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TECHNICAL MEMORANDUM DEBRIS CHARACTERIZATION FOR SITE 1 NIROP ROCKET CENTER WV
6/20/2008
CH2M HILL

Debris Characterization – Site 1, Allegany Ballistics Laboratory, Rocket Center, West Virginia

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1 Introduction

This technical memorandum summarizes the results of the second phase of a 2-phased approach for surface clearance and debris characterization recently performed outside active burning ground (OABG) area of Site 1 at Allegany Ballistics Laboratory (ABL), Rocket Center, West Virginia. The first phase of the OABG characterization consisted of surface debris clearance, performed by Shaw Environmental & Infrastructure, Inc. (Shaw). The second phase consisted of debris characterization by CH2M HILL. Both phases were performed as an extension of the site's nature and extent evaluation under CERCLA and not as a non-time critical removal action (NTCRA).

The intent of the debris characterization phase was to further define the nature and extent of subsurface debris within the OABG area at Site 1. The information gathered during this characterization is summarized in this memorandum and will be used in the development of remedial alternatives for Site 1 soil in the Feasibility Study (FS).

2 Background Information

2.1 Site Description and History

Site 1 is an 11-acre area situated adjacent to the North Branch Potomac River, along the northern border of the developed portion of Plant 1 at ABL. Because of its size and complexity, Site 1 has been investigated under two Operable Units (OUs): OU-3 for groundwater, surface water, and sediment and OU-4 for soil. A Record of Decision (ROD) was signed in May 1997 for OU-3.

Since the early 1940s, Site 1 has been used for various types of waste burning and historical disposal activities. The following geographical divisions of Site 1 have been made, according to historical site activities, as shown in **Figure 1** and listed below.

- Active Burning Grounds (ABG) – RCRA Portion of Site 1
- Former Disposal Pits (FDP) – CERCLA Portion of Site 1
- Outside Active Burning Grounds (OABG) – CERCLA Portion of Site 1

Site 1 consists of several historical disposal units and an 8-acre ABG, which encompasses the FDPs and is currently operating under a RCRA permit. The OABG area comprises the remaining 3 acres of Site 1, which lie outside the fenced ABG (**Figure 1**). Though operations no longer take place in the OABG area, historical burning and debris disposal activities did occur from the early 1960s, until approximately 1981. During this time period, various activities took place, including the disposal of demolition debris, drums and rocket casings, as well as the burning of waste and spreading of ash. The Site 1 soil (OU-4) within the OABG area is the subject of this memorandum.

- Based on historical information regarding waste disposal activities at Site 1, the following sub-areas have been identified within the OABG, as shown on **Figure 1**. Former Inert Burn Area and Associated Disposal Area - Located along the river, on the eastern region of the OABG area.
- Former Open Burn Area - Located on the far western region of the OABG area and consists of the former open burn area, former open burn disposal area, former burn cages, and western drainage ditch.
- Drum Storage Pad - Out-of-use asphalt pad currently located on the far western region of the OABG area.

For detailed descriptions of these sub-areas, refer to the *Final Work Plan for Debris Characterization at Site 1, Allegany Ballistics Laboratory, Rocket Center, West Virginia,* CH2M HILL, 2008.

2.2 Previous Investigations

Several environmental investigations have been conducted at Site 1 since 1983. Detailed background information regarding previous investigations can be found in the *Focused RI for Site 1 Soil, Operable Unit 4, Allegany Ballistic Laboratory* (CH2M HILL, 2006).

2.2.1 Focused Remedial Investigation (RI)

The Focused RI summarized the nature and extent of contamination in the surface and shallow subsurface soil (maximum depth of 5 ft bgs) at Site 1 and characterized the potential human health and ecological risks.

The Human Health Risk Assessment (HHRA) identified the following as contaminants of concern (COCs) for residential receptors in the OABG area:

- Volatile organic compounds (VOCs): trichloroethylene (TCE) and tetrachloroethylene (PCE).
- Semi-volatile organic compounds (SVOCs): Benzo(a)pyrene, benzo(b)fluoranthene, benzo(a)anthracene, benzo(k)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene.
- Dioxins: 2,3,7,8-TCDD (dioxin)
- Metals: Antimony, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, thallium, and vanadium.

The ecological risk assessment (ERA) of the Focused RI identified the following as COCs in the OABG area (defined as the floodplain in the ERA):

- VOCs: 1,2-DCE, methyl acetate, and TCE.
- SVOCs: Total polycyclic aromatic hydrocarbons (PAHs).
- Dioxins: Total dioxin/furans.
- Explosives: HMX, nitroglycerin, and RDX.
- Metals: Cadmium, chromium, copper, lead, mercury, nickel, silver, vanadium, and zinc.

The Focused RI recommended that remedial alternatives be evaluated to address areas where unacceptable levels of potential risk were identified for soil within Site 1. Based on the results of the risk assessments, it was recommended that preliminary remediation goals be developed for the OABG area to help determine the appropriate remedial actions.

2.2.2 Geophysical and GPS Survey

To assist in determining the test pit locations to be used for debris characterization, both a geophysical survey and a global positioning survey (GPS) survey were performed in May 2007. Survey results showed that the western and eastern regions of the OABG area demonstrated the highest response to the geophysical instrumentation, thus indicating the location of metallic debris on the surface or in the subsurface, within those areas (**Figures 2a through 2c)**. In contrast, the central region of the site showed little or no response. The strong metallic response observed along the southern edge of the geophysical survey represents the response of the nearby chain-link fence. A more detailed description of both surveys is provided in the *Final Work Plan for Debris Characterization at Site 1,* CH2M HILL, 2008.

3 Debris Characterization Objectives

The objectives of the debris characterization activities at Site 1 were to:

- Define the vertical and horizontal extent of debris in the OABG area;
- Identify the general composition of debris and other foreign material present on the surface and in the subsurface soil in the OABG area; and
- Determine if the debris and foreign material in the subsurface had contaminated the underlying soil.

4 Methodology and Findings

Following the limited surface debris removal by Shaw, the second phase of the debris characterization at the OABG area was comprised of two major components: delineation and characterization of subsurface debris by exploratory test pitting, and collection of subsurface soil samples at test pit locations. The field work for both phases was performed between February 17 and April 3, 2008, in accordance with the *Final Work Plan for Debris Characterization at Site 1,* CH2M HILL, 2008.

4.1 Limited Surface Debris Removal

Initial site activity included surface debris removal conducted by Shaw. As part of the debris removal, Shaw cleared small shrubs and trees and removed surface piles of construction and manufacturing debris from the OABG area, in preparation for the subsurface test pitting. Additionally, Shaw placed silt-fence along the northern boundary of the OABG area to protect the North Branch Potomac River from surface runoff generated as a result of the debris removal and subsequent test pitting activities. All debris removed from the site was contained in portable rolloff boxes and sent offsite for proper disposal, with the exception of rocket casings containing asbestos material, which was removed and disposed by a licensed asbestos abatement contractor. The surface debris removal activities will be described in more detail in the forthcoming closure report by Shaw.

4.2 Suburface Debris Characterization

In order to determine the composition and extent of subsurface debris, forty nine exploratory test pits, TP-01 through TP-49, were excavated and backfilled. Field work for the debris characterization was completed from March 17 through April 3, 2008. Test pit locations were chosen based on information obtained from the geophysical survey, historical aerial photographs, and field observations, such as irregular topography and exposed debris. Test pits were placed within suspected debris areas, on the approximate boundaries of these areas, and in areas where no debris was suspected (to confirm absence of debris). To facilitate the following discussion and as general reference, the OABG area was broken down into the three regions: Western, Central and Eastern, as shown in **Figures 2a through 2c**. Each test pit location is also shown on the figures and has been shaded to indicate the type of debris that was observed during excavation. The background in the figures shows the EM-31 Quadrature response from the geophysical survey that was conducted in May 2007. Based on the composition of the material observed in the surface debris removal and excavated from the test pits, the subsurface debris was categorized as follows:

- **Burn Debris/Ash** - Fill material with contents that appeared to be associated with burning disposal activities, such as ash, glass and other partially burned materials, as shown in **Photo #1 and #2, Appendix A**.
- **Construction Debris** - Fill material that appeared to be associated mainly with construction activities, as shown in **Photo #3, Appendix A**. Examples include concrete rubble, rebar, wood, tires, cables and other metallic objects.
- **Manufacturing Debris** - Fill material that appeared to be associated with production and manufacturing activities at the facility, as shown in **Photo #4 and #5, Appendix A**. Examples include rocket boosters, casings, ventures, thrust vectors, 55-gallon drums, motors, tanks, and piping.
- **Native Soil** - Any material that appeared to be undisturbed or visually free of contamination or unnatural debris.

Test pit excavations began on the far western region of the OABG area and progressed eastward. The excavated material was classified as described above. Using a track-mounted

excavator, test pits were dug to a depth of 10 feet or until groundwater was encountered, whichever came first. Additionally, in locations where potential asbestos-containing materials were observed, such as rocket casings, the test pit was either shifted to avoid disturbance or discontinued. The purpose of the debris characterization was not only to excavate suspected areas containing debris, but also to delineate the boundaries of the fill material and show the transition from fill to native soil. Cross section diagrams of each of the test pits that contained foreign material are presented in **Appendix B**.

Following excavation, each test pit was backfilled with the excavated material to 1 foot below original grade, then covered with a geo-fabric and rip-rap stone to bring the surface to original grade, as described in the *Final Work Plan for Debris Characterization at Site 1,* CH2M HILL, 2008. Disturbed areas were then reseeded and protected from surface runoff by straw and silt-fence along the river. Ash and debris that was impractical to use as backfill was removed from the site by Shaw for proper disposal. Representative photographs of each type of subsurface debris, as well as general site overview photographs are shown in **Appendix A**. The comprehensive set of all the site characterization photographs is included in **Appendix D**.

4.3 Subsurface Soil Sampling

As outlined in the *Final Work Plan for Debris Characterization at Site 1,* CH2M HILL, 2008, soil samples were collected from a subset of the test pit. Floor samples were collected from test pits TP-1 through TP-38, and soil adhering to debris was sampled at test pits TP-5, TP-7, TP-9, TP-14, TP-25, TP-28, TP-29, TP-30, TP-35, TP-36, and TP-37. No samples were collected from test pits TP-39 through TP-49, which were excavated for debris characterization only. **Table 1** is a sample summary table that presents the sample types and parameters associated with each test pit. Samples were sent to CompuChem Laboratory for analysis of the following constituents:

- VOCs
- SVOCs
- Metals
- Dioxins
- Explosives, including nitroglycerin and perchlorate

Following receipt of the validated analytical data, detected results were compared to the HHRA and ERA soil COCs in the Focused RI (CH2M HILL, 2006) to see if there would be any new COCs for the OABG area. The detected constituents in the subsurface soil samples matched the VOC, SVOC, dioxin, explosives, and metals COCs presented in the Focused RI (CH2M HILL, 2006), as listed above in Section 2.2.1. Explosives HMX, nitroglycerin, and RDX, which were previously detected in the Focused RI (CH2M HILL, 2006) and considered ecological COCs, were not detected in the OABG area. Perchlorate was the only explosive detected during the debris characterization. **Figures 2a through 2c** present the detected COCs in relation to the test pits locations. Additional organic and inorganic constituents that were detected in the subsurface soils but are not considered COCs are presented in **Table 2**. These constituents are not considered COCs based on HHRA and ERA risk screenings on the comprehensive subsurface soil analytical data set. The complete set of raw data is presented as **Appendix E**. The last four digits of each sample ID refers to the depth

range from which the sample was collected. For example, 0304 was collected from 3 to 4 feet below ground surface (bgs).

A detailed discussion of the COCs and calculated Preliminary Remediation Goals (PRGs) for Site 1 soil will be presented in the *PRG and Remedial Action Objectives Technical Memorandum* that is currently being prepared.

5 Discussion

In order to interpret the vertical and lateral extent of debris in the OABG area of Site 1, the following information sources were evaluated: historical aerial photography, geophysical survey data, test pit observations, and information obtained from the surface debris removal by Shaw. **Figures 3a through 3c** provide an estimation of the vertical and horizontal extent of surface and subsurface debris (delineated using contours), as well as the type of debris encountered at each test pit location (identified by color-coded test pits). Subsurface debris areas and estimated depths of debris are assumed using original ground surface elevation (circa 1972) or the OABG fence line elevation. The delineation of these areas was based primarily on a combination of test pit diagrams (**Appendix B**) and geophysical survey data. The background in the figures shows the EM-31 Quadrature response from the geophysical survey, which shows areas in red as having metallic response to surface and subsurface debris. A determination was made that not all of these red metallic surface debris locations contained significant subsurface debris and were the result of only small metallic objects on the surface. Therefore, areas in red outside of the contoured subsurface debris areas were assumed to be small surface objects or locations where surface debris had been removed by Shaw.

As presented in **Figures 3a and 3c**, the bulk of the surface and subsurface debris is shown to be buried in the western and eastern regions of the OABG area. The central region, as shown in **Figure 3b**, showed no surface or subsurface debris based upon the visual observations and test pits completed in this region. Debris in the western region (Figure 3a) is estimated to be buried as deep as 12 feet bgs along the riverfront and to depths as shallow as 3 feet bgs in areas south of the OABG area fence line. This 12 foot depth was determined by visual observation of debris along the river embankment and surface contours that show the drop in elevation to the river elevation. In the eastern region (Figure 3c), debris is estimated to be buried to an average depth of 9 feet bgs with some areas showing debris to only 6 feet bgs and others to 12 feet bgs. Although test pits were excavated to a depth of 10 feet bgs, visual evidence in the bottom of test pits TP-30, TP-37, and TP-38 showed that debris extends beyond this depth and possibly to a depth of 12-ft bgs.

In addition to recent observations during the debris characterization, aerial photographs of ABL from 1962 and 1972 (**Appendix C**) were analyzed to determine the extent of debris inside of the existing fence line at Site 1. These photographs show ground scarring inside the fence line, south of the OABG area on the far eastern and far western ends of the Site 1. These contoured areas inside the fence line on the eastern end, as shown in **Figure 3c**, may be associated with the Former Inert Burn Disposal Area (**Figure 1**). Ground scarring on the western side of the site coupled with test pit observations indicate that debris may extend up to 150 feet south of the OABG area and inside of the fence line at Site 1 (**Figure 3a**).

In general, there is a correlation between elevated COC levels and areas where debris was observed in the subsurface. The areas with the highest impact by subsurface debris were observed primarily on the western and eastern regions of the OABG area, as illustrated in **Figure 3a and 3c**. In addition, there is an impact to subsurface soils, which can be seen in areas such as the Former Inert Burn Disposal Area, where elevated COC concentrations were detected 3-4 feet below buried debris in native soil, as shown in **Figure 2c**.

These analytical results and estimate of the extent of debris will be incorporated into the remedial alternative evaluation within the Site 1 Soil FS.

Tables

Table 1: Final Summary of Sampling and Analysis
Table 2: Validated Analytical Detections

Table 1
Final Summary of Sampling and Analysis
Debris Characterization - Site 1
Allegany Ballistics Laboratory
Rocket Center, West Virginia

Test Pit No.	Sample Type	Sample ID	Details/Alias	VOCs	SVOCs	TAL Metals	Dioxins	Explosives	Nirtroglycerin	Perchlorate	Media	Date/Time Sampled
TP 1	Floor	AS01-TP01-0910		X	X	X	X	X	X	X	Soil	3/18/2008 9:45
TP 2	Floor	AS01-TP02-0910		X	X	X	X	X	X	X	Soil	3/18/2008 11:30
TP 3	Floor	AS01-TP03-0910		X	X	X	X	X	X	X	Soil	3/18/2008 15:45
TP 4	Floor	AS01-TP04-0910		X	X	X	X	X	X	X	Soil	3/18/2008 15:10
TP 5	Floor	AS01-TP05-0910		X	X	X	X	X	X	X	Soil	3/19/2008 12:15
	Debris	AS01-DC01-0506		X	X	X	X	X	X	X	Soil	3/19/2008 12:45
TP 6	Floor	AS01-TP06-0910		X	X	X	X	X	X	X	Soil	3/19/2008 14:35
TP 7	Floor	AS01-TP07-0910		X	X	X	X	X	X	X	Soil	3/20/2008 15:10
	Floor	AS01-TP07P-0910	Duplicate	X	X	X	X	X	X	X	Soil	3/20/2008 15:15
	Debris	AS01-DC03-0304		X	X	X	X	X	X	X	Soil	3/20/2008 13:35
TP 8	Floor	AS01-TP08-0910		X	X	X	X	X	X	X	Soil	3/20/2008 8:40
TP 9	Floor	AS01-TP09-0910		X	X	X	X	X	X	X	Soil	3/20/2008 13:20
	Debris	AS01-DC02-0405		X	X	X	X	X	X	X	Soil	3/20/2008 12:45
TP 10	Floor	AS01-TP10-0910		X	X	X					Soil	3/24/2008 14:40
TP 11	Floor	AS01-TP11-0910		X	X	X		X	X	X	Soil	3/24/2008 14:30
TP 12	Floor	AS01-TP12-0809		X	X	X					Soil	3/25/2008 8:15
TP 13	Floor	AS01-TP13-0910		X	X	X		X	X	X	Soil	3/25/2008 8:40
TP 14	Floor	AS01-TP14-0910		X	X	X		X	X	X	Soil	3/25/2008 9:45
	Debris	AS01-DC04-0304		X	X	X		X	X	X	Soil	3/25/2008 10:10
TP 15	Floor	AS01-TP15-0910		X	X	X					Soil	3/25/2008 12:25
TP 16	Floor	AS01-TP16-0809		X	X	X	X	X	X	X	Soil	3/25/2008 13:15
	Floor	AS01-TP16P-0809	Duplicate	X	X	X	X	X	X	X	Soil	3/25/2008 13:20
TP 17	Floor	AS01-TP17-0809	MS/MSD	X	X	X	X	X	X	X	Soil	3/25/2008 14:05
TP 18	Floor	AS01-TP18-0910		X	X	X		X	X	X	Soil	3/26/2008 8:30
TP 19	Floor	AS01-TP19-0910		X	X	X					Soil	3/26/2008 9:25
TP 20	Floor	AS01-TP20-0910		X	X	X		X	X	X	Soil	3/26/2008 10:10
TP 21	Floor	AS01-TP21-0910		X	X	X		X	X	X	Soil	3/26/2008 11:20
TP 22	Floor	AS01-TP22-0910		X	X	X	X	X	X	X	Soil	3/26/2008 11:50
	Floor	AS01-TP22P-0910	Duplicate	X	X	X	X	X	X	X	Soil	3/26/2008 11:55
TP 23	Floor	AS01-TP23-0910		X	X	X		X	X	X	Soil	3/31/2008 11:45
	Floor	AS01-DC12-0102		X	X	X		X	X	X	Soil	3/31/2008 12:00
TP 24	Floor	AS01-TP24-0910	MS/MSD	X	X	X	X	X	X	X	Soil	3/27/2008 14:40
TP 25	Floor	AS01-TP25-0910	MS/MSD	X	X	X	X	X	X	X	Soil	4/1/2008 9:30
	Debris	AS01-DC13-0304		X	X	X	X	X	X	X	Soil	4/1/2008 9:00
	Debris	AS01-DC13P-0304	Duplicate	X	X	X	X	X	X	X	Soil	4/1/2008 9:00
TP 26	Floor	AS01-TP26-0910		X	X	X		X	X	X	Soil	3/31/2008 8:30
TP 27	Floor	AS01-TP27-0910		X	X	X					Soil	3/28/2008 14:20
	Debris	AS01-DC10-0405		X	X	X					Soil	3/28/2008 14:40
TP 28	Floor	AS01-TP28-0910	AS01-DC28-0910	X	X	X		X	X	X	Soil	3/28/2008 11:45
	Debris	AS01-DC09-0304		X	X	X					Soil	3/28/2008 11:25
TP 29	Floor	AS01-TP29-0910		X	X	X					Soil	3/28/2008 9:45
	Debris	AS01-DC08-0304		X	X	X	X				Soil	3/28/2008 10:00
TP 30	Floor	AS01-TP30-0910		X	X	X		X	X	X	Soil	3/27/2008 9:20
	Debris	AS01-DC05-0203		X	X	X					Soil	3/27/2008 8:40
TP 31	Floor	AS01-TP31-0910	AS01-TP32-0910	X	X	X	X	X	X	X	Soil	3/18/2008 13:00
TP 32	Floor	AS01-TP32-0910	AS01-TP32A-0910	X	X	X					Soil	3/24/2008 14:20
TP 33	Floor	AS01-TP33-0607		X	X	X					Soil	3/25/2008 9:15
TP 34	Floor	AS01-TP34-0910		X	X	X					Soil	3/26/2008 10:50
TP 35	Floor	AS01-TP35-0910		X	X	X					Soil	3/31/2008 10:05
	Debris	AS01-DC11-0203		X	X	X		X	X	X	Soil	3/31/2008 10:15
TP 36	Floor	AS01-TP36-0910		X	X	X	X	X	X	X	Soil	3/27/2008 12:50
	Floor	AS01-TP36P-0910	Duplicate	X	X	X	X	X	X	X	Soil	3/27/2008 12:55
	Debris	AS01-DC07-0304		X	X	X		X	X	X	Soil	3/27/2008 12:25
TP 37	Floor	AS01-TP37-0910		X	X	X					Soil	3/27/2008 12:05
	Debris	AS01-DC06-0203		X	X	X					Soil	3/27/2008 11:45
TP 38	Floor	AS01-TP38-0910		X	X	X		X	X	X	Soil	3/27/2008 10:20

