-35-4	1/ 33	0.12	0.12	0.123	--	--	2200	(n)	No	0.00005
2,4,6-Trinitrotoluene	118-96-7	3/ 33	0.11	0.96	0.149	--	--	21	(c)	No	0.005
2,4-Dinitrotoluene	121-14-2	1/ 33	0.62	0.62	0.138	--	--	1.7	(c)	No	0.04
2,6-Dinitrotoluene	**606-20-2**	**1/ 33**	**0.37**	**0.37**	**0.13**	**--**	**--**	**0.36**	**(c)**	**Yes**	**0.1**
2-Amino-4,6-Dinitrotoluene	35572-78-2	3/ 33	0.12	0.98	0.153	--	--	150	(n)	No	0.007
3,5-Dinitroaniline	618-87-1	1/ 33	0.33	0.33	0.247	--	--	--		--	--
4-Amino-2,6-Dinitrotoluene	19406-51-0	3/ 33	0.071	0.81	0.144	--	--	150	(n)	No	0.005
PETN	78-11-5	1/ 33	1.6	1.6	0.285	--	--	130	(n)	No	0.01
Organics – Volatile											
2-Butanone	78-93-3	4/ 33	0.0015	0.0084	0.0103	--	--	27000	(n)	No	0.0000003
Cyclohexane	110-82-7	1/ 33	0.0084	0.0084	0.00577	--	--	6500	(n)	No	0.000001
Ethylbenzene	100-41-4	1/ 33	0.0024	0.0024	0.00283	--	--	5.8	(c)	No	0.00004
Isopropylbenzene	98-82-8	1/ 33	0.0003	0.0003	0.00277	--	--	1900	(n)	No	0.0000002
M + P Xylene	136777-61-2	1/ 33	0.0094	0.0094	0.0058	--	--	650	(n)	No	0.00001
Methylcyclohexane	108-87-2	2/ 33	0.00083	0.014	0.0058	--	--	--		--	--
Methylene chloride	75-09-2	6/ 33	0.00098	0.0051	0.00278	--	--	57	(c)	No	0.000009
Toluene	108-88-3	2/ 33	0.00032	0.012	0.00305	--	--	4900	(n)	No	0.000002
o-Xylene	95-47-6	1/ 33	0.0043	0.0043	0.00289	--	--	650	(n)	No	0.000007
Sum-of-Ratios											
Carcinogens											1
Non-carcinogens											0.3

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Naturally occurring background concentration.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used.
[f]No reference dose or cancer potency factors are available for endosulfan sulfate; therefore, the screening level for endosulfan is used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic, chromium, cobalt, iron, manganese, and thallium, the risk-based screening level is less than the background concentration; therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint. 2,4-dinitrotoluene and 2,6-dinitrotoluene were reported in the analysis for both semi-volatile organic chemicals and explosives. Only the results for explosives are included in the SOR.
PCB = Polychlorinated Biphenyl
SL = Screening Level
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-7. Sediment Screening – Fox Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Ohio SRV[b] (mg/kg)	MDC exceeds Ohio SRV?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)		MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals											
Aluminum	7429-90-5	4/ 4	1600	1900	1750	42000	No	77000	(n)	No	0.02
Antimony	7440-36-0	4/ 4	0.65	0.97	0.773	0.84	Yes	31	(n)	No	0.03
Arsenic	7440-38-2	4/ 4	0.86	2.9	1.39	11	No	0.68	(c)	NA	NA
Beryllium	7440-41-7	4/ 4	0.097	0.15	0.119	0.8	No	160	(n)	No	0.0009
Cadmium	7440-43-9	4/ 4	0.11	0.2	0.165	0.96	No	71	(n)	No	0.003
Calcium	7440-70-2	4/ 4	15000	33000	28000	110000	No	--		--	E
Chromium	7440-47-3	4/ 4	4.7	6.3	5.35	51	No	0.3	(c)	NA	NA
Cobalt	7440-48-4	4/ 4	1.5	3.1	2	12	No	23	(n)	No	0.1
Iron	7439-89-6	4/ 4	4600	5800	5280	44000	No	55000	(n)	No	0.1
Lead	7439-92-1	4/ 4	2.7	4.5	3.35	47	No	400		No	NA
Magnesium	7439-95-4	4/ 4	5300	8100	7100	29000	No	--		--	E
Manganese	7439-96-5	4/ 4	73	110	98	1000	No	1800	(n)	No	0.06
Nickel	7440-02-0	4/ 4	4.8	12	6.9	36	No	1500	(n)	No	0.008
Vanadium	7440-62-2	4/ 4	8	10	9.5	40	No	390	(n)	No	0.03
Zinc	7440-66-6	4/ 4	21	51	30.8	190	No	23000	(n)	No	0.002
Organics – Semivolatile											
2-Methylnaphthalene	91-57-6	1/ 4	0.059	0.059	0.0183	--	--	240	(n)	No	0.0002
Benz(a)anthracene	56-55-3	1/ 4	0.0066	0.0066	0.0052	--	--	0.16	(c)	No	0.004
Benzaldehyde	100-52-7	2/ 4	0.018	0.044	0.0505	--	--	7800	(n)	No	0.000006
Bis(2-ethylhexyl)phthalate	117-81-7	4/ 4	0.054	0.071	0.063	--	--	39	(c)	No	0.0002
Caprolactam	105-60-2	2/ 4	0.052	0.076	0.148	--	--	31000	(n)	No	0.000002
Chrysene	218-01-9	2/ 4	0.0093	0.012	0.00769	--	--	16	(c)	No	0.00008
Di-n-butyl phthalate	84-74-2	4/ 4	0.022	0.04	0.0305	--	--	6300	(n)	No	0.000006
Dibenzofuran	132-64-9	1/ 4	0.0096	0.0096	0.0287	--	--	73	(n)	No	0.0001
Fluoranthene	206-44-0	1/ 4	0.0062	0.0062	0.0051	--	--	2400	(n)	No	0.000003
N-Nitroso-di-n-propylamine	621-64-7	1/ 4	0.021	0.021	0.0316	--	--	0.078	(c)	No	0.03
Naphthalene	91-20-3	1/ 4	0.016	0.016	0.00751	--	--	3.8	(c)	No	0.0004
Phenanthrene[e]	85-01-8	2/ 4	0.0059	0.031	0.0116	--	--	1800	(n)	No	0.00002
Phenol	108-95-2	2/ 4	0.013	0.026	0.0271	--	--	19000	(n)	No	0.000001
Pyrene	129-00-0	2/ 4	0.0086	0.011	0.00726	--	--	1800	(n)	No	0.000006
Organics – Volatile											
Toluene	108-88-3	1/ 4	0.0026	0.0026	0.00323	--	--	4900	(n)	No	0.0000005
Sum-of-Ratios											
Carcinogens											0.4
Non-carcinogens											0.03

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Ohio Sediment Reference Values (SRV) represent naturally occurring background levels of metals in unimpacted sediments.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used (NDEP 2006).
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic and chromium the risk-based screening level is less than the Ohio SRV (background) concentration, therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint.
PCB = Polychlorinated Biphenyl
SL = Screening Level
SRV = Sediment Reference Value

Table 5-8. Surface Soil Screening – Snake Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Background?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals										
Aluminum	7429-90-5	12/ 12	4400	8100	6020	15500	No	77000 (n)	No	0.1
Antimony	7440-36-0	6/ 12	0.56	2.2	1.21	9.3	No	31 (n)	No	0.07
Arsenic	7440-38-2	12/ 12	4.2	21	9.26	36.5	No	0.68 (c)	NA	NA
Barium	7440-39-3	11/ 12	24	270	77.3	826	No	15000 (n)	No	0.02
Beryllium	7440-41-7	12/ 12	0.27	0.55	0.405	1	No	160 (n)	No	0.003
Cadmium	7440-43-9	10/ 12	0.043	2.4	0.629	--	--	71 (n)	No	0.03
Calcium	7440-70-2	12/ 12	760	25000	7140	52300	No	--	--	E
Chromium	**7440-47-3**	**12/ 12**	**5.9**	**52**	**14**	**29**	**Yes**	**0.3 (c)**	**NA**	**NA**
Cobalt	7440-48-4	12/ 12	2.4	4.9	3.68	116	No	23 (n)	NA	NA
Iron	7439-89-6	12/ 12	8800	30000	15200	234000	No	55000 (n)	NA	NA
Lead	**7439-92-1**	**12/ 12**	**8.2**	**410**	**130**	**48.6**	**Yes**	**400**	**Yes**	**NA**
Magnesium	7439-95-4	11/ 12	660	3400	1450	10400	No	--	--	E
Manganese	7439-96-5	12/ 12	53	310	157	3510	No	1800 (n)	NA	NA
Mercury	7439-97-6	12/ 12	0.023	0.54	0.154	0.085	Yes	9.4 (n)	No	0.06
Nickel	7440-02-0	12/ 12	8.9	25	13.6	55.1	No	1500 (n)	No	0.02
Potassium	7440-09-7	10/ 12	510	1100	650	3390	No	--	--	E
Selenium	7782-49-2	6/ 12	0.37	0.86	0.789	2	No	390 (n)	No	0.002
Silver	**7440-22-4**	**7/ 12**	**0.83**	**1000**	**84.8**	**11.1**	**Yes**	**390 (n)**	**Yes**	**3**
Thallium	7440-28-0	7/ 12	0.15	0.59	0.591	1.3	No	0.78 (n)	NA	NA
Vanadium	7440-62-2	12/ 12	11	22	14.6	40.9	No	390 (n)	No	0.06
Zinc	7440-66-6	12/ 12	19	1000	216	322	Yes	23000 (n)	No	0.04
Organics – Semivolatile										
1,1'-Biphenyl	92-52-4	4/ 12	0.0088	0.023	0.0248	--	--	47 (n)	No	0.0005
2,4-Dinitrotoluene	121-14-2	5/ 12	0.042	0.99	0.234	--	--	1.7 (c)	No	NA
2,6-Dinitrotoluene	606-20-2	3/ 12	0.077	0.31	0.163	--	--	0.36 (c)	No	NA
2-Methylnaphthalene	91-57-6	10/ 12	0.0051	0.059	0.0179	--	--	240 (n)	No	0.0002
Acenaphthene	83-32-9	2/ 12	0.0087	0.034	0.00794	--	--	3600 (n)	No	0.000009
Acenaphthylene[e]	208-96-8	6/ 12	0.0053	0.066	0.018	--	--	1800 (n)	No	0.00004
Acetophenone	98-86-2	2/ 12	0.012	0.018	0.0683	--	--	7800 (n)	No	0.000002
Anthracene	120-12-7	7/ 12	0.0071	0.28	0.043	--	--	18000 (n)	No	0.00002
Benz(a)anthracene	**56-55-3**	**10/ 12**	**0.0044**	**0.45**	**0.0974**	**--**	**--**	**0.16 (c)**	**Yes**	**0.3**
Benzaldehyde	100-52-7	5/ 12	0.014	0.031	0.058	--	--	7800 (n)	No	0.000004
Benzo(a)pyrene	**50-32-8**	**9/ 12**	**0.014**	**1**	**0.157**	**--**	**--**	**0.016 (c)**	**Yes**	**6**
Benzo(b)fluoranthene	**205-99-2**	**10/ 12**	**0.007**	**1.7**	**0.276**	**--**	**--**	**0.16 (c)**	**Yes**	**1**
Benzo(ghi)perylene[e]	191-24-2	9/ 12	0.0092	1	0.135	--	--	1800 (n)	No	0.0006
Benzo(k)fluoranthene	207-08-9	8/ 12	0.008	0.41	0.0904	--	--	1.6 (c)	No	0.03
Bis(2-ethylhexyl)phthalate	117-81-7	2/ 12	0.03	0.31	0.0746	--	--	39 (c)	No	0.0008
Caprolactam	105-60-2	1/ 12	0.048	0.048	0.239	--	--	31000 (n)	No	0.000002
Carbazole	86-74-8	2/ 12	0.056	0.074	0.0436	--	--	--	--	--
Chrysene	218-01-9	10/ 12	0.0064	1.1	0.175	--	--	16 (c)	No	0.007
Dibenz(a,h)anthracene	**53-70-3**	**6/ 12**	**0.0047**	**0.37**	**0.0465**	**--**	**--**	**0.016 (c)**	**Yes**	**2**
Dibenzofuran	132-64-9	4/ 12	0.01	0.045	0.036	--	--	73 (n)	No	0.0006
Di-n-butyl phthalate	84-74-2	1/ 12	0.097	0.097	0.0577	--	--	6300 (n)	No	0.00002
Fluoranthene	206-44-0	11/ 12	0.0047	0.71	0.164	--	--	2400 (n)	No	0.0003
Fluorene	86-73-7	4/ 12	0.0044	0.03	0.00826	--	--	2400 (n)	No	0.00001
Indeno(1,2,3-cd)pyrene	**193-39-5**	**9/ 12**	**0.0078**	**0.94**	**0.122**	**--**	**--**	**0.16 (c)**	**Yes**	**0.6**
Naphthalene	91-20-3	9/ 12	0.0043	0.074	0.0194	--	--	3.8 (c)	No	0.002
Phenanthrene[e]	85-01-8	10/ 12	0.0054	0.33	0.0831	--	--	1800 (n)	No	0.0002
Pyrene	129-00-0	10/ 12	0.0064	0.52	0.157	--	--	1800 (n)	No	0.0003

Table 5-8. Surface Soil Screening – Snake Road Burning Ground: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Background?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Organics – Pesticides										
4,4'-DDE	72-55-9	3/ 12	0.002	0.033	0.0149	--	--	2 (c)	No	0.002
4,4'-DDT	50-29-3	1/ 12	0.017	0.017	0.0156	--	--	1.9 (c)	No	0.0009
alpha-BHC	319-84-6	2/ 12	0.0011	0.0018	0.0152	--	--	0.086 (c)	No	0.002
beta-BHC	319-85-7	2/ 12	0.00096	0.0015	0.0151	--	--	0.3 (c)	No	0.0005
Endosulfan sulfate[f]	1031-07-8	3/ 12	0.00053	0.017	0.0141	--	--	470 (n)	No	0.00004
Organics – PCBs										
PCB-1248	**12672-29-6**	**1/ 12**	**3**	**3**	**0.294**	**--**	**--**	**0.23 (c)**	**Yes**	**1**
PCB-1254	**11097-69-1**	**2/ 12**	**0.17**	**1.4**	**0.184**	**--**	**--**	**0.24 (c)**	**Yes**	**0.6**
PCB-1260	**11096-82-5**	**4/ 12**	**0.11**	**1.2**	**0.279**	**--**	**--**	**0.24 (c)**	**Yes**	**0.5**
PCB-1268	11100-14-4	1/ 12	0.13	0.13	0.072	--	--	--	No	--
Organics – Explosives										
1,3,5-Trinitrobenzene	99-35-4	1/ 12	0.052	0.052	0.117	--	--	2200 (n)	No	0.00002
2,4,6-Trinitrotoluene	118-96-7	4/ 12	0.12	16	1.48	--	--	21 (c)	No	0.08
2,4-Dinitrotoluene	121-14-2	3/ 12	0.24	1.4	0.25	--	--	1.7 (c)	No	0.08
2,6-Dinitrotoluene	**606-20-2**	**3/ 12**	**0.1**	**0.62**	**0.164**	**--**	**--**	**0.36 (c)**	**Yes**	**0.2**
2-Amino-4,6-Dinitrotoluene	35572-78-2	1/ 12	0.68	0.68	0.17	--	--	150 (n)	No	0.005
3,5-Dinitroaniline	618-87-1	2/ 12	0.082	0.15	0.223	--	--	--	No	--
4-Amino-2,6-Dinitrotoluene	19406-51-0	2/ 12	0.24	0.51	0.165	--	--	150 (n)	No	0.003
Organics – Volatile										
1,4-Dichlorobenzene	106-46-7	1/ 12	0.00034	0.00034	0.00261	--	--	2.6 (c)	No	0.00001
Toluene	108-88-3	1/ 12	0.00068	0.00068	0.00262	--	--	4900 (n)	No	0.0000001
Sum-of-Ratios										
Carcinogens										13
Non-carcinogens										3

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Naturally occurring background concentration.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used.
[f]No reference dose or cancer potency factors are available for endosulfan sulfate; therefore, the screening level for endosulfan is used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic, chromium, cobalt, iron, manganese, and thallium, the risk-based screening level is less than the background concentration; therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint. 2,4-dinitrotoluene and 2,6-dinitrotoluene were reported in the analysis for both semi-volatile organic chemicals and explosives. Only the results for explosives are included in the SOR.
PCB = Polychlorinated Biphenyl
SL = Screening Level
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-9. Subsurface Soil Screening – Snake Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals										
Aluminum	7429-90-5	25/ 25	2100	12000	5560	15500	No	77000 (n)	No	0.2
Antimony	7440-36-0	8/ 25	0.45	1.1	0.959	9.3	No	31 (n)	No	0.04
Arsenic	7440-38-2	25/ 25	4.8	34	15.1	36.5	No	0.68 (c)	NA	NA
Barium	7440-39-3	21/ 25	21	47	26.7	826	No	15000 (n)	No	0.003
Beryllium	7440-41-7	25/ 25	0.19	0.86	0.489	1	No	160 (n)	No	0.005
Cadmium	7440-43-9	18/ 25	0.019	0.28	0.159	--	--	71 (n)	No	0.004
Calcium	7440-70-2	25/ 25	790	22000	3720	52300	No	--	--	E
Chromium	7440-47-3	25/ 25	3.6	15	7.36	29	No	0.3 (c)	NA	NA
Cobalt	7440-48-4	25/ 25	2.2	21	9.45	116	No	23 (n)	NA	NA
Iron	7439-89-6	25/ 25	8300	37000	18700	234000	No	55000 (n)	NA	NA
Lead	7439-92-1	25/ 25	6.7	32	14.7	48.6	No	400	No	NA
Magnesium	7439-95-4	25/ 25	710	4900	1820	10400	No	--	--	E
Manganese	7439-96-5	23/ 23	31	190	90.7	3510	No	1800 (n)	NA	NA
Mercury	7439-97-6	24/ 25	0.016	0.15	0.0397	0.085	Yes	9.4 (n)	No	0.02
Nickel	7440-02-0	25/ 25	7	52	28.1	55.1	No	1500 (n)	No	0.03
Potassium	7440-09-7	24/ 25	550	2200	952	3390	No	--	--	E
Selenium	7782-49-2	19/ 25	0.29	2	0.952	2	Yes	390 (n)	No	0.005
Silver	7440-22-4	4/ 25	0.11	8.9	0.858	11.1	No	390 (n)	No	0.02
Sodium	7440-23-5	2/ 25	31	99	245			--	--	E
Thallium	**7440-28-0**	**24/ 25**	**0.15**	**2**	**0.885**	**1.3**	**Yes**	**0.78 (n)**	**NA**	**NA**
Vanadium	7440-62-2	25/ 25	6.1	27	15.5	40.9	No	390 (n)	No	0.07
Zinc	7440-66-6	25/ 25	23	91	48.6	322	No	23000 (n)	No	0.004
Organics – Semivolatile										
1,1'-Biphenyl	92-52-4	11/ 25	0.0051	0.061	0.0281	--	--	47 (n)	No	0.001
2,4-Dinitrotoluene	121-14-2	2/ 25	0.07	0.076	0.157	--	--	1.7 (c)	No	0.004
2,6-Dinitrotoluene	606-20-2	1/ 25	0.034	0.034	0.157	--	--	0.36 (c)	No	0.009
2-Methylnaphthalene	91-57-6	18/ 25	0.0054	2	0.342	--	--	240 (n)	No	0.008
Acenaphthene	83-32-9	5/ 25	0.0056	0.087	0.00975	--	--	3600 (n)	No	0.00002
Acenaphthylene[e]	208-96-8	10/ 25	0.0052	0.027	0.00891	--	--	1800 (n)	No	0.00002
Anthracene	120-12-7	5/ 25	0.0068	0.015	0.00669	--	--	18000 (n)	No	0.0000008
Benz(a)anthracene	56-55-3	4/ 25	0.017	0.067	0.00987	--	--	0.16 (c)	No	0.04
Benzaldehyde	100-52-7	1/ 25	0.19	0.19	0.0786	--	--	7800 (n)	No	0.00002
Benzo(a)pyrene	**50-32-8**	**4/ 25**	**0.024**	**0.066**	**0.0104**	**--**	**--**	**0.016 (c)**	**Yes**	**0.4**
Benzo(b)fluoranthene	205-99-2	11/ 25	0.0051	0.13	0.017	--	--	0.16 (c)	No	0.08
Benzo(ghi)perylene[e]	191-24-2	4/ 25	0.018	0.046	0.00891	--	--	1800 (n)	No	0.00003
Benzo(k)fluoranthene	207-08-9	4/ 25	0.015	0.043	0.00843	--	--	1.6 (c)	No	0.003
Bis(2-ethylhexyl)phthalate	117-81-7	1/ 25	0.46	0.46	0.0713	--	--	39 (c)	No	0.001
Caprolactam	105-60-2	2/ 25	4.3	9.7	0.802	--	--	31000 (n)	No	0.0003
Chrysene	218-01-9	16/ 25	0.0062	0.094	0.0309	--	--	16 (c)	No	0.0006
Di-n-butyl phthalate	84-74-2	1/ 25	0.061	0.061	0.0551	--	--	6300 (n)	No	0.00001
Dibenz(a,h)anthracene	53-70-3	2/ 25	0.0078	0.014	0.0059	--	--	0.016 (c)	No	0.09
Dibenzofuran	132-64-9	9/ 25	0.0088	0.066	0.0331	--	--	73 (n)	No	0.0009
Fluoranthene	206-44-0	7/ 25	0.0075	0.11	0.0142	--	--	2400 (n)	No	0.00005
Fluorene	86-73-7	2/ 25	0.0099	0.014	0.00598	--	--	2400 (n)	No	0.000006
Indeno(1,2,3-cd)pyrene	193-39-5	4/ 25	0.014	0.044	0.00835	--	--	0.16 (c)	No	0.03
Naphthalene	91-20-3	19/ 25	0.0046	0.62	0.119	--	--	3.8 (c)	No	0.02
Phenanthrene[e]	85-01-8	18/ 25	0.0047	0.37	0.0918	--	--	1800 (n)	No	0.0002
Pyrene	129-00-0	15/ 25	0.0043	0.11	0.024	--	--	1800 (n)	No	0.00006
Organics – Pesticides										
4,4'-DDE	72-55-9	1/ 25	0.00083	0.00083	0.00558	--	--	2 (c)	No	0.00004
4,4'-DDT	50-29-3	1/ 25	0.017	0.017	0.00585	--	--	1.9 (c)	No	0.0009
Endosulfan sulfate[f]	1031-07-8	2/ 25	0.00059	0.00071	0.00556	--	--	470 (n)	No	0.000002
Endrin aldehyde[f]	7421-93-4	2/ 25	0.00041	0.0013	0.00558	--	--	19 (n)	No	0.00007

Table 5-9. Subsurface Soil Screening – Snake Road Burning Ground: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
alpha-BHC	319-84-6	1/ 25	0.0024	0.0024	0.00564	--	--	0.086 (c)	No	0.003
alpha-Chlordane	5103-71-9	1/ 25	0.00042	0.00042	0.00556	--	--	1.7 (c)	No	0.00002
beta-BHC	319-85-7	10/ 25	0.00051	0.018	0.00523	--	--	0.3 (c)	No	0.006
delta-BHC	319-86-8	3/ 25	0.00032	0.0037	0.00534	--	--	--	--	
Dalapon	75-99-0	1/ 25	0.1	0.1	0.0728	--	--	1900 (n)	No	0.00005
Organics – PCBs										
PCB-1260	11096-82-5	4/ 25	0.015	0.15	0.0249	--	--	0.24 (c)	No	0.06
Organics – Explosives										
2,4-Dinitrotoluene	121-14-2	0/ 25			0.124	--	--	1.7 (c)	No	--
2,6-Dinitrotoluene	606-20-2	0/ 25			0.124	--	--	0.36 (c)	No	--
Organics – Volatile										
1,1,1-Trichloroethane	71-55-6	3/ 25	0.0085	0.024	0.00417	--	--	8100 (n)	No	0.000003
1,1-Dichloroethane	75-34-3	4/ 25	0.0013	0.0043	0.0027	--	--	3.6 (c)	No	0.0001
2-Butanone	78-93-3	4/ 25	0.0015	0.0085	0.0102	--	--	27000 (n)	No	0.0000003
Acetone	67-64-1	1/ 25	0.057	0.057	0.0177	--	--	61000 (n)	No	0.0000009
Benzene	71-43-2	1/ 25	0.0027	0.0027	0.0028	--	--	1.2 (c)	No	0.0002
Carbon disulfide	75-15-0	5/ 25	0.00072	0.015	0.00326	--	--	770 (n)	No	0.00002
Cyclohexane	110-82-7	6/ 25	0.00056	0.067	0.00805	--	--	6500 (n)	No	0.00001
Dichlorodifluoromethane	75-71-8	1/ 25	0.00064	0.00064	0.00272	--	--	87 (n)	No	0.000007
Ethylbenzene	100-41-4	2/ 25	0.0049	0.02	0.00359	--	--	5.8 (c)	No	0.0003
Isopropylbenzene	98-82-8	2/ 25	0.00074	0.0027	0.00274	--	--	1900 (n)	No	0.000001
M + P Xylene	136777-61-2	4/ 25	0.0012	0.05	0.00746	--	--	650 (n)	No	0.00008
Methylcyclohexane	108-87-2	6/ 25	0.00098	0.073	0.00875	--	--	--	--	
Methylene chloride	75-09-2	7/ 25	0.0012	0.0096	0.00409	--	--	57 (c)	No	0.00002
Toluene	108-88-3	5/ 25	0.00066	0.07	0.00574	--	--	4900 (n)	No	0.00001
Trichloroethene	79-01-6	1/ 25	0.0008	0.0008	0.00272	--	--	0.94 (c)	No	0.00009
o-Xylene	95-47-6	3/ 25	0.001	0.029	0.00396	--	--	650 (n)	No	0.00004
Sum-of-Ratios										
Carcinogens										1
Non-carcinogens										0.4

