June 20, 2024

Nilia Moberly Green, TOCOR
U.S. EPA Region 5
Ralph H. Metcalfe Federal Building
77 West Jackson Blvd
Chicago, Illinois 60604

PROJECT: Contract No.: 68HE0318D0003
Task Order No.: 68HE0523F0033

SUBJECT: Final Operable Unit 1 Soils Technical Memorandum – Year 1
McLouth Steel Corp. Superfund Site
Trenton, Michigan

Dear Ms. Green:

CDM Smith Federal Programs Corporation (CDM Smith) has reviewed the comments provided by the United States Environmental Protection Agency (EPA) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) on June 12, 2024 regarding the McLouth Steel Superfund Site, Operable Unit 1 Soils Technical Memorandum – Year 1 (TM). CDM Smith has revised the TM to address EPA editorial comments 1, 3, 4, 5, 6, 10 and 14, EGLE editorial comments 1, 2, 4 and 6 from the May 7, 2024 letter and EGLE editorial comments 1 and 6 from the May 3, 2024 technical memorandum. The remaining comments will be addressed in the Year 2 OU1 TM or in the Remedial Investigation Report.

The following comments were addressed from the Operable Unit 1 Soils Technical Memorandum – Year 1 Review Comment Document:

1. EPA Comment #1, First Paragraph: The OU1 Tech Memo states, "This technical memorandum contains data collected during the December 2023 [bold added for emphasis] sampling event…" Soil sampling was conducted between August and September 2023, not December 2023. This must be corrected.

   CDM Smith Response: Revised data collection date range from "December 2023" to "August to September 2023".

2. EPA Comment #3, Page 1 (Second Paragraph) and Page 2 (Second Paragraph), Site Background: The OU1 Tech Memo should say "Crown Enterprises, "Inc" rather than "Crown Enterprises, ILLC" and "Crown Enterprises, LLC.

   CDM Smith Response: Revised the name of the corporate entity, from "Crown Enterprises, LLC" to "Crown Enterprises, Inc.".

3. EPA Comment #4, Page 2, Site Background, Second Paragraph: MSC should be defined as MSC Land Company, LLC the first time it is listed. For example, the following sentence should have read "…provide the non-liable parties—Crown Enterprises, Inc. and its affiliate, MSC Land Company, LLC (MSC)—with covenants not to sue…"

   CDM Smith Response: Revised "MSC" as "MSC Land Company, LLC" where it is first listed.

4. EPA Comment #5, Page 2, Site Background, Second Paragraph: The Michigan Department of Environmental Quality was already defined as MDEQ in the second paragraph of the Site Background on Page 1, so it does not need to be spelled out the second time.

   CDM Smith Response: Removed the redundant definition of "MDEQ".

5. EPA Comment #6, Page 2, Site Background, Second Paragraph: Please add “United States” in front of “Department of Justice.”

   CDM Smith Response: Added “United States” in front of “Department of Justice”.

6. EPA Comment #10, Page 3, Operable Unit 1 Soil Sample Results, Second Paragraph: “Attachment B” should be in bold to be consistent with the style of the document.

   *CDM Smith Response: Bolded “**Attachment B**” to be consistent with document formatting.*

7. EPA Comment #14, Page 14, Recommendations, Third Bullet on this page: Boring RB-SB-23 should be RI-SB-23.

   CDM Smith Response: Revised sample location ID to RI-SB-23.

8. EGLE (May 7, 2024 letter) Comment #1, Page 1, Site Background, Second Paragraph: The Tech Memo states, “In 2000, DSC, Ltd. sold the 76-acre northern portion of the facility to Manuel J. Maroun, who transferred the title through Crown Enterprises, LLC to Riverview-Trenton Railroad Co.” EGLE suggests that parentheses be add as (RTRR site) after “facility”, make it clear that this portion is not part of the Superfund Site.

   CDM Smith Response: Revised text to include “(RTRR site)” after facility to improve statement clarity.

9. EGLE (May 7, 2024 letter) Comment #2, Page 1, Site Background, Third Paragraph: It is not clear in this paragraph whether these activities took place on the Superfund Site or the RTRR Site or both. Please clarify where these activities occurred.

   CDM Smith Response: Added “on Site” to clarify where the previous actions have occurred.

10. EGLE (May 7, 2024 letter) Comment #4, Page 2, Site Background, Fifth Paragraph: There is a typo in “Crown Enterprises, LLC”.

    CDM Smith Response: Addressed comment under EPA’s Comment #3.

11. EGLE (May 7, 2024 letter) Comment #6, Page 12-13, **Table 10**: It appears there may be different font sizes. Please correct.

    *CDM Smith Response: Revised font size within **Table 10** to match document formatting.*

12. EGLE (May 3, 2024 memo) Comment #1, Page 1, First Paragraph: Please include the overall purpose of the sampling (“part of the remedial investigation work plan etc.”).

    CDM Smith Response: Added a clarifying statement to explain the overall purpose of sampling.

13. EGLE (May 3, 2024 memo) Comment #6, Page 16, References: Please include the following references:

    a. Remedial Acquisition Framework: Design and Engineering Services. Final Quality Assurance Project Plan (QAPP), McLouth Steel Corp., Superfund Site, Operable Units 1 and 2, RI/Feasibility Study, Trenton, Michigan prepared for USEPA, Region 5, Superfund and Emergency Management Division prepared by CDM Smith dated July 21, 2023.

    b. Resource Conservation Recovery Act Facility Assessment Report, DSC LTD. – Trenton Plan, 1491 West Jefferson Avenue, Trenton, Michigan prepared for DSC LTD. prepared by ESC dated November 2, 1999.

    c. Phase 1 Environmental Site Assessment, Former McLouth Steel Facility, 1491 West Jefferson Avenue, Trenton, Michigan 48183 prepared for the City of Trenton by ECT dated August 8, 2017.

       CDM Smith Response: Added the requested references.

If you have any questions regarding this submittal, please contact me at your earliest convenience at (412) 208–2429 or vandegriftcj@cdmsmith.com.

Very truly yours,

CDM FEDERAL PROGRAMS CORPORATION

Senior Project Manager

cc: John Grabs, CDM Smith
Ernest Ashley, CDM Smith
Project file

Michael Valentino

Memorandum

To: *Nilia Moberly Green, TOCOR, U.S. EPA Region 5*

From: *Christopher Vandegrift, Senior Project Manager, CDM Smith*

Date: *June 20, 2024*

Subject: *Operable Unit 1 Soils Technical Memorandum – Year 1*

CDM Federal Programs Corporation (CDM Smith) prepared this technical memorandum to describe the sampling results of the soil investigation performed at the McLouth Steel Corp. Superfund Site (Site). This project was a part of the U.S. Environmental Protection Agency (EPA) Design and Engineering Services Contract No. 68HE0318D0003, Task Order No. 68HE0523F0033, and this sampling event was part of the remedial investigation work plan. This technical memorandum contains data collected during the August to September 2023 sampling event, which aided in characterizing the nature, extent, and concentrations of chemical contaminants in the soil, and provides recommendations for additional site characterization, where appropriate.

Site Background

The Site is in Trenton, Michigan, in an area that includes industrial, commercial, and residential properties (**Figure 1**). The Site occupies the southwestern 197 acres of the former steel mill property, which originally consisted of approximately 273 acres (**Figure 2**). The remaining approximately 76 acres is a separate cleanup site (Riverview-Trenton Railroad Co. [RTRR] site) that is being addressed under the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Resource Conservation and Recovery Act (RCRA) program. The Site is divided into three operable units (OUs): OU1 is the property source areas, OU2 is sitewide groundwater, and OU3 is the Detroit River surface water and sediments.

The former McLouth Steel facility operated from about 1950 until 1995, when McLouth filed for bankruptcy. In 1996, the McLouth bankruptcy estate sold the entire McLouth facility to Hamlin Holdings, Inc., which became DSC, Ltd. On December 17, 1999, Michigan Department of Environmental Quality (MDEQ) and DSC, Ltd. executed a Comprehensive Action and Remedial Consent Order that addressed contamination from numerous waste management units and areas of concern within the property, but not all work was completed properly. In 2000, DSC, Ltd. sold the 76-acre northern portion of the facility (RTRR site) to Manuel J. Maroun, who transferred the title through Crown Enterprises, Inc. to Riverview-Trenton Railroad Co.

On June 14, 2007, there was a fire on the Site in an open pond used to collect waste oil. After the fire was extinguished, hundreds of containers and waste drums were found. On October 16, 2007, EPA and MDEQ discovered over 3,700 polychlorinated biphenyl (PCB)-containing transformers and capacitors in one of the steel production buildings on Site. Between May 12 and October 2, 2009, EPA conducted a fund-led removal action at the Site that included the removal and disposal of 3,744 PCB capacitors, 39,783 gallons of PCB oil, and 1,877 containers of hazardous substances.

On March 18, 2011, MDEQ referred the southern section of the former McLouth facility, including the property, to EPA Region 5's Superfund Program. On May 11, 2011, Region 5 transferred responsibility for the southern portion of the former McLouth facility from its RCRA to its Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program. In 2015, an investigation for contaminants of potential concern was conducted for both the Site and the RTRR site. Inorganics, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), PCBs, dioxins/furans (D/F), and per- and polyfluoroalkyl substances (PFAS) were identified on the Site, as well as areas with low pH groundwater (0.9 to 5.88) around the acid pickling building and sedimentation basin. Other areas on the Site were identified with elevated pH (9.5 to 13.4).

In 2017, Wayne County acquired 183 acres of the 197-acre southern portion through tax foreclosure. Wayne County then entered into a Purchase and Development Agreement with Crown Enterprises, Inc. One of the purposes of this settlement is to provide the non-liable parties—Crown Enterprises, Inc. and its affiliate, MSC Land Company, LLC (MSC)—with covenants not to sue so that MSC can take the title to the property with clarity concerning its obligations under CERCLA, RCRA, and the Toxic Substance Control Act. On August 6, 2018, Crown Enterprises, Inc. and its affiliate, MSC, entered into a settlement agreement with EPA, MDEQ, and the United States Department of Justice where MSC agreed to complete the following on the Site and the RTRR site: demolish 45 structures, remove asbestos-containing material, containerize wastes and materials containing PCBs from all structures before demolition, install a fence around the property, remove contaminated water and sludges from 23 subsurface structures, investigate five areas where PCBs may have been released, and assess and report on stormwater management options. This initial phase of cleanup was completed at the southern portion of the former site under EPA oversight in November 2021.

Physical Setting

Site Soils

According to the Quaternary geology of the southern Michigan map (University of Michigan's Department of Geological Science 1982), the Site is situated on gray to dark reddish brown lacustrine clay and silt that formed in extensive, flat, low-lying areas formerly inundated by glacial Great Lakes, and in separate small lake basins, including small areas of lacustrine sand and clay-rich till. The dominant soil composition near the Site is cut and fill land. It has a variable soil surface texture and does not meet the requirements of a hydric soil.

The near surface geology in the Site area consists of glacial Great Lakes lacustrine clay and silt deposits overlain by fill material/deposits, especially in the floodplain areas along the river. The clay and silt deposits vary in thickness from approximately 10 to 40 feet thick and appear to be laterally extensive across the Site. Small, occasional lenses of lacustrine sand may be present throughout the deposits. Most of the soil borings did not note a sand or gravel layer within or below the clay overlying the bedrock.

Three types of soils were most encountered throughout the Site. These are a shallow backfill soil (fill) and native sand, underlain by a native clay layer sitting directly on top of the bedrock. The shallow backfill was typically a well-graded sand with gravel and silt. This zone was generally found from 0 to 15 feet and often would have scrap metal and debris throughout. Below this was a native layer of poorly graded sand. This zone was generally from 5 to 25 feet and was fine to very fine grained. It was often black and generally loose. Below this native sand, there was a layer of fat clay throughout the Site. This clay was generally encountered from 20 to 40 feet below ground surface. Below the clay was bedrock, encountered around 30 to 40 feet below ground surface. Bedrock at the Site was a dolomitic limestone.

Fill, including brick, concrete, wood, and slag, was observed in most borings. Based on historical shoreline data, extensive filling toward the Detroit River occurred between 1946 and 1952, and additional filling occurred later between 1957 and 1964.

Geology

Beneath the fill and glacial deposits, the Site is underlain by bedrock of the Paleozoic Era, Devonian System, and Middle Devonian Series. The bedrock geology underlying the area's lacustrine deposits is the Dundee Limestone and the Detroit River Group formations. The Dundee formation consists of massive limestone deposits ranging in thickness from 40 to 400 feet. The underlying Detroit River Group formation consists of limestone, dolomite, and sandstone deposits with interbedded anhydrite and salt deposits. This formation can be more than 1,000 feet in thickness.

Operable Unit 1 Soil Investigation Activities

CDM Smith retained and oversaw Cascade Drilling for the advancement of 34 soil borings, 33 of which were completed as monitoring wells. Drilling and sampling activities occurred between August 15 and September 21, 2023. **Figure 3** shows soil boring locations.

Soil sampling was conducted using sampling procedures in accordance with CDM Smith's EPA-approved Quality Assurance Project Plan (QAPP). Photoionization detector measurements and soil descriptions were recorded on boring logs provided in **Attachment A**.

Of the 136 soil samples collected, 134 samples were from soil borings, including seven field duplications, and two samples were collected from Site soil piles. Five composite waste characterization samples from five different Site areas and one field duplicate sample were collected.

Soil samples were analyzed by the following laboratories using the following methods: Bonner Analytical Testing Company analyzed target analyte list (TAL) VOCs by Superfund Analytical Method (SFAM) 01.1, SVOCs (including 1,4-dioxane) under selected ion monitoring by SFAM01.1, metals (including mercury and cyanide) by SFAM01.1, pesticides by SFAM01.1, and PCB Aroclors by SFAM01.1; EPA Region 2 Laboratory Services and Applied Science Divisions analyzed total organic carbon by Lloyd Kahn; and EPA Region 5 (Analytical Services Branch (ASB)) analyzed percent solids by Method 1050C and PFAS by Method OM022.

Two independently contracted laboratories were used: Advanced Environmental Laboratories, Inc. analyzed D/F by High Resolution Superfund Method (HRSM) 02.1; and RTI Laboratories, Inc.'s lower tier, Brighton Analytical LLC, analyzed total sulfide by Standard Method (SM) 4500-S2-F.

Attachment B provides analytical data tables.

CDM Smith's geotechnical laboratory analyzed grain size by ASTM International (ASTM) D6913 and D7928, bulk density by ASTM D2937, Atterberg limit by D4318, specific gravity by ATSM D854, laboratory shear vane by D4648, Triaxial Consolidated-Undrained by ASTM 4767, Triaxial Unconsolidated-Undrained D2850, flexible membrane test by D5084, moisture content by D2216, organic content by D2974, and fixed-wall hydraulic conductivity by D2434. **Attachment C** provides geotechnical data.

All excess soil and decontamination water were collected, containerized, and temporarily stored in 55-gallon drums in the southwestern corner of the parking lot. On September 22, 2023, CDM Smith collected and containerized investigation-derived waste soil samples from the five Site areas. The samples were analyzed by Region 5 ASB for Toxic Characteristic Leaching Procedure VOCs, SVOCs, pesticides, and Resource and Recovery Act 8 metals; TAL PCBs; and cyanide and sulfide reactivity.

Data Validation

The data in this technical memorandum underwent data validation as described on QAPP Worksheets 34 through 36, except for PFAS and D/Fs. The data validation reports for those analytes were not available as this technical memorandum was being prepared. The preliminary analytical results for PFAS and D/F are presented herein as they are expected to be usable, but they should be considered preliminary and subject to data validation. The data in this technical memorandum are being presented for completeness and the purpose of evaluating the next steps in the investigation.

Operable Unit 1 Soil Investigation Sampling Results

CDM Smith evaluated the OU1 sampling results to identify summary statistics and patterns that illustrate the distribution of contaminants of potential concern across the Site. The main analyte groups were VOCs, SVOCs, pesticides, PCB Aroclors, and inorganics (metals and cyanide). PFAS and D/F were collected and analyzed on a smaller subset of samples.

Concentration data per sample is provide in the tables in **Attachment B**. Summary statistics are provided in the text. **Figures 4** through **19** illustrate the concentration distribution of the various classes of analytes. **Figure 4** is specific to surface samples where PCB exposure would be of greatest concern for human health. The distribution **Figures 5** through **19** are two dimensional, showing the distribution and relative concentrations regardless of depth.

The detected concentrations of analytes were compared to the project action limits (PALs) listed on Worksheet 15 of the QAPP. **Table 1** summarizes the number of detections and exceedances for each major analyte class.

Table 1 – Soil Sample Detections and Exceedances Summary

Analyte Group	Total Exceedances*	Total Detections*
VOCs	30 (<1%)	204 (8%)
SVOCs	138 (2%)	1,609 (26%)
Pesticides	7 (<1%)	184 (16%)
PCB Aroclors	22 (5%)	41 (8%)
Metals	1,290 (50%)	2,312 (90%)

*Percentage numbers based on total analytes examined
Note: < = less than; % = percent

Polychlorinated Biphenyl Aroclors

Eight percent of analyzed samples had PCBs detected while 5% of samples exceeded the PALs set for PCBs. **Figure 4** presents the distribution and relative concentrations of total PCBs in the surface soil samples (0 to 0.5 feet).