Note: No samples were collected from test pits 39-49.

Table 2
CTO 167 ABL Site 1
Validated Analytical Detections
March - April 2008

Station ID	AS01-TP01	AS01-TP02	AS01-TP03	AS01-TP04	AS01-TP05		AS01-TP06	AS01-TP07			AS01-TP08	AS01-TP09		AS01-TP10-0910	AS01-TP11	AS01-TP12	AS01-TP13	AS01-TP14-0910		AS01-TP15	AS01
Sample ID	AS01-TP01-0910	AS01-TP02-0910	AS01-TP03-0910	AS01-TP04-0910	AS01-TP05-0910	AS01-DC01-0506	AS01-TP06-0910	AS01-TP07-0910	AS01-TP07P-0910	AS01-DC03-0304	AS01-TP08-0910	AS01-TP09-0910	AS01-DC02-0405	AS01-TP10-0910	AS01-TP11-0910	AS01-TP12-0809	AS01-TP13-0910	AS01-TP14-0910	AS01-DC04-0304	AS01-TP15-0910	AS01-TP16-0809
Sample Date	3/18/08	3/18/08	3/18/08	3/18/08	3/19/08	3/19/08	3/19/08	3/20/08	3/20/08	3/20/08	3/20/08	3/20/08	3/20/08	3/24/08	3/24/08	3/25/08	3/25/08	3/25/08	3/25/08	3/25/08	3/25/08
Chemical Name																					
Volatile Organic Compounds (UG/KG)																					
1,1,1-TRICHLOROETHANE	11 U	10 U	10 U	12 U	12 U	12 U	12 U	11 U	10 U	10 U	10 U	11 U	10 U	12 U	4 J	12 U	12 U	15 U	13 U	13 U	16 U
CIS-1,2-DICHLOROETHENE	11 U	10 U	10 U	12 U	3 J	61	3 J	11 U	10 U	10 U	10 U	14	2 J	25	25	12 J	110	270	3 J	35	16 U
4-METHYL-2-PENTANONE	11 U	10 U	10 U	12 U	12 U	12 U	12 U	11 U	10 U	10 U	10 U	11 U	12 U	12 U	16 U	12 U	12 U	15 U	13 U	13 U	16 U
BROMODICHLOROMETHANE	11 U	10 U	10 U	12 U	12 U	12 U	12 U	11 U	10 U	10 U	10 U	11 U	12 U	12 U	16 U	12 U	12 U	15 U	13 U	13 U	16 U
TETRACHLOROETHENE	11 U	10 U	10 U	12 U	12 U	12 U	12 U	11 U	10 U	10 U	10 U	11 U	10 U	12 U	16 U	12 U	12 U	15 U	13 U	13 U	16 U
TRANS-1,2-DICHLOROETHENE	11 U	10 U	10 U	12 U	12 U	16	12 U	11 U	10 U	10 U	10 U	11 U	10 U	12 U	16 U	12 U	12 U	8 J	13 U	13 U	16 U
TRICHLOROETHENE	11 U	10 U	10 U	12 U	32	7,600	44	11 U	10 U	10 U	10 U	22	10 U	85	24	150	6,900	92,000	26,000	11,000	62
Semivolatile Organic Compounds (UG/KG)																					
2-METHYLNAPHTHALENE	380 U	380 U	390 U	410 U	95 J	400 U	400 U	400 U	400 U	420 U	390 U	380 U	410 U	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
BENZO(A)ANTHRACENE	380 U	380 U	390 U	410 U	180 J	150 J	400 U	400 U	400 U	420 U	390 U	380 U	410 U	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
BENZO(A)PYRENE	380 U	380 U	390 U	410 U	150 J	190 J	400 U	400 U	400 U	420 U	390 U	380 U	100 J	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
BENZO(B)FLUORANTHENE	380 U	380 U	390 U	410 U	220 J	240 J	400 U	400 U	400 U	420 U	390 U	380 U	110 J	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
BENZO(G,H,I)PERYLENE	380 U	380 U	390 U	410 U	160 J	170 J	400 U	400 U	400 U	420 U	390 U	380 U	110 J	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
BENZO(K)FLUORANTHENE	380 U	380 U	390 U	410 U	170 J	160 J	400 U	400 U	400 U	420 U	390 U	380 U	88 J	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
BIS(2-ETHYLHEXYL)PHTHALATE	380 U	380 U	390 U	410 U	200 J	400 U	400 U	400 U	140 J	420 U	390 U	380 U	410 U	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
CHRYSENE	380 U	380 U	390 U	410 U	230 J	190 J	400 U	400 U	400 U	420 U	390 U	380 U	90 J	430 U	490 U	480 U	470 U	520 U	490 U	470 U	110 J
DIETHYL PHTHALATE	380 U	380 U	390 U	410 U	430 U	400 U	400 U	400 U	400 U	420 U	390 U	380 U	410 U	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
DI-N-BUTYL PHTHALATE	380 U	380 U	390 U	410 U	430 U	400 U	400 U	400 U	400 U	420 U	390 U	380 U	410 U	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
FLUORANTHENE	380 U	380 U	390 U	410 U	460	240 J	400 U	400 U	400 U	120 J	390 U	380 U	120 J	430 U	120 J	480 U	470 U	140 J	490 U	470 U	170 J
INDENO(1,2,3-CD)PYRENE	380 U	380 U	390 U	410 U	180 J	190 J	400 U	400 U	400 U	420 U	390 U	380 U	110 J	430 U	490 U	480 U	470 U	520 U	490 U	470 U	500 U
PHENANTHRENE	380 U	380 U	390 U	410 U	270 J	120 J	400 U	400 U	400 U	97 J	390 U	380 U	130 J	430 U	490 U	480 U	470 U	130 J	490 U	470 U	130 J
PYRENE	380 U	380 U	390 U	410 U	280 J	290 J	400 U	400 U	400 U	110 J	390 U	380 U	110 J	430 U	120 J	480 U	470 U	110 J	490 U	470 U	140 J
Explosives (UG/KG)																					
Perchlorate	1.2 J	15	2.4 U	2.3 J	2.6 U	5.3	5.7	2.1 J	2.5	3.3	10	6.5	7.6	NA	78	NA	35	130	18	NA	88
Total Metals (MG/KG)																					
ALUMINUM	4,970	4,740	5,950	4,250	7,180	11,700	2,800	5,410	5,420	12,000	4,510	8,330	9,260	7,260	4,060	7,160	5,520	6,650	5,110	5,590	7,280
ANTIMONY	6.9 R	6.7 R	7.1 R	7.4 R	1.8 L	1.5 L	7.3 R	7.1 R	7.2 R	7.7 R	7.1 R	7 R	7.3 R	7.6 R	8.8 R	8.6 UL	8.6 UL	9.3 UL	8.5 UL	8.6 UL	9 R
ARSENIC	6.1	6.6	5	4	6.7	6.2	4.6	5.3	5.6	7.9	4.3	4.9	7.2	5	7.1	5.9	4.7	9.2	5.1	4.6	11.2
BARIUM	79.5	120	60.5	49	171	299	41.8	58.6	72.4	179	63.8	140	152	102	74.9	87.9	134	156	144	123	143
BERYLLIUM	0.72	0.79	0.72	0.59 J	1	0.95	0.71	0.8	0.83	1	0.64	0.91	0.49 J	0.91	0.91	0.88	0.86	1.4	0.87	0.89	1.7
CADMIUM	0.29 J	0.43 J	0.23 J	0.2 J	6.6	8.2	0.27 J	0.23 J	0.17 J	1	0.23 J	0.2 J	8.3	0.27 J	0.33 J	0.29 J	0.29 J	0.6 J	0.31 J	0.26 J	0.74 J
CALCIUM	427 B	710	875	1,030	2,940	3,060	523 B	932	1,090	1,360	773	640 B	3,280	705 B	1,470	626 B	1,640	2,190	1,580	1,620	3,100
CHROMIUM	10.9	13.4	10.7	8.8	19.3	27.2	13.2	12.5	12.2	27.7	9.8	11.5	36.8	11.6	10.1	10.9	10	14.4	9.4	10.2	14.2
COBALT	8.4	6.7	11.6	7	17	20.3	3.7 J	6.8	6 J	13.4	8.5	13.1	13.2	12.3	14.3	10.1	10.4	19.1	11.6	10.1	26.2
COPPER	14.5	16.4	14.3	9.2	278	704	9.4	17.2	12.6	563	11.4	16.9	69.3	15.8	28.5	15.8	11.5	42.3	20.6	11.2	46.3
IRON	25,800	32,900	24,200	19,700	28,800	27,500	26,900	25,900	22,600	33,400	20,700	24,700	23,600	26,400	22,100	26,700	20,600	25,700	19,600	21,800	31,400
LEAD	9.9	9.7	11	8	153	178	6.7	9.9	9.7	99.4	9.1	12.2	179	11.7	31.3	11.9	10.1	36.5	14.5	10	42.3
MAGNESIUM	735	760	779	613 J	1,430	1,870	383 J	679	784	1,230	619	1,110	5,520	893	491 J	934	867	849	768	872	909
MANGANESE	457	369	627	448	607	855	158	276	254	787	513	858	1,130	776	430	699	760	867	818	766	836
MERCURY	0.12 UJ	0.11 UJ	0.11 UJ	0.12 UJ	2.7 J	5 J	0.12 UJ	0.12 UJ	0.063 J	0.043 J	0.12 UJ	0.11 UJ	0.12 UJ	0.13 UJ	0.081 B	0.049 B	0.14 U	0.71	0.062 B	0.14 U	0.24 B
NICKEL	15.1	19.2	14.5	13.2	40.6	46.1	11.6	14	14.1	27.9	12.7	17	203	16.4	24.3	15.7	17.3	29.7	18.9	16.8	41.1
POTASSIUM	526 J	490 J	679 J	474 J	723 J	689 J	284 J	484 J	443 J	711 J	435 J	574 J	914 J	501 J	445 J	453 J	370 J	556 J	494 J	385 J	724 J
SELENIUM	0.51 L	0.4 L	4.1 UL	0.4 L	0.84 L	0.48 L	4.3 UL	0.36 L	4.2 UL	0.73 L	0.46 L	4.1 UL	0.39 L	4.5 UL	1 L	0.45 L	5 UL	1.3 L	4.9 UL	5 UL	1.3 L
SILVER	1.2 U	1.1 U	1.2 U	1.2 U	69.6	104	0.19 J	1.2 U	1.2 U	1.3	0.17 J	1.2 U	1.6	1.3 U	1.5 U	1.4 U	1.4 U	0.31 J	0.18 J	1.4 U	0.27 J
SODIUM	59.1 B	66.8 B	56.9 B	70.6 B	143 B	168 B	66.8 B	68.6 B	75.1 B	63.7 B	54.6 B	67.8 B	132 B	80.4 B	112 B	64.4 J	74.4 J	89.4 J	64.4 J	72.6 J	120 B
VANADIUM	15.3	16.3	16.2	11.8	70.8	57.2	13.2	15.4	15.6	19.3	13	18.8	994	17.4	12.5	17.5	13.3	16.1	13	13.6	18.1
ZINC	54.3	64.9	49.2	43.7	420	1,440	51.1	67.9	53.3	926	44.5	62.2	721	59.7	106	61.4	51.5	125	61.6	53.9	161
Dioxin/Furans (NG/KG)																					
1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.0386 U	0.254 B	0.635 B	0.577 B	112	686	1.87 B	0.0494 B	0.0165 U	64.6	0.222 B	0.524 B	119	NA	NA	NA	NA	NA	NA	NA	49.3
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.57 B	2.36 B	6.06 B	4.28 B	993	619	2.36 B	1.03 B	1.27 B	134	2.75 B	6.77	631	NA	NA	NA	NA	NA	NA	NA	75.8
1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.0406 U	0.0306 U	0.0678 B	0.0518 U	5.2 J	23.3	0.103 B	0.0304 U	0.0192 U	3.13 J	0.0455 U	0.052 U	4.47 J	NA	NA	NA	NA	NA	NA	NA	3.15 J
1,2,3,4,7,8-Hexachlorodibenzofuran	0.02 U	0.0187 U	0.165 J	0.148 J	59	290	0.796 J	0.0192 U	0.0138 U	26.3	0.0267 U	0.137 J	26.8	NA	NA	NA	NA	NA	NA	NA	7.7
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.0287 U	0.0252 U	0.104 J	0.0735 J	8.63	23	0.0524 J	0.0222 U	0.0317 U	2.68 J	0.0445 U	0.036 U	5.21 J	NA	NA	NA	NA	NA	NA	NA	1.18 J
1,2,3,6,7,8-Hexachlorodibenzofuran	0.0224 U	0.0201 U	0.118 J	0.0509 J	19.5	96.2	0.292 J	0.0207 U	0.0141 U	9.08	0.0283 U	0.0518 X	11.6	NA	NA	NA	NA	NA	NA	NA	2.3 J
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.033 U	0.027 U	0.153 B	0.178 B	194	54.7	0.175 B	0.0249 U	0.0343 U	9.28	0.0488 U	0.196 B	31.3	NA	NA	NA	NA	NA	NA	NA	3.92 J
1,2,3,7,8,9-Hexachlorodibenzofuran	0.0221 U	0.0193 U	0.0334 U	0.0238 U	0.549 B	2.55 J	0.0684 U	0.0231 U	0.0156 U	0.312 B	0.0297 U	0.159 B	0.918 B	NA	NA	NA	NA	NA	NA	NA	0.183 J
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.0288 U	0.136 J	0.31 J	0.167 J	118	75.5	0.235 J	0.0239 U	0.0335 U	9.34	0.0978 X	0.364 J	20.9	NA	NA	NA	NA	NA	NA	NA	2.04 J
1,2,3,7,8-Pentachlorodibenzofuran	0.0208 U	0.0166 U	0.0355 U	0.0288 U	10.4	49.1 I	0.149 J	0.0151 U	0.00879 U	5.58 J	0.0277 U	0.0736 J	10	NA	NA	NA	NA	NA	NA	NA	5.71 J
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.0229 U	0.0177 U	0.0813 J	0.0355 U	13	20.4	0.0465 U	0.0275 U	0.023 U	2.12 J	0.0348 U	0.0256 U	4.29 J	NA	NA	NA	NA	NA	NA	NA	0.72 J
2,3,4,6,7,8-Hexachlorodibenzofuran	0.0212 U	0.0183 U	0.0807 B	0.0533 B	24.5	123 I	0.473 B	0.0206 U	0.0146 U	6.89	0.0278 U	0.0645 B	10.1	NA	NA	NA	NA	NA	NA	NA	1.23 B
2,3,4,7,8-Pentachlorodibenzofuran	0.0189 U	0.0168 U	0.0355 U	0.0283 U	22.7	103 I	0.322 X	0.0145 U	0.00879 U	6.69	0.0273 U	0.114 J	12.9	NA	NA	NA	NA	NA	NA	NA	4.41 J
2,3,7,8-TCDD (dioxin)	0.0343 U	0.0232 U	0.0335 U	0.0414 U	0.421 X	4.8 J	0.0413 U	0.0261 U	0.026 U	1.25 J	0.0274 U	0.04 U	1.21	NA	NA	NA	NA	NA	NA	NA	1.08 J
2,3,7,8-Tetrachlorodibenzofuran	0.0288 U	0.0153 U	0.0325 U	0.121 U	10.5	54.5	0.148 U	0.034 U	0.027 U	6.62	0.0329 U	0.0351 U	10.5	NA	NA	NA	NA	NA	NA	NA	15.1
Octachlorodibenzofuran	0.0431 U	1.48 B	1.93 B	1.24 B	100	332 I	2.22 B	0.0549 U	0.0628 U	57.8	0.15 B	1 B	199	NA	NA	NA	NA	NA	NA	NA	137
Octachlorodibenzo-p-dioxin	36.3 B	69.5	321	171	2,910	2,890	23 B	85.8	117	1,250	194	296	6,520 J	NA	NA	NA	NA	NA	NA	NA	1,180
Total heptachlorodibenzofuran	0.0386 U	0.885 J	0.0678 J	1.35 J	188	829	2.42 J	0.0253 U	0.0165 U	116	0.222 J	1.6 J	407	NA	NA	NA	NA	NA	NA	NA	117
Total heptachlorodibenzo-p-dioxin	0.57 J	5.07	13.4	9.06	1,730	1,400	4.95 J	2.4 J	3.01 J	294	6.21	14.6	1,180	NA	NA	NA	NA	NA	NA	NA	156
Total hexachlorodibenzofuran	0.02 U	0.0187 U	0.613 J	0.64 J	231	1,030	2.51 J	0.0192 U	0.0138 U	118	0.0267 U	1.33 J	345	NA	NA	NA	NA	NA	NA	NA	58.7
Total hexachlorodibenzo-p-dioxin	0.0287 U	0.787 J	1.86 J	0.638 J	1,420	1,640	4.16 J	0.0222 U	0.174 J	140	0.779 J	1.58 J	185	NA	NA	NA	NA	NA	NA	NA	24.2
Total pentachlorodibenzofuran	0.0189 U	0.0168 U	0.547 J	0.103 J	232	1,070	3.04 J	0.0145 U	0.00879 U	76.7	0.0273 U	0.316 J	164	NA	NA	NA	NA	NA	NA	NA	36.9
Total pentachlorodibenzo-p-dioxin	0.0229 U	0.446 J	0.188 J	0.246 J	307	985	1.74 J	0.0275 U	0.023 U	74.8	0.0348 U	0.0256 U	45.9	NA	NA	NA	NA	NA	NA	NA	8.45
Total tetrachlorodibenzofuran	0.0288 U	0.0153 U	0.0325 U	0.261 J	142	1,010	2.68	0.034 U	0.027 U	65.9	0.0329 U	0.156 J	162	NA	NA	NA	NA	NA	NA	NA	55.9
Total tetrachlorodibenzo-p-dioxin	0.0343 U	0.0232 U	0.0335 U	0.0414 U	100	806	0.899 J	0.0261 U	0.026 U	69.1	0.0274 U	0.503 J	29.4	NA	NA	NA	NA	NA	NA	NA	13.8
Toxic Equivalents (Total TEQ)	0.0166	0.0611	0.339	0.167	75.6	144	0.257	0.0365	0.0478	15	0.0879	0.291	31	NA	NA	NA	NA	NA	NA	NA	9.9
Wet Chemistry (PCT)																					
Solids, Total (%)	85.8	85.9	84.9	81.3	75.9	77.3	82.2	84.2	83.1	82.7	84	86.1	81.9	NA	81.6	NA	79.8	76.7	77.7	NA	75.8