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Naturally occurring background concentration.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used.
[f]No reference dose or cancer potency factors are available for endosulfan sulfate or endrin aldehyde; therefore, the screening levels for endosulfan and endrin are used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic, chromium, cobalt, iron, manganese, and thallium, the risk-based screening level is less than the background concentration; therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint.
PCB = Polychlorinated Biphenyl
SL = Screening Level
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-10. Sediment Screening – Snake Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Ohio SRV[b] (mg/kg)	MDC exceeds Ohio SRV?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals										
Aluminum	7429-90-5	4/ 4	4600	7900	5950	42000	No	77000 (n)	No	0.1
Antimony	7440-36-0	1/ 4	0.51	0.51	0.928	0.84	No	31 (n)	No	0.02
Arsenic	7440-38-2	4/ 4	5.6	8.5	7.05	11	No	0.68 (c)	NA	NA
Barium	7440-39-3	4/ 4	44	48	45.8	210	No	15000 (n)	No	0.003
Beryllium	7440-41-7	4/ 4	0.43	0.5	0.46	0.8	No	160 (n)	No	0.003
Cadmium	7440-43-9	4/ 4	0.031	0.14	0.0898	0.96	No	71 (n)	No	0.002
Calcium	7440-70-2	4/ 4	550	2400	1710	110000	No	--	--	E
Chromium	7440-47-3	4/ 4	6.6	8.9	7.93	51	No	0.3 (c)	NA	NA
Cobalt	7440-48-4	4/ 4	3.7	7.2	4.83	12	No	23 (n)	No	0.3
Iron	7439-89-6	3/ 4	11000	14000	11000	44000	No	55000 (n)	No	0.3
Lead	7439-92-1	4/ 4	11	16	13.3	47	No	400	No	NA
Magnesium	7439-95-4	4/ 4	620	820	718	29000	No	--	--	E
Manganese	7439-96-5	4/ 4	28	160	86.3	1000	No	1800 (n)	No	0.09
Mercury	7439-97-6	4/ 4	0.038	0.066	0.0528	0.12	No	9.4 (n)	No	0.007
Nickel	7440-02-0	4/ 4	12	22	16.8	36	No	1500 (n)	No	0.01
Selenium	7782-49-2	1/ 4	0.36	0.36	0.903	1.4	No	390 (n)	No	0.0009
Silver	7440-22-4	3/ 4	0.097	0.34	0.271	0.43	No	390 (n)	No	0.0009
Thallium	7440-28-0	2/ 4	0.2	0.35	0.675	4.7	No	0.78 (n)	No	0.4
Vanadium	7440-62-2	3/ 4	14	18	14	40	No	390 (n)	No	0.05
Zinc	7440-66-6	4/ 4	25	36	30	190	No	23000 (n)	No	0.002
Organics – Semivolatile										
Benz(a)anthracene	56-55-3	2/ 4	0.0065	0.007	0.00551	--	--	0.16 (c)	No	0.004
Benzo(a)pyrene	50-32-8	3/ 4	0.0048	0.0082	0.00559	--	--	0.016 (c)	No	0.05
Benzo(b)fluoranthene	205-99-2	4/ 4	0.0057	0.016	0.0116	--	--	0.16 (c)	No	0.01
Benzo(ghi)perylene[e]	191-24-2	1/ 4	0.0071	0.0071	0.00496	--	--	1800 (n)	No	0.000004
Benzo(k)fluoranthene	207-08-9	1/ 4	0.0055	0.0055	0.00456	--	--	1.6 (c)	No	0.0003
Chrysene	218-01-9	3/ 4	0.0052	0.011	0.00701	--	--	16 (c)	No	0.00007
Fluoranthene	206-44-0	4/ 4	0.0056	0.012	0.00838	--	--	2400 (n)	No	0.000005
Indeno(1,2,3-cd)pyrene	193-39-5	1/ 4	0.0078	0.0078	0.00514	--	--	0.16 (c)	No	0.005
Phenanthrene[e]	85-01-8	1/ 4	0.0042	0.0042	0.00429	--	--	1800 (n)	No	0.000002
Pyrene	129-00-0	4/ 4	0.0044	0.011	0.00728	--	--	1800 (n)	No	0.00001
Organics – Pesticides										
4,4'-DDD	72-54-8	1/ 4	0.0012	0.0012	0.00331	--	--	2.3 (c)	No	0.00005
4,4'-DDE	72-55-9	2/ 4	0.00078	0.0012	0.00325	--	--	2 (c)	No	0.00006
Endosulfan sulfate[f]	1031-07-8	1/ 4	0.0011	0.0011	0.00329	--	--	470 (n)	No	0.000002
Endrin	72-20-8	1/ 4	0.001	0.001	0.00326	--	--	19 (n)	No	0.00005
Methoxychlor	72-43-5	1/ 4	0.00085	0.00085	0.00623	--	--	320 (n)	No	0.000003
beta-BHC	319-85-7	2/ 4	0.00078	0.002	0.00345	--	--	0.3 (c)	No	0.0007
Sum-of-Ratios										
Carcinogens										0.07
Non-carcinogens										1

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Ohio Sediment Reference Values (SRV) represent naturally occurring background levels of metals in unimpacted sediments.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used (NDEP 2006).
[f]No reference dose or cancer potency factors are available for endosulfan sulfate; therefore, the screening level for endosulfan is used.
-- = no value available.
CAS = Chemical Abstract Service
HQ = Hazard Quotient
mg/kg = Milligrams per Kilogram
E = Essential Nutrient
MDC = Maximum Detected Concentration
SL = Screening Level
NA = Not applicable. For arsenic and chromium, because the risk-based screening level is less than the Ohio SRV (background) concentration, the non-risk-based SRV is used as the point of comparison. Calcium and Magnesium are essential nutrients.
PCB = Polychlorinated Biphenyl
SRV = Sediment Reference Value
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-11. Surface Soil Screening – Taylor Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals										
Aluminum	7429-90-5	12/ 12	3700	5200	4290	15500	No	77000 (n)	No	0.07
Antimony	7440-36-0	3/ 12	0.79	1.3	1.02	9.3	No	31 (n)	No	0.04
Arsenic	7440-38-2	12/ 12	1.2	9.1	5.33	36.5	No	0.68 (c)	NA	NA
Barium	7440-39-3	11/ 12	28	240	87.3	826	No	15000 (n)	No	0.02
Beryllium	7440-41-7	12/ 12	0.12	0.36	0.283	1	No	160 (n)	No	0.002
Cadmium	7440-43-9	12/ 12	0.036	1.2	0.362	--	--	71 (n)	No	0.02
Calcium	7440-70-2	11/ 12	610	3000	1450	52300	No	--	--	E
Chromium	7440-47-3	12/ 12	2.9	13	7.82	29	No	0.3 (c)	NA	NA
Cobalt	7440-48-4	12/ 12	0.73	4	2.54	116	No	23 (n)	NA	NA
Iron	7439-89-6	12/ 12	4100	19000	11100	234000	No	55000 (n)	NA	NA
Lead	**7439-92-1**	**12/ 12**	**3.5**	**530**	**135**	**48.6**	**Yes**	**400**	**Yes**	**NA**
Magnesium	7439-95-4	8/ 12	530	1400	680	10400	No	--	--	E
Manganese	7439-96-5	12/ 12	14	310	149	3510	No	1800 (n)	NA	NA
Mercury	7439-97-6	10/ 12	0.019	0.96	0.189	0.085	Yes	9.4 (n)	No	0.1
Nickel	7440-02-0	11/ 12	4.1	15	8.43	55.1	No	1500 (n)	No	0.01
Selenium	7782-49-2	7/ 12	0.36	0.62	0.682	2	No	390 (n)	No	0.002
Silver	7440-22-4	4/ 12	0.5	2.2	0.813	11.1	No	390 (n)	No	0.006
Thallium	7440-28-0	2/ 12	0.14	0.23	0.881	1.3	No	0.78 (n)	NA	NA
Vanadium	7440-62-2	12/ 12	6.7	12	9.59	40.9	No	390 (n)	No	0.03
Zinc	7440-66-6	12/ 12	9.4	570	147	322	Yes	23000 (n)	No	0.02
Organics – Semivolatile										
2,4-Dinitrotoluene	121-14-2	1/ 12	0.13	0.13	0.118	--	--	1.7 (c)	No	0.008
2-Methylnaphthalene	91-57-6	8/ 12	0.0044	0.056	0.0167	--	--	240 (n)	No	0.0002
Acenaphthylene[e]	208-96-8	1/ 12	0.0053	0.0053	0.00405	--	--	1800 (n)	No	0.000003
Anthracene	120-12-7	4/ 12	0.0042	0.0095	0.00474	--	--	18000 (n)	No	0.0000005
Benz(a)anthracene	56-55-3	8/ 12	0.0077	0.067	0.0194	--	--	0.16 (c)	No	0.04
Benzaldehyde	100-52-7	1/ 12	0.06	0.06	0.0596	--	--	7800 (n)	No	0.000008
Benzo(a)pyrene	**50-32-8**	**8/ 12**	**0.0095**	**0.12**	**0.0278**	**--**	**--**	**0.016 (c)**	**Yes**	**0.8**
Benzo(b)fluoranthene	**205-99-2**	**9/ 12**	**0.0079**	**0.17**	**0.0443**	**--**	**--**	**0.16 (c)**	**Yes**	**0.1**
Benzo(ghi)perylene[e]	191-24-2	7/ 12	0.007	0.061	0.0177	--	--	1800 (n)	No	0.00003
Benzo(k)fluoranthene	207-08-9	9/ 12	0.004	0.075	0.0213	--	--	1.6 (c)	No	0.005
Bis(2-ethylhexyl)phthalate	117-81-7	5/ 12	0.023	0.039	0.0375	--	--	39 (c)	No	0.0001
Chrysene	218-01-9	9/ 12	0.0062	0.089	0.0267	--	--	16 (c)	No	0.0006
Di-n-butyl phthalate	84-74-2	3/ 12	0.018	0.021	0.036	--	--	6300 (n)	No	0.000003
Dibenzofuran	132-64-9	5/ 12	0.0093	0.017	0.0229	--	--	73 (n)	No	0.0002
Fluoranthene	206-44-0	9/ 12	0.0065	0.092	0.0344	--	--	2400 (n)	No	0.00004
Indeno(1,2,3-cd)pyrene	193-39-5	7/ 12	0.014	0.057	0.0183	--	--	0.16 (c)	No	0.04
Naphthalene	91-20-3	6/ 12	0.004	0.042	0.0129	--	--	3.8 (c)	No	0.001
Phenanthrene[e]	85-01-8	9/ 12	0.0064	0.051	0.0214	--	--	1800 (n)	No	0.00003
Pyrene	129-00-0	9/ 12	0.0071	0.086	0.0281	--	--	1800 (n)	No	0.00005
Organics – Pesticides										
4,4'-DDE	72-55-9	5/ 12	0.00034	0.008	0.00376	--	--	2 (c)	No	0.0004
4,4'-DDT	50-29-3	1/ 12	0.00048	0.00048	0.0104	--	--	1.9 (c)	No	0.00003
Aldrin	309-00-2	1/ 12	0.0006	0.0006	0.011	--	--	0.039 (c)	No	0.002
Endosulfan sulfate[f]	1031-07-8	2/ 12	0.0027	0.072	0.011	--	--	470 (n)	No	0.0002
Endrin aldehyde[f]	7421-93-4	2/ 12	0.0098	0.015	0.00984	--	--	19 (n)	No	0.0008
Lindane	58-89-9	1/ 12	0.00057	0.00057	0.011	--	--	0.57 (c)	No	0.0001
beta-BHC	319-85-7	3/ 12	0.0011	0.0047	0.0062	--	--	0.3 (c)	No	0.002
Organics – PCBs										
PCB-1254	11097-69-1	1/ 12	0.069	0.069	0.0524	--	--	0.24 (c)	No	0.03
PCB-1260	**11096-82-5**	**7/ 12**	**0.01**	**3.3**	**0.493**	**--**	**--**	**0.24 (c)**	**Yes**	**1**

Table 5-11. Surface Soil Screening – Taylor Road Burning Ground: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg)		Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
			Minimum	Maximum						
Organics – Explosives										
2,4,6-Trinitrotoluene	118-96-7	2/ 12	0.041	0.11	0.114	--	--	21 (c)	No	0.0005
2,4-Dinitrotoluene	121-14-2	1/ 12	0.054	0.054	0.116	--	--	1.7 (c)	No	0.003
2-Amino-4,6-Dinitrotoluene	35572-78-2	1/ 12	0.19	0.19	0.128	--	--	150 (n)	No	0.001
3,5-Dinitroaniline	618-87-1	1/ 12	0.083	0.083	0.228	--	--	--	--	--
4-Amino-2,6-Dinitrotoluene	19406-51-0	1/ 12	0.24	0.24	0.132	--	--	150 (n)	No	0.002
Organics – Volatile										
Methylene chloride	75-09-2	3/ 12	0.001	0.004	0.00274	--	--	57 (c)	No	0.000007
Sum-of-Ratios										
Carcinogens										2
Non-carcinogens										0.3

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Naturally occurring background concentration.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used.
[f]No reference dose or cancer potency factors are available for endosulfan sulfate or endrin aldehyde; therefore, the screening levels for endosulfan and endrin are used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic, chromium, cobalt, iron, manganese, and thallium, the risk-based screening level is less than the background concentration; therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint. 2,4-dinitrotoluene and 2,6-dinitrotoluene were reported in the analysis for both semi-volatile organic chemicals and explosives. Only the results for explosives are included in the SOR.
PCB = Polychlorinated Biphenyl
SL = Screening Level
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-12. Subsurface Soil Screening – Taylor Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals										
Aluminum	7429-90-5	21/ 21	2400	6400	4160	15500	No	77000 (n)	No	0.08
Antimony	7440-36-0	3/ 21	0.43	1.2	1.01	9.3	No	31 (n)	No	0.04
Arsenic	7440-38-2	21/ 21	1.8	15	6.47	36.5	No	0.68 (c)	NA	NA
Barium	7440-39-3	19/ 21	25	250	59.1	826	No	15000 (n)	No	0.02
Beryllium	7440-41-7	21/ 21	0.18	0.59	0.307	1	No	160 (n)	No	0.004
Cadmium	7440-43-9	20/ 21	0.04	2.2	0.312	--	--	71 (n)	No	0.03
Calcium	7440-70-2	21/ 21	490	15000	3880	52300	No	--	--	E
Chromium	**7440-47-3**	**21/ 21**	**3.5**	**30**	**7.33**	**29**	**Yes**	**0.3 (c)**	**NA**	**NA**
Cobalt	7440-48-4	21/ 21	1.6	9.2	5.2	116	No	23 (n)	NA	NA
Iron	7439-89-6	21/ 21	5400	31000	12600	234000	No	55000 (n)	NA	NA
Lead	7439-92-1	21/ 21	3.9	370	38.7	48.6	Yes	400	No	NA
Magnesium	7439-95-4	21/ 21	470	4000	1340	10400	No	--	--	E
Manganese	7439-96-5	21/ 21	24	290	134	3510	No	1800 (n)	NA	NA
Mercury	7439-97-6	15/ 21	0.016	0.9	0.0983	0.085	Yes	9.4 (n)	No	0.1
Nickel	7440-02-0	21/ 21	5.2	37	17.1	55.1	No	1500 (n)	No	0.02
Potassium	7440-09-7	2/ 21	730	780	306	3390	No	--	--	E
Selenium	7782-49-2	6/ 21	0.36	1.1	0.93	2	No	390 (n)	No	0.003
Silver	7440-22-4	3/ 21	0.58	4.6	0.723	11.1	No	390 (n)	No	0.01
Thallium	**7440-28-0**	**4/ 21**	**0.16**	**1.4**	**0.98**	**1.3**	**Yes**	**0.78 (n)**	**NA**	**NA**
Vanadium	7440-62-2	21/ 21	6.3	19	11.5	40.9	No	390 (n)	No	0.05
Zinc	7440-66-6	21/ 21	17	630	103	322	Yes	23000 (n)	No	0.03
Organics – Semivolatile										
1,1'-Biphenyl	92-52-4	1/ 21	0.0069	0.0069	0.0334	--	--	47 (n)	No	0.0001
2-Methylnaphthalene	91-57-6	8/ 21	0.0047	1.1	0.116	--	--	240 (n)	No	0.005
Acenaphthene	83-32-9	1/ 21	0.0057	0.0057	0.00468	--	--	3600 (n)	No	0.000002
Acenaphthylene[e]	208-96-8	1/ 21	0.0062	0.0062	0.0047	--	--	1800 (n)	No	0.000003
Anthracene	120-12-7	2/ 21	0.0069	0.018	0.00542	--	--	18000 (n)	No	0.000001
Benz(a)anthracene	56-55-3	3/ 21	0.0064	0.069	0.00916	--	--	0.16 (c)	No	0.04
Benzaldehyde	100-52-7	1/ 21	0.14	0.14	0.064	--	--	7800 (n)	No	0.00002
Benzo(a)pyrene	**50-32-8**	**4/ 21**	**0.0059**	**0.083**	**0.0101**	**--**	**--**	**0.016 (c)**	**Yes**	**0.5**
Benzo(b)fluoranthene	205-99-2	6/ 21	0.0066	0.14	0.0146	--	--	0.16 (c)	No	0.09
Benzo(ghi)perylene[e]	191-24-2	3/ 21	0.015	0.038	0.00747	--	--	1800 (n)	No	0.00002
Benzo(k)fluoranthene	207-08-9	4/ 21	0.0031	0.057	0.00849	--	--	1.6 (c)	No	0.004
Bis(2-ethylhexyl)phthalate	117-81-7	5/ 21	0.03	0.23	0.0536	--	--	39 (c)	No	0.0006
Chrysene	218-01-9	8/ 21	0.0051	0.091	0.0122	--	--	16 (c)	No	0.0006
Di-n-butyl phthalate	84-74-2	3/ 21	0.019	0.025	0.0453	--	--	6300 (n)	No	0.000004
Dibenzofuran	132-64-9	3/ 21	0.013	0.031	0.0294	--	--	73 (n)	No	0.0004
Diethyl phthalate	84-66-2	1/ 21	0.043	0.043	0.0481	--	--	51000 (n)	No	0.0000008
Fluoranthene	206-44-0	5/ 21	0.0056	0.15	0.0147	--	--	2400 (n)	No	0.00006
Fluorene	86-73-7	1/ 21	0.0061	0.0061	0.0047	--	--	2400 (n)	No	0.000003
Indeno(1,2,3-cd)pyrene	193-39-5	3/ 21	0.012	0.04	0.00752	--	--	0.16 (c)	No	0.03
Naphthalene	91-20-3	7/ 21	0.0097	0.48	0.0526	--	--	3.8 (c)	No	0.01
Phenanthrene[e]	85-01-8	11/ 21	0.0045	0.2	0.0304	--	--	1800 (n)	No	0.0001
Phenol	108-95-2	1/ 21	0.012	0.012	0.0336	--	--	19000 (n)	No	0.0000006
Pyrene	129-00-0	12/ 21	0.0048	0.13	0.0148	--	--	1800 (n)	No	0.00007
Organics – Pesticides										
4,4'-DDE	72-55-9	4/ 21	0.00075	0.057	0.00571	--	--	2 (c)	No	0.003
Dieldrin	60-57-1	1/ 21	0.0052	0.0052	0.0041	--	--	0.034 (c)	No	0.02
Endosulfan sulfate[f]	1031-07-8	1/ 21	0.0079	0.0079	0.00422	--	--	470 (n)	No	0.00002
Endrin aldehyde[f]	7421-93-4	1/ 21	0.00043	0.00043	0.00405	--	--	19 (n)	No	0.00002
Methoxychlor	72-43-5	1/ 21	0.0032	0.0032	0.0076	--	--	320 (n)	No	0.00001
alpha-BHC	319-84-6	2/ 21	0.0011	0.0014	0.0041	--	--	0.086 (c)	No	0.002
alpha-Chlordane	5103-71-9	1/ 21	0.038	0.038	0.00494	--	--	1.7 (c)	No	0.002
beta-BHC	319-85-7	6/ 21	0.00048	0.0055	0.00405	--	--	0.3 (c)	No	0.002

Table 5-12. Subsurface Soil Screening – Taylor Road Burning Ground: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Background[b] (mg/kg)	MDC exceeds Backgrond?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Organics – Herbicides										
Dalapon	75-99-0	2/ 21	0.056	0.069	0.071	--	--	1900 (n)	No	0.00004
Organics – PCBs										
PCB-1254	**11097-69-1**	**1/ 21**	**2.5**	**2.5**	**0.138**	**--**	**--**	**0.24 (c)**	**Yes**	**1**
PCB-1260	**11096-82-5**	**3/ 21**	**0.011**	**0.3**	**0.0461**	**--**	**--**	**0.24 (c)**	**Yes**	**0.1**
Organics – Explosives										
1,3-Dinitrobenzene	99-65-0	1/ 21	0.061	0.061	0.119	--	--	6.3 (n)	No	0.01
4-Amino-2,6-Dinitrotoluene	19406-51-0	1/ 21	0.05	0.05	0.119	--	--	150 (n)	No	0.0003
Organics – Volatile										
2-Butanone	78-93-3	3/ 21	0.0014	0.0031	0.0102	--	--	27000 (n)	No	0.0000001
Acetone	67-64-1	2/ 21	0.027	0.032	0.0145	--	--	61000 (n)	No	0.0000005
Bromoform	75-25-2	1/ 21	0.00029	0.00029	0.00276	--	--	19 (c)	No	0.000002
Carbon disulfide	75-15-0	4/ 21	0.0011	0.0038	0.00274	--	--	770 (n)	No	0.000005
Cyclohexane	110-82-7	1/ 21	0.0044	0.0044	0.00571	--	--	6500 (n)	No	0.0000007
Dichlorodifluoromethane	75-71-8	1/ 21	0.00048	0.00048	0.00278	--	--	87 (n)	No	0.000006
Ethylbenzene	100-41-4	1/ 21	0.0016	0.0016	0.00284	--	--	5.8 (c)	No	0.00003
Isopropylbenzene	98-82-8	1/ 21	0.00032	0.00032	0.00277	--	--	1900 (n)	No	0.0000002
M + P Xylene	136777-61-2	2/ 21	0.00077	0.0047	0.00547	--	--	650 (n)	No	0.000007
Methylcyclohexane	108-87-2	1/ 21	0.0058	0.0058	0.00578	--	--	--	--	--
Methylene chloride	75-09-2	4/ 21	0.0015	0.0072	0.00345	--	--	57 (c)	No	0.00001
Tetrachloroethene	127-18-4	2/ 21	0.0019	0.0035	0.00288	--	--	24 (c)	No	0.00001
o-Xylene	95-47-6	1/ 21	0.0027	0.0027	0.00289	--	--	650 (n)	No	0.000004
Sum-of-Ratios										
Carcinogens										2
Non-carcinogens										0.4

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Naturally occurring background concentration.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used.
[f]No reference dose or cancer potency factors are available for endosulfan sulfate or endrin aldehyde; therefore, the screening levels for endosulfan and endrin are used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
MDC = Maximum Detected Concentration
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic, chromium, cobalt, iron, manganese, and thallium, the risk-based screening level is less than the background concentration; therefore, the non-risk-based background concentration is used as the point of comparison. The RSL for lead is based on acceptable blood lead concentration rather than a specific toxic endpoint. 2,4-dinitrotoluene and 2,6-dinitrotoluene were reported in the analysis for both semi-volatile organic chemicals and explosives. Only the results for explosives are included in the SOR.
PCB = Polychlorinated Biphenyl
SL = Screening Level
Bold = MDC exceeds screening level (or background if screening level is less than background).

Table 5-13. Sediment Screening – Taylor Road Burning Ground: Human Health

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg) Minimum	Detected Concentration (mg/kg) Maximum	Average Concentration[a] (mg/kg)	Ohio SRV[b] (mg/kg)	MDC exceeds Ohio SRV?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
Metals										
Aluminum	7429-90-5	9/ 9	3100	6400	5080	42000	No	77000 (n)	No	0.08
Antimony	7440-36-0	1/ 9	5.5	5.5	1.56	0.84	Yes	31 (n)	No	0.2
Arsenic	**7440-38-2**	**9/ 9**	**2.4**	**17**	**8.64**	**11**	**Yes**	**0.68 (c)**	**NA**	**NA**
Barium	7440-39-3	8/ 9	29	620	127	210	Yes	15000 (n)	No	0.04
Beryllium	7440-41-7	9/ 9	0.18	0.63	0.411	0.8	No	160 (n)	No	0.004
Cadmium	7440-43-9	9/ 9	0.084	4.7	0.724	0.96	Yes	71 (n)	No	0.07
Calcium	7440-70-2	9/ 9	1000	22000	4270	110000	No	--	--	E
Chromium	**7440-47-3**	**9/ 9**	**4.7**	**180**	**26**	**51**	**Yes**	**0.3 (c)**	**NA**	**NA**
Cobalt	7440-48-4	9/ 9	3	8.9	5.97	12	No	23 (n)	No	0.4
Iron	7439-89-6	9/ 9	6600	40000	22000	44000	No	55000 (n)	No	0.7
Lead	**7439-92-1**	**9/ 9**	**4.9**	**930**	**112**	**47**	**Yes**	**400**	**Yes**	**NA**
Magnesium	7439-95-4	8/ 9	540	6200	1390	29000	No	--	--	E
Manganese	7439-96-5	9/ 9	69	460	270	1000	No	1800 (n)	No	0.3
Mercury	7439-97-6	9/ 9	0.018	2.4	0.305	0.12	Yes	9.4 (n)	No	0.3
Nickel	7440-02-0	9/ 9	6.7	140	26.9	36	Yes	1500 (n)	No	0.09
Selenium	7782-49-2	5/ 9	0.54	2.1	1.06	1.4	Yes	390 (n)	No	0.005
Silver	7440-22-4	2/ 9	0.11	18	2.44	0.43	Yes	390 (n)	No	0.05
Vanadium	7440-62-2	9/ 9	8.4	18	14.3	40	No	390 (n)	No	0.05
Zinc	7440-66-6	9/ 9	22	6700	781	190	Yes	23000 (n)	No	0.3
Organics – Semivolatile										
1,1'-Biphenyl	92-52-4	1/ 9	0.016	0.016	0.0294	--	--	47 (n)	No	0.0003
2-Methylnaphthalene	91-57-6	3/ 9	0.0045	0.078	0.0126	--	--	240 (n)	No	0.0003
Acenaphthene	83-32-9	1/ 9	0.026	0.026	0.00658	--	--	3600 (n)	No	0.000007
Acenaphthylene[e]	208-96-8	1/ 9	0.04	0.04	0.00814	--	--	1800 (n)	No	0.00002
Anthracene	120-12-7	1/ 9	0.12	0.12	0.017	--	--	18000 (n)	No	0.000007
Benz(a)anthracene	**56-55-3**	**4/ 9**	**0.0067**	**0.73**	**0.0873**	**--**	**--**	**0.16 (c)**	**Yes**	**0.5**
Benzaldehyde	100-52-7	1/ 9	0.021	0.021	0.064	--	--	7800 (n)	No	0.000003
Benzo(a)pyrene	**50-32-8**	**4/ 9**	**0.0066**	**0.88**	**0.105**	**--**	**--**	**0.016 (c)**	**Yes**	**6**
Benzo(b)fluoranthene	**205-99-2**	**5/ 9**	**0.005**	**1.4**	**0.165**	**--**	**--**	**0.16 (c)**	**Yes**	**0.9**
Benzo(ghi)perylene[e]	191-24-2	2/ 9	0.0078	0.3	0.0374	--	--	1800 (n)	No	0.0002
Benzo(k)fluoranthene	207-08-9	4/ 9	0.0071	0.69	0.0828	--	--	1.6 (c)	No	0.04
Bis(2-ethylhexyl)phthalate	117-81-7	7/ 9	0.026	0.21	0.0573	--	--	39 (c)	No	0.0005
Chrysene	218-01-9	5/ 9	0.0044	0.79	0.0957	--	--	16 (c)	No	0.005
Di-n-butyl phthalate	84-74-2	6/ 9	0.019	0.023	0.0329	--	--	6300 (n)	No	0.000004
Dibenz(a,h)anthracene	**53-70-3**	**1/ 9**	**0.11**	**0.11**	**0.0159**	**--**	**--**	**0.016 (c)**	**Yes**	**0.7**
Dibenzofuran	132-64-9	1/ 9	0.062	0.062	0.0346	--	--	73 (n)	No	0.0008
Fluoranthene	206-44-0	6/ 9	0.0041	0.98	0.121	--	--	2400 (n)	No	0.0004
Fluorene	86-73-7	1/ 9	0.055	0.055	0.00981	--	--	2400 (n)	No	0.00002
Indeno(1,2,3-cd)pyrene	**193-39-5**	**2/ 9**	**0.014**	**0.26**	**0.0337**	**--**	**--**	**0.16 (c)**	**Yes**	**0.2**
Naphthalene	91-20-3	1/ 9	0.085	0.085	0.0131	--	--	3.8 (c)	No	0.002
Phenanthrene[e]	85-01-8	5/ 9	0.0049	0.4	0.0512	--	--	1800 (n)	No	0.0002
Phenol	108-95-2	2/ 9	0.023	0.037	0.0336	--	--	19000 (n)	No	0.000002
Pyrene	129-00-0	6/ 9	0.0035	1.5	0.176	--	--	1800 (n)	No	0.0008
Organics – Pesticides										
4,4'-DDE	72-55-9	1/ 9	0.2	0.2	0.0263	--	--	2 (c)	No	0.01
Endosulfan I[f]	959-98-8	1/ 9	0.018	0.018	0.00606	--	--	470 (n)	No	0.00004
Endosulfan sulfate[f]	1031-07-8	1/ 9	0.074	0.074	0.0123	--	--	470 (n)	No	0.0002
Endrin	72-20-8	1/ 9	0.066	0.066	0.0114	--	--	19 (n)	No	0.003
Endrin aldehyde[f]	7421-93-4	1/ 9	0.00049	0.00049	0.00956	--	--	19 (n)	No	0.00003
alpha-BHC	319-84-6	1/ 9	0.0016	0.0016	0.00968	--	--	0.086 (c)	No	0.002
beta-BHC	319-85-7	4/ 9	0.0006	0.042	0.00776	--	--	0.3 (c)	No	0.01
Dalapon	75-99-0	3/ 9	0.083	0.25	0.1	--	--	1900 (n)	No	0.0001

Table 5-13. Sediment Screening – Taylor Road Burning Ground: Human Health (Continued)

Detected Chemical	CAS Number	Frequency of Detection	Detected Concentration (mg/kg)		Average Concentration[a] (mg/kg)	Ohio SRV[b] (mg/kg)	MDC exceeds Ohio SRV?	Screening Level[c] (HQ=1, Risk=1E-6) (mg/kg)	MDC exceeds Screening Level?	Ratio[d] MDC/SL (HQ=1, Risk=1E-05)
			Minimum	Maximum						
Organics – PCBs										
PCB-1254	**11097-69-1**	**1/ 9**	**29**	**29**	**3.24**	**--**	**--**	**0.24 (c)**	**Yes**	**12**
Organics – Volatile										
Tetrachloroethene	127-18-4	1/ 9	0.0019	0.0019	0.00279	--	--	24 (c)	No	0.000008
Trichloroethene	79-01-6	1/ 9	0.00041	0.00041	0.00263	--	--	0.94 (c)	No	0.00004
Sum-of-Ratios										
Carcinogens										20
Non-carcinogens										2

[a]Average concentration for all samples using 1/2 detection limit for non-detects.
[b]Ohio Sediment Reference Values (SRV) represent naturally occurring background levels of metals in unimpacted sediments.
[c]Screening levels are USEPA residential soil regional screening levels (RSLs) at a target risk level of 1E-06 (c) or target hazard quotient (HQ) (n) of 1 from http://www2.epa.gov/risk/risk-based-screening-table-generic-tables, dated June 2015.
[d]Sum-of-ratios (SOR) calculated as the sum of the ratios of the maximum detected concentration (MDC) over the screening level at a target risk level of 1E-05 or target HQ of 1 for all carcinogens or non-carcinogens.
[e]No reference dose or cancer potency factors are available for these chemicals; therefore, the screening level for pyrene is used (NDEP 2006).
[f]No reference dose or cancer potency factors are available for endosulfan sulfate, endosulfan I, or endrin aldehyde; therefore, the screening levels for endosulfan and endrin are used.
-- = no value available.
CAS = Chemical Abstract Service
E = Essential Nutrient
HQ = Hazard Quotient
mg/kg = Milligrams per Kilogram
NA = Not applicable. For arsenic and chromium, because the risk-based screening level is less than the Ohio SRV (background) concentration, the non-risk-based SRV is used as the point of comparison. Calcium and Magnesium are essential nutrients.
PCB = Polychlorinated Biphenyl
SL = Screening Level
SRV = Sediment Reference Value
Bold = MDC exceeds screening level (or background if screening level is less than background).