Table 2 – Soil Sample Detections and Exceedances – Polychlorinated Biphenyls

Analyte	Exceeded	Detected	Total Samples
PCB-1242 (Aroclor 1242)	7	7	52
PCB-1254 (Aroclor 1254)	1	4	52
PCB-1260 (Aroclor 1260)	13	27	52
PCB-1268 (Aroclor 1268)	1	1	52

Volatile Organic Compounds

VOCs were not widely detected or measured at high concentrations at the Site, with 8% of samples having VOCs detected and less than 1% exceeding their respective PAL. The chlorinated VOC trichloroethene (TCE) was detected 36 times with only one PAL exceedance, while tetrachloroethene (PCE) was detected 10 times and had 6 PAL exceedances. For non-chlorinated VOCs, such as benzene, toluene, ethylbenzene, and xylenes and methylbenzenes, there were few detections and almost no exceedances. **Figure 5** presents the locations and relative concentrations of PCE and TCE detections. The chlorinated VOCs were selected to illustrate the occurrence of solvent-related VOCs. Most of the other VOCs detected in soil samples are likely associated with fuels.

Table 3 – Soil Sample Detections and Exceedances – Volatile Organic Compounds

Analyte	Exceeded	Detected	Total Samples
1,2,3-Trichlorobenzene	1	2	105
1,2,4-Trimethylbenzene	7	35	108
1,3,5-Trimethylbenzene	4	24	107
2-Hexanone	2	3	106
Benzene	1	8	106
Ethylbenzene	1	22	109
m,p-Xylene	4	35	109
o-Xylene	3	29	109
PCE	6	10	106
TCE	1	36	108

Semivolatile Organic Compounds

SVOCs were detected in a portion of the samples but exceeded their respective PALs at a relatively low rate. Twenty-six percent of samples had SVOCs detected but only 2% of the detections exceeded their respective PALs. Naphthalene was the SVOC most frequently detected above its PAL, followed by benzo(a)pyrene, which is representative of a class of carcinogenic SVOCs. **Figures 6a** and **6b** present the distribution and relative concentrations of naphthalene and benzo(a) pyrene, respectively.

Table 4 – Soil Sample Detections and Exceedances – Semivolatile Organic Compounds

Analyte	Exceeded	Detected	Total Samples
1,4-Dioxane (p-Dioxane)	4	4	104
1-Methylnaphthalene	9	76	89

Analyte	Exceeded	Detected	Total Samples
2-Methylnaphthalene	4	83	89
Benzo(a) anthracene	17	85	89
Benzo(a) pyrene	25	83	89
Benzo(b) fluoranthene	5	87	89
Biphenyl (Diphenyl)	7	7	89
Dibenz(a,h) anthracene	5	66	89
Dibenzofuran	1	12	89
Indeno(1,2,3-c,d) pyrene	2	84	89
Naphthalene	54	86	89
Phenanthrene	2	89	89

Pesticides

Pesticides were analyzed in a subset of the total number of samples. Two pesticides were detected in a quarter of the samples and exceeded the PALs in only 12% of the samples analyzed for pesticides. Because of the limited number of detections, a distribution figure was not prepared for pesticides. The Aldrin exceedance was at RB-SB-8, 1 to 2 feet below ground surface. Dieldrin PAL exceedance was at RI-SB-11, 1 to 2 feet; RI-SB-16, 13 to 15 feet; RI-SB-23, 0 to 0.5 feet below ground surface; and its duplicate sample.

Table 5 – Soil Sample Detections and Exceedances – Pesticides

Analyte	Exceeded	Detected	Total Samples
Aldrin	1	14	52
Dieldrin	6	12	52

Dioxins/Furans

D/F results are currently not yet validated. Of the D/F analyzed, 2,3,7,8-tetrachlorodibenzo-P-dioxin was detected 53% of the time in samples, while total dioxin toxicity equivalence (TEQ) was detected in every sample. 2,3,7,8-Tetrachlorodibenzo-P-dioxin had far less PAL exceedances, compared to 2,3,7,8-tetrachlorodibenzo-P-dioxin, which exceeded its PAL in 68% of the detected samples. **Table 6** summarizes D/F detections and PAL exceedances.

Table 6 – Soil Sample Detections and Exceedances – Dioxins/Furans

Analyte	Exceeded	Detected	Total Samples
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	3	39	73
Total Dioxin TEQ	50	73	73

Inorganics (Metals and Cyanide)

Metals were detected in mostly all samples and one or more exceeded their PALs in most samples. Metals were detected in 90% of samples and 50% of samples had exceedances of one or more PAL. Based on the number of PAL exceedances, association with steel making, and/or potential for human health or ecological risk, distribution and relative concentration on **Figures 7** through **19** were generated for the following metals: antimony, arsenic, barium, cadmium, chromium, cobalt, iron, lead, manganese, mercury, nickel, vanadium, and zinc.

Table 7 – Soil Sample Detections and Exceedances – Inorganics (Metals and Cyanide)

Analyte	Exceeded	Detected	Total Samples
Aluminum	74	110	110
Antimony	44	48	110
Arsenic	107	110	110
Barium	13	110	110
Cadmium	57	101	110
Chromium	110	110	110
Cobalt	107	109	110
Copper	53	108	108
Cyanide	44	44	110
Iron	104	104	104
Lead	12	109	109
Magnesium	85	110	110
Manganese	110	110	110
Mercury	61	74	110
Nickel	55	108	108
Selenium	72	72	110
Silver	73	81	110
Thallium	22	57	110
Vanadium	54	110	110
Zinc	55	106	106

Metals are naturally occurring in the environment. Data on typical background concentrations in Michigan are available from EGLE's *Soil Background and Use of the 2005 Michigan Background Soil Survey* (revised January 2023) in **Attachment D**. McLouth OU1 soil data were compared to typical background for the Huron-Erie Glacial Lobe of southeast Michigan.

Total chromium far exceeded the PAL of 0.3 milligrams per kilogram (mg/kg) across the Site. Chromium can be present as trivalent (common) and hexavalent (less common). The PAL for chromium is associated with the hexavalent chromium species, Cr^{6+}. Prior sampling for hexavalent chromium did not identify much hexavalent chromium. Surface samples averaged 446 mg/kg, and 1- to 2-foot sample concentrations averaged 470 mg/kg, with the exclusion of maximum exceedance of 17,000 mg/kg at RI-SB-41. RI-SB-41 is downgradient of the former mold preparation building and this sample may represent a localized release of chromium. The average total chromium numbers are not far above the expected background soil total chromium levels of 117 mg/kg.

Manganese exceeded the PAL of 1 mg/kg at every location by several orders of magnitude, with an average surface sample exceedance of 4,965 mg/kg and an average sample exceedance of 9,205 mg/kg at 1- to 2-foot. These results align with the magnitude of the typical soil background of 1,630 mg/kg but still exceeds that average by several thousand.

Selenium concentrations, while exceedances were an order of magnitude above the PAL of 0.4 mg/kg, were right in line with the soil background concentrations of 1.3 mg/kg. Surface sample exceedances averaged 1.29 mg/kg, and 1 to 2 feet sample exceedances averaged 1.19 mg/kg.

Silver's exceedances were within range of the PAL of 0.1 mg/kg and right above the background of 0.36 mg/kg. Surface sample exceedances averaged 0.46 mg/kg, and 1- to 2-foot sample exceedances averaged 0.52 mg/kg.

Thallium was found to be well below the background of 1.8 mg/kg. With a PAL of 0.078, surface sample exceedances averaging 0.18 mg/kg and 1- to 2-foot sample exceedances averaging 0.14 mg/kg were an order of magnitude larger than the PAL.

Vanadium's average exceedances were an order of magnitude above that of the PAL, which was 39 mg/kg, and the background, which was 22.1 mg/kg. Surface sample exceedances averaged 191 mg/kg, and 1- to 2-foot sample exceedances averaged 209 mg/kg.

Per- and Polyfluoroalkyl Substances

PFAS results are currently not yet validated. Of the PFAS data with given soil PALs, there were no exceedances and few detections. Perfluorodecanoic acid had 34% of samples detected, while 8perfluorononanoic acid had 11% and perfluorohexanoic acid had 1.4%. Hexafluoropropylene oxide dimer acid and perfluorobutanesulfonic acid had no detections.

Table 8 – Soil Sample Detections and Exceedances – Per- and Polyfluoroalkyl Substances

Analyte	Exceeded	Detected	Total Samples
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0	0	73
Perfluorobutanesulfonic Acid (PFBS)	0	0	73
Perfluorodecanoic Acid (PFDA)	0	25	73
Perfluorohexanoic Acid (PFHxA)	0	1	73
Perfluorononanoic Acid (PFNA)	0	8	73

Vertical Distribution

Sample locations were evaluated to identify trends of where exceedances occurred in shallow soil or at depth. Antimony, arsenic, cadmium, cobalt, mercury, nickel, vanadium, and zinc exceedances were found much more predominantly at the upper surfaces/shallow soil samples. However, some exceedances of metals were found throughout the soil column. This may be due to naturally occurring elements with background level concentrations near the PAL. benzo(a)pyrene and lead PAL exceedances were found throughout the soil depths. **Table 9** presents a comparison of the PAL exceedances in the top two sample intervals vs. the deeper soil sample depths.

Table 9 – Soil Sample Detections and Exceedances – Vertical Distribution

Analyte	PAL	Exceedances at Depth Interval: 0–0.5 Feet	Exceedances at Depth Interval: 1–2 Feet	Samples at Depth [Interval]: Number of PAL Exceedances
Antimony	1.2 mg/kg	8	16	[2-3]: 1 [3-4]: 2 [4-5]: 5 [5-6]: 1 [6-7]: 1 [7-8]: 1 [8-9]: 2 [9-10]: 2 [13-14]: 1 [14-15]: 1 [17-18]: 2 [19-20]: 1
Arsenic	0.68 mg/kg	37	35	[2-3]: 3 [3-4]: 4 [4-5]: 8 [5-6]: 2 [6-7]: 1 [7-8]: 1 [8-9]: 2 [9-10]: 3 [13-14]: 1 [14-15]: 1 [15-15.5]: 1 [16-17]: 1 [17-18]: 2 [18-19]: 1 [19-20]: 2 [23-24]: 1 [41-42]: 1
Barium	288.6 mg/kg	2	4	[4-5]: 2 [8-9]: 1 [9-10]: 1 [13-14]: 1 [17-18]: 2
Benzo(a)pyrene	110 µg/kg	3 (average: 320 µg/kg)	6 (average: 816 µg/kg)	[3-4]: 2 [4-5]: 2 [5-6]: 1 [6-7]: 1 [7-8]: 1 [8-9]: 2 [9-10]: 2 [13-14]: 1 [14-15]: 1

Analyte	PAL	Exceedances at Depth Interval: 0–0.5 Feet	Exceedances at Depth Interval: 1–2 Feet	Samples at Depth [Interval]: Number of PAL Exceedances
				[17-18]: 1
Cadmium	0.71 mg/kg	17	20	[2-3]: 2 [3-4]: 2 [4-5]: 4 [5-6]: 1 [6-7]: 1 [7-8]: 1 [8-9]: 2 [9-10]: 2 [13-14]: 1 [14-15]: 1 [17-18]: 2 [18-19]: 1
Cobalt	0.54 mg/kg	35	36	[2-3]: 3 [3-4]: 4 [4-5]: 7 [5-6]: 2 [6-7]: 1 [7-8]: 1 [8-9]: 2 [9-10]: 3 [13-14]: 1 [14-15]: 1 [15-15.5]: 1 [16-17]: 1 [17-18]: 2 [18-19]: 1 [19-20]: 1 [23-24]: 1 [41-42]: 1
Lead	280 mg/kg	3 (average: 347 mg/kg)	3 (average: 783 mg/kg)	[4-5]: 1 [8-9]: 1 [9-10]: 1 [13-14]: 1 [17-18]: 1 [19-20]: 1
Mercury	0.05 mg/kg	15	22	[2-3]: 1 [3-4]: 3 [4-5]: 5 [5-6]: 1 [6-7]: 1 [7-8]: 1 [8-9]: 2 [9-10]: 2

Analyte	PAL	Exceedances at Depth Interval: 0–0.5 Feet	Exceedances at Depth Interval: 1–2 Feet	Samples at Depth [Interval]: Number of PAL Exceedances
				[13-14]: 1 [14-15]: 1 [17-18]: 1 [18-19]: 1 [19-20]: 1
Naphthalene	7.6 µg/kg	13	19	[2-3]: 1 [3-4]: 3 [4-5]: 4 [5-6]: 1 [6-7]: 1 [7-8]: 1 [8-9]: 2 [9-10]: 2 [13-14]: 1 [14-15]: 1 [15-15.5]: 1 [17-18]: 2 [19-20]: 1 [23-24]: 1
Nickel	52 mg/kg	15	22	[2-3]: 1 [3-4]: 2 [4-5]: 5 [5-6]: 1 [6-7]: 1 [7-8]: 1 [8-9]: 1 [9-10]: 3 [13-14]: 1 [14-15]: 1 [17-18]: 2 [19-20]: 1
Vanadium	39 mg/kg	23	24	[2-3]: 1 [3-4]: 1 [4-5]: 1 [5-6]: 1 [15-15.5]: 1 [19-20]: 1
Zinc	119.04 mg/kg	21	20	[3-4]: 2 [4-5]: 4 [5-6]: 1 [8-9]: 1 [9-10]: 1 [13-14]: 1 [14-15]: 1

Analyte	PAL	Exceedances at Depth Interval: 0–0.5 Feet	Exceedances at Depth Interval: 1–2 Feet	Samples at Depth [Interval]: Number of PAL Exceedances
				[17-18]: 1 [18-19]: 1

Note: µg/kg = microgram per kilogram

Findings - Distribution Relative to Former Site Features

In general, there were few exceedances of chlorinated VOCs, PFAS, pesticides and D/Fs. PCBs were primarily in surficial soil samples and limited to a couple of area of the site. SVOC exceedances included naphthalene and several polycyclic aromatic hydrocarbons (PAHs) include benzo(a)pyrene for which a distribution figure was provided. By far the majority of PAL exceedances were for inorganics/metals.

Maximum exceedances are spread throughout the Site. However, several groupings of the highest concentrations correspond with former McLouth Steel operation footprints. The layout of former steel manufacturing operations is shown on Figure 2. The sludge pit and sludge filter area had 10 maximum exceedances, mostly SVOCs and inorganics/metals. The coil storage area, air separation plant, and mold preparation building each contained different maximum exceedances. Other maximum exceedances were spread throughout the Site. **Table 10** lists areas, former Site features, and the constituents that were noted at relatively high concentrations in that area.

Table 10 – Soil Sample Detections and Exceedances – Distribution Relative to Former Site Features

Soil Boring*	Location	Analytes
RI-SB-05	West central, upgradient boundary of the Site	**Inorganics (2):** Cyanide, Vanadium
RI-SB-07	Within or downgradient of building that housed process oil pumps/piping with documented releases (coil storage area)	**Dioxins/Furans (2):** 2,3,7,8-Tetrachlorodibenzo-p-Dioxin, Total Dioxin TEQ
RI-SB-15	Southern property	**Metals (1):** Barium
RI-SB-16	Southern central, within and downgradient of former drum and oil hopper storage area where suspected releases were documented	**SVOCS (3):** 1,4-Dioxane (p-dioxane), Benzo(a)anthracene, Benzo(a)pyrene, **Aroclors (1)**: PCB-1268 (Aroclor 1268), **Metals (2):** Cadmium, Mercury
RI-SB-19	Adjacent to air separation plant and east process sewer	**SVOCS (3):** Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-C,D)pyrene **Metals (1):** Copper

Soil Boring*	Location	Analytes
RI-SB-23	Downgradient of former empty drum storage area	**VOCs (1):** PCE **Pesticides (1):** Dieldrin **Metals (1):** Silver
RI-SB-25	Within the former wastewater treatment plant where process waste was accumulated (sludge pit)	**SVOCs (6):** 1-Methylnaphthalene, 2-Methylnaphthalene, Biphenyl (Diphenyl), Dibenzofuran, Naphthalene, Phenanthrene **PCBs (1):** PCB-1242 (Aroclor 1242) **Metals (1):** Arsenic
RI-SB-32	Within the former wastewater treatment plant where process waste was accumulated (sludge filter)	**Metals (2):** Antimony, Lead
RI-SB-41	Mold preparation building, downgradient	**Metals (3):** Arsenic, Chromium, Cobalt

*__Figure 3__ shows the soil boring locations

Recommendations

Additional soil borings near several noted maximum exceedance locations are recommended to more fully evaluate the nature and extent of PAL exceedances and presence of potential source material in these areas. Final recommendations regarding the number and specific locations will be made after review of groundwater sampling data has been completed. Based on the existing soil data, areas that would benefit from further soil borings include:

- Near RI-SB-05, upgradient property line, where two maximum exceedances of metals were noted
- Near RI-SB-07, within or downgradient of a building that housed process oil pumps/piping, where two maximum exceedances of D/F were noted
- Near RI-SB-16, within or downgradient of a former drum and oil hopper storage area, where six maximum exceedances including SVOCs, Aroclors, and metals were noted
- Near RI-SB-19, within the former air separation plant, where four maximum exceedances including SVOCs and metals were noted
- Near RI-SB-23, downgradient of a former empty drum storage area, where three maximum exceedances including VOCs, pesticides, and metals were noted
- Near RI-SB-25, within the former sludge pit, where eight maximum exceedances including SVOCs, PCBs, and metal were noted
- Near RI-SB-32, within the former sludge filter, where two maximum exceedances of metals were noted

- Near RI-SB-41, within the former mold preparation building, where three maximum exceedances of metals were noted

Additional soil borings will be proposed to evaluate these eight specific areas of the former steel manufacturing facility where the preponderance of PAL exceedances was noted. Assuming up to three soil borings per area would be appropriate, approximately 24 soil borings with associated soil samples are anticipated. Based on location-specific PAL exceedances soil borings and soil sampling depths may be limited. Additional analytical characterization of the underlying regional clay is not anticipated. While these are specific areas identified based on Year 1 soil borings, the Site exhibited detections and exceedances of many analytes throughout the Site. Further soil borings outside of these hot spot zones may be necessary to understand the full scope of contamination. The final scope of additional soil characterization and specific boring locations will be finalized after evaluation of the OU2 groundwater sampling results from the monitoring wells installed in the OU1 soil borings.

