ARM Group LLC
Engineers and Scientists

June 28, 2021

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: RADWP Addendum: SLRA Update
Area B: Sub-Parcel B6-2
Commercial Retail Area
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

ARM Group LLC (ARM), on behalf of Tradepoint Atlantic (TPA), is submitting this Response and Development Work Plan (RADWP) Addendum to modify the extent and shape of Sub-Parcel B6-2 (the Site), which is part of Area B of the TPA property located in Sparrows Point, Maryland. This area is designated for future commercial use as a retail area (**Figure 1**). The original scope of development work was presented to the Maryland Department of the Environment (MDE) and United States Environmental Protection Agency (USEPA) in the Sub-Parcel B6-2 RADWP (Revision 1 dated January 24, 2018) which was approved by the USEPA on February 1, 2018 and by the MDE on February 9, 2018.

The RADWP addressed the proposed major grading and utility installation work associated with the retail area. Future retail development lots are subject to individual development updates presented as RADWP Addenda. The purpose of this RADWP Addendum is to provide an updated Screening Level Risk Assessment (SLRA) based on the updated extent and shape of Sub-Parcel B6-2. The SLRA provides estimates of the potential Construction Worker risks during site-wide ground intrusive work, as well as estimates of overall Composite Worker and Child/Youth Visitor risks for the final retail area. These site-wide risks computed in the SLRA are carried forward for the individual retail lots in RADWP Addenda.

The Sub-Parcel B6-2 boundary has been modified by removing the portion of the retail area that was previously designated for development to the south of the Tin Mill Canal (TMC). The area to the south of the TMC is now designated for future industrial use and covered by separate RADWPs. The perimeter of the retail area was also modified slightly in several areas. The final area of the Site is 38.0 acres, and the boundary of the retail area is shown on **Figure 1**.

As a result of the changes to the retail area boundary, select soil boring data included in the previous version of the SLRA (within the RADWP) are no longer relevant. An updated SLRA has been completed to take into account the adjusted sub-parcel boundary (and acreage) using a modified soil dataset. Based on the proposed use of the Site as a retail area with various development lots, the Site will require surface engineering controls (i.e., capping) with institutional controls to provide protection for future site users. This requirement was included in the RADWP (Revision 1 dated January 24, 2018) and has been confirmed in the SLRA described below.

SUMMARY OF REVISED SOIL CONDITIONS

The Phase II Investigation soil boring locations that are applicable to the revised retail area boundary are shown on **Figure 2**. The samples obtained from these borings provided relevant analytical data for discussion of on-site conditions. Note that select soil borings are located slightly outside of the sub-parcel; however, data from these locations are considered representative because they are very close to the site boundary.

Table 1 and **Table 2** provide summaries of the detected organic compounds and inorganics in the soil samples collected from the Phase II Investigation soil borings. Soil sample results were screened against the established Project Action Limits (PALs). **Figure 3** through **Figure 5** present the soil sample results that exceeded the PALs among these soil borings. PAL exceedances among the soil samples consisted of five inorganics (arsenic, lead, manganese, thallium, and vanadium), two SVOCs (benzo[a]pyrene and naphthalene), and TPH-DRO. Evidence of non-aqueous phase liquid (NAPL) was also observed at one soil boring location (B6-066-SB) along the western edge of the sub-parcel. This location is discussed in greater detail in the "Assessment of TPH/Oil & Grease" section within the SLRA (below) and has been evaluated extensively in documents submitted to the MDE and USEPA under separate cover. Contingency measures to address the potential presence of NAPL which could be encountered during construction are addressed in the RADWP.

SLRA ANALYSIS PROCESS

A human health SLRA has been completed based on the analytical data obtained from the characterization of surface and subsurface soils. The SLRA was conducted to evaluate the baseline soil conditions to determine if any response measures are necessary. Because the intended use of this Site is as a retail area, risk was evaluated for the Composite Worker, Child Visitor, Youth Visitor, and Construction Worker scenarios.

The SLRA included the following evaluation process:

> **Identification of Exposure Units (EUs):** The SLRA was evaluated using one site-wide EU with an area of 38.0 acres. The same EU and associated soil datasets were used for each exposure scenario.

Identification of Constituents of Potential Concern (COPCs): For the project-specific SLRA, compounds that were present at concentrations at or above the USEPA's Residential Regional Screening Levels (RSLs) set at a target cancer risk of 1E-6 or target non-cancer Hazard Quotient (HQ) of 0.1 were identified as COPCs to be included in the SLRA. The Residential RSLs were used as a conservatism due to the intended use of this Site as a retail area. A COPC screening analysis is provided in **Table 3** to identify all compounds above the relevant screening levels.

All aroclor mixtures (e.g., Aroclor 1242, Aroclor 1260) are taken into account for the reported concentrations of total PCBs. The total PCBs concentrations are used to evaluate the carcinogenic risk associated with PCBs; therefore, Aroclor 1260 (which was identified in the COPC screening) is not evaluated individually.

Exposure Point Concentrations (EPCs): The COPC soil datasets for the EU were divided into surface (0 to 2 feet bgs), subsurface (>2 feet bgs), and pooled depths for estimation of potential EPCs. Thus, there are three soil datasets associated with the EU. A statistical analysis was performed for each COPC dataset using the ProUCL software (version 5.0) developed by the USEPA to determine representative reasonable maximum exposure (RME) values for the EPC for each constituent. The RME value is typically the 95% Upper Confidence Limit (UCL) of the mean. For lead, the average concentration was calculated for each depth category (presented in **Table 4**).

Risk Ratios: The surface soil EPCs, subsurface soil EPCs, and pooled soil EPCs were compared to the USEPA RSLs for the Composite Worker, site-specific RSLs for the Child Visitor and Youth Visitor, and site-specific Soil Screening Levels (SSLs) for the Construction Worker. Risk ratios were calculated for each scenario with respect to a cancer risk of 1E-6 and a non-cancer HQ of 1. The risk ratios for the carcinogens were summed to develop a screening level estimate of the baseline cumulative cancer risk for each scenario. The risk ratios for the non-carcinogens were segregated and summed by target organ to develop a screening level estimate of the baseline cumulative non-cancer Hazard Index (HI) for each scenario.

The site-specific Child Visitor and Youth Visitor RSLs were calculated using the USEPA's online Composite Worker RSL calculator with input assumptions (soil ingestion rate, body weight, exposure duration, exposure frequency, etc.) obtained from the MDE's Cleanup Standards for Soil and Groundwater (June 2008). Construction Worker SSLs were calculated based on equations derived in the USEPA Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (OSWER 9355.4-24, December 2002). The Construction Worker SSL spreadsheet and USEPA Composite Worker RSL calculator outputs (for both the Child Visitor and Youth Visitor scenarios) are provided in **Attachment 1**.

For the Construction Worker, site-specific risk-based evaluations were completed for a range of potential exposure frequencies to determine the maximum allowable exposure frequency for the EU that would result in risk ratios equivalent to a cumulative cancer risk of 1E-5 or HI of 1 for the individual target organs. This analysis indicated that the allowable exposure frequency in the site-wide EU before additional worker protections might be needed is 40 days.

There is no potential for direct human exposure to groundwater for future Composite Workers or Visitors since groundwater is not used on the Tradepoint Atlantic property (and is not proposed to be utilized). In the event that construction/excavation leads to a temporary Construction Worker exposure to groundwater during development, health and safety plans and management procedures shall be followed to limit exposure risk.

Assessment of Lead: The average and maximum lead concentrations for surface soils, subsurface soils, and pooled soils for the EU are presented in **Table 4**. The averages were compared to the Composite Worker and Residential RSLs (800 mg/kg and 400 mg/kg, respectively) as an initial screening. None of the computed average lead concentrations exceeded the Composite Worker or Residential RSLs. The average lead concentrations for each depth category were additionally evaluated in the Adult Lead Model (ALM) and Integrated Exposure Uptake Biokinetic Model (IEUBK). The ALM (Version dated 6/21/2009 updated with the 5/17/2017 OLEM Directive) with inputs of 1.8 for the geometric standard deviation and a blood baseline lead level of 0.6 ug/dL generated a soil lead concentration of 1,050 mg/kg, which is the most conservative (i.e., lowest) concentration which would yield a probability of 5% of a blood lead concentration of 5 ug/dL. The average lead concentrations were significantly below 1,050 mg/kg. The average concentrations were also input into the IEUBK using default exposure assumptions, and the outputs are provided in **Attachment 1**. The surface, subsurface, and pooled scenarios present 0.932%, 19.318%, and 6.928% probabilities of a blood lead concentration above 5 ug/dL.

Assessment of TPH/Oil & Grease: EPCs were not calculated for TPH-DRO/GRO or Oil & Grease. Instead, the individual results were compared to the PAL set to a HQ of 1 (6,200 mg/kg). There were two samples (from two individual borings) where TPH-DRO was detected above the PAL of 6,200 mg/kg: B6-054-SB-4 at 6,840 mg/kg and B6-066-SB-5 at 11,000 mg/kg. Elevated TPH-DRO/GRO concentrations may be indicative of NAPL which could be mobilized during construction. Additionally, physical evidence of NAPL was observed in the soil core at B6-066-SB. Measurable NAPL accumulated in a NAPL delineation piezometer installed at B6-066-SB, and was subsequently delineated via the installation of additional delineation piezometers in the surrounding area. The NAPL delineation activities conducted in this area are reported under separate cover. Contingency measures to address the potential presence of NAPL which could be encountered during construction are addressed in the RADWP.

Risk Characterization Approach: Generally, if the baseline risk ratio for each non-carcinogenic COPC or cumulative target organ does not exceed 1, and the sum of the risk ratios for the carcinogenic COPCs does not exceed a cumulative cancer risk of 1E-5, then a no further action determination will be recommended. If the baseline estimate of cumulative cancer risk exceeds 1E-5 but is less than or equal to 1E-4, then capping of the EU will be considered to be an acceptable remedy. The efficacy of capping for elevated non-cancer hazard will be evaluated in terms of the magnitude of exceedance and other factors such as bioavailability of the COPC. For the Construction Worker, cumulative cancer risks exceeding 1E-5 (but less than or equal to 1E-4) or HI values exceeding 1 will be mitigated via site-specific health and safety requirements.

The USEPA's acceptable risk range is between 1E-6 and 1E-4. If the sum of the risk ratios for carcinogens exceeds a cumulative cancer risk of 1E-4, further analysis of site conditions will be required including the consideration of toxicity reduction in any proposal for a remedy. The magnitude of any non-carcinogen HI exceedances and bioavailability of the COPC will also dictate further analysis of site conditions including consideration of toxicity reduction in any proposal for a remedy.

Due to the grading activities including cut and fill which have already occurred and may continue to be necessary during development of the individual retail lots, the SLRA was evaluated to determine baseline Composite Worker, Child Visitor, Youth Visitor, and Construction Worker exposures to surface, subsurface, and pooled data.

SLRA Results and Risk Characterization

Soil data were divided into three datasets (surface, subsurface, and pooled) for Sub-Parcel B6-2 to evaluate potential exposure scenarios. Due to the grading activities including cut and fill which have already occurred and may continue to be necessary during development of the individual retail lots, each of these potential exposure scenarios is relevant for the Composite Worker, Child Visitor, Youth Visitor, and Construction Worker.

EPCs were calculated for each soil dataset in the site-wide EU. ProUCL output tables (with computed UCLs) derived from the data for each COPC in soils are provided as electronic attachments, with computations presented and EPCs calculated for COPCs within each of the datasets. The ProUCL input tables are also included as electronic attachments. The results were evaluated to identify any samples that may require additional assessment or special management based on the risk characterization approach. The calculated EPCs for the surface, subsurface, and pooled soils are provided in **Table 5**. These EPCs were used for all risk scenarios.

As indicated above, the EPCs for lead are the average (i.e., arithmetic mean) values for each dataset. A lead evaluation spreadsheet, providing the computations to determine lead averages for each dataset, is also included as an electronic attachment. The average lead concentrations are

presented in **Table 4**. None of the average lead concentrations exceeded the Residential RSL of 400 mg/kg. The average lead concentrations for the surface, subsurface, and pooled soils were input into the IEUBK using default exposure assumptions (**Attachment 1**), and present 0.932%, 19.318%, and 6.928% probabilities of a blood lead concentration above 5 ug/dL. The elevated potential risk associated with subsurface lead will be addressed via the installation of surface engineering controls (i.e., capping) across the Site. Capping is an appropriate remedy for subsurface metals such as lead based on their low mobility (and lack of volatility), preventing migration to the surface for potential exposures.

Composite Worker and Child/Youth Visitor Assessment:

Risk ratios for the estimates of potential EPCs for the Composite Worker, Child Visitor, and Youth Visitor baseline scenarios at the Site are shown in **Table 6** through **Table 14**. The results are summarized as follows:

Worker Scenario	Exposure Unit	Medium	Hazard Index (>1)	Total Cancer Risk
Composite Worker	Site-Wide EU (38.0 acres)	Surface Soil	Dermal = 2	3E-6
		Subsurface Soil	Dermal = 5	6E-6
		Pooled Soil	Dermal = 2	5E-6

Worker Scenario	Exposure Unit	Medium	Hazard Index (>1)	Total Cancer Risk
Child Visitor	Site-Wide EU (38.0 acres)	Surface Soil	Nervous = 7 Dermal = 10	3E-6
		Subsurface Soil	Nervous = 6 Dermal = 27	6E-6
		Pooled Soil	Nervous = 8 Dermal = 9	5E-6

Worker Scenario	Exposure Unit	Medium	Hazard Index (>1)	Total Cancer Risk
Youth Visitor	Site-Wide EU (38.0 acres)	Surface Soil	Dermal = 2	2E-6
		Subsurface Soil	Dermal = 5	3E-6
		Pooled Soil	Dermal = 2	3E-6

Based on the computed risk ratios, the installation of surface engineering controls (i.e., capping) is an acceptable remedy to be protective of future Composite Workers, Child Visitors, and Youth Visitors for the surface, subsurface, and pooled soils. The carcinogenic risk estimates for the

Composite Worker, Child Visitor, and Youth Visitor scenarios were all below 1E-5. However, the dermal system and/or nervous system HI values exceeded 1 for each depth category for the Composite Worker, Child Visitor, and Youth Visitor scenarios. These HI exceedances were driven by several metals (principally manganese, thallium, and vanadium). In particular, the elevated subsurface dermal system HI values are driven primarily by the maximum detection of subsurface thallium (49.7 mg/kg) due to the limited number of detections. The pooled scenarios had significantly lower dermal system HI values and were computed based on UCLs rather than the maximum detection of thallium. Capping is an appropriate remedy for subsurface metals such as thallium based on their low mobility (and lack of volatility), preventing migration to the surface for potential exposures. Capping and institutional controls (to maintain the integrity of the cap) will provide adequate protection for these risk-based exceedances in the site-wide EU.

Construction Worker Assessment:

Remaining ground intrusive activities which could result in potential Construction Worker exposures are expected to be limited primarily to utility installation tasks performed by specific crews. Construction Worker risks were evaluated for several different exposure scenarios to determine the maximum exposure frequency for the EU that would result in risk ratios equivalent to a cumulative cancer risk of 1E-5 or HI of 1 for any individual target organ. Risk ratios for the Construction Worker scenario using the selected duration of 40 days are shown in **Table 15** through **Table 17**. The spreadsheet used for computation of the site-specific Construction Worker SSLs is included in **Attachment 1**. The results are summarized as follows:

Worker Scenario	Exposure Unit	Medium	Hazard Index (>1)	Total Cancer Risk
Construction Worker	Site-Wide EU 40 Exposure Days (38.0 acres)	Surface Soil	none	9E-8
		Subsurface Soil	none	2E-7
		Pooled Soil	none	2E-7

Using the exposure duration of 40 days, the carcinogenic risks were all less than 1E-5, and none of the non-carcinogens caused a cumulative HI to exceed 1 for any target organ system. These findings are below the acceptable limits for no further action established by the agencies. This evaluation indicates that additional site-specific health and safety requirements (beyond standard Level D protection) would be required only if an individual worker exceeded 40 exposure days.

Institutional controls will be required to be established for the protection of future Construction Workers in the event of any future long-term construction projects which could include ground intrusive activities. During all development work on the TPA property, Construction Workers performing ground intrusive work will adhere to the upgraded Personal Protective Equipment (PPE) requirements outlined in the PPE Standard Operational Procedure (SOP) provided as **Attachment 2**. The PPE SOP was created after the submission of the Sub-Parcel B6-2 RADWP

but is presented at this time to serve as part of the project record. Construction Worker risks are mitigated via the implementation of these site-specific health and safety requirements throughout the project. The modified Level D PPE requirements, including specific PPE details, planning, tracking/supervision, enforcement, and documentation, are outlined in the attached PPE SOP.

If you have any questions, or if we can provide any additional information at this time, please do not hesitate to contact ARM Group LLC at 410-290-7775.

Respectfully Submitted,
ARM Group LLC

Joshua M. Barna, G.I.T.
Staff Geologist

T. Neil Peters, P.E.
Senior Vice President

FIGURES

Sub-Parcel B6-2 RADWP
Updated Retail Area

June 14, 2021

Figure 1

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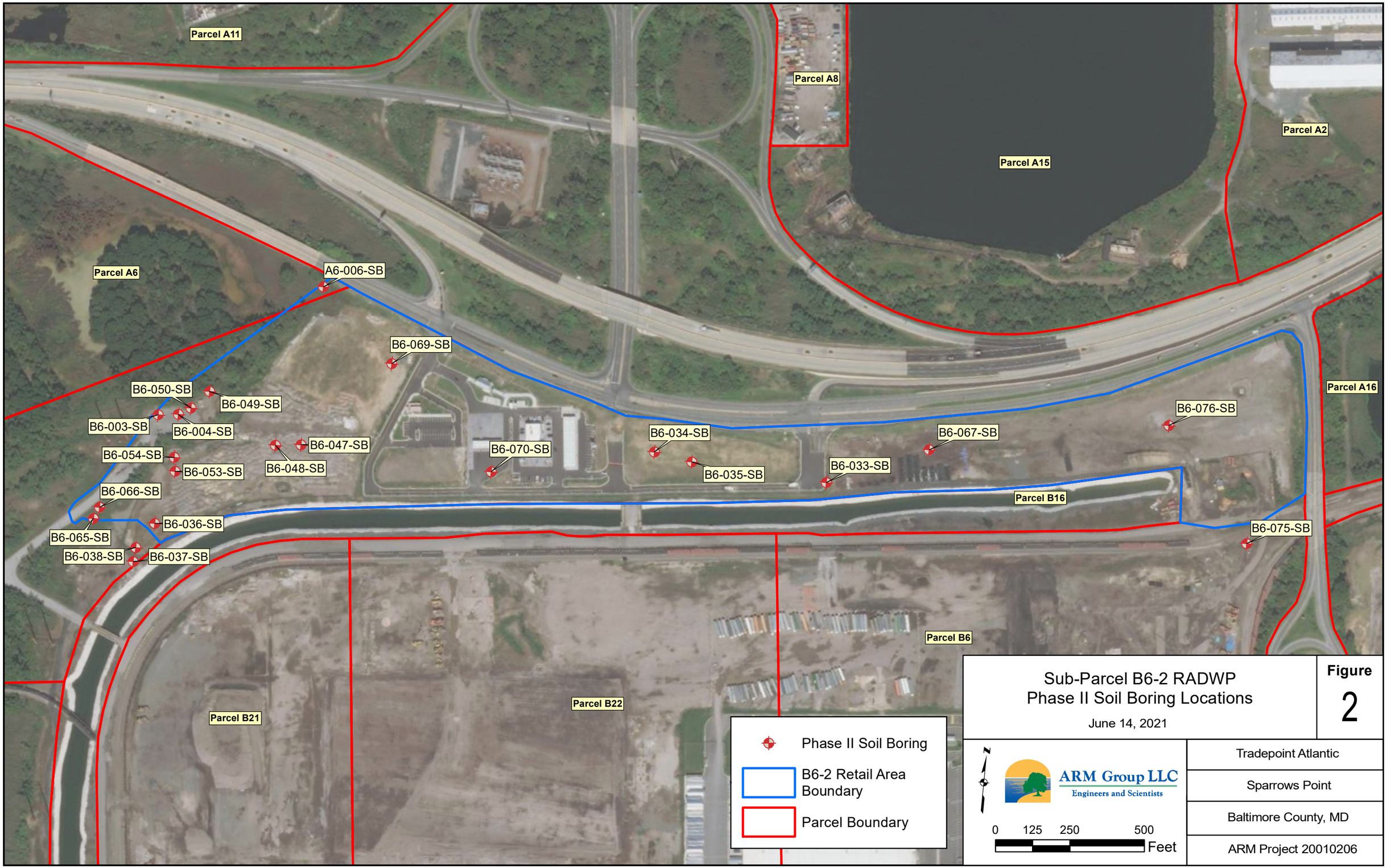
0 125 250 500 Feet