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6.0 CONCLUSIONS AND RECOMMENDATIONS

The following sections provide conclusions and recommendations for the four sites at NASA PBS.

6.1 DISPOSAL AREA 2A

SI activities at DA2A included 40 soil borings, 40 shallow surface soil samples, 35 subsurface samples, 10 sediment samples, and 7 surface water samples. Samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, and asbestos (0 to 2-foot interval only). Multiple compounds were detected in each medium sampled. In addition, each medium contained multiple compounds at concentrations greater than relevant screening criteria.

Ecological risk screening and human health risk assessments were conducted to identify potential risks and determine the need for additional evaluation. The ecological risk screening identified 36 COPECs in surface soil, 23 COPECs in sediment, and 7 COPECs in surface water. COPECs for soil and sediment included one or more metal, SVOC, PCB, and pesticide. Surface water COPECs included one or more metal and pesticide. Based on the ecological risk screening, further evaluation in an RI is recommended for these medium and COPECs to fully evaluate the potential risk to ecological receptors.

Human health risk assessment identified multiple metals, PCBs, and SVOCs as COPCs in shallow and subsurface soil. Several SVOC were identified as COPCs in sediment and several pesticides were identified as COPCs in surface water. Based on the human health risk assessment, further evaluation in an RI is recommended for these medium and COPCs to fully evaluate the potential risk to human health.

Asbestos sampling identified chrysotile, amosite, and/or tremolite asbestos at concentrations greater than 1 percent in 18 samples. ACM included soil, tar, roofing material, paper, linoleum, transite, caulk, fibrous material, and cementitious material. Based on the asbestos sampling results, an EE/CA is recommended to address the presence of ACM and to mitigate potential risks to human health and ecological receptors.

Finally, an interim removal action is recommended for the debris fields and surface soil with concentrations above RSLs to achieve an unlimited use and unrestricted exposure future land use scenario.

6.2 FOX ROAD BURNING GROUND

SI activities at the FRBG included 27 soil borings, 27 shallow surface soil samples, 29 subsurface samples, and 3 sediment samples. Samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, explosives, and asbestos (0 to 2-foot interval only). Multiple compounds were detected in each medium sampled. In addition, each medium contained multiple compounds at concentrations greater than relevant screening criteria.

Ecological risk screening and human health risk assessments were conducted to identify potential risks and determine the need for additional evaluation. The ecological risk screening identified 25 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. No COPECs were identified for sediment; therefore, NFA is recommended for this medium. Based on the ecological risk screening, further evaluation in an RI is recommended for the surface soil medium and associated COPECs to fully evaluate the potential risk to ecological receptors.

Human health risk assessment identified multiple PCBs and SVOCs as COPCs for surface soil in the Subsurface Debris Area of the FRBG; however, no COPCs were identified in the General Area or Concrete Pit Area. Further evaluation in an RI is recommended for surface soil in the Subsurface Debris Area for the identified COPCs to fully evaluate the potential risk to human health. No COPCs were identified in subsurface soil or sediment; therefore, NFA is recommended for these medium.

Asbestos sampling at the FRBG indicated 1 out of 27 samples contained chrysolite asbestos at less than 1 percent. No other asbestos was detected. Based on sampling results, additional ACM assessment is not warranted and NFA is recommended for ACM. However, an interim removal action is recommended for debris observed during the SI.

6.3 SNAKE ROAD BURNING GROUND

SI activities at the SRBG included 11 soil borings, 11 shallow surface soil samples, 22 subsurface samples, and 3 sediment samples. Samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, explosives, and asbestos (0- to 2-foot interval only). Multiple compounds were detected in the samples, including several compounds at concentrations greater than relevant screening criteria.

Ecological risk screening and human health risk assessments were conducted to identify potential risks and determine the need for additional evaluation. The ecological risk screening identified 25 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. No COPECs were identified for sediment; therefore, NFA is recommended for this medium. However, based on the ecological risk screening, further evaluation in an RI is recommended for the surface soil medium and associated COPECs to fully evaluate the potential risk to ecological receptors.

Human health risk assessment identified one or more metal, PCB, SVOC, and explosive compound as COPCs for surface soil. Further evaluation in an RI is recommended for surface soil to fully evaluate the potential risk to human health. No COPCs were identified in subsurface soil or sediment; therefore, NFA is recommended for these medium.

Asbestos sampling at the SRBG indicated 2 out of 20 samples contained chrysolite and/or amosite asbestos at concentrations greater than 1 percent. ACM was identified as transite material. Based on the asbestos sampling results, additional ACM assessment is not warranted and NFA is recommended for ACM..

6.4 TAYLOR ROAD BURNING GROUND

SI activities at the TRBG included 11 soil borings, 11 shallow surface soil samples, 18 subsurface samples, and 8 sediment samples. Samples were analyzed for VOCs, SVOCs, herbicides, pesticides, PCBs, TAL metals, explosives, and asbestos (0- to 2-foot interval only). Multiple compounds were detected in each medium sampled. In addition, each medium contained one or more compounds at concentrations greater than relevant screening criteria.

Ecological risk screening and human health risk assessments were conducted to identify potential risks and determine the need for additional evaluation. The ecological risk screening identified 20 COPECs in surface soil, including 1 or more metal, SVOC, PCB, and pesticide. Thirty-six COPECs were identified in sediment, including one or more metal, SVOC, PCB, and pesticide. Further evaluation in an RI is recommended for the COPECs identified for surface soil and sediment to fully evaluate the potential risk

to ecological receptors. In addition, additional sediment samples located downstream from sample TRBG-SDSW-004 are recommended to define the extent of impacts in this area.

Human health risk assessment identified lead and PCBs as COPCs for surface soil. Benzo(a)pyrene, PCB-1254, and PCB-1260 were identified as COPCs in subsurface soil in the Primary Burn Area. Further evaluation in an RI is recommended to determine the risk to human health presented by the COPCs in these medium. SVOCs and PCB were identified as COPCs in sediment in the West Ditch. Further evaluation in an RI is recommended for the COPC identified for surface soil, subsurface soil, and sediment to fully evaluate the potential risk to human health.

Asbestos sampling at the TRBG indicated 3 out of 20 samples contained chrysolite and/or amosite asbestos at concentrations greater than 1 percent. ACM included cementitious material and soil. Based on the asbestos sampling results, an EE/CA is recommended to address the presence of ACM and to mitigate potential risks to human health and ecological receptors, and an interim removal action is recommended for the debris observed during the SI.

6.5 SUMMARY OF RECOMMENDATIONS

The recommendations provided above are summarized as follows:

Site	Ecological			Human Health				Debris/ Asbestos
	Surface	Sediment	Surface Water	Surface	Subsurface	Sediment	Surface Water	
DA2A	RI	RI	RI	RI	RI	RI	RI	EE/CA/IRA
FRBG	RI	NFA	--	RI	NFA	NFA	--	EE/CA/IRA
SRBG	RI	NFA	--	RI	NFA	NFA	--	NFA
TRBG	RI	RI	--	RI	RI	RI	--	EE/CA/IRA

Notes: -- Media not evaluated due to lack of water in dry ditch.
DA2A = Disposal Area 2A
EE/CA/IRA = Engineering Evaluation/Cost Assessment/Interim Removal Action
FRBG = Fox Road Burning Ground
NFA = No Further Action
RI = Remedial Investigation
SRBG = Snake Road Burning Ground
TRBG = Taylor Road Burning Ground

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FIGURES

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Document Path: F:\NASA\Projects\Twinsburg\SI_Report_2016\Figure 1 NASA PBS Locations in Ohio.mxd

Legend

- Ohio State Boundary
- County Boundary
- Erie County Boundary
- ★ Approximate PBS Location

0 20 40
Miles

NASA GLENN RESEARCH CENTER
PLUM BROOK STATION
SANDUSKY, OHIO

PBS LOCATIONS IN OHIO

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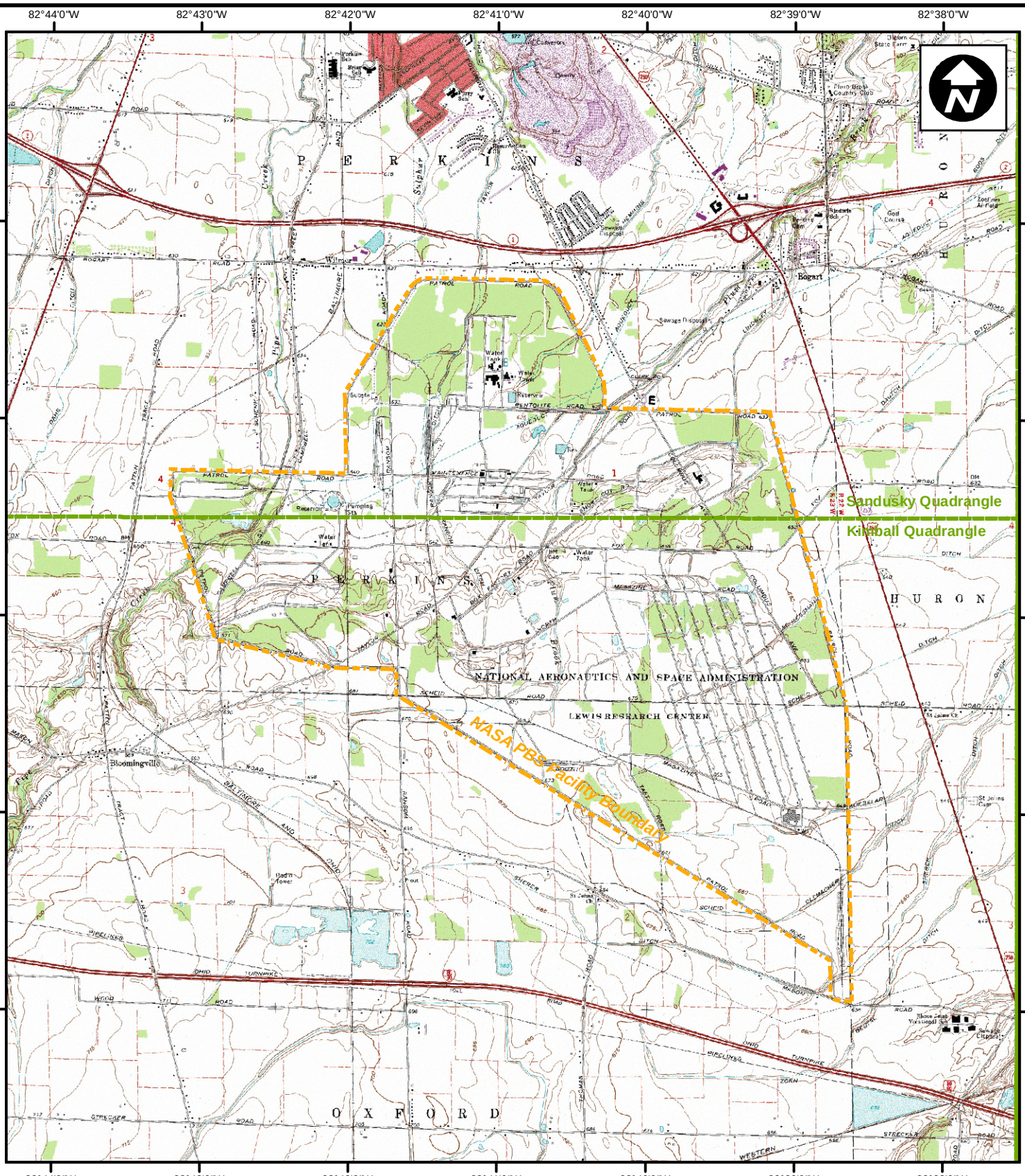
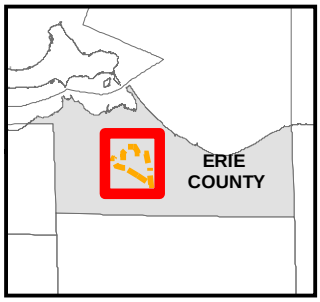
FIGURE
1

Document Path: F:\NASA\Projects\Twinsburg\SI_Report_2016\Figure 2 USGS Map.mxd





Legend

- USGS Quadrangle
- NASA PBS Boundary

0 0.5 1
Miles

NASA GLENN RESEARCH CENTER
PLUM BROOK STATION
SANDUSKY, OHIO

NASA PBS LOCATION ON USGS TOPOGRAPHIC MAP

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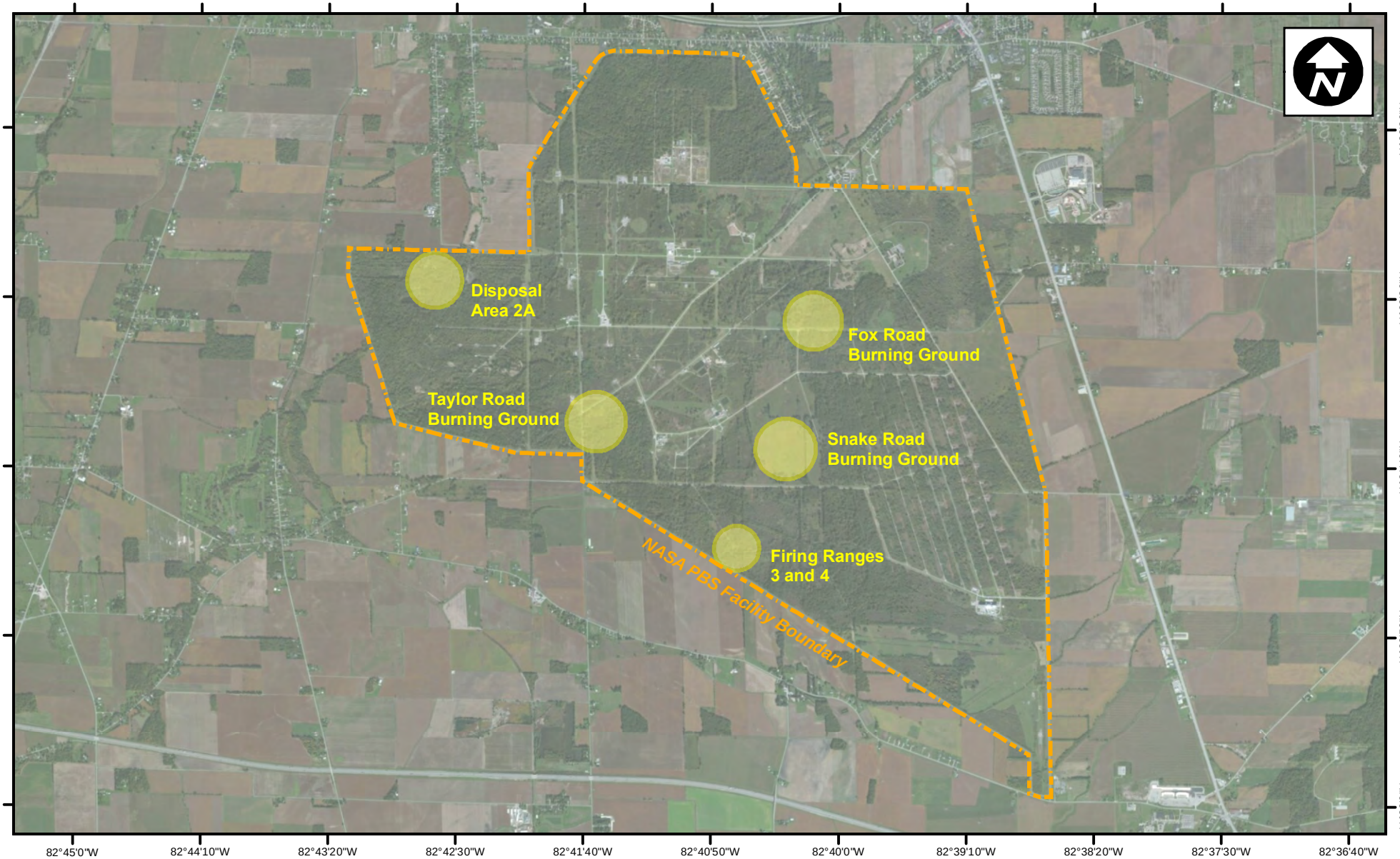
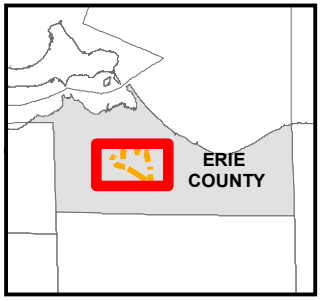
FIGURE
2

Document Path: F:\NASA\Projects\Twinsburg\Figure 1-3 NASA Site Inpection Locations.mxd





Legend

- NASA PBS Boundary
- Site Inspection Locations

0 0.5 1
Miles

NASA GLENN RESEARCH CENTER
PLUM BROOK STATION
SANDUSKY, OHIO

SITE INSPECTION LOCATIONS

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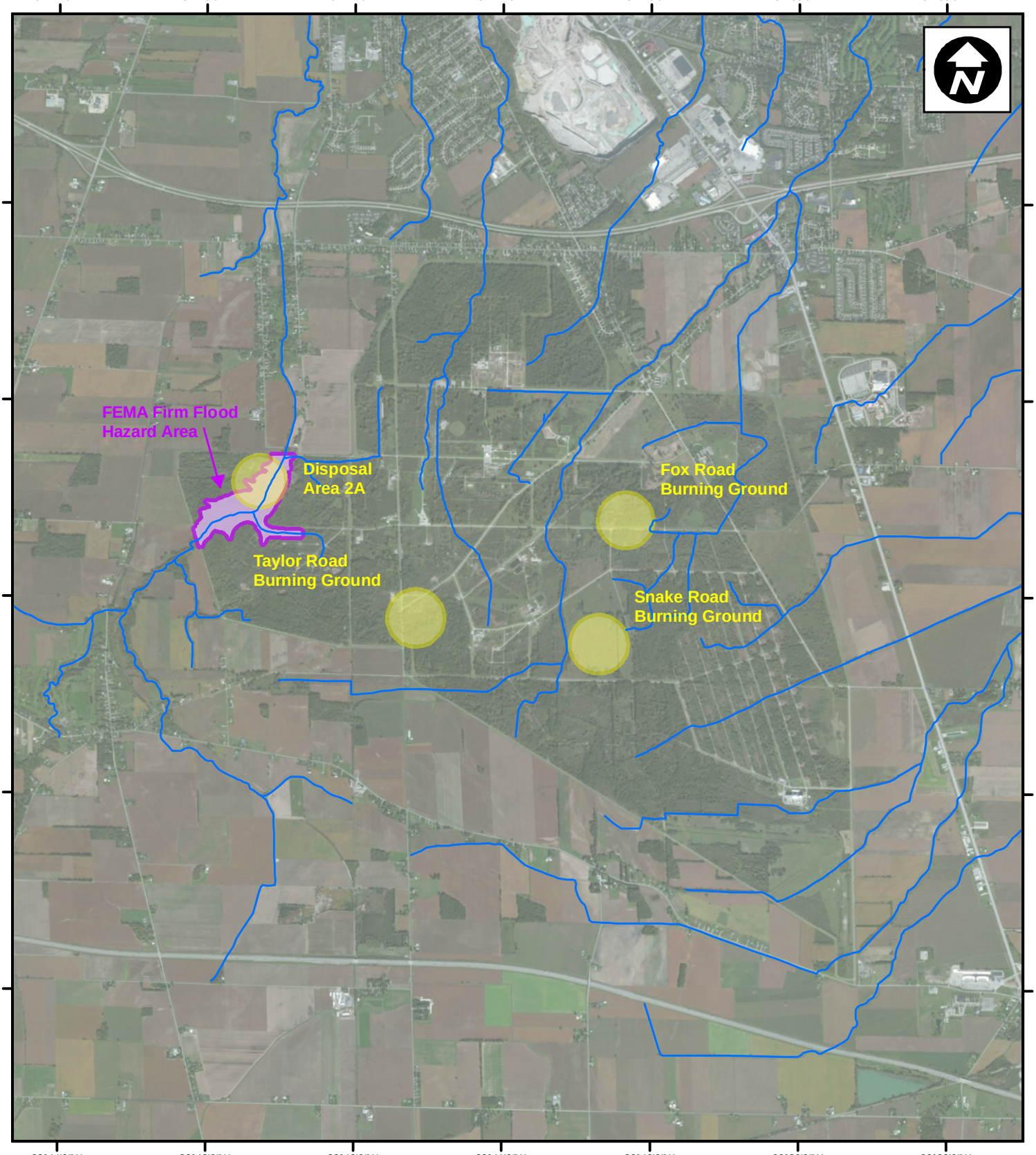
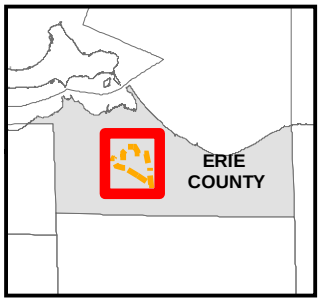
FIGURE
3

Document Path: F:\NASA\Projects\Twinsburg\SI_Report_2016\Figure 4 Surface Water Drainage Features.mxd





Legend

- Site Inspection Locations
- FEMA Firm Flood Hazard Area
- Surface Water (Streams)

0 0.5 1
Miles

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SURFACE WATER DRAINAGE FEATURES

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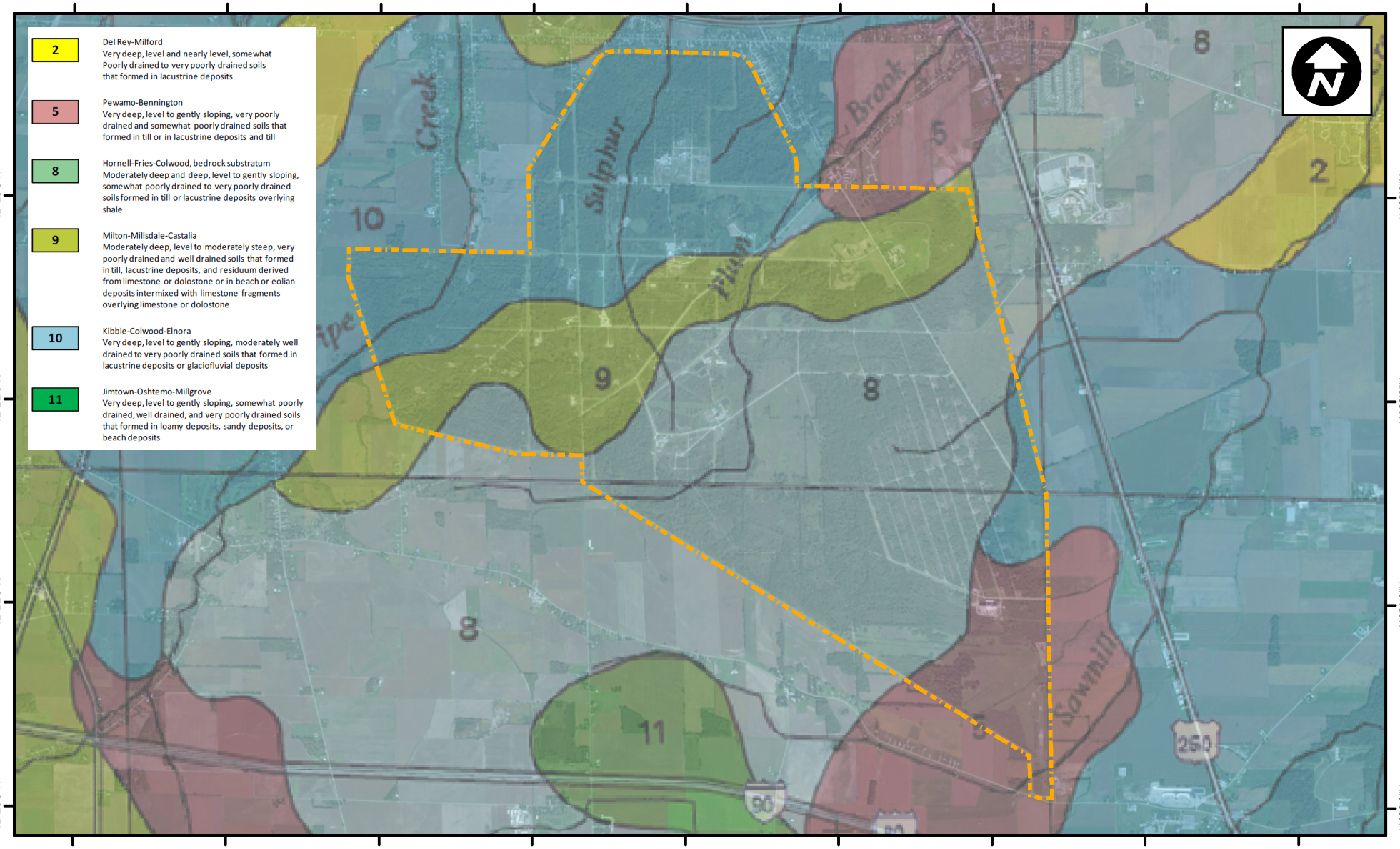
FIGURE
4