Figures:

Tables:

Attachments:

References:

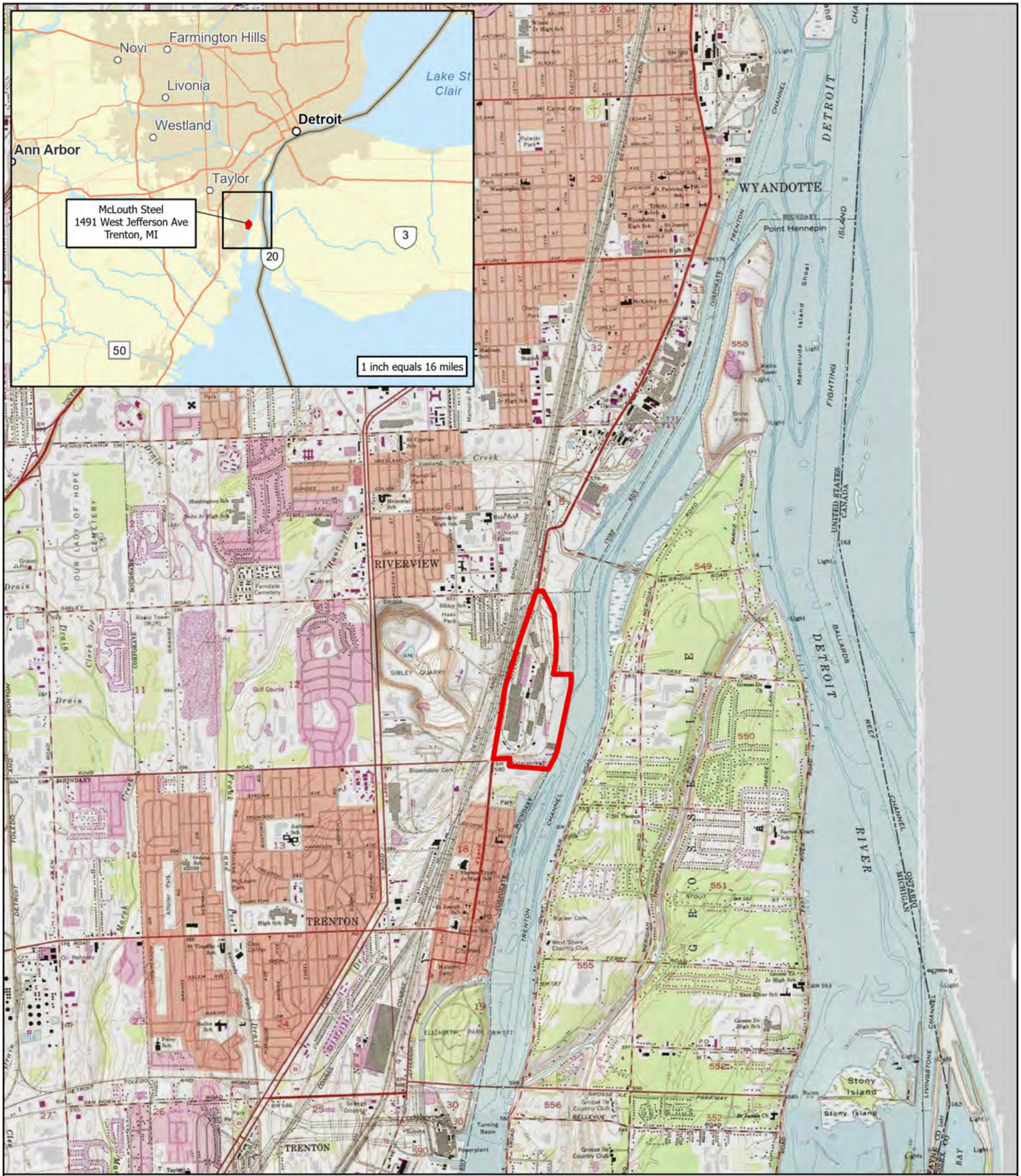
CDM Smith. 2023. Remedial Acquisition Framework: Design and Engineering Services. Final Quality Assurance Project Plan (QAPP), McLouth Steel Corp., Superfund Site, Operable Units 1 and 2, Remedial Investigation/Feasibility Study, Trenton, Michigan. Prepared for EPA Region 5, Superfund and Emergency Management Division.

ECT. 2017. Phase 1 Environmental Site Assessment, Former McLouth Steel Facility, 1491 West Jefferson Avenue Trenton, Michigan 48183. Prepared for the City of Trenton.

ESC. 1999. Resource Conservation Recovery Act Facility Assessment Report, DSC, Ltd. – Trenton Plan, 1491 West Jefferson Avenue, Trenton, Michigan. Prepared for DSC, Ltd.

W.R. Farrand, D.L. Bell. 1982. Quaternary Geology of Southern Michigan, Department of Geological Sciences, The University of Michigan, Ann Arbor.

Figures



Legend

🟥 Site Boundary

Figure 1

Site Location Map

McLouth Steel Corp Superfund Site

Trenton, Wayne County. Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McClouth Steel\McClouth Steel.aprx 7/20/2023

N

0 400 800 Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

Legend

🟧 Current Structure
▨ Former Structure
▨ Former Tanks & Silos
🟥 Site Boundary

Figure 2
Site Layout
McLouth Steel Corp Superfund Site
Trenton, Wayne County. Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McClouth Steel\McClouth Steel.aprx 7/20/2023

Figure 3

Soil Boring Locations

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

Total Aroclors (PAL: 1.6 µg/kg)

- 🔴 Exceed 500x PAL
- 🟠 Exceed 100x PAL
- 🟡 Exceed 10x PAL
- 🔵 Not Detected

- 🟥 McLouth Steel Corp. Superfund Site
- 🟨 RTRR Property Site

Figure 4

Surface Soil PCBs

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/21/2024

N

0 400 800 Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

PCE (PAL: 46 µg/kg)

- 🔴 Exceed 5x PAL
- 🟡 Exceed PAL
- 🟢 Below PAL
- 🔵 Not Detected

TCE (PAL: 36 µg/kg)

- ▲ Exceed PAL
- ▲ Below PAL
- ▲ Not Detected
- 🟥 McLouth Steel Corp. Superfund Site
- 🟨 RTRR Property Site

Figure 5
VOC: PCE/TCE in Soil
McLouth Steel Corp Superfund Site
Trenton, Wayne County, Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/21/2024

N

0
400
800
Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

Benzo(a)pyrene (PAL: 110 µg/kg)

- 🔴 Exceed 5x PAL
- 🟡 Exceed PAL
- 🟢 Below PAL
- 🔵 Not Detected

- 🟥 McLouth Steel Corp. Superfund Site
- 🟨 RTRR Property Site

Figure 6a

SVOC: Benzo(a)pyrene in Soil
McLouth Steel Corp Superfund Site
Trenton, Wayne County, Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/21/2024

Figure 6b

SVOC: Naphthalene in Soil
McLouth Steel Corp Superfund Site
Trenton, Wayne County, Michigan

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Antimony (PAL: 1.2 mg/kg)

🔴 Exceed 50x PAL

🟠 Exceed 10x PAL

🟡 Exceed PAL

🟢 Below PAL

🔵 Not Detected

□ McLouth Steel Corp. Superfund Site

□ RTRR Property Site

N

0 400 800 Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

CDM Smith

Figure 7

Metals: Antimony in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/25/2024

Figure 8

Metals: Arsenic in Soil
McLouth Steel Corp Superfund Site
Trenton, Wayne County, Michigan

CDM Smith

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Figure 9

Metals: Barium in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

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Cadmium (PAL: 0.71 mg/kg)

🟥 Exceed 10x PAL

🟨 Exceed PAL

🟩 Below PAL

▭ McLouth Steel Corp. Superfund Site

▭ RTRR Property Site

Figure 10

Metals: Cadmium in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

CDM Smith

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/25/2024

N

0 400 800 Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

Total Chromium (PAL: 0.3 mg/kg)

- 🔴 Exceed 10,000x PAL
- 🟠 Exceed 1,000x PAL
- 🟡 Exceed 100x PAL

- 🟥 McLouth Steel Corp. Superfund Site
- 🟨 RTRR Property Site

CDM Smith

Figure 11

Metals: Total Chromium in Soil
McLouth Steel Corp Superfund Site
Trenton, Wayne County, Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/21/2024

0 400 800 Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

Cobalt (PAL: 0.54 mg/kg)

- ● Exceed 100x PAL
- ● Exceed 10x PAL
- ● Exceed 5x PAL

- 🟥 McLouth Steel Corp. Superfund Site
- 🟨 RTRR Property Site

Figure 12

Metals: Cobalt in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

CDM Smith

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N

0 400 800 Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

Iron (PAL: 6 mg/kg)

- 🔴 Exceed 10,000x PAL
- 🟠 Exceed 5,000x PAL
- 🟡 Exceed 2,500x PAL
- 🔵 Not Detected

- 🟥 McLouth Steel Corp. Superfund Site
- 🟨 RTRR Property Site

Figure 13

Metals: Iron in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

CDM Smith

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Figure 14

Metals: Lead in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

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N

0 400 800 Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

Manganese (PAL: 1 mg/kg)

● Exceed 10,000x PAL

● Exceed 5,000x PAL

● Exceed 1,000x PAL

▭ McLouth Steel Corp. Superfund Site

▭ RTRR Property Site

CDM Smith

Figure 15

Metals: Manganese in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

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Mercury (PAL: 0.05 mg/kg)

- 🔴 Exceed 10x PAL
- 🟡 Exceed PAL
- 🟢 Below PAL
- 🔵 Not Detected

- 🟥 McLouth Steel Corp. Superfund Site
- 🟨 RTRR Property Site

0 400 800 Feet

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

CDM Smith

Figure 16

Metals: Mercury in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/25/2024

Figure 17

Metals: Nickel in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/21/2024

NAD 1983 StatePlane Michigan South FIPS 2113 Feet

Vanadium ((PAL: 39 mg/kg)

- 🟥 Exceed 10x PAL
- 🟨 Exceed PAL
- 🟩 Below PAL

▭ McLouth Steel Corp. Superfund Site

▭ RTRR Property Site

CDM Smith

Figure 18

Metals: Vanadium in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

FRENCHJP C:\Projects\Environmental\McLouth Steel\McLouthSteel_2024TechMemo\McLouthSteel_2024TechMemo.aprx 3/21/2024

Figure 19

Metals: Zinc in Soil

McLouth Steel Corp Superfund Site

Trenton, Wayne County, Michigan

Attachment A

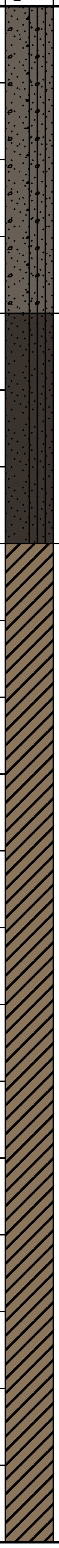
Field Documentation (Boring Logs and Equipment Calibration)

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-01**
US EPA

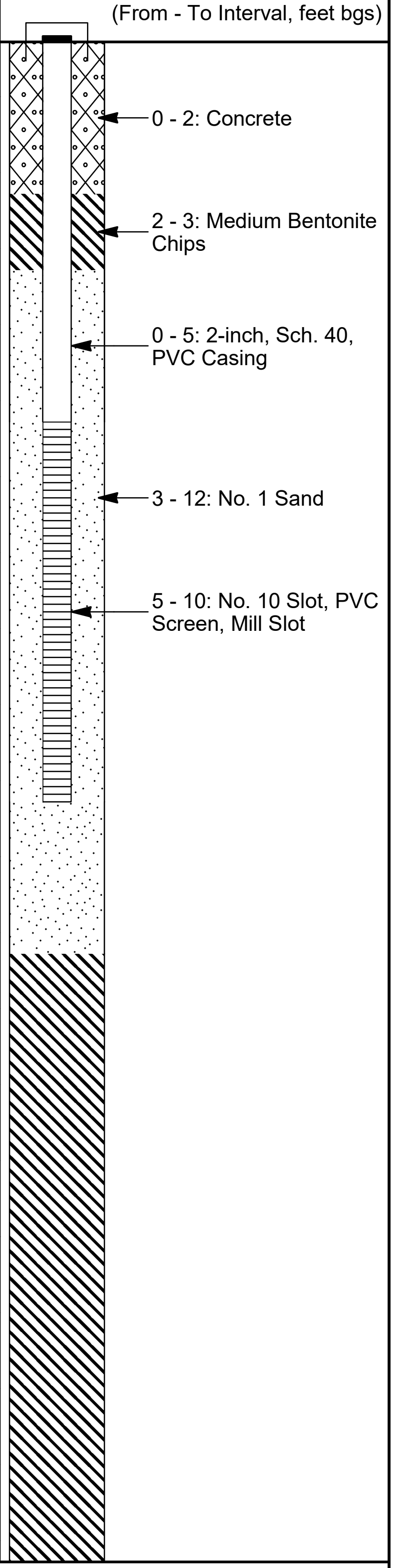
STARTED: 8/28/23 COMPLETED: 8/28/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Flush-mount

NORTHING: 241726.27 ft EASTING: 13446583.30 ft
G.S. ELEVATION: 580.72 ft M.P. ELEV: 580.33 ft
INITIAL DTW: 5 ft TOTAL DEPTH: 30.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88



DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SW SM	WELL GRADED SAND WITH SILT AND GRAVEL: Loose, dark gray (10YR 4/1). Sand is well-graded, C-F, subangular to angular. Gravel is poorly-graded, 1/8-2, subangular to angular. Silt is low plasticity, medium dilantancy	Overburden	4	1	Dry to moist	
					0.6		580
					0.8		
					0.4		
	SP	POORLY GRADED SAND WITH SILT: Loose, black (10YR 2/1) sand is poorly graded, fine, subround to subangular. Silt is low plasticity, medium dilantancy			0.8	Wet	
▼ 5				4	0.3		
					0.2		575
	CH	FAT CLAY WITH SAND. Brown (10YR 5/3). Color change at 17 ft. moisture content increases at 20 ft. Soft to firm. 27 ft to 30 ft loose weather bedrock transition. Clay is high plasticity, low dilantancy. Sand is well-graded, C-F			0.3		
					0.2		
					0.2		
10				10	0.3	Wet to dry	
					0.3		570
					4		
					1.7		
					0.3		
15					0.3		
					0.2		565
					0.2		
					0.3		
					0.2		

WELL CONSTRUCTION (From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.	MONITORING WELL NO: **RI-MW-01**
LOCATION: Trenton, Michigan	

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
25	▨	CH	FAT CLAY WITH SAND. Brown (10YR 5/3). Color change at 17 ft. moisture content increases at 20 ft. Soft to firm. 27 ft to 30 ft loose weather bedrock transition. Clay is high plasticity, low dilantancy. Sand is well-graded, C-F *(continued)*	Overburden	10	0.2 0.1 0.2 0.2 0.2 0.2 0.2 0.3 0.2 0.2	Wet to dry	560 555	12 - 30: Medium Bentonite Chips
30 35 40			DOLOMITIC LIMESTONE End of Boring, Total Depth 30 feet bgs.					550 545 540	