Tradepoint Atlantic

Sparrows Point

Baltimore County, MD

ARM Project 20010206



Sub-Parcel B6-2 RADWP
Phase II Soil Boring Locations

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Figure 2

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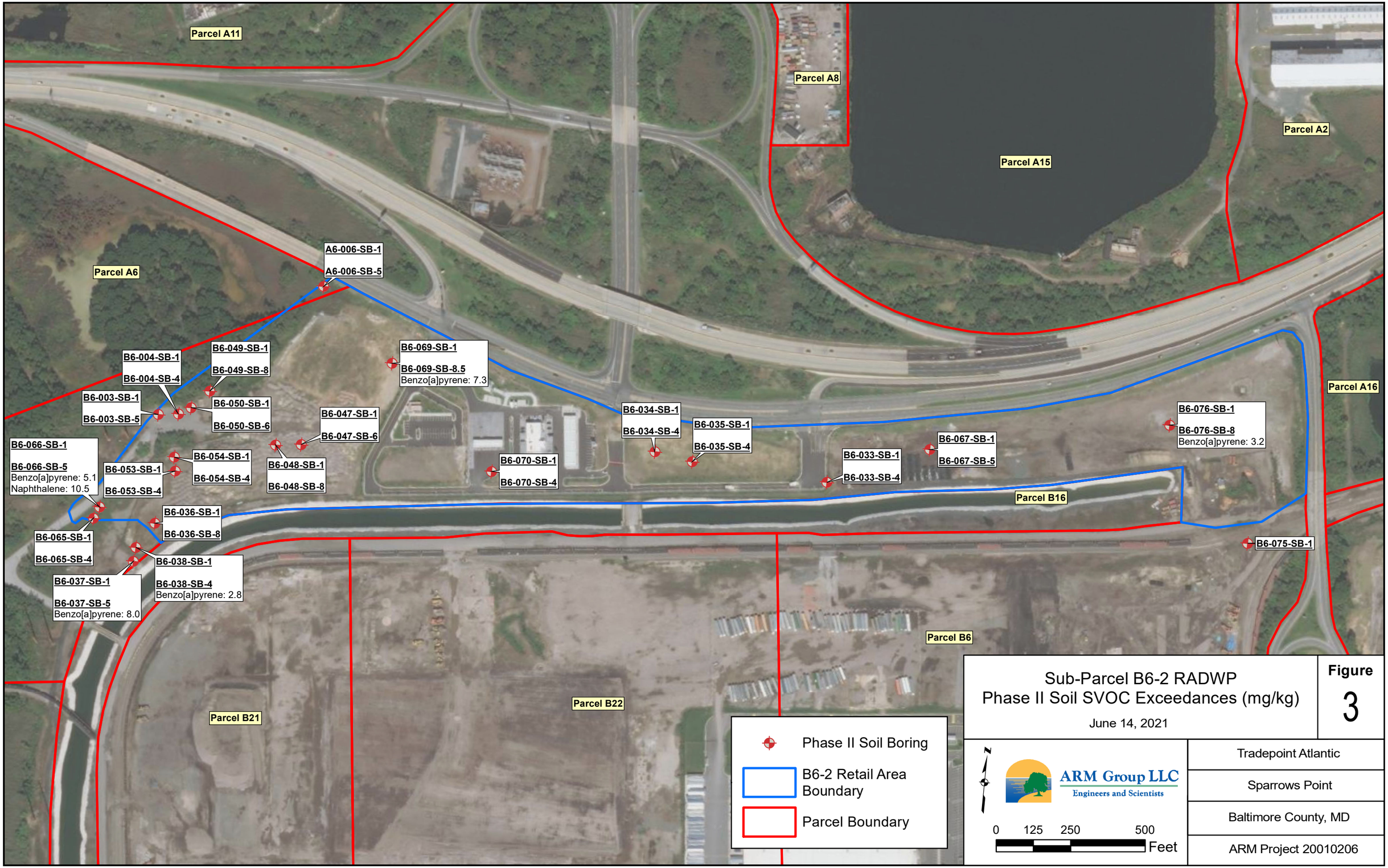
Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 20010206



Sub-Parcel B6-2 RADWP
Phase II Soil SVOC Exceedances (mg/kg)

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Figure 3

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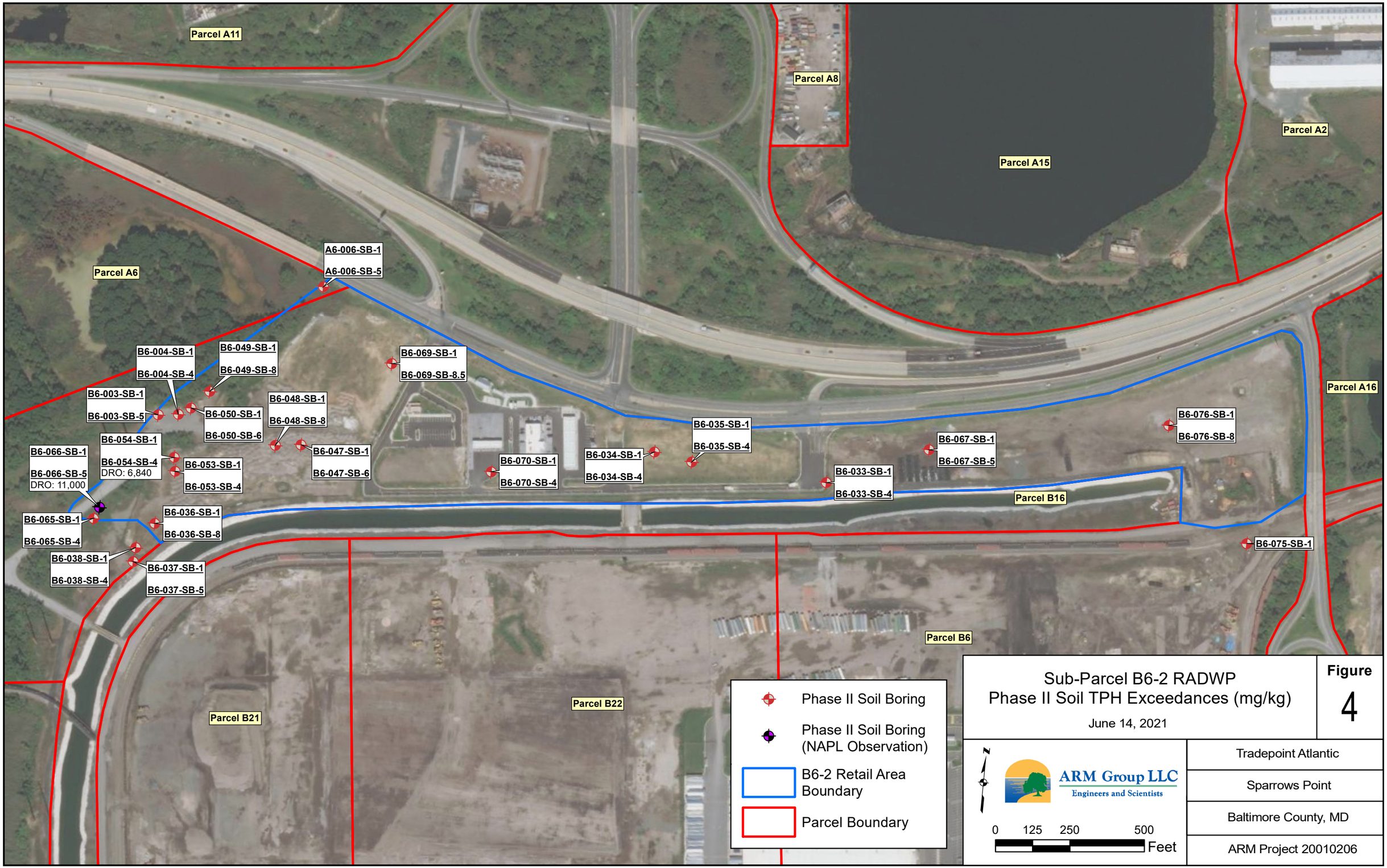
Sparrows Point

Baltimore County, MD

ARM Project 20010206



Sub-Parcel B6-2 RADWP
Phase II Soil TPH Exceedances (mg/kg)

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Figure 4

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Baltimore County, MD

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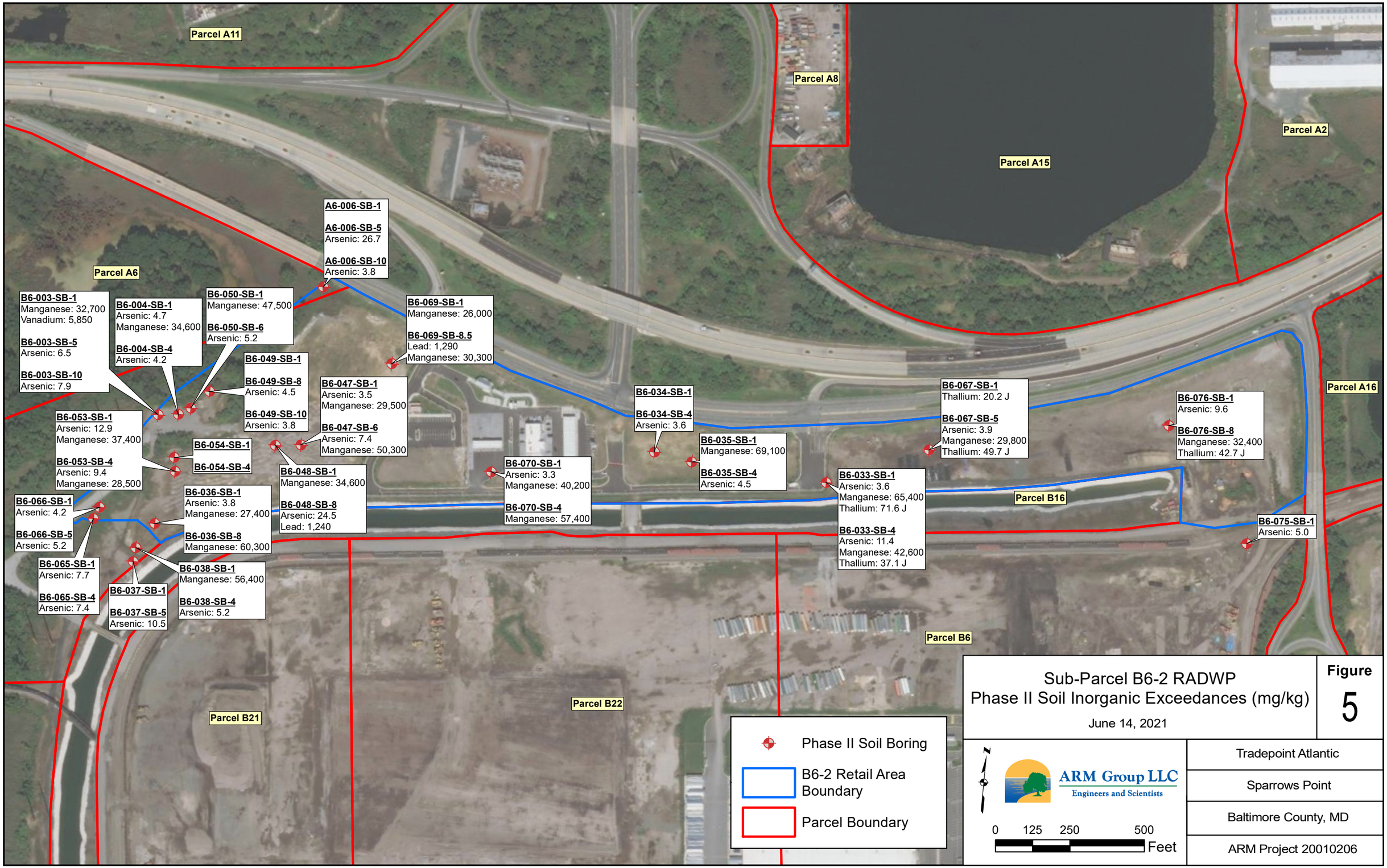

Sub-Parcel B6-2 RADWP
Phase II Soil Inorganic Exceedances (mg/kg)

June 14, 2021

Figure 5

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TABLES

Table 1 - Sub-Parcel B6-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	A6-006-SB-1	A6-006-SB-5	B6-003-SB-1*	B6-003-SB-5*	B6-004-SB-1*	B6-004-SB-4*	B6-033-SB-1	B6-033-SB-4	B6-034-SB-1*	B6-034-SB-4*	B6-035-SB-1*	B6-035-SB-4*	B6-036-SB-1*	B6-036-SB-8*	B6-037-SB-1*
			9/20/2019	9/20/2019	6/30/2016	6/30/2016	6/30/2016	6/30/2016	7/6/2016	7/6/2016	7/5/2016	7/5/2016	7/5/2016	7/5/2016	6/30/2016	6/30/2016	6/30/2016
Volatile Organic Compounds																	
1,2,3-Trichlorobenzene	mg/kg	930	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
1,2-Dichlorobenzene	mg/kg	9,300	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	**0.004 J**	0.0049 U	0.0055 U
1,2-Dichloroethene (Total)	mg/kg	2,300	N/A	N/A	0.011 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.01 U	0.011 U	0.01 U	0.011 U	0.0098 U	0.011 U
1,3-Dichlorobenzene	mg/kg		N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
1,4-Dichlorobenzene	mg/kg	11	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
2-Butanone (MEK)	mg/kg	190,000	N/A	N/A	0.011 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.011 UJ	0.012 U	0.01 U	0.011 U	0.01 U	**0.0024 J**	0.0098 U	0.011 U
Acetone	mg/kg	670,000	N/A	N/A	**0.0069 J**	**0.0096 J**	**0.0081 J**	0.012 U	0.012 UJ	0.011 UJ	0.012 U	0.011 B	0.011 U	0.0072 B	**0.016**	0.007 B	**0.019**
Benzene	mg/kg	5.1	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
cis-1,2-Dichloroethene	mg/kg	2,300	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
Cyclohexane	mg/kg	27,000	N/A	N/A	0.011 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.012 U	0.01 U	0.011 U	0.01 U	0.011 U	0.0098 U	0.011 U
Ethylbenzene	mg/kg	25	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
Isopropylbenzene	mg/kg	9,900	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
Methyl Acetate	mg/kg	1,200,000	N/A	N/A	0.057 U	0.061 U	0.061 U	0.06 U	0.061 R	0.054 R	0.061 U	0.051 U	0.056 U	0.052 U	0.055 U	0.049 U	0.055 U
Methylene Chloride	mg/kg	1,000	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.0057 B	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
Tetrachloroethene	mg/kg	100	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	**0.0058**	**0.0041 J**	0.0055 U
Toluene	mg/kg	47,000	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
Trichloroethene	mg/kg	6	N/A	N/A	0.0057 U	0.0061 U	0.0061 U	0.006 U	0.0061 U	0.0054 U	0.0061 U	0.0051 U	0.0056 U	0.0052 U	0.0055 U	0.0049 U	0.0055 U
Xylenes	mg/kg	2,800	N/A	N/A	0.017 U	0.018 U	0.018 U	0.018 U	0.018 U	0.016 U	0.018 U	0.015 U	0.017 U	0.016 U	0.016 U	0.015 U	0.017 U
Semi-Volatile Organic Compounds^																	
1,1-Biphenyl	mg/kg	200	0.07 U	0.093 U	0.072 U	0.071 U	0.072 U	0.072 U	0.085 U	**0.031 J**	0.075 U	0.09 U	0.071 U	**0.031 J**	**0.066 J**	0.073 U	0.072 U
2,4-Dimethylphenol	mg/kg	16,000	0.07 U	0.093 U	0.072 U	0.071 U	0.072 U	0.072 U	0.085 U	0.078 U	0.075 U	0.09 U	0.071 U	0.077 U	0.076 U	0.073 U	0.072 U
2-Methylnaphthalene	mg/kg	3,000	**0.0034 J**	**0.013**	**0.027 J**	**0.045**	**0.042**	**0.031**	**0.028**	**0.098**	0.074 U	0.009 U	**0.02 J**	**0.24**	**0.19**	**0.015**	**0.071 J**
2-Methylphenol	mg/kg	41,000	0.07 U	0.093 U	0.072 U	0.071 U	0.072 U	0.072 U	0.085 U	0.078 U	0.075 U	0.09 U	0.071 U	0.077 U	0.076 U	0.073 U	0.072 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 U	0.19 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.16 U	0.15 U	0.18 U	0.14 U	0.15 U	0.15 U	0.15 U	0.14 U
Acenaphthene	mg/kg	45,000	**0.00071 J**	**0.0014 J**	**0.063 J**	**0.064**	**0.068**	**0.073**	**0.022**	**0.062**	**0.0068 J**	0.009 U	**0.0062 J**	**0.065 J**	**0.022 J**	**0.0023 J**	**0.011 J**
Acenaphthylene	mg/kg	45,000	**0.0026 J**	**0.0038 J**	**0.016 J**	**0.0036 J**	**0.0051 J**	**0.0048 J**	**0.0033 J**	**0.031**	**0.0063 J**	0.009 U	**0.0065 J**	**0.11**	**0.16**	**0.0046 J**	**0.014 J**
Acetophenone	mg/kg	120,000	0.07 U	0.093 U	0.072 U	0.071 U	0.072 U	0.072 U	0.085 U	0.078 U	0.075 U	0.09 U	0.071 U	**0.023 J**	0.076 U	0.073 U	0.072 U
Anthracene	mg/kg	230,000	**0.0024 J**	**0.0044 J**	**0.042 J**	**0.026**	**0.026**	**0.033**	**0.045**	**0.22**	**0.015 J**	0.009 U	**0.015 J**	**0.31**	**0.12**	**0.011**	**0.048 J**
Benz[a]anthracene	mg/kg	21	**0.012**	**0.01**	**0.22**	**0.14**	**0.16**	**0.19**	**0.19**	**1.1**	**0.025 J**	0.009 U	**0.035 J**	**1**	**0.29**	**0.045**	**0.14**
Benzaldehyde	mg/kg	120,000	0.07 U	0.093 U	0.072 U	0.071 U	0.072 U	0.072 U	0.085 UJ	0.078 UJ	0.075 U	0.09 U	0.071 U	**0.02 J**	**0.018 J**	0.073 U	0.072 U
Benzo[a]pyrene	mg/kg	2.1	**0.015**	**0.01**	**0.32**	**0.25**	**0.29**	**0.31**	**0.11**	**0.79**	**0.019 J**	0.009 U	**0.019 J**	**0.97**	**0.36**	**0.054**	**0.14**
Benzo[b]fluoranthene	mg/kg	21	**0.024**	**0.023**	**0.44**	**0.34**	**0.42**	**0.59**	**0.21**	**1.4**	**0.057 J**	0.009 U	**0.03 J**	**1.4**	**0.58**	**0.086**	**0.27**
Benzo[g,h,i]perylene	mg/kg		**0.0092**	**0.0068 J**	**0.14**	**0.12**	**0.18**	**0.18**	**0.035**	**0.28**	**0.015 J**	0.009 U	**0.011 J**	**0.25**	**0.25**	**0.034**	**0.081**
Benzo[k]fluoranthene	mg/kg	210	**0.0082**	**0.0069 J**	**0.24**	**0.16**	**0.17**	**0.59**	**0.082**	**0.53**	**0.014 J**	0.009 U	**0.016 J**	**0.46**	**0.27**	**0.04**	**0.27**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.023 B	0.038 B	0.072 U	0.071 U	0.072 U	0.072 U	0.085 U	0.078 U	0.075 U	0.09 U	**0.026 J**	0.077 U	**0.041 J**	0.073 U	**0.015 J**
Carbazole	mg/kg		0.07 U	0.093 U	0.072 U	0.071 U	**0.018 J**	**0.024 J**	**0.4**	**0.092**	0.075 U	0.09 U	0.071 U	**0.16**	**0.041 J**	0.073 U	0.072 U
Chrysene	mg/kg	2,100	**0.014**	**0.023**	**0.27**	**0.16**	**0.2**	**0.23**	**0.21**	**1.1**	**0.063 J**	0.009 U	**0.021 J**	**0.81**	**0.32**	**0.057**	**0.17**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.0029 J**	**0.0024 J**	**0.053 J**	**0.046**	**0.065**	**0.065**	**0.014**	**0.12**	0.074 U	0.009 U	0.072 U	**0.11**	**0.077 J**	**0.012**	**0.022 J**
Diethylphthalate	mg/kg	660,000	0.07 U	0.093 U	0.072 U	0.071 U	0.072 U	0.072 U	0.085 U	0.078 U	0.075 U	0.09 U	0.071 U	0.077 U	0.076 U	0.073 U	0.072 U
Di-n-butylphthalate	mg/kg	82,000	0.07 U	0.093 U	0.072 U	0.071 U	0.072 U	0.072 U	0.085 U	0.078 U	0.075 U	0.09 U	0.071 U	0.077 U	0.076 U	0.073 U	0.072 U
Fluoranthene	mg/kg	30,000	**0.021**	**0.022**	**0.17**	**0.14**	**0.22**	**0.24**	**0.74**	**2.9**	**0.02 J**	**0.00078 J**	**0.031 J**	**1.6**	**0.49**	**0.076**	**0.31**
Fluorene	mg/kg	30,000	**0.00092 J**	**0.0023 J**	**0.0088 J**	**0.0096**	**0.0091**	**0.01**	**0.011**	**0.08**	**0.013 J**	0.009 U	**0.012 J**	**0.059 J**	**0.019 J**	**0.0017 J**	**0.019 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.0082**	**0.0064 J**	**0.14**	**0.12**	**0.18**	**0.18**	**0.038**	**0.29**	0.074 U	0.009 U	**0.012 J**	**0.29**	**0.23**	**0.032**	**0.074**
Naphthalene	mg/kg	8.6	**0.0037 J**	**0.025**	**0.023 J**	**0.05**	**0.054**	**0.044**	**0.057**	**0.83**	0.074 U	0.009 U	0.072 U	**0.33**	**0.88**	**0.048**	**0.067 J**
Phenanthrene	mg/kg		**0.011**	**0.015**	**0.095**	**0.075**	**0.13**	**0.15**	**0.34**	**0.85**	**0.034 J**	**0.0008 J**	**0.03 J**	**0.78**	**0.43**	**0.054**	**0.19**
Phenol	mg/kg	250,000	0.07 U	0.093 U	0.072 U	0.071 U	0.072 U	0.072 U	0.085 U	0.078 U	0.075 U	0.09 U	0.071 U	0.077 U	**0.14**	0.073 U	0.072 U
Pyrene	mg/kg	23,000	**0.019**	**0.018**	**0.17**	**0.14**	**0.17**	**0.22**	**0.58**	**2.6**	**0.04 J**	0.009 U	**0.029 J**	**1.3**	**0.42**	**0.062**	**0.31**
PCBs																	
Aroclor 1242	mg/kg	0.97	0.017 U	N/A	0.0538 U	N/A	**0.0335 J**	N/A	0.0591 U	N/A	0.0553 U	N/A	0.0542 U	N/A	**0.054 J**	N/A	0.0578 U
Aroclor 1254	mg/kg	0.97	0.017 U	N/A	0.0538 U	N/A	**0.0347 J**	N/A	0.0591 U	N/A	0.0553 U	N/A	0.0542 U	N/A	0.056 U	N/A	0.0578 U
Aroclor 1260	mg/kg	0.99	0.017 UJ	N/A	0.0538 U	N/A	0.0522 U	N/A	0.0591 U	N/A	0.0553 U	N/A	0.0542 U	N/A	**0.0842**	N/A	0.0578 U
PCBs (total)	mg/kg	0.97	0.16 U	N/A	0.0538 U	N/A	**0.0682**	N/A	0.0591 U	N/A	0.0553 U	N/A	0.0542 U	N/A	**0.1382**	N/A	0.0578 U
TPH/Oil & Grease																	
Diesel Range Organics	mg/kg	6,200	**6.3 J**	**117 J**	**84.9**	**53.2**	**95.7**	**86.4**	**28 J**	**313 J**	**227**	8.9 U	**80.8**	**231**	**200**	**35.4**	**65.3**
Gasoline Range Organics	mg/kg	6,200	11.5 U	12.7 U	15.3 U	9 U	14.3 U	11.3 U	15.6 U	14.2 U	12.1 U	10.8 U	10.8 U	11.7 U	11 U	9 U	9.8 U
Oil & Grease	mg/kg	6,200	**85.3 J**	**647**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data

^PAH compounds were analyzed via SIM
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reported for this analyte is a quantitative estimate.

