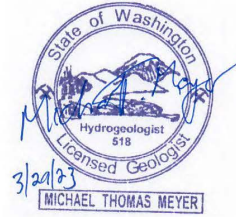


DATE: 30 March 2023  
TO: Amanda Rohrbaugh, NAVFAC NW  
FROM: Michael Meyer, Battelle  
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SUBJECT: NBK Keyport Upland Shallow Soil - Data Summary and Evaluation

## INTRODUCTION

This memorandum provides a summary and analysis of chemicals of interest in upland shallow soil within risk assessment Exposure Area 2, Operable Unit 1 (OU 1) at Naval Base Kitsap (NBK) Keyport (Figures 1 and 2). This memorandum is an interim data deliverable that supports the pending overall supplemental remedial investigation report for the site, which is scoped under ESTS Contract N39430-16-D-1802, Task Order N3943018F4359 (PTO X041), and the risk assessment being conducted under separate contract. The site description and background are described in detail in past reports and the sampling and analysis plan (SAP) for the data collection effort (U.S. Navy, 2021), and have not been repeated in this memorandum. Responses to comments received on the draft version of this document are included as an attachment.

This memorandum covers the results of shallow soil sampling conducted throughout Exposure Area 2 and specifically in the vicinity of the former incinerator and burn area located in the northern portion of the landfill (Figure 3). Soil excavated from elsewhere at the Base was stockpiled, at an unknown time prior to 1998, on top of the waste body in the center of Exposure Area 2. Discrete soil samples from this Exposure Area were analyzed for a comprehensive list of analytes, including dioxins and furans, to assess the presence or absence of contaminants of interest (COIs) in support of risk assessment planning. The risk assessment will be submitted under separate cover at a later date.

## BOTTOM LINE UP FRONT (BLUF)

The upland shallow soil data indicate that the following COIs are present at concentrations exceeding the project action limits (PALs) from 0 to 6 feet below ground surface (bgs) in soil within Exposure Area 2:

- Polycyclic aromatic hydrocarbons (PAHs) – benzo(a)pyrene, benzo(b)fluoranthene, and benzo(a)anthracene
- Dioxins/Furans – 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)
- Polychlorinated biphenyls (PCB) Congeners – Total PCBs and total dioxin-like PCB congeners

- PCB Aroclors – Aroclor-1254 and Total PCB Aroclors
- Total Petroleum Hydrocarbons (TPH) – TPH-diesel range organics (DRO) and TPH-gasoline range organics (GRO)
- Metals – Lead, nickel, arsenic, cadmium, total chromium, zinc, mercury, and hexavalent chromium

These exceedances were identified in both soil representing the upper portion of the former landfill waste body and in the soil mound placed on top of the waste body north of the North Plantation. These results serve primarily as inputs for risk assessment planning in this portion of the site.

## **SUMMARY OF DATA COLLECTION AND ANALYSIS**

### Boring Installation and Soil Sampling

Utility locating was performed in advance of direct-push drilling on June 2, 2021, and the Navy issued excavation permit 21-EP067 on June 14, 2021. Direct-push drilling was performed between June 21 and June 23, 2021. Holt Services, of Puyallup, Washington, provided a Geoprobe Model 7822DT track-mounted direct-push drilling rig operated by a driller licensed in Washington State.

Direct-push drilling was performed at 29 locations and continuous cores were obtained using a 5-foot-long, Macro-Core sampler at all locations. Soil borings were advanced to a completion depth of 6 feet bgs. During each boring installation, the first drive of the sampler retrieved a soil core from 0 to 2 feet bgs, then the second drive of the sampler retrieved a soil core from 2 to 6 feet bgs.

Soil from the macro-cores was visually examined for contamination and classified in accordance with the Unified Soil Classification System. Soils were field screened at 1-foot intervals, with a photoionization detector (PID) with readings in parts per billion (ppb). The following procedures were adhered to during PID screening activities:

- Screening took place as soon as possible after each macro-core liner was opened. If screening could not take place immediately after the core was retrieved, the liner was left unopened until screening could be conducted.
- At each screening interval (every foot), a Terra Core sampling device was temporarily pressed into the soil core to isolate a known volume of soil and create a small headspace above the soil volume.
- Tubing from the PID was inserted into the headspace above the soil core.
- The highest value measured on the PID for each measurement interval was recorded.
- A new Terra Core sampler was used for each interval.

Boring logs are included in Attachment 1.

The SAP (U.S. Navy, 2021) specified that “wedge” samples would be collected from each core for analysis of non-volatile analytes and “plug” samples would be collected for volatile analytes (i.e., volatile organic compounds [VOCs] and TPH-GRO). Due to the recovered soil volume and density and consistency of the retrieved soil cores, the wedge procedure was not utilized. Immediately following PID screening, plug soil samples were collected at the depth of highest PID response or from the mid-point of the core if all PID readings of a given core were consistently low to zero. The discrete sampling depths for VOCs and TPH-GRO are indicated on the boring logs (Attachment 1). The plug samples were collected using single-use Terra Core samplers to transfer soil to laboratory-supplied vials. The remaining soil in each core was thoroughly composited by hand mixing in a stainless-steel bowl for sampling for non-volatile analytes. Aliquots of the composited soil were then transferred into the laboratory-supplied containers provided for each of the requested analyses. Soil samples collected from each core (0 to 2 feet bgs and 2 to 6 feet bgs for each boring) were analyzed for the following analytes:

- VOCs
- PAHs
- TPH-DRO, oil range organics [ORO], and GRO)
- PCBs as Aroclors and congeners
- dioxins/furans
- metals, including mercury and hexavalent chromium
- total organic carbon (TOC)
- pH
- per- and poly-fluoroalkyl substances (PFAS)
- moisture content

Soil cuttings were placed in labeled U.S. Department of Transportation (DOT)-approved containers for shipment of solid waste and stored in an area designated by Naval Facilities Engineering Systems Command (NAVFAC) Northwest. The soil borings were abandoned by backfilling the open borehole with hydrated bentonite chips to within 12 inches of ground surface, restoring the surface to match the existing surrounding surface conditions (e.g., grass, soil, or asphalt).

Data summary tables are included in Attachment 2 and document the measured concentrations of COIs compared to PALs.

## **DATA EVALUATION**

This section compares the measured concentrations of COIs to PALs. The PALs presented in this memorandum, some of which differ from the PALs listed in the SAP, are based on values selected by the risk assessment contractor, AECOM, Incorporated. Those instances in which the PALs presented in this memorandum diverge from the SAP are listed in the subsections below. The criteria used for PAL selection are provided in the data summary tables (Attachment 2). Implications of these findings will be assessed under separate contract.

### *Chlorinated VOCs*

The results of target VOCs in soil are summarized in Table 1. Concentrations of vinyl chloride were detected above the limit of detection (LOD) in soil samples collected from borings NP-B170 (2 to 6 feet bgs) and NP-B171 (2 to 6 feet bgs). Concentrations of trichloroethene were detected above the LOD in the soil sample collected from boring NP-B173 (2 to 6 feet bgs).

The PAL for toluene differs from the SAP and is based on Washington Administrative Code (WAC) Table 749-3 (Plants). No VOCs exceeded PALs in any of the soil samples collected for laboratory analysis.

### *PAHs*

The results of PAHs in soil are summarized in Table 2. Concentrations of PAHs were detected above the LOD in 51 of the 58 soil samples collected for laboratory analysis.

The PALs for several PAHs (i.e., acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, and pyrene) differ from the SAP and are based on EPA Ecological Soil Screening Levels (Eco-SSLs). Several PAHs exceeded PALs, which are summarized below:

- Concentrations of benzo(a)pyrene were detected above the PAL (110 micrograms per kilogram [ $\mu\text{g}/\text{kg}$ ]) in soil samples collected from borings NP-B153 (0 to 2 feet bgs), NP-B154 (0 to 2 feet bgs), NP-B161 (2 to 6 feet bgs), NP-B166 (2 to 6 feet bgs), NP-B167 (2 to 6 feet bgs), and NP-B171 (2 to 6 feet bgs) with the highest concentration found at NP-B166 (2 to 6 feet bgs) at 2,200  $\mu\text{g}/\text{kg}$ .
- Concentrations of benzo(b)fluoranthene were detected above the PAL (1,100  $\mu\text{g}/\text{kg}$ ) in soil samples collected from borings NP-B161 (2 to 6 feet bgs) [1,400  $\mu\text{g}/\text{kg}$ ] and NP-B166 (2 to 6 feet bgs) [2,100  $\mu\text{g}/\text{kg}$ ].
- Benzo(a)anthracene was detected above the PAL (1,100  $\mu\text{g}/\text{kg}$ ) in the soil sample collected from boring NP-B166 (2 to 6 feet bgs) [3,300  $\mu\text{g}/\text{kg}$ ].
- Concentrations of carcinogenic PAH (e.g., benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene) toxic equivalency (TEQ) values were detected above the PAL (110  $\mu\text{g}/\text{kg}$ ) in the soil samples collected from 19 of the 58 soil samples collected for laboratory analysis, with non-detect (ND) values counted as full values (i.e., equal to LOD). Eight of these 19 PAL exceedances did not exceed the PAL if ND values were counted as zero (see Table 2).

In the field duplicate pair from boring NP-B166, the total PAH TEQ concentration measured in the parent versus the duplicate sample varied by an order of magnitude. This result highlights the typical heterogenous distribution of this chemical in soil.

### *Dioxins/Furans*

The results of dioxins/furans in soil are summarized in Table 3. Concentrations of dioxins/furans were detected above the LOD in 58 of the 58 soil samples collected for laboratory analysis.

The PAL for 2,3,7,8- TCDD differs from the SAP and is based on the Washington Soil Natural Background value (Puget Sound). The concentration of 2,3,7,8- TCDD was detected above the PAL (5.2 picograms per gram [pg/g]) in the soil sample collected from boring NP-B169 (2 to 6 feet bgs) [25 pg/g].

### *PCB Congeners*

The results of PCB congeners in soil are summarized in Table 4. Concentrations of PCB congeners were detected above the LOD in 58 of the 58 soil samples collected for laboratory analysis.

The PALs presented in this memorandum for PCB congeners are consistent with the SAP. Concentrations of total dioxin-like PCB congener TEQ values were detected above the PAL (4.8 pg/g) in soil samples collected from borings NP-B154 (2 to 6) [5.82 pg/g], NP-B167 (0 to 2 feet bgs) [10.6 pg/g], and NP-B172 (2 to 6 feet bgs) [14.5 pg/g], with ND values counted as full values. Only one soil sample, NP-B167 (0 to 2 feet bgs), exceeded the PAL if ND values were counted as zero (see Table 4).

Concentrations of Total PCBs were detected above the PAL (230,000 pg/g) in soil samples collected from borings NP-B146 (0 to 2 feet bgs), NP-B154 (2 to 6 feet bgs), NP-B161 (2 to 6 feet bgs), NP-B166 (2 to 6 feet bgs), NP-B167 (0 to 2 feet bgs), NP-B169 (2 to 6 feet bgs), and NP-B172 (2 to 6 feet bgs), with ND values counted as either full values or as zero (see Table 4). Additionally, the PCB congener PCB-118 exceeded its individual PAL in boring NP-B167 (0 to 2 feet bgs).

### *PCB Aroclors*

The results of PCB Aroclors in soil are summarized in Table 5. Concentrations of PCB Aroclors were detected above the LOD in 14 of the 58 soil samples collected for laboratory analysis.

The PALs for Aroclor-1016 and Aroclor-1254 differ from the SAP and are based on EPA Residential Regional Screening Levels (RSLs) with a target hazard quotient (THQ) equal to 0.1. Concentrations of Aroclor-1254 were detected above the PAL (120 µg/kg) in soil samples collected from borings NP-B146 (0 to 2 feet bgs) [130 µg/kg], NP-B149 (2 to 6 feet bgs) [180 µg/kg], NP-B154 (2 to 6 feet bgs) [140 µg/kg and 3300 µg/kg in parent sample and field duplicate, respectively], NP-B160 (2 to 6 feet bgs) [200 µg/kg], NP-B161 (2 to 6 feet bgs) [920 µg/kg], and NP-B162 (2 to 6 feet bgs) [130 µg/kg]. Concentrations of Total PCB Aroclors were detected above the PAL (230 micrograms per kilogram [µg/kg]) in soil samples collected from borings NP-B154 (2 to 6 feet bgs) and NP-B161 (2 to 6 feet bgs).

In the field duplicate pair from boring NP-B154, the Aroclor 1254 concentration measured in the parent versus the duplicate sample varied by more than an order of magnitude. Additionally, the sampling results for PCB congeners do not directly correlate with the sampling results for PCB Aroclors. Both of these occurrences highlight the typical heterogenous distribution of this chemical in soil.

### *Per- and Polyfluoroalkyl Substances*

The results of PFAS in soil are summarized in Table 6. Concentrations of PFAS compounds were detected above the LOD in 54 of the 58 soil samples collected for laboratory analysis.

The PALs for perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), and perfluorohexanoic acid (PFHxA) differ from the SAP and are based on the lowest values of those presented in Divine et al. (2020), EPA Residential RSLs (ASD, 2022), and Conder et al. (2020), respectively. No PFAS compounds exceeded PALs in any of the soil samples collected for laboratory analysis.

The PALs included in this memorandum are the most up to date criteria as specified by DoD guidance. Considering the rapid evolution of PFAS regulations, data may be re-evaluated in the future based on a comparison to other screening levels promulgated at a later date, should vetted and appropriate screening levels become available in the future.

### *TPH*

The results of TPH in soil are summarized in Table 7. Concentrations of TPH-DRO, TPH-ORO, and TPH-GRO were detected above the LOD in 36, 36, and 13 of the 58 samples, respectively, collected for laboratory analysis.

The PALs presented in this memorandum for TPH are consistent with the SAP. Concentrations of TPH-DRO were detected above the PAL (2,000,000 µg/kg) in the soil sample collected from boring NP-B172 (2 to 6 feet bgs) [2,200,000 µg/kg]. Concentrations of TPH-ORO were detected above the PAL (2,000,000 µg/kg) in soil samples collected from boring NP-B149 (2 to 6 feet bgs) [2,200,000 µg/kg], NP-B154 (2 to 6 feet bgs) [2,300,000 µg/kg], NP-B171 (2 to 6 feet bgs) [2,600,000 µg/kg], and NP-B172 (2 to 6 feet bgs) [4,500,000 µg/kg]. Concentrations of TPH-GRO were detected above the PAL (30,000 µg/kg) in the soil sample collected from NP-B171 (2 to 6 feet bgs) [310,000 µg/kg]. However, none of the BTEX analytes were detected above the reporting limits in this sampling, implying an aged gasoline.

### *Metals*

The results of metals in soil are summarized in Table 8. Concentrations of all metals tested, with the exception of mercury and hexavalent chromium, were detected above the LOD in 58 of the 58 samples collected for laboratory analysis.

The PALs for all metals, with the exception of total chromium and hexavalent chromium, differ from the SAP and are based on Washington Soil Natural Background values (arsenic, nickel, zinc, and mercury) and WAC Table 749-3 (Plants) [beryllium, cadmium, and lead]. Several metals exceeded PALs, which are summarized below:

- Concentrations of lead were detected above the PAL (50 milligrams per kilogram [mg/kg]) in soil samples collected from borings NP-B154 (2 to 6 feet bgs), NP-B162 (2 to 6 feet bgs), NP-B163 (0 to 2 feet bgs), NP-B164 (2 to 6 feet bgs), NP-B166 (2 to 6 feet bgs), NP-B167 (0 to 2 feet bgs), NP-B169 (2 to 6 feet bgs), and NP-B172 (2 to 6 feet bgs). Concentrations range from 50.1 to 659 mg/kg with the highest concentration at NP-154 (2 to 6 feet bgs).



- Concentrations of nickel were detected above the PAL (38.2 mg/kg) collected in 36 of the 58 samples (26 of the 29 boring locations) collected for laboratory analysis. Concentrations range from 38.5 to 958 mg/kg with the highest concentration at NP-B154 (2 to 6 feet bgs).
- Concentrations of arsenic were detected above the PAL (7.3 mg/kg) in soil samples collected from borings NP-B149 (0 to 2 and 2 to 6 feet bgs), NP-B152 (0 to 2 feet bgs), NP-B167 (0 to 2 feet bgs), NP-B170 (2 to 6 feet bgs), and NP-B172 (2 to 6 feet bgs). Concentrations range from 8.2 to 18.2 mg/kg with the highest concentration at NP-152 (0 to 2 feet bgs).
- Concentrations of cadmium were detected above the PAL (4 mg/kg) in soil samples collected from borings NP-B154 (2 to 6 feet bgs) [4.4 mg/kg], NP-B167 (0 to 2 feet bgs) [8.3 mg/kg], and NP-B172 (2 to 6 feet bgs) [9.7 mg/kg].
- Concentrations of total chromium were detected above the PAL (0.3 mg/kg based on hexavalent chromium) in 58 of the 58 the samples collected for laboratory analysis. Concentrations range from 21.4 to 583 mg/kg with the highest concentration at NP-B167 (0 to 2 feet bgs).
- Concentrations of zinc were detected above the PAL (85 mg/kg) in soil samples collected from borings NP-B148 (0 to 2 feet bgs), NP-B149 (0 to 2 and 2 to 6 feet bgs), NP-B152 (0 to 2 feet bgs), NP-B153 (0 to 2 feet bgs), NP-B154 (2 to 6 feet bgs), NP-B156 (2 to 6 feet bgs), NP-B160 (2 to 6 feet bgs), NP-B163 (0 to 2 feet bgs), NP-B164 (2 to 6 feet bgs), NP-B166 (2 to 6 feet bgs), NP-B167 (0 to 2 feet bgs), NP-B169 (2 to 6 feet bgs), NP-B170 (2 to 6 feet bgs), and NP-B172 (0 to 2 and 2 to 6 feet bgs). Concentrations range from 100 to 6,050 mg/kg with the highest concentration at NP-B172 (2 to 6 feet bgs).
- Concentrations of mercury were detected above the PAL (0.07 mg/kg) in soil samples collected from borings NP-B146 (0 to 2 feet bgs), NP-B148 (0 to 2 feet bgs), NP-B150 (0 to 2 feet bgs), NP-B160 (2 to 6 feet bgs), NP-B164 (2 to 6 feet bgs), NP-B166 (2 to 6 feet bgs), NP-B167 (0 to 2 feet bgs), NP-B169 (2 to 6 feet bgs), and NP-B172 (2 to 6 feet bgs). Concentrations range from 0.073 to 10.8 mg/kg with the highest concentration at NP-B169 (2 to 6 feet bgs).
- Concentrations of hexavalent chromium were detected above the PAL (0.3 mg/kg) in soil samples collected from borings NP-B148 (0 to 2 feet bgs), NP-B152 (0 to 2 feet bgs), NP-B153 (2 to 6 feet bgs), NP-B155 (0 to 2 and 2 to 6 feet bgs), NP-B156 (0 to 2 and 2 to 6 feet bgs), NP-B162 (2 to 6 feet bgs), NP-B164 (2 to 6 feet bgs), NP-B165 (0 to 2 feet bgs), NP-B166 (0 to 2 and 2 to 6 feet bgs), NP-B167 (0 to 2 feet bgs), NP-B168 (0 to 2 and 2 to 6 feet bgs), and NP-B169 (2 to 6 feet bgs). Concentrations range from 0.33 to 18 mg/kg with the highest concentration at NP-B166 (2 to 6 feet bgs).

### *TOC*

The results of moisture content, TOC, and pH are summarized in Table 9. In the 58 soil samples, TOC concentrations ranged from 1,000 mg/kg to 23,000 mg/kg and pH values ranged from 5.55 to 11.15, with one pH value less than 6.0 and five pH values greater than 8.0.

## QUALITY ASSURANCE/QUALITY CONTROL

All samples were collected and analyzed in accordance with EPA methods stated in the *Final Sampling and Analysis Plan (SAP) for Keyport OUI PCB and Upland Soils Investigation, Naval Base Kitsap, Keyport, Washington* (U.S. Navy, 2021).

Samples were shipped via overnight courier under chain-of-custody documentation to the designated analytical laboratories for analysis. Eurofins TestAmerica, located in West Sacramento, California, analyzed soil samples for PCB congeners. The same soil samples were analyzed by Eurofins TestAmerica in Seattle, Washington for TOC. Soil samples were also analyzed for PFAS by Battelle's Norwell, Massachusetts laboratory. All other analytical testing on soils was conducted by APPL, Inc., in Clovis, California. Tests included: VOCs; PCB Aroclors; metals; mercury; hexavalent chromium; PAHs; gasoline, diesel, and oil range TPH; pH; and dioxins/furans. The analytical laboratories were required to maintain certification from the Department of Defense Environmental Laboratory Accreditation Program for the analytical methods performed on the samples, where applicable.

Laboratory quality assurance (QA) oversight involved the performance of a first-level screening of the data and an indication of any deviations from their precision, accuracy, detection limit, or laboratory QA/quality control (QC) criteria. A representative from each laboratory signed the data sheets, ensuring that the screening described above had been completed. Subsequently, Battelle performed a completeness review of the data by comparing the analyses requested for each sample on the chain-of-custody form with the database results for that sample. The analytical data, along with the associated laboratory QC information, were then forwarded to an independent, third-party data validation service, Laboratory Data Consultants for validation, as follows. A Stage 2A data validation was performed on metals, mercury, hexavalent chromium, TPH-gasoline, TPH-diesel, TPH-oil, and pH analyses. A Stage 3 data validation was performed on TOC analysis. All other parameters and samples were subject to a Stage 4 data validation process.

Results from the sampling event indicated that the data generally met analytical criteria. However, there were exceptions to the analytical criteria noted in the laboratory data validation reports. Exceptions to the analytical criteria are detailed in the sections below, by matrix (e.g., soil, sediment) and analytical group.

Exceptions to the analytical criteria resulted in the assignment of “J” or “U” qualifiers to the data. The “J” qualifier indicates that the result is considered an estimated value. The “U” qualifier indicates that the result is not detected due to contamination or interference. No data were rejected in this dataset.

During sampling, field duplicate QC samples were collected for all parameters in soil samples to evaluate reproducibility and ensure that a meaningful and representative dataset was generated for the Keyport OU1 upland soil investigation. Per the SAP, the goal was to collect field duplicate samples at a rate of 5% (1 per 20) of sample locations per matrix and parameter. Fifty-eight (58) soil samples were collected, and three field duplicates were collected and analyzed for all parameters (>7%). Field duplicates were collected at NP-B154-S2-6 (labeled as NP-B154-S4), NP-B166-S2-6 (labeled as NP-B166-S4), and NP-B170-S2-6 (labeled as NP-B170-S4).



Field duplicate relative percent difference (RPD) criteria for soil samples is less than or equal to ( $\leq$ ) 50%. All field duplicates for all parameters met these criteria except for: PCB Aroclors, metals, and furans in the duplicate pairs NP-B154-S2-6/NP-B154-S4 and NP-B166-S2-6/NP-B166-S4; and PAHs, metals, TPH-diesel, and TPH-oil in the duplicate pair NP-B170-S2-6/NP-B170-S2-6. Additional details are given below. Results for these analytes and samples should be considered estimates.

Review of the laboratory data and data validation confirmed that the measurement quality objectives were achieved, and data are acceptable for use. Data validation qualifiers used in the data set are:

- J – Estimated: The analyte was analyzed for and positively identified by the laboratory; however, the reported concentration is estimated due to non-conformance discovered during data validation.
- U – Non-detected: The analyte was analyzed for and positively identified by the laboratory; however, the analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ – Non-detected estimated: The analyte was reported as not detected by the laboratory; however, the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

Except where otherwise stated, the data associated with all of the issues identified below were qualified as estimated using either the qualifier “J” where the analyte was detected above the laboratory limit of quantitation (LOQ, which is equivalent to the practical quantitation limit [PQL]), or “UJ” where the analyte was not detected above the laboratory LOD.

## Soil

### *Chlorinated VOCs*

- The holding time requirement of 14 days for VOC analysis was exceeded for all soil samples by 2 to 5 days. Laboratory capacity, resources, and instrument issues resulted in the missed holding times. All VOC data were estimated.
  - The VOC data remain useable for the project objectives because the data are to be used for screening the contaminants present in Exposure Area 2 to allow risk assessment planning.
- The initial calibration percent relative standard deviation (%RSD) criteria were exceeded for chloroethane and vinyl chloride, affecting nine samples.
- The matrix spike/matrix spike duplicate (MS/MSD) percent recovery (%R) for six out of 14 VOCs were outside of the acceptable range for NP-B154-S2-6-210622.
- The MS/MSD %R for ethyl benzene and total xylenes was outside of the acceptable range for NP-B172-S2-6-210623.

*PAHs*

- The MS/MSD %R for six out of 18 PAHs was outside of the acceptable range for NP-B170-S2-6-210623.
- Surrogate spike %R was outside of the acceptable range in seven soil samples out of 61 total soil samples (58 plus three field duplicates) [11%]. All analytes were estimated.
- Thirteen out of 18 analytes were outside acceptance RPD of  $\leq 50\%$  for field duplicates. The sample and duplicate pair (NP-B166-S2-6 and NP-B166-S4) were estimated.

*Dioxins/Furans*

- Dioxins/furans were detected in five different soil laboratory blanks at trace levels (less than the reporting limits). Sample concentrations were compared to concentrations detected in the laboratory blanks. If sample concentrations were not significantly greater than five times ( $>5X$ ) the blank concentrations, the sample concentrations were considered to be non-detect or estimated. OCDD and 1,2,3,4,6,7,8-HpCDD were identified in two to five soil samples, respectively, which resulted in reporting results as ND at the reported concentrations. Total homologues were identified in two to 13 soil samples per incidence, which were estimated.
- Dioxins/furans were detected in three field blanks and the source blank at trace levels (less than the reporting limits). TCDD and TCDF were detected above the reporting limit in EB-210622-01. Sample concentrations were compared to concentrations detected in the field blanks. If sample concentrations were not significantly greater than five times ( $>5X$ ) the blank concentrations, the sample concentrations were considered to be estimated for TCDD, TCDF, HxCDF, HpCDD, and HpCDF in four to 14 samples. 1,2,3,4,6,7,8-HpCDF in one sample was reported as ND at the reported concentration.
- The continuing calibration verification (CCV) standard percent difference (%D) criteria were exceeded for seven analytes, affecting two samples (NP-B171-S2-6-210623 and NP-B172-S2-6-210623).
- Laboratory control sample (LCS) %R for 1,2,3,4,7,8,9-HpCDF was outside of the acceptable range biased high affecting one soil sample (NP-B171-S0-2-210623).
- LCS %R for 1,2,3,7,8,9-HxCDF and 2,3,4,6,7,8-HxCDF were outside of the acceptable range biased low affecting two soil samples (NP-B171-S2-6-210623 and NP-B172-S2-6-210623).
- The MS/MSD %R was outside of the acceptable range for NP-B154-S2-6-210622 (three out of 25 analytes) and NP-B172-S2-6-210623 (4 out of 25 analytes). The MS/MSD %RPD acceptance limits were exceeded for the same samples for two and one analytes, respectively.

- Labeled compound recoveries were outside acceptance criteria in two soil samples (NP-B171-S2-6-210623 and NP-B172-S2-6-210623) resulting in estimating two and three analytes, respectively.
- Total HpCDF and total TCDF were outside acceptance RPD of  $\leq 50\%$  for field duplicates. The sample and duplicate pair (NP-B154-S2-6 and NP-B154-S4) were estimated.

### *PCB Congeners*

- PCB-congeners were detected in six soil laboratory blanks at trace levels (less than the reporting limits), except for PCB-3 detected in two blanks, which were greater than the reporting limits. Sample concentrations were compared to concentrations detected in the laboratory blanks. If sample concentrations were not significantly greater than five times ( $>5X$ ) the blank concentrations, the sample concentrations were considered to be non-detect. Twenty-four PCB analytes were identified in three to 53 soil samples, which resulted in reporting results as non-detect at the reported concentrations.
- MS/MSD %R and %RPDs for different PCB congeners (NP-B170-S2-6-210623 [3%Rs and 2%RPDs]; NP-B154-S4-210622 [3%Rs and 1%RPD]; NP-B172-S2-6-210623 [7%Rs and 4%RPDs]) were outside of the acceptable range. Analytes in these samples were estimated.
- One or two labeled compound recoveries were outside acceptance criteria in six soil samples. Associated analytes (nine to 29) were qualified as estimated.
- The ion abundance ratio for one to four labeled compounds used to quantitate target analytes was outside acceptance criteria in nine soil samples. Associated analytes (2 to 50) were qualified as estimated.

### *PCB Aroclors*

- The CCV standard %D criteria was exceeded for PCB-1016 or 1260 in six analytical batches, affecting all PCB Aroclors except for PCB-1254, affecting 32 out of 61 samples (52%).
- The MS/MSD %R for PCB-1260 was outside of the acceptable range for NP-B172-S2-6-210623.
- Surrogate spike %R was outside of the acceptable range in two soil samples (NP-B170-S2-6-210623 and NP-170-S4-210623). All analytes are estimated.
- PCB-1254 and Total PCBs were outside acceptance RPD of  $\leq 50\%$  for field duplicates. The sample and duplicate pair (NP-B154-S2-6 and NP-B154-S4) were estimated.
- PCB compound quantitation criteria are evaluated during validation and where the quantitation of detected compounds differs between two gas chromatographic columns by more than 40 RPD, the results are considered estimated. PCB-1254

detected in six samples was qualified due to compound quantitation criteria not being met.

*Per- and Polyfluoroalkyl Substances*

- Labeled compound recoveries were outside acceptance criteria in five soil samples, resulting in estimating four analytes.

*TPH-Gasoline*

- The TPH-gasoline result exceeded the calibration curve for sample NP-B171-S2-6-210623, therefore, the result was qualified as estimated.