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USDA SOIL SURVEY MAP

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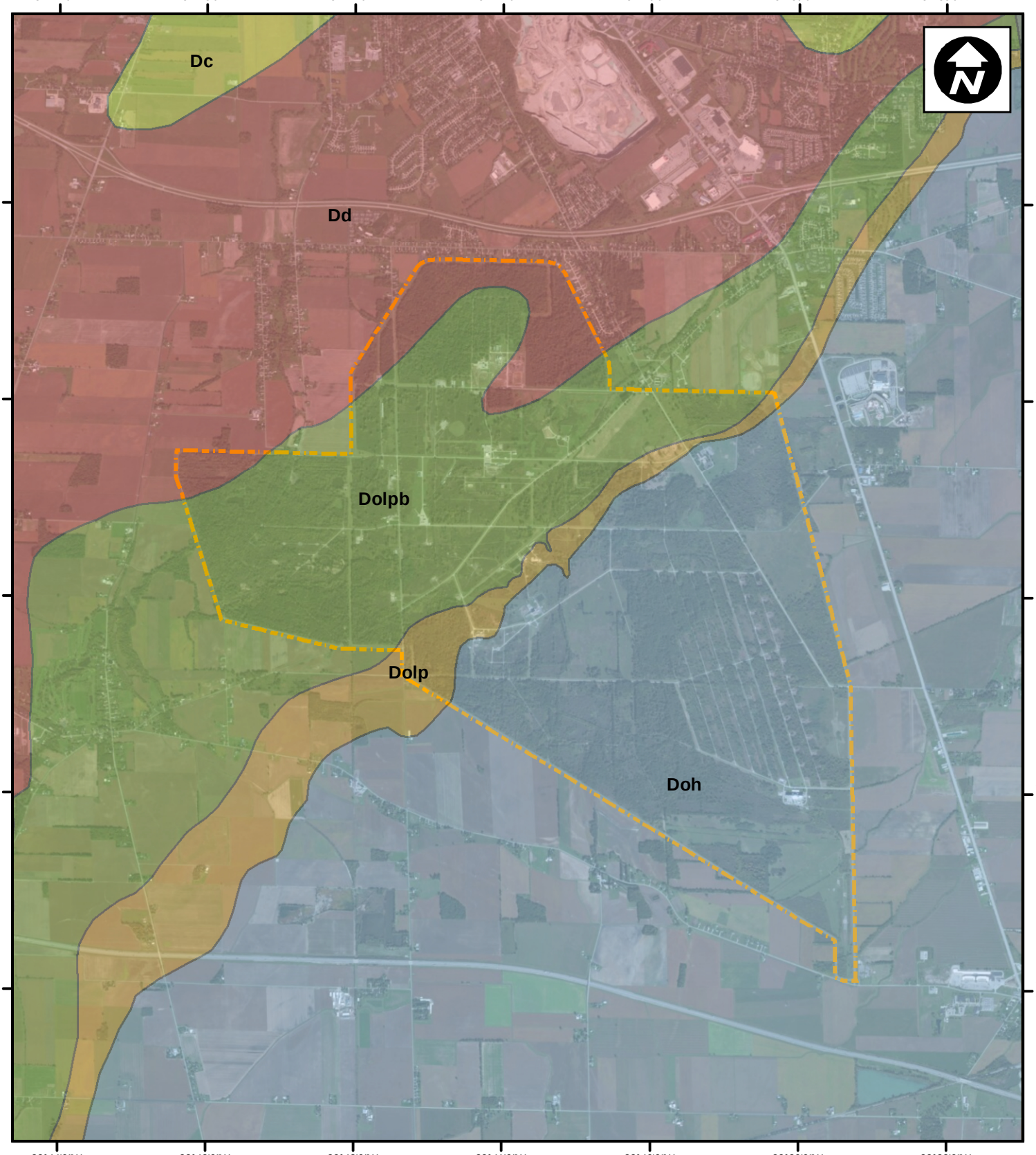
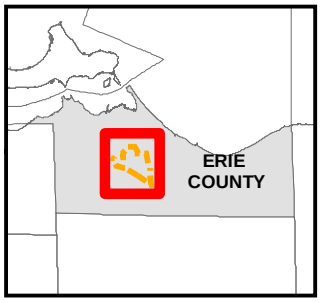
FIGURE
5

Document Path: E:\NASA\Projects\Twinsburg\SI_Report_2016\Figure 5 USDA Soil Survey Map.mxd

Document Path: F:\NASA\Projects\Twinsburg\SI_Report_2016\Figure 6 Bedrock Geology Map.mxd





Legend

- Dc: Columbus Limestone
- Dd: Delaware Limestone
- Doh: Ohio Shale
- Dolp: Prout Limestone
- Dolpb: Plum Brook Shale
- NASA PBS Boundary

0 0.5 1
Miles

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BEDROCK GEOLOGY MAP

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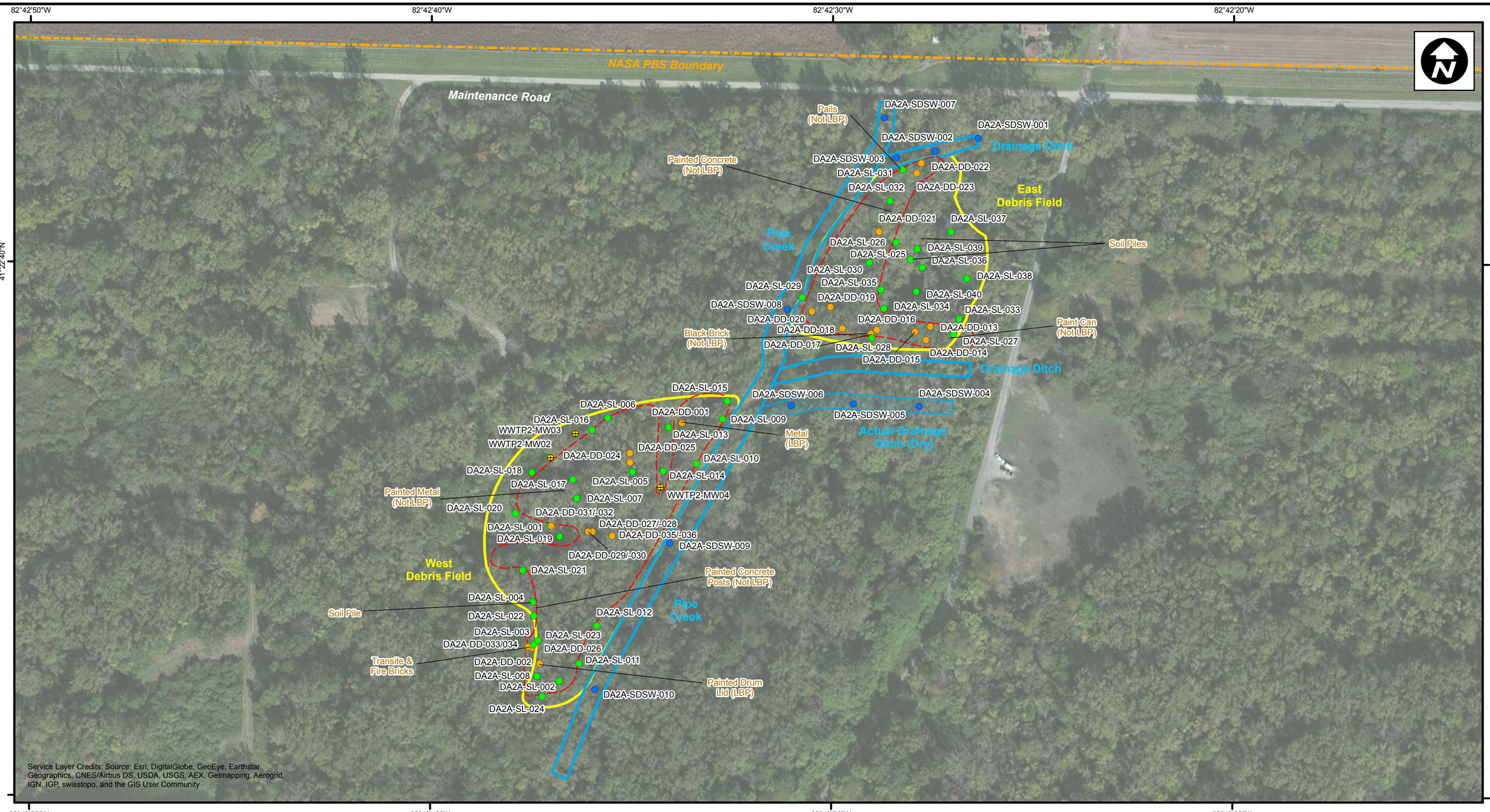
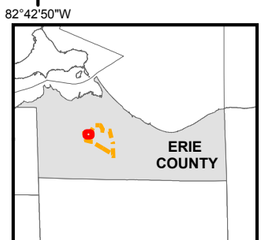
FIGURE
6

Document Path: W:\NASA_Plum_Brook\Projects\Original\Figure 7 NASA Disposal Area 2A - Environmental Sample Collection Areas.mxd





Legend

- Soil Sample
- Sediment/Surface Water Sample
- Debris Sample
- Monitoring Well
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- Actual Drainage Ditch
- NASA PBS Boundary

0 100 200
Feet

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DISPOSAL AREA 2A ENVIRONMENTAL SAMPLE COLLECTION AREAS

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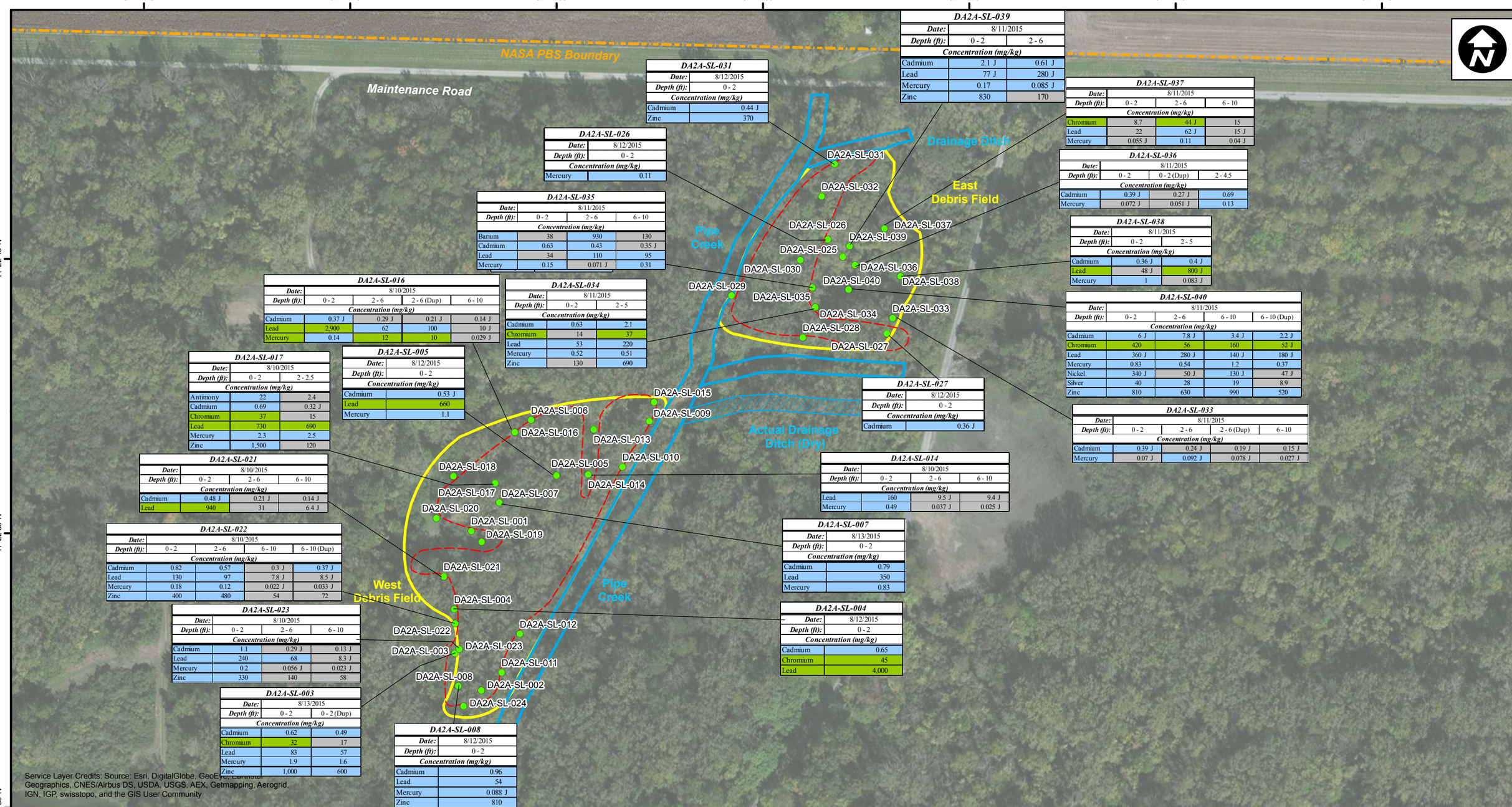
FIGURE
7

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 8 NASA Disposal Area 2A - Soil Sample Inorganic VOCs.mxd



DA2A-SL-039

Date:	8/11/2015	
Depth (ft):	0 - 2	2 - 6
Concentration (mg/kg)		
Cadmium	2.1 J	0.61 J
Lead	77 J	280 J
Mercury	0.17	0.085 J
Zinc	830	170

DA2A-SL-031

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Cadmium	0.44 J
Zinc	370

DA2A-SL-026

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Mercury	0.11

DA2A-SL-037

Date:	8/11/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Chromium	8.7	44 J	15
Lead	22	62 J	15 J
Mercury	0.055 J	0.11	0.04 J

DA2A-SL-036

Date:	8/11/2015		
Depth (ft):	0 - 2	0 - 2 (Dup)	2 - 4.5
Concentration (mg/kg)			
Cadmium	0.39 J	0.27 J	0.69
Mercury	0.072 J	0.051 J	0.13

DA2A-SL-035

Date:	8/11/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Barium	38	930	130
Cadmium	0.63	0.43	0.35 J
Lead	34	110	95
Mercury	0.15	0.071 J	0.31

DA2A-SL-038

Date:	8/11/2015	
Depth (ft):	0 - 2	2 - 5
Concentration (mg/kg)		
Cadmium	0.36 J	0.4 J
Lead	48 J	800 J
Mercury	1	0.083 J

DA2A-SL-016

Date:	8/10/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 10
Concentration (mg/kg)				
Cadmium	0.37 J	0.29 J	0.21 J	0.14 J
Lead	2,900	62	100	10 J
Mercury	0.14	12	10	0.029 J

DA2A-SL-034

Date:	8/11/2015	
Depth (ft):	0 - 2	2 - 5
Concentration (mg/kg)		
Cadmium	0.63	2.1
Chromium	14	37
Lead	53	220
Mercury	0.52	0.51
Zinc	130	690

DA2A-SL-040

Date:	8/11/2015			
Depth (ft):	0 - 2	2 - 6	6 - 10	6 - 10 (Dup)
Concentration (mg/kg)				
Cadmium	6 J	7.8 J	3.4 J	2.2 J
Chromium	420	56	160	52 J
Lead	360 J	280 J	140 J	180 J
Mercury	0.83	0.54	1.2	0.37
Nickel	340 J	50 J	130 J	47 J
Silver	40	28	19	8.9
Zinc	810	630	990	520

DA2A-SL-017

Date:	8/10/2015	
Depth (ft):	0 - 2	2 - 2.5
Concentration (mg/kg)		
Antimony	22	2.4
Cadmium	0.69	0.32 J
Chromium	37	15
Lead	730	690
Mercury	2.3	2.5
Zinc	1,500	120

DA2A-SL-005

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Cadmium	0.53 J
Lead	660
Mercury	1.1

DA2A-SL-027

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Cadmium	0.36 J

DA2A-SL-033

Date:	8/11/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 10
Concentration (mg/kg)				
Cadmium	0.39 J	0.24 J	0.19 J	0.15 J
Mercury	0.07 J	0.092 J	0.078 J	0.027 J

DA2A-SL-021

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Cadmium	0.48 J	0.21 J	0.14 J
Lead	940	31	6.4 J

DA2A-SL-014

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Lead	160	9.5 J	9.4 J
Mercury	0.49	0.037 J	0.025 J

DA2A-SL-022

Date:	8/10/2015			
Depth (ft):	0 - 2	2 - 6	6 - 10	6 - 10 (Dup)
Concentration (mg/kg)				
Cadmium	0.82	0.57	0.3 J	0.37 J
Lead	130	97	7.8 J	8.5 J
Mercury	0.18	0.12	0.022 J	0.033 J
Zinc	400	480	54	72

DA2A-SL-007

Date:	8/13/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Cadmium	0.79
Lead	350
Mercury	0.83

DA2A-SL-004

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Cadmium	0.65
Chromium	45
Lead	4,000

DA2A-SL-023

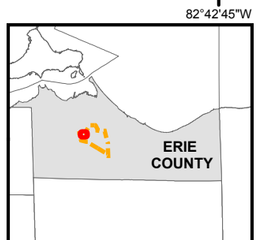
Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Cadmium	1.1	0.29 J	0.13 J
Lead	240	68	8.3 J
Mercury	0.2	0.056 J	0.023 J
Zinc	330	140	58

DA2A-SL-003

Date:	8/13/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
Cadmium	0.62	0.49
Chromium	32	17
Lead	83	57
Mercury	1.9	1.6
Zinc	1,000	600

DA2A-SL-008

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Cadmium	0.96
Lead	54
Mercury	0.088 J
Zinc	810



Legend

- Soil Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- Actual Drainage Ditch
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

Gray Shading: no exceedance

Blue Shading: exceeds Ecological Screening Level

Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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SANDUSKY, OHIO

DISPOSAL AREA 2A
SOIL SAMPLES
INORGANIC EXCEEDANCES

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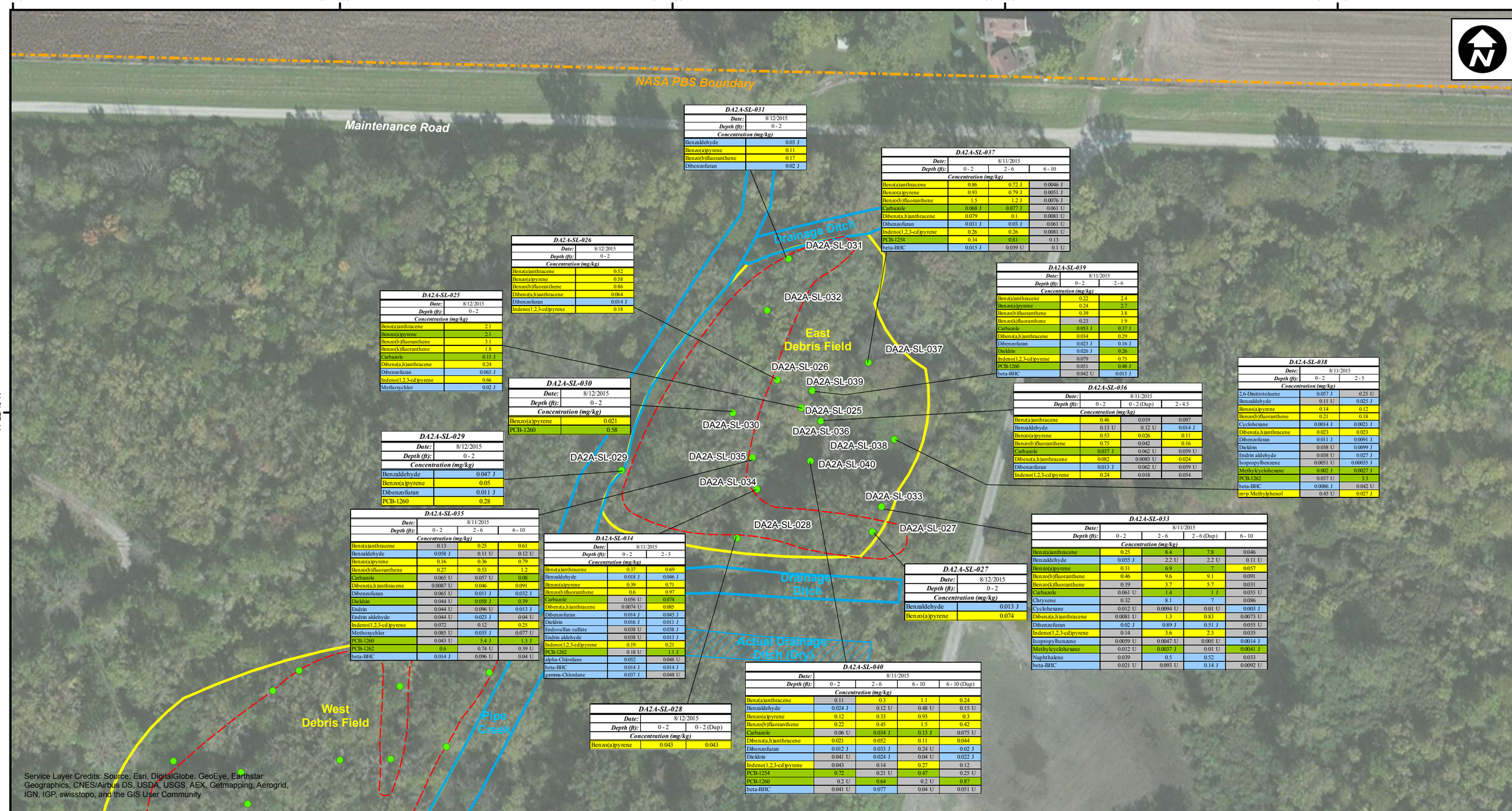
FIGURE
8

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 9 NASA Disposal Area 2A East Debris Area - Soil Sample Organic VOCs.mxd

82°42'40"W 82°42'35"W 82°42'30"W 82°42'25"W 82°42'20"W

41°22'40"N



DA2A-SL-031

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.03 J
Benzo(a)pyrene	0.11
Benzo(b)fluoranthene	0.17
Dibenzofuran	0.02 J

DA2A-SL-037

Date:	8/11/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benz(a)anthracene	0.86	0.72 J	0.0046 J
Benzo(a)pyrene	0.93	0.79 J	0.0051 J
Benzo(b)fluoranthene	1.5	1.2 J	0.0076 J
Carbazole	0.068 J	0.077 J	0.061 U
Dibenz(a,h)anthracene	0.079	0.1	0.0081 U
Dibenzofuran	0.031 J	0.03 J	0.061 U
Indeno(1,2,3-cd)pyrene	0.26	0.26	0.0081 U
PCB-1254	0.34	0.81	0.13
beta-BHC	0.015 J	0.039 U	0.1 U

DA2A-SL-026

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benz(a)anthracene	0.52
Benzo(a)pyrene	0.58
Benzo(b)fluoranthene	0.86
Dibenz(a,h)anthracene	0.064
Dibenzofuran	0.014 J
Indeno(1,2,3-cd)pyrene	0.18

DA2A-SL-025

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benz(a)anthracene	2.1
Benzo(a)pyrene	2.1
Benzo(b)fluoranthene	3.1
Benzo(k)fluoranthene	1.8
Carbazole	0.15 J
Dibenz(a,h)anthracene	0.24
Dibenzofuran	0.065 J
Indeno(1,2,3-cd)pyrene	0.66
Methoxychlor	0.02 J

DA2A-SL-039

Date:	8/11/2015	
Depth (ft):	0 - 2	2 - 6
Concentration (mg/kg)		
Benz(a)anthracene	0.22	2.4
Benzo(a)pyrene	0.24	2.7
Benzo(b)fluoranthene	0.39	3.8
Benzo(k)fluoranthene	0.23	1.9
Carbazole	0.053 J	0.37 J
Dibenz(a,h)anthracene	0.034	0.29
Dibenzofuran	0.023 J	0.16 J
Dieldrin	0.026 J	0.26
Indeno(1,2,3-cd)pyrene	0.079	0.75
PCB-1260	0.051	0.48 J
beta-BHC	0.042 U	0.013 J

DA2A-SL-030

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzo(a)pyrene	0.021
PCB-1260	0.58

DA2A-SL-036

Date:	8/11/2015		
Depth (ft):	0 - 2	0 - 2 (Dup)	2 - 4.5
Concentration (mg/kg)			
Benz(a)anthracene	0.46	0.019	0.097
Benzaldehyde	0.13 U	0.12 U	0.014 J
Benzo(a)pyrene	0.53	0.026	0.11
Benzo(b)fluoranthene	0.75	0.042	0.16
Carbazole	0.037 J	0.062 U	0.059 U
Dibenz(a,h)anthracene	0.082	0.0083 U	0.024
Dibenzofuran	0.013 J	0.062 U	0.059 U
Indeno(1,2,3-cd)pyrene	0.24	0.018	0.054

DA2A-SL-038

Date:	8/11/2015	
Depth (ft):	0 - 2	2 - 5
Concentration (mg/kg)		
2,6-Dinitrotoluene	0.057 J	0.25 U
Benzaldehyde	0.11 U	0.025 J
Benzo(a)pyrene	0.14	0.12
Benzo(b)fluoranthene	0.21	0.18
Cyclohexane	0.0014 J	0.0021 J
Dibenz(a,h)anthracene	0.023	0.023
Dibenzofuran	0.011 J	0.0091 J
Dieldrin	0.038 U	0.0099 J
Endrin aldehyde	0.038 U	0.027 J
Isopropylbenzene	0.0051 U	0.00035 J
Methylcyclohexane	0.002 J	0.0027 J
PCB-1262	0.037 U	3.3
beta-BHC	0.0086 J	0.042 U
m+p Methylphenol	0.45 U	0.027 J

DA2A-SL-029

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.047 J
Benzo(a)pyrene	0.05
Dibenzofuran	0.011 J
PCB-1260	0.28

DA2A-SL-035

Date:	8/11/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benz(a)anthracene	0.13	0.25	0.61
Benzaldehyde	0.058 J	0.11 U	0.12 U
Benzo(a)pyrene	0.16	0.36	0.79
Benzo(b)fluoranthene	0.27	0.53	1.2
Carbazole	0.065 U	0.057 U	0.08
Dibenz(a,h)anthracene	0.0087 U	0.046	0.091
Dibenzofuran	0.065 U	0.011 J	0.032 J
Dieldrin	0.044 U	0.058 J	0.39
Endrin	0.044 U	0.096 U	0.013 J
Endrin aldehyde	0.044 U	0.023 J	0.04 U
Indeno(1,2,3-cd)pyrene	0.072	0.12	0.25
Methoxychlor	0.085 U	0.035 J	0.077 U
PCB-1260	0.043 U	5.4 J	1.3 J
PCB-1262	0.6	0.74 U	0.39 U
beta-BHC	0.014 J	0.096 U	0.04 U

DA2A-SL-034

Date:	8/11/2015	
Depth (ft):	0 - 2	2 - 5
Concentration (mg/kg)		
Benz(a)anthracene	0.37	0.69
Benzaldehyde	0.018 J	0.046 J
Benzo(a)pyrene	0.39	0.71
Benzo(b)fluoranthene	0.6	0.97
Carbazole	0.056 U	0.074
Dibenz(a,h)anthracene	0.0074 U	0.085
Dibenzofuran	0.014 J	0.045 J
Dieldrin	0.016 J	0.011 J
Endosulfan sulfate	0.038 U	0.038 J
Endrin aldehyde	0.038 U	0.013 J
Indeno(1,2,3-cd)pyrene	0.19	0.21
PCB-1262	0.18 U	1.1 J
alpha-Chlordane	0.052	0.048 U
beta-BHC	0.014 J	0.014 J
gamma-Chlordane	0.037 J	0.048 U