Notes:

B - Analyte not detected above the level reported in blanks
J - Analyte present. Value may or may not be accurate or precise
NA - Not analyzed
NG_KG - Nanograms per kilogram
U - The material was analyed for, but not detected

X - Dioxins only; Estimated Maximum Possible Concentration

P - Indicates duplicate sample

MG/KG - Milligrams per kilogram
PCT - Percent
UG/KG - Micrograms per kilogram
Shading indicates detection
Red indicates value or qualifier changed after validation

X - Dioxins only; Estima
P - Indicates duplicate s
MG/KG - Milligrams per
PCT - Percent
UG/KG - Micrograms pe
Shading indicates dete
Red indicates value or q

Table 2
CTO 167 ABL Site 1
Validated Analytical Detections
March - April 2008

Station ID	-TP16	AS01-TP17	AS01-TP18	AS01-TP19	AS01-TP20	AS01-TP21	AS01-TP22		AS01-TP23		AS01-TP24	AS01-TP25-0910			AS01-TP26	AS01-TP27		AS01-TP28		AS01-TP29
Sample ID	AS01-TP16P-0809	AS01-TP17-0809	AS01-TP18-0910	AS01-TP19-0910	AS01-TP20-0910	AS01-TP21-0910	AS01-TP22-0910	AS01-TP22P-0910	AS01-TP23-0910	AS01-DC12-0102	AS01-TP24-0910	AS01-TP25-0910	AS01-DC13-0304	AS01-DC13P-0304	AS01-TP26-0910	AS01-TP27-0910	AS01-DC10-0405	AS01-TP28-0910	AS01-DC08-0304	AS01-TP29-0910
Sample Date	3/25/08	3/25/08	3/26/08	3/26/08	3/26/08	3/26/08	3/26/08	3/26/08	3/31/08	3/31/08	3/27/08	4/1/08	4/1/08	4/1/08	3/31/08	3/28/08	3/28/08	3/28/08	3/28/08	3/28/08
Chemical Name																				
Volatile Organic Compounds (UG/KG)																				
1,1,1-TRICHLOROETHANE	14 U	14 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	12 U	13 U	11 U	10 U	10 U	10 U	10,000 U	38000 U
CIS-1,2-DICHLOROETHENE	14 U	14 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	12 U	13 U	11 U	11	7 J	54	10,000 U	38000 U
4-METHYL-2-PENTANONE	14 U	14 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	12 U	13 U	11 U	10 U	10 U	10 U	10,000 U	38000 U
BROMODICHLOROMETHANE	14 U	14 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	12 U	13 U	11 U	10 U	10 U	10 U	10,000 U	38000 U
TETRACHLOROETHENE	14 U	14 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	3 J	12 U	13 U	31	26	22	20	10,000 U	38000 U
TRANS-1,2-DICHLOROETHENE	14 U	14 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11 U	10 U	10 U	12 U	13 U	11 U	10 U	10 U	NA	10,000 U	38000 U
TRICHLOROETHENE	45	14 U	10 U	6 J	10 U	7 J	29	30	3 J	11 U	11	17	5 J	5 J	29	62	90	12,000	70,000	460,000
Semivolatile Organic Compounds (UG/KG)																				
2-METHYLNAPHTHALENE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
BENZO(A)ANTHRACENE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
BENZO(A)PYRENE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	150 J	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
BENZO(B)FLUORANTHENE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
BENZO(G,H,I)PERYLENE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	250 J	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
BENZO(K)FLUORANTHENE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
BIS(2-ETHYLHEXYL)PHTHALATE	480 U	470 U	280 J	390 U	390 U	100 J	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	210 J
CHRYSENE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	150 J	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	80 J
DIETHYL PHTHALATE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
DI-N-BUTYL PHTHALATE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
FLUORANTHENE	480 U	120 J	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	95 J
INDENO(1,2,3-CD)PYRENE	480 U	470 U	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
PHENANTHRENE	480 U	120 J	380 U	390 U	390 U	380 U	380 U	380 U	390 U	400 U	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	390 U
PYRENE	480 U	110 J	380 U	390 U	390 U	380 U	380 U	380 U	390 U	130 J	380 U	390 U	400 U	400 U	400 U	360 U	400 U	400 U	380 U	85 J
Explosives (UG/KG)																				
Perchlorate	150	270	2.7	NA	6.1	8.5	15	20	5.2	250	14	12	12 J	24 J	850	NA	12 J	47	NA	NA
Total Metals (MG/KG)																				
ALUMINUM	7,920	7,100	4,490	3,750	4,310	3,770	4,000	3,790	5,060	7,040	4,690	5,420	7,880	5,440	3,800	4,480	7,880	5,830	6,650	4,450
ANTIMONY	8.7 R	8.6 R	6.9 UL	7 UL	7 UL	7 UL	7 UL	6.9 UL	7.1 UL	0.7 B	7 UL	7.2 UL	0.75 B	7 UL	0.97 B	6.6 UL	0.75 B	7.1 UL	6.9 UL	7.1 UL
ARSENIC	9.7	10.1	4.6	3.8	3.8	3.7	4.7	4.3	4.4	5.9	4.4	5.3	8.2	5.1	3.9	5	8.2	4.6	6	4.7
BARIUM	142	134	74.8	57.6	75	81.8	55.4	67.9	62.9	123	46	88.6	235 J	86.1 J	65.3	70.1	235 J	75.9	96.9	61.4
BERYLLIUM	1.6	1.5	0.68	0.59	0.64	0.58 J	0.66	0.57 J	0.68 J	0.75 J	0.71	0.75 J	1.8 J	0.77 J	0.65 J	1.7 J	1.8 J	0.85 J	0.74 J	0.6 J
CADMIUM	0.58 J	0.79	0.24 J	0.21 J	0.21 J	0.19 J	0.26 J	0.24 J	0.12 J	0.45 J	0.21 J	0.26 J	2	0.26 J	0.22 J	1.9	2	0.35 J	1	0.18 J
CALCIUM	2,540	2,680	470 B	470 B	502 B	268 B	160 B	156 B	245 J	858	350 B	1,020	2,990	1,610	1,160	711	2,990	805	1,210	544 J
CHROMIUM	14.7	13.8	9.5	7.7	8	8.2	9.1	8.3	9.2	10.4	9.3	11.2	31.7 J	11.3 J	8.6	11.3	31.7 J	10.5	12.1	9.8
COBALT	22.3	22.9	9.1	8.5	8	7.8	8.9	7.9	8.4	9.6	9.2	9.3	11.3	10.2	8.8	10.2	11.3	7.7	10.3	5.5 J
COPPER	38.4	38.7	10.9	10	10.1	10.3	9.7	8.6	11.8	22.4	12.8	13.8	29.9	16.6	10	15.1	29.9	12.5	23.9	12.2
IRON	32,100	29,800	20,700	17,600	19,300	17,200	21,400	18,700	21,300	19,300	21,400	24,500	25,800	21,500	18,600	23,100	25,800	25,000	25,700	23,000
LEAD	32.4	34.9	9.3	8.3	8.3	10.1	8.6	7.5	11 J	93.7 J	9.3	29.1 J	45.8 J	17.9 J	7.5 J	10.9 J	45.8 J	9.5 J	25.2 J	10.4 J
MAGNESIUM	1,000	922	541 J	507 J	596	543 J	623	584	599	716	584	676	990	724	577 J	777	990	1,090	1,240	691
MANGANESE	828	784	469	377	444	431	445	371	444	678	465	514	708	674	789	930	708	348	597	255
MERCURY	0.35 J	0.14 B	0.12 U	0.12 U	0.12 U	0.12 U	0.043 B	0.12 U	0.054 J	0.17	0.12 U	0.12 U	0.062 J	0.31	0.06 J	0.046 B	0.062 J	0.12 U	4.9	0.11 U
NICKEL	34.4	37	12.2	10.4	11.6	11.3	13.3	11.9	12.5	16.2	12.4	13.7	27.5 J	94.1 J	14.3	17.5	27.5 J	13.4	19.3	11.6
POTASSIUM	725 J	728 J	359 J	301 J	359 J	362 J	360 J	322 J	467 J	545 J	388 J	487 J	634 J	544 J	427 J	402 J	634 J	675 J	900 J	656 J
SELENIUM	0.7 L	1.1 L	0.69 L	0.52 L	4.1 UL	4.1 UL	0.36 L	4.1 UL	0.39 L	4.2 UL	0.52 L	0.55 L	1.2 L	4.1 UL	4.3 UL	0.34 L	1.2 L	0.51 L	4 UL	0.48 L
SILVER	1.5 U	0.25 J	1.1 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.67 J	1.2 U	1.2 U	0.91 J	0.57 J	1.2 U	0.72 J	0.91 J	1.2 U	4.4	1.2 U
SODIUM	87.9 B	112	47.9 J	54.2 J	585 U	581 U	61 J	52.2 J	76.8 J	71.7 J	60.4 J	83.8 J	136 J	78.9 J	98.8 J	121 J	136 J	92.7 J	87 J	68 J
VANADIUM	19.2	17.8	12.9	11.1	12	11.2	12.3	11.2	13.1	15.9	13.5	15	20.1	13.8	10.8	13.7	20.1	15.3	16.6	13
ZINC	131	136	41.3	35.3	41	37.1	47	40.8	41.5	81.5	42.4	48.4	253 J	54 J	43.5	51.4	253 J	51.8	285	50.2
Dioxin/Furans (NG/KG)																				
1,2,3,4,6,7,8-Heptachlorodibenzofuran	25.9	25.7	NA	NA	NA	NA	0.098 B	0.112 B	NA	NA	0.04 U	0.172 B	0.902 B	0.498 B	NA	NA	0.902 B	NA	2.9 J	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	68.5	60	NA	NA	NA	NA	2.36 B	2.08 B	NA	NA	0.965 B	0.618 B	6.9 B	3.96 B	NA	NA	6.9 B	NA	8.88	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	3.15 J	6.86	NA	NA	NA	NA	0.0262 U	0.0235 U	NA	NA	0.0471 U	0.0263 U	0.133 B	0.0235 U	NA	NA	0.133 B	NA	0.343 B	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	7	30.5	NA	NA	NA	NA	0.00971 U	0.00805 U	NA	NA	0.0144 U	0.0595 J	0.492 J	0.224 J	NA	NA	0.492 J	NA	1.71 J	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1.18 J	0.861 J	NA	NA	NA	NA	0.0229 U	0.0296 U	NA	NA	0.028 U	0.0215 U	0.132 J	0.0215 U	NA	NA	0.132 J	NA	0.214 J	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	2.08 J	5.72 J	NA	NA	NA	NA	0.0111 U	0.00889 U	NA	NA	0.016 U	0.0127 U	0.17 X	0.091 X	NA	NA	0.17 X	NA	0.71 B	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	3.47 J	2.87 B	NA	NA	NA	NA	0.0753 B	0.0321 U	NA	NA	0.0308 U	0.0234 U	0.248 B	0.142 B	NA	NA	0.248 B	NA	0.574 B	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	0.14 J	0.412 J	NA	NA	NA	NA	0.0113 U	0.00974 U	NA	NA	0.0191 U	0.0154 U	0.0234 U	0.0248 U	NA	NA	0.0234 U	NA	0.0306 U	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	2.25 J	2.01 J	NA	NA	NA	NA	0.146 J	0.0313 U	NA	NA	0.0299 U	0.0228 U	0.361 J	0.204 J	NA	NA	0.361 J	NA	0.692 J	NA
1,2,3,7,8-Pentachlorodibenzofuran	4.65 J	37.3	NA	NA	NA	NA	0.00612 U	0.0113 U	NA	NA	0.0117 U	0.00986 U	0.138 J	0.0899 J	NA	NA	0.138 J	NA	0.551 J	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.719 J	0.64 J	NA	NA	NA	NA	0.0115 U	0.015 U	NA	NA	0.0229 U	0.0159 U	0.102 J	0.0159 U	NA	NA	0.102 J	NA	0.251 J	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	1.16 B	2.9 J	NA	NA	NA	NA	0.0108 U	0.00879 U	NA	NA	0.0164 U	0.0133 U	0.232 B	0.117 B	NA	NA	0.232 B	NA	0.721 B	NA
2,3,4,7,8-Pentachlorodibenzofuran	3.58 J	42.3	NA	NA	NA	NA	0.00612 U	0.0107 U	NA	NA	0.0121 U	0.00933 U	0.223 J	0.13 J	NA	NA	0.223 J	NA	0.838 J	NA
2,3,7,8-TCDD (dioxin)	0.871 J	0.797 J	NA	NA	NA	NA	0.0198 U	0.0173 U	NA	NA	0.0153 U	0.0181 U	0.0136 U	0.0185 U	NA	NA	0.0136 U	NA	0.013 U	NA
2,3,7,8-Tetrachlorodibenzofuran	14.1	260	NA	NA	NA	NA	0.0136 U	0.0126 U	NA	NA	0.0238 U	0.0133 U	0.0874 U	0.234 J	NA	NA	0.0874 U	NA	0.895 J	NA
Octachlorodibenzofuran	108	188	NA	NA	NA	NA	0.304 B	0.282 B	NA	NA	0.256 B	1.44 B	2.16 B	1.37 B	NA	NA	2.16 B	NA	3.39 B	NA
Octachlorodibenzo-p-dioxin	1,170	1,250	NA	NA	NA	NA	115	95.7	NA	NA	33.7 B	26 B	274 B	157 B	NA	NA	274 B	NA	201	NA
Total heptachlorodibenzofuran	75	88.7	NA	NA	NA	NA	0.285 J	0.269 J	NA	NA	0.04 U	0.28 J	1.88 J	1.08 J	NA	NA	1.88 J	NA	5.14 J	NA
Total heptachlorodibenzo-p-dioxin	150	126	NA	NA	NA	NA	5.56	4.88 J	NA	NA	2.18 J	0.914 J	15.4	8.49	NA	NA	15.4	NA	21	NA
Total hexachlorodibenzofuran	38.5	85.7	NA	NA	NA	NA	0.00971 U	0.00805 U	NA	NA	0.0144 U	0.122 J	2.53 J	1.01 J	NA	NA	2.53 J	NA	7.04	NA
Total hexachlorodibenzo-p-dioxin	25.2	21.1	NA	NA	NA	NA	0.222 J	0.157 J	NA	NA	0.109 J	0.0215 U	2.57 J	0.666 J	NA	NA	2.57 J	NA	7.8	NA
Total pentachlorodibenzofuran	30.1	235	NA	NA	NA	NA	0.00612 U	0.0107 U	NA	NA	0.0121 U	0.00933 U	3.23 J	1.18 J	NA	NA	3.23 J	NA	10.9	NA
Total pentachlorodibenzo-p-dioxin	12	9.91	NA	NA	NA	NA	0.0115 U	0.015 U	NA	NA	0.0229 U	0.0159 U	0.482 J	0.112 J	NA	NA	0.482 J	NA	5.52 J	NA
Total tetrachlorodibenzofuran	55.1	881	NA	NA	NA	NA	0.0136 U	0.0126 U	NA	NA	0.0238 U	0.0133 U	1.8	0.435 J	NA	NA	1.8	NA	18.3	NA
Total tetrachlorodibenzo-p-dioxin	15.5	14.3	NA	NA	NA	NA	0.0198 U	0.0173 U	NA	NA	0.0153 U	0.0181 U	0.449 J	0.0185 U	NA	NA	0.449 J	NA	4.75	NA
Toxic Equivalents (Total TEQ)	8.65	57.1	NA	NA	NA	NA	0.162	0.118	NA	NA	0.0436	0.0413	0.672	0.365	NA	NA	0.672	NA	1.45	NA
Wet Chemistry (PCT)																				
Solids, Total (%)	75.4	80.2	85	NA	84.8	84.5	86.5	86.5	86.3	85.9	85.1	81.1	84.2	82	81	NA	84.2	81.7	NA	NA

Notes:

B - Analyte not detected above the level reported in blanks
J - Analyte present. Value may or may not be accurate or precise
NA - Not analyzed
NG_KG - Nanograms per kilogram
U - The material was analyed for, but not detected

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X - Dioxins only; Estimated Maximum Possible C
P - Indicates duplicate sample
MG/KG - Milligrams per kilogram
PCT - Percent
UG/KG - Micrograms per kilogram
Shading indicates detection
Red indicates value or qualifier changed after va