535 Griswold Street
Suite 930
Detroit, MI 48226
Telephone: 212-785-9123

FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

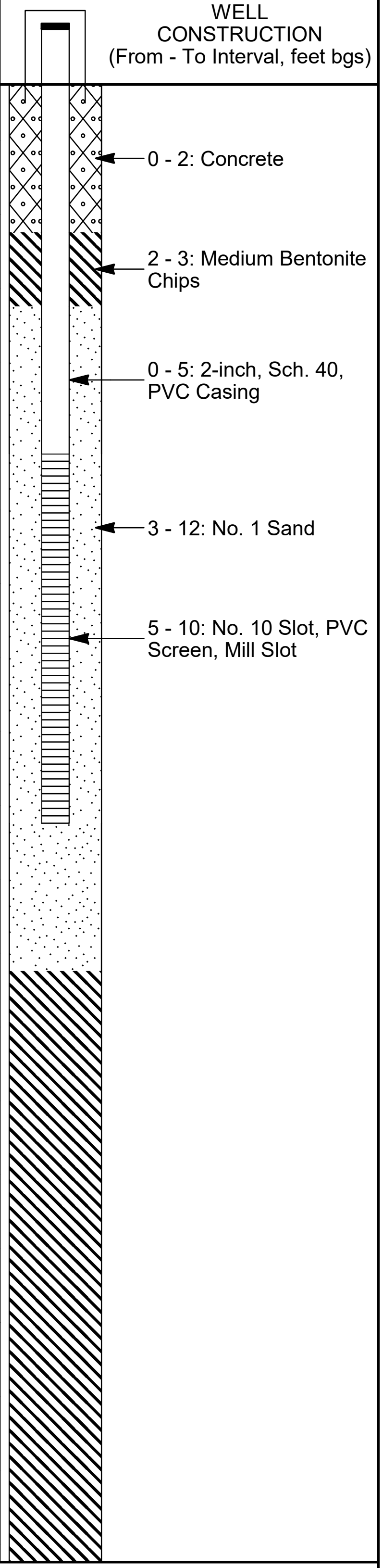
MONITORING WELL NO: **RI-MW-02**
US EPA

STARTED: 8/28/23 COMPLETED: 8/28/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 242480.11 ft
EASTING: 13446723.85 ft
G.S. ELEVATION: 586.76 ft
M.P. ELEV: 589.81 ft
INITIAL DTW: 5 ft
TOTAL DEPTH: 30.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SW SC	WELL GRADED SAND WITH CLAY AND GRAVEL. Loose, very dark grayish brown (10YR 3/2). Sand is well graded, C-F, subangular to angular, gravel is poorly graded 1/8-2, subangular to subangular, clay is high plasticity, low dilantancy	Overburden	4.75	0.5	Dry to moist	
					0.6		
	SP SM	POORLY GRADED SAND WITH SILT. Metal and wood 4 ft - 6 ft, tar/asphalt oder at 5 ft. Loose, black (10YR 2/1), sand is poorly-graded, fine subround to subangular, silt is low plasticity, medium dilantacy.			0.3	Moist to wet	585
					2.5		
					2.2		
▼ 5				4	12.4		
					2.4		
					0.6		580
	CH	SANDY FAT CLAY, firm, black (10YR 2/1) clay is high plasticity, low dilantancy, sand is graded, C-F, subangular to subround			0.4	Wet to dry	
					0.4		
10	CH	FAT CLAY WITH SAND. Firm, brown (10YR 4/3). Clay is high plasticity, low dilantancy, sand is well graded, C-F, subangular to subround		9.83	0	Wet to dry	
					0		
					0		575
					0		
					0		
15					0		
					0		
					0		570
					0		
					0.6		

WELL CONSTRUCTION (From - To Interval, feet bgs)



0 - 2: Concrete
2 - 3: Medium Bentonite Chips
0 - 5: 2-inch, Sch. 40, PVC Casing
3 - 12: No. 1 Sand
5 - 10: No. 10 Slot, PVC Screen, Mill Slot

CDM Smith
535 Griswold Street
Suite 930
Detroit, MI 48226
Telephone: 212-785-9123

FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-02**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
25			DOLOMITIC LIMESTONE	Bedrock	10	0.3 0 0.1 0.1 0 0 0 0 0 0		565 560	12 - 30: Medium Bentonite Chips
30 35 40			End of Boring, Total Depth 30 feet bgs.					555 550 545	

STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

CDM Smith
535 Griswold Street
Suite 930
Detroit, MI 48226
Telephone: 212-785-9123

FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-03**
US EPA

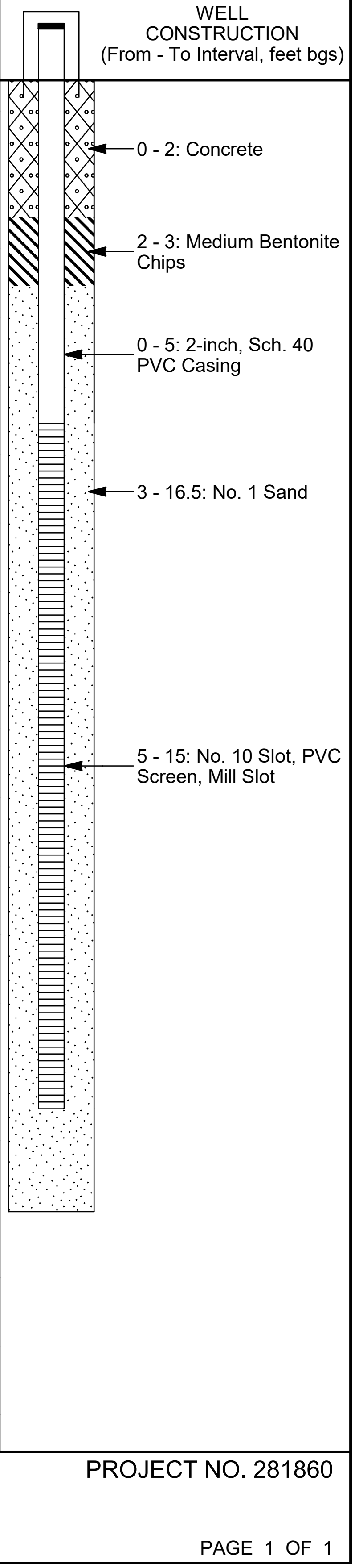
STARTED: 8/18/23 COMPLETED: 8/18/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 243088.87 ft
EASTING: 13446837.97 ft
G.S. ELEVATION: 586.46 ft
M.P. ELEV: 589.52 ft
INITIAL DTW: 2 ft
TOTAL DEPTH: 16.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	Moisture (Field)
		ASPHALT. Black (10YR 2/1)	Overburden	3.5	Moist to wet
	GW GM	WELL GRADED GRAVEL WITH SILT AND SAND. Loose, gray (7.5YR 5/1). Gravel was angular to subangular, well graded, 1/8-3, sand was subangular to subround, well graded, C-F, silt was low plasticity, medium dilantancy			
	SW SM	WELL GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand was subangular to subround, well graded, C-F, silt was moderate to low plasticity			Wet
5	SC	CLAYEY SAND. Very dark gray (10YR 3/1). Sand was subangular to subround, poorly graded, fine. Clay was high plastisticity, low dilantancy		4	Wet
	CH	FAT CLAY WITH SAND. Grayish brown (10YR 5/2). Boulder stuck in core barrel at 14 ft. Very firm, clay was high plasticity, low dilantancy, sand was subangular, poorly graded, fine			
10				7	Moist to dry
15					
		DOLOMITIC LIMESTONE	Bedrock		
		End of Boring, Total Depth 16 feet bgs.			

DEPTH (feet)	PID (ppm)	ELEV (ft)
0	0.1	
1	0.3	585
2	0.2	
3	0.1	
4	0.2	
5	0.1	
6	0.1	580
7	0.1	
8	0.1	
9	0.1	
10	0.3	
11	0.3	575
12	0.4	
13	0.3	
14	0.4	
15	0.1	
16	0.2	570

WELL CONSTRUCTION
(From - To Interval, feet bgs)



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FINAL MONITORING WELL CONSTRUCTION LOG

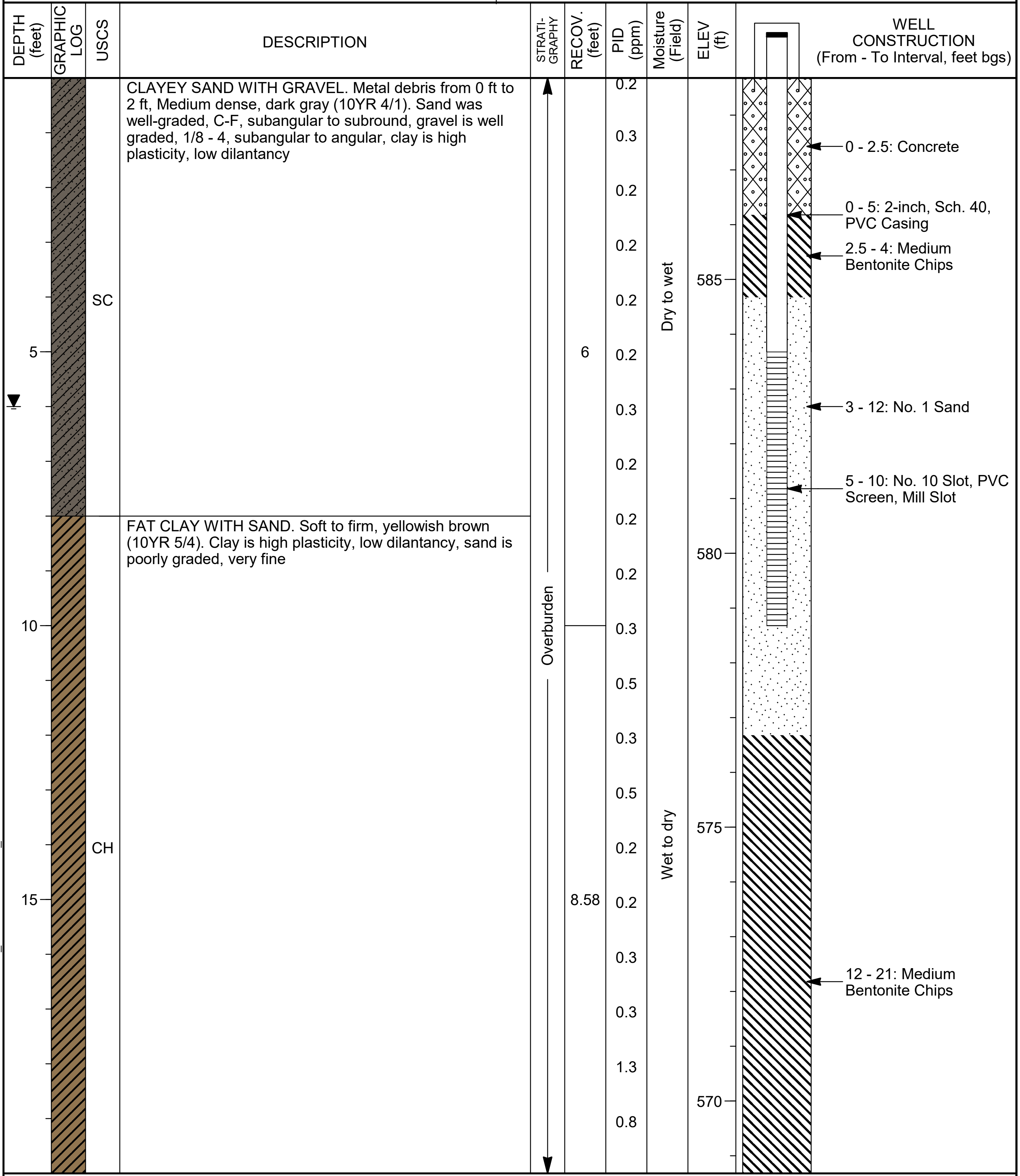
PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-04**
US EPA

STARTED: 8/29/23 COMPLETED: 8/29/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 243989.65 ft
EASTING: 13447033.49 ft
G.S. ELEVATION: 588.68 ft
M.P. ELEV: 591.66 ft
INITIAL DTW: 6 ft
TOTAL DEPTH: 21.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88



CLAYEY SAND WITH GRAVEL. Metal debris from 0 ft to 2 ft, Medium dense, dark gray (10YR 4/1). Sand was well-graded, C-F, subangular to subround, gravel is well graded, 1/8 - 4, subangular to angular, clay is high plasticity, low dilantancy

FAT CLAY WITH SAND. Soft to firm, yellowish brown (10YR 5/4). Clay is high plasticity, low dilantancy, sand is poorly graded, very fine

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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-04**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨		DOLOMITIC LIMESTONE	Bedrock	1	0			▨
			End of Boring, Total Depth 21 feet bgs.						
								565	
25									
								560	
30									
								555	
35									
								550	
40									

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

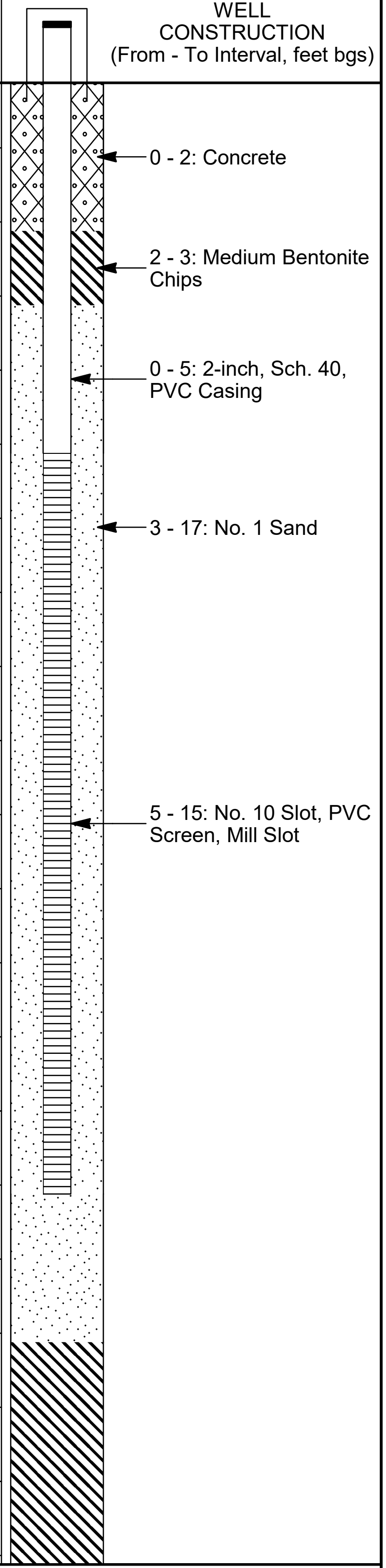
MONITORING WELL NO: **RI-MW-05**
US EPA

STARTED: 8/16/23 COMPLETED: 8/16/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 244720.42 ft EASTING: 13447247.44 ft
G.S. ELEVATION: 588.88 ft M.P. ELEV: 592.11 ft
INITIAL DTW: 6 ft TOTAL DEPTH: 24.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
0	SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, black (5YR 2.5/1).Sand was subangular to subround, well-graded, C-F. Gravel was subangular to angular, well-graded, 1/8-3, silt was low to medium plasticity. Soil from 8 ft - 10 ft bgs was lost	Overburden	5	16.8	Moist	
1					10.6		
2					19		
3					17.5		
4					14.7		585
5				3	1		
6					0.5		
7					0.5		
9							580
10	SC	CLAYEY SAND WITH GRAVEL. Moderately dense, very dark gray (10YR 3/1). Sand was subangular to subround, C-F. Gravel was subangular to angular, well-graded, 1/8-3. Clay was medium to high plasticity		10	0	Wet	
11					0		
12	CH	FAT CLAY WITH GRAVEL. Soft to firm to hard, very dark gray (2.5Y 3/1). Clay is high plasticity, low dilantancy. Gravel is subangular to angular, moderately graded, 1/8-3/4. Sand is subagnular to subround, poorly-graded, fine. Mottled stratified in 1/8~ intervals, brown and grays. 12'-13' soft, 13'-14' firm, 14'-24' hard			0	Wet to moist	
13					0		
14					0		575
15					0		
16					0		
17					0		
18					0		
19					0		570

WELL CONSTRUCTION (From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-05**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨	CH	FAT CLAY WITH GRAVEL. Soft to firm to hard, very dark gray (2.5Y 3/1). Clay is high plasticity, low dilantancy. Gravel is subangular to angular, moderately graded, 1/8-3/4. Sand is subagnular to subround, poorly-graded, fine. Mottled stratified in 1/8~ intervals, brown and grays. 12'-13' soft, 13'-14' firm, 14'-24' hard *(continued)*	Overburden ↓	5	0 0 0 0 0	Wet to moist	565	▨ 17 - 25: Medium Bentonite Chips
25	▦		DOLOMITIC LIMESTONE						
30 35 40			End of Boring, Total Depth 24 feet bgs.					560 555 550	