DA2A-SL-033

Date:	8/11/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 10
Concentration (mg/kg)				
Benz(a)anthracene	0.25	8.4	7.8	0.046
Benzaldehyde	0.055 J	2.2 U	2.2 U	0.11 U
Benzo(a)pyrene	0.31	6.9	7	0.057
Benzo(b)fluoranthene	0.46	9.6	9.1	0.091
Benzo(k)fluoranthene	0.19	3.7	5.7	0.031
Carbazole	0.061 U	1.4	1 J	0.055 U
Chrysene	0.32	8.1	7	0.086
Cyclohexane	0.012 U	0.0094 U	0.01 U	0.003 J
Dibenz(a,h)anthracene	0.0081 U	1.3	0.83	0.0073 U
Dibenzofuran	0.02 J	0.89 J	0.51 J	0.055 U
Indeno(1,2,3-cd)pyrene	0.14	3.6	2.3	0.035
Isopropylbenzene	0.0059 U	0.0047 U	0.005 U	0.0014 J
Methylcyclohexane	0.012 U	0.0037 J	0.01 U	0.0041 J
Naphthalene	0.039	0.5	0.52	0.033
beta-BHC	0.021 U	0.093 U	0.14 J	0.0092 U

DA2A-SL-027

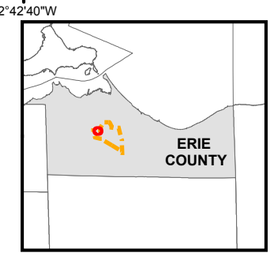
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.013 J
Benzo(a)pyrene	0.074

DA2A-SL-028

Date:	8/12/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
Benzo(a)pyrene	0.043	0.043

DA2A-SL-040

Date:	8/11/2015			
Depth (ft):	0 - 2	2 - 6	6 - 10	6 - 10 (Dup)
Concentration (mg/kg)				
Benz(a)anthracene	0.11	0.3	1.1	0.24
Benzaldehyde	0.024 J	0.12 U	0.48 U	0.15 U
Benzo(a)pyrene	0.12	0.33	0.93	0.3
Benzo(b)fluoranthene	0.22	0.45	1.5	0.42
Carbazole	0.06 U	0.034 J	0.13 J	0.075 U
Dibenz(a,h)anthracene	0.021	0.052	0.11	0.044
Dibenzofuran	0.012 J	0.033 J	0.24 U	0.02 J
Dieldrin	0.041 U	0.024 J	0.04 U	0.022 J
Indeno(1,2,3-cd)pyrene	0.043	0.14	0.27	0.12
PCB-1254	0.72	0.21 U	0.47	0.25 U
PCB-1260	0.2 U	0.64	0.2 U	0.87
beta-BHC	0.041 U	0.077	0.04 U	0.051 U



Legend

- Soil Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- Actual Drainage Ditch
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

- Gray Shading: no exceedance
- Yellow Shading: exceeds Human Health Screening Level
- Blue Shading: exceeds Ecological Screening Level
- Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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PLUM BROOK STATION
SANDUSKY, OHIO

DISPOSAL AREA 2A EAST DEBRIS AREA SOIL SAMPLES ORGANIC EXCEEDANCES

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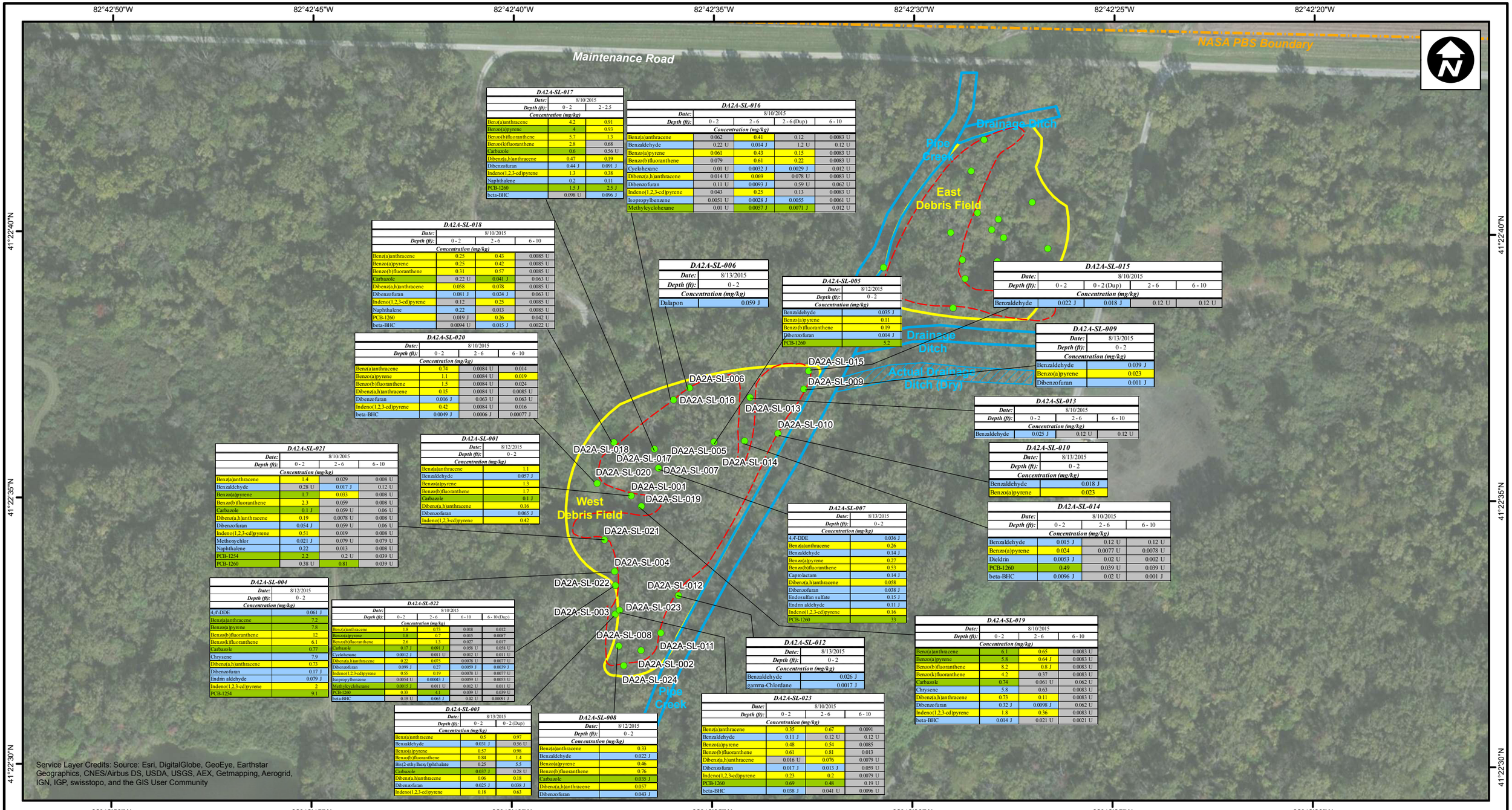
FIGURE
9

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 10 NASA Disposal Area 2A West Debris Area - Soil Sample Organic VOCs.mxd



DA2A-SL-017

Date:	8/10/2015	
Depth (ft):	0 - 2	2 - 2.5
Concentration (mg/kg)		
Benz(a)anthracene	4.2	0.91
Benzo(a)pyrene	4	0.93
Benzo(b)fluoranthene	5.7	1.3
Benzo(k)fluoranthene	2.8	0.68
Carbazole	0.6	0.56 U
Dibenz(a,h)anthracene	0.47	0.19
Dibenzofuran	0.44 J	0.091 J
Indeno(1,2,3-cd)pyrene	1.3	0.38
Naphthalene	0.2	0.11
PCB-1260	1.5 J	2.5 J
beta-BHC	0.098 U	0.096 J

DA2A-SL-016

Date:	8/10/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 10
Concentration (mg/kg)				
Benz(a)anthracene	0.062	0.41	0.12	0.0083 U
Benzaldehyde	0.22 U	0.014 J	1.2 U	0.12 U
Benzo(a)pyrene	0.061	0.43	0.15	0.0083 U
Benzo(b)fluoranthene	0.079	0.61	0.22	0.0083 U
Cyclohexane	0.01 U	0.0032 J	0.0029 J	0.012 U
Dibenz(a,h)anthracene	0.014 U	0.069	0.078 U	0.0083 U
Dibenzofuran	0.11 U	0.0093 J	0.59 U	0.062 U
Indeno(1,2,3-cd)pyrene	0.043	0.25	0.13	0.0083 U
Isopropylbenzene	0.0051 U	0.0028 J	0.0055	0.0061 U
Methylcyclohexane	0.01 U	0.0057 J	0.0071 J	0.012 U

DA2A-SL-018

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benz(a)anthracene	0.25	0.43	0.0085 U
Benzo(a)pyrene	0.25	0.42	0.0085 U
Benzo(b)fluoranthene	0.31	0.57	0.0085 U
Carbazole	0.22 U	0.041 J	0.063 U
Dibenz(a,h)anthracene	0.058	0.078	0.0085 U
Dibenzofuran	0.081 J	0.024 J	0.063 U
Indeno(1,2,3-cd)pyrene	0.12	0.25	0.0085 U
Naphthalene	0.22	0.013	0.0085 U
PCB-1260	0.019 J	0.26	0.042 U
beta-BHC	0.0094 U	0.015 J	0.0022 U

DA2A-SL-006

Date:	8/13/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Dalapon	0.059 J

DA2A-SL-005

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.035 J
Benzo(a)pyrene	0.11
Benzo(b)fluoranthene	0.19
Dibenzofuran	0.014 J
PCB-1260	5.2

DA2A-SL-015

Date:	8/10/2015			
Depth (ft):	0 - 2	0 - 2 (Dup)	2 - 6	6 - 10
Concentration (mg/kg)				
Benzaldehyde	0.022 J	0.018 J	0.12 U	0.12 U

DA2A-SL-009

Date:	8/13/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.039 J
Benzo(a)pyrene	0.023
Dibenzofuran	0.011 J

DA2A-SL-020

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benz(a)anthracene	0.74	0.0084 U	0.014
Benzo(a)pyrene	1.1	0.0084 U	0.019
Benzo(b)fluoranthene	1.5	0.0084 U	0.024
Dibenz(a,h)anthracene	0.15	0.0084 U	0.0085 U
Dibenzofuran	0.016 J	0.063 U	0.063 U
Indeno(1,2,3-cd)pyrene	0.42	0.0084 U	0.016
beta-BHC	0.0049 J	0.0006 J	0.00077 J

DA2A-SL-013

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benzaldehyde	0.025 J	0.12 U	0.12 U

DA2A-SL-021

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benz(a)anthracene	1.4	0.029	0.008 U
Benzaldehyde	0.28 U	0.017 J	0.12 U
Benzo(a)pyrene	1.7	0.033	0.008 U
Benzo(b)fluoranthene	2.3	0.059	0.008 U
Carbazole	0.1 J	0.059 U	0.06 U
Dibenz(a,h)anthracene	0.19	0.0078 U	0.008 U
Dibenzofuran	0.054 J	0.059 U	0.06 U
Indeno(1,2,3-cd)pyrene	0.51	0.019	0.008 U
Methoxychlor	0.021 J	0.079 U	0.079 U
Naphthalene	0.22	0.013	0.008 U
PCB-1254	2.2	0.2 U	0.039 U
PCB-1260	0.38 U	0.81	0.039 U

DA2A-SL-001

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benz(a)anthracene	1.1
Benzaldehyde	0.057 J
Benzo(a)pyrene	1.3
Benzo(b)fluoranthene	1.7
Carbazole	0.1 J
Dibenz(a,h)anthracene	0.16
Dibenzofuran	0.065 J
Indeno(1,2,3-cd)pyrene	0.42

DA2A-SL-010

Date:	8/13/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.018 J
Benzo(a)pyrene	0.023

DA2A-SL-007

Date:	8/13/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
4,4'-DDE	0.036 J
Benz(a)anthracene	0.26
Benzaldehyde	0.14 J
Benzo(a)pyrene	0.27
Benzo(b)fluoranthene	0.53
Caprolactam	0.14 J
Dibenz(a,h)anthracene	0.058
Dibenzofuran	0.038 J
Endosulfan sulfate	0.15 J
Endrin aldehyde	0.11 J
Indeno(1,2,3-cd)pyrene	0.16
PCB-1260	33

DA2A-SL-014

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benzaldehyde	0.015 J	0.12 U	0.12 U
Benzo(a)pyrene	0.024	0.0077 U	0.0078 U
Dieldrin	0.0053 J	0.02 U	0.002 U
PCB-1260	0.49	0.039 U	0.039 U
beta-BHC	0.0096 J	0.02 U	0.001 J

DA2A-SL-004

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
4,4'-DDE	0.061 J
Benz(a)anthracene	7.2
Benzo(a)pyrene	7.8
Benzo(b)fluoranthene	12
Benzo(k)fluoranthene	6.1
Carbazole	0.77
Chrysene	7.9
Dibenz(a,h)anthracene	0.73
Dibenzofuran	0.17 J
Endrin aldehyde	0.079 J
Indeno(1,2,3-cd)pyrene	2
PCB-1254	9.1

DA2A-SL-022

Date:	8/10/2015			
Depth (ft):	0 - 2	2 - 6	6 - 10	6 - 10 (Dup)
Concentration (mg/kg)				
Benz(a)anthracene	1.8	0.73	0.008	0.012
Benzo(a)pyrene	1.8	0.7	0.015	0.0087
Benzo(b)fluoranthene	2.6	1.3	0.027	0.017
Carbazole	0.17 J	0.091 J	0.058 U	0.058 U
Cyclohexane	0.0012 J	0.011 U	0.012 U	0.011 U
Dibenz(a,h)anthracene	0.22	0.075	0.0078 U	0.0077 U
Dibenzofuran	0.099 J	0.27	0.0059 J	0.0059 J
Indeno(1,2,3-cd)pyrene	0.55	0.19	0.0078 U	0.0077 U
Isopropylbenzene	0.0054 U	0.00043 J	0.0059 U	0.0053 U
Methylcyclohexane	0.0015 J	0.011 U	0.012 U	0.011 U
PCB-1260	0.33	4.1	0.039 U	0.039 U
beta-BHC	0.19 U	0.065 J	0.02 U	0.00091 J

DA2A-SL-012

Date:	8/13/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.026 J
gamma-Chlordane	0.0017 J

DA2A-SL-019

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benz(a)anthracene	6.1	0.65	0.0083 U
Benzo(a)pyrene	5.8	0.64 J	0.0083 U
Benzo(b)fluoranthene	8.2	0.8 J	0.0083 U
Benzo(k)fluoranthene	4.2	0.37	0.0083 U
Carbazole	0.74	0.061 U	0.062 U
Chrysene	5.8	0.63	0.0083 U
Dibenz(a,h)anthracene	0.73	0.11	0.0083 U
Dibenzofuran	0.32 J	0.0098 J	0.062 U
Indeno(1,2,3-cd)pyrene	1.8	0.36	0.0083 U
beta-BHC	0.014 J	0.021 U	0.0021 U

DA2A-SL-003

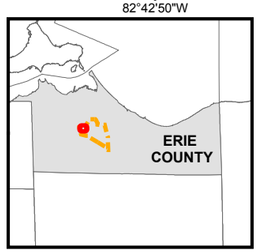
Date:	8/13/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
Benz(a)anthracene	0.5	0.97
Benzaldehyde	0.031 J	0.56 U
Benzo(a)pyrene	0.57	0.98
Benzo(b)fluoranthene	0.84	1.4
Bis(2-ethylhexyl)phthalate	0.25	5.5
Carbazole	0.037 J	0.28 U
Dibenz(a,h)anthracene	0.06	0.18
Dibenzofuran	0.025 J	0.038 J
Indeno(1,2,3-cd)pyrene	0.18	0.63

DA2A-SL-008

Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benz(a)anthracene	0.33
Benzaldehyde	0.022 J
Benzo(a)pyrene	0.46
Benzo(b)fluoranthene	0.76
Carbazole	0.035 J
Dibenz(a,h)anthracene	0.057
Dibenzofuran	0.043 J

DA2A-SL-023

Date:	8/10/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benz(a)anthracene	0.35	0.67	0.0091
Benzaldehyde	0.11 J	0.12 U	0.12 U
Benzo(a)pyrene	0.48	0.54	0.0085
Benzo(b)fluoranthene	0.61	0.81	0.013
Dibenz(a,h)anthracene	0.016 U	0.076	0.0079 U
Dibenzofuran	0.017 J	0.013 J	0.059 U
Indeno(1,2,3-cd)pyrene	0.23	0.2	0.0079 U
PCB-1260	0.69	0.48	0.19 U
beta-BHC	0.038 J	0.041 U	0.0096 U



Legend

- Soil Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- Actual Drainage Ditch
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

- Gray Shading: no exceedance
- Yellow Shading: exceeds Human Health Screening Level
- Blue Shading: exceeds Ecological Screening Level
- Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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SANDUSKY, OHIO

DISPOSAL AREA 2A WEST DEBRIS AREA SOIL SAMPLES ORGANIC EXCEEDANCES

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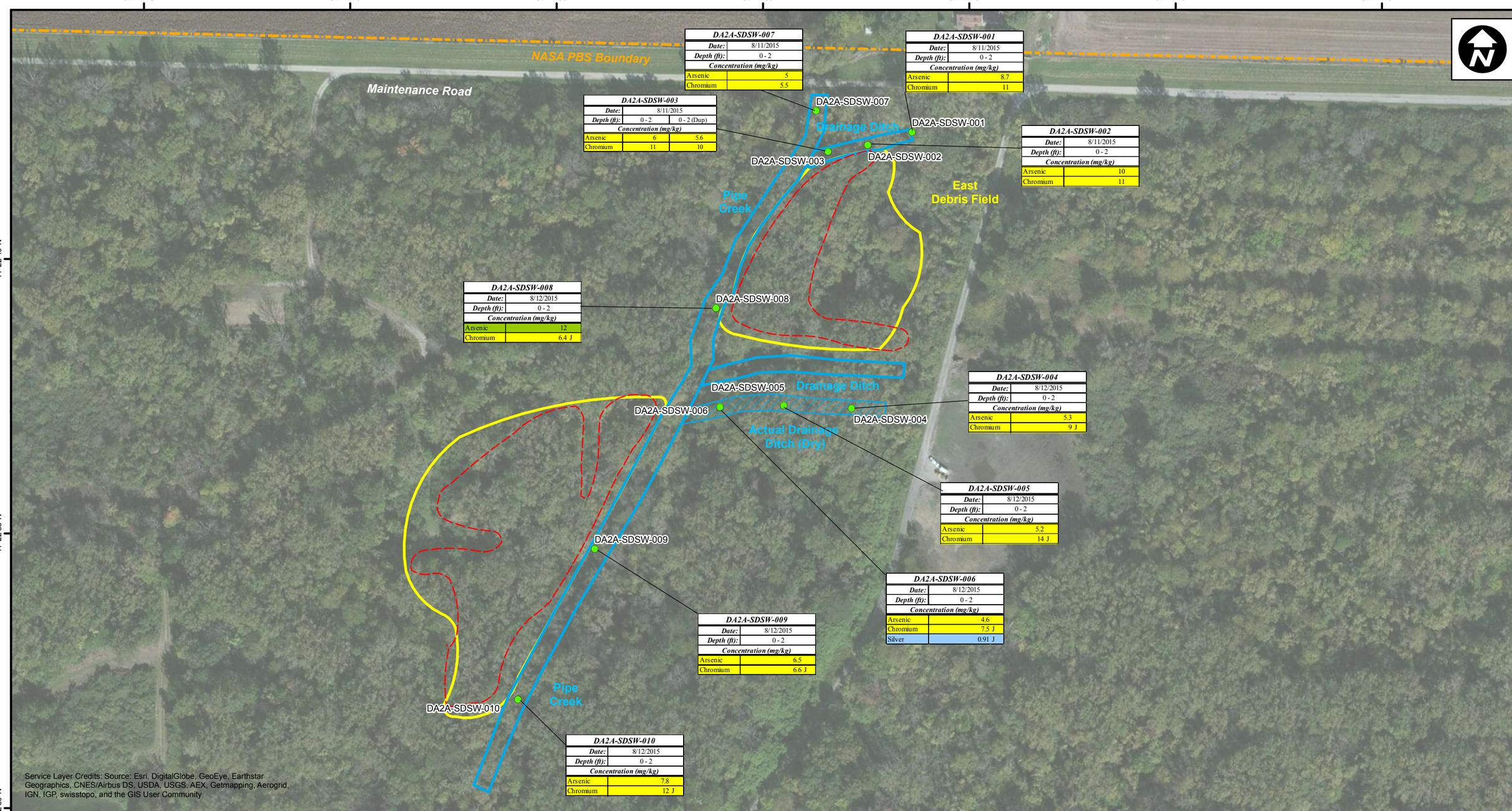
FIGURE
10

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 11 NASA Disposal Area 2A - Sediment Sample Inorganic VOCs.mxd



DA2A-SDSW-007	
Date:	8/11/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	5
Chromium	5.5

DA2A-SDSW-001	
Date:	8/11/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	8.7
Chromium	11

DA2A-SDSW-003		
Date:	8/11/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
Arsenic	6	5.6
Chromium	11	10

DA2A-SDSW-002	
Date:	8/11/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	10
Chromium	11

DA2A-SDSW-008	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	12
Chromium	6.4 J

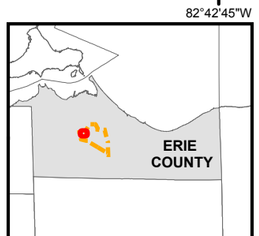
DA2A-SDSW-004	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	5.3
Chromium	9 J

DA2A-SDSW-005	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	5.2
Chromium	14 J

DA2A-SDSW-006	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	4.6
Chromium	7.5 J
Silver	0.91 J

DA2A-SDSW-009	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	6.5
Chromium	6.6 J

DA2A-SDSW-010	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	7.8
Chromium	12 J



Legend

- Sediment Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- Actual Drainage Ditch
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

Yellow Shading: exceeds Human Health Screening Level

Blue Shading: exceeds Ecological Screening Level

Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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SANDUSKY, OHIO

DISPOSAL AREA 2A
SEDIMENT SAMPLES
INORGANIC EXCEEDANCES

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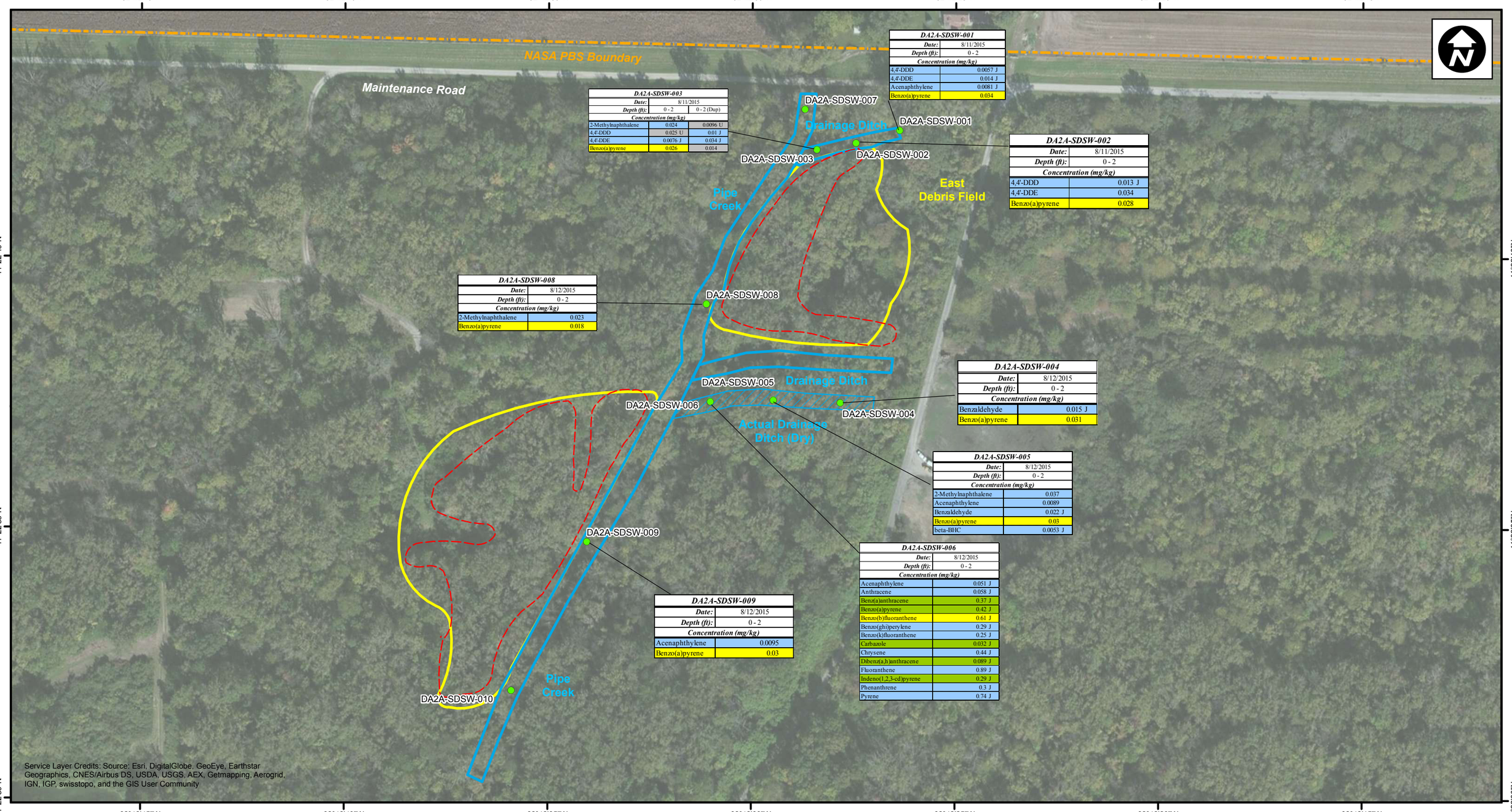
FIGURE
11

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 12 NASA Disposal Area 2A - Sediment Sample organic VOCs.mxd



DA2A-SDSW-001	
Date:	8/11/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
4,4'-DDD	0.0057 J
4,4'-DDE	0.014 J
Acenaphthylene	0.0081 J
Benzo(a)pyrene	0.034

DA2A-SDSW-003		
Date:	8/11/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
2-Methylnaphthalene	0.024	0.0096 U
4,4'-DDD	0.025 U	0.01 J
4,4'-DDE	0.0076 J	0.034 J
Benzo(a)pyrene	0.026	0.014

DA2A-SDSW-002	
Date:	8/11/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
4,4'-DDD	0.013 J
4,4'-DDE	0.034
Benzo(a)pyrene	0.028

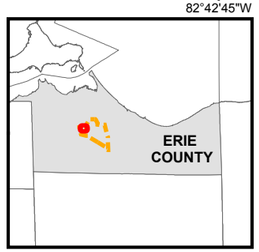
DA2A-SDSW-008	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
2-Methylnaphthalene	0.023
Benzo(a)pyrene	0.018

DA2A-SDSW-004	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.015 J
Benzo(a)pyrene	0.031

DA2A-SDSW-005	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
2-Methylnaphthalene	0.037
Acenaphthylene	0.0089
Benzaldehyde	0.022 J
Benzo(a)pyrene	0.03
beta-BHC	0.0053 J