B: This analyte was not detected substantially above the level of the associated method or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 1 - Sub-Parcel B6-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	B6-037-SB-5* 6/30/2016	B6-038-SB-1* 6/30/2016	B6-038-SB-4* 6/30/2016	B6-047-SB-1* 7/5/2016	B6-047-SB-6* 7/5/2016	B6-048-SB-1* 7/5/2016	B6-048-SB-8* 7/5/2016	B6-049-SB-1* 7/5/2016	B6-049-SB-8* 7/5/2016	B6-050-SB-1* 6/30/2016	B6-050-SB-6* 6/30/2016	B6-053-SB-1* 6/30/2016	B6-053-SB-4* 6/30/2016	B6-054-SB-1* 6/30/2016	B6-054-SB-4* 6/30/2016
Volatile Organic Compounds																	
1,2,3-Trichlorobenzene	mg/kg	930	0.0056 U	0.0068 U	0.0049 U	0.0047 U	0.0059 U	0.0052 U	**0.0031 J**	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
1,2-Dichlorobenzene	mg/kg	9,300	0.0056 U	**0.013**	**0.0029 J**	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.014 U	**0.005 J**	0.0095 U	0.012 U	0.01 U	0.013 U	0.011 U	0.0099 U	0.012 U	0.011 U	0.01 U	0.011 U	0.012 U	0.77 U
1,3-Dichlorobenzene	mg/kg		0.0056 U	0.0068 U	0.0049 U	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
1,4-Dichlorobenzene	mg/kg	11	0.0056 U	0.0068 U	0.0049 U	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
2-Butanone (MEK)	mg/kg	190,000	**0.0043 J**	0.014 U	0.0099 U	0.0095 U	0.012 U	0.01 U	**0.0068 J**	0.011 U	0.0099 U	0.012 U	0.011 U	0.01 U	0.011 U	0.012 U	0.77 U
Acetone	mg/kg	670,000	**0.026**	**0.017**	0.0056 B	0.0084 B	0.0097 B	0.0078 B	**0.032**	0.011 U	0.0084 B	**0.01 J**	**0.0059 J**	0.01 U	**0.0068 J**	**0.0066 J**	0.77 U
Benzene	mg/kg	5.1	**0.0072**	0.0068 U	0.0049 U	0.0047 U	**0.0016 J**	**0.0025 J**	0.0066 U	0.0055 U	0.005 U	**0.0023 J**	0.0053 U	0.0051 U	**0.0056**	0.0062 U	0.38 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0056 U	0.0068 U	**0.0045 J**	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
Cyclohexane	mg/kg	27,000	0.011 U	0.014 U	0.0099 U	0.0095 U	0.012 U	0.01 U	0.013 U	0.011 U	0.0099 U	0.012 U	0.011 U	0.01 U	0.011 U	0.012 U	0.77 U
Ethylbenzene	mg/kg	25	0.0056 U	0.0068 U	0.0049 U	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
Isopropylbenzene	mg/kg	9,900	0.0056 U	0.0068 U	0.0049 U	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
Methyl Acetate	mg/kg	1,200,000	0.056 U	0.068 U	0.049 U	0.047 U	0.059 U	0.052 U	0.066 U	0.055 U	0.05 U	0.061 U	0.053 U	0.051 U	0.056 U	0.062 U	**0.46 J**
Methylene Chloride	mg/kg	1,000	0.0056 U	0.0068 U	0.0049 U	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0053 B	0.005 U	0.0063 B	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.5 B
Tetrachloroethene	mg/kg	100	0.0056 U	**0.011**	**0.0074**	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
Toluene	mg/kg	47,000	**0.0019 J**	0.0068 U	0.0049 U	0.0047 U	**0.0019 J**	**0.0028 J**	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	**0.0047 J**	0.0062 U	0.38 U
Trichloroethene	mg/kg	6	0.0056 U	0.0068 U	**0.0042 J**	0.0047 U	0.0059 U	0.0052 U	0.0066 U	0.0055 U	0.005 U	0.0061 U	0.0053 U	0.0051 U	0.0056 U	0.0062 U	0.38 U
Xylenes	mg/kg	2,800	**0.0063 J**	**0.0047 J**	0.015 U	0.014 U	0.018 U	0.015 U	0.02 U	0.016 U	0.015 U	0.018 U	0.016 U	0.015 U	0.017 U	0.019 U	1.1 U
Semi-Volatile Organic Compounds^																	
1,1-Biphenyl	mg/kg	200	**0.092 J**	0.082 U	**0.18**	**0.02 J**	0.076 U	**0.033 J**	**0.97**	0.074 U	0.086 U	0.072 U	0.074 U	**0.036 J**	**0.095**	0.076 U	0.78 U
2,4-Dimethylphenol	mg/kg	16,000	0.37 U	**0.021 J**	0.079 U	0.072 U	0.076 U	0.075 U	**0.021 J**	0.074 U	0.086 U	0.072 U	0.074 U	0.074 U	**0.015 J**	0.076 U	0.78 U
2-Methylnaphthalene	mg/kg	3,000	**6.6**	**0.064 J**	**2.2**	**0.18**	**0.035 J**	**0.41**	**0.7**	**0.0045 J**	0.0086 U	**0.016**	**0.016**	**0.14**	**0.29**	**0.0023 J**	**1.2**
2-Methylphenol	mg/kg	41,000	0.37 U	0.082 U	0.079 U	0.072 U	0.076 U	0.075 U	0.1 U	0.074 U	0.086 U	0.072 U	0.074 U	0.074 U	**0.018 J**	0.076 U	0.78 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	**0.59 J**	0.16 U	**0.021 J**	0.14 U	0.15 U	0.15 U	**0.047 J**	0.15 U	0.17 U	0.14 U	0.15 U	0.15 U	**0.054 J**	0.15 U	1.6 U
Acenaphthene	mg/kg	45,000	**0.86**	0.084 U	**0.71**	**0.013 J**	**0.018 J**	**0.01**	**0.024**	**0.0027 J**	0.0086 U	**0.025**	**0.0058 J**	**0.0099 J**	**0.06 J**	0.0075 U	**0.44**
Acenaphthylene	mg/kg	45,000	**2.3**	**0.13**	0.08 U	**0.018 J**	**0.057 J**	**0.017**	**0.049**	**0.00076 J**	0.0086 U	**0.0025 J**	**0.018**	**0.24**	**0.62**	0.0075 U	**0.14**
Acetophenone	mg/kg	120,000	0.37 U	0.082 U	0.079 U	**0.025 J**	0.076 U	**0.018 J**	**0.085 J**	0.074 U	0.086 U	0.072 U	0.074 U	0.074 U	**0.029 J**	0.076 U	0.78 U
Anthracene	mg/kg	230,000	**2.6**	**0.04 J**	**2**	**0.038 J**	**0.28**	**0.043**	**0.9**	**0.0022 J**	0.0086 U	**0.0099**	**0.038**	**0.18**	**0.87**	**0.0015 J**	0.079 U
Benz[a]anthracene	mg/kg	21	**6.6**	**0.025 J**	**3.1**	**0.087**	**1.5**	**0.16**	**0.42**	**0.014**	0.0086 U	**0.069**	**0.1**	**0.57**	**2.1**	0.0075 U	**0.03 J**
Benzaldehyde	mg/kg	120,000	0.37 U	**0.035 J**	**0.23**	**0.034 J**	0.076 U	**0.032 J**	**0.067 J**	0.074 U	0.086 U	0.072 U	0.074 U	**0.026 J**	**0.037 J**	0.076 U	0.78 U
Benzo[a]pyrene	mg/kg	2.1	**8**	**0.02 J**	**2.8**	**0.086**	**1**	**0.22**	**0.22**	**0.016**	0.0086 U	**0.11**	**0.11**	**0.67**	**1.7**	0.0075 U	**0.024 J**
Benzo[b]fluoranthene	mg/kg	21	**20**	**0.028 J**	**6.2**	**0.1**	**1.5**	**0.24**	**0.54**	**0.02**	0.0086 U	**0.22**	**0.16**	**0.99**	**2.6**	**0.0013 J**	**0.034 J**
Benzo[g,h,i]perylene	mg/kg		**3.6**	**0.13**	**1.2**	**0.063 J**	**0.42**	**0.14**	**0.079**	**0.012**	0.0086 U	**0.063**	**0.047**	**0.33**	**0.76**	0.0075 U	0.079 U
Benzo[k]fluoranthene	mg/kg	210	**20.3**	**0.029 J**	**6.2**	**0.045 J**	**0.48**	**0.083**	**0.49**	**0.0084**	0.0086 U	**0.23**	**0.21**	**0.47**	**1.4**	**0.0013 J**	**0.034 J**
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.68**	**0.18**	**0.32**	**0.033 J**	0.076 U	0.075 U	0.1 U	0.074 U	0.086 U	0.072 U	0.074 U	**0.031 J**	**0.034 J**	0.076 U	0.78 U
Carbazole	mg/kg		0.37 U	0.082 U	**0.13**	0.072 U	**0.12**	**0.026 J**	0.1 U	**0.019 J**	0.086 U	0.072 U	0.074 U	**0.091**	**0.26**	0.076 U	0.78 U
Chrysene	mg/kg	2,100	**7**	**0.013 J**	**3.2**	**0.088**	**1.1**	**0.16**	**0.55**	**0.012**	0.0086 U	**0.11**	**0.11**	**0.58**	**1.9**	**0.00069 J**	**0.087**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.89**	0.084 U	**0.48**	**0.023 J**	**0.2**	**0.048**	**0.037**	**0.0027 J**	0.0086 U	**0.024**	**0.017**	**0.12**	**0.32**	0.0075 U	0.079 U
Diethylphthalate	mg/kg	660,000	0.37 U	0.082 U	0.079 U	**0.019 J**	0.076 U	0.075 U	0.1 U	0.074 U	0.086 U	0.072 U	0.074 U	0.074 U	0.072 U	0.076 U	0.78 U
Di-n-butylphthalate	mg/kg	82,000	0.37 U	**0.024 J**	0.079 U	0.072 U	0.076 U	0.075 U	0.1 U	0.074 U	0.086 U	0.072 U	0.074 U	0.074 U	0.072 U	**0.022 J**	0.78 U
Fluoranthene	mg/kg	30,000	**7.2**	**0.015 J**	**8**	**0.11**	**1.9**	**0.21**	**1.2**	**0.017**	0.0086 U	**0.1**	**0.19**	**0.74**	**3.7**	**0.001 J**	**0.044 J**
Fluorene	mg/kg	30,000	**1.5**	**0.011 J**	**1.1**	**0.017 J**	**0.024 J**	**0.0095**	**0.46**	**0.00085 J**	0.0086 U	**0.0041 J**	**0.022**	**0.027 J**	**0.31**	0.0075 U	**0.64**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**3.1**	**0.013 J**	**1.3**	**0.047 J**	**0.46**	**0.13**	**0.076**	**0.01**	0.0086 U	**0.065**	**0.048**	**0.33**	**0.82**	0.0075 U	0.079 U
Naphthalene	mg/kg	8.6	**3.5**	**0.082 J**	**6.6**	**0.15**	**0.042 J**	**0.37**	**0.69**	**0.0054 J**	0.0086 U	**0.02**	**0.051**	**0.48**	**1.1**	**0.0024 J**	**0.19**
Phenanthrene	mg/kg		**5.2**	**0.046 J**	**8.7**	**0.13**	**0.92**	**0.2**	**1.5**	**0.0085**	0.0086 U	**0.05**	**0.13**	**0.36**	**2.4**	**0.003 J**	**1.3**
Phenol	mg/kg	250,000	0.37 U	**0.035 J**	**0.021 J**	0.072 U	0.076 U	0.075 U	**0.03 J**	0.074 U	0.086 U	0.072 U	0.074 U	**0.018 J**	**0.056 J**	0.076 U	0.78 U
Pyrene	mg/kg	23,000	**9.8**	**0.029 J**	**6.3**	**0.09**	**1.4**	**0.17**	**1.1**	**0.014**	0.0086 U	**0.085**	**0.15**	**0.59**	**3**	**0.0091**	**1.7**
PCBs																	
Aroclor 1242	mg/kg	0.97	N/A	0.0581 U	N/A	0.0556 U	N/A	**0.162**	N/A	0.0574 U	N/A	0.0616 U	N/A	0.055 U	N/A	0.054 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.0581 U	N/A	0.0556 U	N/A	0.0548 U	N/A	0.0574 U	N/A	0.0616 U	N/A	0.055 U	N/A	0.054 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	**0.163**	N/A	0.0556 U	N/A	0.0548 U	N/A	0.0574 U	N/A	**0.121**	N/A	0.055 U	N/A	0.054 U	N/A
PCBs (total)	mg/kg	0.97	N/A	**0.163**	N/A	0.0556 U	N/A	**0.162**	N/A	0.0574 U	N/A	**0.121**	N/A	0.055 U	N/A	0.054 U	N/A
TPH/Oil & Grease																	
Diesel Range Organics	mg/kg	6,200	**2,790**	**468**	**899**	**196**	**97.3**	**938**	**5,240**	**11.5**	**4.2 J**	**122**	**75.5**	**146**	**183**	**124**	**6,840**
Gasoline Range Organics	mg/kg	6,200	10.8 U	11.7 U	12.2 U	10 U	11.6 U	13 U	14.3 U	11 U	10.8 U	13.3 U	11.5 U	11.9 U	**12.8 J**	12.4 U	**67.2**
Oil & Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data

^PAH compounds were analyzed via SIM
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reported for this analyte is a quantitative estimate.

B: This analyte was not detected substantially above the level of the associated method or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 1 - Sub-Parcel B6-2
Summary of Organics Detected in Soil

Parameter	Units	PAL	B6-065-SB-1* 7/5/2016	B6-065-SB-4* 7/5/2016	B6-066-SB-1* 7/5/2016	B6-066-SB-5* 7/5/2016	B6-067-SB-1 7/6/2016	B6-067-SB-5 7/6/2016	B6-069-SB-1* 7/5/2016	B6-069-SB-8.5* 7/5/2016	B6-070-SB-1* 7/5/2016	B6-070-SB-4* 7/5/2016	B6-075-SB-1 6/16/2016	B6-076-SB-1 7/6/2016	B6-076-SB-8 7/6/2016
Volatile Organic Compounds															
1,2,3-Trichlorobenzene	mg/kg	930	0.0065 U	0.006 U	0.0049 U	0.25 U	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 UJ	0.0053 U	0.0054 U
1,2-Dichlorobenzene	mg/kg	9,300	0.0065 U	0.006 U	0.0049 U	**0.53**	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 UJ	0.0053 U	0.0054 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.013 U	0.012 U	0.0099 U	0.5 U	0.01 U	0.012 U	0.009 U	0.01 U	0.016 U	0.0097 U	0.011 U	0.011 U	0.011 U
1,3-Dichlorobenzene	mg/kg		0.0065 U	0.006 U	0.0049 U	**0.11 J**	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 UJ	0.0053 U	0.0054 U
1,4-Dichlorobenzene	mg/kg	11	0.0065 U	0.006 U	0.0049 U	**0.5**	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 UJ	0.0053 U	0.0054 U
2-Butanone (MEK)	mg/kg	190,000	0.013 U	0.012 U	0.0099 U	0.5 U	0.01 UJ	0.012 UJ	0.009 U	0.01 U	0.016 U	0.0097 U	0.011 U	0.011 UJ	0.011 UJ
Acetone	mg/kg	670,000	0.013 U	0.012 U	0.0099 U	0.35 B	0.01 UJ	0.012 UJ	0.0077 B	0.0062 B	**0.013 J**	0.011 B	0.011 UJ	0.011 UJ	0.011 UJ
Benzene	mg/kg	5.1	0.0065 U	0.006 U	0.0049 U	0.25 U	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 U	0.0053 U	0.0054 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0065 U	0.006 U	0.0049 U	0.25 U	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 U	0.0053 U	0.0054 U
Cyclohexane	mg/kg	27,000	0.013 U	0.012 U	0.0099 U	**0.38 J**	0.01 U	0.012 U	0.009 U	0.01 U	0.016 U	0.0097 U	0.011 U	0.011 U	0.011 U
Ethylbenzene	mg/kg	25	0.0065 U	0.006 U	0.0049 U	**0.14 J**	0.0051 U	**0.0013 J**	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 U	0.0053 U	**0.28**
Isopropylbenzene	mg/kg	9,900	0.0065 U	0.006 U	0.0049 U	**0.95**	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 U	0.0053 U	0.0054 U
Methyl Acetate	mg/kg	1,200,000	0.065 U	0.06 U	0.049 U	2.5 U	0.051 R	0.059 R	0.045 U	0.051 U	0.081 U	0.049 U	0.053 U	0.053 R	0.054 R
Methylene Chloride	mg/kg	1,000	0.0065 U	0.006 U	0.0049 U	0.33 B	0.0051 U	0.0059 U	0.0045 U	0.0047 B	0.0081 U	0.0049 U	0.0053 U	0.0053 U	0.0054 U
Tetrachloroethene	mg/kg	100	0.0065 U	0.006 U	0.0049 U	0.25 U	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 U	0.0053 U	0.0054 U
Toluene	mg/kg	47,000	0.0065 U	0.006 U	0.0049 U	0.25 U	0.0051 U	**0.0025 J**	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 U	0.0053 U	**0.0077**
Trichloroethene	mg/kg	6	0.0065 U	0.006 U	0.0049 U	0.25 U	0.0051 U	0.0059 U	0.0045 U	0.0051 U	0.0081 U	0.0049 U	0.0053 U	0.0053 U	0.0054 U
Xylenes	mg/kg	2,800	0.02 U	0.018 U	0.015 U	**1.3**	0.015 U	**0.0062 J**	0.013 U	0.015 U	0.024 U	0.015 U	0.016 U	0.016 U	**1**
Semi-Volatile Organic Compounds^															
1,1-Biphenyl	mg/kg	200	0.08 U	**0.02 J**	**0.024 J**	**6.4**	0.074 U	0.078 U	0.077 U	**0.37**	0.092 U	0.074 U	**0.066 J**	**0.017 J**	**0.04 J**
2,4-Dimethylphenol	mg/kg	16,000	0.08 U	0.081 U	0.074 U	0.76 U	0.074 U	0.078 U	0.077 U	**0.029 J**	0.092 U	0.074 U	0.07 U	0.076 U	**0.033 J**
2-Methylnaphthalene	mg/kg	3,000	**0.1**	**0.16**	**0.063 J**	**8.1**	**0.027**	**0.043 J**	**0.0061 J**	**0.58**	**0.041 J**	**0.02**	**0.53**	**0.052 J**	**0.27**
2-Methylphenol	mg/kg	41,000	0.08 U	0.081 U	0.074 U	0.076 U	0.074 U	0.078 U	0.077 U	**0.023 J**	0.092 U	0.074 U	0.07 U	0.076 U	**0.015 J**
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.16 U	0.15 U	**0.24**	0.15 U	0.15 U	0.15 U	**0.077 J**	0.18 U	0.15 U	0.14 U	0.15 U	**0.045 J**
Acenaphthene	mg/kg	45,000	**0.019 J**	**0.019 J**	0.15 U	**8.1**	**0.02**	**0.033 J**	**0.0017 J**	**0.58**	**0.01 J**	**0.0061 J**	**0.0093 J**	**0.024 J**	**0.95**
Acenaphthylene	mg/kg	45,000	**0.047 J**	**0.073 J**	**0.12 J**	**2.4**	**0.0065 J**	**0.022 J**	**0.0095**	**1.8**	**0.018 J**	**0.012**	**0.057 J**	**0.039 J**	0.078 U
Acetophenone	mg/kg	120,000	0.08 U	0.081 U	0.074 U	0.76 U	0.074 U	0.078 U	0.077 U	**0.044 J**	0.092 U	0.074 U	**0.03 J**	0.076 U	0.077 U
Anthracene	mg/kg	230,000	**0.094**	**0.14**	**0.054 J**	**9**	**0.074**	**0.098**	**0.015**	**4.5**	**0.027 J**	**0.048**	**0.057 J**	**0.34**	**0.27**
Benz[a]anthracene	mg/kg	21	**0.35**	**0.49**	**0.22**	**5.8**	**0.16 J**	**0.42**	**0.12**	**9.2**	**0.096**	**0.13**	**0.2**	**1.8**	**1.5**
Benzaldehyde	mg/kg	120,000	0.08 U	**0.03 J**	**0.024 J**	0.076 U	0.074 UJ	0.078 UJ	0.077 U	**0.047 J**	**0.026 J**	0.074 U	**0.085**	0.076 UJ	0.077 UJ
Benzo[a]pyrene	mg/kg	2.1	**0.34**	**0.49**	**0.35**	**5.1**	**0.13 J**	**0.46**	**0.07**	**7.3**	**0.066 J**	**0.1**	**0.22**	**1.3**	**3.2**
Benzo[b]fluoranthene	mg/kg	21	**0.66**	**0.98**	**0.55**	**9.9**	**0.24 J**	**0.73**	**0.12**	**8.4**	**0.088 J**	**0.14**	**0.52**	**2.7**	**3.9**
Benzo[g,h,i]perylene	mg/kg		**0.1**	**0.13**	**0.4**	**1.8**	**0.068**	**0.24**	**0.042**	**2.4**	**0.03 J**	**0.045**	**0.21**	**0.24**	**1.6**
Benzo[k]fluoranthene	mg/kg	210	**0.6**	**0.9**	**0.48**	**8.6**	**0.091 J**	**0.29**	**0.044**	**3.1**	**0.038 J**	**0.058**	**0.53**	**2.5**	**1.7**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.08 U	0.081 U	**0.23**	**4**	0.074 U	0.023 B	0.077 U	**0.026 J**	0.092 U	0.074 U	0.04 B	0.076 UJ	0.077 UJ
Carbazole	mg/kg		0.08 U	**0.032 J**	0.074 U	**0.42 J**	**0.043 J**	**0.038 J**	0.077 U	**0.83**	0.092 U	0.074 U	**0.027 J**	**0.24**	**0.16**
Chrysene	mg/kg	2,100	**0.28**	**0.42**	**0.21**	**6.2**	**0.18 J**	**0.47**	**0.11**	**6.3**	**0.056 J**	**0.11**	**0.32**	**1.3**	**1.5**
Dibenz[a,h]anthracene	mg/kg	2.1	**0.043 J**	**0.048 J**	**0.068 J**	**0.6**	**0.024**	**0.083**	**0.012**	**0.9**	**0.015 J**	**0.014**	**0.065 J**	**0.099**	**0.59**
Diethylphthalate	mg/kg	660,000	0.08 U	0.081 U	0.074 U	0.76 U	0.074 U	0.017 B	0.077 U	0.075 U	0.092 U	0.074 U	0.07 U	0.076 U	0.077 U
Di-n-butylphthalate	mg/kg	82,000	0.08 U	0.081 U	**0.02 J**	**0.36 J**	0.074 U	0.078 U	0.077 U	0.075 U	0.092 U	0.074 U	0.07 U	0.076 U	0.077 U
Fluoranthene	mg/kg	30,000	**0.5**	**0.68**	**0.18**	**13.2**	**0.4 J**	**0.73**	**0.16**	**11.6**	**0.086 J**	**0.24**	**0.29**	**3.4**	**1.4**
Fluorene	mg/kg	30,000	**0.028 J**	**0.021 J**	**0.017 J**	**10.6**	**0.013**	**0.028 J**	**0.0015 J**	**2.4**	**0.016 J**	**0.0091**	**0.015 J**	**0.022 J**	**0.13**
Indeno[1,2,3-c,d]pyrene	mg/kg	21	**0.12**	**0.14**	**0.22**	**1.7**	**0.066**	**0.23**	**0.04**	**2.8**	**0.03 J**	**0.049**	**0.18**	**0.28**	**1.7**
Naphthalene	mg/kg	8.6	**0.073 J**	**0.14**	**0.068 J**	**10.5**	**0.031 J**	0.074 B	**0.0068 J**	**1.5**	**0.03 J**	**0.063**	**0.34**	**0.17**	**0.28**
Phenanthrene	mg/kg		**0.26**	**0.37**	**0.11 J**	**30**	**0.22 J**	**0.34**	**0.052**	**10.5**	**0.052 J**	**0.13**	**0.43**	**1.2**	**0.82**
Phenol	mg/kg	250,000	0.08 U	0.081 U	**0.031 J**	**0.71**	0.074 U	0.078 U	0.077 U	**0.099**	0.092 U	0.074 U	0.07 U	0.076 U	**0.029 J**
Pyrene	mg/kg	23,000	**0.41**	**0.64**	**0.24**	**13.4**	**0.31 J**	**0.64**	**0.12**	**8.7**	**0.099**	**0.26**	**0.27**	**2.6**	**1.4**
PCBs															
Aroclor 1242	mg/kg	0.97	0.0592 U	N/A	0.0575 U	N/A	0.054 U	N/A	0.0585 U	N/A	0.0615 U	N/A	0.0517 U	0.058 U	N/A
Aroclor 1254	mg/kg	0.97	0.0592 U	N/A	0.0575 U	N/A	0.054 U	N/A	0.0585 U	N/A	0.0615 U	N/A	0.0517 U	**0.0983**	N/A
Aroclor 1260	mg/kg	0.99	**0.631**	N/A	**0.104**	N/A	0.054 U	N/A	0.0585 U	N/A	0.0615 U	N/A	0.0517 U	0.058 U	N/A
PCBs (total)	mg/kg	0.97	**0.631**	N/A	**0.104**	N/A	0.054 U	N/A	0.0585 U	N/A	0.0615 U	N/A	0.0517 U	**0.0983**	N/A
TPH/Oil & Grease															
Diesel Range Organics	mg/kg	6,200	**35.1**	**117**	**280**	**11,000**	**32.8 J**	**92.4 J**	**25.6**	**1,200**	**152**	**51.6**	**62.5 J**	**75.6 J**	**150 J**
Gasoline Range Organics	mg/kg	6,200	15.5 U	11.3 U	11.2 U	**129**	11.1 U	13.2 U	8.5 U	11.6 U	14 U	9.7 U	10.5 U	11.6 U	**20.6**
Oil & Grease	mg/kg	6,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data