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

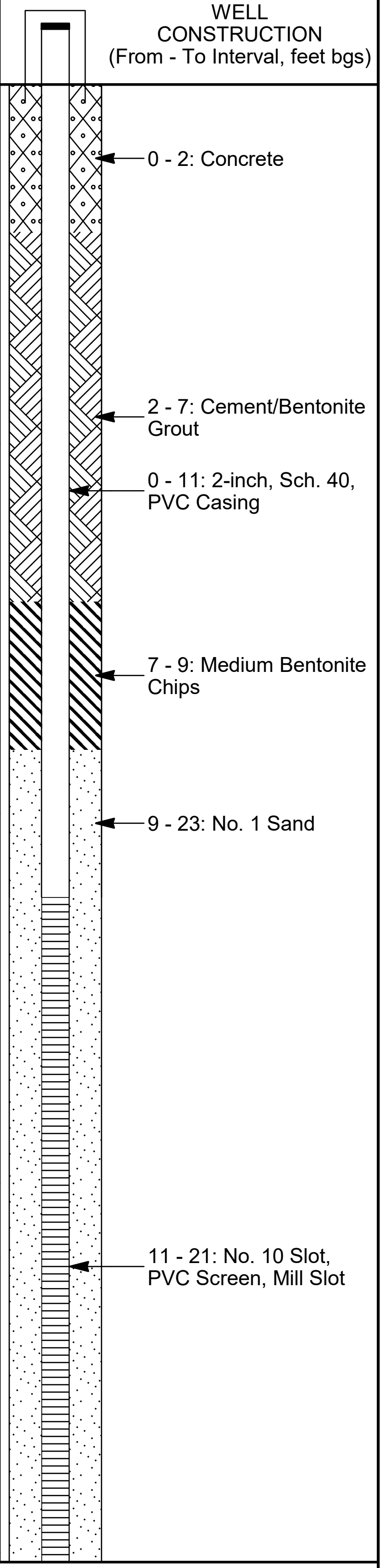
MONITORING WELL NO: **RI-MW-07**
US EPA

STARTED: 9/14/23 COMPLETED: 9/14/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 242222.19 ft EASTING: 13447087.42 ft
G.S. ELEVATION: 589.87 ft M.P. ELEV: 592.66 ft
INITIAL DTW: 6 ft TOTAL DEPTH: 33.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		Apparent fill: SILTY SAND. Loose, very dark brown (10YR 2/2). Sand is poorly-graded, fine, subangular to subround, silt is low plasticity, medium dilantancy. Silt lenses throughout	Overburden	5	0.4	Moist to wet	
					0.1		
					0.8		
					1.8		
					5.9		
5				5	1		585
▼	SM				1.1		
					0.4		
					0.4		
					0.4		
10				10	0		580
					0.3		
		Apparent fill: POORLY GRADED SAND. Loose, black (10YR 2/1). Sand is fine, poorly-graded, subround to round			1	Wet	
					3.5		
					1.4		
15					0.7		575
	SP				0.6		
					0.8		
					1.3		
					2.5		
							570

WELL CONSTRUCTION
(From - To Interval, feet bgs)



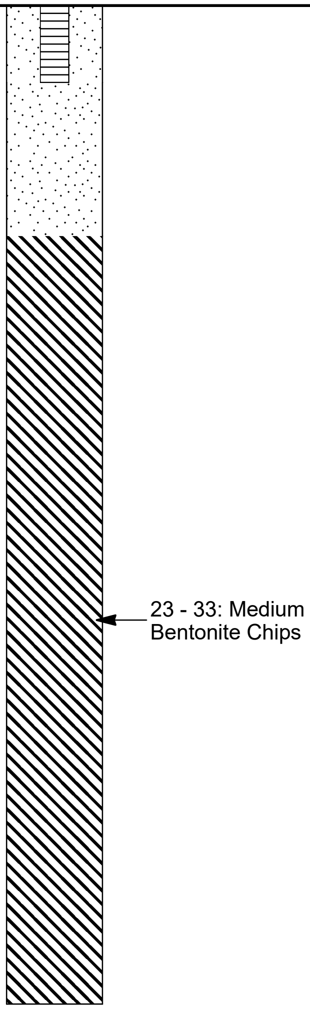
STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-07**

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SP	Apparent fill: POORLY GRADED SAND. Loose, black (10YR 2/1). Sand is fine, poorly-graded, subround to round *(continued)*	Overburden	8	7.8	Wet	
	CH	FAT CLAY. Dark gray (10YR 4/1). Medium stiff to very stiff, clay is high plasticity, low dilantancy			1.6	Moist to dry	
					2.8		
					6.1		
					2		
25	CH	FAT CLAY. Medium stiff to very stiff, very dark grayish brown (2.5Y 3/2). Clay is high plasticity, low dilantancy			5	Moist to dry	565
					2.6		
					0.4		
					0.3		
					0.2		
30				3	0.2		560
					0.1		
		DOLOMITIC LIMESTONE hit at 32 ft and drilling was terminated at 33 ft	Bedrock		0		
		End of Boring, Total Depth 33 feet bgs.					
35							555
40							550

WELL CONSTRUCTION (From - To Interval, feet bgs)



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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

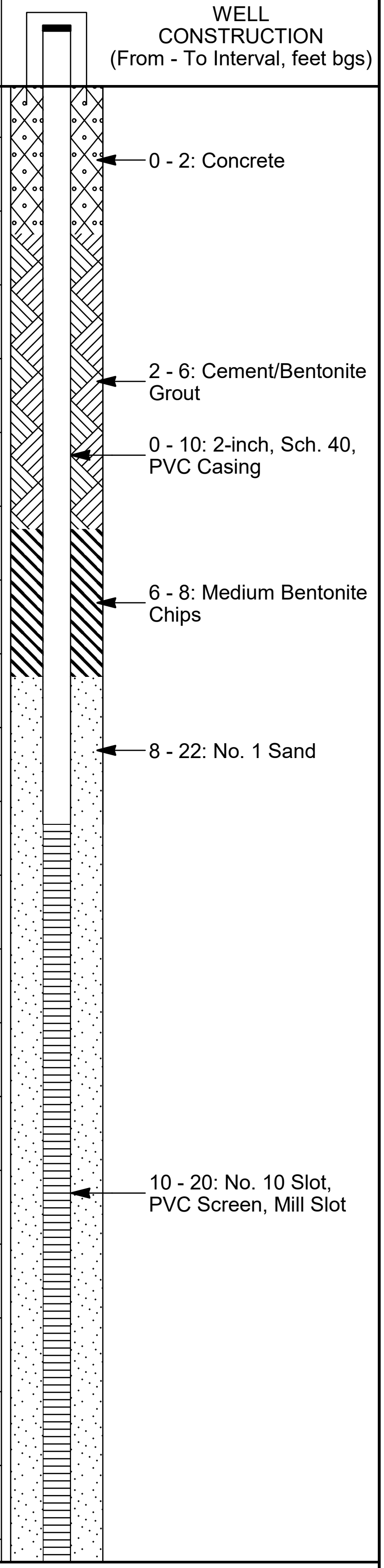
MONITORING WELL NO: **RI-MW-08**
US EPA

STARTED: 9/14/23 COMPLETED: 9/14/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 242423.84 ft
EASTING: 13447308.26 ft
G.S. ELEVATION: 588.69 ft
M.P. ELEV: 591.67 ft
INITIAL DTW: 5 ft
TOTAL DEPTH: 33.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		Apparent fill: WELL GRADED SAND WITH SILT. Very dark gray (10YR 3/1). Wet on top due to drilling. Medium dense, sand is well graded, 1/8 - 3, subangular to angular, silt is low plasticity, medium dilantancy	Overburden		0	Wet to Moist	
					2.4		
					3.7		
				5	3.1		
					10.4		585
▼ 5					0.9		
					0.7		
				4	0.7		
					0.5		
					1.2		580
10	SW SM				0		
				3	0		
					0		
					0		
					0		575
15					0.1		
				7	0.1		
					0		
					0		
					0		570

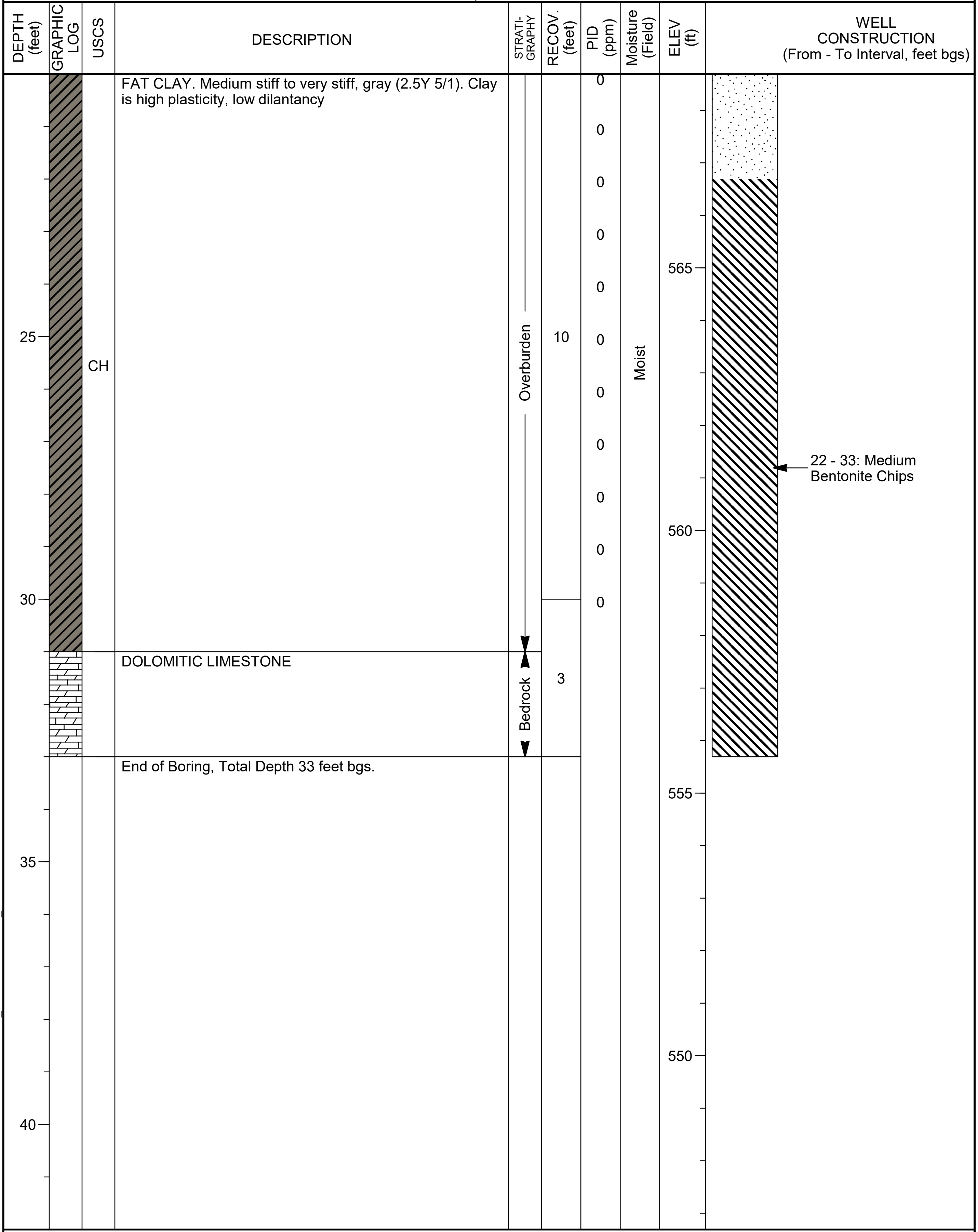
WELL CONSTRUCTION
(From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-08**



DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨	CH	FAT CLAY. Medium stiff to very stiff, gray (2.5Y 5/1). Clay is high plasticity, low dilantancy	Overburden	10	0	Moist		
						0			
						0			22 - 33: Medium Bentonite Chips
						0			
						0		565	
25						0			
						0			
						0			
						0			
						0		560	
30						0			
	▦		DOLOMITIC LIMESTONE	Bedrock	3				
			End of Boring, Total Depth 33 feet bgs.						
35								555	
								550	
40									

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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

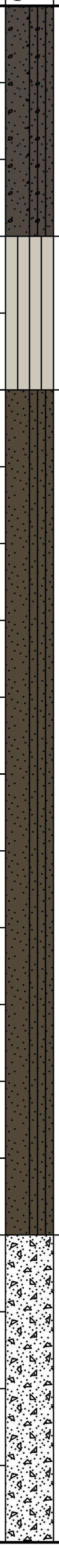
PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-10**
US EPA

STARTED:	9/12/23	COMPLETED:	9/12/23
DRILLING COMPANY:	Cascade Drilling		
DRILLING EQUIPMENT:	LS250 Minisonic		
DRILLING METHOD:	Sonic, 6-inch diameter		
SAMPLING METHOD:	Sonic Core Barrel		
SURFACE COMPLETION:	Steel Stickup		

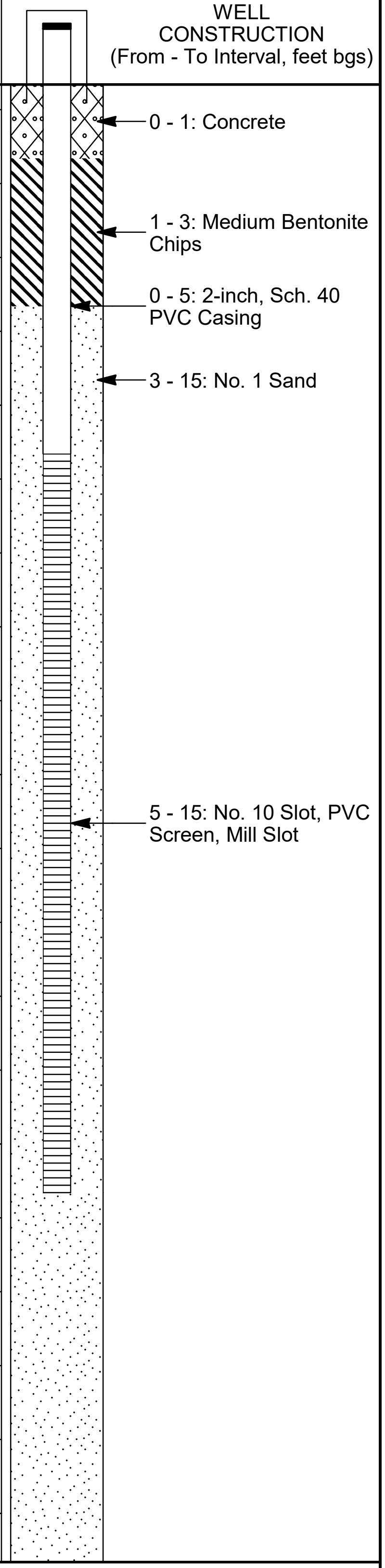
NORTHING:	243292.58 ft	EASTING:	13447236.88 ft
G.S. ELEVATION:	589.34 ft	M.P. ELEV:	592.38 ft
INITIAL DTW:	5 ft	TOTAL DEPTH:	20.0 ft
LOGGED BY:	Jason Wagenmaker		

HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88



DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		SW SM	Apparent fill: WELL GRADED SAND WITH SILT. Loose, very dark gray (10YR 3/1). Sand is well-graded, C-F, subangular to subround. Silt is low plasticity, medium dilantancy. Gravel is well-graded, C-F, 1/8-1	Overburden	2.75	0.3 1.5 1.5	Moist	
		ML	Apparent fill: SANDY SILT WITH GRAVEL. Loose, (2.5Y 8/1). Silt is low plasticity, medium dilantancy. Sand is well-graded, C-V.F, angular to subround. Gravel is well-graded, 1/8-2, subangular to angular.			5 13.9	Dry	585
▼ 5 10		SP SM	Apparent fill: POORLY GRADED SAND WITH SILT. Medium dense, very dark grayish brown (2.5Y 3/2). Sand is subangular to round, poorly-graded, fine. Silt is low dilantancy, medium plasticity.		3.5	10.2 9.2 0 0 0	Wet	580
15					6	0 0 0 0.5 0 0		575
			CONCRETE from 16' on. Drilling terminated at 20'		4			570

WELL CONSTRUCTION (From - To Interval, feet bgs)



End of Boring, Total Depth 20 feet bgs.