Table 2
CTO 167 ABL Site 1
Validated Analytical Detections
March - April 2008

Station ID	AS01-TP30		AS01-TP31	AS01-TP32	AS01-TP33	AS01-TP34	AS01-TP35		AS01-TP36			AS01-TP37		AS01-TP38
Sample ID	AS01-TP30-0910	AS01-DC05-0203	AS01-TP31-0910	AS01-TP32-0910	AS01-TP33-0607	AS01-TP34-0910	AS01-TP35-0910	AS01-DC11-0203	AS01-TP36-0910	AS01-TP36P-0910	AS01-DC07-0304	AS01-TP37-0910	AS01-DC06-0203	AS01-TP38-0910
Sample Date	3/27/08	3/27/08	3/18/08	3/24/08	3/25/08	3/26/08	3/31/08	3/31/08	3/27/08	3/27/08	3/27/08	3/27/08	3/27/08	3/27/08
Chemical Name														
Volatile Organic Compounds (UG/KG)														
1,1,1-TRICHLOROETHANE	13 U	13 U	12 U	5 J	13 U	10 U	10 U	11 U	14 U	11 U	10 U	12 U	14 U	13 U
CIS-1,2-DICHLOROETHENE	13 U	13 U	12 U	15 U	58	10 U	2 J	11 U	260 J	6,900 J	39	12 U	14 U	13 U
4-METHYL-2-PENTANONE	13 U	13 U	12 U	15 U	13 U	10 U	10 U	11 U	14 U	11 U	10 U	12 U	14 U	13 U
BROMODICHLOROMETHANE	13 U	13 U	12 U	15 U	13 U	10 U	10 U	11 U	14 U	11 U	10 U	12 U	14 U	13 U
TETRACHLOROETHENE	13 U	13 U	12 U	15 U	13 U	10 U	10 U	11 U	4 J	11 U	2 J	12 U	14 U	13 U
TRANS-1,2-DICHLOROETHENE	13 U	13 U	12 U	15 U	13 U	10 U	10 U	11 U	14 U	11 U	10 U	12 U	14 U	13 U
TRICHLOROETHENE	3 J	11 J	12 U	31	170	9 J	12	11 U	730,000 J	390,000 J	230,000	19	16	9 J
Semivolatile Organic Compounds (UG/KG)														
2-METHYLNAPHTHALENE	430 U	420 U	400 U	500 U	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	430 U	450 U
BENZO(A)ANTHRACENE	110 J	420 U	400 U	150 J	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	97 J	450 U
BENZO(A)PYRENE	96 J	420 U	400 U	120 J	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	430 U	450 U
BENZO(B)FLUORANTHENE	130 J	420 U	400 U	130 J	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	110 J	450 U
BENZO(G,H,I)PERYLENE	430 U	420 U	400 U	500 U	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	430 U	450 U
BENZO(K)FLUORANTHENE	110 J	420 U	400 U	130 J	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	95 J	450 U
BIS(2-ETHYLHEXYL)PHTHALATE	430 U	95 J	400 U	500 U	490 U	380 U	390 U	120 J	480 U	400 U	340 U	420 U	430 U	450 U
CHRYSENE	160 J	94 J	400 U	170 J	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	150 J	450 U
DIETHYL PHTHALATE	430 U	420 U	400 U	500 U	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	430 U	450 U
DI-N-BUTYL PHTHALATE	430 U	460	400 U	500 U	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	430 U	450 U
FLUORANTHENE	280 J	140 J	400 U	320 J	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	210 J	450 U
INDENO(1,2,3-CD)PYRENE	430 U	420 U	400 U	500 U	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	430 U	450 U
PHENANTHRENE	220 J	130 J	400 U	230 J	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	190 J	450 U
PYRENE	210 J	110 J	400 U	260 J	490 U	380 U	390 U	390 U	480 U	400 U	340 U	420 U	170 J	450 U
Explosives (UG/KG)														
Perchlorate	11	NA	1.3 J	NA	NA	NA	NA	18	9.8	9.4	5.9	NA	NA	1.8 J
Total Metals (MG/KG)														
ALUMINUM	4,080	11,300	2,580	6,880	4,270	3,340	5,230	5,830	3,370	2,690	4,320	5,210	6,370	3,900
ANTIMONY	7.8 UL	0.95 L	7.2 R	9 R	8.7 UL	7 UL	0.74 B	0.75 B	8.6 UL	7.3 UL	6.2 UL	7.4 UL	7.7 UL	8.1 UL
ARSENIC	6.1	9.4	3.1	10.4	4.9	3.4	4.7	4.6	4.1	3.5	4.4	7.6	10	5.2
BARIUM	93.2	161	29.6	124	91.6	47.2	64.3	96.3	70.6	56.3	115	83.3	143	65.4
BERYLLIUM	1.2	1.1	0.46 J	1.6	0.78	0.47 J	1.8 J	0.78 J	0.66 J	0.52 J	0.75	0.96 J	1.2 J	1.8
CADMIUM	0.71	8.4	0.15 J	0.49 J	0.27 J	0.17 J	1.9	0.43 J	0.28 J	0.22 J	0.35 J	0.73	0.91	0.59 J
CALCIUM	2,050	7,960	554 B	2,750	1,520	285 B	216 J	1,050	959	717	1,580	1,970	2,810	1,640
CHROMIUM	9.3	77.7	7.8	14.3	9.1	7.4	10.1	10.7	8.2	8	7.7	10	15.7	7.7
COBALT	22.7	25.5	5.3 J	20.9	9.9	7	11	9.9	8.2	6.2	11	12.7	19.9	37.8
COPPER	489	779	6.3	54.7	16.1	8.8	12	18.1	13	8.6	15.3	32.3	52.6	43.5
IRON	19,800	30,900	17,500	28,700	20,600	16,000	22,600	22,100	17,800	15,100	16,400	19,800	25,100	21,100
LEAD	30.4	197	5.3	53.7	12.1	7.1	10.1 J	47.3 J	12.1	8	14.3	62.4 J	58.7 J	20.5
MAGNESIUM	787	5,090	350 J	765	679 J	452 J	642	703	544 J	445 J	821	721	803	627 J
MANGANESE	650	769	278	532	634	326	599	574	446	349	702	518	798	930
MERCURY	0.072 B	2	0.12 UJ	0.18 B	0.099 B	0.12 U	0.04 J	0.12	0.15 U	0.12 U	0.052 B	0.25	0.68	0.055 B
NICKEL	25.9	75.9	9.7	36.7	17	8.8	14	15.1	13.7	10.9	15.5	21.4	31.8	30.4
POTASSIUM	386 J	551 J	295 J	627 J	404 J	299 J	428 J	514 J	367 J	292 J	509 J	482 J	664 J	284 J
SELENIUM	0.84 L	1.2 L	4.2 UL	0.71 L	0.58 L	0.36 L	0.86 L	0.35 L	0.68 L	0.63 L	0.59 L	4.3 UL	0.68 L	4.7 UL
SILVER	0.38 J	4.6	1.2 U	0.39 J	1.5 U	1.2 U	0.57 J	1.2	0.25 J	1.2 U	0.17 J	0.7 J	4	1.4 U
SODIUM	99.2 J	112 J	62.3 B	113 B	75.7 J	52 J	68.9 J	85 J	62.8 J	56.2 J	65 J	114 J	108 J	122 J
VANADIUM	10.8	19.3	9	17.3	12.3	10	14.2	16.2	10.5	8.7	10.8	12.6	16.4	9.5
ZINC	142	840	34.5	155	55	31.3	48.3	65.5	49.3	36.2	49.2	196	197	114
Dioxin/Furans (NG/KG)														
1,2,3,4,6,7,8-Heptachlorodibenzofuran	NA	NA	0.0518 B	NA	NA	NA	NA	NA	20.1	16.9	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	NA	NA	0.751 B	NA	NA	NA	NA	NA	39.2	36.3	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	NA	NA	0.0422 U	NA	NA	NA	NA	NA	1.79 J	1.16 B	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	NA	NA	0.0286 U	NA	NA	NA	NA	NA	9.46	5.85 J	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	NA	NA	0.0339 U	NA	NA	NA	NA	NA	1.07 J	1.06 J	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	NA	NA	0.0297 U	NA	NA	NA	NA	NA	3.88 J	2.49 J	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	NA	NA	0.0383 U	NA	NA	NA	NA	NA	2.72 B	2.23 B	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	NA	NA	0.0305 U	NA	NA	NA	NA	NA	0.166 X	0.0784 X	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	NA	NA	0.0338 U	NA	NA	NA	NA	NA	3.12 J	2.42 J	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	NA	NA	0.026 U	NA	NA	NA	NA	NA	2.68 J	1.41 J	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	NA	NA	0.036 U	NA	NA	NA	NA	NA	1.14 J	0.693 J	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	NA	NA	0.0312 U	NA	NA	NA	NA	NA	3.89 J	2.65 J	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	NA	NA	0.0252 U	NA	NA	NA	NA	NA	3.95 J	2.56 J	NA	NA	NA	NA
2,3,7,8-TCDD (dioxin)	NA	NA	0.0518 U	NA	NA	NA	NA	NA	0.48 J	0.287 X	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	NA	NA	0.049 U	NA	NA	NA	NA	NA	4.4	2.51	NA	NA	NA	NA
Octachlorodibenzofuran	NA	NA	0.258 B	NA	NA	NA	NA	NA	36.9	23.4	NA	NA	NA	NA
Octachlorodibenzo-p-dioxin	NA	NA	29.6 B	NA	NA	NA	NA	NA	673	525	NA	NA	NA	NA
Total heptachlorodibenzofuran	NA	NA	0.0349 U	NA	NA	NA	NA	NA	40.6	36.2	NA	NA	NA	NA
Total heptachlorodibenzo-p-dioxin	NA	NA	1.63 J	NA	NA	NA	NA	NA	88.2	77.4	NA	NA	NA	NA
Total hexachlorodibenzofuran	NA	NA	0.0286 U	NA	NA	NA	NA	NA	41.6	30.6	NA	NA	NA	NA
Total hexachlorodibenzo-p-dioxin	NA	NA	0.0339 U	NA	NA	NA	NA	NA	41	27.9	NA	NA	NA	NA
Total pentachlorodibenzofuran	NA	NA	0.0252 U	NA	NA	NA	NA	NA	50.7	33.4	NA	NA	NA	NA
Total pentachlorodibenzo-p-dioxin	NA	NA	0.036 U	NA	NA	NA	NA	NA	26.9	18.4	NA	NA	NA	NA
Total tetrachlorodibenzofuran	NA	NA	0.049 U	NA	NA	NA	NA	NA	57	38.6	NA	NA	NA	NA
Total tetrachlorodibenzo-p-dioxin	NA	NA	0.0518 U	NA	NA	NA	NA	NA	25.2	16	NA	NA	NA	NA
Toxic Equivalents (Total TEQ)	NA	NA	0.017	NA	NA	NA	NA	NA	7.34	4.72	NA	NA	NA	NA
Wet Chemistry (PCT)														
Solids, Total (%)	74.2	NA	82.9	NA	NA	NA	NA	85	78.3	82	79.9	NA	NA	73.6

Notes:

Concentration

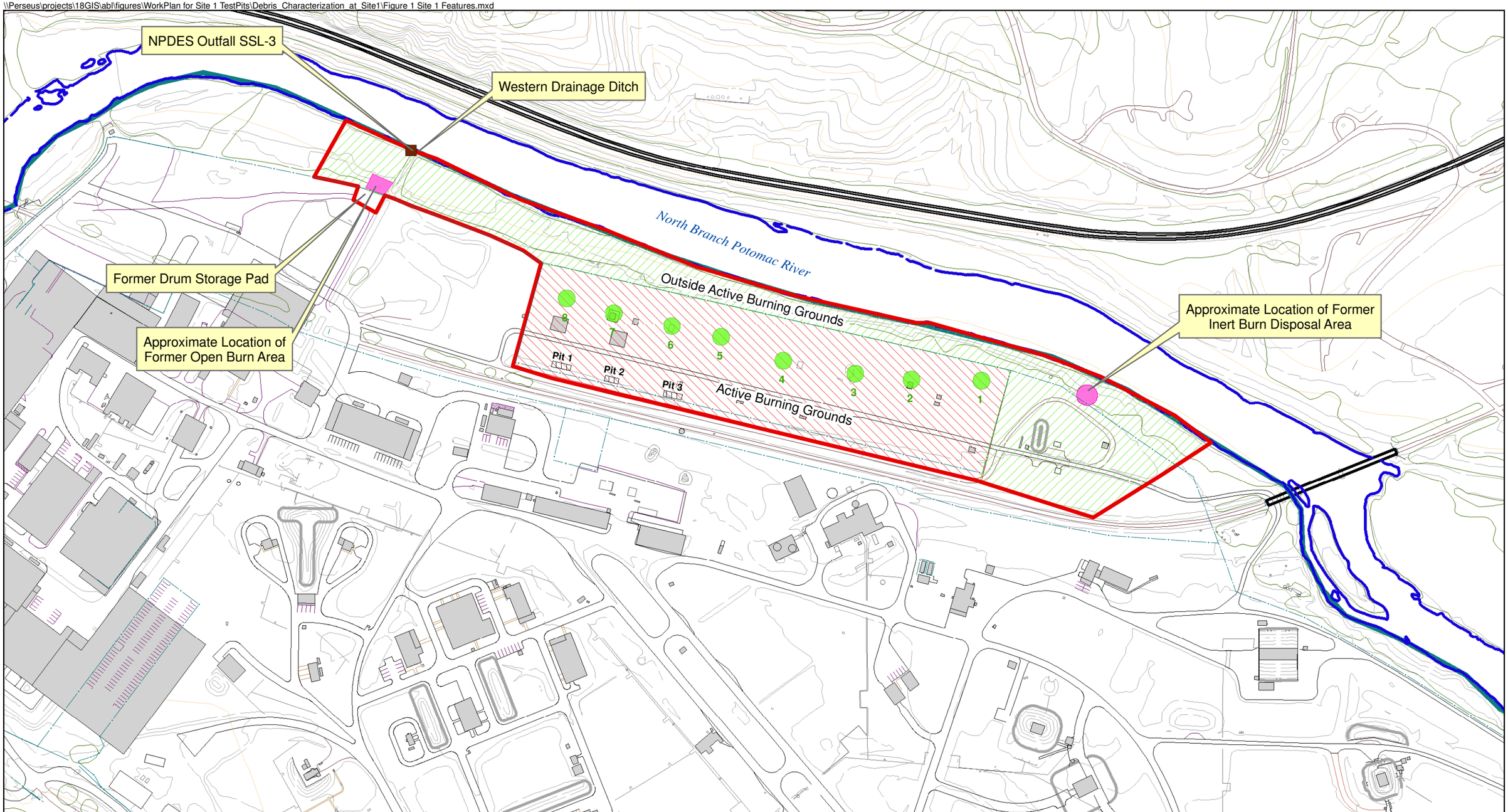
B - Analyte not detected above the level reported in blanks
J - Analyte present. Value may or may not be accurate or precise
NA - Not analyzed
NG_KG - Nanograms per kilogram
U - The material was analyed for, but not detected

alidation

Figures

Figure 1: Site 1 Features
Figure 2a: OABG Test Pit Locations with COC Detections (Western Region)
Figure 2b: OABG Test Pit Locations with COC Detections (Central Region)
Figure 2c: OABG Test Pit Locations with COC Detections (Eastern Region)
Figure 3a: Estimated Extent of OABG Surface and Subsurface Debris (Western Region)
Figure 3b: Estimated Extent of OABG Surface and Subsurface Debris (Central Region)
Figure 3c: Estimated Extent of OABG Surface and Subsurface Debris (Eastern Region)

\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Debris_Characterization_at_Site1\Figure 1 Site 1 Features.mxd



Legend

- Approximate Site 1 Boundary
- Active Burning Grounds
- Outside Active Burning Grounds
- Approximate Location of Former Disposal Pits
- Building
- Vegetation
- Fence
- North Branch Potomac River
- NPDES Permitted Outfall
- Approximate Location of Former Burn Pads

Roads

- PAVED
- DIRT
- BRIDGE

N
W E
S

0 125 250 500
Feet

Figure 1
Site 1 Features
Debris Characterization at Site 1
Allegany Ballistics Laboratory
Rocket Center, West Virgina

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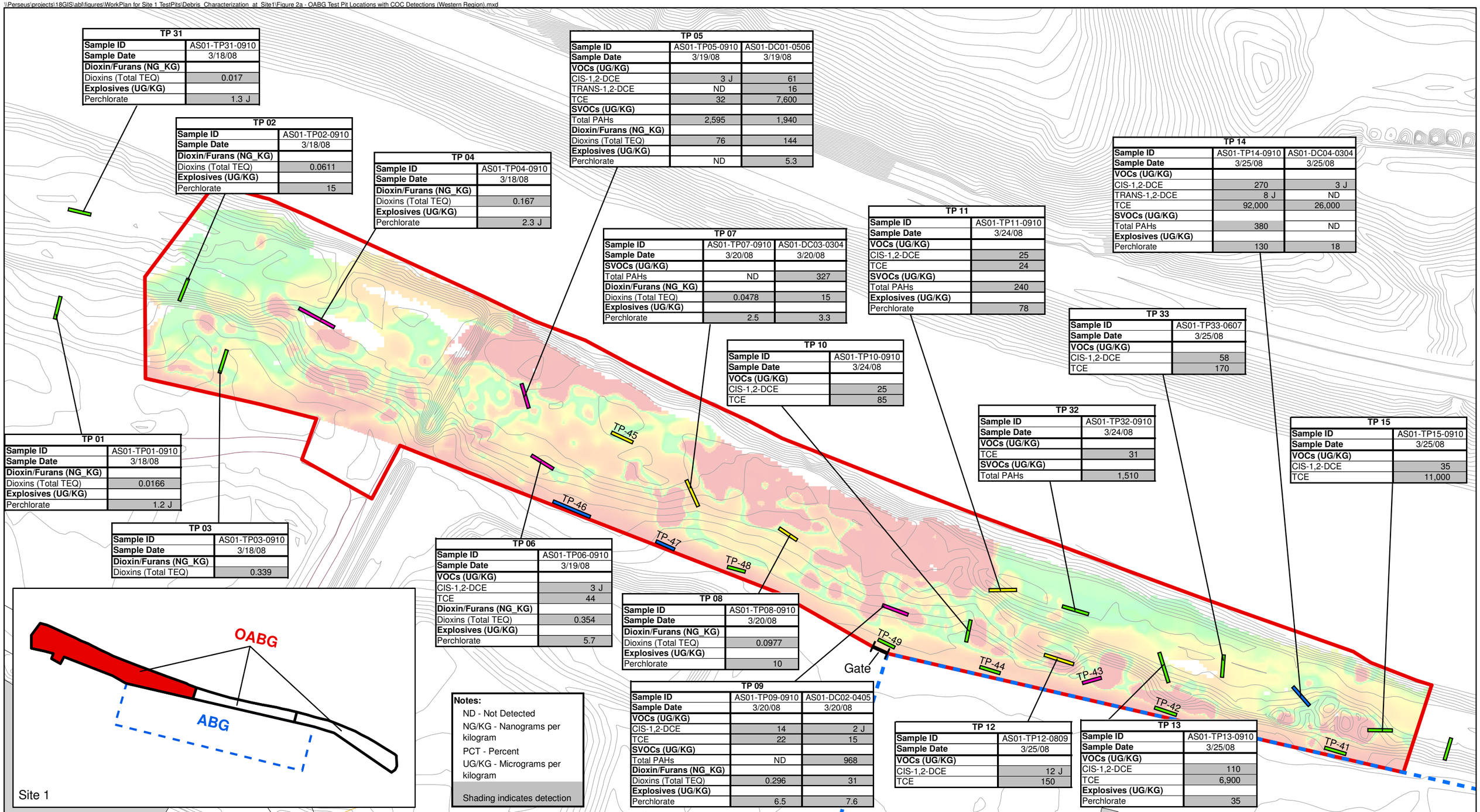
\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Debris_Characterization_at_Site1\Figure 2a - OABG Test Pit Locations with COC Detections (Western Region).mxd