*TPH-Diesel and Oil*

- The MS/MSD %R for TPH-diesel and TPH-oil were outside of the acceptable range in sample NP-B170-S2-6-210623. Additionally, the %RPD was outside the acceptance range for TPH-diesel in the same sample.
- The surrogate spike %R for TPH-diesel and TPH-oil were outside of the acceptable range affecting one soil sample (NP-B154-S0-2-210622).
- TPH-diesel and TPH-oil were outside acceptance RPD of  $\leq 50\%$  for field duplicates. The samples and duplicate pairs (NP-B166-S2-6/NP-B166-S4 and NP-B170-S2-6/NP-B170-S4) were estimated.

*Total Organic Carbon (TOC)*

- All data met criteria.

*Metals and Mercury*

- The holding time requirement of 28 days for mercury analysis was exceeded for 12 soil samples by 1 day. The mercury data were estimated.
- MS/MSD %R and %RPDs for different metals (NP-B154-S2-6-210622 [5%Rs and 4%RPDs]; NP-B164-S0-2-210622 [5%Rs]; NP-B170-S2-6-210623 [2%Rs and 1%RPD]; and NP-B172-S2-6-210623 [2%Rs and 2%RPDs]) were outside of the acceptable range. Analytes in these samples were estimated.
- All three field duplicates had metals which exceeded RPD of  $\leq 50\%$  acceptance limits. Sample and duplicate pair exceedances are as follows: NP-B154-S2-6/NP-B154-S4 (cadmium and nickel); NP-B166-S2-6/NP-B166-S4 (lead and zinc); and NP-B170-S2-6/NP-B170-S4 (cadmium, chromium, lead, and zinc).
- The serial dilution of lead in sample NP-B164-S0-2-210622 exceeded method criteria, indicating matrix interference.

### *Hexavalent Chromium*

- The holding time requirement of 30 days for hexavalent chromium analysis was exceeded for 20 soil samples by 4 days and for 21 samples by 11 to 12 days. These data were estimated.
- Hexavalent chromium was detected in one of the three field blanks at a trace level (less than the reporting limit). Sample concentrations were compared to concentrations detected in the field blank. If sample concentrations were not significantly greater than five times (>5X) the blank concentrations, the sample concentrations were considered to be ND. Hexavalent chromium was reported as ND at the reported concentrations in four soil samples.
- MS/MSD %R and %RPDs were outside the acceptable range for NP-B154-S2-6-210622, NP-B154-S4-210622, NP-B170-S2-6-210623 (%R only), and NP-B172-S2-6-210623.

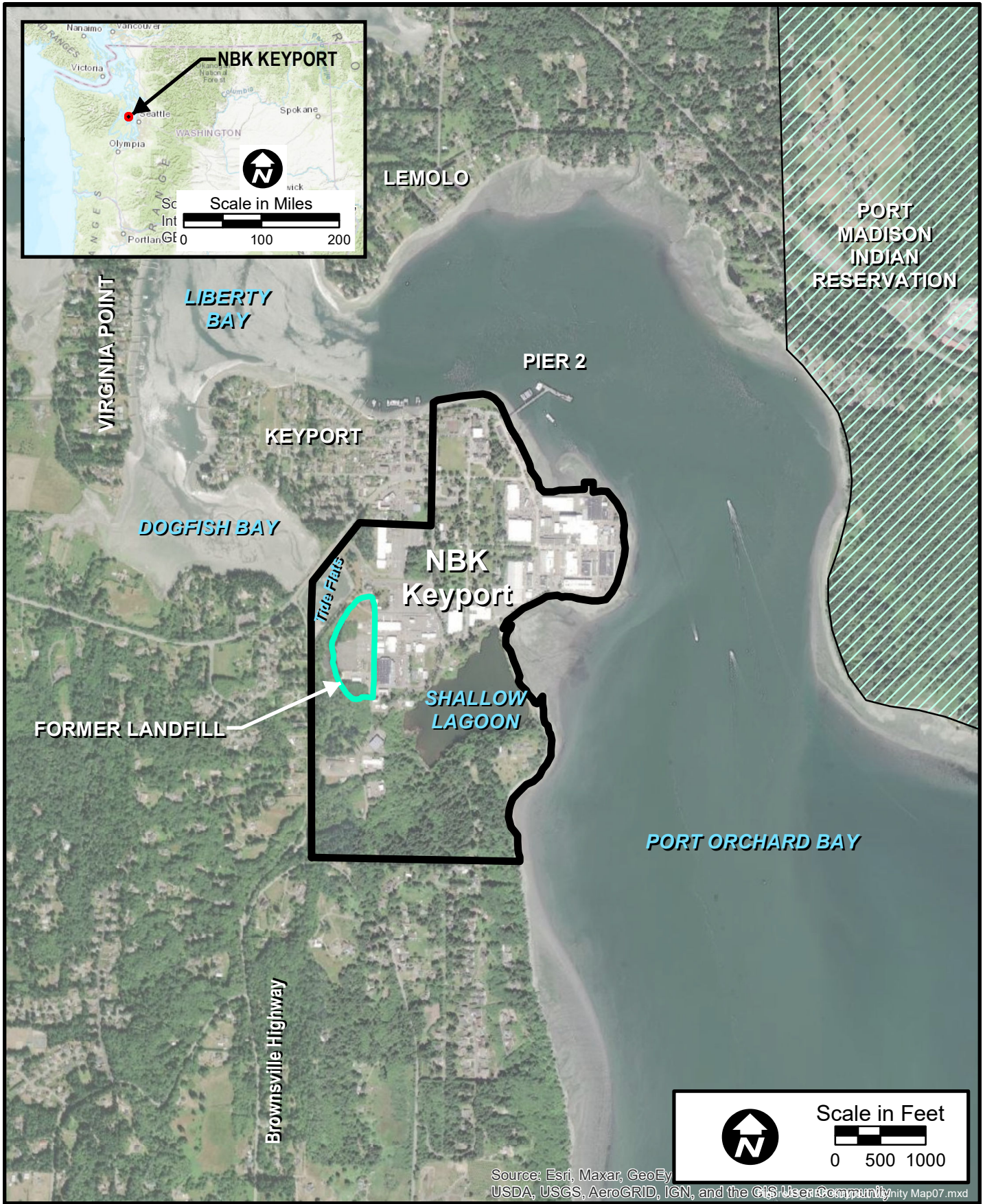
As indicated above, no data were rejected. Only estimations of data were made for holding time exceedances, blank contamination, calibration uncertainty, LCS recovery exceedances, MS/MSD %R and/or RPD exceedances, labeled compound and/or surrogate recovery exceedances, field duplicate imprecision, and other matrix-related failures. Although APPL had several issues with holding times and delays in providing the sample results, the overall quality of the data met the data requirements of the project. All other data were acceptable and meet data quality objectives (DQOs) for this project.

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- U.S. Navy. 2019. *Final Sampling and Analysis Plan for Keyport OU 1 Source Investigations, Naval Base Kitsap Keyport, Keyport, Washington*. Prepared by Battelle Memorial Institute for NAVFAC NW under Contract N39430-16-D-1802, Task Order N3943018F4359. May 30.
- U.S. Navy, U.S. Environmental Protection Agency (U.S. EPA), and Washington State Department of Ecology (Ecology). 1998. *Record of Decision for Operable Unit 1, Naval Undersea Warfare Center Division, Keyport, Washington*. Prepared by URS Greiner and Science Applications International Corporation for EFA NW under CLEAN Contract No. N62474-89-D-9295, CTO 10. September 30.



## FIGURES



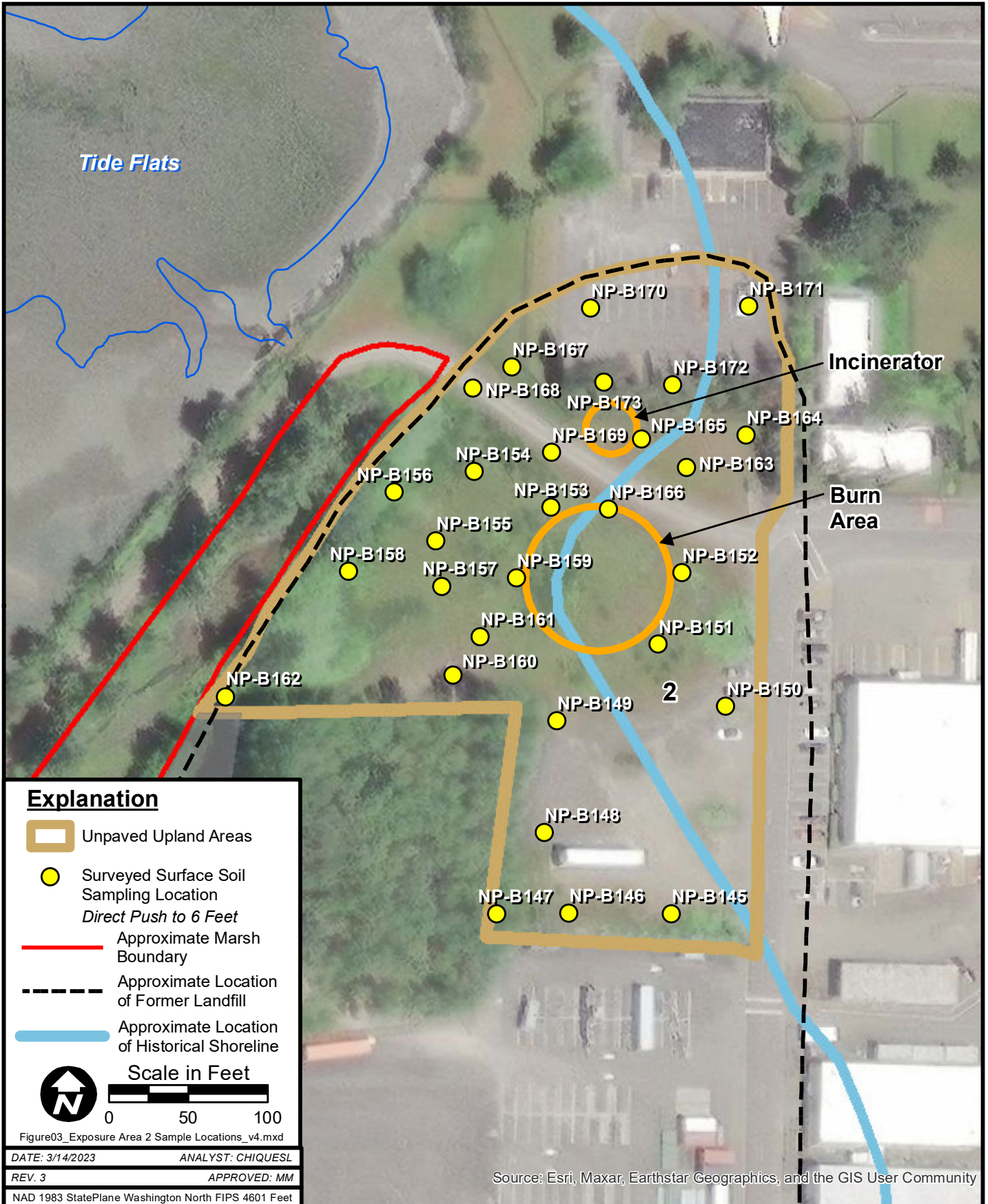
**U.S. NAVY**

**Figure 1**  
**NBK Keyport Vicinity Map**

CTO F4359  
 NBK Keyport  
 Upland Soil Tech Memo







**U.S. NAVY**

**Figure 3**  
**Exposure Area 2 Sample Locations**

CTO F4359  
NBK Keyport  
Upland Soil Tech Memo

## **ATTACHMENTS**

**ATTACHMENT 1: BORING LOGS**





**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B145**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/21/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259645.55 Easting (NAD 83): 1199131.51 Surface Elevation (NAVD 88): 13.05 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	[Dotted pattern]	SP	Dry; loose; gray; fine SAND, some fine to coarse gravel (sub-rounded to angular), trace silt	30%	65%	5%	0	1.5	NP-B145-S0-2-210621	6/21/21-1335	VOCs collected at 1 and 5 ft bgs, respectively
0.5											
1											
1.5											
2							0				
2.5	[Dotted pattern]	SP	Moist; medium dense; dark gray; fine SAND, little silt, little gravel (sub-rounded to sub-angular), trace wood debris	15%	70%	15%	0	2.1	NP-B145-S2-6-210621	6/21/21-1345	
3											
3.5											
4											
4.5											
5							790				
5.5											
6							447				



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B146**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/21/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259645.71 Easting (NAD 83): 1199066.9 Surface Elevation (NAVD 88): 6.93 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry; loose; gray; fine SAND, some fine to coarse gravel (sub-rounded to angular), trace silt	30%	65%	5%	0	1.6	NP-B146-S0-2-210621	6/21/21-1405	VOCs collected at 2 and 5 ft bgs, respectively
0.5							0	0			
1							0	0			
1.5											
2							0				
2.5											
3		CL	Moist, stiff, dark gray, CLAY, some fine sand, little fine to coarse gravel	10%	30%	60%	0		NP-B146-S2-6-210621	6/21/21-1405	
3.5							12	3.1			
4							237				
4.5							0				
5											
5.5											
6							0				



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B147**

Permit Number: 21-EP067  
 EHS Case Number: N/A  
 Project: Keyport OU1 Upland Soil Investigation  
 Date Logged: 6/21/2021  
 Geologist: Steven Verdibello  
 Total Depth: 6 ft bgs  
 Reviewer: Michael Meyer

Drilling Contractor: Holt Services, Inc.  
 Driller: Michael Running  
 Drilling Equipment: Geoprobe 7822  
 Drilling Method: Direct-push  
 Boring Diameter: 2.25-inch  
 Sampler Type: Macro-Core

Northing (NAD 83): 259645.44  
 Easting (NAD 83): 1199021.46  
 Surface Elevation (NAVD 88): 10.7  
 Borehole Abandoned: Yes  
 Backfill Method: Bentonite Chips  
 Monitoring Device Installed: No

Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments	
				% Gravel	% Sand	% Fines						
0		SP	Dry; loose; gray; fine SAND, some fine to coarse gravel (sub-rounded to angular), trace silt	30%	65%	5%	0	1.3	NP-B147-S0-2-210621	6/21/21-1415	VOCs collected at 1 and 5 ft bgs, respectively	
0.5							0	NP-B147-S2-6-210621				6/21/21-1420
1							0					
1.5							0	NP-B147-S2-6-210621	6/21/21-1420			
2							0					
2.5	0	NP-B147-S2-6-210621	6/21/21-1420									
3	0											
3.5	0	NP-B147-S2-6-210621	6/21/21-1420									
4	0											
4.5	0	NP-B147-S2-6-210621	6/21/21-1420									
5	4,679											
5.5		CL	Moist, medium stiff, dark gray, CLAY and fine sand, little fine gravel	10%	30%	60%	0					
6							0					



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B148**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/21/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259696.61 Easting (NAD 83): 1199051.48 Surface Elevation (NAVD 88): 12.69 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry, loose, light gray, fine SAND and fine to coarse gravel, trace silt	45%	50%	5%	0	2.7	NP-B148-S0-2-210621	6/21/21 - 1435	Pushed one core from 0 to 6 ft bgs to test recovery. Moving forward, will proceed with two runs unless recovery is low.
0.5											
1											
1.5											
2											
2.5											
3		CL	Moist, medium stiff, dark gray, CLAY and fine sand, little fine gravel	10%	30%	60%	543	0	NP-B148-S2-6-210621	6/21/21 - 1440	VOCs collected at 2 and 5 ft bgs, respectively
3.5											
4											
4.5											
5		CL	Moist, medium stiff, dark gray, CLAY and fine sand, little fine gravel	10%	30%	60%	543	0	NP-B148-S2-6-210621	6/21/21 - 1440	VOCs collected at 2 and 5 ft bgs, respectively
5.5											
6							12				



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B149**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/21/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259766.87 Easting (NAD 83): 1199059.34 Surface Elevation (NAVD 88): 13.12 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry, loose, light gray, fine SAND and fine to coarse gravel, trace silt	45%	50%	5%	0	1.9	NP-B149-S0-2-210621	6/21/21 - 1510	VOCs collected at 2 and 5 ft bgs, respectively
0.5											
1											
1.5											
2		CL	Moist, medium stiff, dark gray, CLAY and fine sand, little fine gravel, 1-inch brick piece at 5', wood shavings at 5.3' and some wood debris from 5.3 - 6'	10%	40%	50%	0	3.1	NP-B149-S2-6-210621	6/21/21 - 1515	
2.5											
3											
3.5											
4											
4.5											
5	1,482										
5.5											
6							153				



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B150**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/21/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259776.17 Easting (NAD 83): 1199165.8 Surface Elevation (NAVD 88): 10.04 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		GW	Dry, loose, light gray, fine to coarse GRAVEL and fine sand, trace silt	60%	35%	5%	0	1.6	NP-B150-S0-2-210621	6/21/21 - 1535	VOCs collected at 2 and 6 ft bgs, respectively
0.5											
1											
1.5											
2											
2.5		SW	Moist, medium dense, dark gray, medium to coarse SAND, trace silt	95%	5%	0	1.7	NP-B150-S2-6-210621	6/21/21 - 1545		
3											
3.5											
4		SC	Moist, medium dense, gray, fine SAND and clay	60%	40%	0					
4.5											
5											
5.5											
6											





**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B151**

Permit Number: 21-EP067  
 EHS Case Number: N/A  
 Project: Keyport OU1 Upland Soil Investigation  
 Date Logged: 6/22/2021  
 Geologist: Steven Verdibello  
 Total Depth: 6 ft bgs  
 Reviewer: Michael Meyer

Drilling Contractor: Holt Services, Inc.  
 Driller: Michael Running  
 Drilling Equipment: Geoprobe 7822  
 Drilling Method: Direct-push  
 Boring Diameter: 2.25-inch  
 Sampler Type: Macro-Core

Northing (NAD 83): 259815.36  
 Easting (NAD 83): 1199122.95  
 Surface Elevation (NAVD 88): 16.87  
 Borehole Abandoned: Yes  
 Backfill Method: Bentonite Chips  
 Monitoring Device Installed: No

Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	SM	SM	Dry, loose, grayish brown, fine SAND and silt, little fine gravel	15%	50%	35%	0	1.6	NP-B151-S0-2-210622	6/22/21 - 0740	VOCs collected at 2 and 4 ft bgs, respectively
0.5											
1											
1.5											
2	SM	SM	Moist, loose, gray, fine SAND and silt, little fine to coarse gravel	10%	50%	40%	0	3	NP-B151-S2-6-210622	6/22/21 - 0745	
2.5											
3											
3.5											
4	SM	SM					0				
4.5											
5	SM	SM					0				
5.5											
6	SM	SM					0				



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B152**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259860.38 Easting (NAD 83): 1199138 Surface Elevation (NAVD 88): 13.94 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	SM		Dry, loose, light brown (0 – 1') and light gray (1 – 3.9'), fine SAND and silt, some fine gravel	25%	40%	35%	0	1.6	NP-B152-S0-2-210622	6/22/21 - 0755	VOCs collected at 2 and 4 ft bgs, respectively
0.5											
1											
1.5											
2	GW		Moist, medium dense, gray, fine to coarse GRAVEL, some fine sand, some clay	50%	30%	20%	0	3.1	NP-B152-S2-6-210622	6/22/21 - 0758	
2.5											
3											
3.5											
4											
4.5											
5											
5.5											
6											



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B153**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259901.7 Easting (NAD 83): 1199055.74 Surface Elevation (NAVD 88): 17.11 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	[Dotted pattern]	SP	Dry, loose, light brown, fine SAND and fine to coarse gravel, little silt	45%	45%	10%	0	1.4	NP-B153-S0-2-210622	6/22/21 - 0810	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2											
2.5											
3	[Dotted pattern]	SM	Moist, medium dense, brown, fine SAND, some silt, little fine to coarse gravel	15%	60%	25%	0	2.2	NP-B153-S2-6-210622	6/22/21 - 0815	
3.5											
4											
4.5											
5	[Dotted pattern]	SM	Moist, medium dense, brown, fine SAND, some silt, little fine to coarse gravel	15%	60%	25%	0				
5.5											
6							0				



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B154**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259923.98 Easting (NAD 83): 1199007.27 Surface Elevation (NAVD 88): 16.33 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry, loose, light brown, fine SAND and fine to coarse gravel, little silt	45%	45%	10%	0	1.4	NP-B154-S0-2-210622	6/22/21 - 0825	VOCs collected at 1 and 6 ft bgs, respectively
0.5											
1											
1.5											
2							0				
2.5											
3							0				
3.5		SM	Moist, medium dense, brown, fine SAND, some silt, little fine to coarse gravel	15%	60%	25%	0	3.7	NP-B154-S2-6-210622/ NP-B154-S4-210622	6/22/21 - 0830; 6/22/21 - 0830	
4											
4.5											
5		SC	Moist, dense, dark gray, fine SAND and clay, trace fine to coarse gravel	5%	50%	45%	0				
5.5											
6							56				



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B155**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259880.21 Easting (NAD 83): 1198983.21 Surface Elevation (NAVD 88): 13.85 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	SP	SP	Dry, loose, light brown, fine SAND and fine to coarse gravel, little silt	45%	45%	10%	0	1.4	NP-B155-S0-2-210622	6/22/21 - 0845	Low recovery in first run; therefore, second run was pushed from 0 – 6', with 3.9' of total recovery  VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2											
2.5											
3											
3.5	Asphalt		Dry, loose, black, asphalt/ash (fine)		100%						
4	SC	SC	Moist, dense, brown, grades to dark gray, fine SAND, some clay, some fine gravel	30%	40%	30%	0	1.2	NP-B155-S2-6-210622	6/22/21 - 0850	
4.5											
5											
5.5											
6											



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B156**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259911.07 Easting (NAD 83): 1198957.03 Surface Elevation (NAVD 88): 17.84 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	[Dotted pattern]	SP	Dry, loose, light brown, fine SAND and fine to coarse gravel, little silt	45%	45%	10%	0	1.5	NP-B156-S0-2-210622	6/22/21 - 0900	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2							0				
2.5											
3							0				
3.5											
4	[Vertical line pattern]	SM	Moist, medium dense, brown, grades to brownish gray, fine SAND, some silt, little fine to coarse gravel	15%	60%	25%	0	2.9	NP-B156-S2-6-210622	6/22/21 - 0905	
4.5											
5							0				
5.5											
6							0				





**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B157**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259851.83 Easting (NAD 83): 1198986.64 Surface Elevation (NAVD 88): 13.56 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		GW	Dry, loose, light brown and light gray, fine to coarse GRAVEL, some fine sand, little silt, wood fragments at 3'	60%	30%	10%	0	1.4	NP-B157-S0-2-210622	6/22/21 - 0920	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2											
2.5											
3		SC	Moist, dense, dark gray, fine SAND and clay, little fine to coarse gravel	10%	50%	40%	0	3.6	NP-B157-S2-6-210622	6/22/21 - 0930	
3.5											
4											
4.5											
5							0				
5.5							0				
6							0				



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B158**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259861.15 Easting (NAD 83): 1198928.23 Surface Elevation (NAVD 88): 13.48 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	[Dotted pattern]	SP	Dry, loose, brown, grades to brownish gray, fine SAND and fine GRAVEL, little silt	45%	45%	10%	0	1.7	NP-B158-S0-2-210622	6/22/21 - 1005	VOCs collected at 1 and 4 ft bgs, respectively
0.5							0				
1							0				
1.5											
2							0				
2.5											
3							0				
3.5	[Dotted pattern]	SM	Dry, grades to moist, grayish brown, fine SAND and fine to coarse gravel	40%	40%	20%	0	3.1	NP-B158-S2-6-210622	6/22/21 - 1010	
4							0				
4.5							0				
5							0				
5.5											
6							0				



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B159**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259856.86 Easting (NAD 83): 1199033.76 Surface Elevation (NAVD 88): 15.32 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	[Dotted pattern]	SP	Dry, loose, light grayish brown, fine SAND and fine to coarse gravel, little silt, broken brick pieces from 1.9 - 2.0'	45%	45%	10%	0	1.4	NP-B159-S0-2-210622	6/22/21 - 1025	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2	[Vertical line pattern]	SM	Dry to moist, medium dense, reddish brown, fine SAND and silt, trace fine gravel	5%	50%	45%	0				
2.5											
3											
3.5											
4											
4.5	[Diagonal line pattern]	SC	Moist, medium dense, brown, grades to gray, fine SAND, some fine gravel, some clay	30%	50%	20%	0	3.3	NP-B159-S2-6-210622	6/22/21 -1030	
5											
5.5											
6											



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B160**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259795.94 Easting (NAD 83): 1198994.11 Surface Elevation (NAVD 88): 12.55 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry, loose, light gray, fine to coarse GRAVEL and fine sand, little silt	60%	35%	5%	0	1.6	NP-B160-S0-2-210622	6/22/21 - 1055	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2		SC	Moist, medium dense, dark grayish brown, fine SAND and clay, little fine gravel, some waste debris (styrofoam) at 4.8'	10%	50%	40%	0	2	NP-B160-S2-6-210622	6/22/21 -1100	
2.5											
3											
3.5											
4											
4.5											
5											
5.5											
6							41				





**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B162**

Permit Number: 21-EP067  
 EHS Case Number: N/A  
 Project: Keyport OU1 Upland Soil Investigation  
 Date Logged: 6/22/2021  
 Geologist: Steven Verdibello  
 Total Depth: 6 ft bgs  
 Reviewer: Michael Meyer

Drilling Contractor: Holt Services, Inc.  
 Driller: Michael Running  
 Drilling Equipment: Geoprobe 7822  
 Drilling Method: Direct-push  
 Boring Diameter: 2.25-inch  
 Sampler Type: Macro-Core

Northing (NAD 83): 259782.26  
 Easting (NAD 83): 1198850.5  
 Surface Elevation (NAVD 88): 7.69  
 Borehole Abandoned: Yes  
 Backfill Method: Bentonite Chips  
 Monitoring Device Installed: No

Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		GW	Dry, loose, brown, fine to coarse GRAVEL and fine sand, little silt	50%	40%	10%	0	1.7	NP-B162-S0-2-210622	6/22/21 - 1205	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2		SP	Dry, loose, light brownish gray, fine SAND, some fine to coarse gravel, trace silt	35%	60%	5%	0	2.8	NP-B162-S2-6-210622	6/22/21 - 1210	
2.5											
3											
3.5		SC	Moist, medium dense, dark brown, fine SAND and clay	50%	50%		0				
4											
4.5											
5											
5.5											
6											



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B163**

Permit Number: 21-EP067  
 EHS Case Number: N/A  
 Project: Keyport OU1 Upland Soil Investigation  
 Date Logged: 6/22/2021  
 Geologist: Steven Verdibello  
 Total Depth: 6 ft bgs  
 Reviewer: Michael Meyer

Drilling Contractor: Holt Services, Inc.  
 Driller: Michael Running  
 Drilling Equipment: Geoprobe 7822  
 Drilling Method: Direct-push  
 Boring Diameter: 2.25-inch  
 Sampler Type: Macro-Core

Northing (NAD 83): 259926.58  
 Easting (NAD 83): 1199140.87  
 Surface Elevation (NAVD 88): 9.69  
 Borehole Abandoned: Yes  
 Backfill Method: Bentonite Chips  
 Monitoring Device Installed: No

Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments					
				% Gravel	% Sand	% Fines										
0		SP	Dry, loose, brown, fine SAND and fine gravel, little silt	40%	50%	10%	0	1.7	NP-B163-S0-2-210622	6/22/21 - 1310	VOCs collected at 1 and 4 ft bgs, respectively					
0.5																
1																
1.5																
2							0									
2.5																
3							0									
3.5																
4		CL	Moist, medium stiff, dark gray, CLAY, some fine SAND, little fine gravel	10%	30%	60%	0	3	NP-B163-S2-6-210622	6/22/21 -1315						
4.5																
5																
5.5																
6							0									



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B164**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259946.9 Easting (NAD 83): 1199178.43 Surface Elevation (NAVD 88): 10.97 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		GW	Dry, loose, brown, fine to coarse GRAVEL, some fine SAND, little silt	60%	30%	10%	0	1.4	NP-B164-S0-2-210622	6/22/21 - 1320	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2		GW	Moist, stiff, brown, CLAY, little fine SAND, trace fine gravel	5%	15%	80%	0	2.4	NP-B164-S2-6-210622	6/22/21 -1325	
2.5											
3											
3.5											
4											
4.5		CL									
5											
5.5		CL									
6											





**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B165**

Permit Number: 21-EP067  
 EHS Case Number: N/A  
 Project: Keyport OU1 Upland Soil Investigation  
 Date Logged: 6/22/2021  
 Geologist: Steven Verdibello  
 Total Depth: 6 ft bgs  
 Reviewer: Michael Meyer

Drilling Contractor: Holt Services, Inc.  
 Driller: Michael Running  
 Drilling Equipment: Geoprobe 7822  
 Drilling Method: Direct-push  
 Boring Diameter: 2.25-inch  
 Sampler Type: Macro-Core

Northing (NAD 83): 259944.61  
 Easting (NAD 83): 1199112.58  
 Surface Elevation (NAVD 88): 12.72  
 Borehole Abandoned: Yes  
 Backfill Method: Bentonite Chips  
 Monitoring Device Installed: No

Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		GW	Dry, loose, brown, fine to coarse GRAVEL, some fine sand, some silt	50%	30%	20%	0	1.6	NP-B165-S0-2-210622	6/22/21 - 1340	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2		CL	Moist, medium stiff, dark gray, CLAY, some fine sand, little fine gravel	10%	30%	60%	0	2.2	NP-B165-S2-6-210622	6/22/21 -1342	
2.5											
3											
3.5											
4		CL	Moist, medium stiff, dark gray, CLAY, some fine sand, little fine gravel	10%	30%	60%	0	2.2	NP-B165-S2-6-210622	6/22/21 -1342	
4.5											
5											
5.5											
6		CL	Moist, medium stiff, dark gray, CLAY, some fine sand, little fine gravel	10%	30%	60%	0	2.2	NP-B165-S2-6-210622	6/22/21 -1342	
6											