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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

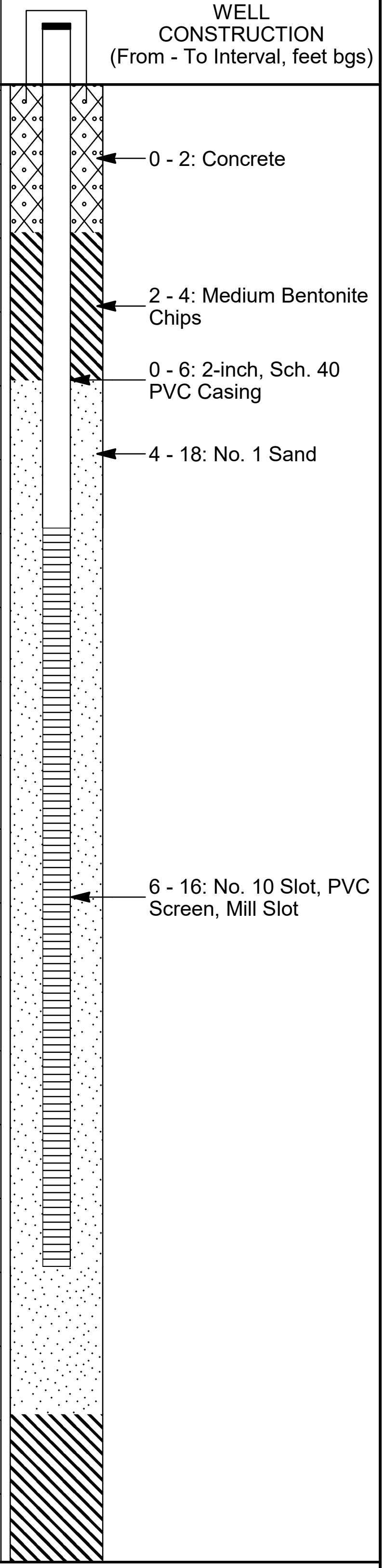
MONITORING WELL NO: **RI-MW-11**
US EPA

STARTED: 9/12/23 COMPLETED: 9/12/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 243434.91 ft
EASTING: 13447458.54 ft
G.S. ELEVATION: 589.08 ft
M.P. ELEV: 591.98 ft
INITIAL DTW: 7 ft
TOTAL DEPTH: 23.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
0	SM	Apparent fill, wood and metal found throughout: SILTY SAND. Loose, dark gray (10YR 4/1). Sand is well-graded, C-F, subangular to angular. Silt is low plasticity, medium dilantancy. Gravel is poorly -graded, 1/8-1	Overburden	5	0.4	Moist	
1					0.7		
2					6.5		
3					4.4		
4					13		585
5	SM	Apparent fill, wood and metal found throughout: SILTY SAND. Medium dense, black (10YR 2/1). Sand is well graded, C-F, subangular to subround. Silt is low plasticity, medium dilantancy		5	7.1	Wet	
6					16.9		
7 ▼					28.6		
8					24		
9					21.6		580
10				8	2		
11					6.3		
12					9.6		
13					15.2		
14					11.4		575
15					15.6		
16	SM	Apparent fill, wood and metal found throughout: SILTY SAND. Medium dense, dark grayish brown (2.5Y 4/2). Sand is well-graded, C-F, subangular to subround. Silt is low plasticity, medium dilantancy			6.5	Wet	
17					6.8		
18					4.8		
19	ML	SILT. Dense, dark gray (10YR 4/1). Silt is low plasticity, medium dilantancy. Trace clay			4.2	Moist	570

WELL CONSTRUCTION
(From - To Interval, feet bgs)



STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-11**

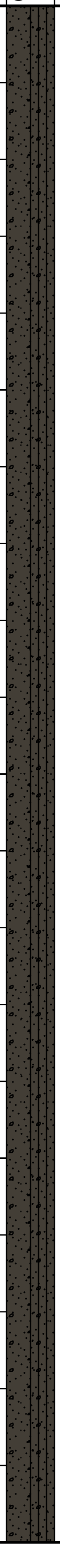
DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
		ML		Overburden	3	0.4	Wet		18 - 23: Medium Bentonite Chips
		CH	FAT CLAY. Medium stiff, grayish brown (2.5Y 5/2). Clay is high plasticity, low dilantancy			0.9			
			CONCRETE			0.5			
			End of Boring, Total Depth 23 feet bgs.					565	
25									
								560	
30									
								555	
35									
								550	
40									

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-12**
US EPA

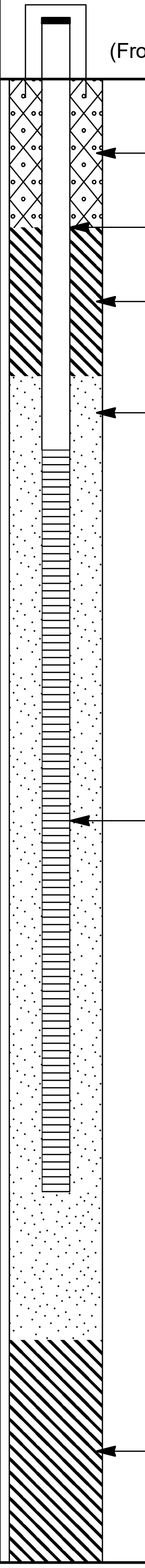
STARTED: 9/8/23 COMPLETED: 9/8/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 243843.84 ft EASTING: 13447698.19 ft
G.S. ELEVATION: 589.64 ft M.P. ELEV: 592.58 ft
INITIAL DTW: 5 ft TOTAL DEPTH: 20.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88



DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		Apparent fill: WELL GRADED SAND WITH SILT AND GRAVEL. Loose, black (2.5Y 2.5/1). Sand is well graded, C-F, subround to subangular. Gravel is poorly graded, small. Silt is low plasticity, medium dilantancy			0		
					0		
					0.4		
					0.6		
					1.6		
▼ 5				10	1.1		585
					0.5		
					0.3		
					0.3		
					0.1		
10	SW SM		Overburden		0	Moist to Wet	580
					0.7		
					0.7		
					0.3		
					2.6		
15				10	5.7		575
					5.4		
					4.3		
					2.3		
					2.5		570

WELL CONSTRUCTION
(From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-12**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
			Something hard at 20 ft, unable to go through it and drilling was terminated End of Boring, Total Depth 20 feet bgs.						
								565	
25									
								560	
30									
								555	
35									
								550	
40									

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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

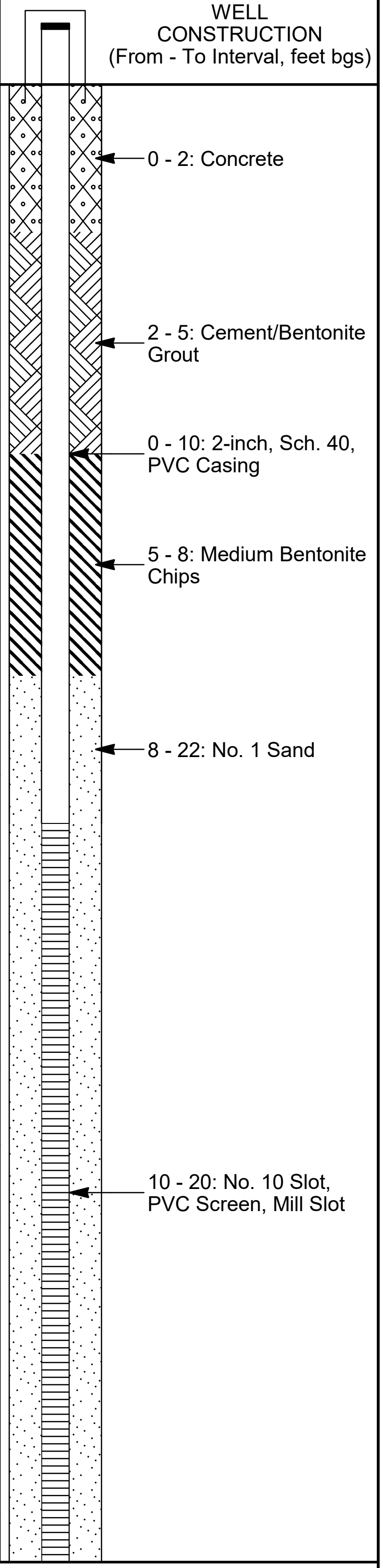
PROJECT:	McLouth Steel Corp.	MONITORING WELL NO:	**RI-MW-13**
LOCATION:	Trenton, Michigan	US EPA	

STARTED: 9/8/23 COMPLETED: 9/8/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 244377.44 ft EASTING: 13447841.16 ft
G.S. ELEVATION: 589.35 ft M.P. ELEV: 592.18 ft
INITIAL DTW: 10 ft TOTAL DEPTH: 35.5 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)
0 - 2	SM	Apparent fill: SILTY SAND WITH GRAVEL. Loose, sand is well-graded, C-F, subround to subangular. Gravel is well-graded, 1/2-1.5, subangular to angular. Silt is low plasticity, medium dilantancy	Overburden	5
2 - 5		CONCRETE		
5 - 8	SM	Apparent fill: SILTY SAND. Loose, light brownish gray (10YR 6/2). Some moisture due to drilling, sand is poorly-graded, fine, subround to subangular. Silt is low plasticity, medium dilantancy. Gravel is well-graded, 1/8-2, subangular		5
8 - 9	SM	Apparent fill: SILTY SAND. Loose, some moisture due to drilling, black (10YR 2/1). Sand is poorly-graded, fine, subround to subangular. Silt is low plasticity, medium dilantancy. Gravel is well-graded, 1/8-2, subangular		
9 - 10	SW	Apparent fill: WELL GRADED SAND. Mix of 10YR 2/1 Black and 10YR 6/2 Light brownish gray. Loose, sand is well-graded, C-F, subround to angular.		
10 - 15	SM	Apparent fill: SILTY SAND WITH GRAVEL. Loose, black (10YR 2/1). Sand is poorly-graded, C-F, subangular to subround. Gravel is well-graded, 1/8-2, subangular. Silt is low plasticity, medium dilantancy		10
15 - 20	SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, subround to subangular. Gravel is well graded, 1/8-1, subangular. Silt is low plasticity, medum dilantancy		

DEPTH (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
0	0		
1	0.1	Moist	
2	0.2		
3	4.9		
4	8.9		585
5	0.5		
6	0.6	Dry	
7	0.2		
8	0.3	Dry	
9	0.5	Wet	580
10	2		
11	1.4		
12	1.8	Wet	
13	2.1		
14	3.7		575
15	7.3		
16	7.3		
17	5.8	Wet	
18	5.6		
19	22.7		570



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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-13**

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, subround to subangular. Gravel is well graded, 1/8-1, subangular. Silt is low plasticity, medum dilantancy *(continued)*			8.2 1.3	Wet		
25	CH	FAT CLAY. Soft to very stiff, gray (2.5Y 5/1). Clay is high plasticity and low dilantancy	Overburden	10	5 2.3 0.5 0.3 0.2	Moist to dry	565	
30	CH	FAT CLAY. Soft to very stiff, grayish brown (2.5Y 5/2). Clay is high plasticity and low dilantancy			0.3 0.5 0 0 0	Moist to dry	560	22 - 35.5: Medium Bentonite Chips
35		DOLOMITIC LIMESTONE from 32 ft to 35.5 ft	Bedrock	5.5	0 0 0 0		555	
40		End of Boring, Total Depth 35.5 feet bgs.					550	

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-15**
US EPA

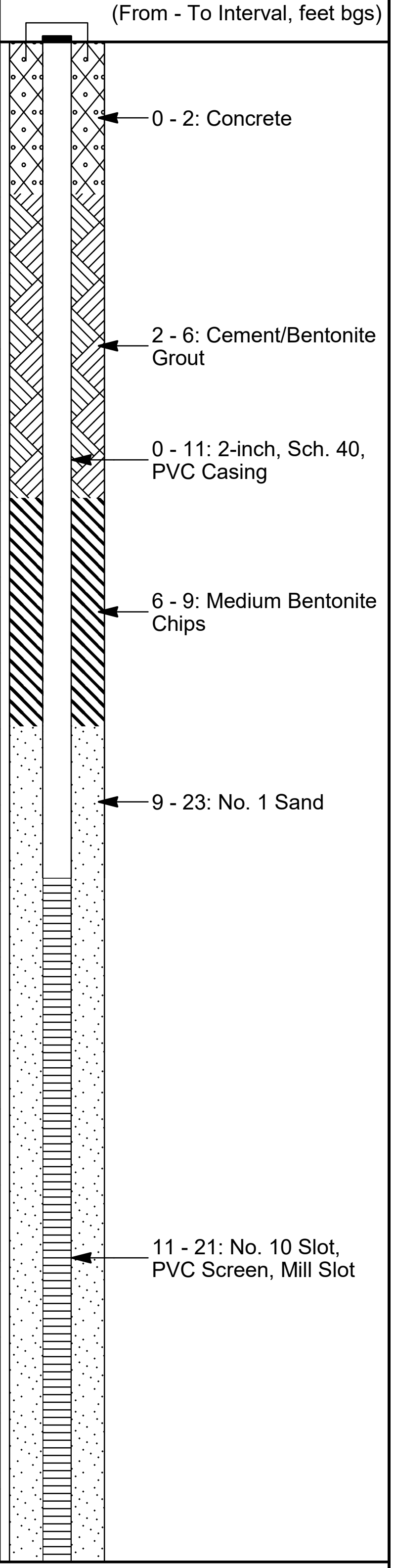
STARTED: 8/24/23 COMPLETED: 8/24/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Flush-mount

NORTHING: 241112.33 ft
EASTING: 13447426.58 ft
G.S. ELEVATION: 584.04 ft
M.P. ELEV: 583.72 ft
INITIAL DTW: 10 ft
TOTAL DEPTH: 45.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

USCS	DESCRIPTION	STRATI-GRAPHY	Moisture (Field)
SW SC	Apparent fill: WELL GRADED SAND WITH CLAY AND GRAVEL. Loose, dark gray (2.5Y 4/1). Top 1 ft wet from rain event, sand is well graded, C-F, subangular to angular. Gravel is poorly graded, 1/8-2, subangular to angular. Clay is high plasticity, low dilantancy	Overburden	Wet
SW SC	Apparent fill: WELL GRADED SAND WITH CLAY AND GRAVEL. Loose, gray (2.5Y 6/1). Top 1 ft wet from rain event, sand is well graded, C-F, subangular to angular. Gravel is poorly graded, 1/8-2, subangular to angular. Clay is high plasticity, low dilantancy		Wet
SM	Apparent fill: SILTY SAND WITH GRAVEL. Loose, black (10YR 2/1). Sand is poorly-graded, fine, subround to round. Gravel is well graded, 1/8-3, subangular. Silt is low plasticity, medium dilantancy		Moist to wet
SW SM	Apparent fill: WELL GRADED SAND WITH SILT AND GRAVEL. Loose, black (10YR 2/1). Sand is well graded, C-F, subangular to subround. Gravel is poorly graded, 1/8-1/4, subangular to subround. Silt is low plasticity, medium dilantancy		Wet
SM	SILTY SAND WITH GRAVEL. Black (10YR 2/1). Sand is poorly-graded, fine, subround. Gravel is poorly graded, 1/8-1, subangular. Silt is low plasticity, medium dilantancy. Asphalt odor throughout		Wet

DEPTH (feet)	RECOV. (feet)	PID (ppm)	ELEV (ft)
		0.2	
		0.2	
	5	0.2	
		0.3	
		0.4	580
5		0.5	
		0.6	
	5	3.3	
		3.6	
		3	575
10		0.6	
		1.1	
		1.2	
		1.7	
		1.6	570
15	10	5.2	
		4.7	
		4.1	
		4.8	
		16.2	565

WELL CONSTRUCTION (From - To Interval, feet bgs)

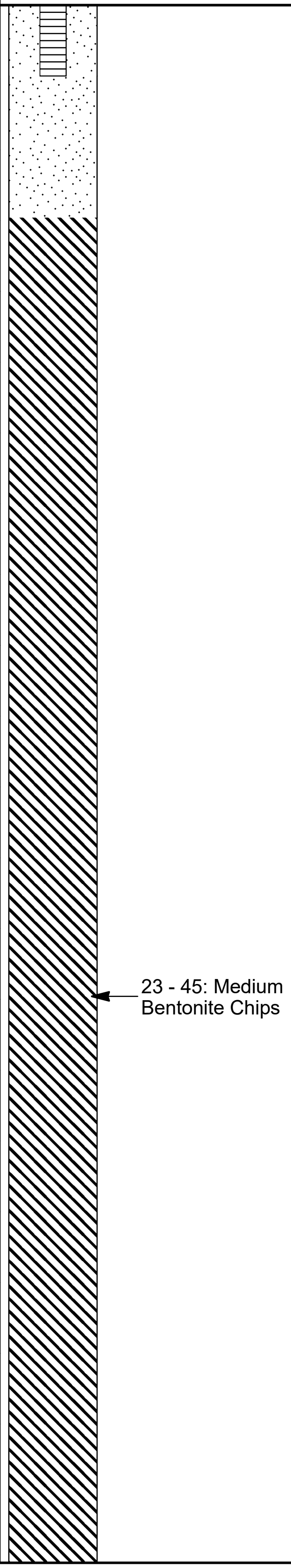


PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-15**

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	SM		Overburden		9.1	Wet		
	CH	FAT CLAY. Soft to hard, dark grayish brown (10YR 4/2). Clay is high plasticity, low dilantacy			0.8			
					0.7			
					0.8			
					0.6		560	
25				10	0.9			
					0.9			
					1.1			
					1.2			
					1.4		555	
30					0.3			
					0.3	Moist to dry		
					0.2			
					0.3			
					0.2		550	23 - 45: Medium Bentonite Chips
35				10	0.2			
					0.2			
							545	
40								



23 - 45: Medium Bentonite Chips

PROJECT: McLouth Steel Corp.	MONITORING WELL NO: **RI-MW-15**
LOCATION: Trenton, Michigan	

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▦		DOLOMITIC LIMESTOME transition from 42 ft - 45 ft	Bedrock				540	▨
45			End of Boring, Total Depth 45 feet bgs.		5			535	
50								530	
55								525	
60									