TP 31	
Sample ID	AS01-TP31-0910
Sample Date	3/18/08
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	0.017
Explosives (UG/KG)	
Perchlorate	1.3 J

TP 02	
Sample ID	AS01-TP02-0910
Sample Date	3/18/08
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	0.0611
Explosives (UG/KG)	
Perchlorate	15

TP 04	
Sample ID	AS01-TP04-0910
Sample Date	3/18/08
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	0.167
Explosives (UG/KG)	
Perchlorate	2.3 J

TP 05		
Sample ID	AS01-TP05-0910	AS01-DC01-0506
Sample Date	3/19/08	3/19/08
VOCs (UG/KG)		
CIS-1,2-DCE	3 J	61
TRANS-1,2-DCE	ND	16
TCE	32	7,600
SVOCs (UG/KG)		
Total PAHs	2,595	1,940
Dioxin/Furans (NG_KG)		
Dioxins (Total TEQ)	76	144
Explosives (UG/KG)		
Perchlorate	ND	5.3

TP 14		
Sample ID	AS01-TP14-0910	AS01-DC04-0304
Sample Date	3/25/08	3/25/08
VOCs (UG/KG)		
CIS-1,2-DCE	270	3 J
TRANS-1,2-DCE	8 J	ND
TCE	92,000	26,000
SVOCs (UG/KG)		
Total PAHs	380	ND
Explosives (UG/KG)		
Perchlorate	130	18

TP 11	
Sample ID	AS01-TP11-0910
Sample Date	3/24/08
VOCs (UG/KG)	
CIS-1,2-DCE	25
TCE	24
SVOCs (UG/KG)	
Total PAHs	240
Explosives (UG/KG)	
Perchlorate	78

TP 07		
Sample ID	AS01-TP07-0910	AS01-DC03-0304
Sample Date	3/20/08	3/20/08
SVOCs (UG/KG)		
Total PAHs	ND	327
Dioxin/Furans (NG_KG)		
Dioxins (Total TEQ)	0.0478	15
Explosives (UG/KG)		
Perchlorate	2.5	3.3

TP 33	
Sample ID	AS01-TP33-0607
Sample Date	3/25/08
VOCs (UG/KG)	
CIS-1,2-DCE	58
TCE	170

TP 10	
Sample ID	AS01-TP10-0910
Sample Date	3/24/08
VOCs (UG/KG)	
CIS-1,2-DCE	25
TCE	85

TP 32	
Sample ID	AS01-TP32-0910
Sample Date	3/24/08
VOCs (UG/KG)	
TCE	31
SVOCs (UG/KG)	
Total PAHs	1,510

TP 15	
Sample ID	AS01-TP15-0910
Sample Date	3/25/08
VOCs (UG/KG)	
CIS-1,2-DCE	35
TCE	11,000

TP 01	
Sample ID	AS01-TP01-0910
Sample Date	3/18/08
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	0.0166
Explosives (UG/KG)	
Perchlorate	1.2 J

TP 03	
Sample ID	AS01-TP03-0910
Sample Date	3/18/08
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	0.339

TP 06	
Sample ID	AS01-TP06-0910
Sample Date	3/19/08
VOCs (UG/KG)	
CIS-1,2-DCE	3 J
TCE	44
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	0.354
Explosives (UG/KG)	
Perchlorate	5.7

TP 08	
Sample ID	AS01-TP08-0910
Sample Date	3/20/08
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	0.0977
Explosives (UG/KG)	
Perchlorate	10

Notes:

ND - Not Detected

NG/KG - Nanograms per kilogram

PCT - Percent

UG/KG - Micrograms per kilogram

Shading indicates detection

TP 09		
Sample ID	AS01-TP09-0910	AS01-DC02-0405
Sample Date	3/20/08	3/20/08
VOCs (UG/KG)		
CIS-1,2-DCE	14	2 J
TCE	22	15
SVOCs (UG/KG)		
Total PAHs	ND	968
Dioxin/Furans (NG_KG)		
Dioxins (Total TEQ)	0.296	31
Explosives (UG/KG)		
Perchlorate	6.5	7.6

TP 12	
Sample ID	AS01-TP12-0809
Sample Date	3/25/08
VOCs (UG/KG)	
CIS-1,2-DCE	12 J
TCE	150

TP 13	
Sample ID	AS01-TP13-0910
Sample Date	3/25/08
VOCs (UG/KG)	
CIS-1,2-DCE	110
TCE	6,900
Explosives (UG/KG)	
Perchlorate	35

Legend

Test Pits

- Burn Debris / Ash
- Construction Debris
- Mfg Debris
- Native Soil

- Elevation Contours (1 ft interval)
- Active Burning Grounds
- Building
- OABG Region

EM-31 Quadrature Geophysical Survey

- Red: Strong Metallic Response
- Orange: Metallic Response
- Yellow/Green: Natural Soil

N

0 37.5 75 150 Feet

Figure 2a

OABG Test Pit Locations with COC Detections (Western Region)
Debris Characterization at Site 1
Allegany Ballistics Laboratory
Rocket Center, West Virgina

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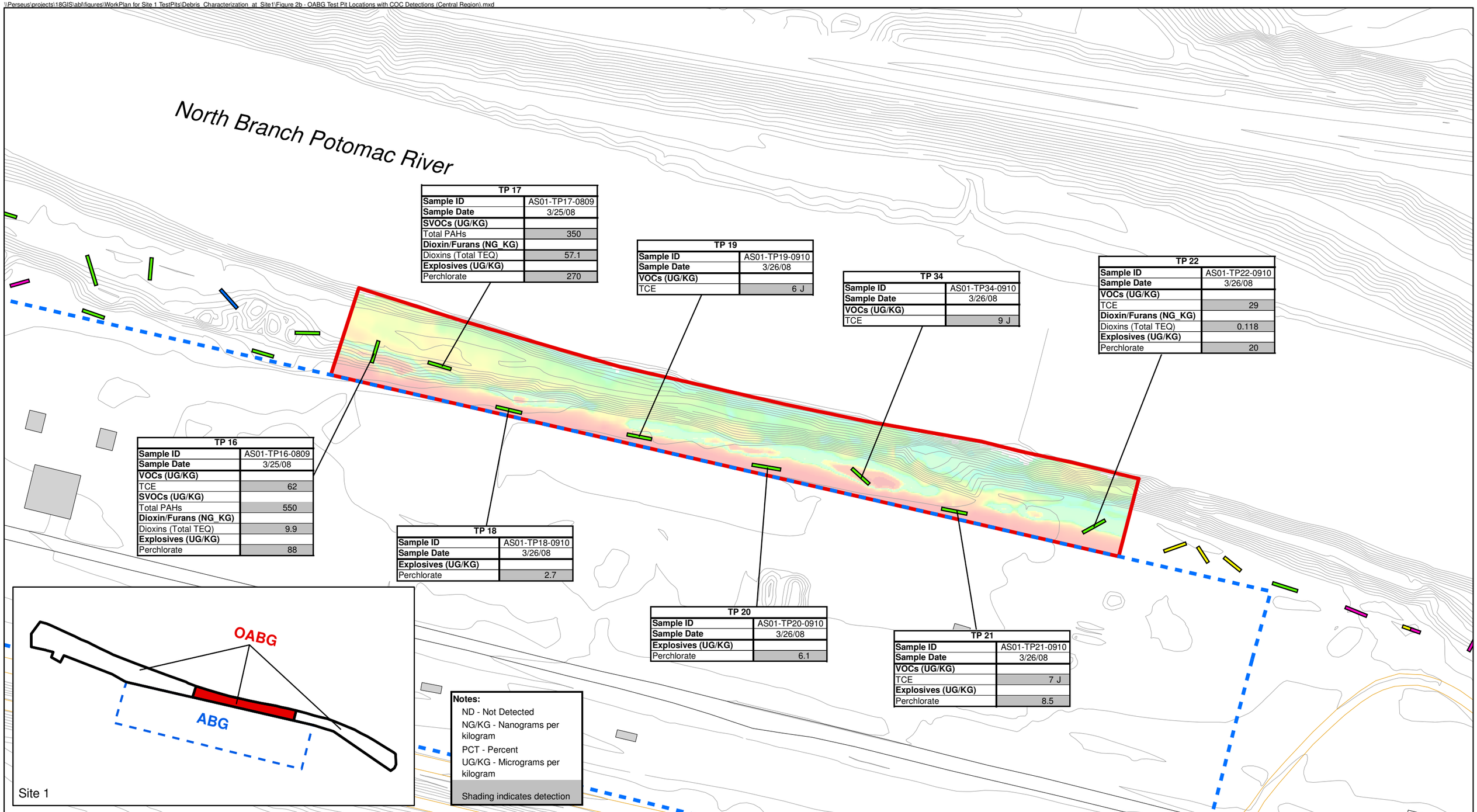
\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Debris_Characterization_at_Site1\Figure 2b - OABG Test Pit Locations with COC Detections (Central Region).mxd



TP 17	
Sample ID	AS01-TP17-0809
Sample Date	3/25/08
SVOCs (UG/KG)	
Total PAHs	350
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	57.1
Explosives (UG/KG)	
Perchlorate	270

TP 19	
Sample ID	AS01-TP19-0910
Sample Date	3/26/08
VOCs (UG/KG)	
TCE	6 J

TP 34	
Sample ID	AS01-TP34-0910
Sample Date	3/26/08
VOCs (UG/KG)	
TCE	9 J

TP 22	
Sample ID	AS01-TP22-0910
Sample Date	3/26/08
VOCs (UG/KG)	
TCE	29
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	0.118
Explosives (UG/KG)	
Perchlorate	20

TP 16	
Sample ID	AS01-TP16-0809
Sample Date	3/25/08
VOCs (UG/KG)	
TCE	62
SVOCs (UG/KG)	
Total PAHs	550
Dioxin/Furans (NG_KG)	
Dioxins (Total TEQ)	9.9
Explosives (UG/KG)	
Perchlorate	88

TP 18	
Sample ID	AS01-TP18-0910
Sample Date	3/26/08
Explosives (UG/KG)	
Perchlorate	2.7

TP 20	
Sample ID	AS01-TP20-0910
Sample Date	3/26/08
Explosives (UG/KG)	
Perchlorate	6.1

TP 21	
Sample ID	AS01-TP21-0910
Sample Date	3/26/08
VOCs (UG/KG)	
TCE	7 J
Explosives (UG/KG)	
Perchlorate	8.5

Notes:
- ND - Not Detected
- NG/KG - Nanograms per kilogram
- PCT - Percent
- UG/KG - Micrograms per kilogram
- Shading indicates detection

Legend

Test Pits
- Burn Debris / Ash
- Construction Debris
- Mfg Debris
- Native Soil

- Elevation Contours (1 ft interval)
- Active Burning Grounds
- Building
- OABG Region

EM-31 Quadrature Geophysical Survey
- Red: Strong Metallic Response
- Orange: Metallic Response
- Yellow/Green: Natural Soil

N

0 37.5 75 150 Feet

Figure 2b
OABG Test Pit Locations with COC Detections (Central Region)
Debris Characterization at Site 1
Allegany Ballistics Laboratory
Rocket Center, West Virgina

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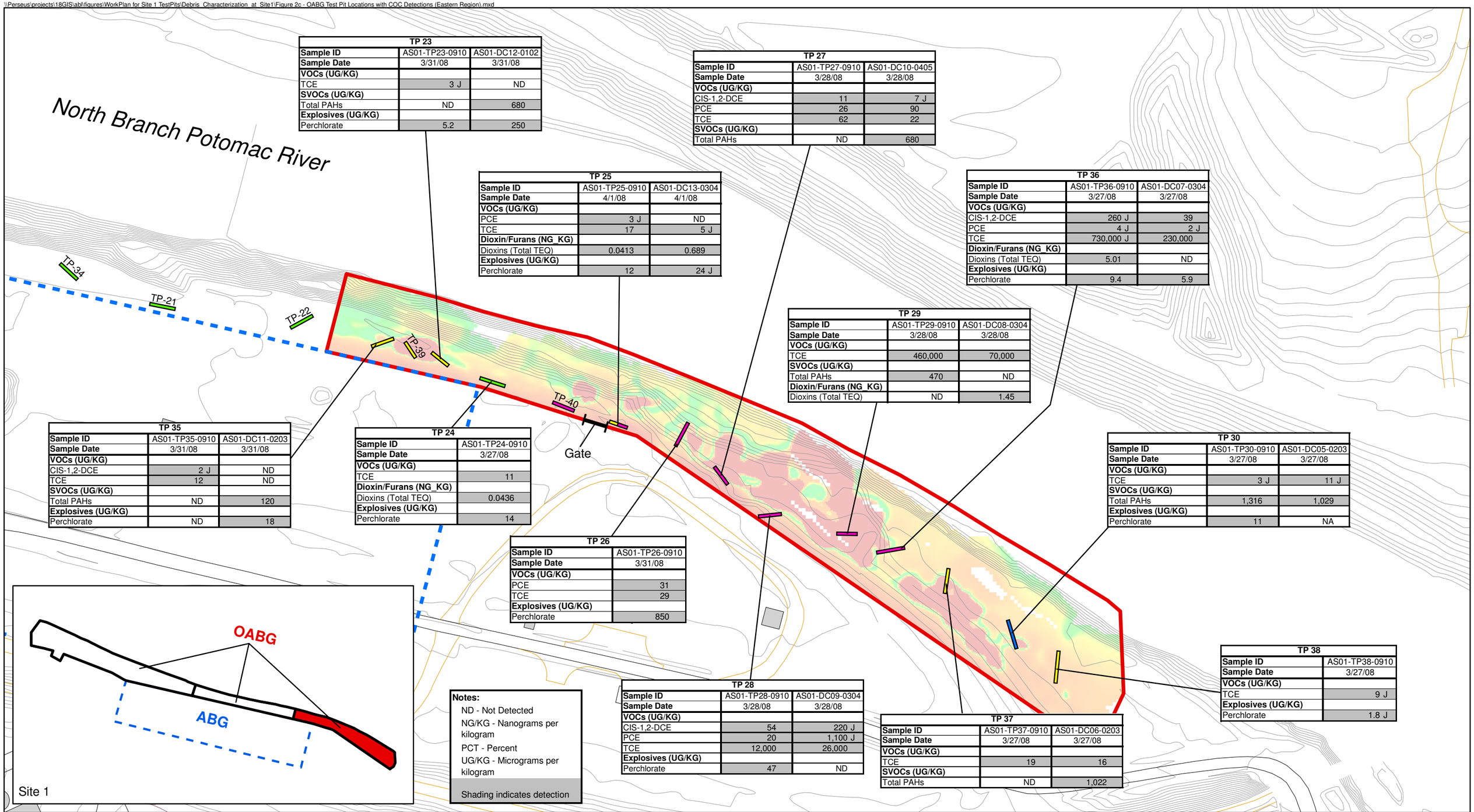
\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Debris_Characterization_at_Site1\Figure 2c - OABG Test Pit Locations with COC Detections (Eastern Region).mxd



TP 23		
Sample ID	AS01-TP23-0910	AS01-DC12-0102
Sample Date	3/31/08	3/31/08
VOCs (UG/KG)		
TCE	3 J	ND
SVOCs (UG/KG)		
Total PAHs	ND	680
Explosives (UG/KG)		
Perchlorate	5.2	250

TP 27		
Sample ID	AS01-TP27-0910	AS01-DC10-0405
Sample Date	3/28/08	3/28/08
VOCs (UG/KG)		
CIS-1,2-DCE	11	7 J
PCE	26	90
TCE	62	22
SVOCs (UG/KG)		
Total PAHs	ND	680

TP 25		
Sample ID	AS01-TP25-0910	AS01-DC13-0304
Sample Date	4/1/08	4/1/08
VOCs (UG/KG)		
PCE	3 J	ND
TCE	17	5 J
Dioxin/Furans (NG_KG)		
Dioxins (Total TEQ)	0.0413	0.689
Explosives (UG/KG)		
Perchlorate	12	24 J

TP 36		
Sample ID	AS01-TP36-0910	AS01-DC07-0304
Sample Date	3/27/08	3/27/08
VOCs (UG/KG)		
CIS-1,2-DCE	260 J	39
PCE	4 J	2 J
TCE	730,000 J	230,000
Dioxin/Furans (NG_KG)		
Dioxins (Total TEQ)	5.01	ND
Explosives (UG/KG)		
Perchlorate	9.4	5.9

TP 29		
Sample ID	AS01-TP29-0910	AS01-DC08-0304
Sample Date	3/28/08	3/28/08
VOCs (UG/KG)		
TCE	460,000	70,000
SVOCs (UG/KG)		
Total PAHs	470	ND
Dioxin/Furans (NG_KG)		
Dioxins (Total TEQ)	ND	1.45

TP 35		
Sample ID	AS01-TP35-0910	AS01-DC11-0203
Sample Date	3/31/08	3/31/08
VOCs (UG/KG)		
CIS-1,2-DCE	2 J	ND
TCE	12	ND
SVOCs (UG/KG)		
Total PAHs	ND	120
Explosives (UG/KG)		
Perchlorate	ND	18

TP 24		
Sample ID	AS01-TP24-0910	
Sample Date	3/27/08	
VOCs (UG/KG)		
TCE	11	
Dioxin/Furans (NG_KG)		
Dioxins (Total TEQ)	0.0436	
Explosives (UG/KG)		
Perchlorate	14	

TP 30		
Sample ID	AS01-TP30-0910	AS01-DC05-0203
Sample Date	3/27/08	3/27/08
VOCs (UG/KG)		
TCE	3 J	11 J
SVOCs (UG/KG)		
Total PAHs	1,316	1,029
Explosives (UG/KG)		
Perchlorate	11	NA