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B166**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259900.52 Easting (NAD 83): 1199091.83 Surface Elevation (NAVD 88): 11.4 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		GW	Dry, grades to moist, loose, brown grades to dark grayish brown, fine to coarse GRAVEL, some silt, little fine sand	60%	10%	30%	0	2	NP-B166-S0-2-210622	6/22/21 - 1350	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2											
2.5											
3											
3.5											
4											
4.5											
5		SM	Moist, loose, very dark gray, fine SAND and silt, little fine gravel	20%	40%	40%	0	2.4	NP-B166-S2-6-210622/ NP-B166-S4-210622	6/22/21 -1355	
5.5											
6							0				



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B167**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259990.04 Easting (NAD 83): 1199030.87 Surface Elevation (NAVD 88): 2.83 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry, loose, brown, fine SAND, some fine gravel, little silt, piece of thin metal at 1.5', small pieces of broken plastic at 2.0'	30%	60%	10%	0	1.6	NP-B167-S0-2-210622	6/22/21 - 1420	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2							0				
2.5											
3							0				
3.5											
4							0	2	NP-B167-S2-6-210622	6/22/21 -1421	
4.5		SW	Moist, medium dense, dark gray, medium to coarse SAND, little fine gravel	20%	80%		0				
5											
5.5											
6							0				



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B168**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/22/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259976.45 Easting (NAD 83): 1199006.34 Surface Elevation (NAVD 88): 2.44 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry, loose, brown, fine SAND, some fine gravel, little silt	30%	60%	10%	0	1.9	NP-B168-S0-2-210622	6/22/21 - 1440	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2							0				
2.5											
3							0				
3.5											
4							0	2.1	NP-B168-S2-6-210622	6/22/21 -1445	
4.5		SM	Moist, medium dense, brown, fine SAND and silt, little fine to coarse gravel	10%	45%	45%	0				
5							0				
5.5		SC	Moist, dense, dark bluish gray, fine SAND and clay, some fine gravel	20%	40%	40%	0				
6							0				



**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B169**

Permit Number: 21-EP067  
 EHS Case Number: N/A  
 Project: Keyport OU1 Upland Soil Investigation  
 Date Logged: 6/22/2021  
 Geologist: Steven Verdibello  
 Total Depth: 6 ft bgs  
 Reviewer: Michael Meyer

Drilling Contractor: Holt Services, Inc.  
 Driller: Michael Running  
 Drilling Equipment: Geoprobe 7822  
 Drilling Method: Direct-push  
 Boring Diameter: 2.25-inch  
 Sampler Type: Macro-Core

Northing (NAD 83): 259936.29  
 Easting (NAD 83): 1199055.84  
 Surface Elevation (NAVD 88): 6.13  
 Borehole Abandoned: Yes  
 Backfill Method: Bentonite Chips  
 Monitoring Device Installed: No

Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry, loose, brown, fine SAND, some fine gravel, little silt	30%	60%	10%	0	2	NP-B169-S0-2-210622	6/22/21 - 1503	VOCs collected at 1 and 5 ft bgs, respectively
0.5											
1											
1.5											
2											
2.5											
3											
3.5		ML	Dry, loose, dark brown and black, SILT, some fine sand, little fine gravel	20%	30%	50%	0	1.8	NP-B169-S2-6-210622	6/22/21 -1508	
4											
4.5											
5											
5.5	6						0				



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B170**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/23/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 260026.99 Easting (NAD 83): 1199080.74 Surface Elevation (NAVD 88): 19.97 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	Dotted pattern	SW	Dry, grades to moist, loose, brown grades to grayish brown, fine SAND, some fine gravel, trace silt, sand coarsens downward to medium to coarse sand from 1 – 1.6'. Clump of fibrous, insulation-like material at 1.3'.	20%	75%	5%	0	1.5	NP-B170-S0-2-210623	6/23/21 - 0855	VOCs collected at 2 and 4 ft bgs, respectively
0.5											
1	Diagonal hatching	CL	Moist, medium stiff, gray with brown mottling, CLAY, some fine sand, trace fine gravel	5%	25%	70%	0	3.8	NP-B170-S2-6-210623/ NP-B170-S4-210623	6/23/21 - 0900	
1.5											
2											
2.5											
3	Diagonal hatching	CL	Moist, medium stiff, gray with brown mottling, CLAY, some fine sand, trace fine gravel	5%	25%	70%	0	3.8	NP-B170-S2-6-210623/ NP-B170-S4-210623	6/23/21 - 0900	
3.5											
4											
4.5											
5	Diagonal hatching	CL	Moist, medium stiff, gray with brown mottling, CLAY, some fine sand, trace fine gravel	5%	25%	70%	0	3.8	NP-B170-S2-6-210623/ NP-B170-S4-210623	6/23/21 - 0900	
5.5											
6	Diagonal hatching	CL	Moist, medium stiff, gray with brown mottling, CLAY, some fine sand, trace fine gravel	5%	25%	70%	0	3.8	NP-B170-S2-6-210623/ NP-B170-S4-210623	6/23/21 - 0900	



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B171**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/23/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 260028.48 Easting (NAD 83): 1199180.08 Surface Elevation (NAVD 88): 34.46 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments	
				% Gravel	% Sand	% Fines						
0		SW	Dry, grades to moist, loose, brown grades to grayish brown, fine SAND, some fine gravel, trace silt, sand coarsens downward to medium to coarse sand from 1 – 2.5', coarse piece of gravel at bottom of first core (2')	20%	75%	5%	0	1	NP-B171-S0-2-210623	6/23/21 - 0930	VOCs collected at 1 and 6 ft bgs, respectively	
0.5							1					
1							0					
1.5												
2							0					
2.5		CL	Moist, medium stiff, gray, CLAY, little fine sand, trace fine gravel, moderate petroleum-like odor in bottom of core (5 – 6'), black stained wood material in cutting shoe	10%	85%	10%	118					
3												
3.5												
4							472	3.5	NP-B171-S2-6-210623	6/23/21 - 0940		
4.5												
5							5,527					
5.5												
6							130,000					



**Project: Keyport OU1 Upland Soil Investigation**  
**Site: OU 1**  
**Boring Log: NP-B172**

Permit Number: 21-EP067 EHS Case Number: N/A Project: Keyport OU1 Upland Soil Investigation Date Logged: 6/23/2021 Geologist: Steven Verdibello Total Depth: 6 ft bgs Reviewer: Michael Meyer	Drilling Contractor: Holt Services, Inc. Driller: Michael Running Drilling Equipment: Geoprobe 7822 Drilling Method: Direct-push Boring Diameter: 2.25-inch Sampler Type: Macro-Core	Northing (NAD 83): 259978.72 Easting (NAD 83): 1199132.28 Surface Elevation (NAVD 88): 17.11 Borehole Abandoned: Yes Backfill Method: Bentonite Chips Monitoring Device Installed: No
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Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0	[Dotted pattern]	SP	Dry, grades to moist, loose, brown grades to grayish brown, fine SAND, some fine gravel, trace silt	25%	70%	5%	0	1.5	NP-B172-S0-2-210623	6/23/21 - 1005	VOCs collected at 1 and 6 ft bgs, respectively
0.5							0				
1							0				
1.5											
2							0				
2.5											
3	[Diagonal hatching]	CL	Dry, medium stiff, gray with brown mottling, CLAY, some fine to coarse gravel	20%	80%		0		NP-B172-S2-6-210623	6/23/21 - 1015	
3.5							14				
4							2.9				
4.5							862				
5											
5.5		CL	Moist, soft, dark gray to black, CLAY and fine sand, trace fine gravel, trace wood debris at bottom of core (6')	5%	45%	50%					
6							2,372				





**Project: Keyport OU1 Upland Soil Investigation**

**Site: OU 1**

**Boring Log: NP-B173**

Permit Number: 21-EP067  
 EHS Case Number: N/A  
 Project: Keyport OU1 Upland Soil Investigation  
 Date Logged: 6/23/2021  
 Geologist: Steven Verdibello  
 Total Depth: 6 ft bgs  
 Reviewer: Michael Meyer

Drilling Contractor: Holt Services, Inc.  
 Driller: Michael Running  
 Drilling Equipment: Geoprobe 7822  
 Drilling Method: Direct-push  
 Boring Diameter: 2.25-inch  
 Sampler Type: Macro-Core

Northing (NAD 83): 259980.58  
 Easting (NAD 83): 1199088.96  
 Surface Elevation (NAVD 88): 13.98  
 Borehole Abandoned: Yes  
 Backfill Method: Bentonite Chips  
 Monitoring Device Installed: No

Depth (ft bgs)	Lithology	USCS Symbol	Sample Description	Grading			Headspace PID (ppb)	Measured Recovery	Sample ID	Date/Time	Comments
				% Gravel	% Sand	% Fines					
0		SP	Dry, loose, light brown, fine SAND and fine gravel, trace silt	35%	60%	5%	0	1.4	NP-B173-S0-2-210623	6/23/21 - 1110	VOCs collected at 1 and 4 ft bgs, respectively
0.5											
1											
1.5											
2											
2.5											
3		CL	Dry, stiff, gray with some brown mottling, CLAY, trace fine gravel	5%	95%	0	2.7	NP-B173-S2-6-210623	6/23/21 - 1120		
3.5											
4											
4.5											
5											
5.5											
6											

**ATTACHMENT 2: TABULATED DATA**

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B145	NP-B145	NP-B146	NP-B146	NP-B147	NP-B147
Sample Name			NP-B145-S0-2-210621	NP-B145-S2-6-210621	NP-B146-S0-2-210621	NP-B146-S2-6-210621	NP-B147-S0-2-210621	NP-B147-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			1	5	2	5	1	5
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
TOLUENE	µg/kg	200,000	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
XYLENES, TOTAL	µg/kg	58,000	5.3 UJ	5.8 UJ	6 UJ	6.3 UJ	5.5 UJ	6.5 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
BENZENE	µg/kg	1,200	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
CHLOROETHANE	µg/kg	1,400,000	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
VINYL CHLORIDE	µg/kg	59	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ
TRICHLOROETHENE	µg/kg	410	2.1 UJ	2.3 UJ	2.4 UJ	2.5 UJ	2.2 UJ	2.6 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances

discovered during data validation. Data qualified as rejected is not usable.

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B148	NP-B148	NP-B149	NP-B149	NP-B150	NP-B150
Sample Name			NP-B148-S0-2-210621	NP-B148-S2-6-210621	NP-B149-S0-2-210621	NP-B149-S2-6-210621	NP-B150-S0-2-210621	NP-B150-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			2	5	2	5	2	6
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
TOLUENE	µg/kg	200,000	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
XYLENES, TOTAL	µg/kg	58,000	7 UJ	6.4 UJ	5.5 UJ	6.7 UJ	6.1 UJ	6.7 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
BENZENE	µg/kg	1,200	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
CHLOROETHANE	µg/kg	1,400,000	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
VINYL CHLORIDE	µg/kg	59	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ
TRICHLOROETHENE	µg/kg	410	2.8 UJ	2.5 UJ	2.2 UJ	2.7 UJ	2.4 UJ	2.7 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B151	NP-B151	NP-B152	NP-B152	NP-B153	NP-B153
Sample Name			NP-B151-S0-2-210622	NP-B151-S2-6-210622	NP-B152-S0-2-210622	NP-B152-S2-6-210622	NP-B153-S0-2-210622	NP-B153-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2	4	2	4	1	4
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
TOLUENE	µg/kg	200,000	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
XYLENES, TOTAL	µg/kg	58,000	5.4 UJ	5.5 UJ	5.3 UJ	5.5 UJ	6.6 UJ	5.7 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
BENZENE	µg/kg	1,200	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
CHLOROETHANE	µg/kg	1,400,000	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
VINYL CHLORIDE	µg/kg	59	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ
TRICHLOROETHENE	µg/kg	410	2.2 UJ	2.2 UJ	2.1 UJ	2.2 UJ	2.6 UJ	2.3 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances

discovered during data validation. Data qualified as rejected is not usable.

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B154	NP-B154	NP-B154	NP-B155	NP-B155	NP-B156
Sample Name			NP-B154-S0-2-210622	NP-B154-S2-6-210622	NP-B154-S4-210622	NP-B155-S0-2-210622	NP-B155-S2-6-210622	NP-B156-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			1	6	6	1	4	1
Sample Type			N	P	FD	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
TOLUENE	µg/kg	200,000	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
XYLENES, TOTAL	µg/kg	58,000	5.3 UJ	5.4 UJ	5.9 UJ	5.4 UJ	5.5 UJ	5.5 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
BENZENE	µg/kg	1,200	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
CHLOROETHANE	µg/kg	1,400,000	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
VINYL CHLORIDE	µg/kg	59	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ
TRICHLOROETHENE	µg/kg	410	2.1 UJ	2.2 UJ	2.4 UJ	2.2 UJ	2.2 UJ	2.2 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N – Sample is not part of a duplicate pair.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

µg/kg – micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B156	NP-B157	NP-B157	NP-B158	NP-B158	NP-B159
Sample Name			NP-B156-S2-6-210622	NP-B157-S0-2-210622	NP-B157-S2-6-210622	NP-B158-S0-2-210622	NP-B158-S2-6-210622	NP-B159-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			4	1	4	1	4	1
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
TOLUENE	µg/kg	200,000	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
XYLENES, TOTAL	µg/kg	58,000	5.5 UJ	6.8 UJ	5.4 UJ	5.4 UJ	5.5 UJ	6.2 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
BENZENE	µg/kg	1,200	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
CHLOROETHANE	µg/kg	1,400,000	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
VINYL CHLORIDE	µg/kg	59	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ
TRICHLOROETHENE	µg/kg	410	2.2 UJ	2.7 UJ	2.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N – Sample is not part of a duplicate pair.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances

discovered during data validation. Data qualified as rejected is not usable.

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limit, which is an estimated value.

µg/kg – micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B159	NP-B160	NP-B160	NP-B161	NP-B161	NP-B162
Sample Name			NP-B159-S2-6-210622	NP-B160-S0-2-210622	NP-B160-S2-6-210622	NP-B161-S0-2-210622	NP-B161-S2-6-210622	NP-B162-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			4	1	4	1	5	1
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
TOLUENE	µg/kg	200,000	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
XYLENES, TOTAL	µg/kg	58,000	5.5 UJ	5.4 UJ	5.8 UJ	5.4 UJ	5.6 UJ	5.5 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
BENZENE	µg/kg	1,200	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
CHLOROETHANE	µg/kg	1,400,000	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
VINYL CHLORIDE	µg/kg	59	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ
TRICHLOROETHENE	µg/kg	410	2.2 UJ	2.2 UJ	2.3 UJ	2.2 UJ	2.2 UJ	2.2 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances

discovered during data validation. Data qualified as rejected is not usable.

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1



**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B162	NP-B163	NP-B163	NP-B164	NP-B164	NP-B165
Sample Name			NP-B162-S2-6-210622	NP-B163-S0-2-210622	NP-B163-S2-6-210622	NP-B164-S0-2-210622	NP-B164-S2-6-210622	NP-B165-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			4	1	4	1	4	1
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
TOLUENE	µg/kg	200,000	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
XYLENES, TOTAL	µg/kg	58,000	6 UJ	6.4 UJ	6.4 UJ	11 UJ	6.5 UJ	5.8 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
BENZENE	µg/kg	1,200	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
CHLOROETHANE	µg/kg	1,400,000	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
VINYL CHLORIDE	µg/kg	59	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ
TRICHLOROETHENE	µg/kg	410	2.4 UJ	2.6 UJ	2.6 UJ	4.3 UJ	2.6 UJ	2.3 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N – Sample is not part of a duplicate pair.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances

discovered during data validation. Data qualified as rejected is not usable.

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

µg/kg – micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B165	NP-B166	NP-B166	NP-B166	NP-B167	NP-B167
Sample Name			NP-B165-S2-6-210622	NP-B166-S0-2-210622	NP-B166-S2-6-210621	NP-B166-S4-210622	NP-B167-S0-2-210622	NP-B167-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			4	1	4	4	1	4
Sample Type			N	N	P	FD	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
TOLUENE	µg/kg	200,000	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
XYLENES, TOTAL	µg/kg	58,000	6.4 UJ	6.0 UJ	6.1 UJ	5.7 UJ	6.1 UJ	5.4 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
BENZENE	µg/kg	1,200	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
CHLOROETHANE	µg/kg	1,400,000	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
VINYL CHLORIDE	µg/kg	59	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ
TRICHLOROETHENE	µg/kg	410	2.5 UJ	2.4 UJ	2.4 UJ	2.3 UJ	2.4 UJ	2.2 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N – Sample is not part of a duplicate pair.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances

discovered during data validation. Data qualified as rejected is not usable.

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

µg/kg – micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B168	NP-B168	NP-B169	NP-B169	NP-B170	NP-B170
Sample Name			NP-B168-S0-2-210622	NP-B168-S2-6-210622	NP-B169-S0-2-210622	NP-B169-S2-6-210622	NP-B170-S0-2-210623	NP-B170-S2-6-210623
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			1	4	1	5	2	4
Sample Type			N	N	N	N	N	P
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
TOLUENE	µg/kg	200,000	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
XYLENES, TOTAL	µg/kg	58,000	6.3 UJ	5.7 UJ	5.8 UJ	5.7 UJ	5.5 UJ	6.3 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
BENZENE	µg/kg	1,200	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
CHLOROETHANE	µg/kg	1,400,000	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
VINYL CHLORIDE	µg/kg	59	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.2 J
1,1-DICHLOROETHANE	µg/kg	3,600	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ
TRICHLOROETHENE	µg/kg	410	2.5 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.2 UJ	2.5 UJ

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N – Sample is not part of a duplicate pair.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances

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U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

µg/kg – micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 1. Target VOCs in Soil (µg/kg)**

Location Name			NP-B170	NP-B171	NP-B171	NP-B172	NP-B172	NP-B173	NP-B173
Sample Name			NP-B170-S4-210623	NP-B171-S0-2-210623	NP-B171-S2-6-210623	NP-B172-S0-2-210623	NP-B172-S2-6-210623	NP-B173-S0-2-210623	NP-B173-S2-6-210623
Sample Collection Date			6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			4	1	6	1	6	1	4
Sample Type			FD	N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result	Result
ETHYLBENZENE	µg/kg	5,800	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
1,2-DICHLOROETHANE	µg/kg	460	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
TOLUENE	µg/kg	200,000	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
TETRACHLOROETHENE	µg/kg	8,100	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
XYLENES, TOTAL	µg/kg	58,000	6.5 UJ	5.4 UJ	6.3 UJ	5.4 UJ	6.6 UJ	5.3 UJ	5.8 UJ
CIS-1,2-DICHLOROETHENE	µg/kg	16,000	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
TRANS-1,2-DICHLOROETHENE	µg/kg	7,000	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
BENZENE	µg/kg	1,200	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
1,1,1-TRICHLOROETHANE	µg/kg	810,000	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
CHLOROETHANE	µg/kg	1,400,000	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
VINYL CHLORIDE	µg/kg	59	2.6 UJ	2.2 UJ	3.1 J	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
1,1-DICHLOROETHANE	µg/kg	3,600	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
1,1-DICHLOROETHENE	µg/kg	23,000	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	2.3 UJ
TRICHLOROETHENE	µg/kg	410	2.6 UJ	2.2 UJ	2.5 UJ	2.2 UJ	2.6 UJ	2.1 UJ	1.4 J

Samples analyzed using EPA Method 8260C

FD - Field Duplicate

ft bgs - feet below ground surface

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances

discovered during data validation. Data qualified as rejected is not usable.

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: WAC Table 749-3; LANL ECORISK Database Release 4.1

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B145	NP-B145	NP-B146	NP-B146	NP-B147	NP-B147
Sample Name			NP-B145-S0-2-210621	NP-B145-S2-6-210621	NP-B146-S0-2-210621	NP-B146-S2-6-210621	NP-B147-S0-2-210621	NP-B147-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	16 U	3.5 U	3.6 UJ	3.8 U	1.2 J	3.5 J
PYRENE	µg/kg	18,000	15 J	15	3.6 UJ	19	8.1	14
BENZO[G,H,I]PERYLENE	µg/kg	18,000	9.3 J	7.4	2.2 J	7.4	3.7 J	6.5
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	16 U	21	3.6 UJ	22	17	3.9 U
BENZO[B]FLUORANTHENE	µg/kg	1,100	16 U	27	3.6 UJ	30	24	28
FLUORANTHENE	µg/kg	18,000	13 J	14	3.6 UJ	16	7.4	12
BENZO[K]FLUORANTHENE	µg/kg	1,100	16 U	3.2 J	3.6 UJ	3.7 J	2.1 J	3.3 J
ACENAPHTHYLENE	µg/kg	29,000	16 U	3.5 U	3.6 UJ	3.8 U	3.3 U	3.9 U
CHRYSENE	µg/kg	11,000	9.8 J	8.6	1.6 J	9.1	4.4 J	6.5
BENZO[A]PYRENE	µg/kg	110	16 U	3.5 U	3.6 UJ	3.8 U	3.3 U	3.9 U
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	16 U	3.5 U	3.6 UJ	3.8 U	3.3 U	3.9 U
BENZO[A]ANTHRACENE	µg/kg	1,100	9.5 J	8.4	1.6 J	8.9	4.4 J	7.1
ACENAPHTHENE	µg/kg	29,000	16 U	3.5 U	3.6 UJ	1.3 J	3.3 U	3.3 J
PHENANTHRENE	µg/kg	29,000	7.7 J	11	3.6 UJ	15	3.8 J	18
FLUORENE	µg/kg	29,000	16 U	2.3 J	3.6 UJ	2.6 J	3.3 U	4.4 J
1-METHYLNAPHTHALENE	µg/kg	NE	16 U	2.7 J	3.6 UJ	2.4 J	3.3 U	1.6 J
NAPHTHALENE	µg/kg	2,000	16 U	14	3.6 UJ	3.9 J	1.4 J	4.8 J
2-METHYLNAPHTHALENE	µg/kg	24,000	16 U	4.7 J	3.6 UJ	5 J	1.1 J	3.7 J
cPAH TEQ (ND = 0)	µg/kg	110	1.05	6.05	0.18	6.55	4.79	3.91
cPAH TEQ (ND = full value)	µg/kg	110	23.45	9.90	5.22	10.73	8.42	8.59

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

TEQ - Toxic Equivalency Value

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B148	NP-B148	NP-B149	NP-B149	NP-B150	NP-B150
Sample Name			NP-B148-S0-2-210621	NP-B148-S2-6-210621	NP-B149-S0-2-210621	NP-B149-S2-6-210621	NP-B150-S0-2-210621	NP-B150-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	210 U	38 U	33 U	23 J	36 U	20 U
PYRENE	µg/kg	18,000	210 U	38 U	33 U	150	36 U	20 U
BENZO[G,H,I]PERYLENE	µg/kg	18,000	210 U	38 U	19 J	21 J	36 U	20 U
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	210 U	38 U	33 U	40 U	36 U	20 U
BENZO[B]FLUORANTHENE	µg/kg	1,100	210 U	38 U	33 U	40 U	36 U	20 U
FLUORANTHENE	µg/kg	18,000	210 U	38 U	33 U	180	36 U	20 U
BENZO[K]FLUORANTHENE	µg/kg	1,100	210 U	38 U	33 U	40 U	36 U	20 U
ACENAPHTHYLENE	µg/kg	29,000	210 U	38 U	33 U	40 U	36 U	20 U
CHRYSENE	µg/kg	11,000	210 U	15 J	11 J	57 J	36 U	20 U
BENZO[A]PYRENE	µg/kg	110	<b>210 U</b>	38 U	33 U	40 U	36 U	20 U
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	210 U	38 U	33 U	40 U	36 U	20 U
BENZO[A]ANTHRACENE	µg/kg	1,100	210 U	12 J	14 J	45 J	36 U	20 U
ACENAPHTHENE	µg/kg	29,000	210 U	38 U	33 U	67	36 U	20 U
PHENANTHRENE	µg/kg	29,000	210 U	38 U	33 U	320	36 U	20 U
FLUORENE	µg/kg	29,000	210 U	38 U	33 U	110	36 U	20 U
1-METHYLNAPHTHALENE	µg/kg	NE	210 U	14 J	33 U	37 J	36 U	20 U
NAPHTHALENE	µg/kg	2,000	210 U	38 U	33 U	40 U	36 U	20 U
2-METHYLNAPHTHALENE	µg/kg	24,000	210 U	13 J	33 U	53 J	36 U	20 U
cPAH TEQ (ND = 0)	µg/kg	110	0	1.35	1.51	5.07	0	0
cPAH TEQ (ND = full value)	µg/kg	110	<b>317</b>	54.55	47.71	61.07	54.36	30.20

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

TEQ - Toxic Equivalency Value

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B151	NP-B151	NP-B152	NP-B152	NP-B153	NP-B153
Sample Name			NP-B151-S0-2-210622	NP-B151-S2-6-210622	NP-B152-S0-2-210622	NP-B152-S2-6-210622	NP-B153-S0-2-210622	NP-B153-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	9.2 J	16 U	16 U	17 J	220	16 J
PYRENE	µg/kg	18,000	56	18 J	31	90	780	57
BENZO[G,H,I]PERYLENE	µg/kg	18,000	15 J	7.5 J	11 J	28 J	110	50
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	84	16 U	80	33 U	180	110
BENZO[B]FLUORANTHENE	µg/kg	1,100	16 U	16 U	16 U	33 U	320	160
FLUORANTHENE	µg/kg	18,000	48	14 J	26	61	650	48
BENZO[K]FLUORANTHENE	µg/kg	1,100	16 U	16 U	16 U	33 U	63	27 J
ACENAPHTHYLENE	µg/kg	29,000	16 U	16 U	16 U	33 U	8.2 J	5.3 J
CHRYSENE	µg/kg	11,000	24 J	12 J	16 J	46 J	270	60
BENZO[A]PYRENE	µg/kg	110	16 U	16 U	16 U	33 U	<b>120</b>	17 U
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	16 U	16 U	16 U	33 U	20 U	17 U
BENZO[A]ANTHRACENE	µg/kg	1,100	24 J	8.8 J	15 J	43 J	330	48
ACENAPHTHENE	µg/kg	29,000	16 U	16 U	16 U	22 J	150	7.9 J
PHENANTHRENE	µg/kg	29,000	49	8.4 J	19 J	68	990	41
FLUORENE	µg/kg	29,000	6.1 J	16 U	16 U	17 J	150	17 U
1-METHYLNAPHTHALENE	µg/kg	NE	16 U	16 U	16 U	13 J	34	6 J
NAPHTHALENE	µg/kg	2,000	16 U	16 U	16 U	15 J	13 J	41
2-METHYLNAPHTHALENE	µg/kg	24,000	16 U	16 U	16 U	22 J	28 J	10 J
cPAH TEQ (ND = 0)	µg/kg	110	11.04	1.00	9.66	4.76	<b>212</b>	35.10
cPAH TEQ (ND = full value)	µg/kg	110	31.84	23.40	30.46	50.96	<b>214</b>	53.80

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

TEQ - Toxic Equivalency Value

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B154	NP-B154	NP-B154	NP-B155	NP-B155	NP-B156
Sample Name			NP-B154-S0-2-210622	NP-B154-S2-6-210622	NP-B154-S4-210622	NP-B155-S0-2-210622	NP-B155-S2-6-210622	NP-B156-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	P	FD	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	340	42 J	88 U	81 U	160 J	83 U
PYRENE	µg/kg	18,000	1400	240	140 J	81 U	590	75 J
BENZO[G,H,I]PERYLENE	µg/kg	18,000	220	65 J	88 U	81 U	110 J	52 J
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	240	65 U	88 U	81 U	170 U	83 U
BENZO[B]FLUORANTHENE	µg/kg	1,100	460	65 U	88 U	81 U	1100	83 U
FLUORANTHENE	µg/kg	18,000	1100	270	130 J	81 U	770	79 J
BENZO[K]FLUORANTHENE	µg/kg	1,100	120	65 U	88 U	81 U	160 J	83 U
ACENAPHTHYLENE	µg/kg	29,000	7.5 J	65 U	88 U	81 U	170 U	83 U
CHRYSENE	µg/kg	11,000	480	72 J	56 J	23 J	240 J	46 J
BENZO[A]PYRENE	µg/kg	110	<b>300</b>	65 U	88 U	81 U	<u>170 U</u>	83 U
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	10 J	65 U	88 U	81 U	170 U	83 U
BENZO[A]ANTHRACENE	µg/kg	1,100	550	66 J	68 J	81 U	350	61 J
ACENAPHTHENE	µg/kg	29,000	220	36 J	88 U	81 U	160 J	83 U
PHENANTHRENE	µg/kg	29,000	1400	200	120 J	81 U	650	83 U
FLUORENE	µg/kg	29,000	200	43 J	37 J	81 U	120 J	83 U
1-METHYLNAPHTHALENE	µg/kg	NE	59	65 U	88 U	81 U	170 U	83 U
NAPHTHALENE	µg/kg	2,000	34	37 J	88 U	81 U	190 J	83 U
2-METHYLNAPHTHALENE	µg/kg	24,000	61	65 U	88 U	81 U	170 U	83 U
cPAH TEQ (ND = 0)	µg/kg	110	<b>443</b>	7.32	7.36	0.23	<b>163</b>	6.56
cPAH TEQ (ND = full value)	µg/kg	110	<b>443</b>	98.32	<b>131</b>	<b>122</b>	<b>367</b>	<b>123</b>

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

TEQ - Toxic Equivalency Value

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs



**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B156	NP-B157	NP-B157	NP-B158	NP-B158	NP-B159
Sample Name			NP-B156-S2-6-210622	NP-B157-S0-2-210622	NP-B157-S2-6-210622	NP-B158-S0-2-210622	NP-B158-S2-6-210622	NP-B159-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	17 U	20 U	490	16 U	160 U	95
PYRENE	µg/kg	18,000	6.8 J	20 U	1300	10 J	160 U	230
BENZO[G,H,I]PERYLENE	µg/kg	18,000	9.5 J	20 U	63 J	16 U	160 U	23 J
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	17 U	20 U	81 U	16 U	160 U	99
BENZO[B]FLUORANTHENE	µg/kg	1,100	17 U	20 U	680	16 U	160 U	170
FLUORANTHENE	µg/kg	18,000	6.6 J	20 U	1300	8.1 J	160 U	280
BENZO[K]FLUORANTHENE	µg/kg	1,100	17 U	20 U	130	16 U	160 U	42
ACENAPHTHYLENE	µg/kg	29,000	17 U	20 U	81 U	16 U	160 U	19 U
CHRYSENE	µg/kg	11,000	7.8 J	20 U	570	6.1 J	160 U	120
BENZO[A]PYRENE	µg/kg	110	17 U	20 U	81 U	16 U	<u>160 U</u>	19 U
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	17 U	20 U	81 U	16 U	160 U	19 U
BENZO[A]ANTHRACENE	µg/kg	1,100	9.9 J	20 U	400	7.7 J	160 U	110
ACENAPHTHENE	µg/kg	29,000	17 U	20 U	81 U	16 U	160 U	19 U
PHENANTHRENE	µg/kg	29,000	17 U	20 U	1100	7.3 J	160 U	13 J
FLUORENE	µg/kg	29,000	17 U	20 U	73 J	16 U	160 U	19 U
1-METHYLNAPHTHALENE	µg/kg	NE	17 U	20 U	46 J	16 U	160 U	19 U
NAPHTHALENE	µg/kg	2,000	17 U	20 U	61 J	16 U	160 U	19 U
2-METHYLNAPHTHALENE	µg/kg	24,000	17 U	20 U	64 J	16 U	160 U	19 U
cPAH TEQ (ND = 0)	µg/kg	110	1.07	0	<b>127</b>	0.83	0	43.30
cPAH TEQ (ND = full value)	µg/kg	110	24.87	30.20	<b>224</b>	23.23	<b>242</b>	64.20

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

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P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

TEQ - Toxic Equivalency Value

U - The analyte was not detected at or above the stated limit of detection (LOD).