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

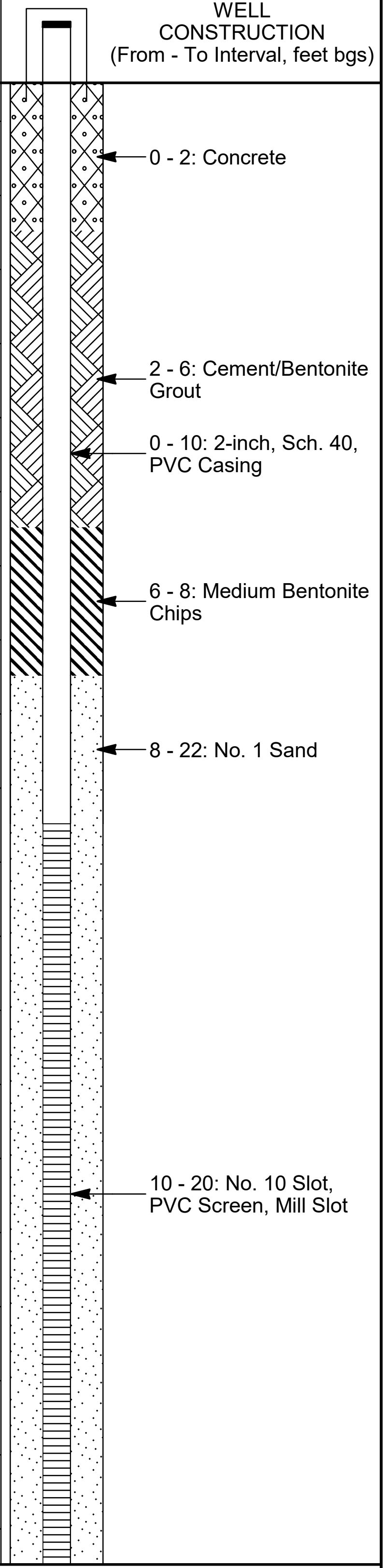
MONITORING WELL NO: **RI-MW-16**
US EPA

STARTED: 9/19/23 COMPLETED: 9/19/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 241584.53 ft
EASTING: 13447491.13 ft
G.S. ELEVATION: 589.52 ft
M.P. ELEV: 593.37 ft
INITIAL DTW: 10 ft
TOTAL DEPTH: 45.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SW SM	Apparent fill: WELL GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is well graded, C-F, subround to subangular. Silt is low plasticity, medium dilantancy. Gravel is well-graded, 1/8-3, angular to subangular	Overburden	4.83	6.2	Dry to moist	
					6.5		
					45		
					17.1		
	ML	Apparent fill: SANDY SILT. Soft, dark gray (10YR 4/1). Silt is low plasticity, medium dilantancy. Sand is poorly graded, very fine, round.			11.7	Moist	585
5				5	4.2		
					2.5		
					1.7		
	SP SM	Apparent fill: POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, round to subround. Silt is low plasticity, medium dilantancy			2.7	Wet	
					3.4		580
▼10				10	4.1		
					45.3		
					25.5		
					45.7		
					10.9		575
15					7.1		
					3.8		
					2.6		
	ML	SILT. Soft, very dark gray (2.5Y 3/1). Silt is low plasticity, medium dilantancy. Sand is poorly graded, fine, round			3.5	Moist	
					3.4		570

WELL CONSTRUCTION
(From - To Interval, feet bgs)



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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-16**

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
		SILT. Soft, very dark gray (2.5Y 3/1). Silt is low plasticity, medium dilantancy. Sand is poorly graded, fine, round *(continued)*			0.5			
	ML				0.6	Moist		
		FAT CLAY WITH SAND. Medium stiff to very stiff, gray (10YR 5/1). Clay is high plasticity, low dilantancy. Sand is poorly graded, course, subangular to subround. Trace silt			1.7			
					2.5			
					1.3			
							565	
25				10	1.3			
					0.3			
					0.3			
					0.2			
					0.3			
							560	
30					0			
			Overburden		0			
	CH				0	Wet to dry		
					0			
								22 - 45: Medium Bentonite Chips
					0			
							555	
35				10	0			
					0			
					0			
					0			
					0			
							550	
40					0			
					0			

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-16**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨	CH	FAT CLAY WITH SAND. Medium stiff to very stiff, gray (10YR 5/1). Clay is high plasticity, low dilantancy. Sand is poorly graded, course, subangular to subround. Trace silt *(continued)*	Overburden	5	0 0 0 0	Wet to dry	545	▨
45			DOLOMITIC LIMESTONE End of Boring, Total Depth 45 feet bgs.						
50								540	
55								535	
60								530	

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

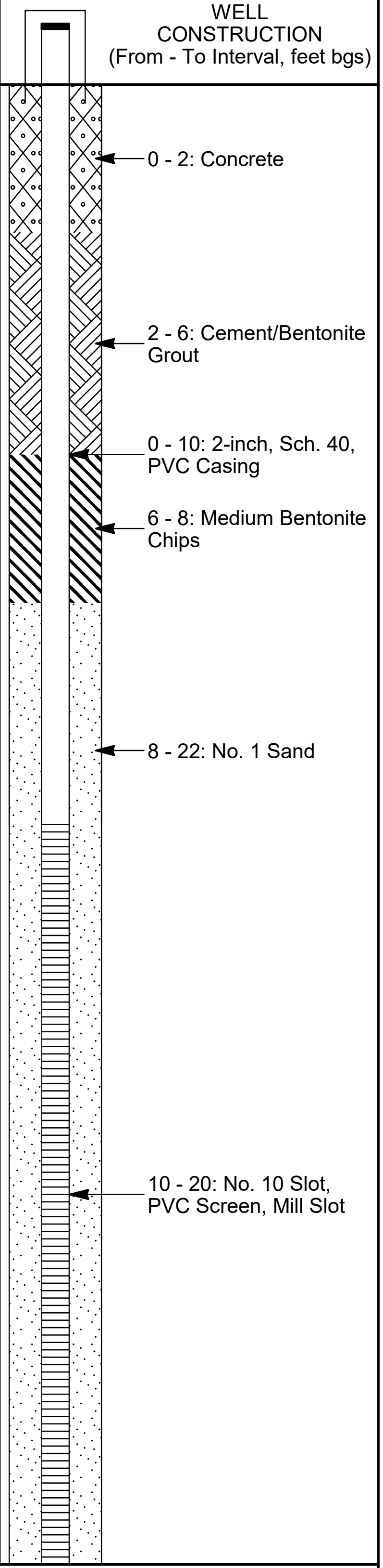
MONITORING WELL NO: **RI-MW-17**
US EPA

STARTED: 8/17/23 COMPLETED: 8/17/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 241889.23 ft
EASTING: 13447402.59 ft
G.S. ELEVATION: 589.42 ft
M.P. ELEV: 592.42 ft
INITIAL DTW: 9 ft
TOTAL DEPTH: 42.5 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		WELL GRADED SAND WITH SILT AND GRAVEL. Loose, very dark gray (10YR 3/1). Sand was subangular to angular, well-graded, C-F. Gravel was subangular to angular, well-graded, 1/8-3. Silt was low to medium plasticity	Overburden	5	0.4	Dry to moist	
					0.5		
	SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, gray (10YR 6/1). Sand was subangular to angular, well-graded, C-F. Gravel was subangular to angular, well-graded, 1/8-3. Silt was low to medium plasticity			0.3		
	SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, very dark gray (10YR 3/1). Sand was subangular to angular, well-graded, C-F. Gravel was subangular to angular, well-graded, 1/8-3. Silt was low to medium plasticity			0.2		
	SW SM				0.6		585
5		POORLY GRADED SAND. Loose, black (2.5Y 2.5/1). Sand is subround to round, poorly graded, smells like tar. Transition zone to end at 20 ft with higher clay content		5	1	Moist to wet	
					2.3		
					10		
					6.7		
					1.7		580
10				7.5	0.4		
					1.1		
	SP				0.5		
					0.4		
					1.1		575
15					1		
					2.9		
					0.4		
					0.4		
					0.9		570

WELL CONSTRUCTION
(From - To Interval, feet bgs)



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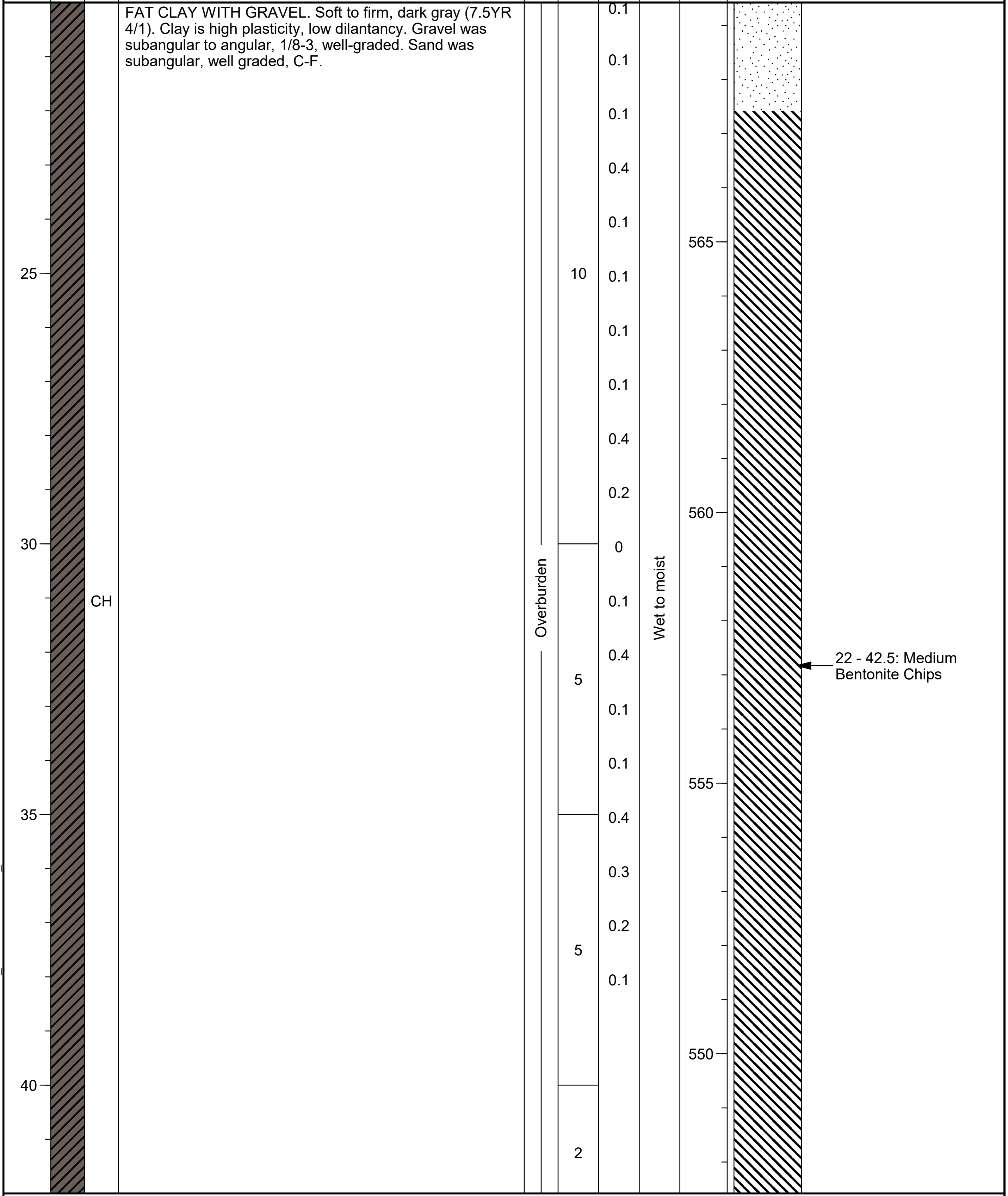
FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-17**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
		CH	FAT CLAY WITH GRAVEL. Soft to firm, dark gray (7.5YR 4/1). Clay is high plasticity, low dilantancy. Gravel was subangular to angular, 1/8-3, well-graded. Sand was subangular, well graded, C-F.	Overburden			Wet to moist		22 - 42.5: Medium Bentonite Chips



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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-17**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨	CH		↓					▧
			DOLOMITIC LIMESTONE End of Boring, Total Depth 42.5 feet bgs.						
								545	
45									
								540	
50									
								535	
55									
								530	
60									

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

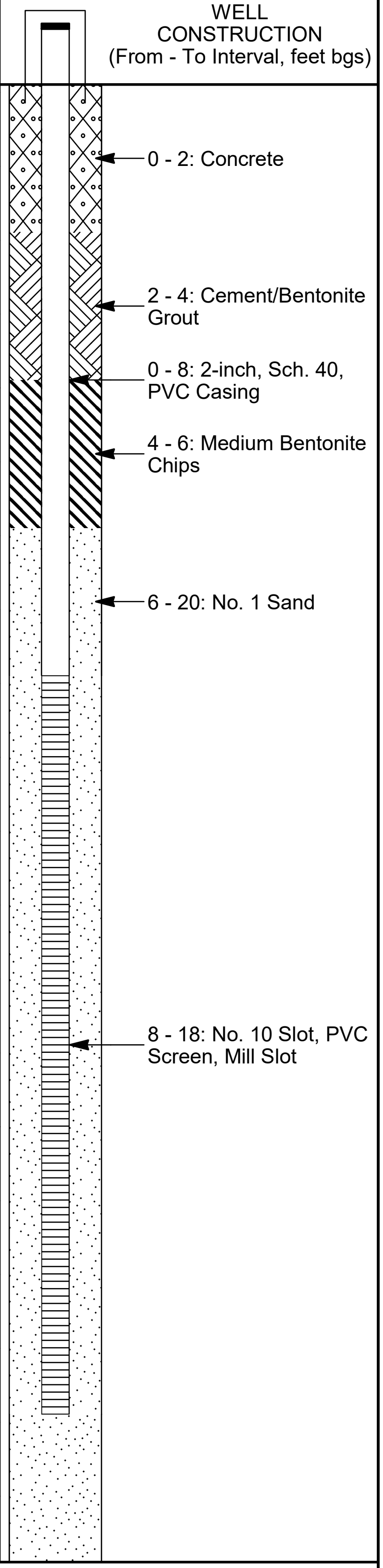
MONITORING WELL NO: **RI-MW-18**
US EPA

STARTED: 8/21/23 COMPLETED: 8/21/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 242593.39 ft
EASTING: 13447752.10 ft
G.S. ELEVATION: 589.11 ft
M.P. ELEV: 592.51 ft
INITIAL DTW: 9 ft
TOTAL DEPTH: 35.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
0	SM	SILTY SAND WITH GRAVEL. Loose, black (2.5Y 2.5/1). Sand is subangular, well graded, C-F. Gravel is subangular to angular, 1/8-3, well graded. Silt is low to medium plasticity	Overburden	5	0.1	Dry to moist	
1	SM	SILTY SAND WITH GRAVEL. Loose, very dark grayish brown (2.5Y 3/2). sand is subangular, well graded, C-F. Gravel is subangular to angular, 1/8-3, well graded. Silt is low to medium plasticity			0.2	Dry to moist	
2					4		
3					1.1		
4					1.2		585
5	SP SM	POORLY GRADED SAND WITH SILT. Loose, black (5Y 2.5/1). Sand is subangular to subround, poorly graded, fine. Silt is low to medium plasticity		5	1.1	Moist to wet	
6					1.2		
7					1.5		
8					0.3		
9 ▼					0.2		580
10	SC	CLAYEY SAND. Very dark gray (2.5Y 3/1). Moderately dense, sand is subangular to angular, well graded, C-F. Clay is high plasticity, low dilantancy		10	0.1	Wet	
11					0.1		
12					0.1		
13					0.5		
14					0.2		575
15					0.1		
16					0.2		
17					0.2		
18					0.3		
19					0.9		570

WELL CONSTRUCTION (From - To Interval, feet bgs)



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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-18**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨	CH	FAT CLAY WITH SAND. Soft to hard, dark grayish brown (2.5Y 4/2). Clay is high plasticity, low dilantancy. Sand is subangular to subround, well graded, C-F	Overburden		0.7	Wet to dry		▨
	▨					0.2			▨
	▨					0.1			▨
	▨					0.1			▨
	▨					0.1		565	▨
25	▨	CH	FAT CLAY WITH SAND. Soft to hard, dark gray (2.5Y 4/1). Clay is high plasticity, low dilantancy. Sand is subangular to subround, well graded, C-F		8	0.1	Wet to dry		▨
	▨					0.3			▨
	▨					0.3			▨ 20 - 35: Medium Bentonite Chips
	▨					0.1			▨
	▨					0.1		560	▨
30	▨					0.1			▨
	▨					0.2			▨
	▨				5	0.4			▨
	▨					0.6			▨
	▨					0.4		555	▨
35			DOLOMITIC LIMESTONE End of Boring, Total Depth 35 feet bgs.						
40								550	

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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