DA2A-SDSW-006	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Acenaphthylene	0.051 J
Anthracene	0.058 J
Benz(a)anthracene	0.37 J
Benzo(a)pyrene	0.42 J
Benzo(b)fluoranthene	0.61 J
Benzo(ghi)perylene	0.29 J
Benzo(k)fluoranthene	0.25 J
Carbazole	0.032 J
Chrysene	0.44 J
Dibenz(a,h)anthracene	0.089 J
Fluoranthene	0.89 J
Indeno(1,2,3-cd)pyrene	0.29 J
Phenanthrene	0.3 J
Pyrene	0.74 J

DA2A-SDSW-009	
Date:	8/12/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Acenaphthylene	0.0095
Benzo(a)pyrene	0.03



Legend

- Sediment Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- Actual Drainage Ditch
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

- Gray Shading: no exceedance
- Yellow Shading: exceeds Human Health Screening Level
- Blue Shading: exceeds Ecological Screening Level
- Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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DISPOSAL AREA 2A
SEDIMENT SAMPLES
ORGANIC EXCEEDANCES

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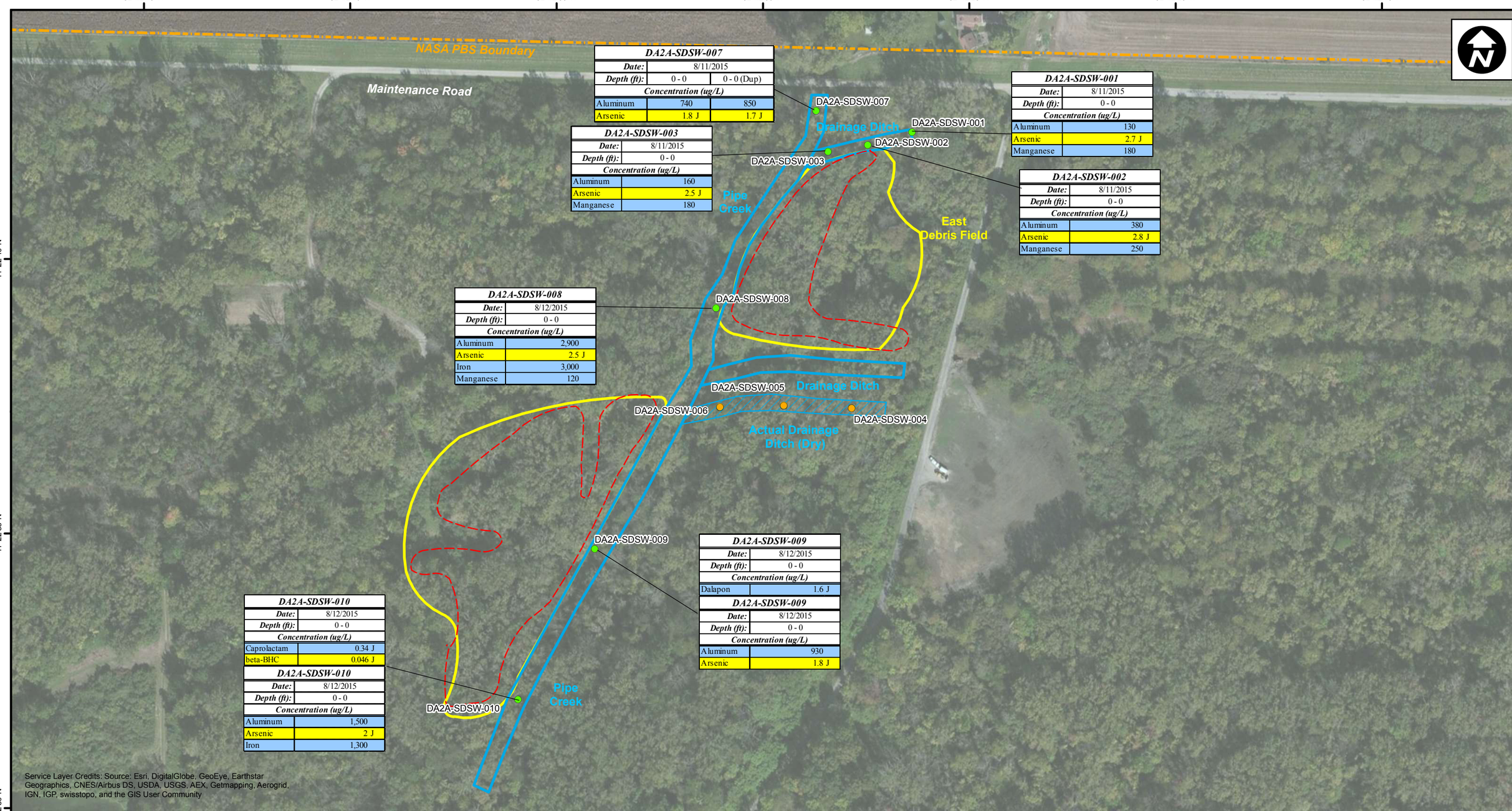
FIGURE
12

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 13 NASA Disposal Area 2A - Surface Water Sample VOCs.mxd



DA2A-SDSW-007		
Date:	8/11/2015	
Depth (ft):	0 - 0	0 - 0 (Dup)
Concentration (ug/L)		
Aluminum	740	850
Arsenic	1.8 J	1.7 J

DA2A-SDSW-001	
Date:	8/11/2015
Depth (ft):	0 - 0
Concentration (ug/L)	
Aluminum	130
Arsenic	2.7 J
Manganese	180

DA2A-SDSW-003	
Date:	8/11/2015
Depth (ft):	0 - 0
Concentration (ug/L)	
Aluminum	160
Arsenic	2.5 J
Manganese	180

DA2A-SDSW-002	
Date:	8/11/2015
Depth (ft):	0 - 0
Concentration (ug/L)	
Aluminum	380
Arsenic	2.8 J
Manganese	250

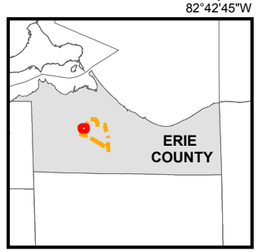
DA2A-SDSW-008	
Date:	8/12/2015
Depth (ft):	0 - 0
Concentration (ug/L)	
Aluminum	2,900
Arsenic	2.5 J
Iron	3,000
Manganese	120

DA2A-SDSW-009	
Date:	8/12/2015
Depth (ft):	0 - 0
Concentration (ug/L)	
Dalapon	1.6 J

DA2A-SDSW-009	
Date:	8/12/2015
Depth (ft):	0 - 0
Concentration (ug/L)	
Aluminum	930
Arsenic	1.8 J

DA2A-SDSW-010	
Date:	8/12/2015
Depth (ft):	0 - 0
Concentration (ug/L)	
Caprolactam	0.34 J
beta-BHC	0.046 J

DA2A-SDSW-010	
Date:	8/12/2015
Depth (ft):	0 - 0
Concentration (ug/L)	
Aluminum	1,500
Arsenic	2 J
Iron	1,300



Legend

- Surface Water Location
- Surface Water Location (Not Collected)
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- Actual Drainage Ditch
- NASA PBS Boundary

DA2A-SDSW-004, DA2A-SDSW-005 & DA2A-SDSW-006 were not collected because the ditch was dry

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

Yellow Shading: exceeds Human Health Screening Level

Blue Shading: exceeds Ecological Screening Level

0 100 200
Feet

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DISPOSAL AREA 2A
SURFACE WATER SAMPLES
INORGANIC/ORGANIC EXCEEDANCES

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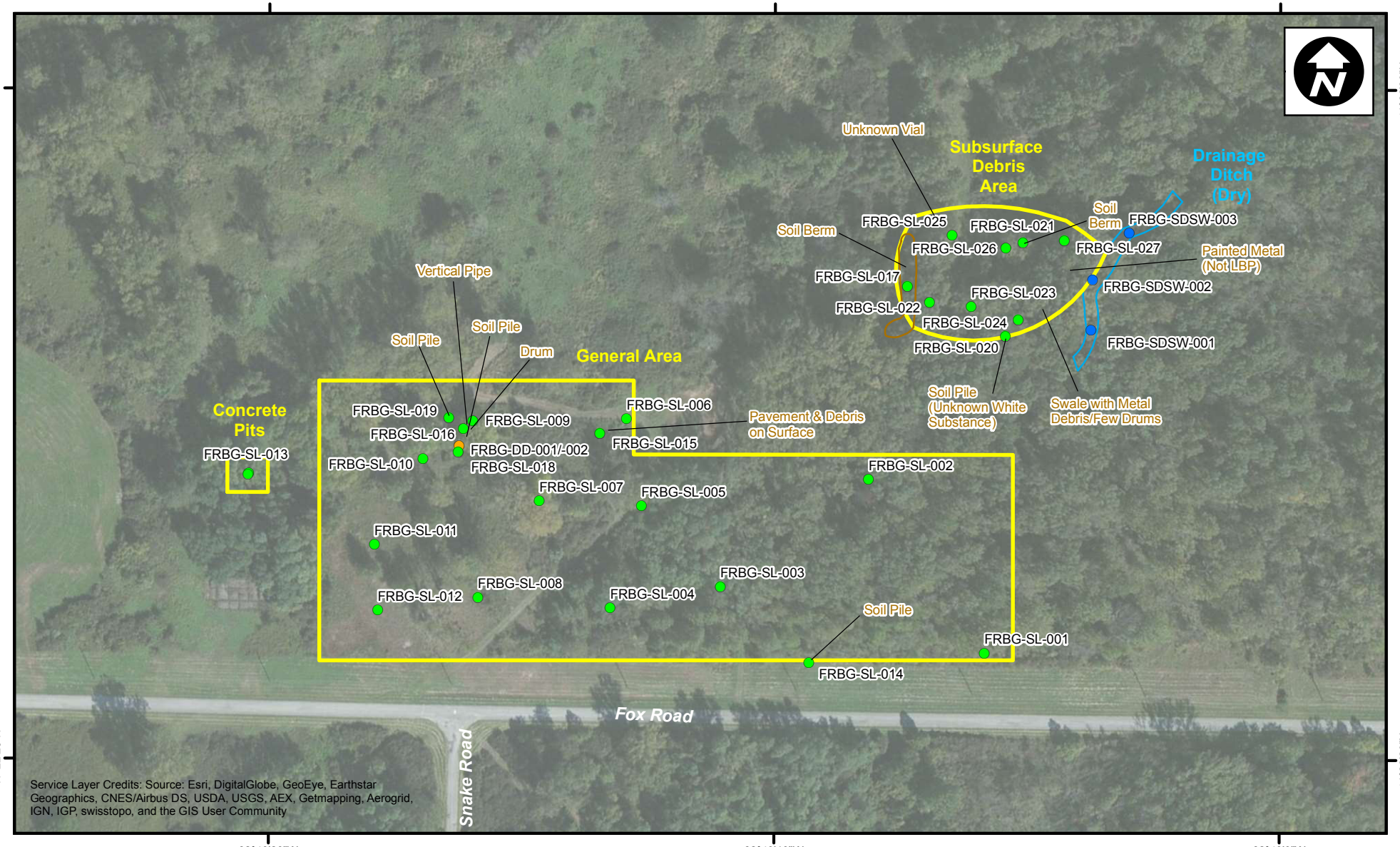
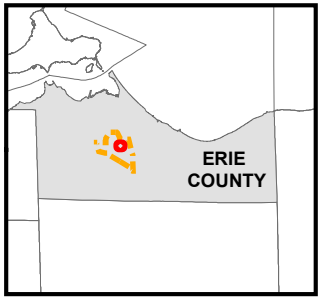
FIGURE
13





Legend

- Soil Sample
- Sediment Sample
- Debris Sample
- Sediment/Surface Water
- Soil Berm
- Soil/Debris

0 100 200
Feet

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FOX ROAD BURNING GROUND ENVIRONMENTAL SAMPLE COLLECTION AREAS

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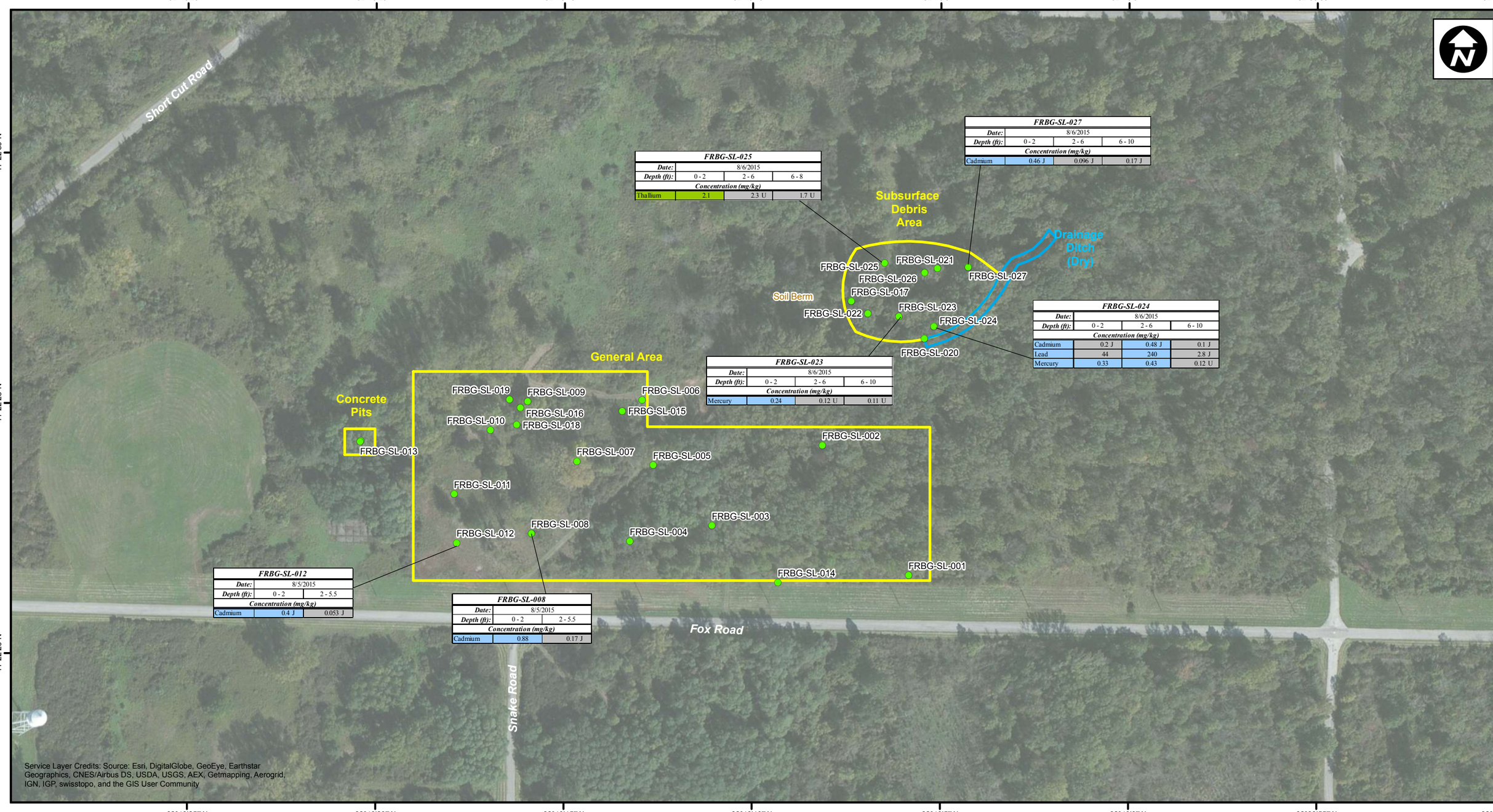
FIGURE
14

Document Path: W:\NASA_Plum_Brook\Projects\Original\Figure 14 NASA Fox Road Burning Ground - Environmental Sample Collection Areas.mxd

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 15 NASA Fox Road Burning Ground - Soil Sample Locations.mxd



FRBG-SL-025			
Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 8
Concentration (mg/kg)			
Thallium	2.1	2.3 U	1.7 U

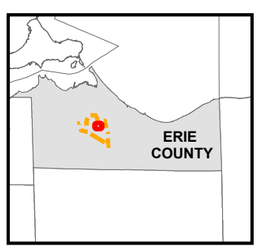
FRBG-SL-027			
Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Cadmium	0.46 J	0.096 J	0.17 J

FRBG-SL-024			
Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Cadmium	0.2 J	0.48 J	0.1 J
Lead	44	240	2.8 J
Mercury	0.33	0.43	0.12 U

FRBG-SL-023			
Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Mercury	0.24	0.12 U	0.11 U

FRBG-SL-012		
Date:	8/5/2015	
Depth (ft):	0 - 2	2 - 5.5
Concentration (mg/kg)		
Cadmium	0.4 J	0.053 J

FRBG-SL-008		
Date:	8/5/2015	
Depth (ft):	0 - 2	2 - 5.5
Concentration (mg/kg)		
Cadmium	0.88	0.17 J



Legend

- Soil Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

- Gray Shading: no exceedance
- Blue Shading: exceeds Ecological Screening Level
- Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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FOX ROAD BURNING GROUND SOIL SAMPLES INORGANIC EXCEEDANCES

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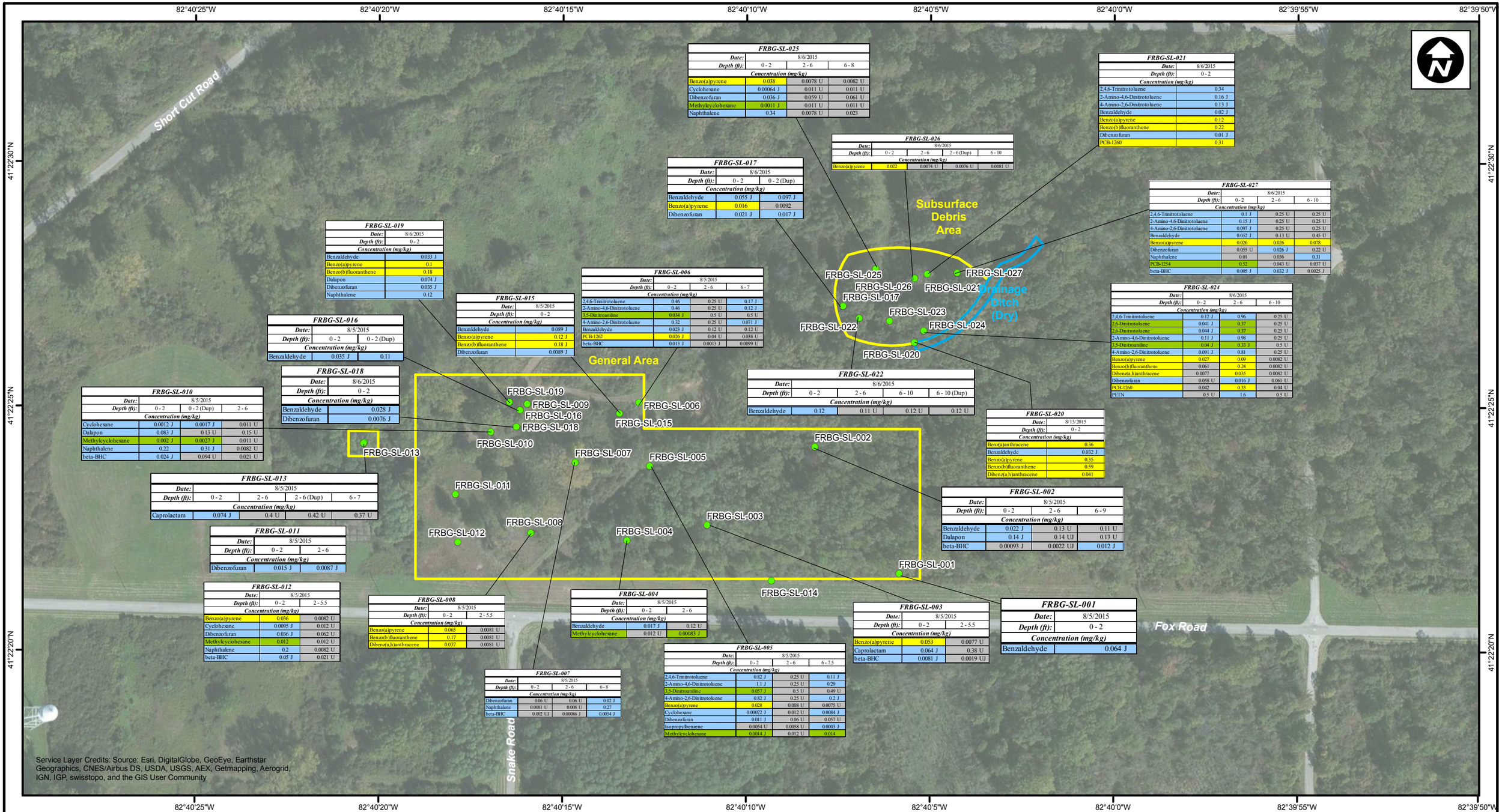
FIGURE
15

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 16 NASA Fox Road Burning Ground - Soil Sample Organic Locations.mxd



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FRBG-SL-025

Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 8
Concentration (mg/kg)			
Benzo(a)pyrene	0.038	0.0078 U	0.0082 U
Cyclohexane	0.00064 J	0.011 U	0.011 U
Dibenzofuran	0.036 J	0.059 U	0.061 U
Methylcyclohexane	0.0011 J	0.011 U	0.011 U
Naphthalene	0.34	0.0078 U	0.023

FRBG-SL-021

Date:	8/6/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
2,4,6-Trinitrotoluene	0.34
2-Amino-4,6-Dinitrotoluene	0.16 J
4-Amino-2,6-Dinitrotoluene	0.13 J
Benzaldehyde	0.02 J
Benzo(a)pyrene	0.12
Benzo(b)fluoranthene	0.22
Dibenzofuran	0.01 J
PCB-1260	0.31

FRBG-SL-026

Date:	8/6/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 10
Concentration (mg/kg)				
Benzo(a)pyrene	0.022	0.0074 U	0.0076 U	0.0081 U

FRBG-SL-017

Date:	8/6/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
Benzaldehyde	0.055 J	0.097 J
Benzo(a)pyrene	0.016	0.0092
Dibenzofuran	0.021 J	0.017 J

FRBG-SL-027

Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
2,4,6-Trinitrotoluene	0.1 J	0.25 U	0.25 U
2-Amino-4,6-Dinitrotoluene	0.15 J	0.25 U	0.25 U
4-Amino-2,6-Dinitrotoluene	0.097 J	0.25 U	0.25 U
Benzaldehyde	0.052 J	0.13 U	0.45 U
Benzo(a)pyrene	0.026	0.026	0.078
Dibenzofuran	0.055 U	0.026 J	0.22 U
Naphthalene	0.01	0.036	0.31
PCB-1254	0.52	0.043 U	0.037 U
beta-BHC	0.005 J	0.032 J	0.0025 J

FRBG-SL-019

Date:	8/6/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.033 J
Benzo(a)pyrene	0.1
Benzo(b)fluoranthene	0.18
Dalapon	0.074 J
Dibenzofuran	0.035 J
Naphthalene	0.12

FRBG-SL-006

Date:	8/5/2015		
Depth (ft):	0 - 2	2 - 6	6 - 7
Concentration (mg/kg)			
2,4,6-Trinitrotoluene	0.46	0.25 U	0.17 J
2-Amino-4,6-Dinitrotoluene	0.46	0.25 U	0.12 J
3,5-Dinitroaniline	0.034 J	0.5 U	0.5 U
4-Amino-2,6-Dinitrotoluene	0.32	0.25 U	0.071 J
Benzaldehyde	0.023 J	0.12 U	0.12 U
PCB-1262	0.026 J	0.04 U	0.038 U
beta-BHC	0.013 J	0.0013 J	0.0099 U

FRBG-SL-015

Date:	8/5/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.089 J
Benzo(a)pyrene	0.12 J
Benzo(b)fluoranthene	0.18 J
Dibenzofuran	0.0089 J

FRBG-SL-016

Date:	8/5/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
Benzaldehyde	0.035 J	0.11

FRBG-SL-018

Date:	8/6/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.028 J
Dibenzofuran	0.0076 J

FRBG-SL-010

Date:	8/5/2015		
Depth (ft):	0 - 2	0 - 2 (Dup)	2 - 6
Concentration (mg/kg)			
Cyclohexane	0.0012 J	0.0017 J	0.011 U
Dalapon	0.083 J	0.13 U	0.15 U
Methylcyclohexane	0.002 J	0.0027 J	0.011 U
Naphthalene	0.22	0.31 J	0.0082 U
beta-BHC	0.024 J	0.094 U	0.021 U

FRBG-SL-022

Date:	8/6/2015			
Depth (ft):	0 - 2	2 - 6	6 - 10	6 - 10 (Dup)
Concentration (mg/kg)				
Benzaldehyde	0.12	0.11 U	0.12 U	0.12 U

FRBG-SL-024

Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
2,4,6-Trinitrotoluene	0.12 J	0.96	0.25 U
2,6-Dinitrotoluene	0.041 J	0.37	0.25 U
2,6-Dinitrotoluene	0.044 J	0.37	0.25 U
2-Amino-4,6-Dinitrotoluene	0.11 J	0.98	0.25 U
3,5-Dinitroaniline	0.04 J	0.33 J	0.5 U
4-Amino-2,6-Dinitrotoluene	0.091 J	0.81	0.25 U
Benzo(a)pyrene	0.027	0.09	0.0082 U
Benzo(b)fluoranthene	0.061	0.24	0.0082 U
Dibenz(a,h)anthracene	0.0077	0.035	0.0082 U
Dibenzofuran	0.058 U	0.016 J	0.061 U
PCB-1260	0.042	0.33	0.04 U
PETN	0.5 U	1.6	0.5 U

FRBG-SL-020

Date:	8/13/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benz(a)anthracene	0.36
Benzaldehyde	0.032 J
Benzo(a)pyrene	0.35
Benzo(b)fluoranthene	0.59
Dibenz(a,h)anthracene	0.041

FRBG-SL-013

Date:	8/5/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 7
Concentration (mg/kg)				
Caprolactam	0.074 J	0.4 U	0.42 U	0.37 U

FRBG-SL-002

Date:	8/5/2015		
Depth (ft):	0 - 2	2 - 6	6 - 9
Concentration (mg/kg)			
Benzaldehyde	0.022 J	0.13 U	0.11 U
Dalapon	0.14 J	0.14 UJ	0.13 U
beta-BHC	0.00093 J	0.0022 UJ	0.012 J

FRBG-SL-011

Date:	8/5/2015	
Depth (ft):	0 - 2	2 - 6
Concentration (mg/kg)		
Dibenzofuran	0.015 J	0.0087 J

FRBG-SL-012

Date:	8/5/2015	
Depth (ft):	0 - 2	2 - 5.5
Concentration (mg/kg)		
Benzo(a)pyrene	0.036	0.0082 U
Cyclohexane	0.0095 J	0.012 U
Dibenzofuran	0.036 J	0.062 U
Methylcyclohexane	0.012	0.012 U
Naphthalene	0.2	0.0082 U
beta-BHC	0.05 J	0.021 U

FRBG-SL-008

Date:	8/5/2015	
Depth (ft):	0 - 2	2 - 5.5
Concentration (mg/kg)		
Benzo(a)pyrene	0.065	0.0081 U
Benzo(b)fluoranthene	0.17	0.0081 U
Dibenz(a,h)anthracene	0.037	0.0081 U

FRBG-SL-004

Date:	8/5/2015	
Depth (ft):	0 - 2	2 - 6
Concentration (mg/kg)		
Benzaldehyde	0.017 J	0.12 U
Methylcyclohexane	0.012 U	0.00083 J