TP 26	
Sample ID	AS01-TP26-0910
Sample Date	3/31/08
VOCs (UG/KG)	
PCE	31
TCE	29
Explosives (UG/KG)	
Perchlorate	850

TP 38	
Sample ID	AS01-TP38-0910
Sample Date	3/27/08
VOCs (UG/KG)	
TCE	9 J
Explosives (UG/KG)	
Perchlorate	1.8 J

TP 28		
Sample ID	AS01-TP28-0910	AS01-DC09-0304
Sample Date	3/28/08	3/28/08
VOCs (UG/KG)		
CIS-1,2-DCE	54	220 J
PCE	20	1,100 J
TCE	12,000	26,000
Explosives (UG/KG)		
Perchlorate	47	ND

TP 37		
Sample ID	AS01-TP37-0910	AS01-DC06-0203
Sample Date	3/27/08	3/27/08
VOCs (UG/KG)		
TCE	19	16
SVOCs (UG/KG)		
Total PAHs	ND	1,022

Notes:
ND - Not Detected
NG/KG - Nanograms per kilogram
PCT - Percent
UG/KG - Micrograms per kilogram

Shading indicates detection

Legend

Test Pits
- Burn Debris / Ash
- Construction Debris
- Mfg Debris
- Native Soil

- Elevation Contours (1 ft interval)
- Active Burning Grounds
- Building
- OABG Region

EM-31 Quadrature Geophysical Survey
- Red: Strong Metallic Response
- Orange: Metallic Response
- Yellow/Green: Natural Soil

N

0 37.5 75 150 Feet

Figure 2c
OABG Test Pit Locations with COC Detections (Eastern Region)
Debris Characterization at Site 1
Allegany Ballistics Laboratory
Rocket Center, West Virgina

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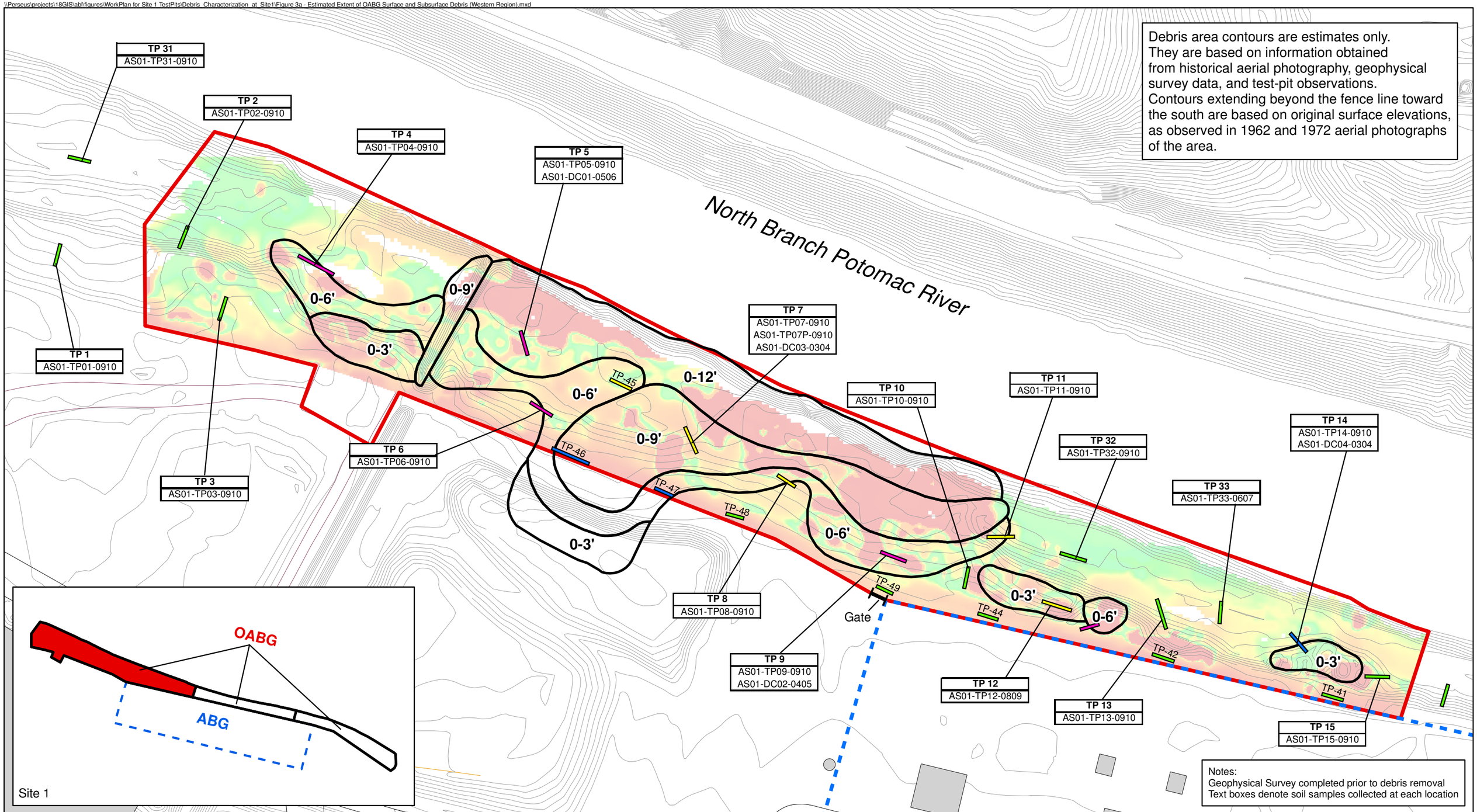
\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Debris_Characterization_at_Site1\Figure 3a - Estimated Extent of OABG Surface and Subsurface Debris (Western Region).mxd



Legend

Test Pits
- Burn Debris / Ash
- Construction Debris
- Mfg Debris
- Native fill / Undisturbed

- Elevation Contours (1 ft interval)
- Subsurface Debris Area
- Active Burning Grounds
- Building
- OABG Region

EM-31 Quadrature Geophysical Survey
- Red: Strong Metallic Response
- Orange: Metallic Response
- Yellow/Green: Natural Soil

0-3' Indicates depth below ground surface

N

0 37.5 75 150 Feet

Figure 3a

Estimated Extent of OABG Surface and Subsurface Debris (Western Region)
Debris Characterization at Site 1
Allegany Ballistics Laboratory
Rocket Center, West Virgina

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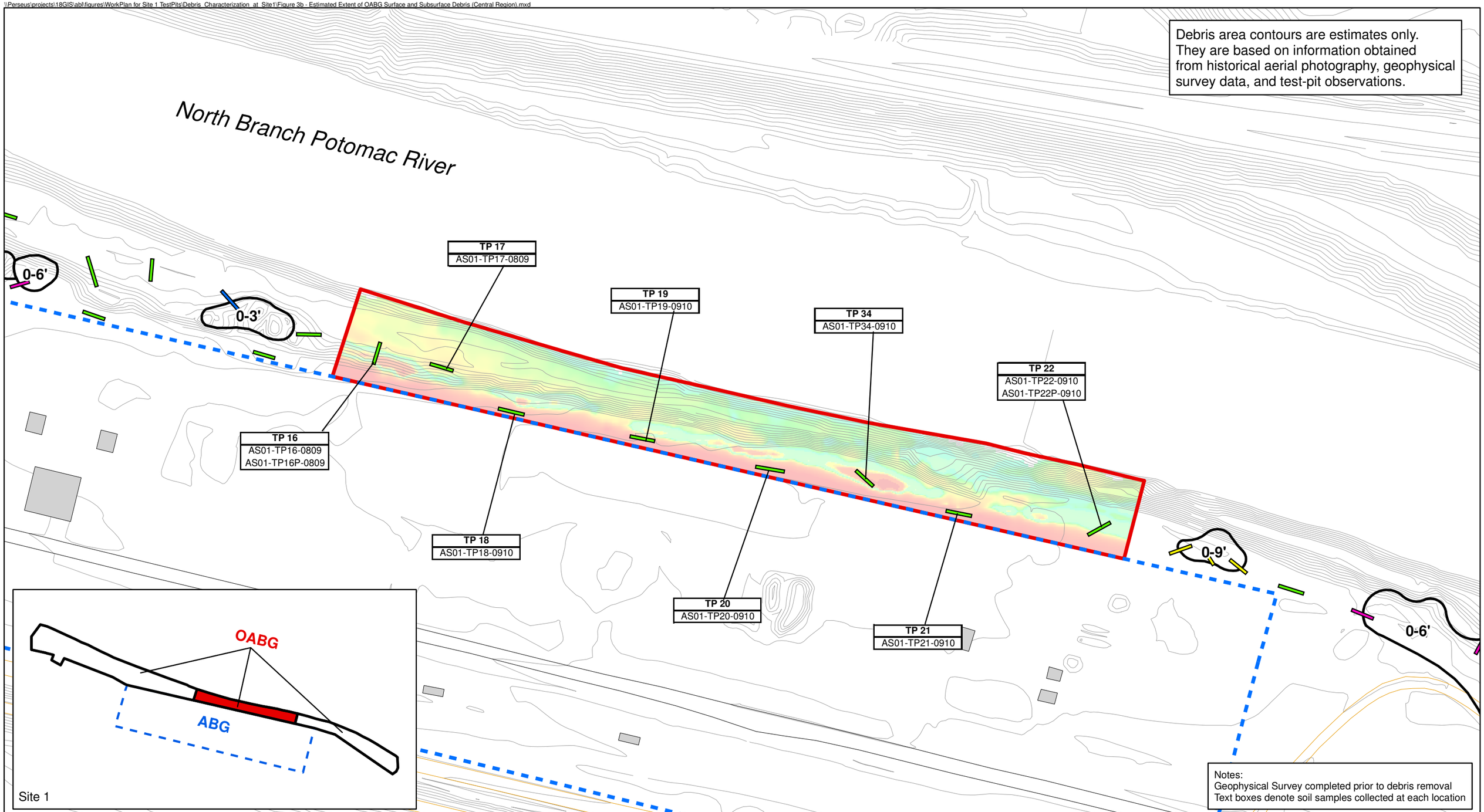
\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Debris_Characterization_at_Site1\Figure 3b - Estimated Extent of OABG Surface and Subsurface Debris (Central Region).mxd



Legend

Test Pits
- Burn Debris / Ash
- Construction Debris
- Mfg Debris
- Native fill / Undisturbed

- Elevation Contours (1 ft interval)
- Subsurface Debris Area
- Active Burning Grounds
- Building
- OABG Region

EM-31 Quadrature Geophysical Survey
- Red: Strong Metallic Response
- Orange: Metallic Response
- Yellow/Green: Natural Soil

0-3' Indicates depth below ground surface

N

0 37.5 75 150 Feet

Figure 3b
Estimated Extent of OABG Surface and Subsurface Debris (Central Region)
Debris Characterization at Site 1
Allegany Ballistics Laboratory
Rocket Center, West Virgina

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\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Debris_Characterization_at_Site1\Figure 3c - Estimated Extent of OABG Surface and Subsurface Debris (Eastern Region).mxd

Debris area contours are estimates only.
They are based on information obtained from historical aerial photography, geophysical survey data, and test-pit observations.
Contours extending beyond the fence line toward the south are based on original surface elevations, as observed in 1962 and 1972 aerial photographs of the area.

North Branch Potomac River

TP 23
AS01-TP23-0910
AS01-DC12-0102

TP 25
AS01-TP25-0910
AS01-DC13-0304
AS01-DC13P-0304

TP 27
AS01-TP27-0910
AS01-DC10-0405

TP 29
AS01-TP29-0910
AS01-DC08-0304

TP 37
AS01-TP37-0910
AS01-DC06-0203

TP 35
AS01-TP35-0910
AS01-DC11-0203

TP 26
AS01-TP26-0910

TP 24
AS01-TP24-0910

TP 28
AS01-TP28-0910
AS01-DC09-0304

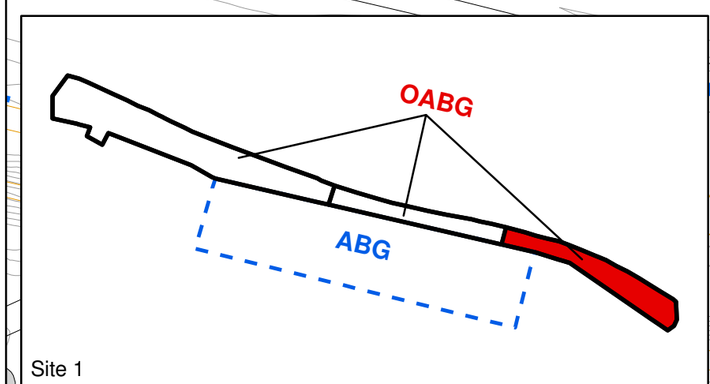
TP 30
AS01-TP30-0910
AS01-DC05-0203

TP 38
AS01-TP38-0910

TP 36
AS01-TP36-0910
AS01-TP36P-0910
AS01-DC07-0304

TP-34
TP-21
TP-22
TP-40
Gate

0-9'
0-6'
0-9'
0-6'
0-9'
0-12'



Notes:
Geophysical Survey completed prior to debris removal
Text boxes denote soil samples collected at each location

Legend

Test Pits
- Burn Debris / Ash
- Construction Debris
- Mfg Debris
- Native fill / Undisturbed

- Elevation Contours (1 ft interval)
- Subsurface Debris Area
- Active Burning Grounds
- Building
- OABG Region

EM-31 Quadrature Geophysical Survey
- Red: Strong Metallic Response
- Orange: Metallic Response
- Yellow/Green: Natural Soil

0-3' Indicates depth below ground surface

N

0 37.5 75 150 Feet

Figure 3c
Estimated Extent of OABG Surface and Subsurface Debris (Eastern Region)
Debris Characterization at Site 1
Allegany Ballistics Laboratory
Rocket Center, West Virgina

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Appendix A
Representative Site 1 Photographs

Representative Site 1 Photographs

Photograph #1: View of typical ash/burn debris (right side), shown next to native soil (left side) removed from eastern end of TP-43 location.

Photograph #2: Transition between buried ash/burn debris (dark colored) and native soil (light colored) on southwest end of TP-26 location.

Representative Site 1 Photographs

Photograph #3: Typical example of construction debris. This corroded metal beam and other similar material was excavated from the TP-07 location.

Photograph #4: Surface-located manufactured debris, shown stockpiled awaiting offsite disposal, as part of limited surface removal by Shaw.

Representative Site 1 Photographs

Photograph #5: Typical example of buried and deteriorated manufactured debris. Material is shown extending to depth of 4 feet in TP-46, along OABG boundary fence.

Photograph #6: View of TP-12 location, where the largest portion of surface-located debris was removed by Shaw. Additional foreign material was found to a depth of 3 feet during the test pit excavation.

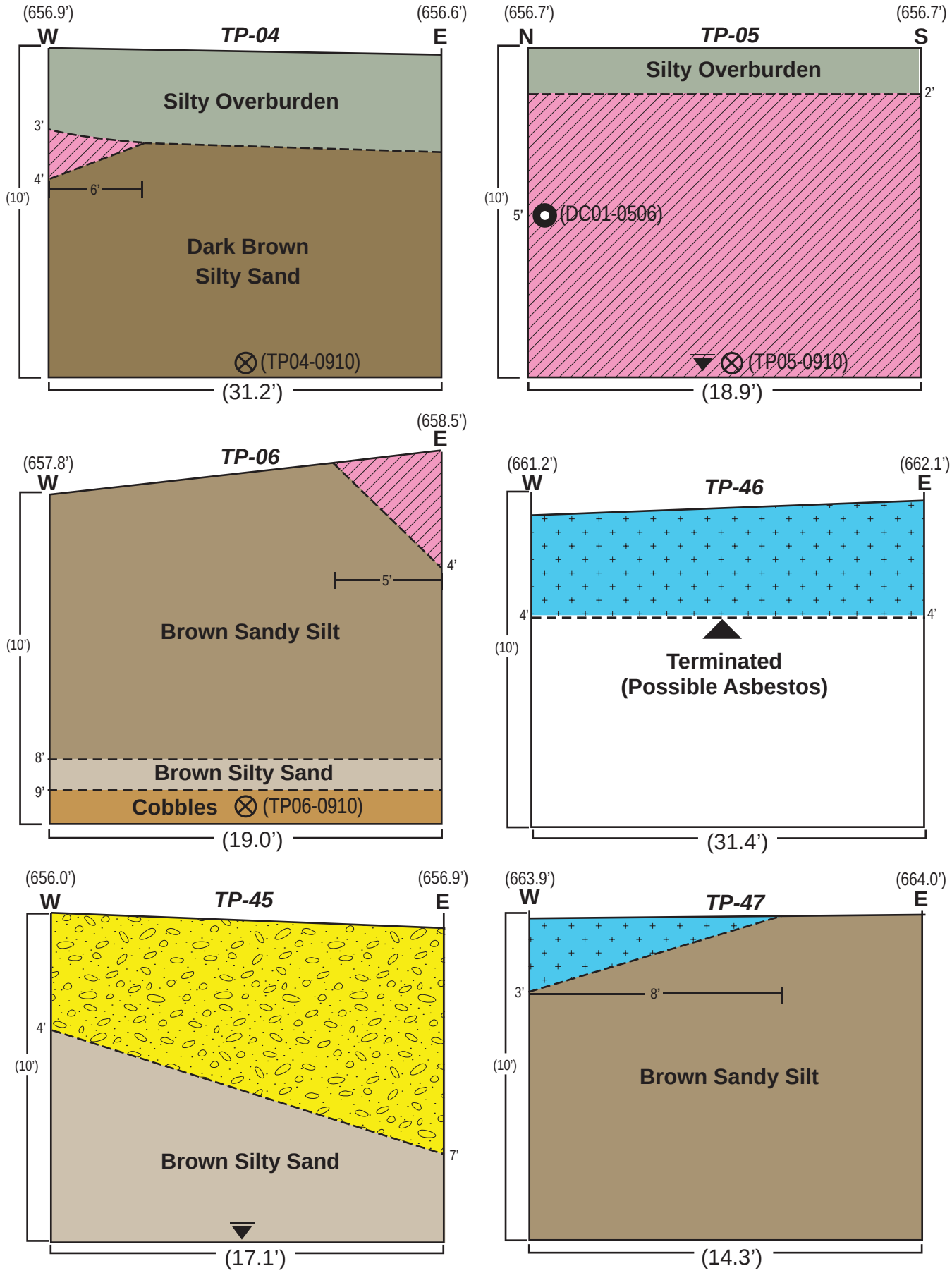
Representative Site 1 Photographs

Photograph #7: View of Western Region of OABG facing west. The completed test pits, TP-15 and TP-14 are shown, as well as silt-fence installed along the North Branch Potomac River.