^PAH compounds were analyzed via SIM
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reported for this analyte is a quantitative estimate.

B: This analyte was not detected substantially above the level of the associated method or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 2 - Sub-Parcel B6-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	A6-006-SB-1 9/20/2019	A6-006-SB-5 9/20/2019	A6-006-SB-10 9/20/2019	B6-003-SB-1* 6/30/2016	B6-003-SB-5* 6/30/2016	B6-003-SB-10 6/30/2016	B6-004-SB-1* 6/30/2016	B6-004-SB-4* 6/30/2016	B6-033-SB-1 7/6/2016	B6-033-SB-4 7/6/2016
Metal												
Aluminum	mg/kg	1,100,000	**2,430**	**13,000**	N/A	**8,600**	**4,050**	N/A	**6,010**	**3,270**	**7,210**	**16,900**
Antimony	mg/kg	470	2.5 UJ	3.3 UJ	N/A	2.4 U	2.8 U	N/A	2.6 U	2.3 U	3.2 R	2.6 R
Arsenic	mg/kg	3	**2.8**	**26.7**	**3.8**	2 U	**6.5**	**7.9**	**4.7**	**4.2**	**3.6**	**11.4**
Barium	mg/kg	220,000	**12.8 J**	**59.2 J**	N/A	**70.1**	**37**	N/A	**50.2**	**26.5**	**95.1 J**	**298 J**
Beryllium	mg/kg	2,300	0.82 U	**1.9**	N/A	**0.28 J**	0.95 U	N/A	0.88 U	0.76 U	**0.29 J**	**1.5**
Cadmium	mg/kg	980	1.2 U	**0.69 J**	N/A	0.57 B	0.62 B	N/A	0.96 B	0.41 B	1.4 B	**4.7**
Chromium	mg/kg	120,000	**11.3**	**198**	N/A	**1,150**	**616**	N/A	**909**	**350**	**1,490**	**867**
Chromium VI	mg/kg	6.3	1.1 UJ	1.4 UJ	N/A	0.56 B	0.52 B	N/A	0.38 B	0.43 B	0.5 B	0.46 B
Cobalt	mg/kg	350	**1 J**	**4.3 J**	N/A	**1.8 J**	**6.9**	N/A	**5.5**	**5.3**	**5.3**	**18.4**
Copper	mg/kg	47,000	**8.8**	**178**	N/A	**21.6**	**161**	N/A	**55.2**	**48.4**	**94.3 J**	**139 J**
Iron	mg/kg	820,000	**6,520 J**	**155,000 J**	N/A	**199,000**	**262,000**	N/A	**210,000**	**150,000**	**165,000 J**	**115,000 J**
Lead	mg/kg	800	**13.6**	**153**	N/A	**35.6**	**91.9**	N/A	**129**	**55.1**	**61.5 J**	**237 J**
Manganese	mg/kg	26,000	**85**	**96**	N/A	**32,700**	**19,000**	N/A	**34,600**	**11,900**	**65,400**	**42,600**
Mercury	mg/kg	350	**0.023 J**	**0.16**	N/A	**0.0075 J**	**0.018 J**	N/A	**0.029 J**	**0.014 J**	**0.0037 J**	**0.06 J**
Nickel	mg/kg	22,000	**3.8 J**	**14.6 J**	N/A	**14.3**	**33.4**	N/A	**31.2**	**24.3**	**119 J**	**35.9 J**
Selenium	mg/kg	5,800	3.3 U	4.4 U	N/A	3.1 U	3.8 U	N/A	3.5 U	3.1 U	4.2 UJ	3.5 UJ
Silver	mg/kg	5,800	2.5 U	3.3 U	N/A	2.4 U	2.8 U	N/A	2.6 U	2.3 U	3.2 U	2.6 U
Thallium	mg/kg	12	8.2 U	10.9 U	N/A	7.9 U	9.5 U	N/A	8.8 U	7.6 U	**71.6 J**	**37.1 J**
Vanadium	mg/kg	5,800	**17.8**	**122**	N/A	**5,850**	**2,780**	N/A	**4,360**	**1,680**	**5,280**	**2,930**
Zinc	mg/kg	350,000	**67.1**	**329**	N/A	**59.3**	**179**	N/A	**196**	**156**	**157 J**	**1,030 J**
Other												
Cyanide	mg/kg	150	0.85 U	**0.56 J**	N/A	**0.2 J**	**0.35 J**	N/A	**0.33 J**	**0.26 J**	**0.85**	**1.6**

Detections in bold
Values in red indicate an exceedance of the Project Action Limit (PAL)
N/A indicates that the parameter was not analyzed for this sample
*indicates non-validated data
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
J: The positive result reported for this analyte is a quantitative estimate.
J-: The positive result reported for this analyte is a quantitative estimate, but may be biased low.
B: This analyte was not detected substantially above the level of the associated method or field blank.
R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 2 - Sub-Parcel B6-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B6-034-SB-1* 7/5/2016	B6-034-SB-4* 7/5/2016	B6-035-SB-1* 7/5/2016	B6-035-SB-4* 7/5/2016	B6-036-SB-1* 6/30/2016	B6-036-SB-8* 6/30/2016	B6-037-SB-1* 6/30/2016	B6-037-SB-5* 6/30/2016	B6-038-SB-1* 6/30/2016
Metal											
Aluminum	mg/kg	1,100,000	**44,200**	**16,900**	**17,000**	**17,700**	**14,300**	**8,430**	**19,700**	**11,400**	**23,400**
Antimony	mg/kg	470	2.5 U	3.1 U	2.8 U	2.7 U	3 U	2.6 U	3 U	2.7 U	3.2 U
Arsenic	mg/kg	3	2.1 U	**3.6**	2.3 U	**4.5**	**3.8**	2.2 U	2.5 U	**10.5**	2.6 U
Barium	mg/kg	220,000	**643**	**60.2**	**241**	**220**	**204**	**178**	**166**	**130**	**472**
Beryllium	mg/kg	2,300	**5.9**	**0.35 J**	**1**	**1.4**	**1.3**	0.87 U	**1.6**	**0.83 J**	**1.8**
Cadmium	mg/kg	980	0.4 B	1.5 U	1.3 B	1.8 B	**2.8**	**4.1**	0.88 B	**2.3**	1.3 B
Chromium	mg/kg	120,000	**8.9**	**20.8**	**1,330**	**103**	**603**	**1,360**	**787**	**593**	**599**
Chromium VI	mg/kg	6.3	0.36 B	0.48 B	0.46 B	0.42 B	0.47 B	0.47 B	0.43 B	0.26 B	0.81 B
Cobalt	mg/kg	350	**1.9 J**	**2 J**	**7.6**	**10.1**	**7.4**	**3.6 J**	**1.3 J**	**7.6**	**4.5 J**
Copper	mg/kg	47,000	**7.7**	**5.9**	**70.6**	**458**	**63.6**	**60.3**	**30.7**	**117**	**40.6**
Iron	mg/kg	820,000	**14,200**	**18,200**	**157,000**	**45,600**	**98,400**	**131,000**	**140,000**	**158,000**	**74,100**
Lead	mg/kg	800	**3.5**	**13.9**	**58.1**	**204**	**165**	**295**	**31.5**	**484**	**59.3**
Manganese	mg/kg	26,000	**7,520**	**61.2**	**69,100**	**4,820**	**27,400**	**60,300**	**18,400**	**20,000**	**56,400**
Mercury	mg/kg	350	0.11 U	**0.022 J**	0.1 U	**0.088 J**	**0.062 J**	**0.048 J**	**0.0099 J**	**0.072 J**	**0.064 J**
Nickel	mg/kg	22,000	**1.7 J**	**5.9 J**	**16.4**	**21.7**	**24.2**	**13.2**	**17.9**	**54.7**	**14.4**
Selenium	mg/kg	5,800	**4.1**	4.1 U	3.7 U	2.6 B	4 U	3.5 U	4 U	3.6 U	4.2 U
Silver	mg/kg	5,800	2.5 U	3.1 U	2.8 U	2.7 U	3 U	2.6 U	3 U	2.7 U	3.2 U
Thallium	mg/kg	12	8.3 U	10.2 U	9.2 U	9.1 U	10.1 U	8.7 U	10 U	9.1 U	10.6 U
Vanadium	mg/kg	5,800	**39.9**	**26.4**	**3,920**	**188**	**1,280**	**3,460**	**492**	**315**	**1,660**
Zinc	mg/kg	350,000	**3.4 J**	**17.3**	**152**	**836**	**712**	**611**	**150**	**642**	**168**
Other											
Cyanide	mg/kg	150	**0.45 J**	0.66 U	**0.076 J**	**1.1**	**3.1**	**0.43 J**	**0.41 J**	**0.7**	**0.78**

Detections in bold
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R: The result for this analyte is unreliable. Additional data is needed to confirm or disprove the presence of this analyte in the sample.

Table 2 - Sub-Parcel B6-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B6-038-SB-4* 6/30/2016	B6-047-SB-1* 7/5/2016	B6-047-SB-6* 7/5/2016	B6-048-SB-1* 7/5/2016	B6-048-SB-8* 7/5/2016	B6-049-SB-1* 7/5/2016	B6-049-SB-8* 7/5/2016	B6-049-SB-10* 7/5/2016	B6-050-SB-1* 6/30/2016
Metal											
Aluminum	mg/kg	1,100,000	**17,800**	**7,290**	**12,300**	**8,290**	**20,400**	**37,500**	**19,400**	N/A	**4,390**
Antimony	mg/kg	470	2.5 U	2.5 U	2.8 U	2.7 U	2.1 B	2.5 U	2.8 U	N/A	2.2 U
Arsenic	mg/kg	3	**5.2**	**3.5**	**7.4**	2.2 U	**24.5**	**2.5**	**4.5**	**3.8**	1.8 U
Barium	mg/kg	220,000	**269**	**68.2**	**162**	**88**	**696**	**334**	**38.8**	N/A	**45.1**
Beryllium	mg/kg	2,300	**1.3**	**0.32 J**	**0.27 J**	0.9 U	**2**	**6.1**	**0.83 J**	N/A	0.73 U
Cadmium	mg/kg	980	1.7 B	0.73 B	1.6 B	0.81 B	**15.2**	1.4 B	1.4 U	N/A	0.6 B
Chromium	mg/kg	120,000	**189**	**759**	**1,190**	**669**	**406**	**27.4**	**28.5**	N/A	**912**
Chromium VI	mg/kg	6.3	0.43 B	0.52 B	0.5 B	0.45 B	0.73 B	0.35 B	0.47 B	N/A	0.44 B
Cobalt	mg/kg	350	**14.5**	**5.6**	**10.8**	**1.3 J**	**34.8**	**4.1 J**	**5.3**	N/A	**0.75 J**
Copper	mg/kg	47,000	**81.3**	**35.6**	**105**	**29.3**	**248**	**29.3**	**13.8**	N/A	**26**
Iron	mg/kg	820,000	**90,500**	**173,000**	**119,000**	**96,800**	**296,000**	**42,400**	**25,000**	N/A	**182,000**
Lead	mg/kg	800	**152**	**23**	**164**	**18.5**	**1,240**	**20.3**	**14.4**	N/A	**39.2**
Manganese	mg/kg	26,000	**9,020**	**29,500**	**50,300**	**34,600**	**15,200**	**3,350**	**97**	N/A	**47,500**
Mercury	mg/kg	350	**0.41**	**0.007 J**	**0.021 J**	**0.026 J**	**0.44**	0.11 U	**0.0083 J**	N/A	**0.0097 J**
Nickel	mg/kg	22,000	**37.8**	**18**	**24.3**	**7.7 J**	**136**	**12.1**	**13.9**	N/A	**12.3**
Selenium	mg/kg	5,800	3.3 U	3.3 U	3.7 U	3.6 U	4.5 U	**2.7 J**	3.7 U	N/A	2.9 U
Silver	mg/kg	5,800	2.5 U	2.5 U	2.8 U	2.7 U	**1.2 J**	2.5 U	2.8 U	N/A	2.2 U
Thallium	mg/kg	12	8.2 U	8.3 U	9.3 U	9 U	11.3 U	8.5 U	9.3 U	N/A	7.3 U
Vanadium	mg/kg	5,800	**528**	**2,610**	**2,310**	**2,990**	**1,670**	**95.8**	**34.4**	N/A	**5,470**
Zinc	mg/kg	350,000	**582**	**153**	**280**	**52.8**	**6,700**	**154**	**50.6**	N/A	**110**
Other											
Cyanide	mg/kg	150	**1.4**	**0.59**	**1.5**	**0.49 J**	**7**	**0.33 J**	0.79 U	N/A	**0.3 J**

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Table 2 - Sub-Parcel B6-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B6-050-SB-6* 6/30/2016	B6-053-SB-1* 6/30/2016	B6-053-SB-4* 6/30/2016	B6-054-SB-1* 6/30/2016	B6-054-SB-4* 6/30/2016	B6-065-SB-1* 7/5/2016	B6-065-SB-4* 7/5/2016	B6-066-SB-1* 7/5/2016	B6-066-SB-5* 7/5/2016
Metal											
Aluminum	mg/kg	1,100,000	**14,100**	**8,400**	**6,350**	**45,700**	**41,800**	**29,300**	**24,100**	**34,600**	**25,600**
Antimony	mg/kg	470	3.2 U	3.2 U	2.5 U	2.4 U	2.5 U	2.9 U	2.7 U	2.5 U	2.6 U
Arsenic	mg/kg	3	**5.2**	**12.9**	**9.4**	2 U	2.1 U	**7.7**	**7.4**	**4.2**	**5.2**
Barium	mg/kg	220,000	**109**	**72**	**60.2**	**386**	**463**	**270**	**226**	**385**	**378**
Beryllium	mg/kg	2,300	**0.55 J**	**0.24 J**	0.82 U	**7.5**	**7.5**	**1.7**	**1.7**	**4.6**	**3.3**
Cadmium	mg/kg	980	**2.4**	1.3 B	1 B	0.21 B	0.25 B	**2.5**	**2.6**	1.1 B	1.3 B
Chromium	mg/kg	120,000	**325**	**734**	**771**	**6.6**	**5.8**	**155**	**192**	**102**	**104**
Chromium VI	mg/kg	6.3	0.43 B	0.45 B	0.39 B	0.36 B	0.33 B	0.38 B	0.43 B	0.36 B	0.58 B
Cobalt	mg/kg	350	**13.2**	**141**	**145**	**1.2 J**	**0.97 J**	**9.8**	**10.8**	**4.6**	**5.5**
Copper	mg/kg	47,000	**34.4**	**369**	**383**	**8.9**	**2.1 J**	**80.1**	**94.9**	**106**	**73.9**
Iron	mg/kg	820,000	**48,900**	**186,000**	**108,000**	**22,000**	**5,830**	**53,200**	**57,300**	**44,700**	**53,400**
Lead	mg/kg	800	**149**	**99.7**	**82.6**	2 U	**3.9**	**190**	**203**	**116**	**154**
Manganese	mg/kg	26,000	**10,000**	**37,400**	**28,500**	**4,080**	**4,050**	**3,820**	**4,450**	**4,190**	**4,890**
Mercury	mg/kg	350	**0.14**	**0.29**	**0.2**	0.11 U	0.11 U	**0.16**	**0.1 J**	**0.012 J**	**0.0059 J**
Nickel	mg/kg	22,000	**21.9**	**39.6**	**36.4**	**1.7 J**	8.2 U	**42.6**	**47**	**19.3**	**25.8**
Selenium	mg/kg	5,800	4.3 U	**6.4**	3.3 U	**3.3**	3.3 U	2.6 B	3.5 U	3.3 U	3.5 U
Silver	mg/kg	5,800	3.2 U	3.2 U	2.5 U	2.4 U	2.5 U	2.9 U	2.7 U	2.5 U	2.6 U
Thallium	mg/kg	12	10.7 U	10.7 U	8.2 U	7.9 U	8.2 U	9.8 U	8.8 U	8.3 U	8.6 U
Vanadium	mg/kg	5,800	**1,010**	**4,360**	**3,430**	**43**	**36.1**	**108**	**162**	**135**	**138**
Zinc	mg/kg	350,000	**510**	**365**	**278**	4 U	**1.9 J**	**455**	**454**	**286**	**225**
Other											
Cyanide	mg/kg	150	**0.098 J**	**0.61**	**1.3**	**0.27 J**	**0.28 J**	**4.6**	**3.6**	**0.65 J**	**0.42 J**

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Table 2 - Sub-Parcel B6-2
Summary of Inorganics Detected in Soil