FRBG-SL-003

Date:	8/5/2015	
Depth (ft):	0 - 2	2 - 5.5
Concentration (mg/kg)		
Benzo(a)pyrene	0.053	0.0077 U
Caprolactam	0.064 J	0.38 U
beta-BHC	0.0081 J	0.0019 UJ

FRBG-SL-001

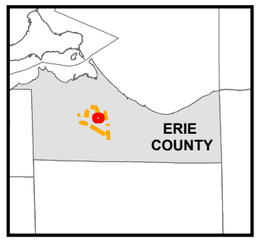
Date:	8/5/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Benzaldehyde	0.064 J

FRBG-SL-007

Date:	8/5/2015		
Depth (ft):	0 - 2	2 - 6	6 - 8
Concentration (mg/kg)			
Dibenzofuran	0.06 U	0.06 U	0.02 J
Naphthalene	0.0081 U	0.008 U	0.27
beta-BHC	0.002 UJ	0.00086 J	0.0054 J

FRBG-SL-005

Date:	8/5/2015		
Depth (ft):	0 - 2	2 - 6	6 - 7.5
Concentration (mg/kg)			
2,4,6-Trinitrotoluene	0.82 J	0.25 U	0.11 J
2-Amino-4,6-Dinitrotoluene	1.1 J	0.25 U	0.29
3,5-Dinitroaniline	0.057 J	0.5 U	0.49 U
4-Amino-2,6-Dinitrotoluene	0.82 J	0.25 U	0.2 J
Benzo(a)pyrene	0.028	0.008 U	0.0075 U
Cyclohexane	0.00072 J	0.012 U	0.0084 J
Dibenzofuran	0.011 J	0.06 U	0.057 U
Isopropylbenzene	0.0054 U	0.0058 U	0.0003 J
Methylcyclohexane	0.0014 J	0.012 U	0.014



Legend

- Soil Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- Actual Drainage Ditch
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

- Gray Shading: no exceedance
- Yellow Shading: exceeds Human Health Screening Level
- Blue Shading: exceeds Ecological Screening Level
- Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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FOX ROAD BURNING GROUND SOIL SAMPLES ORGANIC EXCEEDANCES

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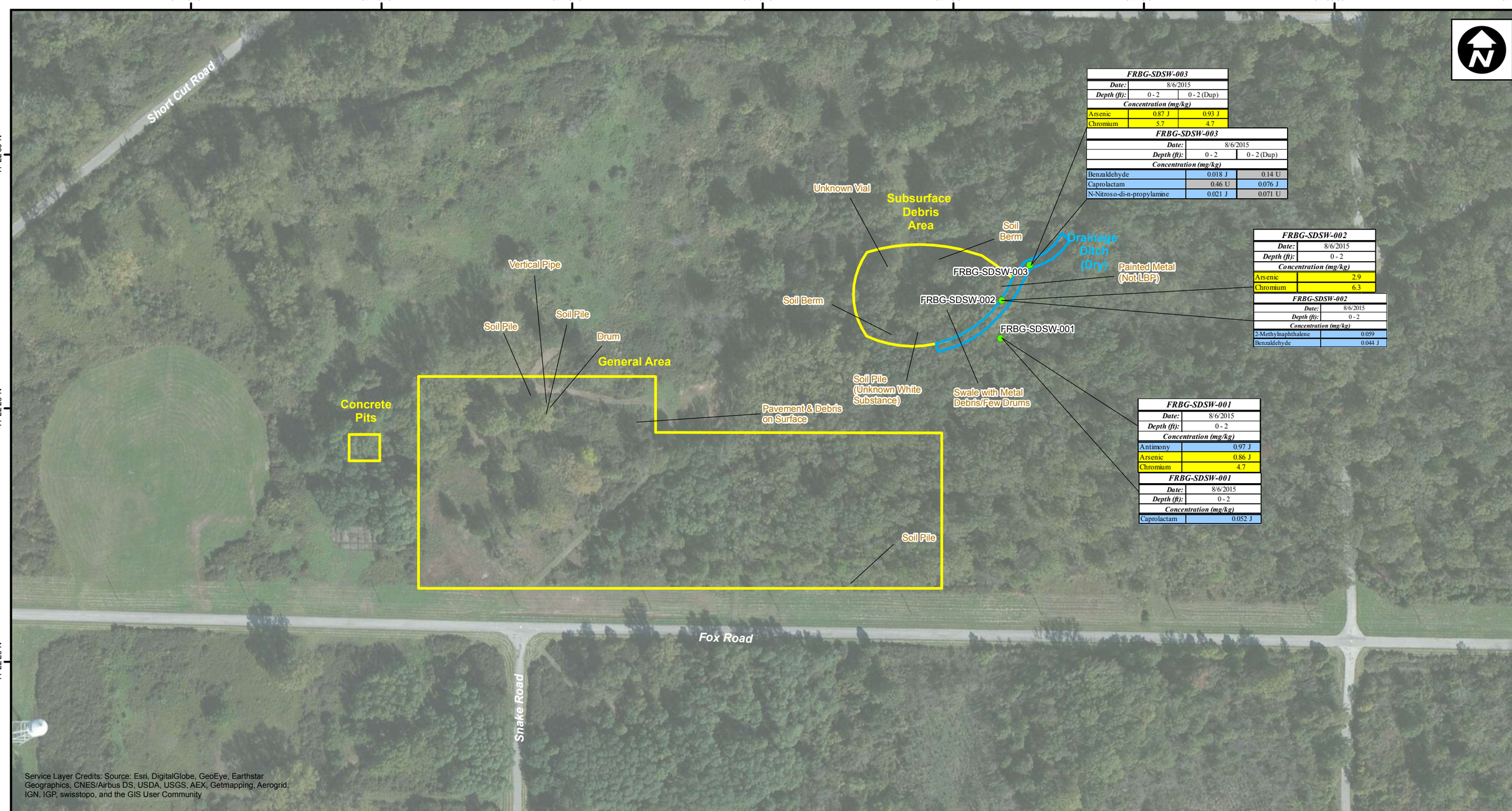
FIGURE
16

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 17 NASA Fox Road Burning Ground - Sediment Sample Locations.mxd



FRBG-SDSW-003		
Date:	8/6/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
Arsenic	0.87 J	0.93 J
Chromium	5.7	4.7

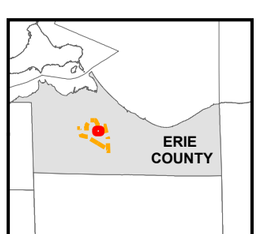
FRBG-SDSW-003		
Date:	8/6/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
Concentration (mg/kg)		
Benzaldehyde	0.018 J	0.14 U
Caprolactam	0.46 U	0.076 J
N-Nitroso-di-n-propylamine	0.021 J	0.071 U

FRBG-SDSW-002	
Date:	8/6/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Arsenic	2.9
Chromium	6.3

FRBG-SDSW-002	
Date:	8/6/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
2-Methylnaphthalene	0.059
Benzaldehyde	0.044 J

FRBG-SDSW-001	
Date:	8/6/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Antimony	0.97 J
Arsenic	0.86 J
Chromium	4.7

FRBG-SDSW-001	
Date:	8/6/2015
Depth (ft):	0 - 2
Concentration (mg/kg)	
Caprolactam	0.052 J



Legend

- Sediment Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

- Gray Shading: no exceedance
- Yellow Shading: exceeds Human Health Screening Level
- Blue Shading: exceeds Ecological Screening Level

0 100 200
Feet

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FOX ROAD BURNING GROUND SEDIMENT SAMPLES INORGANIC/ORGANIC EXCEEDANCES

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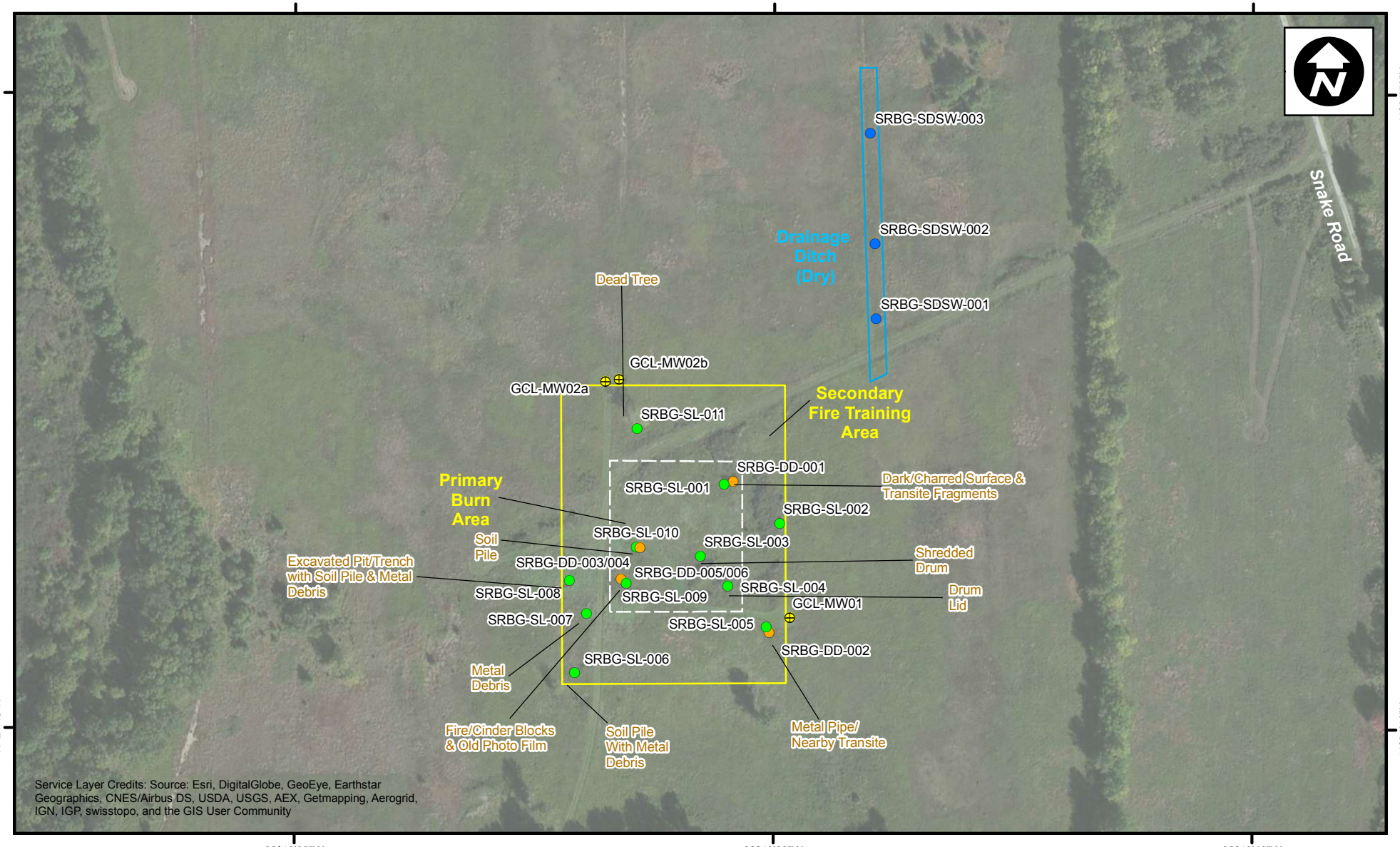
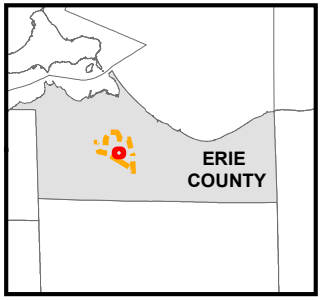
FIGURE
17





Legend

- Soil Sample
- Sediment Sample
- Debris Sample
- Monitoring Well
- Soil/Debris
- Sediment/Surface Water

0 100 200
Feet

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SNAKE ROAD BURNING GROUND ENVIRONMENTAL SAMPLE COLLECTION AREAS

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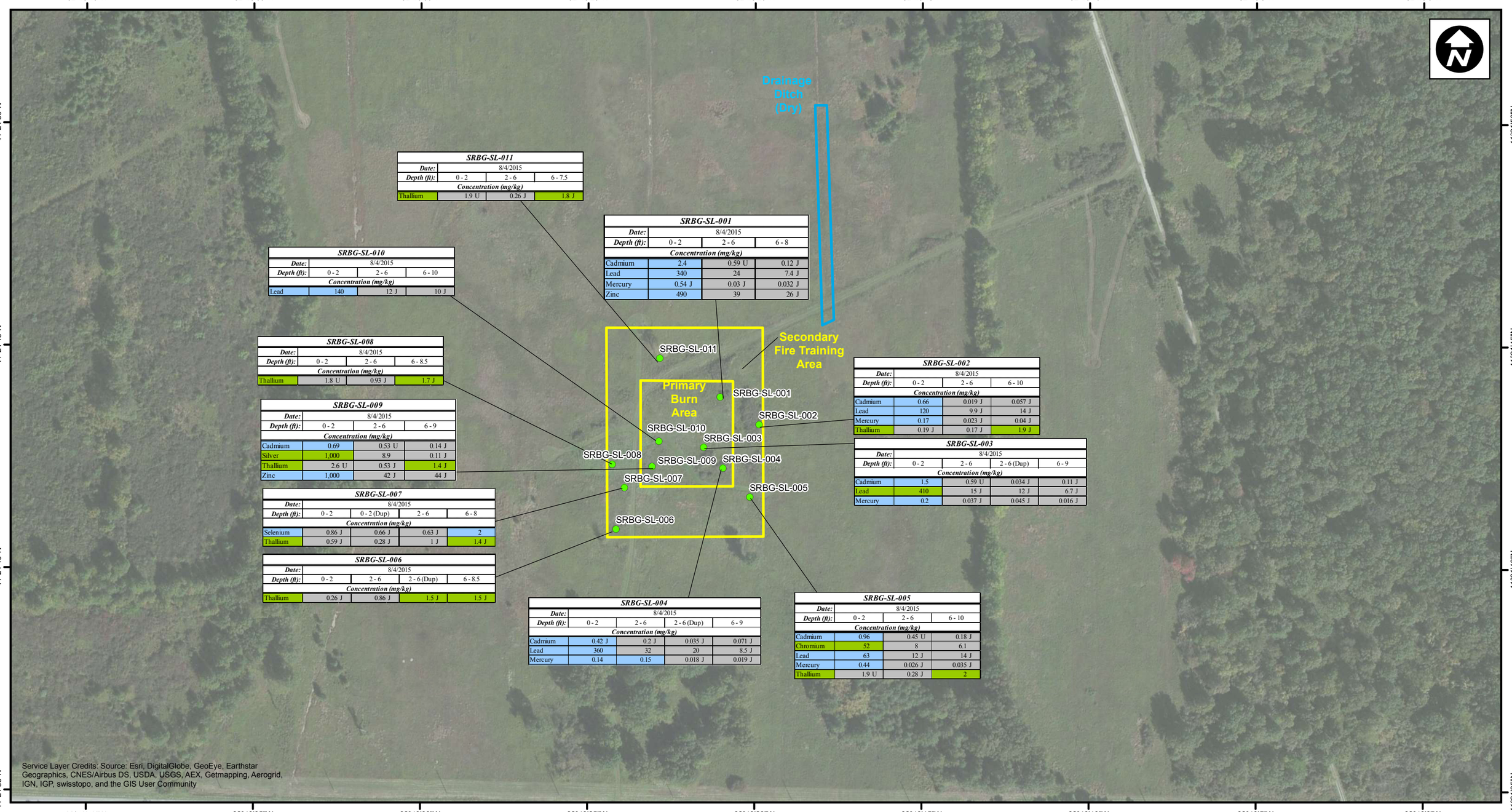
FIGURE
18

Document Path: W:\NASA_Plum_Brook\Projects\Original\Figure 18 NASA Snake Road Burning Ground - Environmental Sample Collection Areas.mxd

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 19 NASA Snake River Burning Ground - Soil Inorganic Sample VOCs.mxd



SRBG-SL-011

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 7.5
Concentration (mg/kg)			
Thallium	1.9 U	0.26 J	1.8 J

SRBG-SL-001

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 8
Concentration (mg/kg)			
Cadmium	2.4	0.59 U	0.12 J
Lead	340	24	7.4 J
Mercury	0.54 J	0.03 J	0.032 J
Zinc	490	39	26 J

SRBG-SL-010

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Lead	140	12 J	10 J

SRBG-SL-008

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 8.5
Concentration (mg/kg)			
Thallium	1.8 U	0.93 J	1.7 J

SRBG-SL-009

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 9
Concentration (mg/kg)			
Cadmium	0.69	0.53 U	0.14 J
Silver	1,000	8.9	0.11 J
Thallium	2.6 U	0.53 J	1.4 J
Zinc	1,000	42 J	44 J

SRBG-SL-007

Date:	8/4/2015			
Depth (ft):	0 - 2	0 - 2 (Dup)	2 - 6	6 - 8
Concentration (mg/kg)				
Selenium	0.86 J	0.66 J	0.63 J	2
Thallium	0.59 J	0.28 J	1 J	1.4 J

SRBG-SL-006

Date:	8/4/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 8.5
Concentration (mg/kg)				
Thallium	0.26 J	0.86 J	1.5 J	1.5 J

SRBG-SL-002

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Cadmium	0.66	0.019 J	0.057 J
Lead	120	9.9 J	14 J
Mercury	0.17	0.023 J	0.04 J
Thallium	0.19 J	0.17 J	1.9 J

SRBG-SL-003

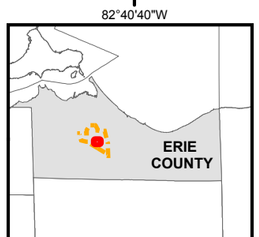
Date:	8/4/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 9
Concentration (mg/kg)				
Cadmium	1.5	0.59 U	0.034 J	0.11 J
Lead	410	15 J	12 J	6.7 J
Mercury	0.2	0.037 J	0.045 J	0.016 J

SRBG-SL-004

Date:	8/4/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 9
Concentration (mg/kg)				
Cadmium	0.42 J	0.2 J	0.035 J	0.071 J
Lead	360	32	20	8.5 J
Mercury	0.14	0.15	0.018 J	0.019 J

SRBG-SL-005

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Cadmium	0.96	0.45 U	0.18 J
Chromium	52	8	6.1
Lead	63	12 J	14 J
Mercury	0.44	0.026 J	0.035 J
Thallium	1.9 U	0.28 J	2



Legend

- Soil Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

Gray Shading: no exceedance

Blue Shading: exceeds Ecological Screening Level

Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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SNAKE ROAD BURNING GROUND SOIL SAMPLES INORGANIC EXCEEDANCES

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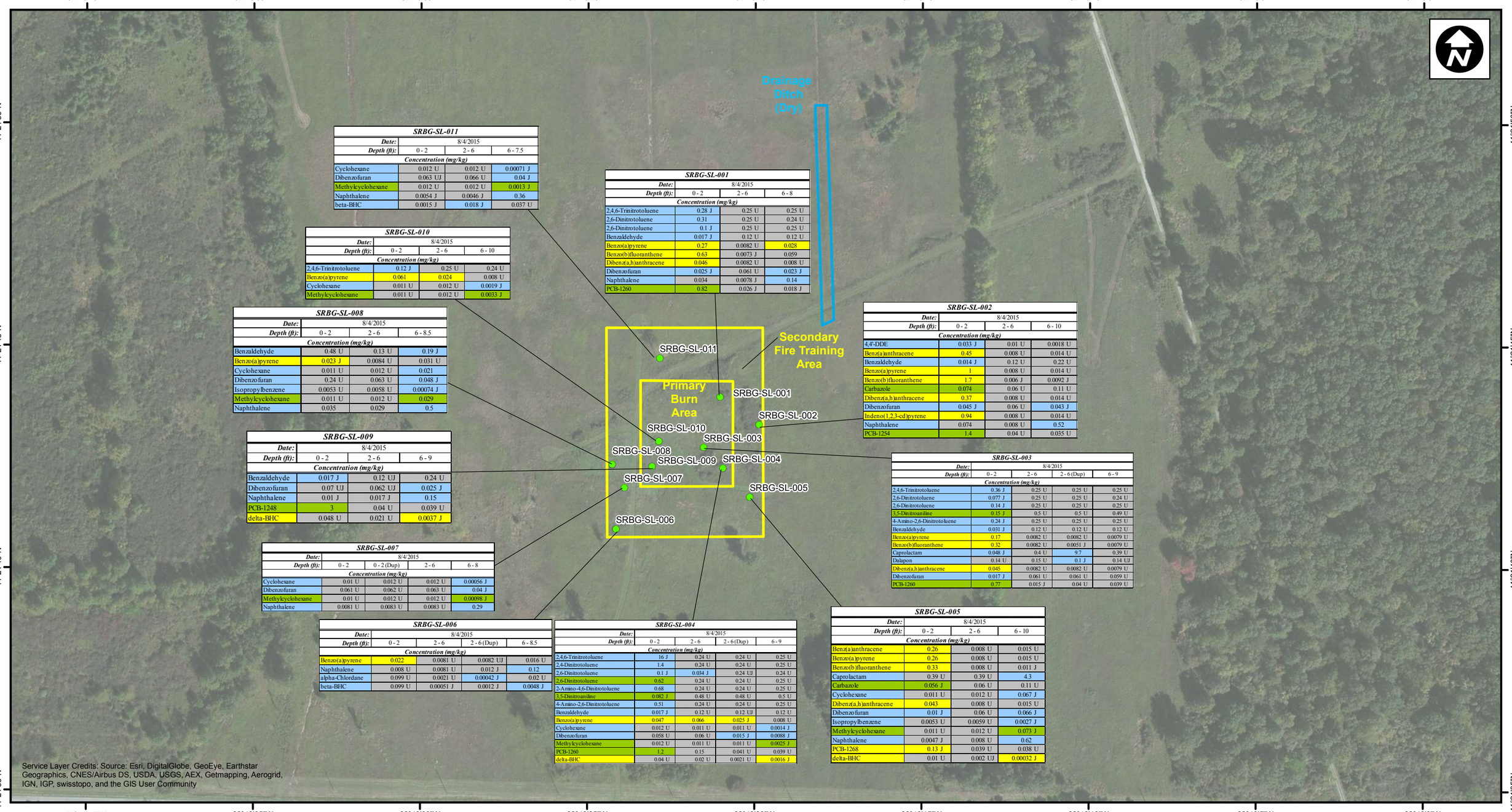
FIGURE 19

Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 20 NASA Snake River Burning Ground - Soil organic Sample VOCs.mxd



SRBG-SL-011

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 7.5
Concentration (mg/kg)			
Cyclohexane	0.012 U	0.012 U	0.00071 J
Dibenzofuran	0.063 UJ	0.066 U	0.04 J
Methylcyclohexane	0.012 U	0.012 U	0.0013 J
Naphthalene	0.0054 J	0.0046 J	0.36
beta-BHC	0.0015 J	0.018 J	0.037 U

SRBG-SL-010

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
2,4,6-Trinitrotoluene	0.12 J	0.25 U	0.24 U
Benzo(a)pyrene	0.061	0.024	0.008 U
Cyclohexane	0.011 U	0.012 U	0.0019 J
Methylcyclohexane	0.011 U	0.012 U	0.0033 J

SRBG-SL-008

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 8.5
Concentration (mg/kg)			
Benzaldehyde	0.48 U	0.13 U	0.19 J
Benzo(a)pyrene	0.023 J	0.0084 U	0.031 U
Cyclohexane	0.011 U	0.012 U	0.021
Dibenzofuran	0.24 U	0.063 U	0.048 J
Isopropylbenzene	0.0053 U	0.0058 U	0.00074 J
Methylcyclohexane	0.011 U	0.012 U	0.029
Naphthalene	0.035	0.029	0.5

SRBG-SL-009

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 9
Concentration (mg/kg)			
Benzaldehyde	0.017 J	0.12 UJ	0.24 U
Dibenzofuran	0.07 UJ	0.062 UJ	0.025 J
Naphthalene	0.01 J	0.017 J	0.15
PCB-1248	3	0.04 U	0.039 U
delta-BHC	0.048 U	0.021 U	0.0037 J

SRBG-SL-007

Date:	8/4/2015			
Depth (ft):	0 - 2	0 - 2 (Dup)	2 - 6	6 - 8
Concentration (mg/kg)				
Cyclohexane	0.01 U	0.012 U	0.012 U	0.00056 J
Dibenzofuran	0.061 U	0.062 U	0.063 U	0.04 J
Methylcyclohexane	0.01 U	0.012 U	0.012 U	0.00098 J
Naphthalene	0.0081 U	0.0083 U	0.0083 U	0.29

SRBG-SL-006

Date:	8/4/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 8.5
Concentration (mg/kg)				
Benzo(a)pyrene	0.022	0.0081 U	0.0082 UJ	0.016 U
Naphthalene	0.008 U	0.0081 U	0.012 J	0.12
alpha-Chlordane	0.099 U	0.0021 U	0.00042 J	0.02 U
beta-BHC	0.099 U	0.00051 J	0.0012 J	0.0048 J

SRBG-SL-001

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 8
Concentration (mg/kg)			
2,4,6-Trinitrotoluene	0.28 J	0.25 U	0.25 U
2,6-Dinitrotoluene	0.31	0.25 U	0.24 U
2,6-Dinitrotoluene	0.1 J	0.25 U	0.25 U
Benzaldehyde	0.017 J	0.12 U	0.12 U
Benzo(a)pyrene	0.27	0.0082 U	0.028
Benzo(b)fluoranthene	0.63	0.0073 J	0.059
Dibenz(a,h)anthracene	0.046	0.0082 U	0.008 U
Dibenzofuran	0.025 J	0.061 U	0.023 J
Naphthalene	0.034	0.0078 J	0.14
PCB-1260	0.82	0.026 J	0.018 J

SRBG-SL-004

Date:	8/4/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 9
Concentration (mg/kg)				
2,4,6-Trinitrotoluene	16 J	0.24 U	0.24 U	0.25 U
2,4-Dinitrotoluene	1.4	0.24 U	0.24 U	0.25 U
2,6-Dinitrotoluene	0.1 J	0.034 J	0.24 UJ	0.24 U
2,6-Dinitrotoluene	0.62	0.24 U	0.24 U	0.25 U
2-Amino-4,6-Dinitrotoluene	0.68	0.24 U	0.24 U	0.25 U
3,5-Dinitroaniline	0.082 J	0.48 U	0.48 U	0.5 U
4-Amino-2,6-Dinitrotoluene	0.51	0.24 U	0.24 U	0.25 U
Benzaldehyde	0.017 J	0.12 U	0.12 UJ	0.12 U
Benzo(a)pyrene	0.047	0.066	0.025 J	0.008 U
Cyclohexane	0.012 U	0.011 U	0.011 U	0.0014 J
Dibenzofuran	0.058 U	0.06 U	0.015 J	0.0088 J
Methylcyclohexane	0.012 U	0.011 U	0.011 U	0.0025 J
PCB-1260	1.2	0.15	0.041 U	0.039 U
delta-BHC	0.04 U	0.02 U	0.0021 U	0.0016 J

SRBG-SL-002

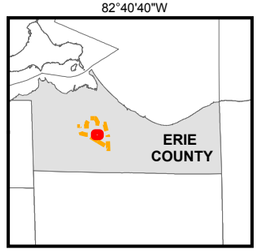
Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
4,4'-DDE	0.033 J	0.01 U	0.0018 U
Benz(a)anthracene	0.45	0.008 U	0.014 U
Benzaldehyde	0.014 J	0.12 U	0.22 U
Benzo(a)pyrene	1	0.008 U	0.014 U
Benzo(b)fluoranthene	1.7	0.006 J	0.0092 J
Carbazole	0.074	0.06 U	0.11 U
Dibenz(a,h)anthracene	0.37	0.008 U	0.014 U
Dibenzofuran	0.045 J	0.06 U	0.043 J
Indeno(1,2,3-cd)pyrene	0.94	0.008 U	0.014 U
Naphthalene	0.074	0.008 U	0.52
PCB-1254	1.4	0.04 U	0.035 U