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µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B159	NP-B160	NP-B160	NP-B161	NP-B161	NP-B162
Sample Name			NP-B159-S2-6-210622	NP-B160-S0-2-210622	NP-B160-S2-6-210622	NP-B161-S0-2-210622	NP-B161-S2-6-210622	NP-B162-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	190	32 J	180 U	87 J	590	3.3 U
PYRENE	µg/kg	18,000	1200	80 J	180 J	450	3200	2.8 J
BENZO[G,H,I]PERYLENE	µg/kg	18,000	210	81 U	180 U	47 J	780	1.9 J
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	510	81 U	180 U	81 U	840	3.3 U
BENZO[B]FLUORANTHENE	µg/kg	1,100	830	81 U	180 U	590	<b>1400</b>	3.3 U
FLUORANTHENE	µg/kg	18,000	870	55 J	180 J	600	3000	2.6 J
BENZO[K]FLUORANTHENE	µg/kg	1,100	200	81 U	180 U	73 J	420	3.3 U
ACENAPHTHYLENE	µg/kg	29,000	40 J	81 U	180 U	81 U	84 U	3.3 U
CHRYSENE	µg/kg	11,000	600	45 J	81 J	190	1100	3.2 J
BENZO[A]PYRENE	µg/kg	110	66 J	81 U	<u>180 U</u>	81 U	<b>510</b>	3.3 U
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	83 U	81 U	180 U	81 U	84 U	3.3 U
BENZO[A]ANTHRACENE	µg/kg	1,100	580	36 J	75 J	140	1100	2.3 J
ACENAPHTHENE	µg/kg	29,000	63 J	81 U	130 J	240	370	3.3 U
PHENANTHRENE	µg/kg	29,000	660	79 J	180 J	410	3300	1.5 J
FLUORENE	µg/kg	29,000	69 J	81 U	84 J	180	290	3.3 U
1-METHYLNAPHTHALENE	µg/kg	NE	83 U	81 U	100 J	87 J	200	3.3 U
NAPHTHALENE	µg/kg	2,000	66 J	81 U	180 U	68 J	250	3.3 U
2-METHYLNAPHTHALENE	µg/kg	24,000	30 J	81 U	150 J	180	200	3.3 U
cPAH TEQ (ND = 0)	µg/kg	110	<b>284</b>	4.05	8.31	82.20	<b>897</b>	0.26
cPAH TEQ (ND = full value)	µg/kg	110	<b>292</b>	<b>117</b>	<b>260</b>	<b>179</b>	<b>905</b>	4.88

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

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U - The analyte was not detected at or above the stated limit of detection (LOD).

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µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B162	NP-B163	NP-B163	NP-B164	NP-B164	NP-B165
Sample Name			NP-B162-S2-6-210622	NP-B163-S0-2-210622	NP-B163-S2-6-210622	NP-B164-S0-2-210622	NP-B164-S2-6-210622	NP-B165-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	18 U	38 U	3.9 UJ	330 U	92	7 UJ
PYRENE	µg/kg	18,000	13 J	42 J	3.9 UJ	330 U	350	26 J
BENZO[G,H,I]PERYLENE	µg/kg	18,000	14 J	24 J	2.3 J	150 J	61	8.9 J
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	18 U	38 U	3.9 UJ	330 U	140	7 UJ
BENZO[B]FLUORANTHENE	µg/kg	1,100	18 U	38 U	3.9 UJ	330 U	220	55 J
FLUORANTHENE	µg/kg	18,000	13 J	39 J	3.9 UJ	330 U	270	25 J
BENZO[K]FLUORANTHENE	µg/kg	1,100	18 U	38 U	3.9 UJ	330 U	43	6.5 J
ACENAPHTHYLENE	µg/kg	29,000	18 U	38 U	3.9 UJ	330 U	19 U	7 UJ
CHRYSENE	µg/kg	11,000	11 J	37 J	1.5 J	330 U	160	16 J
BENZO[A]PYRENE	µg/kg	110	18 U	38 U	3.9 UJ	<b>330 U</b>	41	7 UJ
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	18 U	38 U	3.9 UJ	330 U	19 U	7 UJ
BENZO[A]ANTHRACENE	µg/kg	1,100	13 J	33 J	1.8 J	330 U	170	17 J
ACENAPHTHENE	µg/kg	29,000	18 U	38 U	3.9 UJ	330 U	51	7 UJ
PHENANTHRENE	µg/kg	29,000	7.2 J	20 J	3.9 UJ	330 U	350	9.8 J
FLUORENE	µg/kg	29,000	18 U	38 U	3.9 UJ	330 U	56	7 UJ
1-METHYLNAPHTHALENE	µg/kg	NE	18 U	38 U	3.9 UJ	330 U	34	7 UJ
NAPHTHALENE	µg/kg	2,000	18 U	38 U	3.9 UJ	330 U	50	7 UJ
2-METHYLNAPHTHALENE	µg/kg	24,000	18 U	38 U	3.9 UJ	330 U	37	7 UJ
cPAH TEQ (ND = 0)	µg/kg	110	1.41	3.67	0.20	0	99.90	8.01
cPAH TEQ (ND = full value)	µg/kg	110	26.61	56.87	5.66	<b>498</b>	102	16.41

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

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µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B165	NP-B166	NP-B166	NP-B166	NP-B167	NP-B167
Sample Name			NP-B165-S2-6-210622	NP-B166-S0-2-210622	NP-B166-S2-6-210621	NP-B166-S4-210622	NP-B167-S0-2-210622	NP-B167-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	2 - 6	0 - 2	2 - 6
Sample Type			N	N	P	FD	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	3.8 U	18 U	2600 J	160 J	16 J	22 J
PYRENE	µg/kg	18,000	3.8 U	18 J	7900 J	510 J	96	270
BENZO[G,H,I]PERYLENE	µg/kg	18,000	3.8 U	9.6 J	1200 J	130 J	25 J	330
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	3.8 U	18 U	1100 J	94 J	18 U	130
BENZO[B]FLUORANTHENE	µg/kg	1,100	3.8 U	18 U	<b>2100 J</b>	170 J	140	550
FLUORANTHENE	µg/kg	18,000	3.8 U	16 J	5200 J	520 J	80	300
BENZO[K]FLUORANTHENE	µg/kg	1,100	3.8 U	18 U	620 J	69 J	15 J	180
ACENAPHTHYLENE	µg/kg	29,000	3.8 U	18 U	36 U	34 U	18 U	33 U
CHRYSENE	µg/kg	11,000	1.4 J	9.8 J	2500 J	200 J	44	210
BENZO[A]PYRENE	µg/kg	110	3.8 U	18 U	<b>2200 J</b>	<b>170 J</b>	18 U	<b>200</b>
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	3.8 U	18 U	180	32 J	18 U	93
BENZO[A]ANTHRACENE	µg/kg	1,100	1.5 J	12 J	<b>3300 J</b>	190 J	52	160
ACENAPHTHENE	µg/kg	29,000	3.8 U	18 U	1300 J	100 J	18 U	27 J
PHENANTHRENE	µg/kg	29,000	3.8 U	8.3 J	8300 J	500 J	77	140
FLUORENE	µg/kg	29,000	3.8 U	18 U	1200 J	69 J	7.3 J	14 J
1-METHYLNAPHTHALENE	µg/kg	NE	3.8 U	18 U	390	29 J	18 U	33 U
NAPHTHALENE	µg/kg	2,000	3.8 U	5.3 J	82	25 J	18 U	33 U
2-METHYLNAPHTHALENE	µg/kg	24,000	3.8 U	18 U	340	36 J	18 U	33 U
cPAH TEQ (ND = 0)	µg/kg	110	0.16	1.30	<b>2955</b>	<b>228</b>	21.14	<b>313</b>
cPAH TEQ (ND = full value)	µg/kg	110	5.48	26.50	<b>2955</b>	<b>228</b>	42.74	<b>313</b>

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

TEQ - Toxic Equivalency Value

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B168	NP-B168	NP-B169	NP-B169	NP-B170	NP-B170
Sample Name			NP-B168-S0-2-210622	NP-B168-S2-6-210622	NP-B169-S0-2-210622	NP-B169-S2-6-210622	NP-B170-S0-2-210623	NP-B170-S2-6-210623
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	P
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	3.8 UJ	34 U	35 U	68 U	3.3 UJ	3.8 UJ
PYRENE	µg/kg	18,000	3.8 UJ	34 U	35 U	76 J	5 J	3.8 UJ
BENZO[G,H,I]PERYLENE	µg/kg	18,000	3.8 UJ	34 U	35 U	33 J	2.9 J	3.8 UJ
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	3.8 UJ	34 U	35 U	22 J	3.3 UJ	3.8 UJ
BENZO[B]FLUORANTHENE	µg/kg	1,100	3.8 UJ	34 U	35 U	61 J	24 J	3.8 UJ
FLUORANTHENE	µg/kg	18,000	3.8 UJ	34 U	35 U	72 J	3.3 UJ	3.8 UJ
BENZO[K]FLUORANTHENE	µg/kg	1,100	3.8 UJ	34 U	35 U	27 J	2.2 J	3.8 UJ
ACENAPHTHYLENE	µg/kg	29,000	3.8 UJ	34 U	35 U	68 U	3.3 UJ	3.8 UJ
CHRYSENE	µg/kg	11,000	3.8 UJ	34 U	35 U	53 J	6.1 J	3.8 UJ
BENZO[A]PYRENE	µg/kg	110	3.8 UJ	34 U	35 U	40 J	3.3 UJ	3.8 UJ
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	3.8 UJ	34 U	35 U	68 U	3.3 UJ	3.8 UJ
BENZO[A]ANTHRACENE	µg/kg	1,100	3.8 UJ	34 U	35 U	57 J	4.5 J	3.8 UJ
ACENAPHTHENE	µg/kg	29,000	3.8 UJ	34 U	35 U	68 U	3.3 UJ	3.8 UJ
PHENANTHRENE	µg/kg	29,000	3.8 UJ	34 U	35 U	63 J	2.5 J	2.4 J
FLUORENE	µg/kg	29,000	3.8 UJ	34 U	35 U	68 U	3.3 UJ	3.8 UJ
1-METHYLNAPHTHALENE	µg/kg	NE	3.8 UJ	34 U	35 U	68 U	3.3 UJ	1.3 J
NAPHTHALENE	µg/kg	2,000	3.8 UJ	34 U	35 U	68 U	1.3 J	27 J
2-METHYLNAPHTHALENE	µg/kg	24,000	3.8 UJ	34 U	35 U	68 U	3.3 UJ	2.2 J
cPAH TEQ (ND = 0)	µg/kg	110	0	0	0	57.23	3.13	0
cPAH TEQ (ND = full value)	µg/kg	110	5.74	51.34	52.85	64.03	7.09	5.74

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

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N - Sample is not part of a duplicate pair.

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µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological*: EPA Eco-SSLs

**Table 2. PAHs in Soil (µg/kg)**

Location Name			NP-B170	NP-B171	NP-B171	NP-B172	NP-B172	NP-B173	NP-B173
Sample Name			NP-B170-S4-210623	NP-B171-S0-2-210623	NP-B171-S2-6-210623	NP-B172-S0-2-210623	NP-B172-S2-6-210623	NP-B173-S0-2-210623	NP-B173-S2-6-210623
Sample Collection Date			6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			FD	N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result	Result
ANTHRACENE	µg/kg	29,000	3.9 UJ	16 U	320	16 U	99 U	32 U	3.5 U
PYRENE	µg/kg	18,000	3.9 UJ	16 U	990	51	230	23 J	3.5 U
BENZO[G,H,I]PERYLENE	µg/kg	18,000	3.9 UJ	16 U	160	23 J	51 J	14 J	3.5 U
INDENO[1,2,3-CD]PYRENE	µg/kg	1,100	3.9 UJ	16 U	110	16 U	37 J	13 J	1.9 J
BENZO[B]FLUORANTHENE	µg/kg	1,100	3.9 UJ	16 U	270	120	99 U	16 J	2.7 J
FLUORANTHENE	µg/kg	18,000	3.9 UJ	16 U	840	46	210	21 J	2.6 J
BENZO[K]FLUORANTHENE	µg/kg	1,100	3.9 UJ	16 U	96	11 J	99 U	32 U	1.3 J
ACENAPHTHYLENE	µg/kg	29,000	3.9 UJ	16 U	35	16 U	99 U	32 U	3.5 U
CHRYSENE	µg/kg	11,000	3.9 UJ	16 U	330	26 J	230	31 J	2.3 J
BENZO[A]PYRENE	µg/kg	110	3.9 UJ	16 U	<b>310</b>	16 U	75 J	11 J	1.8 J
DIBENZ[A,H]ANTHRACENE	µg/kg	1,100	3.9 UJ	16 U	27 J	16 U	99 U	32 U	1.6 J
BENZO[A]ANTHRACENE	µg/kg	1,100	3.9 UJ	16 U	340	23 J	230	19 J	2.4 J
ACENAPHTHENE	µg/kg	29,000	3.9 UJ	16 U	220	16 U	69 J	32 U	2.6 J
PHENANTHRENE	µg/kg	29,000	3.9 UJ	16 U	1900	40	290	16 J	1.7 J
FLUORENE	µg/kg	29,000	3.9 UJ	16 U	330	16 U	77 J	32 U	3.5 U
1-METHYLNAPHTHALENE	µg/kg	NE	3.9 UJ	16 U	220	16 U	41 J	32 U	1.7 J
NAPHTHALENE	µg/kg	2,000	14 J	16 U	1900	16 U	120 J	32 U	35
2-METHYLNAPHTHALENE	µg/kg	24,000	2.2 J	16 U	290	16 U	99 U	32 U	4.5 J
cPAH TEQ (ND = 0)	µg/kg	110	0	0	<b>398</b>	15.66	104	16.11	2.81
cPAH TEQ (ND = full value)	µg/kg	110	5.89	24.16	<b>398</b>	34.86	<b>134</b>	22.51	2.81

Samples analyzed using EPA Method 8270D

cPAH - carcinogenic polycyclic aromatic hydrocarbons (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene)

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

R - The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

TEQ - Toxic Equivalency Value

U - The analyte was not detected at or above the stated limit of detection (LOD).

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µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological* : EPA Eco-SSLs

**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B145	NP-B145	NP-B146	NP-B146	NP-B147	NP-B147
Sample Name			NP-B145-S0-2-210621	NP-B145-S2-6-210621	NP-B146-S0-2-210621	NP-B146-S2-6-210621	NP-B147-S0-2-210621	NP-B147-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.81 U	0.25 U	0.09 U	0.097 U	0.29 U	0.13 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	0.58 U	0.13 U	0.095 U	0.11 U	0.17 U	0.18 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	440	290	33	28	130	32
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	49	35	3.8 U	3.4 U	16	4.2 U
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	30	27	1.8 J	2.7 U	5.8 J	2.9 J
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.4 U	0.42 J	0.099 U	0.16 J	0.19 U	0.14 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.47 U	0.33 U	0.087 U	0.14 U	0.16 U	0.12 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.82 J	0.14 U	0.15 U	0.46 U	0.36 J	0.28 J
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.38 U	0.5 U	0.13 U	0.12 U	0.19 U	0.11 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.9 U	0.22 U	0.1 U	0.18 U	0.2 U	0.14 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.65 U	0.23 U	0.1 U	0.19 U	0.27 U	0.14 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	2.4 U	1.9 U	0.07 U	0.3 U	0.19 U	0.13 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	1.7 U	1.7 J	0.18 J	0.24 U	0.55 U	0.32 J
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.5 J	0.36 U	1.3 U	0.84 U	0.22 J	0.094 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.31 U	26	0.67 J	1.7 J	2.8 U	0.98 U
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	1.3 J	0.82 J	0.27 U	0.17 U	0.34 U	0.19 U
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.38 U	0.18 U	0.061 U	0.18 U	0.09 U	0.098 U
PeCDF, TOTAL	pg/g	NE	6 U	4 U	1.1 U	6.1 J	4.8 U	3 J
HxCDF, TOTAL	pg/g	NE	39	30	2.6 J	3.3 U	1.8 J	2.7 J
HxCDD, TOTAL	pg/g	100	3.5 J	10 J	0.35 J	0.94 J	1.7 U	0.99 J
HpCDF, TOTAL	pg/g	NE	9.8 J	26	4.3 J	3.9 J	5.4 J	2 J
TCDD, TOTAL	pg/g	NE	0.59 J	0.86 U	0.34 U	0.78 U	0.82 J	0.79 U
HpCDD, TOTAL	pg/g	NE	51	35	7.5 J	7.6 J	16	4.2 U
PeCDD, TOTAL	pg/g	NE	2.9 U	4.4 J	0.58 U	0.46 U	1.7 U	0.06 U
TCDF, TOTAL	pg/g	NE	16	50	0.94 J	8.3	3 J	2.1 J

Samples analyzed using EPA Method 8290

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit of detection (LOD).

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limit, which is an estimated value.

pg/g - picograms per gram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL.

<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B148	NP-B148	NP-B149	NP-B149	NP-B150	NP-B150
Sample Name			NP-B148-S0-2-210621	NP-B148-S2-6-210621	NP-B149-S0-2-210621	NP-B149-S2-6-210621	NP-B150-S0-2-210621	NP-B150-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.68 U	0.13 U	0.19 U	9.1 U	0.051 U	0.13 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	1.1 J	0.16 U	0.54 J	9.1 U	0.078 U	0.092 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	210	4.6 U	84	1200	16 U	150
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	25	0.84 U	10 U	120	1.8 U	9.3 U
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	10 J	0.25 U	2.5 J	170	0.34 U	0.42 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.23 U	0.15 U	0.21 U	10 U	0.059 U	0.15 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.4 U	0.089 U	0.099 U	20 U	0.088 U	0.089 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.19 U	0.23 U	0.14 U	30 U	0.08 U	0.089 U
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.44 U	0.16 U	0.32 J	6.2 U	0.12 U	0.18 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.38 U	0.09 U	0.14 U	6 U	0.12 U	0.17 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.19 U	0.093 U	0.15 U	6.2 U	0.13 U	0.18 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.36 U	0.13 U	0.14 U	8.4 U	0.058 U	0.22 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	1.2 J	0.13 U	0.28 U	8.9 U	0.065 U	0.13 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.3 J	0.15 U	0.18 J	9.2 U	0.47 U	1.2 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	6.6 J	0.43 U	1.6 J	190 U	1.8 J	2.9 J
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.43 J	0.15 U	0.42 J	9.5 U	0.065 U	0.099 U
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.28 U	0.17 U	0.12 U	10 U	0.071 U	0.12 U
PeCDF, TOTAL	pg/g	NE	22	1.1 J	6.9 J	1100	0.68 J	1.5 U
HxCDF, TOTAL	pg/g	NE	5 J	0.59 U	5 J	290 U	1.6 J	3 J
HxCDD, TOTAL	pg/g	100	8.1 J	0.33 J	1.7 J	24 U	0.23 J	1.7 U
HpCDF, TOTAL	pg/g	NE	6.6 J	0.19 J	5.3 J	190	1.8 J	2.9 J
TCDD, TOTAL	pg/g	NE	1.5 J	1.4 U	0.54 J	5.6 U	0.22 J	0.24 U
HpCDD, TOTAL	pg/g	NE	53	1 U	20	128	1.8 J	13 U
PeCDD, TOTAL	pg/g	NE	2.2 U	0.68 U	0.39 U	3.3 U	0.68 U	0.76 U
TCDF, TOTAL	pg/g	NE	6.9 U	2.2 J	2.2 J	2800	3.4 J	4.3 J

Samples analyzed using EPA Method 8290

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

pg/g - picograms per gram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL.

<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)



**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B151	NP-B151	NP-B152	NP-B152	NP-B153	NP-B153
Sample Name			NP-B151-S0-2-210622	NP-B151-S2-6-210622	NP-B152-S0-2-210622	NP-B152-S2-6-210622	NP-B153-S0-2-210622	NP-B153-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.21 U	1.1 U	0.55 U	0.54 U	0.29 U	0.29 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	1.2 J	0.52 U	0.9 U	0.82 J	0.15 U	0.27 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	22 U	150	350	400	11 J	100
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	4.2 U	17	34	41	1.7 J	14
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	0.37 U	3.7 U	13 J	15 U	0.52 U	16 J
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.23 U	1.2 U	0.6 U	0.59 U	0.077 U	0.63 J
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.2 U	1 U	0.39 U	1.8 U	0.13 U	0.72 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.13 U	0.38 U	0.75 U	0.48 U	0.29 U	2.4 U
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.14 U	1.5 U	0.39 U	0.51 U	0.15 U	0.42 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.15 U	0.82 U	0.77 U	2 J	0.18 U	1.4 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.35 U	0.84 U	0.28 U	0.37 U	0.18 U	0.35 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.13 U	0.99 U	0.61 U	3.1 U	0.17 U	2.7 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.2 U	1.1 U	1.2 J	1.2 U	0.073 U	0.28 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.42 U	1.1 U	0.39 U	0.61 U	1.2 U	0.59 J
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.39 U	7.6 J	8.1 J	17	0.12 U	25
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.62 J	1.1 U	0.89 U	1 U	0.2 U	1 J
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.17 U	1.2 U	0.52 U	0.54 U	0.22 U	0.49 U
PeCDF, TOTAL	pg/g	NE	1.2 J	13	25	56	4.1 J	16 U
HxCDF, TOTAL	pg/g	NE	0.86 J	4.1 J	16	21	1.2 J	13
HxCDD, TOTAL	pg/g	100	0.5 J	1.1 J	1.2 J	12 U	1.7 U	1.4 J
HpCDF, TOTAL	pg/g	NE	2.2 U	7.6 J	8.1 J	34	0.37 J	27
TCDD, TOTAL	pg/g	NE	1.2 J	0.32 U	2.5 U	0.82 J	0.23 J	0.25 U
HpCDD, TOTAL	pg/g	NE	4.2 J	38	34	41	1.7 J	25
PeCDD, TOTAL	pg/g	NE	0.79 U	1 U	1.1 U	1.4 U	0.093 U	1.6 U
TCDF, TOTAL	pg/g	NE	0.73 J	7.8	66	26	0.36 J	160

Samples analyzed using EPA Method 8290

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation

limit, which is an estimated value.

pg/g - picograms per gram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL.

<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B154	NP-B154	NP-B154	NP-B155	NP-B155	NP-B156
Sample Name			NP-B154-S0-2-210622	NP-B154-S2-6-210622	NP-B154-S4-210622	NP-B155-S0-2-210622	NP-B155-S2-6-210622	NP-B156-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	P	FD	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.79 J	2.9 U	3.3 U	0.44 U	0.57 U	0.64 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	0.87 U	<u>5.9 U</u>	<u>5.5 U</u>	0.34 U	0.84 U	0.22 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	240	480 J	390	77	250	220
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	30	50 J	31 U	9.4 J	23	27
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	15 J	34	36 U	3.3 J	7.3 U	12 J
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.22 U	3.2 U	3.6 U	0.48 U	0.63 U	0.44 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.3 U	12 U	5.8 U	0.32 U	0.45 U	0.34 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.19 U	3.5 U	3.7 U	0.23 U	0.29 U	0.3 U
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.93 J	2.4 U	1.7 U	0.4 U	0.66 J	0.21 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	1.1 J	4.7 U	2.3 U	0.25 U	0.36 U	1.5 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.37 U	1.8 U	2.4 U	0.26 U	0.38 U	0.36 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	5.2 U	5.6 U	2.4 U	0.33 U	0.85 U	3.7 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	1.4 J	2.8 U	3.2 U	0.43 U	0.56 U	0.82 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.58 J	2.9 U	2.6 U	2.9 U	4.7 U	0.64 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	9.9 J	52 U	52	0.33 U	0.52 U	8.8 J
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	1.1 J	7.2 U	2.7 U	0.38 U	0.64 U	0.91 J
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.27 U	6.4 J	2.9 U	0.41 U	1 U	0.43 U
PeCDF, TOTAL	pg/g	NE	127	130	97	14	9.3 J	2.6 J
HxCDF, TOTAL	pg/g	NE	39	24	15	2.9 J	19 U	21
HxCDD, TOTAL	pg/g	100	4.8 J	13 U	25 U	0.88 U	1.2 U	7.6 U
HpCDF, TOTAL	pg/g	NE	40	96 J	57 J	4.8 U	8 J	19
TCDD, TOTAL	pg/g	NE	2.2 U	9.6 U	18 U	1.3 U	1.2 J	0.51 J
HpCDD, TOTAL	pg/g	NE	61	50	46	19	23	27
PeCDD, TOTAL	pg/g	NE	2.9 U	6 U	14 U	2 U	0.29 U	0.58 J
TCDF, TOTAL	pg/g	NE	127	203 J	78 J	7.5	6.7	319

Samples analyzed using EPA Method 8290

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NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit of detection (LOD).

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limit, which is an estimated value.

pg/g - picograms per gram

**Bolded** values indicate that the reported concentration exceeds the PAL.

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<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B156	NP-B157	NP-B157	NP-B158	NP-B158	NP-B159
Sample Name			NP-B156-S2-6-210622	NP-B157-S0-2-210622	NP-B157-S2-6-210622	NP-B158-S0-2-210622	NP-B158-S2-6-210622	NP-B159-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.15 U	0.13 U	0.63 U	0.19 U	0.14 U	0.078 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	0.12 U	0.13 U	1.9 U	0.51 U	0.18 U	0.11 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	19 J	17 U	460	110	150	5.5 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	2.5 U	2.2 J	44	13	15	1.1 U
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	1.7 U	1 J	13 J	4.2 J	5.6 J	0.74 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.16 U	0.11 U	1.4 U	0.21 U	0.55 U	0.39 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.16 U	0.084 U	0.27 U	0.38 U	0.28 U	0.14 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.39 U	0.12 U	0.29 U	0.55 J	0.18 U	0.68 J
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.12 U	0.1 U	0.83 J	0.23 U	0.32 U	0.11 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.13 U	0.28 U	0.96 U	0.31 U	0.23 U	0.11 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.15 U	0.29 U	0.26 U	0.22 U	0.19 U	0.16 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.18 U	0.13 U	1.5 U	0.52 U	0.73 U	0.11 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.14 U	0.13 U	0.47 U	0.51 U	0.14 U	0.076 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.8 U	0.69 U	0.35 U	0.15 U	0.15 U	0.41 J
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.77 J	0.37 U	7.5 J	2.4 J	3.4 U	0.42 U
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.2 U	0.31 U	1 J	0.28 J	0.22 J	0.12 U
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.22 U	0.11 U	0.36 U	0.26 U	0.17 U	0.13 U
PeCDF, TOTAL	pg/g	NE	1.6 J	0.71 U	27	21	17	1.6 U
HxCDF, TOTAL	pg/g	NE	2.1 J	1.7 J	8.1 J	9.3 J	3.5 J	0.67 J
HxCDD, TOTAL	pg/g	100	0.81 U	0.4 U	8.2 U	0.34 J	0.23 J	0.35 J
HpCDF, TOTAL	pg/g	NE	2.6 J	0.085 J	8.3 J	6.4 J	11 J	0.81 U
TCDD, TOTAL	pg/g	NE	2 U	0.38 J	3.5 U	0.84 J	0.12 U	0.067 U
HpCDD, TOTAL	pg/g	NE	0.26 J	4.9 J	99	27	15	1.7 U
PeCDD, TOTAL	pg/g	NE	0.45 U	0.37 U	0.57 J	0.43 U	1.3 U	0.37 U
TCDF, TOTAL	pg/g	NE	4.9 J	2.2 J	38	13	24	0.91 J

Samples analyzed using EPA Method 8290

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N - Sample is not part of a duplicate pair.