Parameter	Units	PAL	B6-067-SB-1 7/6/2016	B6-067-SB-5 7/6/2016	B6-069-SB-1* 7/5/2016	B6-069-SB-8.5* 7/5/2016	B6-070-SB-1* 7/5/2016	B6-070-SB-4* 7/5/2016	B6-075-SB-1 6/16/2016	B6-076-SB-1 7/6/2016	B6-076-SB-8 7/6/2016
Metal											
Aluminum	mg/kg	1,100,000	**12,400**	**13,000**	**13,700**	**12,600**	**22,500**	**7,800**	**27,200**	**16,300**	**8,750**
Antimony	mg/kg	470	2.8 R	2.5 R	2.8 U	2.3 U	3.4 U	2.4 U	2.4 UJ	2.7 R	2.8 R
Arsenic	mg/kg	3	2.3 U	**3.9**	2.3 U	1.9 U	**3.3**	2 U	**5**	**9.6**	**2.2 J**
Barium	mg/kg	220,000	**106 J**	**170 J**	**82.5**	**167**	**349**	**122**	**275 J**	**222 J**	**68.5 J**
Beryllium	mg/kg	2,300	**1.3**	**0.71 J**	**0.9 J**	0.77 U	**2.4**	0.81 U	**3.9**	**1.5**	**0.43 J**
Cadmium	mg/kg	980	1.1 B	**12.1**	1 B	**9.6**	**1.9**	**1.9**	**1.5**	**4.4**	0.88 B
Chromium	mg/kg	120,000	**1,120**	**1,270**	**907**	**1,730**	**506**	**1,200**	**342 J**	**505**	**1,070**
Chromium VI	mg/kg	6.3	0.45 B	0.82 B	0.73 B	0.67 B	0.54 B	0.53 B	0.38 B	0.46 B	0.51 B
Cobalt	mg/kg	350	**2.2 J**	**10.3**	4.6 U	**4.2**	**6.5**	**3.7 J**	**5.5**	**11.4**	**2.4 J**
Copper	mg/kg	47,000	**41.6 J**	**175 J**	**15.7**	**86.5**	**50.4**	**50.3**	**59.3 J**	**118 J**	**90 J**
Iron	mg/kg	820,000	**211,000 J**	**124,000 J**	**163,000**	**116,000**	**68,800**	**97,900**	**85,800**	**112,000 J**	**172,000 J**
Lead	mg/kg	800	**68.7 J**	**421 J**	**16.6**	**1,290**	**82.9**	**112**	**113 J**	**511 J**	**87.2 J**
Manganese	mg/kg	26,000	**23,100**	**29,800**	**26,000**	**30,300**	**40,200**	**57,400**	**12,400**	**12,500**	**32,400**
Mercury	mg/kg	350	**0.022 J**	0.11 U	**0.0039 J**	**0.087 J**	**0.027 J**	**0.029 J**	0.099 U	**0.12**	**0.019 J**
Nickel	mg/kg	22,000	**32.9 J**	**46.2 J**	**12.6**	**22.1**	**21.9**	**16.8**	**22.3 J**	**41.7 J**	**28.3 J**
Selenium	mg/kg	5,800	3.7 UJ	3.4 UJ	3.7 U	3.1 U	4.5 U	3.2 U	2.3 B	3.5 UJ	3.7 UJ
Silver	mg/kg	5,800	2.8 U	2.5 U	2.8 U	2.3 U	3.4 U	2.4 U	2.4 U	2.7 U	2.8 U
Thallium	mg/kg	12	**20.2 J**	**49.7 J**	9.2 U	7.7 U	11.2 U	8.1 U	**3.9 J**	**9 J**	**42.7 J**
Vanadium	mg/kg	5,800	**1,580**	**4,830**	**1,090**	**3,770**	**1,740**	**2,940**	**388 J**	**765**	**3,850**
Zinc	mg/kg	350,000	**197 J**	**1,530 J**	**76.8**	**853**	**376**	**316**	**288 J**	**1,720 J**	**197 J**
Other											
Cyanide	mg/kg	150	**0.49 J**	**2.7**	**0.22 J**	**0.47 J**	**0.75**	**1.1**	**0.6 J-**	**1.5**	**0.55 J**

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Table 3 - Sub-Parcel B6-2
COPC Screening Analysis

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
1,1-Biphenyl	92-52-4	B6-066-SB-5	6.4		0.017	0.50	43	39.53	87	4.7	YES (NC)
1,2,3-Trichlorobenzene	87-61-6	B6-048-SB-8	0.0031	J	0.0031	0.003	41	2.44		6.3	no
1,2-Dichlorobenzene	95-50-1	B6-066-SB-5	0.53		0.0029	0.14	41	9.76		180	no
1,3-Dichlorobenzene	541-73-1	B6-066-SB-5	0.11	J	0.11	0.11	41	2.44			no
1,4-Dichlorobenzene	106-46-7	B6-066-SB-5	0.5		0.5	0.50	41	2.44	2.6	340	no
2,4-Dimethylphenol	105-67-9	B6-076-SB-8	0.033	J	0.015	0.02	43	11.63		130	no
2-Butanone (MEK)	78-93-3	B6-048-SB-8	0.0068	J	0.0024	0.005	41	7.32		2,700	no
2-Methylnaphthalene	91-57-6	B6-066-SB-5	8.1		0.0023	0.57	43	93.02		24	no
2-Methylphenol	95-48-7	B6-069-SB-8.5	0.023	J	0.015	0.02	43	6.98		320	no
Acenaphthene	83-32-9	B6-066-SB-5	8.1		0.00071	0.33	43	88.37		360	no
Acenaphthylene	208-96-8	B6-066-SB-5	2.4		0.00076	0.23	43	88.37			no
Acetone	67-64-1	B6-048-SB-8	0.032		0.0059	0.01	41	31.71		6,100	no
Acetophenone	98-86-2	B6-048-SB-8	0.085	J	0.018	0.04	43	16.28		780	no
Aluminum	7429-90-5	B6-054-SB-1	45,700		2430	16,885	43	100.00		7,700	YES (NC)
Anthracene	120-12-7	B6-066-SB-5	9		0.0015	0.57	43	93.02		1,800	no
Aroclor 1242	53469-21-9	B6-048-SB-1	0.162		0.0335	0.08	22	13.64	0.23		no
Aroclor 1254	11097-69-1	B6-076-SB-1	0.0983		0.0347	0.07	22	9.09	0.24	0.12	no
Aroclor 1260	11096-82-5	B6-065-SB-1	0.631		0.0842	0.22	22	22.73	0.24		YES (C)
Arsenic	7440-38-2	A6-006-SB-5	26.7		2.2	6.92	46	69.57	0.68	3.5	YES (C/NC)
Barium	7440-39-3	B6-048-SB-8	696		12.8	199	43	100.00		1,500	no
Benz[a]anthracene	56-55-3	B6-069-SB-8.5	9.2		0.01	0.97	43	93.02	1.1		YES (C)
Benzaldehyde	100-52-7	B6-038-SB-4	0.23		0.018	0.05	43	32.56	170	780	no
Benzene	71-43-2	B6-037-SB-5	0.0072		0.0016	0.004	41	12.20	1.2	8.2	no
Benzo[a]pyrene	50-32-8	B6-037-SB-5	8		0.01	0.94	43	93.02	0.11	1.8	YES (C/NC)
Benzo[b]fluoranthene	205-99-2	B6-037-SB-5	20		0.0013	1.64	43	95.35	1.1		no
Benzo[g,h,i]perylene	191-24-2	B6-037-SB-5	3.6		0.0068	0.40	43	90.70			no
Benzo[k]fluoranthene	207-08-9	B6-037-SB-5	20.3		0.0013	1.26	43	95.35	11		YES (C)
Beryllium	7440-41-7	B6-054-SB-1 & B6-054-SB-4	7.5		0.24	2.04	43	76.74	1,600	16	no
bis(2-Ethylhexyl)phthalate	117-81-7	B6-066-SB-5	4		0.015	0.47	43	27.91	39	130	no
Cadmium	7440-43-9	B6-048-SB-8	15.2		0.69	4.58	43	34.88	2,100	7.1	YES (NC)
Carbazole	86-74-8	B6-069-SB-8.5	0.83		0.018	0.16	43	46.51			no
Chromium	7440-47-3	B6-069-SB-8.5	1,730		5.8	610	43	100.00		12,000	no
Chrysene	218-01-9	B6-037-SB-5	7		0.00069	0.88	43	95.35	110		no
cis-1,2-Dichloroethene	156-59-2	B6-038-SB-4	0.0045	J	0.0045	0.005	41	2.44		16	no
Cobalt	7440-48-4	B6-053-SB-4	145		0.75	13.1	43	97.67	420	2.3	YES (NC)
Copper	7440-50-8	B6-035-SB-4	458		2.1	92.3	43	100.00		310	YES (NC)
Cyanide	57-12-5	B6-048-SB-8	7		0.076	1.08	43	93.02		7.8	no
Cyclohexane	110-82-7	B6-066-SB-5	0.38	J	0.38	0.38	41	2.44		650	no
Dibenz[a,h]anthracene	53-70-3	B6-069-SB-8.5	0.9		0.0024	0.15	43	83.72	0.11		YES (C)
Diethylphthalate	84-66-2	B6-047-SB-1	0.019	J	0.019	0.02	43	2.33		5,100	no
Di-n-butylphthalate	84-74-2	B6-066-SB-5	0.36	J	0.02	0.11	43	9.30		630	no

Table 3 - Sub-Parcel B6-2
COPC Screening Analysis

Parameter	CAS#	Location of Max Result	Max Detection (mg/kg)	Final Flag	Min Detection (mg/kg)	Average Detection (mg/kg)	Total Samples	Frequency of Detection (%)	Cancer TR=1E-06 (mg/kg)	Non-Cancer HQ=0.1 (mg/kg)	COPC?
Ethylbenzene	100-41-4	B6-076-SB-8	0.28		0.0013	0.14	41	7.32	5.8	340	no
Fluoranthene	206-44-0	B6-066-SB-5	13.2		0.00078	1.51	43	97.67		240	no
Fluorene	86-73-7	B6-066-SB-5	10.6		0.00085	0.44	43	93.02		240	no
Indeno[1,2,3-c,d]pyrene	193-39-5	B6-037-SB-5	3.1		0.0064	0.41	43	88.37	1.1		YES (C)
Iron	7439-89-6	B6-048-SB-8	296,000		5830	112,873	43	100.00		5,500	YES (NC)
Isopropylbenzene	98-82-8	B6-066-SB-5	0.95		0.95	0.95	41	2.44		190	no
Lead^	7439-92-1	B6-069-SB-8.5	1,290		3.5	178	43	97.67		400	YES (NC)
Manganese	7439-96-5	B6-035-SB-1	69,100		61.2	23,847	43	100.00		180	YES (NC)
Mercury	7439-97-6	B6-048-SB-8	0.44		0.0037	0.08	43	83.72		2.3	no
Methyl Acetate	79-20-9	B6-054-SB-4	0.46	J	0.46	0.46	35	2.86		7,800	no
Naphthalene	91-20-3	B6-066-SB-5	10.5		0.0024	0.76	43	88.37	2	13	YES (C)
Nickel	7440-02-0	B6-048-SB-8	136		1.7	28.3	43	97.67	15,000	150	no
PCBs (total)*	1336-36-3	B6-065-SB-1	0.631		0.0682	0.19	22	36.36	0.23		YES (C)
Phenanthrene	85-01-8	B6-066-SB-5	30		0.0008	1.63	43	97.67			no
Phenol	108-95-2	B6-066-SB-5	0.71		0.018	0.12	43	23.26		1,900	no
Pyrene	129-00-0	B6-066-SB-5	13.4		0.0091	1.45	43	95.35		180	no
Selenium	7782-49-2	B6-053-SB-1	6.4		2.7	4.13	43	9.30		39	no
Silver	7440-22-4	B6-048-SB-8	1.2	J	1.2	1.20	43	2.33		39	no
Tetrachloroethene	127-18-4	B6-038-SB-1	0.011		0.0041	0.007	41	9.76	24	8.1	no
Thallium	7440-28-0	B6-033-SB-1	71.6	J	3.9	33.5	43	16.28		0.078	YES (NC)
Toluene	108-88-3	B6-076-SB-8	0.0077		0.0019	0.004	41	14.63		490	no
Trichloroethene	79-01-6	B6-038-SB-4	0.0042	J	0.0042	0.004	41	2.44	0.94	0.41	no
Vanadium	7440-62-2	B6-003-SB-1	5,850		17.8	1872	43	100.00		39	YES (NC)
Xylenes	1330-20-7	B6-066-SB-5	1.3		0.0047	0.46	41	12.20		58	no
Zinc	7440-66-6	B6-048-SB-8	6,700		1.9	516	43	97.67		2,300	YES (NC)

J: The positive result reported for this analyte is a quantitative estimate.

COPC = Constituent of Potential Concern
TR = Target Risk
HQ = Hazard Quotient

C = Compound was identified as a cancer COPC
NC = Compound was identified as a non-cancer COPC

*PCBs (total) include the sum of all detected aroclor mixtures, including those without RSLs (e.g. Aroclor 1262, Aroclor 1268) which are not displayed.
^Lead is assessed separately through the ALM and IEUBK models.

Table 4 - Sub-Parcel B6-2
Assessment of Lead

Exposure Unit	Surface/Sub-Surface	Maximum Concentration (mg/kg)	Arithmetic Mean (mg/kg)
EU1 (38.0 ac.)	Surface	511	84.5
	Sub-Surface	1,290	267
	Pooled	1,290	174

Table 5 - Sub-Parcel B6-2
Soil Exposure Point Concentrations

	EU1 (38.0 ac.)					
	EPCs - Surface Soils		**EPCs - Sub-Surface Soils**		**EPCs - Pooled Soils**	
Parameter	EPC Type	EPC (mg/kg)	EPC Type	EPC (mg/kg)	EPC Type	EPC (mg/kg)
1,1-Biphenyl	95% KM (t) UCL	0.05	Gamma Adjusted KM-UCL	2.20	95% KM (Chebyshev) UCL	0.88
Aluminum	95% Student's-t UCL	23,398	95% Student's-t UCL	18,275	95% Adjusted Gamma UCL	20,204
Arsenic	95% GROS Adjusted Gamma UCL	6.79	KM H-UCL	9.30	95% KM (Chebyshev) UCL	8.74
Cadmium	95% KM (t) UCL	1.22	95% GROS Adjusted Gamma UCL	7.01	95% KM Adjusted Gamma UCL	3.05
Cobalt	95% KM (Chebyshev) UCL	37.8	95% Chebyshev (Mean, Sd) UCL	44.4	KM H-UCL	15.4
Copper	95% Adjusted Gamma UCL	91.1	95% Adjusted Gamma UCL	193	95% Adjusted Gamma UCL	122
Iron	95% Student's-t UCL	138,566	95% Student's-t UCL	139,634	95% Student's-t UCL	130,765
Manganese	95% Student's-t UCL	34,308	95% Student's-t UCL	27,925	95% Chebyshev (Mean, Sd) UCL	37,003
Thallium	95% KM (t) UCL	14.2	Maximum Detection	**49.7**	95% KM (t) UCL	12.7
Vanadium	95% Adjusted Gamma UCL	3,553	95% Adjusted Gamma UCL	3,073	95% Adjusted Gamma UCL	2,691
Zinc	Gamma Adjusted KM-UCL	493	95% Adjusted Gamma UCL	1,346	Gamma Adjusted KM-UCL	939
PCB (Total)	KM H-UCL	0.12	N/A	N/A	KM H-UCL	0.12
Benz[a]anthracene	Gamma Adjusted KM-UCL	0.48	Gamma Adjusted KM-UCL	3.37	95% KM (Chebyshev) UCL	2.17
Benzo[a]pyrene	Gamma Adjusted KM-UCL	0.40	Gamma Adjusted KM-UCL	3.21	95% KM (Chebyshev) UCL	2.08
Benzo[k]fluoranthene	95% Adjusted Gamma UCL	0.53	Gamma Adjusted KM-UCL	6.19	97.5% KM (Chebyshev) UCL	4.45
Dibenz[a,h]anthracene	95% KM (t) UCL	0.05	Gamma Adjusted KM-UCL	0.41	95% KM (Chebyshev) UCL	0.28
Indeno[1,2,3-c,d]pyrene	Gamma Adjusted KM-UCL	0.15	Gamma Adjusted KM-UCL	1.26	95% KM (Chebyshev) UCL	0.83
Naphthalene	Gamma Adjusted KM-UCL	0.28	Gamma Adjusted KM-UCL	3.46	95% KM (Chebyshev) UCL	1.94

Bold indicates maximum value used as the EPC
NA = No Detections

Table 6 - Sub-Parcel B6-2
Surface Soils
Composite Worker Risk Ratios

Parameter	Target Organs	EU1 (38.0 ac.)				
			Composite Worker			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	0.05	410	200	1.2E-10	0.0003
Aluminum	**Nervous**	23,398		1,100,000		0.02
Arsenic	**Cardiovascular; Dermal**	6.79	3.00	480	2.3E-06	0.01
Cadmium	**Urinary**	1.22	9,300	980	1.3E-10	0.001
Cobalt	**Thyroid**	37.8	1,900	350	2.0E-08	0.1
Copper	**Gastrointestinal**	91.1		47,000		0.002
Iron	**Gastrointestinal**	138,566		820,000		0.2
Manganese	**Nervous**	34,308		26,000		1
Thallium	**Dermal**	14.2		12		1
Vanadium	**Dermal**	3,553		5,800		0.6
Zinc	**Hematologic; Immune**	493		350,000		0.001
PCB (Total)		0.12	0.94		1.3E-07	
Benz[a]anthracene		0.48	21.0		2.3E-08	
Benzo[a]pyrene	**Developmental**	0.40	2.10	220	1.9E-07	0.002
Benzo[k]fluoranthene		0.53	210		2.5E-09	
Dibenz[a,h]anthracene		0.05	2.10		2.4E-08	
Indeno[1,2,3-c,d]pyrene		0.15	21.0		7.1E-09	
Naphthalene	**Nervous; Respiratory**	0.28	8.60	590	3.3E-08	0.0005
					3E-06	↓

RSLs were obtained from the EPA Regional Screening Level Calculator for Composite Worker using default assumptions.

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	2
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 7 - Sub-Parcel B6-2
Sub-Surface Soils
Composite Worker Risk Ratios

Parameter	Target Organs	EU1 (38.0 ac.)				
			Composite Worker			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	2.20	410	200	5.4E-09	0.01
Aluminum	**Nervous**	18,275		1,100,000		0.02
Arsenic	**Cardiovascular; Dermal**	9.30	3.00	480	3.1E-06	0.02
Cadmium	**Urinary**	7.01	9,300	980	7.5E-10	0.007
Cobalt	**Thyroid**	44.4	1,900	350	2.3E-08	0.1
Copper	**Gastrointestinal**	193		47,000		0.004
Iron	**Gastrointestinal**	139,634		820,000		0.2
Manganese	**Nervous**	27,925		26,000		1
Thallium	**Dermal**	**49.7**		12		4
Vanadium	**Dermal**	3,073		5,800		0.5
Zinc	**Hematologic; Immune**	1,346		350,000		0.004
PCB (Total)		N/A	0.94			
Benz[a]anthracene		3.37	21.0		1.6E-07	
Benzo[a]pyrene	**Developmental**	3.21	2.10	220	1.5E-06	0.01
Benzo[k]fluoranthene		6.19	210		2.9E-08	
Dibenz[a,h]anthracene		0.41	2.10		2.0E-07	
Indeno[1,2,3-c,d]pyrene		1.26	21.0		6.0E-08	
Naphthalene	**Nervous; Respiratory**	3.46	8.60	590	4.0E-07	0.006
					6E-06	↓

Bold indicates maximum value used as the EPC
NA = No Detections
RSLs were obtained from the EPA Regional Screening Level Calculator for Composite Worker using default assumptions.

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	5
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 8 - Sub-Parcel B6-2
Pooled Soils
Composite Worker Risk Ratios

		EU1 (38.0 ac.)				
			Composite Worker			
			RSLs (mg/kg)		Risk Ratios	
Parameter	Target Organs	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	Urinary	0.88	410	200	2.1E-09	0.004
Aluminum	Nervous	20,204		1,100,000		0.02
Arsenic	Cardiovascular; Dermal	8.74	3.00	480	2.9E-06	0.02
Cadmium	Urinary	3.05	9,300	980	3.3E-10	0.003
Cobalt	Thyroid	15.4	1,900	350	8.1E-09	0.04
Copper	Gastrointestinal	122		47,000		0.003
Iron	Gastrointestinal	130,765		820,000		0.2
Manganese	Nervous	37,003		26,000		1
Thallium	Dermal	12.7		12		1
Vanadium	Dermal	2,691		5,800		0.5
Zinc	Hematologic; Immune	939		350,000		0.003
PCB (Total)		0.12	0.94		1.3E-07	
Benz[a]anthracene		2.17	21.0		1.0E-07	
Benzo[a]pyrene	Developmental	2.08	2.10	220	9.9E-07	0.009
Benzo[k]fluoranthene		4.45	210		2.1E-08	
Dibenz[a,h]anthracene		0.28	2.10		1.3E-07	
Indeno[1,2,3-c,d]pyrene		0.83	21.0		4.0E-08	
Naphthalene	Nervous; Respiratory	1.94	8.60	590	2.3E-07	0.003
					5E-06	↓

RSLs were obtained from the EPA Regional Screening Level Calculator for Composite Worker using default assumptions.