SRBG-SL-003

Date:	8/4/2015			
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 9
Concentration (mg/kg)				
2,4,6-Trinitrotoluene	0.36 J	0.25 U	0.25 U	0.25 U
2,6-Dinitrotoluene	0.077 J	0.25 U	0.25 U	0.24 U
2,6-Dinitrotoluene	0.14 J	0.25 U	0.25 U	0.25 U
3,5-Dinitroaniline	0.15 J	0.5 U	0.5 U	0.49 U
4-Amino-2,6-Dinitrotoluene	0.24 J	0.25 U	0.25 U	0.25 U
Benzaldehyde	0.031 J	0.12 U	0.12 U	0.12 U
Benzo(a)pyrene	0.17	0.0082 U	0.0082 U	0.0079 U
Benzo(b)fluoranthene	0.32	0.0082 U	0.0051 J	0.0079 U
Caprolactam	0.048 J	0.4 U	9.7	0.39 U
Dalapon	0.14 U	0.15 U	0.1 J	0.14 UJ
Dibenz(a,h)anthracene	0.045	0.0082 U	0.0082 U	0.0079 U
Dibenzofuran	0.017 J	0.061 U	0.061 U	0.059 U
PCB-1260	0.77	0.015 J	0.04 U	0.039 U

SRBG-SL-005

Date:	8/4/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
Benz(a)anthracene	0.26	0.008 U	0.015 U
Benzo(a)pyrene	0.26	0.008 U	0.015 U
Benzo(b)fluoranthene	0.33	0.008 U	0.011 J
Caprolactam	0.39 U	0.39 U	4.3
Carbazole	0.056 J	0.06 U	0.11 U
Cyclohexane	0.011 U	0.012 U	0.067 J
Dibenz(a,h)anthracene	0.043	0.008 U	0.015 U
Dibenzofuran	0.01 J	0.06 U	0.066 J
Isopropylbenzene	0.0053 U	0.0059 U	0.0027 J
Methylcyclohexane	0.011 U	0.012 U	0.073 J
Naphthalene	0.0047 J	0.008 U	0.62
PCB-1268	0.13 J	0.039 U	0.038 U
delta-BHC	0.01 U	0.002 UJ	0.00032 J



Legend

- Soil Location
- Approximate Demolition Debris Area
- Soil/Debris
- Sediment/Surface Water
- NASA PBS Boundary

Note: This figure presents sample concentrations which are greater than an applicable human health and/or ecological screening value

Note: Color Key

- Gray Shading: no exceedance
- Yellow Shading: exceeds Human Health Screening Level
- Blue Shading: exceeds Ecological Screening Level
- Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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SNAKE ROAD BURNING GROUND SOIL SAMPLES ORGANIC EXCEEDANCES

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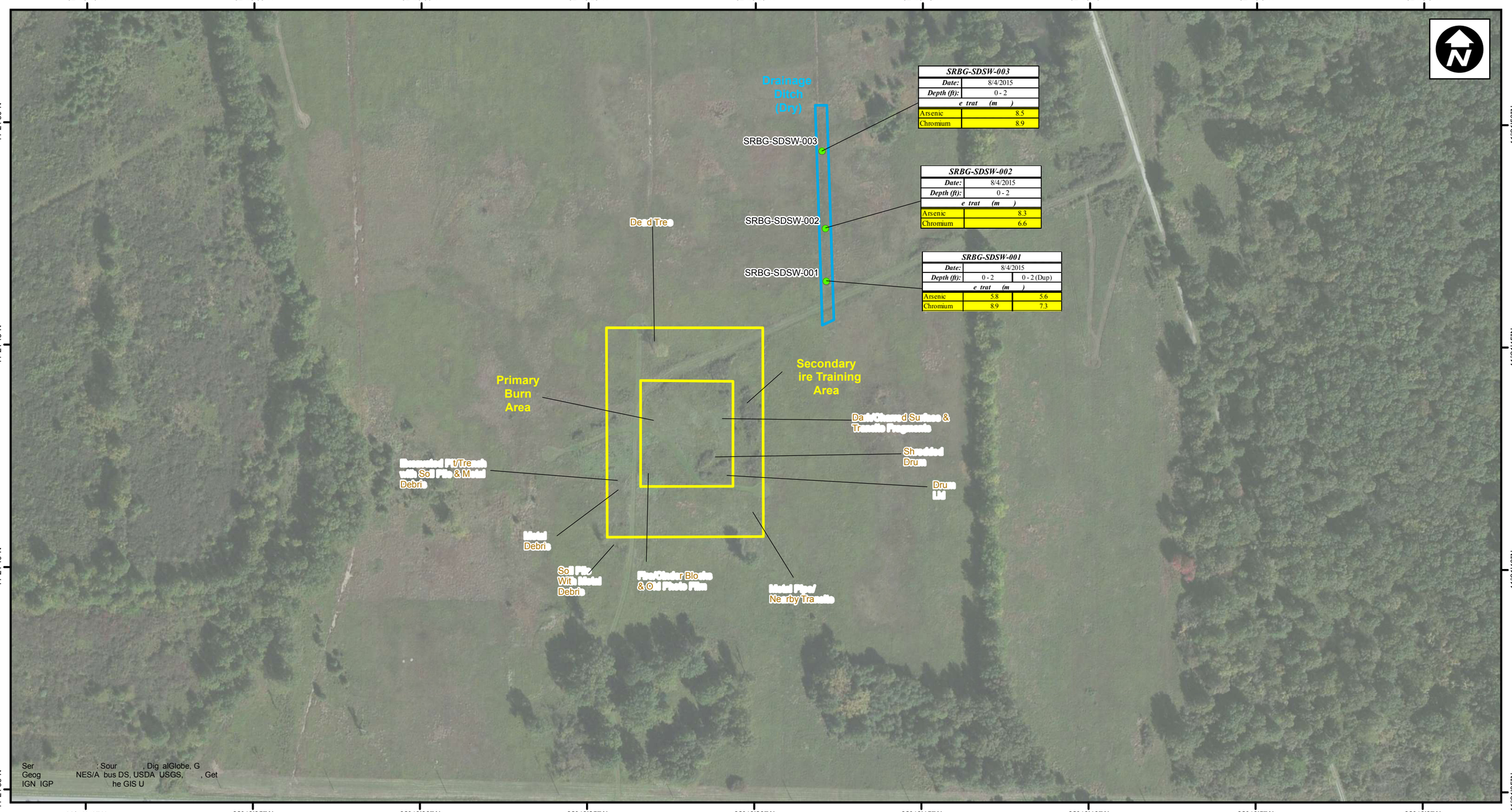
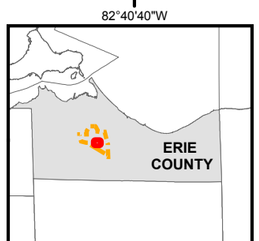
FIGURE
20



SRBG-SDSW-003	
Date:	8/4/2015
Depth (ft):	0 - 2
e trat (m)	
Arsenic	8.5
Chromium	8.9

SRBG-SDSW-002	
Date:	8/4/2015
Depth (ft):	0 - 2
e trat (m)	
Arsenic	8.3
Chromium	6.6

SRBG-SDSW-001		
Date:	8/4/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
e trat (m)		
Arsenic	5.8	5.6
Chromium	8.9	7.3



Legend

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- So l/Debr
- Se /Su e Wa
- NASA PBS Bo

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SNAKE ROAD BURNING GROUND SEDIMENT SAMPLES INORGANIC/ORGANIC EXCEEDANCES

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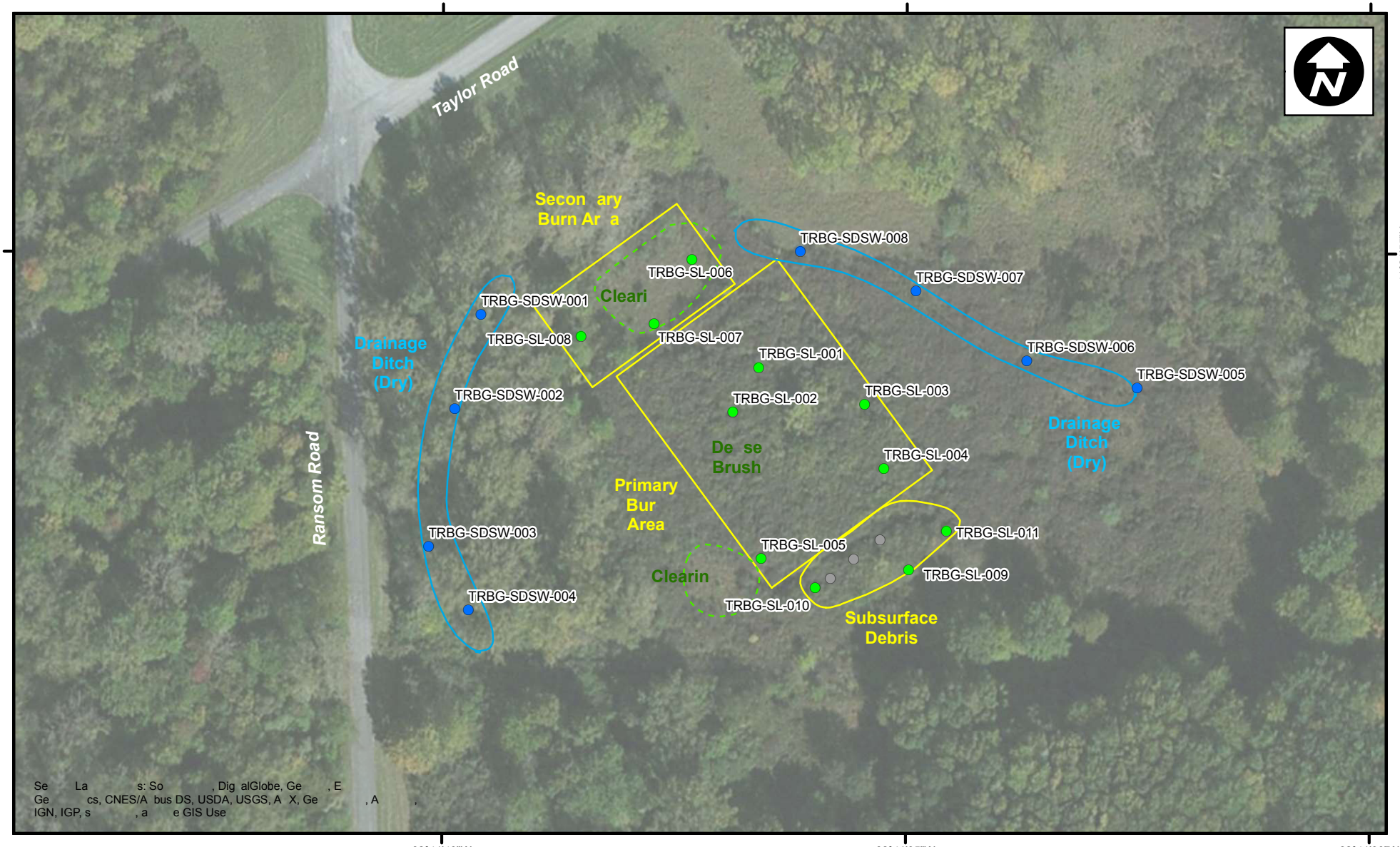
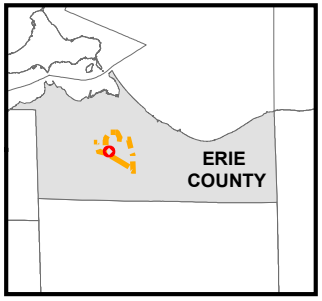
FIGURE 21





Le

- So l Sa
- Se Sa
- Metal Debri
- (G a)
- So l/Debr
- Se Wa

0 80 160

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TAYLOR ROAD BURNING GROUND ENVIRONMENTAL SAMPLE COLLECTION AREAS

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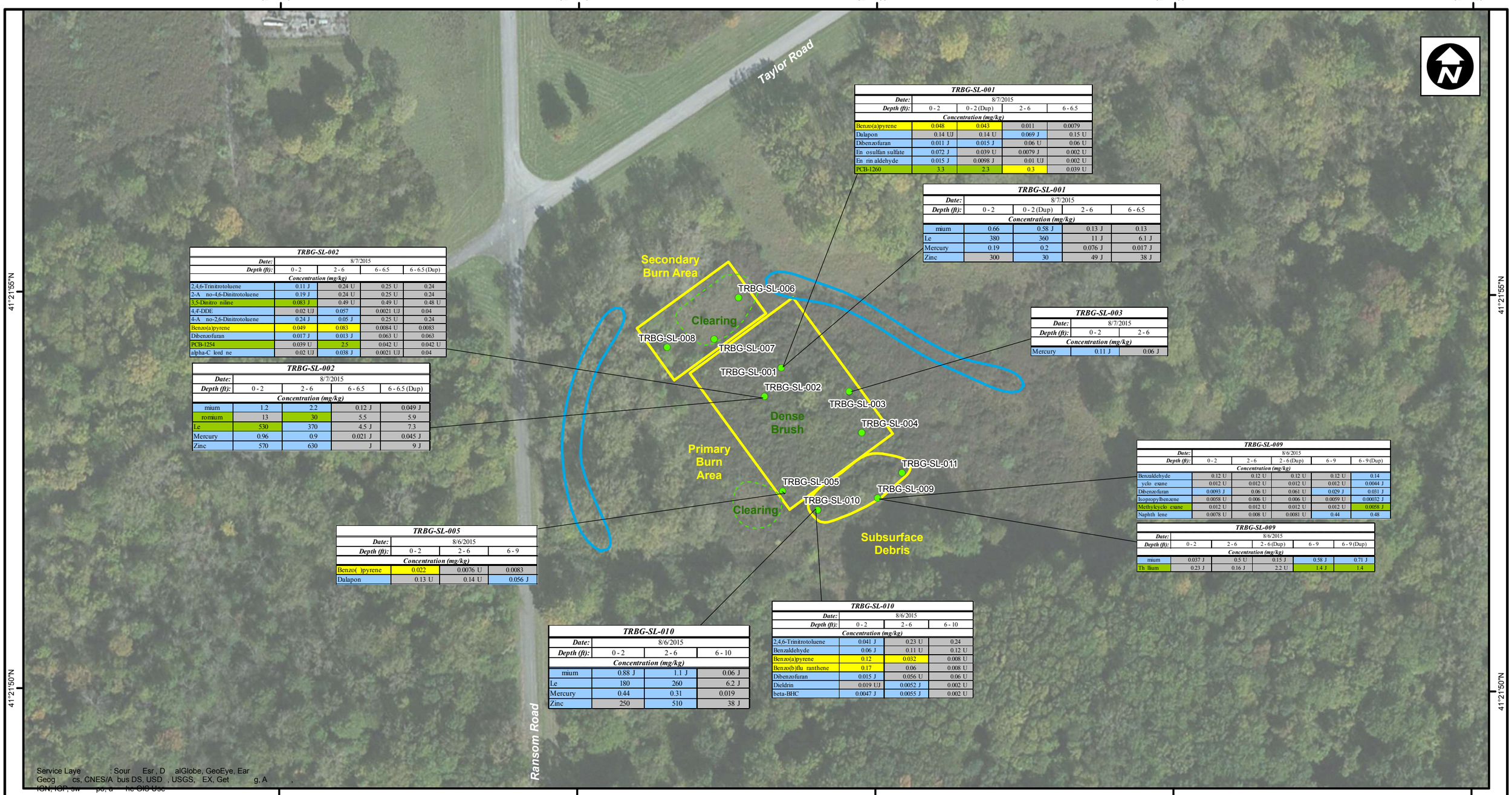
FIGURE
22



TRBG-SL-001				
Date:	8/7/2015			
Depth (ft):	0 - 2	0 - 2 (Dup)	2 - 6	6 - 6.5
Concentration (mg/kg)				
Benzo(a)pyrene	0.048	0.043	0.011	0.0079
Dalapon	0.14 UJ	0.14 U	0.069 J	0.15 U
Dibenzofuran	0.011 J	0.015 J	0.06 U	0.06 U
En osulfan sulfate	0.072 J	0.039 U	0.0079 J	0.002 U
En rin aldehyde	0.015 J	0.0098 J	0.01 UJ	0.002 U
PCB-1260	3.3	2.3	0.3	0.039 U

TRBG-SL-001				
Date:	8/7/2015			
Depth (ft):	0 - 2	0 - 2 (Dup)	2 - 6	6 - 6.5
Concentration (mg/kg)				
mium	0.66	0.58 J	0.13 J	0.13
Le	380	360	11 J	6.1 J
Mercury	0.19	0.2	0.076 J	0.017 J
Zinc	300	30	49 J	38 J

TRBG-SL-002				
Date:	8/7/2015			
Depth (ft):	0 - 2	2 - 6	6 - 6.5	6 - 6.5 (Dup)
Concentration (mg/kg)				
2,4,6-Trinitrotoluene	0.11 J	0.24 U	0.25 U	0.24
2-A no-4,6-Dinitrotoluene	0.19 J	0.24 U	0.25 U	0.24
3,5-Dinitro niline	0.083 J	0.49 U	0.49 U	0.48 U
4,4'-DDE	0.02 UJ	0.057	0.0021 UJ	0.04
4-A no-2,6-Dinitrotoluene	0.24 J	0.05 J	0.25 U	0.24
Benzo(a)pyrene	0.049	0.083	0.0084 U	0.0083
Dibenzofuran	0.017 J	0.013 J	0.063 U	0.063
PCB-1254	0.039 U	2.5	0.042 U	0.042 U
alpha-C lord ne	0.02 UJ	0.038 J	0.0021 UJ	0.04

TRBG-SL-002				
Date:	8/7/2015			
Depth (ft):	0 - 2	2 - 6	6 - 6.5	6 - 6.5 (Dup)
Concentration (mg/kg)				
mium	1.2	2.2	0.12 J	0.049 J
romium	13	30	5.5	5.9
Le	530	370	4.5 J	7.3
Mercury	0.96	0.9	0.021 J	0.045 J
Zinc	570	630	J	9 J

TRBG-SL-003		
Date:	8/7/2015	
Depth (ft):	0 - 2	2 - 6
Concentration (mg/kg)		
Mercury	0.11 J	0.06 J

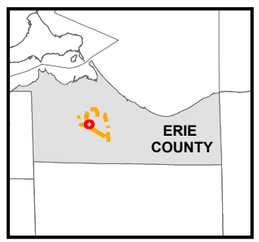
TRBG-SL-009					
Date:	8/6/2015				
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 9	6 - 9 (Dup)
Concentration (mg/kg)					
Benzaldehyde	0.12 U	0.12 U	0.12 U	0.12 U	0.14
yclo exane	0.012 U	0.012 U	0.012 U	0.012 U	0.0044 J
Dibenzofuran	0.0093 J	0.06 U	0.061 U	0.029 J	0.031 J
Isopropylbenzene	0.0058 U	0.006 U	0.006 U	0.0059 U	0.00032 J
Methylcyclo exane	0.012 U	0.012 U	0.012 U	0.012 U	0.0058 J
Naphth lene	0.0078 U	0.008 U	0.0081 U	0.44	0.48

TRBG-SL-009					
Date:	8/6/2015				
Depth (ft):	0 - 2	2 - 6	2 - 6 (Dup)	6 - 9	6 - 9 (Dup)
Concentration (mg/kg)					
mium	0.037 J	0.5 U	0.15 J	0.58 J	0.71 J
Th llium	0.23 J	0.16 J	2.2 U	1.4 J	1.4

TRBG-SL-005			
Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 9
Concentration (mg/kg)			
Benzo( )pyrene	0.022	0.0076 U	0.0083
Dalapon	0.13 U	0.14 U	0.056 J

TRBG-SL-010			
Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
mium	0.88 J	1.1 J	0.06 J
Le	180	260	6.2 J
Mercury	0.44	0.31	0.019
Zinc	250	510	38 J

TRBG-SL-010			
Date:	8/6/2015		
Depth (ft):	0 - 2	2 - 6	6 - 10
Concentration (mg/kg)			
2,4,6-Trinitrotoluene	0.041 J	0.23 U	0.24
Benzaldehyde	0.06 J	0.11 U	0.12 U
Benzo(a)pyrene	0.12	0.032	0.008 U
Benzo(b)flu ranthene	0.17	0.06	0.008 U
Dibenzofuran	0.015 J	0.056 U	0.06 U
Dieldrin	0.019 UJ	0.0052 J	0.002 U
beta-BHC	0.0047 J	0.0055 J	0.002 U



Legend

- So l Lo
- bri
- (Gr)
- So /D br
- Se /Su Wa
- NASA PBS Bo

No : Th ble
/o valu

No Key
Gr y Sh
Ye Sh Hu He Scre g Leve
Blue Sh Ecolo l Scre g Leve
Gr n Sh Ec Hu He Scr Level

0 100 200

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FIGURE
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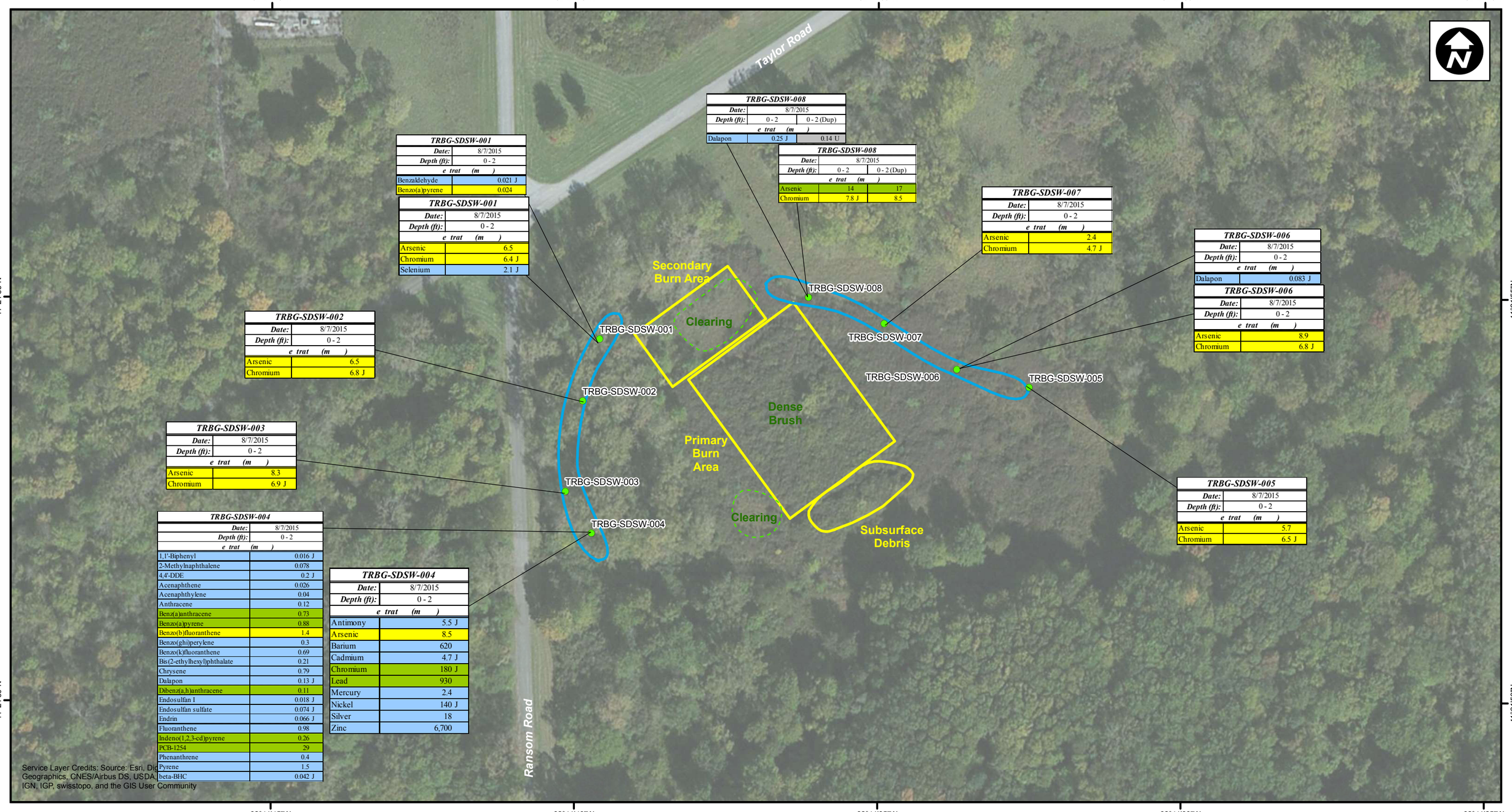
Document Path: W:\NASA_Plum_Brook\Projects\Site_Specific_VOCs\Figure 24 NASA Taylor Road Burning Ground - Sediment Sample Locations.mxd



TRBG-SDSW-008		
Date:	8/7/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
e trat (m)		
Dalapon	0.25 J	0.14 U

TRBG-SDSW-008		
Date:	8/7/2015	
Depth (ft):	0 - 2	0 - 2 (Dup)
e trat (m)		
Arsenic	14	17
Chromium	7.8 J	8.5

TRBG-SDSW-001	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Benzaldehyde	0.021 J
Benzo(a)pyrene	0.024

TRBG-SDSW-001	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Arsenic	6.5
Chromium	6.4 J
Selenium	2.1 J

TRBG-SDSW-007	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Arsenic	2.4
Chromium	4.7 J

TRBG-SDSW-006	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Dalapon	0.083 J

TRBG-SDSW-006	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Arsenic	8.9
Chromium	6.8 J

TRBG-SDSW-002	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Arsenic	6.5
Chromium	6.8 J

TRBG-SDSW-003	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Arsenic	8.3
Chromium	6.9 J

TRBG-SDSW-005	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Arsenic	5.7
Chromium	6.5 J

TRBG-SDSW-004	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
1,1'-Biphenyl	0.016 J
2-Methylnaphthalene	0.078
4,4'-DDE	0.2 J
Acenaphthene	0.026
Acenaphthylene	0.04
Anthracene	0.12
Benz(a)anthracene	0.73
Benzo(a)pyrene	0.88
Benzo(b)fluoranthene	1.4
Benzo(ghi)perylene	0.3
Benzo(k)fluoranthene	0.69
Bis(2-ethylhexyl)phthalate	0.21
Chrysene	0.79
Dalapon	0.13 J
Dibenz(a,h)anthracene	0.11
Endosulfan I	0.018 J
Endosulfan sulfate	0.074 J
Endrin	0.066 J
Fluoranthene	0.98
Indeno(1,2,3-cd)pyrene	0.26
PCB-1254	29
Phenanthrene	0.4
Pyrene	1.5
beta-BHC	0.042 J

TRBG-SDSW-004	
Date:	8/7/2015
Depth (ft):	0 - 2
e trat (m)	
Antimony	5.5 J
Arsenic	8.5
Barium	620
Cadmium	4.7 J
Chromium	180 J
Lead	930
Mercury	2.4
Nickel	140 J
Silver	18
Zinc	6,700

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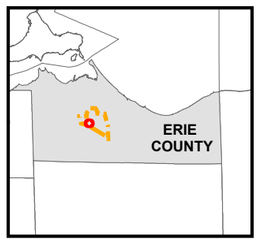

Legend

- Sediment Location
- Approximate Demolition Debris Area
- Clearing (Grassy Area)
- Soil/Debris
- Sediment/Surface Water
- NASA PBS Boundary

Note: This figure presents sample concentrations hich are greater than an applicable human health and/or ecological screening value

Note: Color Key

- Gray Shading: no exceedance
- Yellow Shading: exceeds Human Health Screening Level
- Blue Shading: exceeds Ecological Screening Level
- Green Shading: exceeds Ecological and Human Health Screening Level

0 100 200
Feet

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FIGURE
24