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P - Parent sample of field duplicate

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<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B159	NP-B160	NP-B160	NP-B161	NP-B161	NP-B162
Sample Name			NP-B159-S2-6-210622	NP-B160-S0-2-210622	NP-B160-S2-6-210622	NP-B161-S0-2-210622	NP-B161-S2-6-210622	NP-B162-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	1 U	0.3 U	2.6 J	0.7 U	0.48 U	0.069 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	0.3 U	1.1 U	0.76 U	1.2 U	0.84 U	0.1 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	550	340	1500	500	130	16 J
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	62	36	110	47	17	2.1 U
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	40	11 J	48	13 U	11 J	0.55 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	2.8 U	1 U	5.2 J	1.9 J	0.53 U	0.076 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.45 U	0.53 U	1.9 U	0.62 U	0.67 U	0.15 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.32 U	0.32 U	0.84 U	0.54 U	0.25 U	0.11 U
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	1.1 J	0.41 U	1 J	0.63 U	0.54 U	0.089 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.88 U	0.27 U	3.1 J	2.1 U	2.1 U	0.13 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.53 U	0.28 U	1.3 U	0.79 U	0.52 U	0.14 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	3.8 U	0.32 U	20 U	0.94 U	3.5 U	0.15 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.33 U	0.29 U	0.99 U	0.62 U	0.98 U	0.068 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	20 U	0.36 U	2.4 J	0.62 U	0.85 J	0.67 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	20	5.1 J	50	10 J	7.5 J	0.073 U
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.64 U	0.37 U	2.1 U	0.64 U	1.5 J	0.2 J
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.69 U	0.4 U	0.97 U	0.7 U	0.39 U	0.15 U
PeCDF, TOTAL	pg/g	NE	31	8.3 U	10 J	21	120	1.6 J
HxCDF, TOTAL	pg/g	NE	66	7.7 J	145	6.6 J	34	1 J
HxCDD, TOTAL	pg/g	100	6.7 J	0.84 J	7.8 J	5.5 J	1.7 J	1 U
HpCDF, TOTAL	pg/g	NE	63	5.1 J	103	10 J	24	1.9 U
TCDD, TOTAL	pg/g	NE	2.6 J	0.32 J	6.2 U	0.64 J	2.3 J	0.99 U
HpCDD, TOTAL	pg/g	NE	62	90	111	123	42	0.13 J
PeCDD, TOTAL	pg/g	NE	3.1 U	0.98 U	17 U	2.2 U	2.5 U	0.45 U
TCDF, TOTAL	pg/g	NE	75	1.4 J	1200	57	230	0.7 J

Samples analyzed using EPA Method 8290

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U - The analyte was not detected at or above the stated limit of detection (LOD).

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limit, which is an estimated value.

pg/g - picograms per gram

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Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL.

<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B162	NP-B163	NP-B163	NP-B164	NP-B164	NP-B165
Sample Name			NP-B162-S2-6-210622	NP-B163-S0-2-210622	NP-B163-S2-6-210622	NP-B164-S0-2-210622	NP-B164-S2-6-210622	NP-B165-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.049 U	0.31 U	0.051 U	0.47 U	0.19 U	0.44 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	0.093 U	0.27 U	0.11 U	0.41 U	0.13 U	0.21 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	26	91	1 J	150	100	230
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	3.5 J	18	0.22 U	20	8 J	19
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	1.6 J	6.9 J	0.15 U	9.2 J	11 U	7.5 J
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.37 U	0.29 U	0.054 U	0.95 J	0.79 U	0.72 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.12 U	0.2 U	0.084 U	0.57 U	0.32 U	0.19 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.096 U	0.84 J	0.048 U	1.3 U	0.14 U	0.33 U
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.18 U	0.44 U	0.038 U	1.2 U	0.29 U	0.22 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.2 U	0.29 U	0.095 U	1.7 U	0.44 U	0.49 J
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.21 U	0.3 U	0.077 U	0.59 U	0.31 U	0.26 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.14 U	1.2 U	0.053 U	0.48 U	2.1 U	1.1 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.048 U	1.2 J	0.11 U	0.46 U	0.19 U	0.21 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	1.4 U	0.27 U	0.045 U	0.9 J	0.27 J	0.2 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.14 U	6.7 J	0.046 U	13	45	4.5 J
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.12 U	0.48 U	0.13 U	0.54 U	0.48 U	0.62 J
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.13 U	0.3 U	0.083 U	0.59 U	0.19 U	0.25 U
PeCDF, TOTAL	pg/g	NE	1.8 U	8.8 J	0.54 U	42 U	100	17
HxCDF, TOTAL	pg/g	NE	1.4 J	18	0.062 J	42	19	0.62 J
HxCDD, TOTAL	pg/g	100	0.45 J	1.2 J	0.3 J	2.2 J	0.93 J	0.72 J
HpCDF, TOTAL	pg/g	NE	1.8 J	6.7 J	0.14 J	20	72	18
TCDD, TOTAL	pg/g	NE	0.068 U	0.45 J	0.043 U	2 U	0.22 J	0.22 J
HpCDD, TOTAL	pg/g	NE	3.5 J	35	0.1 J	40	8 J	41
PeCDD, TOTAL	pg/g	NE	0.79 U	1.2 U	0.3 U	2 U	0.31 U	0.32 J
TCDF, TOTAL	pg/g	NE	0.22 J	14	0.26 J	120	91	23

Samples analyzed using EPA Method 8290

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N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit of detection (LOD).

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limit, which is an estimated value.

pg/g - picograms per gram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL.

<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B165	NP-B166	NP-B166	NP-B166	NP-B167	NP-B167
Sample Name			NP-B165-S2-6-210622	NP-B166-S0-2-210622	NP-B166-S2-6-210621	NP-B166-S4-210622	NP-B167-S0-2-210622	NP-B167-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	2 - 6	0 - 2	2 - 6
Sample Type			N	N	P	FD	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.055 U	0.07 U	0.17 U	0.96 U	0.36 U	0.13 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	0.1 U	0.082 U	0.27 U	2.3 J	0.33 U	0.1 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	1.7 U	31	22 J	220	46	22 J
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	0.13 U	3.3 J	2.6 J	31	6.5 J	3.1 U
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	0.41 U	0.82 U	4.3 J	39	6.5 J	1.4 J
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.061 U	0.078 U	0.21 U	0.45 U	0.4 U	0.14 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.054 U	0.036 U	0.2 U	0.48 U	0.75 U	0.61 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.27 U	0.06 U	0.78 U	4.9 U	2.3 U	0.24 J
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.054 U	0.073 U	0.32 U	0.56 U	0.59 U	0.22 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.083 U	0.15 U	0.55 U	3.2 U	0.49 U	0.13 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.12 U	0.16 U	0.57 U	0.83 U	0.51 U	0.14 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.059 U	0.062 U	0.27 U	4.2 U	2.3 U	0.15 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.054 U	0.069 U	0.16 U	1.2 U	0.35 U	0.13 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.049 U	0.071 U	1.2 U	2.1 J	0.37 U	1.4 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.025 U	0.059 U	5 J	46	11 J	1 U
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.063 U	0.07 U	0.31 U	1.7 U	1.5 U	0.17 U
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.056 U	0.076 U	0.34 U	0.87 U	0.41 U	0.18 U
PeCDF, TOTAL	pg/g	NE	0.35 U	3.5 J	9.5 J	2.4 J	33	4.6 J
HxCDF, TOTAL	pg/g	NE	0.056 J	0.32 J	5.8 U	4.2 J	5.5 J	1.6 J
HxCDD, TOTAL	pg/g	100	0.9 U	0.083 J	0.97 U	0.74 J	0.54 J	0.22 J
HpCDF, TOTAL	pg/g	NE	0.028 J	0.84 J	5 J	46	11 J	1.3 J
TCDD, TOTAL	pg/g	NE	0.48 J	0.6 U	8.4 U	2.3 J	2.4 U	0.22 J
HpCDD, TOTAL	pg/g	NE	0.22 U	3.3 J	2.6 J	31	6.5 J	4.1 J
PeCDD, TOTAL	pg/g	NE	0.097 U	0.16 U	0.63 U	5.6 U	1.5 U	0.5 U
TCDF, TOTAL	pg/g	NE	0.18 J	3.4 J	3.4 J	1500	28	2.3 J

Samples analyzed using EPA Method 8290

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limit, which is an estimated value.

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<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B168	NP-B168	NP-B169	NP-B169	NP-B170	NP-B170
Sample Name			NP-B168-S0-2-210622	NP-B168-S2-6-210622	NP-B169-S0-2-210622	NP-B169-S2-6-210622	NP-B170-S0-2-210623	NP-B170-S2-6-210623
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	P
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.14 U	0.1 U	0.14 U	5.4 J	0.12 U	0.13 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	0.071 U	0.71 U	0.13 U	<b>25</b>	0.21 U	0.24 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	11 J	36	27	460	35	8.2 J
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	0.95 J	5.3 U	3.6 J	61	4.8 U	2.5 J
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	0.18 U	1.8 J	1.3 J	24 J	2.8 U	1.1 J
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.055 U	0.23 U	0.28 U	4 J	0.13 U	0.15 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.077 U	0.14 U	0.14 U	4.6 U	0.19 U	0.24 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.04 U	0.25 U	0.31 U	3.9 U	0.22 U	0.38 U
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.16 U	0.15 U	0.13 U	4.6 J	0.2 U	0.19 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.065 U	0.22 U	0.37 U	5.9 U	0.13 U	0.27 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.068 U	0.23 U	0.38 U	4.1 J	0.27 U	0.28 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.15 U	0.21 U	0.1 U	6.1 J	0.3 U	0.14 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.04 U	0.11 U	0.14 U	6.2 J	0.11 U	0.13 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.066 U	2.4 U	1 U	4.2 J	1.5 U	0.17 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.085 U	0.18 U	0.11 U	29 U	1.8 J	1.4 U
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.13 U	0.23 U	0.12 U	5.2 U	0.43 U	0.16 U
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.074 U	0.25 U	0.13 U	2.8 U	0.26 U	0.17 U
PeCDF, TOTAL	pg/g	NE	0.37 U	9.2 J	2 U	18	0.33 J	4.7 J
HxCDF, TOTAL	pg/g	NE	0.2 J	3.8 J	1.4 J	52	2.2 J	1.1 J
HxCDD, TOTAL	pg/g	100	0.22 J	1 J	0.15 J	16	1.7 U	1.1 U
HpCDF, TOTAL	pg/g	NE	0.2 J	0.61 U	1.2 U	34	3.8 J	1.7 J
TCDD, TOTAL	pg/g	NE	0.3 U	0.14 J	1.1 U	27	0.13 U	0.24 U
HpCDD, TOTAL	pg/g	NE	0.95 J	11 U	3.6 J	124	5.5 U	3.9 J
PeCDD, TOTAL	pg/g	NE	0.32 U	1.2 U	0.48 U	13 U	0.17 J	0.36 U
TCDF, TOTAL	pg/g	NE	0.11 J	3.6 U	0.4 J	92	0.57 J	3.7 J

Samples analyzed using EPA Method 8290

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**Table 3. Dioxins and Furans in Soil (pg/g)**

Location Name			NP-B170	NP-B171	NP-B171	NP-B172	NP-B172	NP-B173	NP-B173
Sample Name			NP-B170-S4-210623	NP-B171-S0-2-210623	NP-B171-S2-6-210623	NP-B172-S0-2-210623	NP-B172-S2-6-210623	NP-B173-S0-2-210623	NP-B173-S2-6-210623
Sample Collection Date			6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			FD	N	N	N	N	N	N
Analyte Name	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result	Result
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.13 U	0.67 J	3.4 U	0.54 U	12 U	1.8 J	0.068 U
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	pg/g	5.2	0.17 U	1 J	2 UJ	0.21 U	<u>11 UJ</u>	0.23 U	0.069 U
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	pg/g	NE	6.3 J	43	76 J	240	650 J	690	7.8 J
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (HpCDD)	pg/g	NE	1.7 J	6.5 J	2 U	35	69 U	120	1.5 J
OCTACHLORODIBENZOFURAN (OCDF)	pg/g	NE	1.8 J	2.8 J	14 UJ	13 J	38 UJ	35	0.35 U
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.14 U	0.39 U	3.7 U	0.31 J	14 UJ	0.92 U	0.047 U
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (PeCDD)	pg/g	NE	0.2 U	0.44 U	1.8 U	0.29 U	35 U	0.22 U	0.068 U
2,3,7,8-TETRACHLORODIBENZOFURAN (TCDF)	pg/g	NE	0.43 U	0.39 J	1.5 UJ	0.48 J	23 UJ	0.51 U	0.12 U
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	0.13 U	0.69 J	5 UJ	0.62 U	11 UJ	2.5 U	0.076 U
2,3,4,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.21 U	1.3 U	1.9 U	0.49 U	28 U	2.1 J	0.088 U
1,2,3,7,8-PENTACHLORODIBENZOFURAN (PeCDF)	pg/g	NE	0.21 U	0.35 U	2 U	0.16 U	29 U	0.22 U	0.091 U
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.27 U	0.7 J	10 U	2.1 U	17 U	5.3 U	0.13 U
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN (HxCDD)	pg/g	NE	0.12 U	0.72 J	3.3 U	1.8 J	12 U	5.8 J	0.063 U
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.13 U	0.61 J	11 UJ	0.5 U	18 UJ	2.4 J	0.57 U
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (HpCDF)	pg/g	NE	1.9 J	3.7 J	4.1 U	28	170 UJ	77	0.72 U
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.2 U	0.57 J	3.4 U	0.97 U	19 U	4.3 U	0.086 U
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (HxCDF)	pg/g	NE	0.23 J	0.46 J	3.7 UJ	0.3 U	21 UJ	1.4 J	0.079 U
PeCDF, TOTAL	pg/g	NE	4.9 U	11 J	397	52	2600	22	4.2 J
HxCDF, TOTAL	pg/g	NE	0.79 J	6.2 J	10 J	39	80	13	1.1 U
HxCDD, TOTAL	pg/g	100	0.89 U	1.4 J	3.7 J	7.4 J	16	21	0.55 U
HpCDF, TOTAL	pg/g	NE	1.9 J	4.4 J	13 UJ	28	320 J	78	1 U
TCDD, TOTAL	pg/g	NE	0.24 J	1 J	0.71 UJ	0.33 J	5.7 UJ	0.35 J	0.088 J
HpCDD, TOTAL	pg/g	NE	1.7 J	13	9.7 J	35	69 U	120	2.6 J
PeCDD, TOTAL	pg/g	NE	1.5 J	1.3 U	4 J	1.6 U	7.7 U	2.5 U	0.33 U
TCDF, TOTAL	pg/g	NE	3.9 J	10	745 J	0.48 J	3400 UJ	0.24 J	4.9 J

Samples analyzed using EPA Method 8290

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<sup>a</sup> PAL is the Washington Soil Natural Background (Puget Sound)



Table 4. PCB Congeners in Soil (pg/g)

Location Name	NP-B145	NP-B145	NP-B146	NP-B146	NP-B147	NP-B147	NP-B148
Sample Name	NP-B145-S0-2-10621	NP-B145-S2-2-10621	NP-B146-S0-2-10621	NP-B146-S2-2-10621	NP-B147-S0-2-10621	NP-B147-S2-2-10621	NP-B148-S0-2-10621
Sample Collection Date	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)	2 - 6	2 - 6	2 - 6	2 - 6	2 - 6	2 - 6	2 - 6
Sample Type	N	N	N	N	N	N	N
Analyte	Units	PAL *	Result	Result	Result	Result	Result
PCB-001	PPB	NE	11 J	15 J	15 J	4.4 J	32
PCB-002	PPB	NE	1.8 J	2.5 J	3.8 J	3.3 J	9.8 J
PCB-003	PPB	NE	9.5 U	5.7 U	18 U	12 U	27 U
PCB-004	PPB	NE	8.1 J	5.4 U	59	22 J	110
PCB-005	PPB	NE	5.1 U	5.4 U	5.2 U	6.8 U	6.0
PCB-006	PPB	NE	7.4 J	5.4 U	62	17 J	59
PCB-007	PPB	NE	5.1 U	5.4 U	11 J	6.8 U	12 J
PCB-008	PPB	NE	31	6.8 J	120	230	470
PCB-009	PPB	NE	5.1 U	5.4 U	16 J	6.8 U	21 J
PCB-010	PPB	NE	5.1 U	5.4 U	12 J	6.8 U	6.5 J
PCB-011	PPB	NE	20 U	25 J	21 U	12 U	23 U
PCB-012 AND 013	PPB	NE	5.3 J	11 U	76	8.2 J	37 J
PCB-014	PPB	NE	5.1 U	5.4 U	5.2 U	6.8 U	5.8 U
PCB-015	PPB	NE	60	8.5 J	830	380	340
PCB-016	PPB	NE	16 J	4.4 J	160	190 J	88
PCB-017	PPB	NE	17 J	5.7 J	230	220 J	110
PCB-019	PPB	NE	5.2 J	2.1 U	110	53 J	31
PCB-021 AND 033	PPB	NE	47 J	12 J	400	590 J	210
PCB-022	PPB	NE	36 J	7.4 J	300	320 J	170
PCB-023	PPB	NE	1.1 U	1.1 U	46 U	1.4 U	1.2 U
PCB-024	PPB	NE	0.76 J	1.1 U	15 J	1.4 U	5.3 J
PCB-025	PPB	NE	6.8 J	1.1 U	100	45 J	39
PCB-026 AND 029	PPB	NE	15 J	6.9 J	270	140 J	92
PCB-027	PPB	NE	3.5 J	0.86 J	110	32 J	25
PCB-028 AND 020	PPB	NE	110 J	26 J	1400	1000 J	490
PCB-030 AND 018	PPB	NE	31 J	9.9 J	360	460 J	180
PCB-031	PPB	NE	95 J	23	1100	1200 J	490
PCB-032	PPB	NE	16 J	4.6 J	380	190 J	100
PCB-034	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-035	PPB	NE	3.2 J	1.1 U	44	1.4 U	12 J
PCB-036	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-037	PPB	NE	110	12 J	930	670	300
PCB-038	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-039	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-040 AND 071	PPB	NE	57	17 J	1100	680	190
PCB-041	PPB	NE	9.8 J	2.1 U	2.1 U	170	37
PCB-042	PPB	NE	38	1.1 U	780	380	130
PCB-043	PPB	NE	5.4 J	1.1 U	1.1 U	55	17 J
PCB-044 AND 047 AND 065	PPB	NE	180	85	4500	1500	520
PCB-045	PPB	NE	33	6.7 J	510	330	110
PCB-046	PPB	NE	6.3 J	1.1 U	1.1 U	110	22 J
PCB-048	PPB	NE	20	4.4 J	330	310	74
PCB-050 AND 053	PPB	NE	33 J	10 J	460	380	97
PCB-051	PPB	NE	5.2 J	1.1 U	110	63 J	20 J
PCB-052	PPB	NE	390	210	8900	1900	880
PCB-054	PPB	NE	0.36 J	0.79 J	7.2 J	4.2 J	1.8 J
PCB-055	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-056	PPB	NE	100	24	1400	730	290
PCB-057	PPB	NE	47	1.1 U	1.1 U	1.4 U	1.2 U
PCB-058	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-059 AND 062 AND 075	PPB	NE	20 J	3.4 J	350	120	78
PCB-060	PPB	NE	53	10 J	530	480	140
PCB-061 AND 070 AND 074 AND 076	PPB	NE	420	170	8600	2700	980
PCB-063	PPB	NE	7.5 J	2.3 J	100	76	25
PCB-064	PPB	NE	130	32	1500	670	270
PCB-066	PPB	NE	210	67	3900	1500	560
PCB-067	PPB	NE	3.7 J	1.1 U	1.1 U	33	14 J
PCB-068	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-069 AND 049	PPB	NE	150	55	3100	820	350
PCB-072	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-073	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-077	PPB	NE	38,000	69	79	430	180
PCB-078	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-079	PPB	NE	20	3.2 J	170	50	15 J
PCB-080	PPB	NE	1.1 U	1.1 U	120	1.4 U	1.2 U
PCB-081	PPB	NE	3.5	1.1 U	1.1 U	1.4 U	1.2 U
PCB-082	PPB	NE	250	56 J	2300	340	170
PCB-083	PPB	NE	150	39 J	1300	130	110
PCB-084	PPB	NE	480	130 J	5400	600	320
PCB-088 AND 091	PPB	NE	350	74 J	3200	360	220
PCB-089	PPB	NE	1.1 U	1.1 U	1.1 U	55	1.2 U
PCB-092	PPB	NE	560	120 J	3500	310	460
PCB-093 AND 100	PPB	NE	2.1 U	2.1 U	2.1 U	2.7 U	2.3 U
PCB-094	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-095	PPB	NE	1600	490 J	16000	1200	1000
PCB-096	PPB	NE	17 J	3 J	100	27	11 J
PCB-099 AND 102	PPB	NE	74	14 J	560	110	25 J
PCB-099	PPB	NE	1100	230 J	10000	890	720
PCB-103	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-104	PPB	NE	1.1 U	1.1 U	1.3 J	1.4 U	1.2 U
PCB-105	PPB	NE	120,000	830	160	8400	720
PCB-106	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-107 AND 124	PPB	NE	190	25 J	880	85	77 J
PCB-108 AND 119 AND 086 AND 097 AND 125 AND 087	PPB	NE	1400	340 J	14000	1200	1000
PCB-109	PPB	NE	180	36 J	1300	120	98
PCB-110 AND 115	PPB	NE	3100	590 J	24000	1900	1700
PCB-111	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-112	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-113 AND 090 AND 101	PPB	NE	2100	570 J	20000	1500	1300
PCB-114	PPB	NE	44	1.1 U	390	58	31 J
PCB-117 AND 116 AND 085	PPB	NE	560	120 J	4400	470	330
PCB-118	PPB	NE	1700	370	19000	1400	1100
PCB-120	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-121	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-122	PPB	NE	60	1.1 U	1.1 U	37 J	28
PCB-123	PPB	NE	120,000	86	10 J	340	51
PCB-126	PPB	NE	36	1.1 U	1.1 U	1.4 U	1.2 U
PCB-127	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-128 AND 166	PPB	NE	870	150	4400	240	420
PCB-130	PPB	NE	380	58	1800	98	170
PCB-131	PPB	NE	66	41 J	420	33	34
PCB-132	PPB	NE	1200	270	6800	410	610
PCB-133	PPB	NE	64	10 J	260	15 J	25
PCB-134 AND 143	PPB	NE	230	41 J	1200	71	110
PCB-136	PPB	NE	310	110	2000	160	180
PCB-137	PPB	NE	280	39	2000	88	130
PCB-138 AND 163 AND 129	PPB	NE	4000	820 J	20000	1200	2000
PCB-139 AND 140	PPB	NE	110	14 J	630	32 J	47
PCB-141	PPB	NE	630	170	2900	210	310
PCB-142	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-144	PPB	NE	130	42	740	52	63
PCB-145	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-146	PPB	NE	470	96	1900	130	230
PCB-147 AND 149	PPB	NE	2200	590	11000	740	1100
PCB-148	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-150	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-151 AND 135	PPB	NE	850	290	3700	300	410
PCB-152	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-153 AND 168	PPB	NE	2500	590	12000	760	1100
PCB-154	PPB	NE	32	4.6 J	190	8.5 J	16 J
PCB-155	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-156 AND 157	PPB	NE	570	110	4000	170	230
PCB-158	PPB	NE	440	83	2400	130	220
PCB-159	PPB	NE	11 J	51 J	420	51	13 J
PCB-160	PPB	NE	2.1 U	2.1 U	2.1 U	2.7 U	2.3 U
PCB-161	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-162	PPB	NE	20	6.1 J	93	4.1 J	8.3 J
PCB-164	PPB	NE	370	69	1500	95	180
PCB-165	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-167	PPB	NE	120,000	240	38	120	110
PCB-169	PPB	NE	120	1.1 U	1.1 U	1.4 U	1.2 U
PCB-170	PPB	NE	540	190	2400	190	480
PCB-171 AND 173	PPB	NE	170	66	720	62	130
PCB-172	PPB	NE	94	36	320	36	90
PCB-174	PPB	NE	370	210	1300	200	400
PCB-175	PPB	NE	27	11 J	95	12 J	21 J
PCB-176	PPB	NE	62	32	250	36	46
PCB-177	PPB	NE	230	110	800	110	230
PCB-178	PPB	NE	96	48	280	51	94
PCB-179	PPB	NE	150	110	490	100	110
PCB-180 AND 193	PPB	NE	750	420	2900	380	870
PCB-181	PPB	NE	12 J	1.1 U	1.1 U	1.4 U	1.2 U
PCB-182	PPB	NE	6.6 J	1.1 U	26	1.4 U	1.2 U
PCB-183	PPB	NE	240	130	800	110	190
PCB-184	PPB	NE	2.1 J	0.52 J	3.5 J	7.5 J	1.2 U
PCB-185	PPB	NE	1.1 U	29	170	45	62
PCB-186	PPB	NE	1.1 U	1.1 U	1.9 J	1.4 U	1.2 U
PCB-187	PPB	NE	410	250	1300	270	410
PCB-188	PPB	NE	0.87 J	1.1 U	2.8 J	0.44 J	0.48 J
PCB-189	PPB	NE	31	7.6 J	140	8.7	24
PCB-190	PPB	NE	95	31	350	33	94
PCB-191	PPB	NE	19 J	7.5 J	95	7.1 J	21 J
PCB-192	PPB	NE	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
PCB-194	PPB	NE	130	140	380	110	230
PCB-195	PPB	NE	50	40	150	37	95
PCB-196	PPB	NE	85	86	230	69	120
PCB-197	PPB	NE	5.7 J	5.6 J	12 J	5.5 J	5.2 J
PCB-198 AND 199	PPB	NE	180	250	450	140	250
PCB-200	PPB	NE	24	23	66	24 J	40
PCB-201	PPB	NE	24	32	65	28	160
PCB-202	PPB	NE	34	86	100	41	79
PCB-203	PPB	NE	100	120	280	88	140
PCB-204	PPB						

















Table 4. PCB Congeners in Soil (pg/g)