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	2
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 9 - Sub-Parcel B6-2
Surface Soils
Child Visitor Risk Ratios

Parameter	Target Organs	EU1 (38.0 ac.)				
			Child Visitor			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	0.05	302	750	1.7E-10	0.00007
Aluminum	**Nervous**	23,398		207,000		0.1
Arsenic	**Cardiovascular; Dermal**	6.79	2.41	92.8	2.8E-06	0.07
Cadmium	**Urinary**	1.22	146,000	189	8.4E-12	0.006
Cobalt	**Thyroid**	37.8	29,200	62.2	1.3E-09	0.6
Copper	**Gastrointestinal**	91.1		8,300		0.01
Iron	**Gastrointestinal**	138,566		145,000		1
Manganese	**Nervous**	34,308		4,960		7
Thallium	**Dermal**	14.2		2.07		7
Vanadium	**Dermal**	3,553		1,040		3
Zinc	**Hematologic; Immune**	493		62,200		0.008
PCB (Total)		0.12	0.91		1.3E-07	
Benz[a]anthracene		0.48	18.5		2.6E-08	
Benzo[a]pyrene	**Developmental**	0.40	1.85	47.6	2.2E-07	0.008
Benzo[k]fluoranthene		0.53	185		2.9E-09	
Dibenz[a,h]anthracene		0.05	1.85		2.7E-08	
Indeno[1,2,3-c,d]pyrene		0.15	18.5		8.1E-09	
Naphthalene	**Nervous; Respiratory**	0.28	14.6	1,340	1.9E-08	0.0002
					3E-06	↓

RSLs were obtained from the EPA Regional Screening Levels at
https://epaprgs.prgs.ornl.gov/cgi-bin/chemicals/csl_search
Child Visitor Input Assumptions obtained from the State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (June 2008):

A (acres): 0.5 ac
AF (skin adherence factor): 0.2 mg/cm2
BW (body weight): 15 kg
ED (exposure duration): 6 yr
EF (exposure frequency): 132 d/yr
ET (exposure time): 4 hr
IR (soil ingestion rate): 200 mg/d
SA (surface area): 2,350 cm2/d

Total HI	Urinary	0
	Nervous	7
	Cardiovascular	0
	Dermal	10
	Thyroid	1
	Gastrointestinal	1
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 10 - Sub-Parcel B6-2
Sub-Surface Soils
Child Visitor Risk Ratios

Parameter	Target Organs	EU1 (38.0 ac.)				
			Child Visitor			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	2.20	302	750	7.3E-09	0.003
Aluminum	**Nervous**	18,275		207,000		0.09
Arsenic	**Cardiovascular; Dermal**	9.30	2.41	92.8	3.9E-06	0.1
Cadmium	**Urinary**	7.01	146,000	189	4.8E-11	0.04
Cobalt	**Thyroid**	44.4	29,200	62.2	1.5E-09	0.7
Copper	**Gastrointestinal**	193		8,300		0.02
Iron	**Gastrointestinal**	139,634		145,000		1
Manganese	**Nervous**	27,925		4,960		6
Thallium	**Dermal**	**49.7**		2.07		24
Vanadium	**Dermal**	3,073		1,040		3
Zinc	**Hematologic; Immune**	1,346		62,200		0.02
PCB (Total)		N/A	0.91			
Benz[a]anthracene		3.37	18.5		1.8E-07	
Benzo[a]pyrene	**Developmental**	3.21	1.85	47.6	1.7E-06	0.07
Benzo[k]fluoranthene		6.19	185		3.3E-08	
Dibenz[a,h]anthracene		0.41	1.85		2.2E-07	
Indeno[1,2,3-c,d]pyrene		1.26	18.5		6.8E-08	
Naphthalene	**Nervous; Respiratory**	3.46	14.6	1,340	2.4E-07	0.003
					6E-06	↓

Bold indicates maximum value used as the EPC
NA = No Detections
RSLs were obtained from the EPA Regional Screening Levels at
https://epaprgs.prgs.ornl.gov/cgi-bin/chemicals/csl_search
Child Visitor Input Assumptions obtained from the State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (June 2008):

A (acres): 0.5 ac
AF (skin adherence factor): 0.2 mg/cm2
BW (body weight): 15 kg
ED (exposure duration): 6 yr
EF (exposure frequency): 132 d/yr
ET (exposure time): 4 hr
IR (soil ingestion rate): 200 mg/d
SA (surface area): 2,350 cm2/d

Total HI	Urinary	0
	Nervous	6
	Cardiovascular	0
	Dermal	27
	Thyroid	1
	Gastrointestinal	1
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 11 - Sub-Parcel B6-2
Pooled Soils
Child Visitor Risk Ratios

Parameter	Target Organs	EU1 (38.0 ac.)				
			Child Visitor			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	0.88	302	750	2.9E-09	0.001
Aluminum	**Nervous**	20,204		207,000		0.1
Arsenic	**Cardiovascular; Dermal**	8.74	2.41	92.8	3.6E-06	0.09
Cadmium	**Urinary**	3.05	146,000	189	2.1E-11	0.02
Cobalt	**Thyroid**	15.4	29,200	62.2	5.3E-10	0.2
Copper	**Gastrointestinal**	122		8,300		0.01
Iron	**Gastrointestinal**	130,765		145,000		0.9
Manganese	**Nervous**	37,003		4,960		7
Thallium	**Dermal**	12.7		2.07		6
Vanadium	**Dermal**	2,691		1,040		3
Zinc	**Hematologic; Immune**	939		62,200		0.02
PCB (Total)		0.12	0.91		1.3E-07	
Benz[a]anthracene		2.17	18.5		1.2E-07	
Benzo[a]pyrene	**Developmental**	2.08	1.85	47.6	1.1E-06	0.04
Benzo[k]fluoranthene		4.45	185		2.4E-08	
Dibenz[a,h]anthracene		0.28	1.85		1.5E-07	
Indeno[1,2,3-c,d]pyrene		0.85	18.5		4.6E-08	
Naphthalene	**Nervous; Respiratory**	1.94	14.6	1,340	1.3E-07	0.001
					5E-06	↓

RSLs were obtained from the EPA Regional Screening Levels at
https://epaprgs.prgs.ornl.gov/cgi-bin/chemicals/csl_search
Child Visitor Input Assumptions obtained from the State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (June 2008):

A (acres): 0.5 ac
AF (skin adherence factor): 0.2 mg/cm2
BW (body weight): 15 kg
ED (exposure duration): 6 yr
EF (exposure frequency): 132 d/yr
ET (exposure time): 4 hr
IR (soil ingestion rate): 200 mg/d
SA (surface area): 2,350 cm2/d

Total HI	Urinary	0
	Nervous	8
	Cardiovascular	0
	Dermal	9
	Thyroid	0
	Gastrointestinal	1
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 12 - Sub-Parcel B6-2
Surface Soils
Youth Visitor Risk Ratios

Parameter	Target Organs	EU1 (38.0 ac.)				
			Youth Visitor			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	0.05	807	755	6.2E-11	0.00007
Aluminum	**Nervous**	23,398		1,100,000		0.02
Arsenic	**Cardiovascular; Dermal**	6.79	5.01	386	1.4E-06	0.02
Cadmium	**Urinary**	1.22	73,100	819	1.7E-11	0.001
Cobalt	**Thyroid**	37.8	14,600	331	2.6E-09	0.1
Copper	**Gastrointestinal**	91.1		44,200		0.002
Iron	**Gastrointestinal**	138,566		774,000		0.2
Manganese	**Nervous**	34,308		25,900		1
Thallium	**Dermal**	14.2		11.1		1
Vanadium	**Dermal**	3,553		5,560		0.6
Zinc	**Hematologic; Immune**	493		332,000		0.001
PCB (Total)		0.12	1.44		8.3E-08	
Benz[a]anthracene		0.48	30.3		1.6E-08	
Benzo[a]pyrene	**Developmental**	0.40	3.04	156	1.3E-07	0.003
Benzo[k]fluoranthene		0.53	304		1.7E-09	
Dibenz[a,h]anthracene		0.05	3.04		1.6E-08	
Indeno[1,2,3-c,d]pyrene		0.15	30.4		4.9E-09	
Naphthalene	**Nervous; Respiratory**	0.28	21.2	1,890	1.3E-08	0.0001
					2E-06	↓

RSLs were obtained from the EPA Regional Screening Levels at
https://epaprgs.prgs.ornl.gov/cgi-bin/chemicals/csl_search
Child Visitor Input Assumptions obtained from the State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (June 2008):

A (acres): 0.5 ac
AF (skin adherence factor): 0.2 mg/cm2
BW (body weight): 40 kg
ED (exposure duration): 12 yr
EF (exposure frequency): 132 d/yr
ET (exposure time): 4 hr
IR (soil ingestion rate): 100 mg/d
SA (surface area): 4,320 cm2/d

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	2
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 13 - Sub-Parcel B6-2
Sub-Surface Soils
Youth Visitor Risk Ratios

		EU1 (38.0 ac.)				
			Youth Visitor			
			RSLs (mg/kg)		Risk Ratios	
Parameter	Target Organs	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	Urinary	2.20	807	755	2.7E-09	0.003
Aluminum	Nervous	18,275		1,100,000		0.02
Arsenic	Cardiovascular; Dermal	9.30	5.01	386	1.9E-06	0.02
Cadmium	Urinary	7.01	73,100	819	9.6E-11	0.009
Cobalt	Thyroid	44.4	14,600	331	3.0E-09	0.1
Copper	Gastrointestinal	193		44,200		0.004
Iron	Gastrointestinal	139,634		774,000		0.2
Manganese	Nervous	27,925		25,900		1
Thallium	Dermal	**49.7**		11.1		4
Vanadium	Dermal	3,073		5,560		0.6
Zinc	Hematologic; Immune	1,346		332,000		0.004
PCB (Total)		N/A	1.44			
Benz[a]anthracene		3.37	30.3		1.1E-07	
Benzo[a]pyrene	Developmental	3.21	3.04	156	1.1E-06	0.02
Benzo[k]fluoranthene		6.19	304		2.0E-08	
Dibenz[a,h]anthracene		0.41	3.04		1.3E-07	
Indeno[1,2,3-c,d]pyrene		1.26	30.4		4.1E-08	
Naphthalene	Nervous; Respiratory	3.46	21.2	1,890	1.6E-07	0.002
					3E-06	↓

Bold indicates maximum value used as the EPC
NA = No Detections
RSLs were obtained from the EPA Regional Screening Levels at
https://epaprgs.prgs.ornl.gov/cgi-bin/chemicals/csl_search
Child Visitor Input Assumptions obtained from the State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (June 2008):

A (acres): 0.5 ac	EF (exposure frequency): 132 d/yr
AF (skin adherence factor): 0.2 mg/cm2	ET (exposure time): 4 hr
BW (body weight): 40 kg	IR (soil ingestion rate): 100 mg/d
ED (exposure duration): 12 yr	SA (surface area): 4,320 cm2/d

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	5
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 14 - Sub-Parcel B6-2
Pooled Soils
Youth Visitor Risk Ratios

Parameter	Target Organs	EU1 (38.0 ac.)				
			Youth Visitor			
			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	0.88	807	755	1.1E-09	0.001
Aluminum	**Nervous**	20,204		1,100,000		0.02
Arsenic	**Cardiovascular; Dermal**	8.74	5.01	386	1.7E-06	0.02
Cadmium	**Urinary**	3.05	73,100	819	4.2E-11	0.004
Cobalt	**Thyroid**	15.4	14,600	331	1.1E-09	0.05
Copper	**Gastrointestinal**	122		44,200		0.003
Iron	**Gastrointestinal**	130,765		774,000		0.2
Manganese	**Nervous**	37,003		25,900		1
Thallium	**Dermal**	12.7		11.1		1
Vanadium	**Dermal**	2,691		5,560		0.5
Zinc	**Hematologic; Immune**	939		332,000		0.003
PCB (Total)		0.12	1.44		8.3E-08	
Benz[a]anthracene		2.17	30.3		7.2E-08	
Benzo[a]pyrene	**Developmental**	2.08	3.04	156	6.8E-07	0.01
Benzo[k]fluoranthene		4.45	304		1.5E-08	
Dibenz[a,h]anthracene		0.28	3.04		9.2E-08	
Indeno[1,2,3-c,d]pyrene		0.85	30.4		2.8E-08	
Naphthalene	**Nervous; Respiratory**	1.94	21.2	1,890	9.2E-08	0.001
					3E-06	↓

RSLs were obtained from the EPA Regional Screening Levels at
https://epaprgs.prgs.ornl.gov/cgi-bin/chemicals/csl_search
Child Visitor Input Assumptions obtained from the State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater (June 2008):

A (acres): 0.5 ac
AF (skin adherence factor): 0.2 mg/cm2
BW (body weight): 40 kg
ED (exposure duration): 12 yr
EF (exposure frequency): 132 d/yr
ET (exposure time): 4 hr
IR (soil ingestion rate): 100 mg/d
SA (surface area): 4,320 cm2/d

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	2
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 15 - Sub-Parcel B6-2
Surface Soils
Construction Worker Risk Ratios

Parameter	Target Organs	40 Day - EU1 (38.0 ac.)				
			Construction Worker			
			SSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	0.05	18,792	249	2.7E-12	0.0002
Aluminum	**Nervous**	23,398		1,930,549		0.01
Arsenic	**Cardiovascular; Dermal**	6.79	94.6	602	7.2E-08	0.01
Cadmium	**Urinary**	1.22	148,514	1,878	8.2E-12	0.0006
Cobalt	**Thyroid**	37.8	29,703	5,942	1.3E-09	0.006
Copper	**Gastrointestinal**	91.1		21,477		0.004
Iron	**Gastrointestinal**	138,566		1,503,383		0.09
Manganese	**Nervous**	34,308		26,178		1
Thallium	**Dermal**	14.2		85.9		0.2
Vanadium	**Dermal**	3,553		10,002		0.4
Zinc	**Hematologic; Immune**	493		644,307		0.0008
PCB (Total)		0.12	21.9		5.5E-09	
Benz[a]anthracene		0.48	804		6.0E-10	
Benzo[a]pyrene	**Developmental**	0.40	104	24.9	3.8E-09	0.02
Benzo[k]fluoranthene		0.53	10,333		5.1E-11	
Dibenz[a,h]anthracene		0.05	108		4.6E-10	
Indeno[1,2,3-c,d]pyrene		0.15	1,076		1.4E-10	
Naphthalene	**Nervous; Respiratory**	0.28	49.7	76.3	5.6E-09	0.004
					9E-08	↓

SSLs calculated using equations in 2002 EPA Supplemental Guidance

Guidance Equation Input Assumptions:

5 cars/day (2 tons/car)

5 trucks/day (20 tons/truck)

3 meter source depth thickness

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	1
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 16 - Sub-Parcel B6-2
Sub-Surface Soils
Construction Worker Risk Ratios

Parameter	Target Organs	40 Day - EU1 (38.0 ac.)				
			Construction Worker			
			SSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	2.20	18,792	249	1.2E-10	0.009
Aluminum	**Nervous**	18,275		1,930,549		0.009
Arsenic	**Cardiovascular; Dermal**	9.30	94.6	602	9.8E-08	0.02
Cadmium	**Urinary**	7.01	148,514	1,878	4.7E-11	0.004
Cobalt	**Thyroid**	44.4	29,703	5,942	1.5E-09	0.007
Copper	**Gastrointestinal**	193		21,477		0.009
Iron	**Gastrointestinal**	139,634		1,503,383		0.09
Manganese	**Nervous**	27,925		26,178		1
Thallium	**Dermal**	**49.7**		85.9		0.6
Vanadium	**Dermal**	3,073		10,002		0.3
Zinc	**Hematologic; Immune**	1,346		644,307		0.002
PCB (Total)		N/A	21.9			
Benz[a]anthracene		3.37	804		4.2E-09	
Benzo[a]pyrene	**Developmental**	3.21	104	24.9	3.1E-08	0.1
Benzo[k]fluoranthene		6.19	10,333		6.0E-10	
Dibenz[a,h]anthracene		0.41	108		3.8E-09	
Indeno[1,2,3-c,d]pyrene		1.26	1,076		1.2E-09	
Naphthalene	**Nervous; Respiratory**	3.46	49.7	76.3	7.0E-08	0.05
					2E-07	↓

Bold indicates maximum value used as the EPC
NA = No Detections
SSLs calculated using equations in 2002 EPA Supplemental Guidance
Guidance Equation Input Assumptions:
5 cars/day (2 tons/car)
5 trucks/day (20 tons/truck)
3 meter source depth thickness

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	1
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

Table 17 - Sub-Parcel B6-2
Pooled Soils
Construction Worker Risk Ratios

Parameter	Target Organs	40 Day - EU1 (38.0 ac.)				
			Construction Worker			
			SSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
1,1-Biphenyl	**Urinary**	0.88	18,792	249	4.7E-11	0.004
Aluminum	**Nervous**	20,204		1,930,549		0.01
Arsenic	**Cardiovascular; Dermal**	8.74	94.6	602	9.2E-08	0.01
Cadmium	**Urinary**	3.05	148,514	1,878	2.1E-11	0.002
Cobalt	**Thyroid**	15.4	29,703	5,942	5.2E-10	0.003
Copper	**Gastrointestinal**	122		21,477		0.006
Iron	**Gastrointestinal**	130,765		1,503,383		0.09
Manganese	**Nervous**	37,003		26,178		1
Thallium	**Dermal**	12.7		85.9		0.1
Vanadium	**Dermal**	2,691		10,002		0.3
Zinc	**Hematologic; Immune**	939		644,307		0.001
PCB (Total)		0.12	21.9		5.5E-09	
Benz[a]anthracene		2.17	804		2.7E-09	
Benzo[a]pyrene	**Developmental**	2.08	104	24.9	2.0E-08	0.08
Benzo[k]fluoranthene		4.45	10,333		4.3E-10	
Dibenz[a,h]anthracene		0.28	108		2.6E-09	
Indeno[1,2,3-c,d]pyrene		0.85	1,076		7.9E-10	
Naphthalene	**Nervous; Respiratory**	1.94	49.7	76.3	3.9E-08	0.03
					2E-07	↓

SSLs calculated using equations in 2002 EPA Supplemental Guidance

Guidance Equation Input Assumptions:

5 cars/day (2 tons/car)
5 trucks/day (20 tons/truck)
3 meter source depth thickness

Total HI	Urinary	0
	Nervous	1
	Cardiovascular	0
	Dermal	0
	Thyroid	0
	Gastrointestinal	0
	Hematologic	0
	Immune	0
	Developmental	0
	Respiratory	0

ATTACHMENT 1

Construction Worker Soil Screening Levels
Maximum Allowable Work Day Exposure
Calculation Spreadsheet - Sub-Parcel B6-2

Description	Variable	Value
Days worked per week	DW	5
Exposure duration (yr)	ED	1
Hours worked per day	ET	8
A/constant (unitless) - particulate emission factor	Aconst	12.9351
B/constant (unitless) - particulate emission factor	Bconst	5.7383
C/constant (unitless) - particulate emission factor	Cconst	71.7711
Dispersion correction factor (unitless)	FD	0.185
Days per year with at least .01" precipitation	P	130
Target hazard quotient (unitless)	THQ	1
Body weight (kg)	BW	80
Averaging time - noncancer (yr)	ATnc	1
Soil ingestion rate (mg/d)	IR	330
Skin-soil adherence factor (mg/cm2)	AF	0.3
Skin surface exposed (cm2)	SA	3300
Event frequency (ev/day)	EV	1
Target cancer risk (unitless)	TR	01E-06
Averaging time - cancer (yr)	ATc	70
A/constant (unitless) - volatilization	Aconstv	2.4538
B/constant (unitless) - volatilization	Bconstv	17.566
C/constant (unitless) - volatilization	Cconstv	189.0426
Dry soil bulk density (kg/L)	Pb	1.5
Average source depth (m)	ds	3
Soil particle density (g/cm3)	Ps	2.65
Total soil porosity	Lpore/Lsoil	0.43
Air-filled soil porosity	Lair/Lsoil	0.28

Construction Worker Soil Screening Levels
Maximum Allowable Work Day Exposure
Calculation Spreadsheet - Sub-Parcel B6-2

Area of site (ac)	Ac	38
Overall duration of construction (wk/yr)	EW	8
Exposure frequency (day/yr)	EF	**40**
Cars per day	Ca	5
Tons per car	CaT	2
Trucks per day	Tru	5
Tons per truck	TrT	20
Mean vehicle weight (tons)	w	**11**
Derivation of dispersion factor - particulate emission factor (g/m2-s per kg/m3)	Q/Csr	**13.8**
Overall duration of traffic (s)	Tt	**1,152,000**
Surface area (m2)	AR	**153,781**
Length (m)	LR	**392**
Distance traveled (km)	ΣVKT	**157**
Particulate emission factor (m3/kg)	PEFsc	**139,503,979**
Derivation of dispersion factor - volatilization (g/m2-s per kg/m3)	Q/Csa	**6.85**
Total time of construction (s)	Tcv	**1,152,000**

Input
Calculation

Chemical	Toxicity Criteria Source	^Ingestion SF (mg/kg-day)$^{-1}$	^Inhalation Unit Risk (ug/m^3)$^{-1}$	^Subchronic RfD (mg/kg-day)	^Subchronic RfC (mg/m^3)	^GIABS	Dermally Adjusted RfD (mg/kg-day)	^ABS	^RBA	*Dia	*Diw	*Henry's Law Constant (unitless)	*Kd	*Koc	DA	Volatilization Factor - Unlimited Reservoir (m^3/kg)	Carcinogenic Ingestion/ Dermal SL (SLing/der)	Carcinogenic Inhalation SL (SLinh)	Carcinogenic SL (mg/kg)	Non-Carcinogenic Ingestion/ Dermal SL (SLing/der)	Non-Carcinogenic Inhalation SL (SLinh)	Non-Carcinogenic SL (mg/kg)
1,1-Biphenyl	P	8.00E-03	-	1.00E-01	4.00E-03	1	1.00E-01	**0.01**	1	4.70E-02	7.60E-06	1.30E-02	3.06E+01	5.10E+03	1.06629E-06	2.27E+3	18,792		18,792	214,769	249	249
Aluminum	A/P	-	-	1.00E+00	5.00E-03	1	1.00E+00	**0.01**	1			-	1.50E+03							2,147,690	19,094,607	1,930,549
Arsenic, Inorganic	I/C	1.50E+00	4.30E-03	3.00E-04	1.50E-05	1	3.00E-04	0.03	0.6			-	2.90E+01				94.7	62,168	94.6	609	57,284	602
Cadmium	A/I	-	1.80E-03	1.00E-03	1.00E-05	0.025	2.50E-05	0.001	1			-	7.50E+01					148,514	148,514	1,975	38,189	1,878
Cobalt	P	-	9.00E-03	3.00E-03	2.00E-05	1	3.00E-03	**0.01**	1			-	4.50E+01					29,703	29,703	6,443	76,378	5,942
Copper	A	-	-	1.00E-02	-	1	1.00E-02	**0.01**	1			-	3.50E+01							21,477		21,477
Iron	P	-	-	7.00E-01	-	1	7.00E-01	**0.01**	1			-	2.50E+01							1,503,383		1,503,383
Manganese (Non-diet)	I	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	**0.01**	1			-	6.50E+01							30,338	190,946	26,178
Thallium (Soluble Salts)	P	-	-	4.00E-05	-	1	4.00E-05	**0.01**	1			-	7.10E+01							85.9		85.9
Vanadium and Compounds	A	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	**0.01**	1			-	1.00E+03							10,271	381,892	10,002
Zinc	I	-	-	3.00E-01	-	1	3.00E-01	**0.01**	1			-	6.20E+01							644,307		644,307
PCB Total	I	2.00E+00	5.71E-04	-	-	1		0.14	1	2.40E-02	6.30E-06	1.70E-02	4.68E+02	7.80E+04	4.66E-08	1.09E+4	54.5	36.5	21.9			
Benz[a]anthracene	I	1.00E-01	6.00E-05	-	-	1		0.13	1	2.60E-02	6.70E-06	4.91E-04	1.08E+03	1.80E+05	6.71E-10	9.06E+4	1,114	2,890	804			
Benzo[a]pyrene	I	1.00E+00	6.00E-04	3.00E-04	2.00E-06	1	3.00E-04	0.13	1	4.80E-02	5.60E-06	1.87E-05	3.54E+03	5.90E+05	2.37E-11	4.82E+5	111	1,535	104	477	26.3	24.9
Benzo[k]fluoranthene	I	1.00E-02	6.00E-06	-	-	1		0.13	1	4.80E-02	5.60E-06	2.39E-05	3.54E+03	5.90E+05	2.74E-11	4.48E+5	11,140	142,598	10,333			
Dibenz[a,h]anthracene	I	1.00E+00	6.00E-04	-	-	1		0.13	1	4.50E-02	5.20E-06	5.76E-06	1.14E+04	1.90E+06	4.13E-12	1.15E+6	111	3,657	108			
Indeno[1,2,3-c,d]pyrene	I	1.00E-01	6.00E-05	-	-	1		0.13	1	4.50E-02	5.20E-06	1.42E-05	1.20E+04	2.00E+06	5.62E-12	9.90E+5	1,114	31,397	1,076			
Naphthalene	C/I/A	1.20E-01	3.40E-05	2.00E-02	3.00E-03	1	2.00E-02	0.13	1	6.00E-02	8.40E-06	1.80E-02	9.00E+00	1.50E+03	6.35E-06	9.31E+2	928	52.5	49.7	31,829	76.5	76.3