Photograph #8: View of typical test pit location (TP-03, facing southwest), finished at ground surface with geo-fabric and rip-rap stone to prevent erosion.

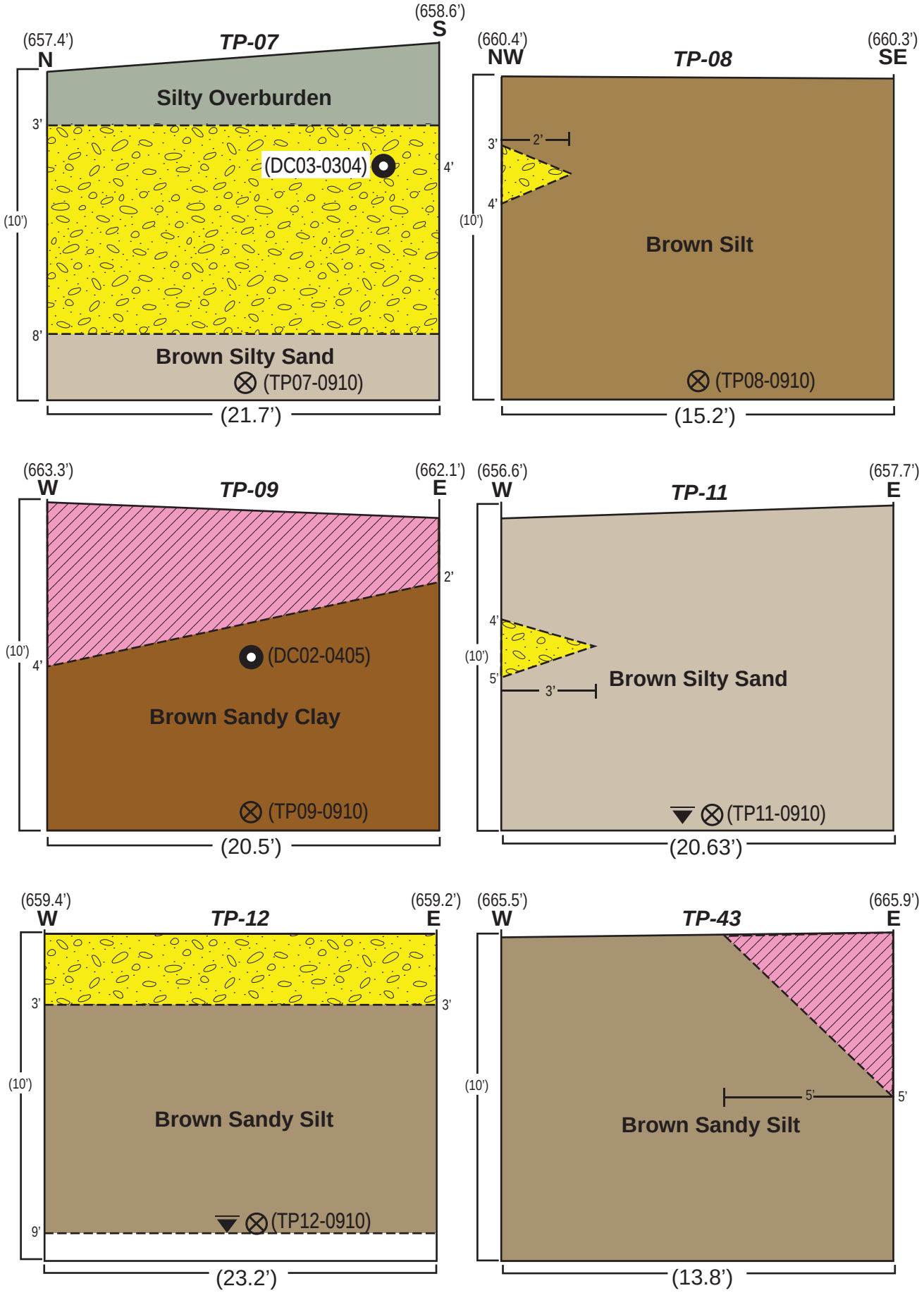
Appendix B
Test-Pit Cross Section Diagrams

Site 1 Test Pit Diagrams



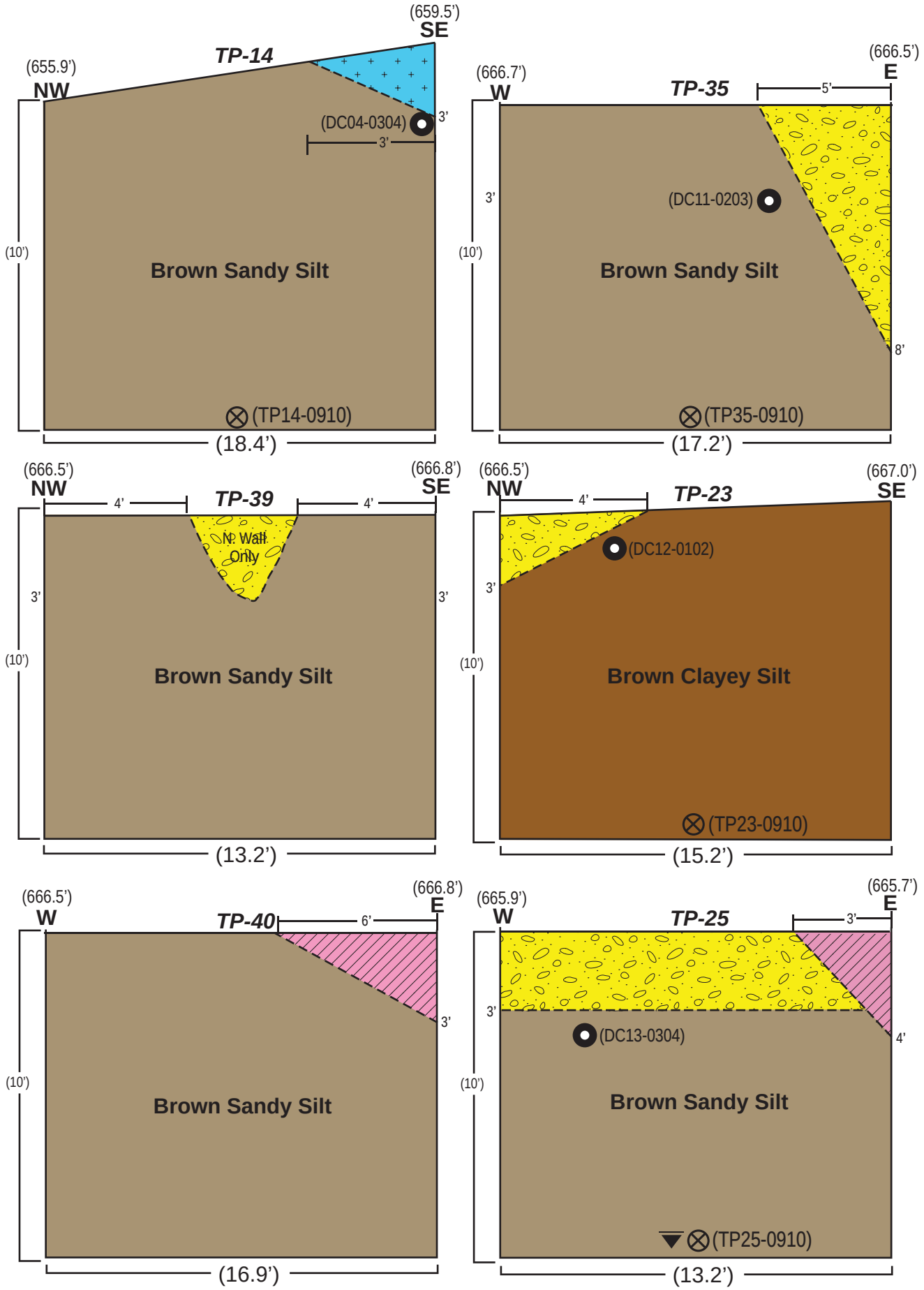
ES062008002WDC_RC_Site1_v5

Site 1 Test Pit Diagrams



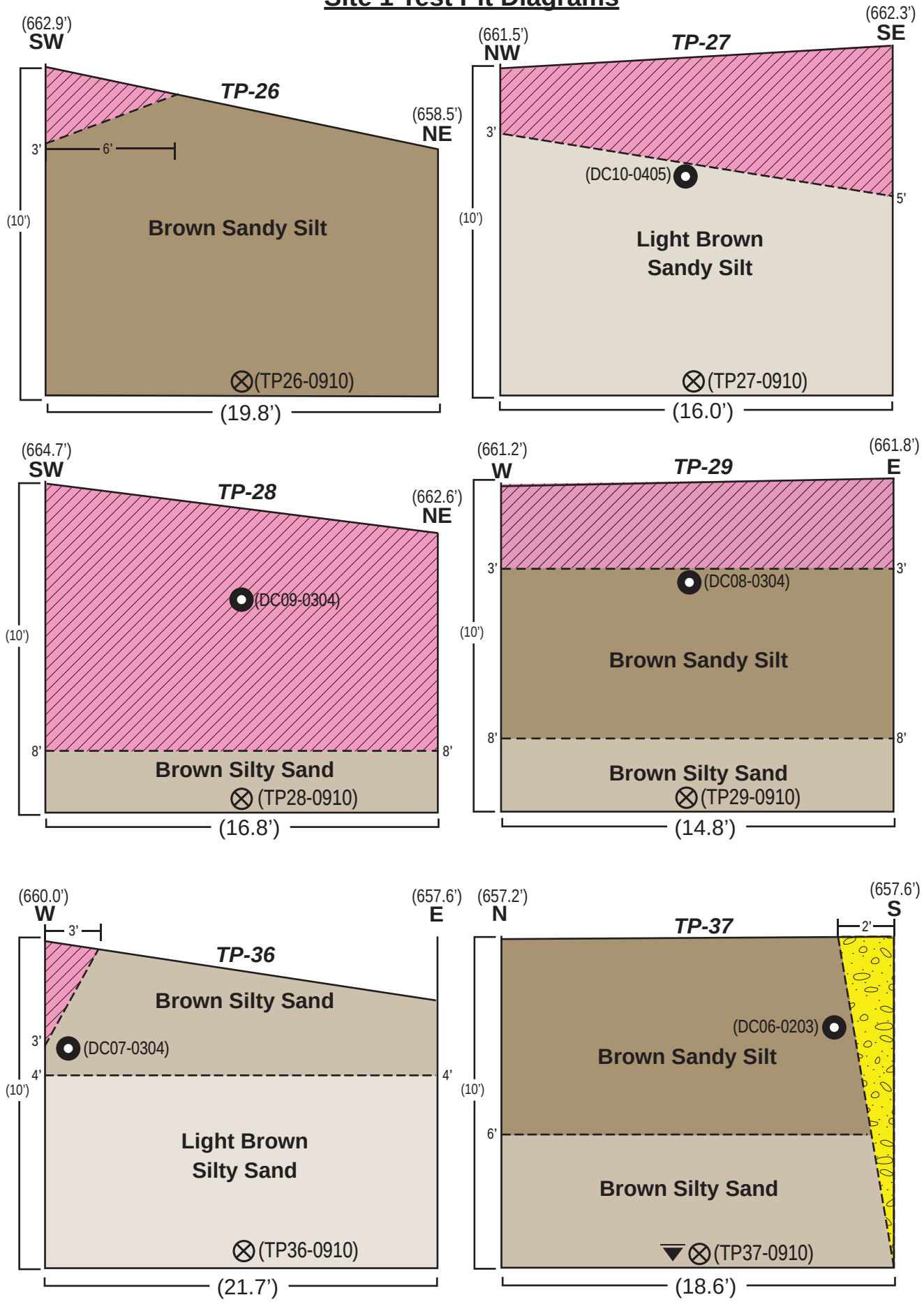
ES062008002WDC_RC_Site1_v4

Site 1 Test Pit Diagrams



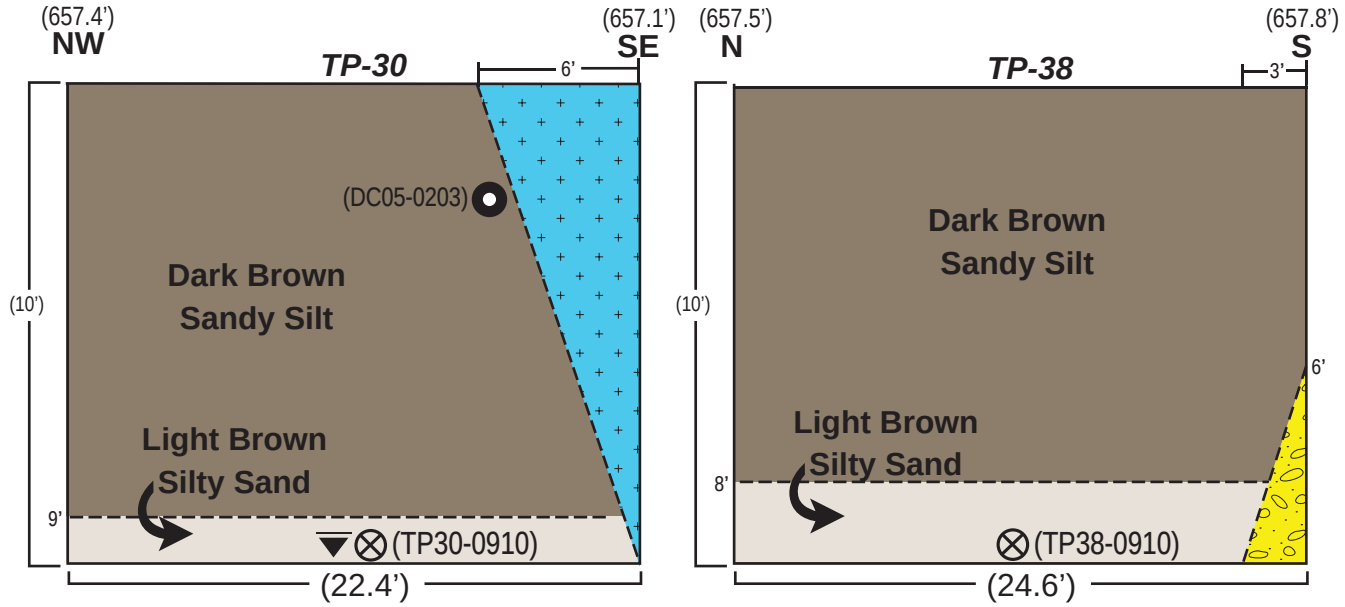
ES062008002WDC_RC_Site1_v4

Site 1 Test Pit Diagrams



ES062008002WDC_RC_Site1_v4

Site 1 Test Pit Diagrams



Burn Debris / Ash | Construction Debris | MFG. Debris | Bottom Sample | Debris Sample | Groundwater Level | CH2MHILL

ES062008002WDC_RC_Site1_v4

Appendix C
Historical Aerial Photography

\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Imagery_1962.mxd

1962

Legend

- Burn Debris / Ash
- Construction Debris
- Mfg Debris
- Native Soil
- Geophysical Regions

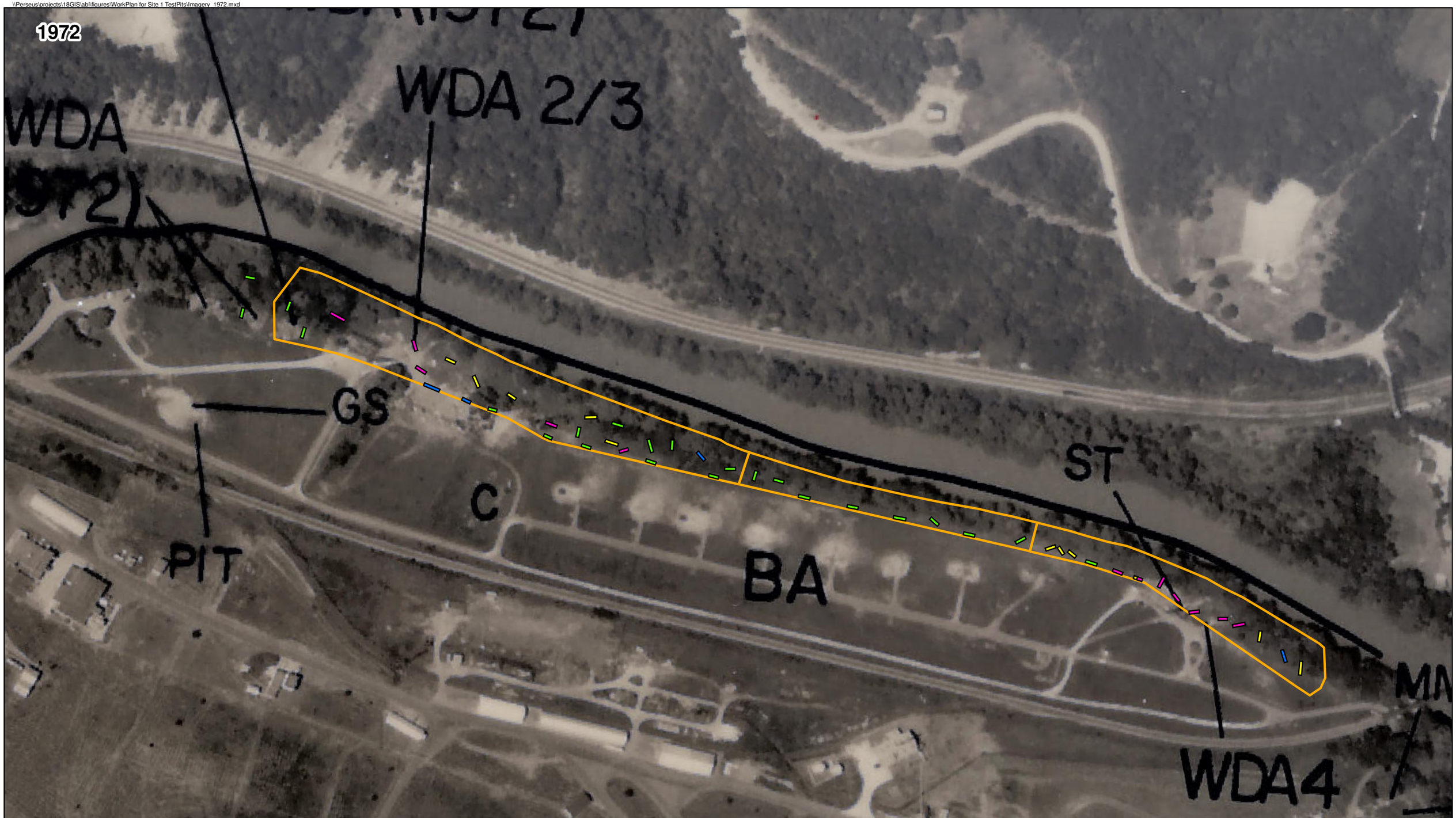
N

0 100 200 400 Feet

1962 Aerial Photography
Site 1 OABG Area Showing Test Pit Locations
Allegany Ballistics Laboratory
Rocket Center, West Virginia