Location Name	NP-B171	NP-B172	NP-B172	NP-B173	NP-B173
Sample Name	NP-B171-S2-6-210623	NP-B172-S2-6-210623	NP-B172-S2-6-210623	NP-B173-S2-6-210623	NP-B173-S2-6-210623
Sample Collection Date	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021
Sample Depth (ft lgs)	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type	N	N	N	N	N
Analyte	Units	PAL *	Result	Result	Result
PCB-001	pg/g	NE	2.5 U	2.3 U	17 J
PCB-002	pg/g	NE	2.5 U	2.6 U	13 J
PCB-003	pg/g	NE	6.4 UJ	7.0 U	70 J
PCB-004	pg/g	NE	6.3 U	5.1 U	64 U
PCB-005	pg/g	NE	6.3 U	5.1 U	64 U
PCB-006	pg/g	NE	6.3 U	5.1 U	64 U
PCB-007	pg/g	NE	6.3 U	5.1 U	64 U
PCB-008	pg/g	NE	6.3 U	5.1 U	64 U
PCB-009	pg/g	NE	6.3 U	5.1 U	64 U
PCB-010	pg/g	NE	6.3 U	5.1 U	64 U
PCB-011	pg/g	NE	25 U	4.8 J	190 J
PCB-012 AND 013	pg/g	NE	13 U	2.1 J	130 U
PCB-014	pg/g	NE	6.3 U	5.1 U	64 U
PCB-015	pg/g	NE	6.3 U	5.1 U	64 U
PCB-016	pg/g	NE	2.5 U	2.8 U	76 J
PCB-017	pg/g	NE	2.5 U	3.1 U	120 J
PCB-019	pg/g	NE	2.5 U	0.87 J	21 J
PCB-021 AND 033	pg/g	NE	2.5 U	6.5 J	180 J
PCB-022	pg/g	NE	2.5 U	3.8 J	94 J
PCB-023	pg/g	NE	1.3 U	1 U	13 U
PCB-024	pg/g	NE	1.3 U	1 U	13 U
PCB-025	pg/g	NE	1.3 U	1 J	25 J
PCB-026 AND 029	pg/g	NE	2.5 U	2.6 J	39 J
PCB-027	pg/g	NE	1.3 U	0.54 J	11 J
PCB-028 AND 020	pg/g	NE	4.3 U	12 J	560 J
PCB-029 AND 018	pg/g	NE	5 U	2.2 J	390 J
PCB-031	pg/g	NE	6.2 J	11 J	570 J
PCB-032	pg/g	NE	2.5 U	1.8 U	81 J
PCB-034	pg/g	NE	1.3 U	1 U	13 U
PCB-035	pg/g	NE	1.3 U	1.1 J	13 U
PCB-036	pg/g	NE	1.3 U	1 U	250 J
PCB-037	pg/g	NE	1.3 U	8.9 J	57 J
PCB-038	pg/g	NE	1.3 U	1 U	13 U
PCB-039	pg/g	NE	1.3 U	1 U	13 U
PCB-040 AND 071	pg/g	NE	2.5 U	7.1 J	950 J
PCB-041	pg/g	NE	2.5 U	2 U	26 U
PCB-042	pg/g	NE	1.3 U	3.5 J	1500 J
PCB-043	pg/g	NE	1.3 U	1 U	13 U
PCB-044 AND 047 AND 065	pg/g	NE	35 J	36 J	9300 J
PCB-045	pg/g	NE	1.3 U	1 U	13 U
PCB-046	pg/g	NE	1.3 U	1 U	13 U
PCB-048	pg/g	NE	1.3 U	1.7 J	13 U
PCB-050 AND 053	pg/g	NE	2.5 U	2 U	440 J
PCB-051	pg/g	NE	1.3 U	1 U	13 U
PCB-052	pg/g	NE	85	95	17000
PCB-054	pg/g	NE	1.3 U	1 U	4 J
PCB-055	pg/g	NE	1.3 U	1 U	13 U
PCB-056	pg/g	NE	7.2 J	9.8 J	1100
PCB-057	pg/g	NE	1.3 U	1 U	590
PCB-058	pg/g	NE	1.3 U	1 U	83 J
PCB-059 AND 062 AND 075	pg/g	NE	3.8 U	3 U	420 J
PCB-060	pg/g	NE	1.3 U	4.1 J	270
PCB-061 AND 070 AND 074 AND 076	pg/g	NE	70 J	87	14000
PCB-063	pg/g	NE	1.3 U	1 U	500
PCB-064	pg/g	NE	1.3 U	12 J	1900
PCB-066	pg/g	NE	18 J	28	6800
PCB-067	pg/g	NE	1.3 U	0.78 J	13 U
PCB-068	pg/g	NE	1.3 U	1 U	390
PCB-069 AND 049	pg/g	NE	17 J	23 J	7800
PCB-072	pg/g	NE	1.3 U	1 U	580
PCB-073	pg/g	NE	1.3 U	1 U	13 U
PCB-077	pg/g	38,000	1.3 U	10	13 U
PCB-078	pg/g	NE	1.3 U	1 U	13 U
PCB-079	pg/g	NE	1.3 U	3.9 J	260
PCB-080	pg/g	NE	1.3 U	3.5 J	13 U
PCB-081	pg/g	12,000	1.3 U	1 U	13 U
PCB-082	pg/g	NE	1.3 U	46	2000
PCB-083	pg/g	NE	1.3 U	47	5700
PCB-084	pg/g	NE	45	200	7600
PCB-088 AND 091	pg/g	NE	16 J	140	4600
PCB-089	pg/g	NE	1.3 U	1 U	13 U
PCB-092	pg/g	NE	28	140	6800
PCB-093 AND 100	pg/g	NE	2.5 U	2 U	26 U
PCB-094	pg/g	NE	1.3 U	1 U	13 U
PCB-095	pg/g	NE	120	700	23000
PCB-096	pg/g	NE	1.3 U	3.4 J	160 J
PCB-098 AND 102	pg/g	NE	2.5 U	2 U	870
PCB-099	pg/g	NE	65 J	26	18000
PCB-103	pg/g	NE	1.3 U	1 U	990
PCB-104	pg/g	NE	1.3 U	1 U	5.8 J
PCB-105	pg/g	120,000	71	200	6600 J
PCB-106	pg/g	NE	1.3 U	1 U	13 U
PCB-107 AND 124	pg/g	NE	2.5 U	54	910
PCB-108 AND 119 AND 086 AND 097 AND 125 AND 087	pg/g	NE	110 J	300	18000
PCB-109	pg/g	NE	1.3 U	50	2800
PCB-110 AND 115	pg/g	NE	180	870	31000
PCB-111	pg/g	NE	1.3 U	1 U	13 U
PCB-112	pg/g	NE	1.3 U	1 U	13 U
PCB-113 AND 090 AND 101	pg/g	NE	180	620	35000
PCB-114	pg/g	120,000	1.3 U	1 U	13 U
PCB-117 AND 116 AND 085	pg/g	NE	25 J	130	6500
PCB-118	pg/g	120,000	160	550	26000
PCB-120	pg/g	NE	1.3 U	1 U	380
PCB-121	pg/g	NE	1.3 U	1 U	13 U
PCB-122	pg/g	NE	1.3 U	1 U	13 U
PCB-123	pg/g	120,000	1.3 U	21	13 U
PCB-126	pg/g	36	1.3 U	1 U	130 U
PCB-127	pg/g	NE	1.3 U	1 U	13 U
PCB-128 AND 166	pg/g	NE	26 J	440	3200
PCB-130	pg/g	NE	17 J	210	1700
PCB-131	pg/g	NE	1.3 U	26	320
PCB-132	pg/g	NE	53	640	8400
PCB-133	pg/g	NE	5.4 J	44	320
PCB-134 AND 143	pg/g	NE	2.5 U	110	1400
PCB-136	pg/g	NE	17 J	190	2500
PCB-137	pg/g	NE	11 J	130 J	1200
PCB-138 AND 163 AND 129	pg/g	NE	180	2200	19000
PCB-139 AND 140	pg/g	NE	2.5 U	53	650
PCB-141	pg/g	NE	28 J	340	2200 J
PCB-142	pg/g	NE	1.3 U	1 U	13 U
PCB-144	pg/g	NE	5.2 J	82	620
PCB-145	pg/g	NE	1.3 U	1 U	13 U
PCB-146	pg/g	NE	23 J	300	3100
PCB-147 AND 149	pg/g	NE	98	1500	14000
PCB-148	pg/g	NE	1.3 U	1 U	13 U
PCB-150	pg/g	NE	1.3 U	1 U	13 U
PCB-151 AND 135	pg/g	NE	38 J	610	5500
PCB-152	pg/g	NE	1.3 U	1 U	13 U
PCB-153 AND 168	pg/g	NE	110	1500	2700
PCB-154	pg/g	NE	1.3 U	21	370
PCB-155	pg/g	NE	1.3 U	1 U	13 U
PCB-156 AND 157	pg/g	120,000	26	200	2700 J
PCB-158	pg/g	NE	15 J	200	1700
PCB-159	pg/g	NE	1.3 U	8.2 J	27 J
PCB-160	pg/g	NE	2.5 U	2 U	26 U
PCB-161	pg/g	NE	1.3 U	1 U	13 U
PCB-162	pg/g	NE	1.3 U	11 J	79 J
PCB-164	pg/g	NE	12 J	210	1800
PCB-165	pg/g	NE	1.3 U	1 U	13 U
PCB-167	pg/g	120,000	9	130	230
PCB-169	pg/g	120	1.3 U	1 U	13 U
PCB-170	pg/g	NE	28 J	460 J	1700
PCB-171 AND 173	pg/g	NE	2.5 U	130 J	590
PCB-172	pg/g	NE	1.3 U	84 J	270
PCB-174	pg/g	NE	22 J	310 J	1300
PCB-175	pg/g	NE	1.3 U	21 J	53 J
PCB-176	pg/g	NE	3.7 J	54 J	250 J
PCB-177	pg/g	NE	12 J	200 J	900
PCB-178	pg/g	NE	7.7 J	110 J	300
PCB-179	pg/g	NE	12 J	160 J	570
PCB-180 AND 193	pg/g	NE	49 J	690 J	2500
PCB-181	pg/g	NE	1.3 U	7.9 J	13 U
PCB-182	pg/g	NE	1.3 U	1 U	19 J
PCB-183	pg/g	NE	17 J	170 J	820
PCB-184	pg/g	NE	1.3 U	1.4 J	13 U
PCB-185	pg/g	NE	1.3 U	62 J	130 J
PCB-186	pg/g	NE	1.3 U	1 U	13 U
PCB-187	pg/g	NE	36 J	430 J	1360 J
PCB-188	pg/g	NE	1.3 U	0.67 J	13 U
PCB-189	pg/g	130,000	1.3 U	25	77
PCB-190	pg/g	NE	1.3 U	83 J	250 J
PCB-191	pg/g	NE	1.3 U	15 J	62 J
PCB-192	pg/g	NE	1.3 U	1 U	75 J
PCB-194	pg/g	NE	16 J	120	370
PCB-195	pg/g	NE	1.3 U	57	100 J
PCB-196	pg/g	NE	14 J	91	270
PCB-197	pg/g	NE	1.3 U	6 J	19 J
PCB-198 AND 199	pg/g	NE	37 J	240	970
PCB-200	pg/g	NE	1.3 U	26	64 J
PCB-201	pg/g	NE	1.3 U	28	110 J
PCB-202	pg/g	NE	6.5 J	65	350
PCB-203	pg/g	NE	18 J	120	420
PCB-204	pg/g	NE	1.3 U	1 U	13 U
PCB-205	pg/g	NE	1.3 U	10 J	22 J
PCB-206	pg/g	NE	40	3300	3300
PCB-207	pg/g	NE	5 J	98	350
PCB-208	pg/g	NE	17 J	360	1700 J
PCB-209	pg/g	NE	70	3200	6500 J
TEQ for Dioxin-Like PCB Congeners * (ND = full value)	pg/g	4.8	0.18	0.17	14.50
TEQ for Dioxin-Like PCB Congeners * (ND = 0)	pg/g	4.8	0.01	0.03	1.10
TOTAL PCBs (ND = full value)	pg/g	230,000	2,602	22,083	376,921
TOTAL PCBs (ND = 0)	pg/g	230,000	2,356	21,963	375,474

Samples analyzed using EPA Method 1668C  
 FD - Field duplicate  
 J - The reported value is an estimated concentration  
 N - Sample is not part of a field duplicate pair  
 NE - not established  
 P - Parent sample of field duplicate  
 PCB - polychlorinated biphenyls  
 TEQ - Toxic Equivalency Value  
 U - The analyte was not detected at or above the limit of detection (LOD).  
 pg/g - picograms per gram  
 pg/kg - micrograms per kilogram  
 Bolded values indicate that the reported concentration exceeds the PAL.  
 \* PAL is the lowest of the human health or ecological screening levels. Human health: EPA residential soil RSLs; MTCA Method B Cleanup Levels. Ecological: WAC Table 749-3 ORNL plant benchmarks (EFROYMSON et al. 1997a), LANL ECORISK Database Release 4.1  
 † Dioxin-like PCB congeners: PCB-77, PCB-81, PCB-105, PCB-114, PCB-118, PCB-123, PCB-126, PCB-156/157, PCB-167, PCB-169, PCB-189

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B145	NP-B145	NP-B146	NP-B146	NP-B147	NP-B147
Sample Name			NP-B145-S0-2-210621	NP-B145-S2-6-210621	NP-B146-S0-2-210621	NP-B146-S2-6-210621	NP-B147-S0-2-210621	NP-B147-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	11 U	12 U	12 U	13 U	11 U	13 U
AROCLOR-1254	µg/kg	120	75 J	12 U	<b>130</b>	13 U	15 J	13 U
AROCLOR-1268	µg/kg	NE	13 U	14 U	14 U	15 U	13 U	15 U
AROCLOR-1221	µg/kg	200	21 U	23 U	24 U	25 U	22 U	26 UJ
AROCLOR-1232	µg/kg	170	11 U	12 U	12 U	13 U	11 U	13 UJ
AROCLOR-1248	µg/kg	230	11 U	12 U	12 U	13 U	11 U	13 U
AROCLOR-1016	µg/kg	410	21 U	23 U	24 U	25 U	22 U	26 UJ
AROCLOR-1262	µg/kg	NE	13 U	14 U	14 U	15 U	13 U	15 U
AROCLOR-1242	µg/kg	230	11 U	12 U	12 U	13 U	11 U	13 U
Total PCB Aroclors	µg/kg	230	75	23 U	130	25 U	15 J	26 U

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B148	NP-B148	NP-B149	NP-B149	NP-B150	NP-B150
Sample Name			NP-B148-S0-2-210621	NP-B148-S2-6-210621	NP-B149-S0-2-210621	NP-B149-S2-6-210621	NP-B150-S0-2-210621	NP-B150-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	14 U	13 U	11 U	13 U	12 U	13 U
AROCLOR-1254	µg/kg	120	14 U	13 U	11 U	<b>180</b>	12 U	13 U
AROCLOR-1268	µg/kg	NE	17 U	15 U	13 U	16 U	15 U	16 U
AROCLOR-1221	µg/kg	200	28 UJ	25 UJ	22 UJ	27 U	24 UJ	27 UJ
AROCLOR-1232	µg/kg	170	14 UJ	13 UJ	11 UJ	13 U	12 UJ	13 UJ
AROCLOR-1248	µg/kg	230	14 U	13 U	11 U	13 U	12 U	13 U
AROCLOR-1016	µg/kg	410	28 UJ	25 UJ	22 UJ	27 U	24 UJ	27 UJ
AROCLOR-1262	µg/kg	NE	17 U	15 U	13 U	16 U	15 U	16 U
AROCLOR-1242	µg/kg	230	14 U	13 U	11 U	13 U	12 U	13 U
Total PCB Aroclors	µg/kg	230	28 U	25 U	22 U	180	24 U	27 U

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B151	NP-B151	NP-B152	NP-B152	NP-B153	NP-B153
Sample Name			NP-B151-S0-2-210622	NP-B151-S2-6-210622	NP-B152-S0-2-210622	NP-B152-S2-6-210622	NP-B153-S0-2-210622	NP-B153-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	11 U	11 U	11 U	11 U	13 U	11 U
AROCLOR-1254	µg/kg	120	11 U	11 U	11 U	11 U	13 U	53 J
AROCLOR-1268	µg/kg	NE	13 U	13 U	13 U	13 U	16 U	14 U
AROCLOR-1221	µg/kg	200	22 UJ	22 UJ	21 UJ	22 UJ	26 UJ	23 U
AROCLOR-1232	µg/kg	170	11 UJ	11 UJ	11 UJ	11 UJ	13 UJ	11 U
AROCLOR-1248	µg/kg	230	11 U	11 U	11 U	11 U	13 U	11 U
AROCLOR-1016	µg/kg	410	22 UJ	22 UJ	21 UJ	22 UJ	26 UJ	23 U
AROCLOR-1262	µg/kg	NE	13 U	13 U	13 U	13 U	16 U	14 U
AROCLOR-1242	µg/kg	230	11 U	11 U	11 U	11 U	13 U	11 U
Total PCB Aroclors	µg/kg	230	22 U	22 U	21 U	22 U	26 U	53 J

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B154	NP-B154	NP-B154	NP-B155	NP-B155	NP-B156
Sample Name			NP-B154-S0-2-210622	NP-B154-S2-6-210622	NP-B154-S4-210622	NP-B155-S0-2-210622	NP-B155-S2-6-210622	NP-B156-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	2 - 6	0 - 2	2 - 6	0 - 2
Sample type			N	P	FD	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	11 U	11 U	12 UJ	11 U	11 UJ	11 U
AROCLOR-1254	µg/kg	120	11 U	<b>140 J</b>	<b>3,300 J</b>	11 U	41 J	11 U
AROCLOR-1268	µg/kg	NE	13 U	13 U	14 UJ	13 U	13 UJ	13 U
AROCLOR-1221	µg/kg	200	21 UJ	22 U	24 U	22 UJ	22 U	22 UJ
AROCLOR-1232	µg/kg	170	11 UJ	11 U	12 U	11 UJ	11 U	11 UJ
AROCLOR-1248	µg/kg	230	11 U	11 U	12 UJ	11 U	11 UJ	11 U
AROCLOR-1016	µg/kg	410	21 UJ	22 U	24 U	22 UJ	22 U	22 UJ
AROCLOR-1262	µg/kg	NE	13 U	13 U	14 UJ	13 U	13 UJ	13 U
AROCLOR-1242	µg/kg	230	11 U	11 U	12 UJ	11 U	11 UJ	11 U
Total PCB Aroclors	µg/kg	230	21 U	140 J	<b>3,300 J</b>	22 U	41 J	22 U

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B156	NP-B157	NP-B157	NP-B158	NP-B158	NP-B159
Sample Name			NP-B156-S2-6-210622	NP-B157-S0-2-210622	NP-B157-S2-6-210622	NP-B158-S0-2-210622	NP-B158-S2-6-210622	NP-B159-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	11 U	14 U	11 UJ	11 UJ	11 U	12 U
AROCLOR-1254	µg/kg	120	11 U	14 U	100	12 J	11 U	12 U
AROCLOR-1268	µg/kg	NE	13 U	16 U	13 UJ	13 UJ	13 U	15 U
AROCLOR-1221	µg/kg	200	22 U	27 U	22 U	22 U	22 U	25 U
AROCLOR-1232	µg/kg	170	11 U	14 U	11 U	11 U	11 U	12 U
AROCLOR-1248	µg/kg	230	11 U	14 U	11 UJ	11 UJ	11 U	12 U
AROCLOR-1016	µg/kg	410	22 U	27 U	22 U	22 U	22 U	25 U
AROCLOR-1262	µg/kg	NE	13 U	16 U	13 UJ	13 UJ	13 U	15 U
AROCLOR-1242	µg/kg	230	11 U	14 U	11 UJ	11 UJ	11 U	12 U
Total PCB Aroclors	µg/kg	230	22 U	27 U	100	12 J	22 U	25 U

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B159	NP-B160	NP-B160	NP-B161	NP-B161	NP-B162
Sample Name			NP-B159-S2-6-210622	NP-B160-S0-2-210622	NP-B160-S2-6-210622	NP-B161-S0-2-210622	NP-B161-S2-6-210622	NP-B162-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	11 U	11 U	12 UJ	11 U	11 UJ	11 U
AROCLOR-1254	µg/kg	120	58	11 U	<b>200</b>	11 U	<b>920</b>	11 U
AROCLOR-1268	µg/kg	NE	13 U	13 U	14 UJ	13 U	13 UJ	13 U
AROCLOR-1221	µg/kg	200	22 U	22 U	23 U	22 U	22 U	22 U
AROCLOR-1232	µg/kg	170	11 U	11 U	12 U	11 U	11 U	11 U
AROCLOR-1248	µg/kg	230	11 U	11 U	12 UJ	11 U	11 UJ	11 U
AROCLOR-1016	µg/kg	410	22 U	22 U	23 U	22 U	22 U	22 U
AROCLOR-1262	µg/kg	NE	13 U	13 U	14 UJ	13 U	13 UJ	13 U
AROCLOR-1242	µg/kg	230	11 U	11 U	12 UJ	11 U	11 UJ	11 U
Total PCB Aroclors	µg/kg	230	58	22 U	200	22 U	<b>920</b>	22 U

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B162	NP-B163	NP-B163	NP-B164	NP-B164	NP-B165
Sample Name			NP-B162-S2-6-210622	NP-B163-S0-2-210622	NP-B163-S2-6-210622	NP-B164-S0-2-210622	NP-B164-S2-6-210622	NP-B165-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	12 UJ	13 U	13 U	11 U	13 U	12 U
AROCLOR-1254	µg/kg	120	<b>130</b>	13 U	13 U	11 U	13 U	12 U
AROCLOR-1268	µg/kg	NE	14 UJ	15 U	15 U	13 U	16 U	14 U
AROCLOR-1221	µg/kg	200	24 U	26 U	26 U	22 U	26 UJ	23 UJ
AROCLOR-1232	µg/kg	170	12 U	13 U	13 U	11 U	13 UJ	12 UJ
AROCLOR-1248	µg/kg	230	12 UJ	13 U	13 U	11 U	13 U	12 U
AROCLOR-1016	µg/kg	410	24 U	26 U	26 U	22 U	26 UJ	23 UJ
AROCLOR-1262	µg/kg	NE	14 UJ	15 U	15 U	13 U	16 U	14 U
AROCLOR-1242	µg/kg	230	12 UJ	13 U	13 U	11 U	13 U	12 U
Total PCB Aroclors	µg/kg	230	130	26 U	26 U	22 U	26 U	23 U

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)



**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B165	NP-B166	NP-B166	NP-B166	NP-B167	NP-B167
Sample Name			NP-B165-S2-6-210622	NP-B166-S0-2-210622	NP-B166-S2-6-210621	NP-B166-S4-210622	NP-B167-S0-2-210622	NP-B167-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	2 - 6	0 - 2	2 - 6
Sample type			N	N	P	FD	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	13 U	12 U	12 U	11 U	12 UJ	11 UJ
AROCLOR-1254	µg/kg	120	13 U	12 U	12 U	11 U	12 U	11 U
AROCLOR-1268	µg/kg	NE	15 U	14 U	15 U	14 U	15 U	13 U
AROCLOR-1221	µg/kg	200	25 UJ	24 UJ	24 UJ	23 UJ	24 U	22 U
AROCLOR-1232	µg/kg	170	13 UJ	12 UJ	12 UJ	11 UJ	12 U	11 U
AROCLOR-1248	µg/kg	230	13 U	12 U	12 U	11 U	12 UJ	11 UJ
AROCLOR-1016	µg/kg	410	25 UJ	24 UJ	24 UJ	23 UJ	24 U	22 U
AROCLOR-1262	µg/kg	NE	15 U	14 U	15 U	14 U	15 U	13 U
AROCLOR-1242	µg/kg	230	13 U	12 U	12 U	11 U	12 UJ	11 UJ
Total PCB Aroclors	µg/kg	230	25 U	24 U	24 U	23 U	24 U	22 U

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B168	NP-B168	NP-B169	NP-B169	NP-B170	NP-B170
Sample Name			NP-B168-S0-2-210622	NP-B168-S2-6-210622	NP-B169-S0-2-210622	NP-B169-S2-6-210622	NP-B170-S0-2-210623	NP-B170-S2-6-210623
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample type			N	N	N	N	N	P
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	13 U	11 U	12 U	11 U	11 U	13 UJ
AROCLOR-1254	µg/kg	120	13 U	11 U	12 U	11 U	11 U	13 UJ
AROCLOR-1268	µg/kg	NE	15 U	14 U	14 U	14 U	13 U	15 UJ
AROCLOR-1221	µg/kg	200	25 UJ	23 UJ	23 U	23 U	22 U	25 UJ
AROCLOR-1232	µg/kg	170	13 UJ	11 UJ	12 U	11 U	11 U	13 UJ
AROCLOR-1248	µg/kg	230	13 U	11 U	12 U	11 U	11 U	13 UJ
AROCLOR-1016	µg/kg	410	25 UJ	23 UJ	23 U	23 U	22 U	25 UJ
AROCLOR-1262	µg/kg	NE	15 U	14 U	14 U	14 U	13 U	15 UJ
AROCLOR-1242	µg/kg	230	13 U	11 U	12 U	11 U	11 U	13 UJ
Total PCB Aroclors	µg/kg	230	25 U	23 U	23 U	23 U	22 U	25 UJ

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P – Parent sample of field duplicate

PAL - Project Applicable Limit

N – Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological*: WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 5. PCB Aroclors in Soil (µg/kg)**

Location Name			NP-B170	NP-B171	NP-B171	NP-B172	NP-B172	NP-B173	NP-B173
Sample Name			NP-B170-S4-210623	NP-B171-S0-2-210623	NP-B171-S2-6-210623	NP-B172-S0-2-210623	NP-B172-S2-6-210623	NP-B173-S0-2-210623	NP-B173-S2-6-210623
Sample Collection Date			6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample type			FD	N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result	Result
AROCLOR-1260	µg/kg	240	13 UJ	11 U	13 U	11 U	13 UJ	11 U	12 U
AROCLOR-1254	µg/kg	120	13 UJ	11 U	13 U	11 U	13 U	11 U	12 U
AROCLOR-1268	µg/kg	NE	16 UJ	13 U	15 U	13 U	16 U	13 U	14 U
AROCLOR-1221	µg/kg	200	26 UJ	22 U	25 U	22 U	26 U	21 U	23 U
AROCLOR-1232	µg/kg	170	13 UJ	11 U	13 U	11 U	13 U	11 U	12 U
AROCLOR-1248	µg/kg	230	13 UJ	11 U	13 U	11 U	13 UJ	11 U	12 U
AROCLOR-1016	µg/kg	410	26 UJ	22 U	25 U	22 U	26 U	21 U	23 U
AROCLOR-1262	µg/kg	NE	16 UJ	13 U	15 U	13 U	16 U	13 U	14 U
AROCLOR-1242	µg/kg	230	13 UJ	11 U	13 U	11 U	13 UJ	11 U	12 U
Total PCB Aroclors	µg/kg	230	26 UJ	22 U	25 U	22 U	26 U	21 U	23 U

Samples analyzed using EPA Method 8082 A

FD - Field Duplicate

J - The result is an estimated concentration.

P - Parent sample of field duplicate

PAL - Project Applicable Limit

N - Sample is not part of a duplicate pair.

NE - not established

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value

µg/kg - microgram per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels.

*Ecological* : WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B145	NP-B145	NP-B146	NP-B146	NP-B147	NP-B147
Sample Name			NP-B145-S0-2-210621	NP-B145-S2-6-210621	NP-B146-S0-2-210621	NP-B146-S2-6-210621	NP-B147-S0-2-210621	NP-B147-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.0681 J	0.0815 U	0.0802 U	0.081 U	0.08 U	0.0821 U
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0598 U	0.0611 U	0.0601 U	0.0607 U	0.06 U	0.0616 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.12 J	0.0815 U	0.0802 U	0.081 U	0.08 U	0.0821 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.0398 U	0.0407 U	0.0341 J	0.0405 U	0.028 J	0.0411 U
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.0398 U	0.0407 U	0.0401 U	0.0405 U	0.04 U	0.0411 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.0398 U	0.0407 U	0.0401 U	0.0405 U	0.04 U	0.0411 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0797 U	0.0815 U	0.0802 U	0.081 U	0.08 U	0.0821 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0398 U	0.0407 U	0.0401 U	0.0405 U	0.04 U	0.0411 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.0996 U	0.102 U	0.1 U	0.101 U	0.1 U	0.103 U
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.0996 U	0.102 U	0.1 U	0.101 U	0.1 U	0.103 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.0797 U	0.0815 U	0.0802 U	0.081 U	0.08 U	0.0821 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.0398 U	0.0407 U	0.0401 U	0.0405 U	0.04 U	0.0411 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.0797 U	0.0815 U	0.0802 U	0.081 U	0.08 U	0.0821 U
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.416	0.0483 J	0.478	0.0549 J	0.237	0.117 J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.0797 U	0.0815 U	0.0802 U	0.081 U	0.08 U	0.0821 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.0797 U	0.0815 U	0.0802 U	0.081 U	0.08 U	0.0821 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.0398 U	0.0407 U	0.0401 U	0.0405 U	0.04 U	0.0411 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0598 U	0.0611 U	0.0601 U	0.0607 U	0.06 U	0.0616 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a field duplicate pair

NE - Not established.

P - Parent sample of field duplicate.

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit. (sometimes validators will elevate the limit due to the "B" qualifier using the 5x/10x rule so this definition is different than the lab

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value.

**Bold** text indicates that the result or the LOD exceeds the PAL.

ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B148	NP-B148	NP-B149	NP-B149	NP-B150	NP-B150
Sample Name			NP-B148-S0-2-210621	NP-B148-S2-6-210621	NP-B149-S0-2-210621	NP-B149-S2-6-210621	NP-B150-S0-2-210621	NP-B150-S2-6-210621
Sample Collection Date			6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.082 U	0.0803 U	0.0632 J	0.081 U	0.0951 J	0.081 U
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0615 U	0.0602 U	0.0596 U	0.0607 U	0.0584 U	0.0607 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.0498 J	0.0803 U	0.0533 J	0.081 U	0.0251 J	0.081 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.0807 J	0.0402 U	0.0398 U	0.0405 U	0.0422 J	0.0405 U
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.105 J	0.0402 U	0.0398 U	0.0405 U	0.0389 U	0.0405 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.041 U	0.0402 U	0.0398 U	0.0405 U	0.0389 U	0.0405 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0758 J	0.0803 U	0.0795 U	0.081 U	0.0778 U	0.081 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0193 J	0.0402 U	0.0398 U	0.0405 U	0.0389 U	0.0405 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.102 U	0.1 U	0.0994 U	0.101 U	0.0973 U	0.101 U
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.102 U	0.1 U	0.0994 U	0.101 U	0.0973 U	0.101 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.082 U	0.0803 U	0.0795 U	0.081 U	0.0778 U	0.081 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.041 U	0.0402 U	0.0398 U	0.0405 U	0.0161 J	0.0405 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.127 J	0.0803 U	0.0547 J	0.081 U	0.19 J	0.0457 J
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.923	0.0697 J	0.176 J	0.081 U	1.51	0.101 J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.082 U	0.0803 U	0.0795 U	0.081 U	0.0778 U	0.081 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.082 U	0.0803 U	0.0795 U	0.081 U	0.0778 U	0.081 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.041 U	0.0402 U	0.0398 U	0.0405 U	0.0389 U	0.0405 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0615 U	0.0602 U	0.0596 U	0.0607 U	0.0584 U	0.0607 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

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**Bold** text indicates that the result or the LOD exceeds the PAL.

ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B151	NP-B151	NP-B152	NP-B152	NP-B153	NP-B153
Sample Name			NP-B151-S0-2-210622	NP-B151-S2-6-210622	NP-B152-S0-2-210622	NP-B152-S2-6-210622	NP-B153-S0-2-210622	NP-B153-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.0813 U	0.0794 U	0.0786 U	0.0816 U	0.0798 U	0.0803 U
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.061 U	0.0595 U	0.0589 U	0.0612 U	0.0599 U	0.0602 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.0813 U	0.0794 U	0.0786 U	0.0816 U	0.0798 U	0.0803 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.0407 U	0.0397 U	0.0393 U	0.0408 U	0.0399 U	0.0402 U
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.0407 U	0.0397 U	0.0393 U	0.0408 U	0.0399 U	0.0402 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.0407 U	0.0397 U	0.0393 U	0.0408 U	0.0399 U	0.0402 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0813 U	0.0794 U	0.0786 U	0.0816 U	0.0798 U	0.0803 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0407 U	0.0397 U	0.0393 U	0.0408 U	0.0399 U	0.0402 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.102 U	0.0992 U	0.0982 U	0.102 U	0.0998 U	0.1 UJ
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.102 U	0.0992 U	0.0982 U	0.102 U	0.0998 U	0.1 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.0813 U	0.0794 U	0.0786 U	0.0816 U	0.0798 U	0.0803 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.0407 U	0.0397 U	0.0393 U	0.0408 U	0.0399 U	0.0402 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.0813 U	0.0794 U	0.0468 J	0.0816 U	0.0798 U	0.0325 J
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.0758 J	0.0954 J	0.149 J	0.0916 J	0.127 J	0.0839 J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.0813 U	0.0794 U	0.0786 U	0.0816 U	0.0798 U	0.0803 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.0813 U	0.0794 U	0.0786 U	0.0816 U	0.0798 U	0.0803 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.0407 U	0.0397 U	0.0393 U	0.0408 U	0.0399 U	0.0402 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.061 U	0.0595 U	0.0589 U	0.0612 U	0.0599 U	0.0602 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

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ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name		NP-B154	NP-B154	NP-B154	NP-B155	NP-B155	NP-B156	
Sample Name		NP-B154-S0-2-210622	NP-B154-S2-6-210622	NP-B154-S4-210622	NP-B155-S0-2-210622	NP-B155-S2-6-210622	NP-B156-S0-2-210622	
Sample Collection Date		6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	
Sample Depth (ft bgs)		0 - 2	2 - 6	2 - 6	0 - 2	2 - 6	0 - 2	
Sample Type		N	P	FD	N	N	N	
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.0828 U	0.0802 U	0.082 U	0.176 J	0.0811 U	0.257
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0621 U	0.0601 U	0.0615 U	0.0595 U	0.0609 U	0.0616 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.0828 U	0.0802 U	0.082 U	0.0794 U	0.0811 U	0.0821 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.035 J	0.0401 U	0.041 U	0.0397 U	0.0406 U	0.0411 U
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.0414 U	0.0401 U	0.041 U	0.0397 U	0.0406 U	0.0411 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.0414 U	0.0401 U	0.041 U	0.0397 U	0.0406 U	0.0411 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0828 U	0.0802 U	0.082 U	0.0794 U	0.0811 U	0.0821 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0414 U	0.0401 U	0.041 U	0.0397 U	0.0406 U	0.0411 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.104 U	0.1 U	0.102 U	0.0992 U	0.101 U	0.103 U
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.104 U	0.1 U	0.102 U	0.0992 U	0.101 U	0.103 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.0828 U	0.0802 U	0.082 U	0.0794 U	0.0811 U	0.0821 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.0414 U	0.0401 U	0.041 U	0.0397 U	0.0406 U	0.0411 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.0828 U	0.0802 U	0.082 U	0.0794 U	0.0811 U	0.0821 U
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.141 J	0.16 J	0.168 J	0.101 J	0.29	0.151 J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.0828 U	0.0802 U	0.082 U	0.0794 U	0.0811 U	0.0821 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.0828 U	0.0802 U	0.082 U	0.0794 U	0.0811 U	0.0821 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.0414 U	0.0401 U	0.041 U	0.0397 U	0.0406 U	0.0411 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0621 U	0.0601 U	0.0615 U	0.0595 U	0.0609 U	0.0616 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

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**Bold** text indicates that the result or the LOD exceeds the PAL.

ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B156	NP-B157	NP-B157	NP-B158	NP-B158	NP-B159
Sample Name			NP-B156-S2-6-210622	NP-B157-S0-2-210622	NP-B157-S2-6-210622	NP-B158-S0-2-210622	NP-B158-S2-6-210622	NP-B159-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.0805 U	0.0825 U	0.0816 U	0.0808 U	0.0783 U	0.0815 U
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0604 U	0.0619 U	0.0612 U	0.0606 U	0.0587 U	0.0611 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.0805 U	0.0825 U	0.0816 U	0.0808 U	0.0783 U	0.0815 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.0402 U	0.0412 U	0.0408 U	0.0404 U	0.0391 U	0.0277 J
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.0402 U	0.0412 U	0.0408 U	0.0404 U	0.0391 U	0.0407 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.0402 U	0.0412 U	0.0408 U	0.0404 U	0.0391 U	0.0407 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0805 U	0.0825 U	0.0816 U	0.0808 U	0.0783 U	0.0815 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0402 U	0.0412 U	0.0408 U	0.0404 U	0.0391 U	0.0407 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.101 U	0.103 U	0.102 U	0.101 U	0.0978 U	0.102 U
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.101 U	0.103 U	0.102 U	0.101 U	0.0978 U	0.102 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.0805 U	0.0825 U	0.0427 J	0.0808 U	0.0783 U	0.0815 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.0402 U	0.0412 U	0.0408 U	0.0404 U	0.0391 U	0.0143 J
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.0805 U	0.0825 U	0.0816 U	0.036 J	0.0783 U	0.0342 J
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.0535 J	0.236	0.174 J	0.214	0.106 J	0.323
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.0805 U	0.0825 U	0.0816 U	0.0808 U	0.0783 U	0.0815 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.0805 U	0.0825 U	0.0816 U	0.0808 U	0.0783 U	0.0815 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.0402 U	0.0412 U	0.0408 U	0.0404 U	0.0391 U	0.0407 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0604 U	0.0619 U	0.0612 U	0.0606 U	0.0587 U	0.0611 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

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ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)



**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B159	NP-B160	NP-B160	NP-B161	NP-B161	NP-B162
Sample Name			NP-B159-S2-6-210622	NP-B160-S0-2-210622	NP-B160-S2-6-210622	NP-B161-S0-2-210622	NP-B161-S2-6-210622	NP-B162-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.0795 U	0.0786 U	0.0816 U	0.0798 U	0.0792 U	0.0815 U
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0596 U	0.0589 U	0.0612 U	0.0599 U	0.0594 U	0.0611 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.0535 J	0.0809 J	0.062 J	0.102 J	0.0792 U	0.0815 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.0398 U	0.0393 U	0.0408 U	0.0399 U	0.0396 U	0.0407 U
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.0398 U	0.0393 U	0.0408 U	0.0399 U	0.0396 U	0.0407 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.0398 U	0.0393 U	0.0408 U	0.0399 U	0.0396 U	0.0407 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0795 U	0.0786 U	0.0816 U	0.0798 U	0.0792 U	0.0815 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0398 U	0.0393 U	0.0408 U	0.0399 U	0.0396 U	0.0407 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.0994 U	0.0982 U	0.102 U	0.0998 U	0.099 U	0.102 U
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.0994 U	0.0982 U	0.102 U	0.0998 U	0.099 U	0.102 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.0664 J	0.0326 J	0.136 J	0.0443 J	0.0663 J	0.0815 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.0398 U	0.0393 U	0.0408 U	0.0399 U	0.0396 U	0.0407 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.0382 J	0.0407 J	0.0816 U	0.0457 J	0.0792 U	0.0346 J
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.188 J	0.185 J	0.111 J	0.387	0.0622 J	0.292
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.0795 U	0.0786 U	0.0816 U	0.0798 U	0.0792 U	0.0815 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.0795 U	0.0786 U	0.0816 U	0.0798 U	0.0792 U	0.0815 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.0398 U	0.0393 U	0.0408 U	0.0399 U	0.0396 U	0.0407 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0596 U	0.0589 U	0.0612 U	0.0599 U	0.0594 U	0.0611 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a field duplicate pair

NE - Not established.

P - Parent sample of field duplicate.

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit. (sometimes validators will elevate the limit due to the "B" qualifier using the 5x/10x rule so this definition is different than the lab

UJ - The analyte was not detected at the stated sample quantitation limit, which is an estimated value.

**Bold** text indicates that the result or the LOD exceeds the PAL.

ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B162	NP-B163	NP-B163	NP-B164	NP-B164	NP-B165
Sample Name			NP-B162-S2-6-210622	NP-B163-S0-2-210622	NP-B163-S2-6-210622	NP-B164-S0-2-210622	NP-B164-S2-6-210622	NP-B165-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.0818 U	0.081 U	0.0802 U	0.0808 U	0.0813 U	0.0811 U
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0613 U	0.0607 U	0.0601 U	0.0606 U	0.061 U	0.0609 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.0818 U	0.0844 J	0.0802 U	0.0808 U	0.0813 U	0.057 J
Perfluorononanoic acid (PFNA)	ng/g	19	0.0409 U	0.0405 U	0.0401 U	0.0404 U	0.0407 U	0.0398 J
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.0409 U	0.048 J	0.0401 U	0.0404 U	0.0407 U	0.0406 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.0409 U	0.0405 U	0.0401 U	0.0404 U	0.0407 U	0.0406 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0818 U	0.081 U	0.0802 U	0.0808 U	0.0813 U	0.0811 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0409 U	0.0405 U	0.0401 U	0.0404 U	0.0407 U	0.0406 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.102 U	0.101 U	0.1 U	0.101 U	0.102 UJ	0.101 UJ
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.102 U	0.101 U	0.1 U	0.101 U	0.102 U	0.101 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.0818 U	0.081 U	0.0802 U	0.0808 U	0.0813 U	0.0811 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.0409 U	0.0405 U	0.0401 U	0.0404 U	0.0407 U	0.0406 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.0818 U	0.0883 J	0.0802 U	0.0808 U	0.0813 U	0.0811 U
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.226	0.472	0.0371 J	0.205	0.0988 J	0.391
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.0818 U	0.081 U	0.0802 U	0.0808 U	0.0813 U	0.0811 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.0818 U	0.081 U	0.0802 U	0.0808 U	0.0813 U	0.0811 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.0409 U	0.0405 U	0.0401 U	0.0404 U	0.0407 U	0.0406 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0613 U	0.0607 U	0.0601 U	0.0606 U	0.061 U	0.0609 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

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**Bold** text indicates that the result or the LOD exceeds the PAL.

ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B165	NP-B166	NP-B166	NP-B166	NP-B167	NP-B167
Sample Name			NP-B165-S2-6-210622	NP-B166-S0-2-210622	NP-B166-S2-6-210621	NP-B166-S4-210622	NP-B167-S0-2-210622	NP-B167-S2-6-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	2 - 6	0 - 2	2 - 6
Sample Type			N	N	P	FD	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.082 U	0.0549 J	0.0794 U	0.0787 U	0.0798 U	0.549
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0615 U	0.0606 U	0.0595 U	0.0591 U	0.0599 U	0.0606 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.082 U	0.0307 J	0.0544 J	0.0787 U	0.0798 U	0.0808 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.041 U	0.0404 U	0.0397 U	0.0394 U	0.0399 U	0.0404 U
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.041 U	0.0404 U	0.0397 U	0.0394 U	0.0399 U	0.0404 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.041 U	0.0404 U	0.0397 U	0.0394 U	0.0399 U	0.0404 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.082 U	0.0808 U	0.0794 U	0.0787 U	0.0798 U	0.0808 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.041 U	0.0404 U	0.0397 U	0.0394 U	0.0399 U	0.0404 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.102 U	0.101 U	0.0992 U	0.0984 U	0.0998 U	0.101 U
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.102 U	0.101 U	0.0992 U	0.0984 U	0.0998 U	0.101 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.082 U	0.0566 J	0.0794 U	0.0787 U	0.0798 U	0.0808 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.041 U	0.0404 U	0.0397 U	0.0394 U	0.0399 U	0.0404 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.082 U	0.0515 J	0.0794 U	0.0787 U	0.0798 U	0.0808 U
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.0357 J	0.247	0.321	0.328	0.172 J	0.0531 J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.082 U	0.0808 U	0.0794 U	0.0787 U	0.0798 U	0.0808 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.082 U	0.0808 U	0.0794 U	0.0787 U	0.0798 U	0.0808 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.041 U	0.0404 U	0.0397 U	0.0394 U	0.0399 U	0.0404 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0615 U	0.0606 U	0.0595 U	0.0591 U	0.0599 U	0.0606 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

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**Bold** text indicates that the result or the LOD exceeds the PAL.

ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B168	NP-B168	NP-B169	NP-B169	NP-B170	NP-B170
Sample Name			NP-B168-S0-2-210622	NP-B168-S2-6-210622	NP-B169-S0-2-210622	NP-B169-S2-6-210622	NP-B170-S0-2-210623	NP-B170-S2-6-210623
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			N	N	N	N	N	P
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.0481 J	0.0803 U	0.0569 J	0.0781 U	0.0786 U	0.0795 U
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0601 U	0.0602 U	0.0585 U	0.0586 U	0.0589 U	0.0596 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.0802 U	0.0803 U	0.078 U	0.0781 U	0.0786 U	0.0795 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.0357 J	0.0402 U	0.039 U	0.0391 U	0.0356 J	0.0398 UJ
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.0401 U	0.0402 U	0.039 U	0.0391 U	0.0393 U	0.0398 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.0401 U	0.0402 U	0.039 U	0.0391 U	0.0393 U	0.0398 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0802 U	0.0803 U	0.078 U	0.0781 U	0.0786 U	0.0795 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0401 U	0.0402 U	0.039 U	0.0391 U	0.0393 U	0.0398 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.1 U	0.1 U	0.0975 U	0.0977 U	0.0982 U	0.0994 U
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.1 U	0.1 U	0.0975 U	0.0977 U	0.0982 U	0.0994 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.0802 U	0.0803 U	0.078 U	0.343	0.0786 U	0.0795 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.0401 U	0.0402 U	0.039 U	0.0391 U	0.0393 U	0.0398 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.0802 U	0.0803 U	0.0433 J	0.0781 U	0.0786 U	0.0795 U
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.132 J	0.0845 J	0.0994 J	0.689	0.112 J	0.0795 U
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.0802 U	0.0803 U	0.078 U	0.0781 U	0.0786 U	0.0795 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.0802 U	0.0803 U	0.078 U	0.0781 U	0.0786 U	0.0795 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.0401 U	0.0402 U	0.039 U	0.0391 U	0.0393 U	0.0398 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0601 U	0.0602 U	0.0585 U	0.0586 U	0.0589 U	0.0596 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

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**Bold** text indicates that the result or the LOD exceeds the PAL.

ng/g- nanograms per gram

<sup>a</sup> The PALs are the lowest of the human health or ecological screening levels. *Human health*: EPA residential soil RSLs (ASD, 2022). *Ecological*: Divine et al. (2020) - NOEC, NOEC/EC10, or NOAEL values (Tables 9, 10, and 11b); Conder et al. (2020) - NOEC value (Table 7)

**Table 6. PFAS Compounds in Soil (ng/g)**

Location Name			NP-B170	NP-B171	NP-B171	NP-B172	NP-B172	NP-B173	NP-B173
Sample Name			NP-B170-S4-210623	NP-B171-S0-2-210623	NP-B171-S2-6-210623	NP-B172-S0-2-210623	NP-B172-S2-6-210623	NP-B173-S0-2-210623	NP-B173-S2-6-210623
Sample Collection Date			6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6
Sample Type			FD	N	N	N	N	N	N
Analyte	Units	PAL <sup>a</sup>	Result	Result	Result	Result	Result	Result	Result
Perfluorohexanoic acid (PFHxA)	ng/g	1,000	0.0781 UJ	0.0795 U	0.0787 U	0.0794 U	0.0786 U	0.0802 U	0.0795 U
Perfluoroheptanoic acid (PFHpA)	ng/g	1,000	0.0586 U	0.0596 U	0.0591 U	0.0595 U	0.0589 U	0.0601 U	0.0596 U
Perfluorooctanoic acid (PFOA)	ng/g	19	0.0781 U	0.0795 U	0.0787 U	0.0794 U	0.0786 U	0.0244 J	0.0795 U
Perfluorononanoic acid (PFNA)	ng/g	19	0.0391 UJ	0.0278 J	0.0394 U	0.0331 J	0.0393 U	0.0417 J	0.0398 U
Perfluorodecanoic acid (PFDA)	ng/g	51,000	0.0391 U	0.0398 U	0.0394 U	0.0397 U	0.0393 U	0.0401 U	0.0398 U
Perfluoroundecanoic acid (PFUnA)	ng/g	NE	0.0391 U	0.0398 U	0.0394 U	0.0397 U	0.0393 U	0.0401 U	0.0398 U
Perfluorododecanoic acid (PFDoA)	ng/g	NE	0.0781 U	0.0795 U	0.0787 U	0.0794 U	0.0786 U	0.0802 U	0.0795 U
Perfluorotridecanoic acid (PFTrDA)	ng/g	NE	0.0391 U	0.0398 U	0.0394 U	0.0397 U	0.0393 U	0.0401 U	0.0398 U
Perfluorotetradecanoic acid (PFTeDA)	ng/g	NE	0.0977 U	0.0994 U	0.0984 U	0.0992 U	0.0982 U	0.1 U	0.0994 U
N-methylperfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ng/g	NE	0.0977 UJ	0.0994 U	0.0984 U	0.0992 U	0.0982 U	0.1 U	0.0994 U
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ng/g	NE	0.0781 U	0.0795 U	0.0787 U	0.0794 U	0.0786 U	0.0802 U	0.0795 U
Perfluorobutanesulfonic acid (PFBS)	ng/g	1,900	0.0391 U	0.0398 U	0.0394 U	0.0397 U	0.0393 U	0.0401 U	0.0398 U
Perfluorohexanesulfonic acid (PFHxS)	ng/g	130	0.0781 U	0.0795 U	0.0787 U	0.0794 U	0.0786 U	0.0802 U	0.0795 U
Perfluorooctane sulfonate (PFOS)	ng/g	13	0.0781 U	0.0696 J	0.0787 U	0.208	0.0786 U	0.173 J	0.0517 J
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ng/g	23	0.0781 U	0.0795 U	0.0787 U	0.0794 U	0.0786 U	0.0802 U	0.0795 U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ng/g	NE	0.0781 U	0.0795 U	0.0787 U	0.0794 U	0.0786 U	0.0802 U	0.0795 U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	ng/g	NE	0.0391 U	0.0398 U	0.0394 U	0.0397 U	0.0393 U	0.0401 U	0.0398 U
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ng/g	NE	0.0586 U	0.0596 U	0.0591 U	0.0595 U	0.0589 U	0.0601 U	0.0596 U

PFAS compounds analyzed by DoD QSM 5.3, Table B-15

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Table 7. TPH in Soil (µg/kg)

Location Name	Sample Name	Sample Collection Date	Sample Depth (ft bgs)	Sample Type	Units	TPH - Diesel range C12-C24	TPH - Oil range	TPH - Gasoline range
						PAL = 2,000,000 <sup>a</sup>	PAL = 2,000,000 <sup>a</sup>	PAL = 30,000 <sup>a</sup>
NP-B145	NP-B145-S0-2-210621	6/21/2021	0 - 2	N	µg/kg	17,000	49,000	10 U
	NP-B145-S2-6-210621	6/21/2021	2 - 6	N	µg/kg	31,000	42,000	3,800
NP-B146	NP-B146-S0-2-210621	6/21/2021	0 - 2	N	µg/kg	1,200 U	12,000 U	10 U
	NP-B146-S2-6-210621	6/21/2021	2 - 6	N	µg/kg	25,000	45,000	10 U
NP-B147	NP-B147-S0-2-210621	6/21/2021	0 - 2	N	µg/kg	1,100 U	11,000 U	10 U
	NP-B147-S2-6-210621	6/21/2021	2 - 6	N	µg/kg	1,300 U	13,000 U	19,000
NP-B148	NP-B148-S0-2-210621	6/21/2021	0 - 2	N	µg/kg	70,000 U	700,000 U	30 U
	NP-B148-S2-6-210621	6/21/2021	2 - 6	N	µg/kg	15,000	87,000	10 U
NP-B149	NP-B149-S0-2-210621	6/21/2021	0 - 2	N	µg/kg	1,100 U	11,000 U	10 U
	NP-B149-S2-6-210621	6/21/2021	2 - 6	N	µg/kg	1,100,000	<b>2,200,000</b>	10 U
NP-B150	NP-B150-S0-2-210621	6/21/2021	0 - 2	N	µg/kg	1,200 U	12,000 U	10 U
	NP-B150-S2-6-210621	6/21/2021	2 - 6	N	µg/kg	17,000	51,000	10 U
NP-B151	NP-B151-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	1,100 U	11,000 U	10 U
	NP-B151-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	110,000	430,000	10 U
NP-B152	NP-B152-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	13,000	49,000	10 U
	NP-B152-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	5,500 U	55,000 U	10 U
NP-B153	NP-B153-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	26,000	41,000	10 U
	NP-B153-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	1,100 U	11,000 U	10 U
NP-B154	NP-B154-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	31,000 J	60,000 J	10 U
	NP-B154-S2-6-210622	6/22/2021	2 - 6	P	µg/kg	1,100,000	<b>2,300,000</b>	9,300
	NP-B154-S4-210622	6/22/2021	2 - 6	FD	µg/kg	850,000	1,800,000	10 U
NP-B155	NP-B155-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	19,000	84,000	10 U
	NP-B155-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	110,000	500,000	10 U
NP-B156	NP-B156-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	17,000	71,000	10 U
	NP-B156-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	9,200	18,000	10 U
NP-B157	NP-B157-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	8,700	28,000	30 U
	NP-B157-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	35,000	630,000	10 U
NP-B158	NP-B158-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	9,600	23,000	10 U
	NP-B158-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	75,000	250,000	10 U
NP-B159	NP-B159-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	11,000	25,000	10 U
	NP-B159-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	37,000	87,000	10 U
NP-B160	NP-B160-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	25,000	83,000	10 U
	NP-B160-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	270,000	340,000	10,000
NP-B161	NP-B161-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	41,000	120,000	10 U
	NP-B161-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	63,000	120,000	10 U
NP-B162	NP-B162-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	1,100 U	11,000 U	10 U
	NP-B162-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	1,200 U	12,000 U	10 U
NP-B163	NP-B163-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	1,300 U	13,000 U	10 U
	NP-B163-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	1,300 U	13,000 U	10 U
NP-B164	NP-B164-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	130,000	1,000,000	10 U
	NP-B164-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	16,000	32,000	10 U
NP-B165	NP-B165-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	1,200 U	12,000 U	20 U
	NP-B165-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	1,300 U	13,000 U	1,000 J
NP-B166	NP-B166-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	1,200 U	12,000 U	10 U
	NP-B166-S2-6-210621	6/22/2021	2 - 6	P	µg/kg	150,000 J	220,000	2,300
	NP-B166-S4-210622	6/22/2021	2 - 6	FD	µg/kg	67,000 J	140,000	2,000
NP-B167	NP-B167-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	19,000	57,000	2,500
	NP-B167-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	110,000	150,000	10 U
NP-B168	NP-B168-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	1,300 U	13,000 U	10 U
	NP-B168-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	4,600 U	46,000 U	20 U
NP-B169	NP-B169-S0-2-210622	6/22/2021	0 - 2	N	µg/kg	4,700 U	47,000 U	20 U
	NP-B169-S2-6-210622	6/22/2021	2 - 6	N	µg/kg	47,000	160,000	16,000
NP-B170	NP-B170-S0-2-210623	6/23/2021	0 - 2	N	µg/kg	1,100 U	11,000 U	450 J
	NP-B170-S2-6-210623	6/23/2021	2 - 6	P	µg/kg	230,000 J	99,000 J	10 U
	NP-B170-S4-210623	6/23/2021	2 - 6	FD	µg/kg	170,000	57,000 J	410 J
NP-B171	NP-B171-S0-2-210623	6/23/2021	0 - 2	N	µg/kg	1,100 U	11,000 U	10 U
	NP-B171-S2-6-210623	6/23/2021	2 - 6	N	µg/kg	1,200,000	<b>2,600,000</b>	<b>310,000 J</b>
NP-B172	NP-B172-S0-2-210623	6/23/2021	0 - 2	N	µg/kg	27,000	81,000	720 J
	NP-B172-S2-6-210623	6/23/2021	2 - 6	N	µg/kg	<b>2,200,000</b>	<b>4,500,000</b>	10 U
NP-B173	NP-B173-S0-2-210623	6/23/2021	0 - 2	N	µg/kg	21,000	65,000	10 U
	NP-B173-S2-6-210623	6/23/2021	2 - 6	N	µg/kg	1,200 U	12,000 U	430 U

Samples analyzed using Methods NWTPH-Dx and NWTPH-Gx

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

NE - not established

P - Parent sample of field duplicate

U - The analyte was analyzed but not detected at or above the stated limit. (sometimes validators will elevate the limit due to the "B" qualifier using the 5x/10x rule so this definition is different than the lab description).

UJ - The analyte was analyzed but not detected. the sample quantitation limit is an estimated value.

µg/kg - micrograms per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

<sup>a</sup> PAL based on MTCA Method A Cleanup Levels

**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B145	NP-B145	NP-B146	NP-B146	NP-B147	NP-B147	
Sample Name		NP-B145-S0-2-210621	NP-B145-S2-6-210621	NP-B146-S0-2-210621	NP-B146-S2-6-210621	NP-B147-S0-2-210621	NP-B147-S2-6-210621	
Sample Collection Date		6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	
Sample Depth (ft bgs)		0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	
Sample Type		N	N	N	N	N	N	
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	
LEAD	mg/kg	50 <sup>a</sup>	13.7	35	24.3	6.2	9.6	10.7
NICKEL	mg/kg	38.19 <sup>b</sup>	<b>39.2</b>	<b>49.8</b>	<b>47</b>	<b>41.2</b>	<b>51.7</b>	<b>42.8</b>
ARSENIC	mg/kg	7.3 <sup>b</sup>	2.6	5.1	3.6	3.3	2.3	2.7
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.16 J	0.31 J	0.3 J	0.33 J	0.28 J	0.28 J
CADMIUM	mg/kg	4 <sup>a</sup>	1.8	0.38	0.64	0.15	0.8	0.31
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>30.7</b>	<b>47.4</b>	<b>40.6</b>	<b>44.7</b>	<b>42.1</b>	<b>34.8</b>
ZINC	mg/kg	85 <sup>b</sup>	57.6	74.7	73.3	46.1	85	58.3
MERCURY	mg/kg	0.07 <sup>b</sup>	0.024 J	0.029 J	<b>0.073 J</b>	0.045 J	0.021 J	0.065 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	0.18 J	<u>0.35 U</u>	<u>0.36 U</u>	<u>0.38 U</u>	0.16 J	<u>0.39 U</u>

Samples analyzed using EPA Methods 6020A, 7471B, and 7199

FD - Field Duplicate

J - The reported value is an estimated concentration.

N - Sample is not part of a duplicate pair.

P - Parent sample of field duplicate

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

mg/kg - milligrams per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological* : WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a), LANL ECORISK

<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B148	NP-B148	NP-B149	NP-B149	NP-B150	NP-B150	
Sample Name		NP-B148-S0-2-210621	NP-B148-S2-6-210621	NP-B149-S0-2-210621	NP-B149-S2-6-210621	NP-B150-S0-2-210621	NP-B150-S2-6-210621	
Sample Collection Date		6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	6/21/2021	
Sample Depth (ft bgs)		0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	
Sample Type		N	N	N	N	N	N	
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	
LEAD	mg/kg	50 <sup>a</sup>	32.9	6.6	17.1	43.9	14.6	5.7
NICKEL	mg/kg	38.19 <sup>b</sup>	<b>53.1</b>	<b>46.3</b>	35.8	<b>45.8</b>	<b>46.9</b>	<b>44.8</b>
ARSENIC	mg/kg	7.3 <sup>b</sup>	4.2	5.1	<b>11.4</b>	<b>8.4</b>	4	3.8
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.34 J	0.27 J	0.29 J	0.23 J	0.33 J	0.19 J
CADMIUM	mg/kg	4 <sup>a</sup>	0.69	0.17	0.52	2	0.47	0.13
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>49.4</b>	<b>41.2</b>	<b>29.3</b>	<b>35.3</b>	<b>30.9</b>	<b>30</b>
ZINC	mg/kg	85 <sup>b</sup>	<b>111</b>	62	<b>122</b>	<b>888</b>	70.8	34.1
MERCURY	mg/kg	0.07 <sup>b</sup>	<b>0.1 J</b>	0.025 J	0.014 J	0.063 J	<b>0.45 J</b>	0.028 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	<b>0.5 J</b>	<u>0.38 U</u>	<u>0.33 U</u>	<u>0.4 U</u>	0.2 J	<u>0.4 U</u>

Samples analyzed using EPA Methods 6020A, 7471B, and 7199

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PAL - Project Applicable Limit

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UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

mg/kg - milligrams per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological* : WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a), LANL ECORISK

<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)



**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B151	NP-B151	NP-B152	NP-B152	NP-B153	NP-B153	
Sample Name		NP-B151-S0-2-210622	NP-B151-S2-6-210622	NP-B152-S0-2-210622	NP-B152-S2-6-210622	NP-B153-S0-2-210622	NP-B153-S2-6-210622	
Sample Collection Date		6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	
Sample Depth (ft bgs)		0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	
Sample Type		N	N	N	N	N	N	
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	
LEAD	mg/kg	50 <sup>a</sup>	4.2	10	35	19.1	35.3	29.7
NICKEL	mg/kg	38.19 <sup>b</sup>	<b>38.5</b>	35	33.1	35.4	<b>52.4</b>	<b>41.2</b>
ARSENIC	mg/kg	7.3 <sup>b</sup>	2.8	2.7	<b>18.2</b>	5.9	4.5	4.4
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.35 J	0.31 J	0.24 J	0.21 J	0.33 J	0.25 J
CADMIUM	mg/kg	4 <sup>a</sup>	0.098 J	0.24	0.99	0.47	1.3	0.88
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>32</b>	<b>30.8</b>	<b>29.5</b>	<b>33</b>	<b>41</b>	<b>36.9</b>
ZINC	mg/kg	85 <sup>b</sup>	41.2	47.3	<b>649</b>	81.8	<b>107</b>	74.5
MERCURY	mg/kg	0.07 <sup>b</sup>	0.027 J	0.034 J	0.052 J	0.049 J	0.055 J	0.036 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	0.17 J	<u>0.33 U</u>	<b>0.39 J</b>	0.25 J	<u>0.39 U</u>	<b>0.42 J</b>

Samples analyzed using EPA Methods 6020A, 7471B, and 7199

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mg/kg - milligrams per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological* : WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a), LANL ECORISK

<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B154	NP-B154	NP-B154	NP-B155	NP-B155	NP-B156	
Sample Name		NP-B154-S0-2-210622	NP-B154-S2-6-210622	NP-B154-S4-210622	NP-B155-S0-2-210622	NP-B155-S2-6-210622	NP-B156-S0-2-210622	
Sample Collection Date		6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	
Sample Depth (ft bgs)		0 - 2	2 - 6	2 - 6	0 - 2	2 - 6	0 - 2	
Sample Type		N	P	FD	N	N	N	
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	
LEAD	mg/kg	50 <sup>a</sup>	25.5	<b>659 J</b>	<b>605</b>	8.1	6.6	47.2
NICKEL	mg/kg	38.19 <sup>b</sup>	33.2	<b>958 J</b>	<b>168 J</b>	<b>39.5</b>	31.9	32
ARSENIC	mg/kg	7.3 <sup>b</sup>	2	3.9 J	4.1	3.4	2.8	3.2
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.28 J	0.2 J	0.22 J	0.3 J	0.21 J	0.17 J
CADMIUM	mg/kg	4 <sup>a</sup>	0.79	2.6 J	<b>4.4 J</b>	0.16	0.23	0.4
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>21.4</b>	<b>66.5 J</b>	<b>85.4</b>	<b>37.7</b>	<b>30.2</b>	<b>34.1</b>
ZINC	mg/kg	85 <sup>b</sup>	74	<b>785 J</b>	<b>1140</b>	50.1	49.4	77.8
MERCURY	mg/kg	0.07 <sup>b</sup>	0.051 J	0.051 J	0.027 J	0.031 J	0.038 J	0.035 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	0.16 J	0.17 J	<u>0.35 UJ</u>	<b>1.1 J</b>	<b>0.57 J</b>	<b>0.45 J</b>

Samples analyzed using EPA Methods 6020A, 7471B, and 7199

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N - Sample is not part of a duplicate pair.