*chemical specific parameters found in Chemical Specific Parameters Spreadsheet at https://www.epa.gov/risk/regional-screening-levels-rsls
^chemical specific parameters found in Unpaved Road Traffic calculator at https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search
I: chemical specific parameters found in the IRIS at https://www.epa.gov/iris
C: chemical specific parameters found in Cal EPA at https://www.dtsc.ca.gov/AssessingRisk
A: chemical specific parameters found in Agency for Toxic Substances and Disease Registry Minimal Risk Levels (MRLs) at https://www.atsdr.cdc.gov/mrls/pdfs/atsdr_mrls.pdf
P: chemical specific parameters found in the Database of EPA PPRTVs at https://hhpprtv.ornl.gov/quickview/pprtv.php

Site-specific Composite Worker Soil Inputs

CHILD VISITOR SCENARIO

Variable	Composite Worker Soil Default Value	Form-input Value
A (PEF Dispersion Constant)	16.2302	16.2302
A (VF Dispersion Constant)	11.911	11.911
A (VF Dispersion Constant - mass limit)	11.911	11.911
B (PEF Dispersion Constant)	18.7762	18.7762
B (VF Dispersion Constant)	18.4385	18.4385
B (VF Dispersion Constant - mass limit)	18.4385	18.4385
City (PEF Climate Zone) Selection	Default	Default
City (VF Climate Zone) Selection	Default	Default
C (PEF Dispersion Constant)	216.108	216.108
C (VF Dispersion Constant)	209.7845	209.7845
C (VF Dispersion Constant - mass limit)	209.7845	209.7845
foc (fraction organic carbon in soil) g/g	0.006	0.006
F(x) (function dependent on U_m/U_t) unitless	0.194	0.194
n (total soil porosity) L_{pore}/L_{soil}	0.43396	0.43396
p_h (dry soil bulk density) g/cm ^{3}	1.5	1.5
p_h (dry soil bulk density - mass limit) g/cm ^{3}	1.5	1.5
PEF (particulate emission factor) m ^{3}/kg	1359344438	1359344438
p_s (soil particle density) g/cm ^{3}	2.65	2.65
Q/C_{wind} (g/m^2-s per kg/m^3)	93.77	93.77
Q/C_{vol} (g/m^2-s per kg/m^3)	68.18	68.18
Q/C_{vol} (g/m^2-s per kg/m^3 - mass limit)	68.18	68.18
A_s (PEF acres)	0.5	0.5
A_s (VF acres)	0.5	0.5
A_s (VF mass-limit acres)	0.5	0.5
AF_w (skin adherence factor - composite worker) mg/cm ^{2}	0.12	0.2
AT_w (averaging time - composite worker)	365	365
BW_w (body weight - composite worker)	80	15
ED_w (exposure duration - composite worker) yr	25	6
EF_w (exposure frequency - composite worker) day/yr	250	132
ET_w (exposure time - composite worker) hr	8	4

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Site-specific
Composite Worker Soil Inputs

Variable	Composite Worker Soil Default Value	Form-input Value
THQ (target hazard quotient) unitless	0.1	1
IRS_w (soil ingestion rate - composite worker) mg/day	100	200
LT (lifetime) yr	70	70
SA_w (surface area - composite worker) cm^2/day	3527	2350
TR (target risk) unitless	1.0E-06	1.0E-06
T_w (groundwater temperature) Celsius	25	25
$Theta_a$ (air-filled soil porosity) L_{air}/L_{soil}	0.28396	0.28396
$Theta_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15	0.15
T (exposure interval) s	819936000	819936000
T (exposure interval) yr	26	26
U_m (mean annual wind speed) m/s	4.69	4.69
U_t (equivalent threshold value)	11.32	11.32
V (fraction of vegetative cover) unitless	0.5	0.5

Site-specific

Composite Worker Regional Screening Levels (RSL) for Soil

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	SF_o (mg/kg-day)$^{-1}$	SF_o Ref	IUR (ug/m^3)$^{-1}$	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m^3)	RfC Ref	GIABS	ABS	RBA
Aluminum	7429-90-5	No	No	Inorganics	-		-		1.00E+00	U	5.00E-03	U	1	-	1
Arsenic, Inorganic	7440-38-2	No	No	Inorganics	1.50E+00	U	4.30E-03	U	3.00E-04	U	1.50E-05	U	1	0.03	0.6
Benz[a]anthracene	56-55-3	Yes	Yes	Organics	1.00E-01	U	6.00E-05	U	-		-		1	0.13	1
Benzo[a]pyrene	50-32-8	Yes	No	Organics	1.00E+00	U	6.00E-04	U	3.00E-04	U	2.00E-06	U	1	0.13	1
Benzo[k]fluoranthene	207-08-9	Yes	No	Organics	1.00E-02	U	6.00E-06	U	-		-		1	0.13	1
Biphenyl, 1,1'-	92-52-4	No	Yes	Organics	8.00E-03	U	-		5.00E-01	U	4.00E-04	U	1	-	1
Cadmium (Diet)	7440-43-9	No	No	Inorganics	-		1.80E-03	U	1.00E-03	U	1.00E-05	U	0.025	0.001	1
Cobalt	7440-48-4	No	No	Inorganics	-		9.00E-03	U	3.00E-04	U	6.00E-06	U	1	-	1
Copper	7440-50-8	No	No	Inorganics	-		-		4.00E-02	U	-		1	-	1
Dibenz[a,h]anthracene	53-70-3	Yes	No	Organics	1.00E+00	U	6.00E-04	U	-		-		1	0.13	1
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	No	Organics	1.00E-01	U	6.00E-05	U	-		-		1	0.13	1
Iron	7439-89-6	No	No	Inorganics	-		-		7.00E-01	U	-		1	-	1
Manganese (Non-diet)	7439-96-5	No	No	Inorganics	-		-		2.40E-02	U	5.00E-05	U	0.04	-	1
Naphthalene	91-20-3	No	Yes	Organics	1.20E-01	U	3.40E-05	U	2.00E-02	U	3.00E-03	U	1	0.13	1
Polychlorinated Biphenyls (high risk)	1336-36-3	No	Yes	Organics	2.00E+00	U	5.71E-04	U	-		-		1	0.14	1
Thallium (Soluble Salts)	7440-28-0	No	No	Inorganics	-		-		1.00E-05	U	-		1	-	1
Vanadium and Compounds	7440-62-2	No	No	Inorganics	-		-		5.04E-03	U	1.00E-04	U	0.026	-	1
Zinc and Compounds	7440-66-6	No	No	Inorganics	-		-		3.00E-01	U	-		1	-	1

Site-specific

Composite Worker Regional Screening Levels (RSL) for Soil

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Soil Saturation Concentration (mg/kg)	S (mg/L)	K_{oc} \ (cm^3/g)	K_d \ (cm^3/g)	HLC (atm-m^3/mole)	Henry's Law Constant Used in Calcs (unitless)	H` and HLC Ref	Normal Boiling Point BP (K)	BP Ref	Critical Temperature T_C \ (K)	T_C \ Ref	Chemical Type	D_{ia} \ (cm^2/s)	D_{iw} \ (cm^2/s)
-	-	-	1.50E+03	-	-		2793.15	U	6700	U	INORGANIC	-	-
-	-	-	2.90E+01	-	-		888.15	U	1670	U	INORGANIC	-	-
-	9.40E-03	1.77E+05	1.06E+03	1.20E-05	4.91E-04	U	711.15	U	979	U	PAH	2.61E-02	6.75E-06
-	1.62E-03	5.87E+05	-	4.57E-07	1.87E-05	U	768.15	U	969	U	PAH	2.55E-02	6.58E-06
-	8.00E-04	5.87E+05	-	5.84E-07	2.39E-05	U	753.15	U	1020	U	PAH	2.50E-02	6.43E-06
-	7.48E+00	5.13E+03	3.08E+01	3.08E-04	1.26E-02	U	529.15	U	773	U	VOC	4.71E-02	7.56E-06
-	-	-	7.50E+01	-	-		1038.15	U	2290	U	INORGANIC	-	-
-	-	-	4.50E+01	-	-		3203.15	U	7400	U	INORGANIC	-	-
-	-	-	3.50E+01	-	-		2873.15	U	5120	U	INORGANIC	-	-
-	2.49E-03	1.91E+06	-	1.41E-07	5.76E-06	U	797.15	U	990	U	PAH	2.36E-02	6.02E-06
-	1.90E-04	1.95E+06	-	3.48E-07	1.42E-05	U	809.15	U	1080	U	PAH	2.47E-02	6.37E-06
-	-	-	2.50E+01	-	-		3273.15	U	9340	U	INORGANIC	-	-
-	-	-	6.50E+01	-	-		2373.15	U	4320	U	INORGANIC	-	-
-	3.10E+01	1.54E+03	9.24E+00	4.40E-04	1.80E-02	U	491.15	U	748	U	PAH	6.05E-02	8.38E-06
-	7.00E-01	7.81E+04	4.69E+02	4.15E-04	1.70E-02	U	633.15	U	-		PCB	2.43E-02	6.27E-06
-	-	-	7.10E+01	-	-		1733.15	U	4650	U	INORGANIC	-	-
-	-	-	1.00E+03	-	-		3683.15	U	11300	U	INORGANIC	-	-
-	-	-	6.20E+01	-	-		1181.15	U	3170	U	INORGANIC	-	-

Site-specific

Composite Worker Regional Screening Levels (RSL) for Soil

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

D_A \ (cm^2/s)	Particulate Emission Factor (m^3/kg)	Volatilization Factor (m^3/kg)	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)	Screening Level (mg/kg)
-	1.36E+09	-	-	-	-	-	2.07E+05	-	1.13E+08	2.07E+05	2.07E+05 nc max
-	1.36E+09	-	2.69E+00	2.29E+01	6.12E+04	2.41E+00	1.04E+02	8.82E+02	3.38E+05	9.28E+01	2.41E+00 ca* max
6.83E-10	1.36E+09	4.41E+06	2.42E+01	7.92E+01	1.42E+04	1.85E+01	-	-	-	-	1.85E+01 ca max
-	1.36E+09	-	2.42E+00	7.92E+00	4.39E+05	1.85E+00	6.22E+01	2.04E+02	4.51E+04	4.76E+01	1.85E+00 ca* max
-	1.36E+09	-	2.42E+02	7.92E+02	4.39E+07	1.85E+02	-	-	-	-	1.85E+02 ca max
1.02E-06	1.36E+09	1.14E+05	3.02E+02	-	-	3.02E+02	1.04E+05	-	7.56E+02	7.50E+02	3.02E+02 ca** max
-	1.36E+09	-	-	-	1.46E+05	1.46E+05	2.07E+02	2.21E+03	2.26E+05	1.89E+02	1.89E+02 nc max
-	1.36E+09	-	-	-	2.92E+04	2.92E+04	6.22E+01	-	1.35E+05	6.22E+01	6.22E+01 nc max
-	1.36E+09	-	-	-	-	-	8.30E+03	-	-	8.30E+03	8.30E+03 nc max
-	1.36E+09	-	2.42E+00	7.92E+00	4.39E+05	1.85E+00	-	-	-	-	1.85E+00 ca max
-	1.36E+09	-	2.42E+01	7.92E+01	4.39E+06	1.85E+01	-	-	-	-	1.85E+01 ca max
-	1.36E+09	-	-	-	-	-	1.45E+05	-	-	1.45E+05	1.45E+05 nc max
-	1.36E+09	-	-	-	-	-	4.98E+03	-	1.13E+06	4.96E+03	4.96E+03 nc max
6.21E-06	1.36E+09	4.63E+04	2.02E+01	6.60E+01	2.63E+02	1.46E+01	4.15E+03	1.36E+04	2.30E+03	1.34E+03	1.46E+01 ca* max
4.69E-08	1.36E+09	5.32E+05	1.21E+00	3.68E+00	1.80E+02	9.06E-01	-	-	-	-	9.06E-01 ca max
-	1.36E+09	-	-	-	-	-	2.07E+00	-	-	2.07E+00	2.07E+00 nc max
-	1.36E+09	-	-	-	-	-	1.05E+03	-	2.26E+06	1.04E+03	1.04E+03 nc max
-	1.36E+09	-	-	-	-	-	6.22E+04	-	-	6.22E+04	6.22E+04 nc max

Site-specific Composite Worker Soil Inputs

YOUTH VISITOR SCENARIO

Variable	Composite Worker Soil Default Value	Form-input Value
A (PEF Dispersion Constant)	16.2302	16.2302
A (VF Dispersion Constant)	11.911	11.911
A (VF Dispersion Constant - mass limit)	11.911	11.911
B (PEF Dispersion Constant)	18.7762	18.7762
B (VF Dispersion Constant)	18.4385	18.4385
B (VF Dispersion Constant - mass limit)	18.4385	18.4385
City (PEF Climate Zone) Selection	Default	Default
City (VF Climate Zone) Selection	Default	Default
C (PEF Dispersion Constant)	216.108	216.108
C (VF Dispersion Constant)	209.7845	209.7845
C (VF Dispersion Constant - mass limit)	209.7845	209.7845
foc (fraction organic carbon in soil) g/g	0.006	0.006
F(x) (function dependent on U_m/U_t) unitless	0.194	0.194
n (total soil porosity) L_{pore}/L_{soil}	0.43396	0.43396
p_h (dry soil bulk density) g/cm ^{3}	1.5	1.5
p_h (dry soil bulk density - mass limit) g/cm ^{3}	1.5	1.5
PEF (particulate emission factor) m ^{3}/kg	1359344438	1359344438
p_s (soil particle density) g/cm ^{3}	2.65	2.65
Q/C_{wind} (g/m^2-s per kg/m^3)	93.77	93.77
Q/C_{vol} (g/m^2-s per kg/m^3)	68.18	68.18
Q/C_{vol} (g/m^2-s per kg/m^3 - mass limit)	68.18	68.18
A_s (PEF acres)	0.5	0.5
A_s (VF acres)	0.5	0.5
A_s (VF mass-limit acres)	0.5	0.5
AF_w (skin adherence factor - composite worker) mg/cm ^{2}	0.12	0.2
AT_w (averaging time - composite worker)	365	365
BW_w (body weight - composite worker)	80	40
ED_w (exposure duration - composite worker) yr	25	12
EF_w (exposure frequency - composite worker) day/yr	250	132
ET_w (exposure time - composite worker) hr	8	4

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Site-specific
Composite Worker Soil Inputs

Variable	Composite Worker Soil Default Value	Form-input Value
THQ (target hazard quotient) unitless	0.1	1
IRS_w (soil ingestion rate - composite worker) mg/day	100	100
LT (lifetime) yr	70	70
SA_w (surface area - composite worker) cm^2/day	3527	4320
TR (target risk) unitless	1.0E-06	1.0E-06
T_w (groundwater temperature) Celsius	25	25
$Theta_a$ (air-filled soil porosity) L_{air}/L_{soil}	0.28396	0.28396
$Theta_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15	0.15
T (exposure interval) s	819936000	819936000
T (exposure interval) yr	26	26
U_m (mean annual wind speed) m/s	4.69	4.69
U_t (equivalent threshold value)	11.32	11.32
V (fraction of vegetative cover) unitless	0.5	0.5

Site-specific

Composite Worker Regional Screening Levels (RSL) for Soil

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	SF_o (mg/kg-day)$^{-1}$	SF_o Ref	IUR (ug/m^3)$^{-1}$	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m^3)	RfC Ref	GIABS	ABS	RBA
Aluminum	7429-90-5	No	No	Inorganics	-		-		1.00E+00	U	5.00E-03	U	1	-	1
Arsenic, Inorganic	7440-38-2	No	No	Inorganics	1.50E+00	U	4.30E-03	U	3.00E-04	U	1.50E-05	U	1	0.03	0.6
Benz[a]anthracene	56-55-3	Yes	Yes	Organics	1.00E-01	U	6.00E-05	U	-		-		1	0.13	1
Benzo[a]pyrene	50-32-8	Yes	No	Organics	1.00E+00	U	6.00E-04	U	3.00E-04	U	2.00E-06	U	1	0.13	1
Benzo[k]fluoranthene	207-08-9	Yes	No	Organics	1.00E-02	U	6.00E-06	U	-		-		1	0.13	1
Biphenyl, 1,1'-	92-52-4	No	Yes	Organics	8.00E-03	U	-		5.00E-01	U	4.00E-04	U	1	-	1
Cadmium (Diet)	7440-43-9	No	No	Inorganics	-		1.80E-03	U	1.00E-03	U	1.00E-05	U	0.025	0.001	1
Cobalt	7440-48-4	No	No	Inorganics	-		9.00E-03	U	3.00E-04	U	6.00E-06	U	1	-	1
Copper	7440-50-8	No	No	Inorganics	-		-		4.00E-02	U	-		1	-	1
Dibenz[a,h]anthracene	53-70-3	Yes	No	Organics	1.00E+00	U	6.00E-04	U	-		-		1	0.13	1
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	No	Organics	1.00E-01	U	6.00E-05	U	-		-		1	0.13	1
Iron	7439-89-6	No	No	Inorganics	-		-		7.00E-01	U	-		1	-	1
Manganese (Non-diet)	7439-96-5	No	No	Inorganics	-		-		2.40E-02	U	5.00E-05	U	0.04	-	1
Naphthalene	91-20-3	No	Yes	Organics	1.20E-01	U	3.40E-05	U	2.00E-02	U	3.00E-03	U	1	0.13	1
Polychlorinated Biphenyls (high risk)	1336-36-3	No	Yes	Organics	2.00E+00	U	5.71E-04	U	-		-		1	0.14	1
Thallium (Soluble Salts)	7440-28-0	No	No	Inorganics	-		-		1.00E-05	U	-		1	-	1
Vanadium and Compounds	7440-62-2	No	No	Inorganics	-		-		5.04E-03	U	1.00E-04	U	0.026	-	1
Zinc and Compounds	7440-66-6	No	No	Inorganics	-		-		3.00E-01	U	-		1	-	1

Site-specific

Composite Worker Regional Screening Levels (RSL) for Soil

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Soil Saturation Concentration (mg/kg)	S (mg/L)	K_{oc} \ (cm^3/g)	K_d \ (cm^3/g)	HLC (atm-m^3/mole)	Henry's Law Constant Used in Calcs (unitless)	H` and HLC Ref	Normal Boiling Point BP (K)	BP Ref	Critical Temperature T_C \ (K)	T_C \ Ref	Chemical Type	D_{ia} \ (cm^2/s)	D_{iw} \ (cm^2/s)
-	-	-	1.50E+03	-	-		2793.15	U	6700	U	INORGANIC	-	-
-	-	-	2.90E+01	-	-		888.15	U	1670	U	INORGANIC	-	-
-	9.40E-03	1.77E+05	1.06E+03	1.20E-05	4.91E-04	U	711.15	U	979	U	PAH	2.61E-02	6.75E-06
-	1.62E-03	5.87E+05	-	4.57E-07	1.87E-05	U	768.15	U	969	U	PAH	2.55E-02	6.58E-06
-	8.00E-04	5.87E+05	-	5.84E-07	2.39E-05	U	753.15	U	1020	U	PAH	2.50E-02	6.43E-06
-	7.48E+00	5.13E+03	3.08E+01	3.08E-04	1.26E-02	U	529.15	U	773	U	VOC	4.71E-02	7.56E-06
-	-	-	7.50E+01	-	-		1038.15	U	2290	U	INORGANIC	-	-
-	-	-	4.50E+01	-	-		3203.15	U	7400	U	INORGANIC	-	-
-	-	-	3.50E+01	-	-		2873.15	U	5120	U	INORGANIC	-	-
-	2.49E-03	1.91E+06	-	1.41E-07	5.76E-06	U	797.15	U	990	U	PAH	2.36E-02	6.02E-06
-	1.90E-04	1.95E+06	-	3.48E-07	1.42E-05	U	809.15	U	1080	U	PAH	2.47E-02	6.37E-06
-	-	-	2.50E+01	-	-		3273.15	U	9340	U	INORGANIC	-	-
-	-	-	6.50E+01	-	-		2373.15	U	4320	U	INORGANIC	-	-
-	3.10E+01	1.54E+03	9.24E+00	4.40E-04	1.80E-02	U	491.15	U	748	U	PAH	6.05E-02	8.38E-06
-	7.00E-01	7.81E+04	4.69E+02	4.15E-04	1.70E-02	U	633.15	U	-		PCB	2.43E-02	6.27E-06
-	-	-	7.10E+01	-	-		1733.15	U	4650	U	INORGANIC	-	-
-	-	-	1.00E+03	-	-		3683.15	U	11300	U	INORGANIC	-	-
-	-	-	6.20E+01	-	-		1181.15	U	3170	U	INORGANIC	-	-