CH2MHILL

\\Perseus\projects\18GIS\abl\figures\WorkPlan for Site 1 TestPits\Imagery_1972.mxd



Legend

- Burn Debris / Ash
- Construction Debris
- Mfg Debris
- Native Soil
- Geophysical Regions

N

0 100 200 400 Feet

1972 Aerial Photography
Site 1 OABG Area Showing Test Pit Locations
Allegany Ballistics Laboratory
Rocket Center, West Virginia

CH2MHILL

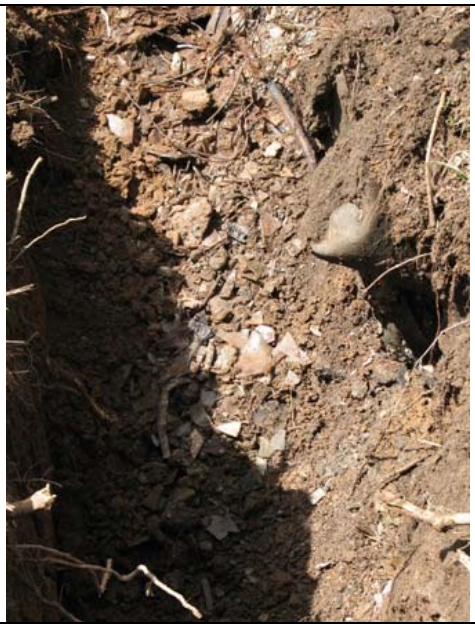
Appendix D
Complete Site Characterization Photographs (included on CD)

Test Pits West of the Drainage Ditch

Test Pit #7	

Test Pit #7 Continued	

Test Pit #8	

Test Pit #9	
	

Test Pit #10

Test Pit #11

Test Pit #12	

Test Pit #13	

Test Pit #14	

Test Pit #14 Continued	

Test Pit #15	

Test Pit #16	

Test Pit #17	

Test Pit #18	

Test Pit #19	

Test Pit #20	

Test Pit #21	

Test Pit #22	

Test Pit #23	

Test Pit #23 Continued	

Test Pit #24	

Test Pit #25	

Test Pit #25 Continued	

Test Pit #26	

Test Pit #26 Continued	

Test Pit #27	

Test Pit #27 Continued	

Test Pit #27 Continued	

Test Pit #28	

Test Pit #29	

Test Pit #29 Continued	

Test Pit #30	

Test Pit #30 Continued	

Test Pit #32	

Test Pit #33	

Test Pit #34	

Test Pit #35	

Test Pit #35 Continued	

Test Pit #35 Continued	

Test Pit #36	

Test Pit #36 Continued	

Test Pit #37	

Test Pit #37 Continued	

Test Pit #38	

Test Pit #40	

Test Pit #41	

Test Pit #42	

Test Pit #43	

Test Pit #43 Continued	

Test Pit #44	

Test Pit #45	

Test Pit #46	

Test Pit #47	

Test Pit #48	

Test Pit #49	

Site Overview Photos	

TP-01

TP
42

TP 41

TP-22

Appendix E
Raw Analytical Data (included on CD)

Station ID	ABL-QC								ABL-QC					
Sample ID	AS01-TB031808	AS01-TB031908	AS01-EB031908	AS01-TB032008	AS01-FB032008	AS01-TB032408	AS01-FB032408	AS01-TB032508	AS01-TB032608	AS01-TB032708	AS01-TB032808	AS01-TB033108	AS01-TB040108	AS01-FB040108
Sample Date	03/18/08	03/19/08	03/19/08	03/20/08	03/20/08	03/24/08	03/24/08	03/25/08	03/26/08	03/27/08	03/28/08	03/31/08	04/01/08	04/01/08
Chemical Name														
Volatile Organic Compounds (UG/L)														
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloro-1,2,2-trifluoroethane(Freon-113)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromo-3-chloropropane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	5 J	2 J	4 J	6 J	8 J	5 J	6 J	4 J	2 J	10 U	2 J	4 J
Benzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane (Freon-12)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl-tert-butyl ether (MTBE)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylcyclohexane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	2 J	3 J	2 J	3 J	3 J	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane(Freon-11)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylene, total	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Station ID	ABL-QC								ABL-QC					
Sample ID	AS01-TB031808	AS01-TB031908	AS01-EB031908	AS01-TB032008	AS01-FB032008	AS01-TB032408	AS01-FB032408	AS01-TB032508	AS01-TB032608	AS01-TB032708	AS01-TB032808	AS01-TB033108	AS01-TB040108	AS01-FB040108
Sample Date	03/18/08	03/19/08	03/19/08	03/20/08	03/20/08	03/24/08	03/24/08	03/25/08	03/26/08	03/27/08	03/28/08	03/31/08	04/01/08	04/01/08
Chemical Name														
Semivolatile Organic Compounds (UG/L)														
1,1-Biphenyl	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2,2'-Oxybis(1-chloropropane)	NA	NA	0.62 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2,4,5-Trichlorophenol	NA	NA	25 U	NA	25 U	NA	26 U	NA	NA	NA	NA	NA	NA	26 U
2,4,6-Trichlorophenol	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2,4-Dichlorophenol	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2,4-Dimethylphenol	NA	NA	98 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2,4-Dinitrophenol	NA	NA	25 U	NA	25 U	NA	26 U	NA	NA	NA	NA	NA	NA	26 U
2,4-Dinitrotoluene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2,6-Dinitrotoluene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2-Chloronaphthalene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2-Chlorophenol	NA	NA	1.2 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2-Methylnaphthalene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2-Methylphenol	NA	NA	0.62 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
2-Nitroaniline	NA	NA	25 U	NA	25 U	NA	26 U	NA	NA	NA	NA	NA	NA	26 U
2-Nitrophenol	NA	NA	1.2 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
3,3'-Dichlorobenzidine	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
3-Nitroaniline	NA	NA	25 U	NA	25 U	NA	26 U	NA	NA	NA	NA	NA	NA	26 U
4,6-Dinitro-2-methylphenol	NA	NA	25 U	NA	25 U	NA	26 U	NA	NA	NA	NA	NA	NA	26 U
4-Bromophenyl-phenylether	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
4-Chloro-3-methylphenol	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
4-Chloroaniline	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
4-Chlorophenyl-phenylether	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
4-Methylphenol	NA	NA	1.2 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
4-Nitroaniline	NA	NA	25 U	NA	25 U	NA	26 U	NA	NA	NA	NA	NA	NA	26 U
4-Nitrophenol	NA	NA	25 U	NA	25 U	NA	26 U	NA	NA	NA	NA	NA	NA	26 U
Acenaphthene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Acenaphthylene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Acetophenone	NA	NA	1.2 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Anthracene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Atrazine	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Benzaldehyde	NA	NA	0.62 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Benzo(a)anthracene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Benzo(a)pyrene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Benzo(b)fluoranthene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Benzo(g,h,i)perylene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Benzo(k)fluoranthene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Butylbenzylphthalate	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Caprolactam	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Carbazole	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Chrysene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Di-n-butylphthalate	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Di-n-octylphthalate	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Dibenz(a,h)anthracene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Dibenzofuran	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Diethylphthalate	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Dimethyl phthalate	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Fluoranthene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Fluorene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Hexachlorobenzene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Hexachlorobutadiene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Hexachlorocyclopentadiene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Hexachloroethane	NA	NA	1.2 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Indeno(1,2,3-cd)pyrene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U

Station ID	ABL-QC								ABL-QC					
Sample ID	AS01-TB031808	AS01-TB031908	AS01-EB031908	AS01-TB032008	AS01-FB032008	AS01-TB032408	AS01-FB032408	AS01-TB032508	AS01-TB032608	AS01-TB032708	AS01-TB032808	AS01-TB033108	AS01-TB040108	AS01-FB040108
Sample Date	03/18/08	03/19/08	03/19/08	03/20/08	03/20/08	03/24/08	03/24/08	03/25/08	03/26/08	03/27/08	03/28/08	03/31/08	04/01/08	04/01/08
Chemical Name														
Isophorone	NA	NA	1.2 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Naphthalene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Nitrobenzene	NA	NA	1.2 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Pentachlorophenol	NA	NA	25 U	NA	25 U	NA	26 U	NA	NA	NA	NA	NA	NA	26 U
Phenanthrene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Phenol	NA	NA	0.62 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Pyrene	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
bis(2-Chloroethoxy)methane	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
bis(2-Chloroethyl)ether	NA	NA	0.62 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
bis(2-Ethylhexyl)phthalate	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
n-Nitroso-di-n-propylamine	NA	NA	1.2 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
n-Nitrosodiphenylamine	NA	NA	10 U	NA	10 U	NA	11 U	NA	NA	NA	NA	NA	NA	10 U
Dioxin/Furans (UG/L)														
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	NA	NA	1.10E-06 J	NA	1.14E-06 J	NA	7.29E-07 J	NA	NA	NA	NA	NA	NA	3.53E-06 J
1,2,3,4,6,7,8-Heptachlorodibenzofuran	NA	NA	4.64E-07 J	NA	1.96E-07 U	NA	1.59E-07 U	NA	NA	NA	NA	NA	NA	7.25E-07 J
1,2,3,4,7,8,9-Heptachlorodibenzofuran	NA	NA	2.55E-07 X	NA	2.30E-07 U	NA	1.79E-07 U	NA	NA	NA	NA	NA	NA	1.69E-07 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	NA	NA	1.55E-07 U	NA	1.40E-07 U	NA	1.01E-07 U	NA	NA	NA	NA	NA	NA	1.26E-07 U
1,2,3,4,7,8-Hexachlorodibenzofuran	NA	NA	1.39E-07 U	NA	1.14E-07 U	NA	1.20E-07 U	NA	NA	NA	NA	NA	NA	6.53E-08 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	NA	NA	5.24E-07 J	NA	1.47E-07 U	NA	1.11E-07 U	NA	NA	NA	NA	NA	NA	1.40E-07 U
1,2,3,6,7,8-Hexachlorodibenzofuran	NA	NA	1.47E-07 U	NA	1.27E-07 U	NA	2.40E-07 J	NA	NA	NA	NA	NA	NA	7.26E-08 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	NA	NA	1.54E-07 U	NA	1.35E-07 U	NA	1.00E-07 U	NA	NA	NA	NA	NA	NA	1.36E-07 U
1,2,3,7,8,9-Hexachlorodibenzofuran	NA	NA	1.56E-07 U	NA	2.78E-07 J	NA	1.28E-07 U	NA	NA	NA	NA	NA	NA	8.42E-08 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	NA	NA	1.46E-07 U	NA	1.43E-07 U	NA	1.45E-07 U	NA	NA	NA	NA	NA	NA	1.39E-07 U
1,2,3,7,8-Pentachlorodibenzofuran	NA	NA	1.48E-07 U	NA	1.51E-07 U	NA	1.05E-07 U	NA	NA	NA	NA	NA	NA	1.03E-07 U
2,3,4,6,7,8-Hexachlorodibenzofuran	NA	NA	3.36E-07 J	NA	3.18E-07 X	NA	1.25E-07 U	NA	NA	NA	NA	NA	NA	7.05E-08 U
2,3,4,7,8-Pentachlorodibenzofuran	NA	NA	1.30E-07 U	NA	1.37E-07 U	NA	9.07E-08 U	NA	NA	NA	NA	NA	NA	9.47E-08 U
2,3,7,8-TCDD (dioxin)	NA	NA	1.81E-07 U	NA	2.10E-07 U	NA	2.52E-07 U	NA	NA	NA	NA	NA	NA	1.78E-07 U
2,3,7,8-Tetrachlorodibenzofuran	NA	NA	1.74E-07 U	NA	2.13E-07 U	NA	2.10E-07 U	NA	NA	NA	NA	NA	NA	1.51E-07 U
Octachlorodibenzo-p-dioxin	NA	NA	5.63E-06 J	NA	3.62E-06 J	NA	3.90E-06 J	NA	NA	NA	NA	NA	NA	2.85E-05 J
Octachlorodibenzofuran	NA	NA	1.64E-06 J	NA	1.69E-06 J	NA	7.41E-07 X	NA	NA	NA	NA	NA	NA	3.07E-06 J
Total heptachlorodibenzo-p-dioxin	NA	NA	1.10E-06 J	NA	1.14E-06 J	NA	7.29E-07 J	NA	NA	NA	NA	NA	NA	7.14E-06 J
Total heptachlorodibenzofuran	NA	NA	1.82E-07 U	NA	1.96E-07 U	NA	1.59E-07 U	NA	NA	NA	NA	NA	NA	7.25E-07 J
Total hexachlorodibenzo-p-dioxin	NA	NA	5.24E-07 J	NA	1.40E-07 U	NA	1.01E-07 U	NA	NA	NA	NA	NA	NA	1.26E-07 U
Total hexachlorodibenzofuran	NA	NA	3.36E-07 J	NA	1.14E-07 U	NA	2.40E-07 J	NA	NA	NA	NA	NA	NA	6.53E-08 U
Total pentachlorodibenzo-p-dioxin	NA	NA	1.46E-07 U	NA	1.43E-07 U	NA	1.45E-07 U	NA	NA	NA	NA	NA	NA	1.39E-07 U
Total pentachlorodibenzofuran	NA	NA	1.30E-07 U	NA	1.37E-07 U	NA	9.07E-08 U	NA	NA	NA	NA	NA	NA	9.47E-08 U
Total tetrachlorodibenzo-p-dioxin	NA	NA	1.81E-07 U	NA	2.10E-07 U	NA	2.52E-07 U	NA	NA	NA	NA	NA	NA	1.78E-07 U
Total tetrachlorodibenzofuran	NA	NA	1.74E-07 U	NA	2.13E-07 U	NA	2.10E-07 U	NA	NA	NA	NA	NA	NA	1.51E-07 U
Toxic Equivalents (Total TEQ)	NA	NA	1.03E-07	NA	4.08E-08	NA	3.25E-08	NA	NA	NA	NA	NA	NA	7.41E-08
Explosives (UG/L)														
1,3,5-Trinitrobenzene	NA	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	NA	NA	NA	NA	NA	2.5 U
1,3-Dinitrobenzene	NA	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	NA	NA	NA	NA	NA	2.5 U
2,4,6-Trinitrotoluene	NA	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	NA	NA	NA	NA	NA	2.5 U
2,4-Dinitrotoluene	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	5 U
2,6-Dinitrotoluene	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	5 U
2-Amino-4,6-dinitrotoluene	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	5 U
2-Nitrotoluene	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	5 U
3-Nitrotoluene	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	5 U
4-Amino-2,6-dinitrotoluene	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	5 U
4-Nitrotoluene	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	5 U
HMX	NA	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	NA	NA	NA	NA	NA	2.5 U
Nitrobenzene	NA	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	NA	NA	NA	NA	NA	2.5 U

Station ID	ABL-QC								ABL-QC					
Sample ID	AS01-TB031808	AS01-TB031908	AS01-EB031908	AS01-TB032008	AS01-FB032008	AS01-TB032408	AS01-FB032408	AS01-TB032508	AS01-TB032608	AS01-TB032708	AS01-TB032808	AS01-TB033108	AS01-TB040108	AS01-FB040108
Sample Date	03/18/08	03/19/08	03/19/08	03/20/08	03/20/08	03/24/08	03/24/08	03/25/08	03/26/08	03/27/08	03/28/08	03/31/08	04/01/08	04/01/08
Chemical Name														
Nitroglycerin	NA	NA	16 U	NA	16 U	NA	16 U	NA	NA	NA	NA	NA	NA	16 U
PETN	NA	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	10 U
Perchlorate	NA	NA	0.2 U	NA	0.2 U	NA	0.2 U	NA	NA	NA	NA	NA	NA	0.2 U
RDX	NA	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	NA	NA	NA	NA	NA	2.5 U
Tetryl	NA	NA	5 UL	NA	5 UL	NA	5 UL	NA	NA	NA	NA	NA	NA	5 U
Total Metals (UG/L)														
Aluminum	NA	NA	200 U	NA	200 U	NA	200 U	NA	NA	NA	NA	NA	NA	200 U
Antimony	NA	NA	60 U	NA	60 U	NA	60 U	NA	NA	NA	NA	NA	NA	9.7 J
Arsenic	NA	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	10 U
Barium	NA	NA	200 U	NA	200 U	NA	200 U	NA	NA	NA	NA	NA	NA	200 U
Beryllium	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	0.24 J
Cadmium	NA	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	5 U
Calcium	NA	NA	34.3 J	NA	31.8 J	NA	30.2 J	NA	NA	NA	NA	NA	NA	22 J
Chromium	NA	NA	0.61 J	NA	10 U	NA	0.5 J	NA	NA	NA	NA	NA	NA	0.73 J
Cobalt	NA	NA	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA	50 U
Copper	NA	NA	0.94 J	NA	25 U	NA	0.79 J	NA	NA	NA	NA	NA	NA	25 U
Iron	NA	NA	100 U	NA	100 U	NA	100 U	NA	NA	NA	NA	NA	NA	100 U
Lead	NA	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	10 U
Magnesium	NA	NA	11.8 J	NA	9.7 J	NA	9.8 J	NA	NA	NA	NA	NA	NA	4.7 J
Manganese	NA	NA	15 U	NA	15 U	NA	15 U	NA	NA	NA	NA	NA	NA	15 U
Mercury	NA	NA	0.2 U	NA	0.2 U	NA	0.068 J	NA	NA	NA	NA	NA	NA	0.2 U
Nickel	NA	NA	40 U	NA	40 U	NA	40 U	NA	NA	NA	NA	NA	NA	40 U
Potassium	NA	NA	4.4 J	NA	7.1 J	NA	5,000 U	NA	NA	NA	NA	NA	NA	15.4 J
Selenium	NA	NA	35 U	NA	35 U	NA	35 U	NA	NA	NA	NA	NA	NA	35 U
Silver	NA	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	10 U
Sodium	NA	NA	5,000 U	NA	5,000 U	NA	5,000 U	NA	NA	NA	NA	NA	NA	5,000 U
Thallium	NA	NA	4.5 J	NA	25 U	NA	25 U	NA	NA	NA	NA	NA	NA	25 U
Vanadium	NA	NA	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA	0.56 J
Zinc	NA	NA	60 U	NA	60 U	NA	60 U	NA	NA	NA	NA	NA	NA	3.6 J

Notes:

J - Analyte present, value may or may not be accurate or precise
NA - Not analyzed
U - The material was analyed for, but not detected
UG/L - Micrograms per liter
UJ - Analyte not detected, quantitation limit may be inaccurate
UL - Analyte not detected, quantitation limit is probably higher
X - Dioxins only: Estimated Maximum Possible Concentration (EMPC)