P - Parent sample of field duplicate

PAL - Project Applicable Limit

U - The analyte was not detected at or above the stated limit of detection (LOD).

UJ - The analyte was not detected at or above the stated sample quantitation limit, which is an estimated value.

mg/kg - milligrams per kilogram

**Bolded** values indicate that the reported concentration exceeds the PAL.

Underlined values represent analytes not detected at or above the stated limit, which exceeds the PAL

<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological* : WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a), LANL ECORISK

<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B156	NP-B157	NP-B157	NP-B158	NP-B158	NP-B159	
Sample Name		NP-B156-S2-6-210622	NP-B157-S0-2-210622	NP-B157-S2-6-210622	NP-B158-S0-2-210622	NP-B158-S2-6-210622	NP-B159-S0-2-210622	
Sample Collection Date		6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	
Sample Depth (ft bgs)		2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	
Sample Type		N	N	N	N	N	N	
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	
LEAD	mg/kg	50 <sup>a</sup>	5.4	12.2	11.3	10.6	6.3	35.3
NICKEL	mg/kg	38.19 <sup>b</sup>	31.4	<b>42.1</b>	<b>45.8</b>	37.3	35.6	<b>39.3</b>
ARSENIC	mg/kg	7.3 <sup>b</sup>	2.8	3.9	3.3	3	3.3	3.8
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.18 J	0.31 J	0.24 J	0.24 J	0.22 J	0.3 J
CADMIUM	mg/kg	4 <sup>a</sup>	0.11 J	0.49	0.39	0.22	0.16	1.1
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>28.4</b>	<b>33.6</b>	<b>33.3</b>	<b>27.4</b>	<b>39.3</b>	<b>58.8</b>
ZINC	mg/kg	85 <sup>b</sup>	<b>101</b>	63.2	60.2	52.8	49.1	75.4
MERCURY	mg/kg	0.07 <sup>b</sup>	0.026 J	0.038 J	0.06 J	0.034 J	0.028 J	0.033 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	<b>0.5 J</b>	0.2 J	0.18 J	<u>0.32 UJ</u>	0.24 J	<u>0.37 UJ</u>

Samples analyzed using EPA Methods 6020A, 7471B, and 7199

FD - Field Duplicate

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mg/kg - milligrams per kilogram

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<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B159	NP-B160	NP-B160	NP-B161	NP-B161	NP-B162
Sample Name		NP-B159-S2-6-210622	NP-B160-S0-2-210622	NP-B160-S2-6-210622	NP-B161-S0-2-210622	NP-B161-S2-6-210622	NP-B162-S0-2-210622
Sample Collection Date		6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)		2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type		N	N	N	N	N	N
Analyte Name	Units	PAL	Result	Result	Result	Result	Result
LEAD	mg/kg	50 <sup>a</sup>	32.9	9.2	45.8	11.9	8.9
NICKEL	mg/kg	38.19 <sup>b</sup>	35.5	33.2	<b>58.4</b>	35.2	<b>38.6</b>
ARSENIC	mg/kg	7.3 <sup>b</sup>	3.3	2.7	7	2.6	3.1
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.25 J	0.23 J	0.21 J	0.25 J	0.2 J
CADMIUM	mg/kg	4 <sup>a</sup>	2.8	0.27	1.4	0.31	0.34
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>31.2</b>	<b>25.4</b>	<b>43.9</b>	<b>30.6</b>	<b>29.5</b>
ZINC	mg/kg	85 <sup>b</sup>	66.7	51.9	<b>179</b>	53.1	74.5
MERCURY	mg/kg	0.07 <sup>b</sup>	0.064 J	0.035 J	<b>0.48</b>	0.05 J	0.04 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	0.25 J	<u>0.32 UJ</u>	<u>0.35 UJ</u>	<u>0.32 UJ</u>	<u>0.34 UJ</u>

Samples analyzed using EPA Methods 6020A, 7471B, and 7199

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<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological* : WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a), LANL ECORISK

<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 8. Metals in Soil (mg/kg)**

Location Name			NP-B162	NP-B163	NP-B163	NP-B164	NP-B164	NP-B165
Sample Name			NP-B162-S2-6-210622	NP-B163-S0-2-210622	NP-B163-S2-6-210622	NP-B164-S0-2-210622	NP-B164-S2-6-210622	NP-B165-S0-2-210622
Sample Collection Date			6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021
Sample Depth (ft bgs)			2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2
Sample Type			N	N	N	N	N	N
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	Result
LEAD	mg/kg	50 <sup>a</sup>	<b>50.1</b>	<b>64.5</b>	5	43.3 J	<b>77.1</b>	44.3
NICKEL	mg/kg	38.19 <sup>b</sup>	<b>39</b>	<b>42.1</b>	<b>45.5</b>	30 J	<b>51.3</b>	32.7
ARSENIC	mg/kg	7.3 <sup>b</sup>	3.2	5.1	7.2	3.9	5.7	4.1
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.16 J	0.29 J	0.35 J	0.2 J	0.34 J	0.27 J
CADMIUM	mg/kg	4 <sup>a</sup>	0.17	0.62	0.091 J	0.37 J	0.58	0.95
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>36.4</b>	<b>31.3</b>	<b>44.3</b>	<b>28.1 J</b>	<b>48.4</b>	<b>26.2</b>
ZINC	mg/kg	85 <sup>b</sup>	45.3	<b>100</b>	53.5	69.7 J	<b>198</b>	78.7
MERCURY	mg/kg	0.07 <sup>b</sup>	0.035 J	0.058 J	0.032 J	0.038 J	<b>0.11 J</b>	0.044 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	<b>6.3 J</b>	<u>0.38 UJ</u>	<u>0.39 UJ</u>	0.17 J	<b>0.38 J</b>	<b>0.39 J</b>

Samples analyzed using EPA Methods 6020A, 7471B, and 7199

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mg/kg - milligrams per kilogram

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<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological* : WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a), LANL ECORISK

<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B165	NP-B166	NP-B166	NP-B166	NP-B167	NP-B167	
Sample Name		NP-B165-S2-6-210622	NP-B166-S0-2-210622	NP-B166-S2-6-210621	NP-B166-S4-210622	NP-B167-S0-2-210622	NP-B167-S2-6-210622	
Sample Collection Date		6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/22/2021	
Sample Depth (ft bgs)		2 - 6	0 - 2	2 - 6	2 - 6	0 - 2	2 - 6	
Sample Type		N	N	P	FD	N	N	
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	
LEAD	mg/kg	50 <sup>a</sup>	5.2	15	<b>60.3 J</b>	<b>173 J</b>	<b>79.8</b>	3.4
NICKEL	mg/kg	38.19 <sup>b</sup>	<b>44.5</b>	<b>48.3</b>	<b>46.5</b>	<b>40.9</b>	<b>281</b>	26.7
ARSENIC	mg/kg	7.3 <sup>b</sup>	4.2	3.2	4.1	2.9	<b>8.3</b>	1.6
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.36 J	0.29 J	0.29 J	0.26 J	0.28 J	0.16 J
CADMIUM	mg/kg	4 <sup>a</sup>	0.086 J	0.48	3.9	2.4	<b>8.3</b>	0.24
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>42.1</b>	<b>30.7</b>	<b>40.2</b>	<b>37.2</b>	<b>583</b>	<b>21.7</b>
ZINC	mg/kg	85 <sup>b</sup>	48.9	75.1	<b>115 J</b>	65.5 J	<b>326</b>	43.3
MERCURY	mg/kg	0.07 <sup>b</sup>	0.017 J	0.063 J	<b>0.86</b>	<b>0.96</b>	<b>0.17</b>	0.025 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	0.24 J	<b>0.36 J</b>	<b>0.41 J</b>	<b>18 J</b>	<b>0.89 J</b>	0.22 J

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<sup>a</sup> PAL is the lowest of the human health or ecological screening levels. *Human health* : EPA residential soil RSLs; MTCA Method B Cleanup Levels. *Ecological* : WAC Table 749-3; ORNL plant benchmarks (EFROYmson et al. 1997a), LANL ECORISK

<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B168	NP-B168	NP-B169	NP-B169	NP-B170	NP-B170	
Sample Name		NP-B168-S0-2-210622	NP-B168-S2-6-210622	NP-B169-S0-2-210622	NP-B169-S2-6-210622	NP-B170-S0-2-210623	NP-B170-S2-6-210623	
Sample Collection Date		6/22/2021	6/22/2021	6/22/2021	6/22/2021	6/23/2021	6/23/2021	
Sample Depth (ft bgs)		0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	
Sample Type		N	N	N	N	N	P	
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	
LEAD	mg/kg	50 <sup>a</sup>	5.6	4.8	7.4	<b>279</b>	6.2	9 J
NICKEL	mg/kg	38.19 <sup>b</sup>	<b>40.4</b>	33.4	33.1	<b>57.6</b>	29.9	<b>75.9 J</b>
ARSENIC	mg/kg	7.3 <sup>b</sup>	3.7	2.4	2.6	4.9	2.6	5
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.3 J	0.21 J	0.23 J	0.3 J	0.2 J	0.38 J
CADMIUM	mg/kg	4 <sup>a</sup>	0.32	0.62	0.15	2.8	0.15	0.29 J
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>40.7</b>	<b>27.4</b>	<b>27.4</b>	<b>52.7</b>	<b>23.6</b>	<b>54.5 J</b>
ZINC	mg/kg	85 <sup>b</sup>	59.4	42.5	43.7	<b>1670</b>	38.9	75.4 J
MERCURY	mg/kg	0.07 <sup>b</sup>	0.032 J	0.044 J	0.064 J	<b>10.8</b>	0.024 J	0.05 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	<b>0.38 J</b>	<b>0.33 J</b>	0.25 J	<b>0.63 J</b>	<u>0.33 UJ</u>	<u>0.38 UJ</u>

Samples analyzed using EPA Methods 6020A, 7471B, and 7199

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<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)

**Table 8. Metals in Soil (mg/kg)**

Location Name		NP-B170	NP-B171	NP-B171	NP-B172	NP-B172	NP-B173	NP-B173	
Sample Name		NP-B170-S4-210623	NP-B171-S0-2-210623	NP-B171-S2-6-210623	NP-B172-S0-2-210623	NP-B172-S2-6-210623	NP-B173-S0-2-210623	NP-B173-S2-6-210623	
Sample Collection Date		6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	6/23/2021	
Sample Depth (ft bgs)		2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	0 - 2	2 - 6	
Sample Type		FD	N	N	N	N	N	N	
Analyte Name	Units	PAL	Result	Result	Result	Result	Result	Result	
LEAD	mg/kg	50 <sup>a</sup>	19.9 J	3.8	17.6	26.4	<b>107 J</b>	36.9	8.3
NICKEL	mg/kg	38.19 <sup>b</sup>	<b>108</b>	34.3	<b>56</b>	<b>42.3</b>	<b>205 J</b>	36.4	<b>50.6</b>
ARSENIC	mg/kg	7.3 <sup>b</sup>	<b>8.2</b>	4.1	5.2	5.9	<b>8.9</b>	3.1	4.7
BERYLLIUM	mg/kg	10 <sup>a</sup>	0.38 J	0.2 J	0.43 J	0.22 J	1.2 J	0.21 J	0.36 J
CADMIUM	mg/kg	4 <sup>a</sup>	0.91 J	0.14	0.62	0.4	<b>9.7 J</b>	0.36	0.18
CHROMIUM, TOTAL	mg/kg	0.3 <sup>a</sup>	<b>106 J</b>	<b>30.8</b>	<b>56.7</b>	<b>32.5</b>	<b>84.1 J</b>	<b>31.5</b>	<b>42.3</b>
ZINC	mg/kg	85 <sup>b</sup>	<b>166 J</b>	36	64.9	<b>103</b>	<b>6,050</b>	67.1	57.2
MERCURY	mg/kg	0.07 <sup>b</sup>	0.061 J	0.018 J	0.035 J	0.047 J	<b>0.12 J</b>	0.036 J	0.055 J
HEXAVELENT CHROMIUM	mg/kg	0.3 <sup>a</sup>	<u>0.39 UJ</u>	<u>0.32 UJ</u>	<u>0.38 UJ</u>	<u>0.33 UJ</u>	<u>0.4 UJ</u>	<u>0.32 UJ</u>	<u>0.35 UJ</u>

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<sup>b</sup> PAL is the Washington Soil Natural Background (Puget Sound)



**Table 9. TOC and pH in Soil**

Location Name	Sample Name	Sample Collection Date	Sample Depth (ft bgs)	Sample Type	Moisture Content (%wt)	TOC (mg/kg)	pH
NP-B145	NP-B145-S0-2-210621	6/21/2021	0 - 2	N	5	8100	7.76
	NP-B145-S2-6-210621	6/21/2021	2 - 6	N	13.8	5700	7.57
NP-B146	NP-B146-S0-2-210621	6/21/2021	0 - 2	N	16.6	6700	7.38
	NP-B146-S2-6-210621	6/21/2021	2 - 6	N	20.6	5700	6.76
NP-B147	NP-B147-S0-2-210621	6/21/2021	0 - 2	N	8.4	5200	7.03
	NP-B147-S2-6-210621	6/21/2021	2 - 6	N	22.5	2800	7.03
NP-B148	NP-B148-S0-2-210621	6/21/2021	0 - 2	N	28.6	23000	7.05
	NP-B148-S2-6-210621	6/21/2021	2 - 6	N	21.3	3100	6.88
NP-B149	NP-B149-S0-2-210621	6/21/2021	0 - 2	N	9.6	3300	11.12
	NP-B149-S2-6-210621	6/21/2021	2 - 6	N	25.3	18000	8.24
NP-B150	NP-B150-S0-2-210621	6/21/2021	0 - 2	N	17.4	5100	7.96
	NP-B150-S2-6-210621	6/21/2021	2 - 6	N	25.9	3600	7.84
NP-B151	NP-B151-S0-2-210622	6/22/2021	0 - 2	N	7.5	2800	7.84
	NP-B151-S2-6-210622	6/22/2021	2 - 6	N	8.9	4100	7.83
NP-B152	NP-B152-S0-2-210622	6/22/2021	0 - 2	N	5.5	6300	11.15
	NP-B152-S2-6-210622	6/22/2021	2 - 6	N	8.8	7500	9.79
NP-B153	NP-B153-S0-2-210622	6/22/2021	0 - 2	N	23.9	8300	6.71
	NP-B153-S2-6-210622	6/22/2021	2 - 6	N	12.7	5200	7.1
NP-B154	NP-B154-S0-2-210622	6/22/2021	0 - 2	N	6.4	7000	6.64
	NP-B154-S2-6-210622	6/22/2021	2 - 6	P	7.1	14000	7.08
	NP-B154-S4-210622	6/22/2021	2 - 6	FD	15	13000	7.09
NP-B155	NP-B155-S0-2-210622	6/22/2021	0 - 2	N	7.8	6900	6.38
	NP-B155-S2-6-210622	6/22/2021	2 - 6	N	9.4	4000	7.48
NP-B156	NP-B156-S0-2-210622	6/22/2021	0 - 2	N	9.8	6900	6.29
	NP-B156-S2-6-210622	6/22/2021	2 - 6	N	9.3	1400 J	6.4
NP-B157	NP-B157-S0-2-210622	6/22/2021	0 - 2	N	26.4	8300	6.73
	NP-B157-S2-6-210622	6/22/2021	2 - 6	N	7.2	4000	7.15
NP-B158	NP-B158-S0-2-210622	6/22/2021	0 - 2	N	7.5	4500	6.39
	NP-B158-S2-6-210622	6/22/2021	2 - 6	N	8.6	2100	7.52
NP-B159	NP-B159-S0-2-210622	6/22/2021	0 - 2	N	19	6300	6.52
	NP-B159-S2-6-210622	6/22/2021	2 - 6	N	9.5	4000	7.05
NP-B160	NP-B160-S0-2-210622	6/22/2021	0 - 2	N	7.5	4200	7.62
	NP-B160-S2-6-210622	6/22/2021	2 - 6	N	14.4	13000	7.41
NP-B161	NP-B161-S0-2-210622	6/22/2021	0 - 2	N	7.4	5800	7.46
	NP-B161-S2-6-210622	6/22/2021	2 - 6	N	11.1	3200	10.65
NP-B162	NP-B162-S0-2-210622	6/22/2021	0 - 2	N	9.1	5700	7.4
	NP-B162-S2-6-210622	6/22/2021	2 - 6	N	16.4	2600	6.65
NP-B163	NP-B163-S0-2-210622	6/22/2021	0 - 2	N	22	7200	6.94
	NP-B163-S2-6-210622	6/22/2021	2 - 6	N	22.4	2000	7.24
NP-B164	NP-B164-S0-2-210622	6/22/2021	0 - 2	N	7.8	12000	6.95
	NP-B164-S2-6-210622	6/22/2021	2 - 6	N	22.8	7400	6.93
NP-B165	NP-B165-S0-2-210622	6/22/2021	0 - 2	N	14.5	8100	6.72
	NP-B165-S2-6-210622	6/22/2021	2 - 6	N	21.3	2000	6.86
NP-B166	NP-B166-S0-2-210622	6/22/2021	0 - 2	N	16.5	5500	7.35
	NP-B166-S2-6-210621	6/22/2021	2 - 6	P	17.7	7400	7.79
	NP-B166-S4-210622	6/22/2021	2 - 6	FD	12.7	5100	7.67
NP-B167	NP-B167-S0-2-210622	6/22/2021	0 - 2	N	17.9	4900	6.78
	NP-B167-S2-6-210622	6/22/2021	2 - 6	N	8.1	1000 J	7.5
NP-B168	NP-B168-S0-2-210622	6/22/2021	0 - 2	N	21.2	3700	6.58
	NP-B168-S2-6-210622	6/22/2021	2 - 6	N	12.9	3100	6.44
NP-B169	NP-B169-S0-2-210622	6/22/2021	0 - 2	N	14.5	4600	7.13
	NP-B169-S2-6-210622	6/22/2021	2 - 6	N	12.2	11000	7.12
NP-B170	NP-B170-S0-2-210623	6/23/2021	0 - 2	N	9.3	4600	7.05
	NP-B170-S2-6-210623	6/23/2021	2 - 6	P	20.7	6800	7.48
	NP-B170-S4-210623	6/23/2021	2 - 6	FD	22.7	8800	7.24
NP-B171	NP-B171-S0-2-210623	6/23/2021	0 - 2	N	7.1	7400	6.33
	NP-B171-S2-6-210623	6/23/2021	2 - 6	N	20.6	13000	5.55
NP-B172	NP-B172-S0-2-210623	6/23/2021	0 - 2	N	8.2	8800	6.55
	NP-B172-S2-6-210623	6/23/2021	2 - 6	N	24.5	11000	7.21
NP-B173	NP-B173-S0-2-210623	6/23/2021	0 - 2	N	5.8	7600	6.46
	NP-B173-S2-6-210623	6/23/2021	2 - 6	N	14.4	2200	7.42

Samples analyzed using EPA Methods 9060A (TOC) and 9045 (pH)

FD - Field Duplicate

N - Sample is not part of a duplicate pair.

P - Parent sample of field duplicate

TOC - Total Organic Carbon; No PAL designated for TOC

mg/kg - milligrams per kilogram

%wt - percent weight

**ATTACHMENT 3: RESPONSES TO COMMENTS ON DRAFT VERSION**

**Document Title:**

Draft Technical Memorandum – NBK Keyport Operable Unit 1 Upland Shallow Soil – Data Summary and Evaluation

**Document dated:** June 3, 2022**Comments from:** Andrew Schmeising, Suquamish Tribe**Comments dated:** February 22, 2023

#	Page No./ Line No.	Comment	Proposed Response	Response Accepted?
1	Introduction	Suggest some verbiage up front describing the context of the investigation, that it has several different exposure areas defined, and what purpose this particular sub-investigation of Area 1 Landfill was intended to fulfill. Perhaps also adding an additional figure similar to that in the SAP.	First paragraph of introduction states that this memorandum supports the overall SRI report and the risk assessment conducted under separate contract. Added a second paragraph that adds more detail/context.	
2	Figures	The study area is identified as Exposure Area 2 on Figures 3 and 4 of the SAP, and contains former burn and incinerator areas along with a (stockpiled?) soil berm. These features are located at the north end of Area 1 Landfill between the north plantation and the pass and ID building. Suggest including these features with the figures in the TM and subsequent supplemental RI (SRI).	We will add these features to Figure 3 of this technical memorandum. Regarding the upcoming supplement RI volume covering site recharacterization, a figure is included that shows the former burn and incinerator areas. The stockpiled soil is not included in this first volume of the RI covering site recharacterization, however it will be discussed in volume 2 covering the revised risk assessment. Exposure Area 2 will be discussed and show in a future RI volume covering the revised risk assessment.	
3	General	The soil contamination profile has a preponderance of chromium, nickel, Hex-chrome and PFOS, all of which strongly suggests electroplating wastes. Along with these COCs, petroleum impacted soils also appear to be common to the study area and the old plating shop at OU 2 Area 8. Suggest	These data will be evaluated and discussed in the future RI volume covering the revised risk assessment. This technical memorandum is meant as a data input to the revised risk assessment.	

**Document Title:**

Draft Technical Memorandum – NBK Keyport Operable Unit 1 Upland Shallow Soil – Data Summary and Evaluation

**Document dated:** June 3, 2022

#	Page No./ Line No.	Comment	Proposed Response	Response Accepted?
		noting in the SRI the significance of hexavalent chromium (Cr VI) in the samples, and whether any of the soils were sourced from the plating shop remediation, or were contaminated from liquid plating wastes disposed there.		
4	Data Evaluation	Suggest noting the highest detected COCs appeared to be in the vicinity of these former burn/incineration areas.	This appears to be the case for some analyte groups (cVOCs, PAHs), but not as much for others (PCBs, PFAS). This technical memorandum is meant as a data input to the revised risk assessment. Detailed discussion of results and implications will be provided in the revised risk assessment.	
5	General	Suggest including information on the source and construction date of the berm, as well as any decision documents related to its construction.	Unfortunately the only information regarding this stockpile is anecdotal – that the stockpile was material excavated as part of a construction project elsewhere at the base. We will add this anecdotal information to the memo.	
6	Page 1, BLUF	<p>Page 1, BLUF: Suggest including additional text and bullets to include:</p> <ul style="list-style-type: none"> <li>• A brief reference to WA State Action Levels (SALs) for PFAS, because PFOS exceeds the WA SAL for vadose zone soils in almost every soil sample.</li> <li>• Include the 2022 EPA RSLs for PFAS as well.</li> </ul>	We will revise PFAS Table 6 with the 2022 EPA RSLs, consistent with the Assistant Secretary of Defense memorandum dated July 6, 2022. We will also include statements in the text about PFAS compounds exceeding RSLs. We will add a sentence regarding the rapidly evolving regulations on PFAS and that this memorandum compares results against the most up to date criteria as specified by DoD guidance. Data may also be re-evaluated in the future based on a comparison to other screening levels promulgated at a later date, should vetted and	

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**Document dated:** June 3, 2022

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			appropriate screening levels become available in the future.	
7	Per- and Polyfluoroalkyl Substances, lines 174-177:	Please include a discussion of current EPA RSLs and WA SALs to ensure future readers understand that PFAS compounds (notably PFOS) are present at levels of regulatory concern and are subject to other ARARs than those in the TM.	We will revise PFAS Table 6 with the 2022 EPA RSLs, consistent with the Assistant Secretary of Defense memorandum dated July 6, 2022. We will also include statements in the text about PFAS compounds exceeding RSLs. We will add a sentence regarding the rapidly evolving regulations on PFAS and that this memorandum compares results against the most up to date criteria as specified by DoD guidance. Data may also be re-evaluated in the future based on a comparison to other screening levels promulgated at a later date, should vetted and appropriate screening levels become available in the future.	
8	Figure 3	Suggest including details from SAP figures such as burn area and incinerator area	We will add these features to Figure 3 of this technical memorandum.	
9	Table 3	Table 3 needs formatting. Not all columns are completely visible	We will correct the formatting of Table 3.	
10	Table 4	Table 4 needs formatting.	We will correct the formatting of Table 4.	
11	Table 6	PFOS results almost universally exceed the 2022 RSLs and the WA vadose zone SALs for soil. Suggest noting this information as stated previously.	We will revise PFAS Table 6 with the 2022 EPA RSLs, consistent with the Assistant Secretary of Defense memorandum dated July 6, 2022, and include references in the table footnotes and the Reference page. Data may also be re-evaluated in the future based on a comparison to other screening levels promulgated at a later date, should vetted and appropriate screening levels become available in the future.	

**Document Title:**

Draft Technical Memorandum – NBK Keyport Operable Unit 1 Upland Shallow Soil – Data Summary and Evaluation

**Document dated:** June 3, 2022**Comments from:** Benjamin Leake, EPA**Comments dated:** February 23, 2023

#	Page No./ Line No.	Comment	Proposed Response	Response Accepted?
1	Introduction/BLUF	Understanding that this is a summary technical memo and not a formal report, recommend adding detail about the purpose and scope of the investigation and this Tech Memo. Some additional context would improve the Tech Memo and make its utility clearer.	First paragraph of introduction states that this memorandum supports the overall SRI report and the risk assessment conducted under separate contract. Added a second paragraph that adds more detail/context.	
2	Lines 32, 33	It is assumed that the dates in these lines are typographical errors and that direct-push drilling was conducted between June 21 and 23, <b>2021</b> .	Thank you, we will correct this to 2021.	
3	Lines 176-177	Although PFAS compounds did not exceed the PALs in these soil samples, the PALs used for this Tech Memo are based on criteria that has become outdated since preparation of the SAP and performance of this sampling. The Tech Memo should acknowledge the rapidly changing state of PFAS regulation and compare results against the most up to date criteria available.	We will revise PFAS Table 6 with the 2022 EPA RSLs, consistent with the Assistant Secretary of Defense memorandum dated July 6, 2022. We will also include statements in the text about PFAS compounds exceeding RSLs. We will add a sentence regarding the rapidly evolving regulations on PFAS and that this memorandum compares results against the most up to date criteria as specified by DoD guidance. Data may also be re-evaluated in the future based on a comparison to other screening levels promulgated at a later date, should vetted and appropriate screening levels become available in the future.	
4	Line 311-313	Clarify if additional VOC sampling will be conducted due to the hold time exceedances for all VOC soil samples. Alternatively, include a discussion about the implication, if any, on	We will add a statement indicating that the data remain useable for the project objectives because the data are to be used for screening	

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**Document dated:** June 3, 2022

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		decision making based on this estimated VOC data.	the contaminants present in Exposure Area 2 to allow risk assessment planning.	
5	Figure 3	Recommend the addition of the former incinerator and burn pile to Figure 3. These are shown on Figure 3 of the recently submitted Conceptual Site Model Technical Memo.	We will add these features to Figure 3.	
6	Tables 3 and 4	These tables must be reformatted for readability.	We will repair the formatting of Tables 3 and 4.	

**Document Title:**

Draft Technical Memorandum – NBK Keyport Operable Unit 1 Upland Shallow Soil – Data Summary and Evaluation

**Document dated:** June 3, 2022**Comments from:** Binod Chaudhary, Ecology**Comments dated:** February 27, 2023

#	Page No./ Line No.	Comment	Proposed Response	Response Accepted?
1	General	Please confirm that this data set will be included in the risk assessment data report. All data for the risk assessments should be presented and evaluated together.	Yes, this data set will be included in the risk assessment report, which is being prepared by a different contractor.	
2	General	Currently, it does not seem appropriate or accurate to definitively state that PFAS are not present above PALs. Revise the text of the PFAS section to indicate that more conservative screening levels are available and will be considered in the data evaluation and risk assessment.	Per comments/responses above, Table 6 and text will be revised to reflect 2022 EPA RSLs.	
3	General	As commented by the Tribe and EPA, please include relevant features such as the former incinerator location to provide context for understanding potential sources.	We will add these features to Figure 3 of this technical memorandum.	
4	General	As per MTCA, there are various soil cleanup levels (e.g., MTCA Method B, protective of groundwater vadose, protective of groundwater – SW vadose, marine water etc.) of the same contaminant depending on existence of exposure pathways. Therefore, Ecology recommends updating PALs of some COCs based on the conservative values on the CLARC table.	The PALs used for this work were coordinated with the risk assessment team (contracted separately), with input from the Project Team. Any comparison to other ARAR values will be part of the upcoming risk assessment.	
5	General	Majority of analytical results for various COCs indicate that contamination exists at depth 2-6 ft bgs. There could be leaching or migration of	Comprehensive site investigations have been conducted at OU 1, which are presented in detail in the upcoming Supplemental RI. These results	



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**Document dated:** June 3, 2022

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		contaminants at a greater depth. Therefore, please include recommendation in the report that additional site investigation will be needed to properly delineate the extent of the contaminations.	for shallow soil in this portion of the landfill were collected specifically for the purposes of risk assessment planning and do not substantively inform the more comprehensive nature and extent investigation throughout the footprint of the landfill and extending to 100 feet bgs.	
6	Table 1	Can you clarify why VOCs analytical results for boring logs NP-B147 and NP-B171 are not consistent with the PID readings?	We will correct the boring logs to show tha the PID readings were in ppb, <i>not</i> ppm. For NP-B147, the PID readings at the deeper sample was 4.7 ppm, and VOCs were not detected. For NP-B171, the PID readings at the deeper sample was 130 ppm, and VOCs were not detected except for vinyl chloride at an estimated value of 3.1 ug/kg. These results appear consistent.	
7	Table 2	Can you please clarify why there is no PAL for 1-Methylnapthalene? According to MTCA Equation 747-1, there is the vadose zone soil cleanup level of this contaminant for protection of groundwater. So, please include PAL for this contaminant on this table and identify locations where analytical results exceed the PAL.	The PALs used for this work were coordinated with the risk assessment team (contracted separately), with input from the Project Team. Any comparison to other ARAR values will be part of the upcoming risk assessment.	