Site-specific

Composite Worker Regional Screening Levels (RSL) for Soil

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

D_A \ (cm^2/s)	Particulate Emission Factor (m^3/kg)	Volatilization Factor (m^3/kg)	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)	Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)	Screening Level (mg/kg)
-	1.36E+09	-	-	-	-	-	1.11E+06	-	1.13E+08	1.10E+06	1.10E+06 nc max
-	1.36E+09	-	7.17E+00	1.66E+01	3.06E+04	5.01E+00	5.53E+02	1.28E+03	3.38E+05	3.86E+02	5.01E+00 ca* max
6.83E-10	1.36E+09	4.41E+06	6.45E+01	5.74E+01	7.10E+03	3.03E+01	-	-	-	-	3.03E+01 ca max
-	1.36E+09	-	6.45E+00	5.74E+00	2.19E+05	3.04E+00	3.32E+02	2.95E+02	4.51E+04	1.56E+02	3.04E+00 ca* max
-	1.36E+09	-	6.45E+02	5.74E+02	2.19E+07	3.04E+02	-	-	-	-	3.04E+02 ca max
1.02E-06	1.36E+09	1.14E+05	8.07E+02	-	-	8.07E+02	5.53E+05	-	7.56E+02	7.55E+02	7.55E+02 nc max
-	1.36E+09	-	-	-	7.31E+04	7.31E+04	1.11E+03	3.20E+03	2.26E+05	8.19E+02	8.19E+02 nc max
-	1.36E+09	-	-	-	1.46E+04	1.46E+04	3.32E+02	-	1.35E+05	3.31E+02	3.31E+02 nc max
-	1.36E+09	-	-	-	-	-	4.42E+04	-	-	4.42E+04	4.42E+04 nc max
-	1.36E+09	-	6.45E+00	5.74E+00	2.19E+05	3.04E+00	-	-	-	-	3.04E+00 ca max
-	1.36E+09	-	6.45E+01	5.74E+01	2.19E+06	3.04E+01	-	-	-	-	3.04E+01 ca max
-	1.36E+09	-	-	-	-	-	7.74E+05	-	-	7.74E+05	7.74E+05 nc max
-	1.36E+09	-	-	-	-	-	2.65E+04	-	1.13E+06	2.59E+04	2.59E+04 nc max
6.21E-06	1.36E+09	4.63E+04	5.38E+01	4.79E+01	1.32E+02	2.12E+01	2.21E+04	1.97E+04	2.30E+03	1.89E+03	2.12E+01 ca* max
4.69E-08	1.36E+09	5.32E+05	3.23E+00	2.67E+00	9.02E+01	1.44E+00	-	-	-	-	1.44E+00 ca max
-	1.36E+09	-	-	-	-	-	1.11E+01	-	-	1.11E+01	1.11E+01 nc max
-	1.36E+09	-	-	-	-	-	5.57E+03	-	2.26E+06	5.56E+03	5.56E+03 nc max
-	1.36E+09	-	-	-	-	-	3.32E+05	-	-	3.32E+05	3.32E+05 nc max

Surface

LEAD MODEL FOR WINDOWS Version 1.1

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Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research
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******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 69.150 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Surface

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	84.500	69.150
1-2	84.500	69.150
2-3	84.500	69.150
3-4	84.500	69.150
4-5	84.500	69.150
5-6	84.500	69.150
6-7	84.500	69.150

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

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CALCULATED BLOOD LEAD AND LEAD UPTAKES:
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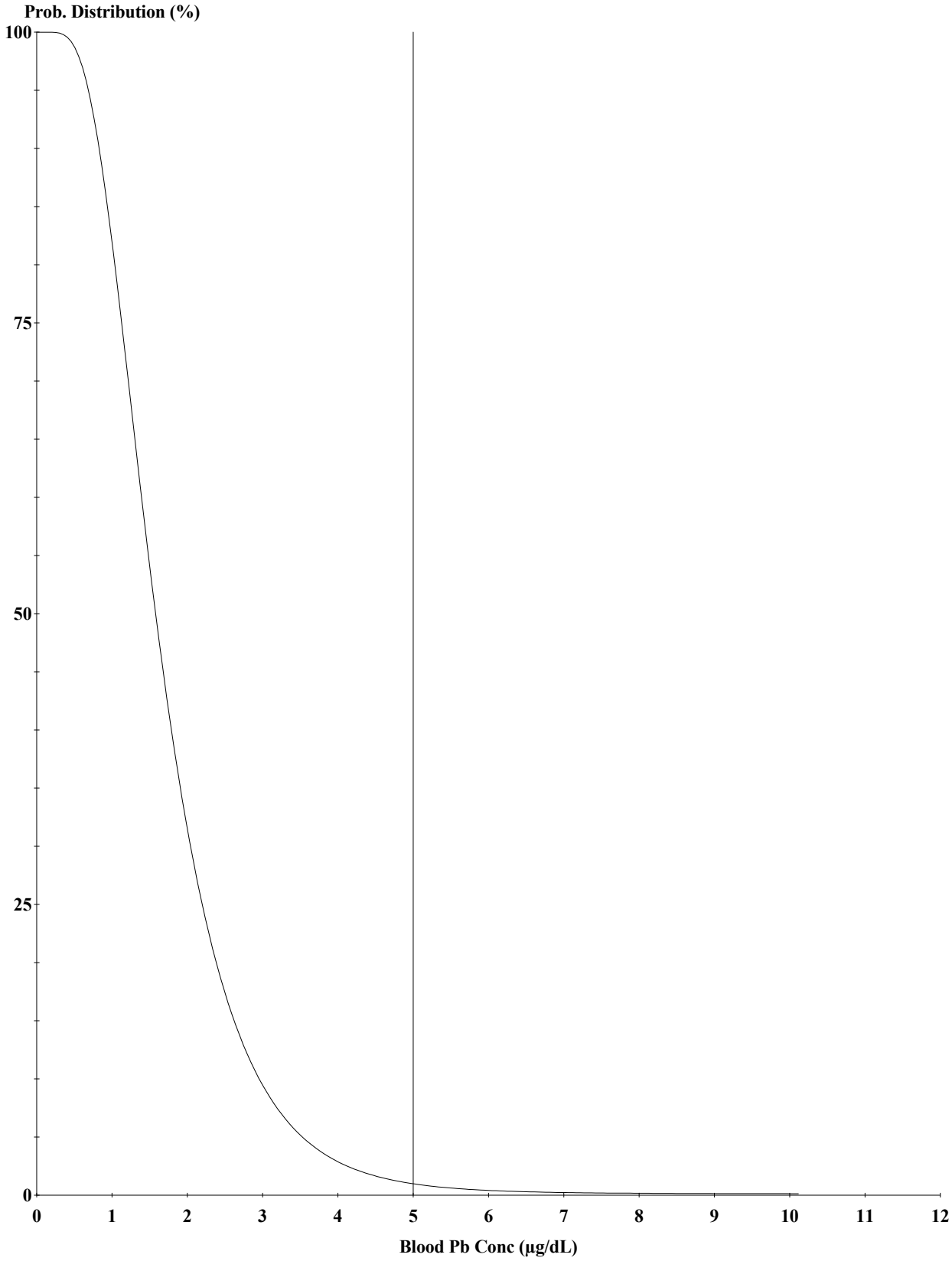
Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.088	0.000	0.385
1-2	0.034	0.939	0.000	0.959
2-3	0.062	1.026	0.000	1.002
3-4	0.067	0.988	0.000	1.027
4-5	0.067	0.953	0.000	1.075
5-6	0.093	1.005	0.000	1.137
6-7	0.093	1.090	0.000	1.158

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	1.867	3.362	1.8
1-2	2.953	4.885	2.0
2-3	2.968	5.059	1.9
3-4	2.984	5.066	1.8
4-5	2.229	4.324	1.5
5-6	2.013	4.248	1.3
6-7	1.904	4.246	1.2

Surface



Cutoff = 5.000 µg/dl
Geo Mean = 1.655
GSD = 1.600
% Above = 0.932

Age Range = 0 to 84 months

Run Mode = Research

LEAD MODEL FOR WINDOWS Version 1.1

==========

Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research

==========

******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 196.900 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Subsurface

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	267.000	196.900
1-2	267.000	196.900
2-3	267.000	196.900
3-4	267.000	196.900
4-5	267.000	196.900
5-6	267.000	196.900
6-7	267.000	196.900

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

Maternal Blood Concentration: 1.000 µg Pb/dL

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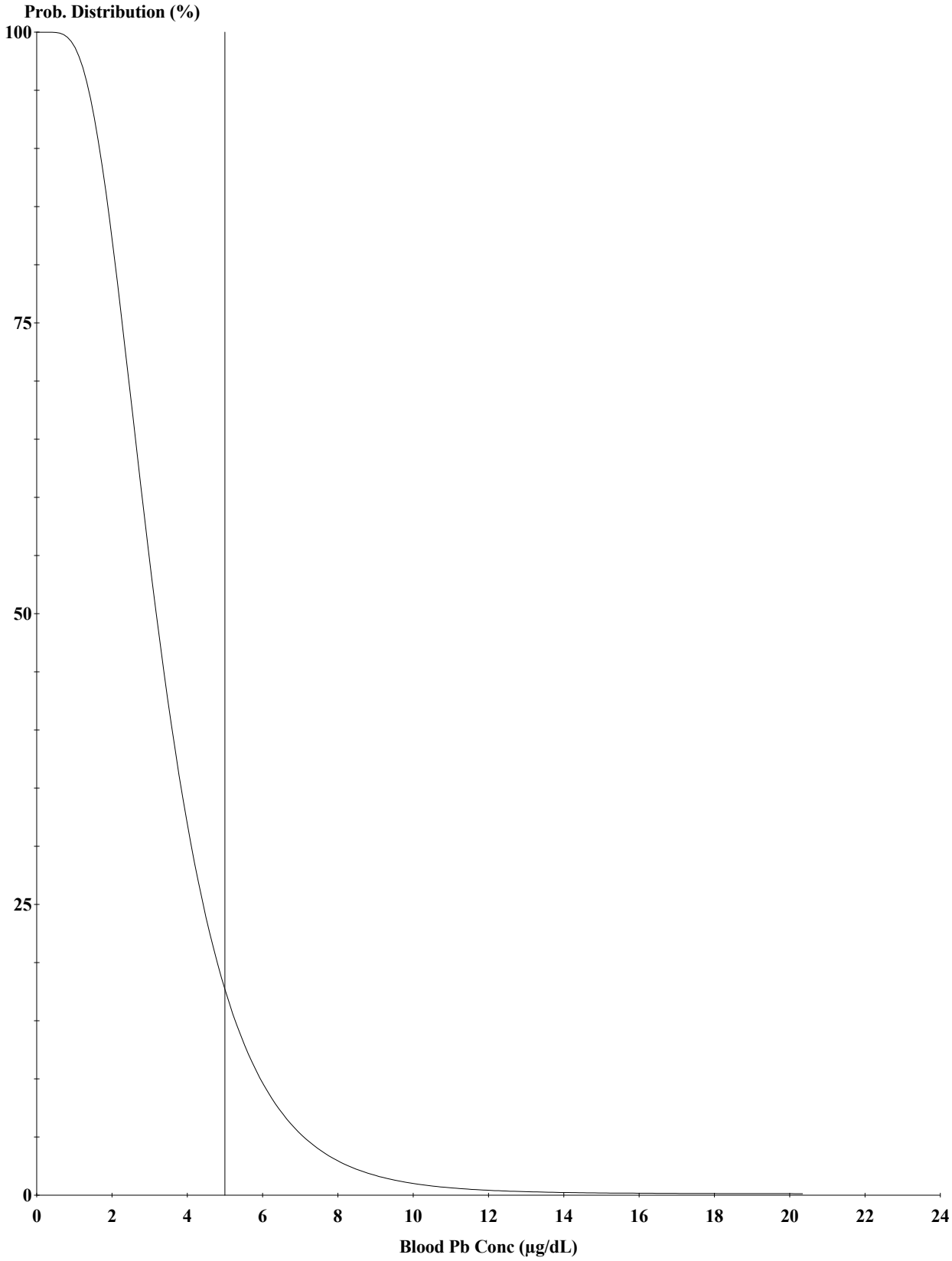
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.045	0.000	0.370
1-2	0.034	0.895	0.000	0.914
2-3	0.062	0.985	0.000	0.961
3-4	0.067	0.953	0.000	0.991
4-5	0.067	0.931	0.000	1.050
5-6	0.093	0.986	0.000	1.116
6-7	0.093	1.072	0.000	1.140

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	5.390	6.826	3.7
1-2	8.452	10.295	4.2
2-3	8.554	10.562	3.9
3-4	8.648	10.659	3.7
4-5	6.541	8.588	3.1
5-6	5.932	8.127	2.6
6-7	5.626	7.931	2.3

Subsurface



Cutoff = 5.000 µg/dl
Geo Mean = 3.328
GSD = 1.600
% Above = 19.318

Age Range = 0 to 84 months

Run Mode = Research

Pooled

LEAD MODEL FOR WINDOWS Version 1.1

==========
Model Version: 1.1 Build11
User Name:
Date:
Site Name:
Operable Unit:
Run Mode: Research
==========

******** Air ********

Indoor Air Pb Concentration: 30.000 percent of outdoor.
Other Air Parameters:

Age	Time Outdoors (hours)	Ventilation Rate (m^3/day)	Lung Absorption (%)	Outdoor Air Pb Conc (µg Pb/m^3)
.5-1	1.000	2.000	32.000	0.100
1-2	2.000	3.000	32.000	0.100
2-3	3.000	5.000	32.000	0.100
3-4	4.000	5.000	32.000	0.100
4-5	4.000	5.000	32.000	0.100
5-6	4.000	7.000	32.000	0.100
6-7	4.000	7.000	32.000	0.100

******** Diet ********

Age	Diet Intake(µg/day)
.5-1	2.260
1-2	1.960
2-3	2.130
3-4	2.040
4-5	1.950
5-6	2.050
6-7	2.220

******** Drinking Water ********

Water Consumption:

Age	Water (L/day)
.5-1	0.200
1-2	0.500
2-3	0.520
3-4	0.530
4-5	0.550
5-6	0.580
6-7	0.590

Drinking Water Concentration: 4.000 µg Pb/L

******** Soil & Dust ********

Multiple Source Analysis Used
Average multiple source concentration: 131.800 µg/g

Mass fraction of outdoor soil to indoor dust conversion factor: 0.700
Outdoor airborne lead to indoor household dust lead concentration: 100.000
Use alternate indoor dust Pb sources? No

Pooled

Age	Soil (µg Pb/g)	House Dust (µg Pb/g)
.5-1	174.000	131.800
1-2	174.000	131.800
2-3	174.000	131.800
3-4	174.000	131.800
4-5	174.000	131.800
5-6	174.000	131.800
6-7	174.000	131.800

****** Alternate Intake ******

Age	Alternate (µg Pb/day)
.5-1	0.000
1-2	0.000
2-3	0.000
3-4	0.000
4-5	0.000
5-6	0.000
6-7	0.000

****** Maternal Contribution: Infant Model ******

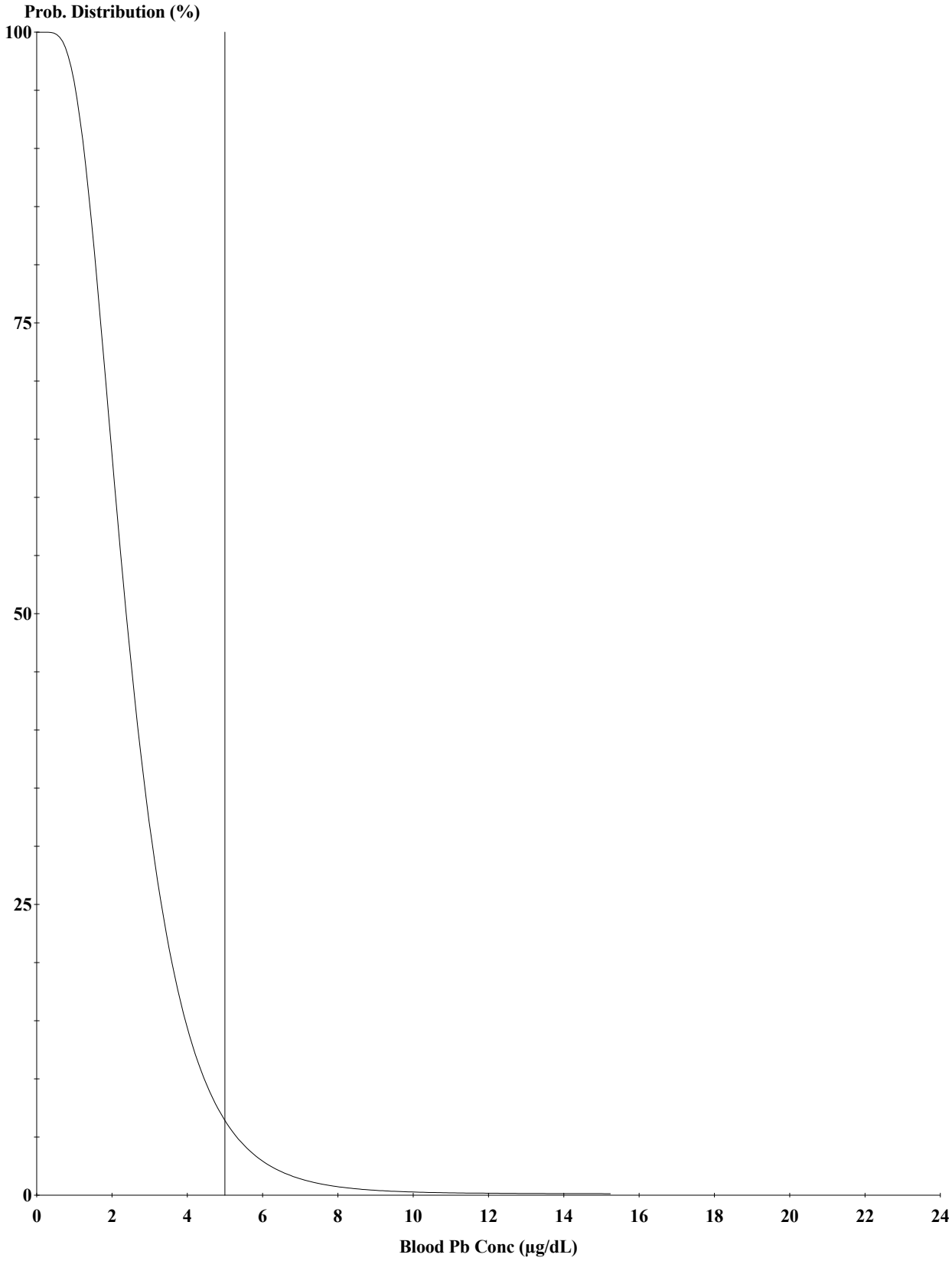
Maternal Blood Concentration: 1.000 µg Pb/dL

****
CALCULATED BLOOD LEAD AND LEAD UPTAKES:
****

Year	Air (µg/day)	Diet (µg/day)	Alternate (µg/day)	Water (µg/day)
.5-1	0.021	1.067	0.000	0.378
1-2	0.034	0.917	0.000	0.936
2-3	0.062	1.005	0.000	0.982
3-4	0.067	0.971	0.000	1.009
4-5	0.067	0.942	0.000	1.062
5-6	0.093	0.995	0.000	1.126
6-7	0.093	1.081	0.000	1.149

Year	Soil+Dust (µg/day)	Total (µg/day)	Blood (µg/dL)
.5-1	3.629	5.095	2.8
1-2	5.715	7.602	3.1
2-3	5.765	7.814	2.9
3-4	5.812	7.859	2.8
4-5	4.369	6.440	2.3
5-6	3.953	6.168	2.0
6-7	3.744	6.068	1.8

Pooled



Cutoff = 5.000 µg/dl
Geo Mean = 2.493
GSD = 1.600
% Above = 6.928

Age Range = 0 to 84 months

Run Mode = Research

ATTACHMENT 2

Sparrows Point Development - PPE Standard Operational Procedure, Revision 3

Planning, Tracking/Supervision, Enforcement, and Documentation

Planning

- Response and Development Work Plan (RDWP) for each individual redevelopment sub-parcel identifies and documents site conditions.
- RDWP is reviewed and approved by regulators.
- Contractor HASP to address site-specific conditions and PPE requirements:
    - Contractor H&S professional to sign-off on PPE requirements for site workers;
    - Job Safety Analysis (JSA) to be performed for ground intrusive work.
- Project Environmental Professional (EP) assigned to each construction project – monitors project during environmentally sensitive project phases and is available to construction contractor on an as needed basis. EP responsibilities include the following:
    - Dust monitoring
    - Routine ground intrusive breathing space air monitoring
    - Soil tracking
    - Water handling oversight
    - Ground intrusive work observation
    - Notification for unexpected conditions
- Pre-construction meeting identifies EP roles and responsibilities and reviews site conditions.
- Contractor to perform job-site HazCom. HazCom to be addressed in Contractor HASP and include:
    - PPE requirements,
    - Exposure time limits,
    - Identification of chemicals of concern and potential effects of over-exposure (adverse reactions),
    - Methods and routes of potential exposure.
- All personnel that will be performing ground intrusive work within impacted soils shall sign-off on HazCom.
- If, based on a thorough review of Site conditions, it is expected that construction workers will have the potential to encounter materials considered hazardous waste under RCRA or DOT regulations, HAZWOPER-trained personnel will be utilized.

Tracking/Supervision

- Contractor to record any day that there is ground intrusive work and confirm that proper PPE is being worn.
- EP will note ground intrusive work on daily work sheets and perform at least one spot check per day.
- EP will log on daily work sheets PPE compliance for all intrusive work areas at least once per day.

- EP to take example photos of Exclusion Zones/Contamination Reduction Zones periodically.

Work Zones Delineation

- Exclusion Zone – The Exclusion Zones will include the areas proposed for excavation or with active trenches, excavations, or ground intrusive work, at a minimum. Personnel working within the exclusion zone will be required to wear Modified Level D PPE as described in this SOP. EP to take example photos of Exclusion Zones/Contamination Reduction Zones periodically. The Exclusion Zones will be identified each work day.
- Contamination Reduction Zone – This work zone is located outside of the exclusion zone, but inside of the limits of development (LOD). The Contamination Reduction Zone will be located adjacent to the Exclusion Zone, and all personal decontamination including removal of all disposable PPE/removal of soil from boots will be completed in the Contamination Reduction Zone.

Documentation

- Contractor HASP and HazCom.
- Contractor ground intrusive tracking record.
- HASP and HazCom sign-in sheets.
- EP pre-con memos.
- EP daily work sheets.
- Records documenting intrusive work and proper PPE use to be provided in completion report.

Enforcement

- Non-compliance of PPE requirements will result in disciplinary action up to and including prohibition from working on Sparrows Point.

Unknown and/or Unexpected Conditions

If unknown and/or unexpected conditions are encountered during the project that the EP determines to have a reasonable potential to significantly impact construction worker health and safety, the following will be initiated:

1. Job stoppage,
2. TPA and MDE notification,
3. Re-assessment of conditions.

Work will not continue until EP has cleared the area. If hazardous waste is identified, a HAZWOPER contractor will be brought in to address. The approved contingency plan will be implemented, where appropriate.

Modified Level D PPE

Modified Level D PPE will include, at a minimum, overalls such as polyethylene-coated Tyvek or clean washable cloth overalls, latex (or similar) disposable gloves (when working in wet/chemical surroundings) or work gloves, steel-toe/steel-shank high ankle work boots with taped chemical-protective over-boots (as necessary), dust mask, hard hat, safety glasses with

side shields, and hearing protection (as necessary). If chemical-protective over-boots create increased slip/trip/fall hazardous, then standard leather or rubber work boots could be used, but visible soils from the sides and bottoms of the boots must be removed upon exiting the Exclusion Zone.