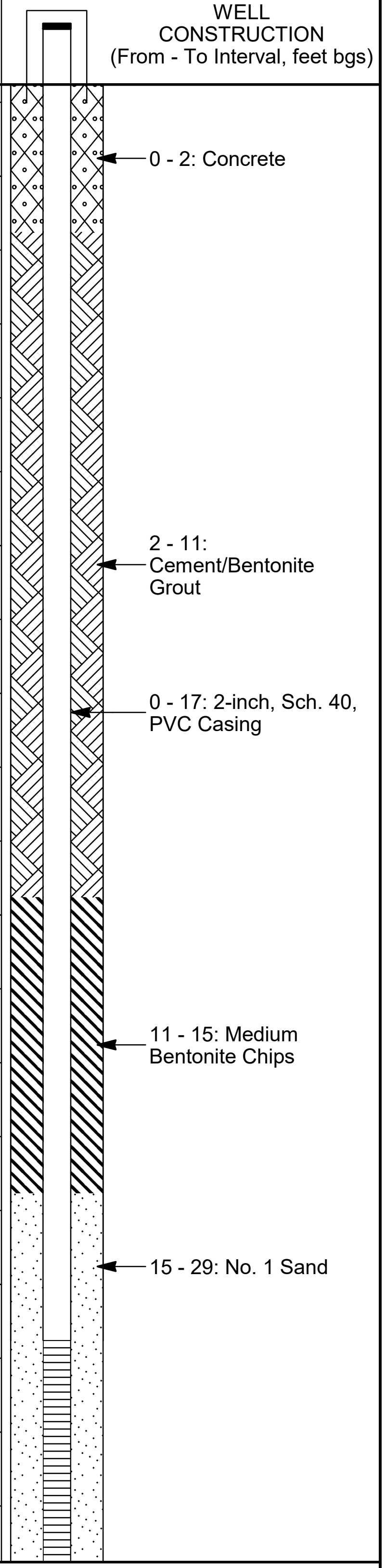
MONITORING WELL NO: **RI-MW-19**
US EPA

STARTED: 8/22/23 COMPLETED: 8/22/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 242886.90 ft EASTING: 13448098.48 ft
G.S. ELEVATION: 591.24 ft M.P. ELEV: 594.11 ft
INITIAL DTW: 6 ft TOTAL DEPTH: 39.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
0	SM	SILTY SAND WITH GRAVEL. Light gray (10YR 7/1). Sand is well graded, C-F, subangular ot angular. Gravel is well graded, 1/8-1, subangular to angular. Silt is low plasticity and medium dilantancy	Overburden	5	0.2	Dry to wet	
1	SM	SILTY SAND WITH GRAVEL. Very dark gray (10YR 3/1). Sand is well graded, C-F, subangular ot angular. Gravel is well graded, 1/8-1, subangular to angular. Silt is low plasticity and medium dilantancy			5.3		590
2					0.2		
3					0.4		
4					0.6	Dry to wet	
5				5	0.4		
6 ▼					0.5		585
7	SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, very fine, subround to round. Silt is low plasticity and medium dilantancy			0.3		
8					0.2		
9					1.1		
10				10	0.2		
11					0.2		580
12					0.4		
13					0.2	Wet	
14					0.4		
15					0.1		
16					0.1		575
17					0.1		
18					0.1		
19					0.1		

WELL CONSTRUCTION (From - To Interval, feet bgs)

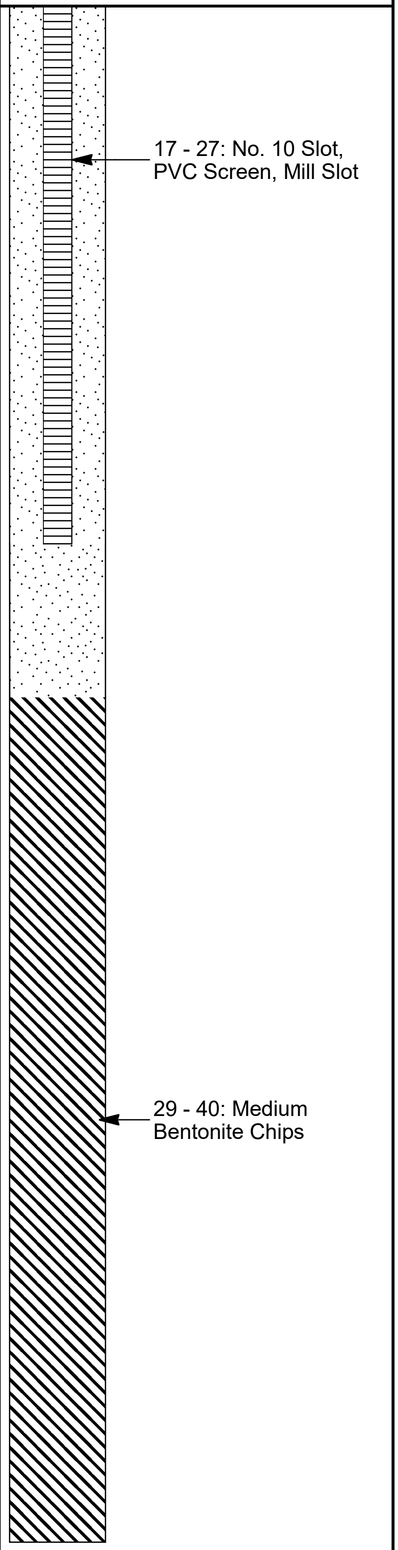


PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-19**

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
25	SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, very fine, subround to round. Silt is low plasticity and medium dilantancy *(continued)*	Overburden	10	0.4 0.1 0.1 0.1 0.2 0.1 0.1	Wet	570 565
	CH	SANDY FAT CLAY. Soft, light gray (10YR 7/1). Clay is high plasticity, low dilantancy. Sand is subround to subangular, poorly graded fine. Sand from 7 ft - 27 ft mixed throughout			0.2 0.1 0.1	Wet	
30	SC	CLAYEY SAND. Loose, dark gray (10YR 4/1). Sand is well graded, C-F, subangular to subround. Clay is high plasticity, low dilantancy.		9	0.1 0.1	Wet	560
35	CH	FAT CLAY WITH SAND. Firm, dark grayish brown (10YR 4/2). Clay is high plasticity, low dilantancy, sand is well graded, C-F, subangular to subround			0.2 0.2 0.3 0.1	Moist	
		DOLOMITIC LIMESTONE, weathered. from 36 ft to 39 ft where hard dolomitic limestone was hit	Bedrock		0.1 0.3 0.3		555
40		End of Boring, Total Depth 39 feet bgs.					550

WELL CONSTRUCTION (From - To Interval, feet bgs)

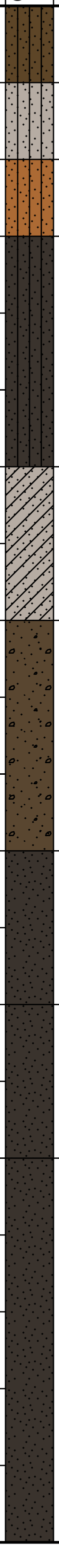


PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-20**
US EPA

STARTED: 8/23/23 COMPLETED: 8/23/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

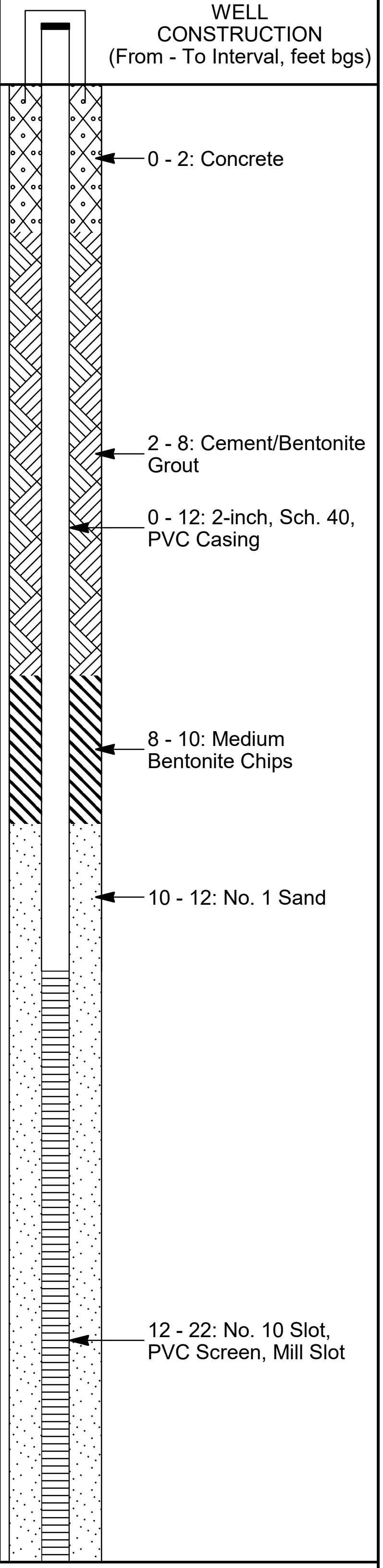
NORTHING: 243535.99 ft EASTING: 13448109.34 ft
G.S. ELEVATION: 589.25 ft M.P. ELEV: 592.38 ft
INITIAL DTW: 11 ft TOTAL DEPTH: 26.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88



DEPTH (feet)	USCS	DESCRIPTION
	SM	SILTY SAND WITH GRAVEL. Dark yellowish brown (10YR 3/4). Sand is subangular to angular, well graded, C-F. Silt is low plasticity, medium dilantancy. Gravel is subangular to angular, C-F, 1/8-3.
	SM	SILTY SAND WITH GRAVEL. Light gray (7.5YR 7/1). Sand is subangular to angular, well graded, C-F. Silt is low plasticity, medium dilantancy. Gravel is subangular to angular, C-F, 1/8-3.
	SM	SILTY SAND WITH GRAVEL. Yellowish red (5YR 5/8). Sand is subangular to angular, well graded, C-F. Silt is low plasticity, medium dilantancy. Gravel is subangular to angular, C-F, 1/8-3.
5	SM	SILTY SAND WITH GRAVEL. Black (10YR 2/1). Sand is subangular to angular, well graded, C-F. Silt is low plasticity, medium dilantancy. Gravel is subangular to angular, C-F, 1/8-3. Coal encountered at 5 ft
	SC	CLAYEY SAND. Light gray (7.5YR 7/1). Sand is subangular to angular, well graded, C-F. Clay is high plasticity, low dilantancy. Gravel is poorly graded, 1/8-1/2. Strong odor from 6 ft to clay at 23 ft
10	SW	WELL GRADED SAND WITH GRAVEL. Loose, dark brown (10YR 3/3). Sand is subangular to subround, well graded, C-F. Gravel is subangular to angular, well graded, 1/8-2. Silt is low plasticity, medium dilantancy
▼	SP	POORLY GRADED SAND. Loose, black (10YR 2/1). Sand is subround to round, poorly graded, fine. Gravel is subangular, well graded, 1/8-3. Silt is low plasticity, medium dilantancy
	SP	POORLY GRADED SAND. Loose, black (10YR 2/1). Sand is subround to round, poorly graded, fine. Gravel is subangular, well graded, 1/8-3. Silt is low plasticity, medium dilantancy
15	SP	POORLY GRADED SAND. Loose. Sand is subround to round, poorly graded, fine. Gravel is subangular, well graded, 1/8-3. Silt is low plasticity, medium dilantancy

STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
Overburden	4	0.8	Moist	
		0.8		
		1.5		
		1.5		
		0.7		585
	5	55.8		
		14		
		7.5		
		37.5	Moist to wet	
		26.5		580
	9	10.3		
		34.2	Wet	
		22.8		
		16.3	Wet	
		4.9		575
		8.3	Wet	
		7.4		
		12.2		
		8		
		4.5		570

WELL CONSTRUCTION (From - To Interval, feet bgs)



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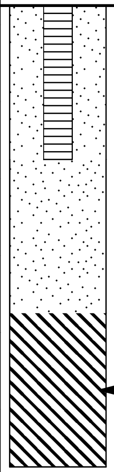
FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-20**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
		SP	POORLY GRADED SAND. Loose. Sand is subround to round, poorly graded, fine. Gravel is subangular, well graded, 1/8-3. Silt is low plasticity, medium dilantancy *(continued)*	Overburden	6	29.7 35.8	Wet		
		SP	POORLY GRADED SAND. Loose, black (10YR 2/1). Sand is subround to round, poorly graded, fine. Gravel is subangular, well graded, 1/8-3. Silt is low plasticity, medium dilantancy			28.1	Wet		
		SC	CLAYEY SAND. Moderate dense, very dark grayish brown (10YR 3/2). Sand is poorly graded, fine, subrounded. Clay is high plasticity, low dilantancy.			3	Moist		
25		CH	FAT CLAY WITH SAND. Soft, gray (2.5Y 5/1). Clay is high plasticity, low dilantacy. Sand is well graded, subangular to angular, C-F.			2.1 1.2	Moist	565	24 - 26: Medium Bentonite Chips
			DOLOMITIC LIMESTONE End of Boring, Total Depth 26 feet bgs.					560	
30									
								555	
35									
								550	
40									



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FINAL MONITORING WELL CONSTRUCTION LOG

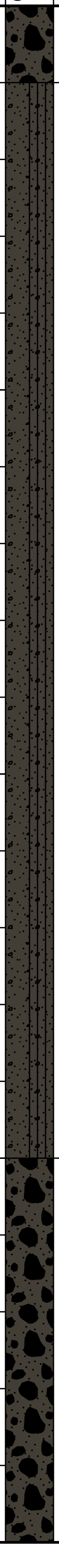
PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-21**
US EPA

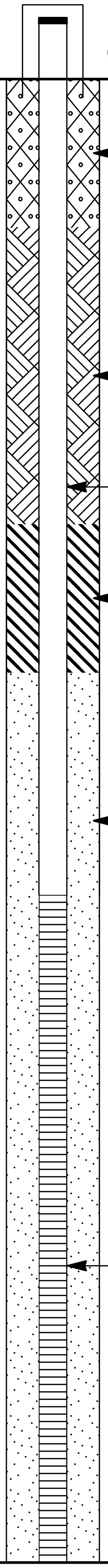
STARTED: 8/16/23 COMPLETED: 8/16/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 244941.82 ft
EASTING: 13448328.88 ft
G.S. ELEVATION: 589.21 ft
M.P. ELEV: 592.43 ft
INITIAL DTW: 10 ft
TOTAL DEPTH: 33.0 ft
LOGGED BY: Alex Pedjase
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88



DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
0	GW	WELL GRADED GRAVEL WITH SAND. Loose, black (5Y 2.5/1). Gravel is well graded, angular. Sand is well-graded, subangular.	Overburden	5	0	Moist	
1	SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, black (5Y 2.5/1). Sand is well graded, subangular, F-C. Gravel is well graded, F-C, angular. Silt is low plasticity. Minimal organic odor. Boulder at 14 ft, large bricks, debric, massive slag, from 14 ft to 17 ft.			0		
2					0		
3					0		
4					0		585
5				5	0	Moist	
6					0		
7					0		
8					1		
9					0.6		580
10 ▼				4	0		
11					0		
12					0		
13					0		
14				2.83	0		575
15	GW	WELL GRADED GRAVEL WITH SAND. Black (5Y 2.5/1). 17 ft to 21 ft lost to voids and slag obstruction. Continued construction debris			0	Moist	
16					0		
19							570

WELL CONSTRUCTION (From - To Interval, feet bgs)



0 - 2: Concrete
2 - 7: Cement/Bentonite Grout
0 - 11: 2-inch, Sch. 40, PVC Casing
7 - 9: Medium Bentonite Chips
9 - 23: No. 1 Sand
11 - 21: No. 10 Slot, PVC Screen, Mill Slot

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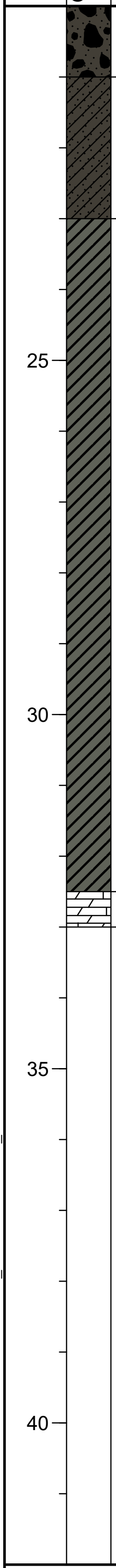
FINAL MONITORING WELL CONSTRUCTION LOG

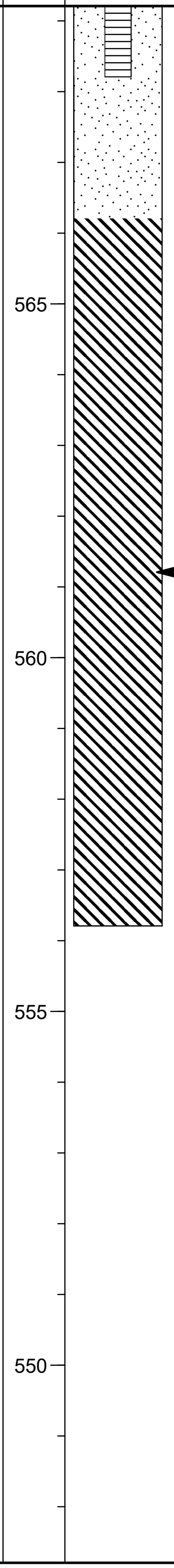
PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-21**



USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)
GW	WELL GRADED GRAVEL WITH SAND. Black (5Y 2.5/1). 17 ft to 21 ft lost to voids and slag obstruction. Continued construction debris *(continued)*	Overburden	9		Moist
SC	CLAYEY SAND WITH GRAVEL. Loose, black (5Y 2.5/1). Organic odor. Sand is well graded, subangular, C-F. Gravel is well graded, C-F, angular. Clay is high plasticity			0.7	Wet
CH	FAT CLAY. Soft, dark green gray (5GY 4/1). Clay is high plasticity, low dilantancy. Sand is medium to fine, subangular to subround. Gravel is fine, subangular. Firm from 26 ft to 32.5 ft. Dry from 28 ft to 32.5 ft		 3	0.2 0.1 0 0 0 0 0 0 0 0	Wet to dry
	DOLOMITIC LIMESTONE				
	End of Boring, Total Depth 33 feet bgs.			0	



WELL CONSTRUCTION (From - To Interval, feet bgs)

23 - 33: Medium Bentonite Chips

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

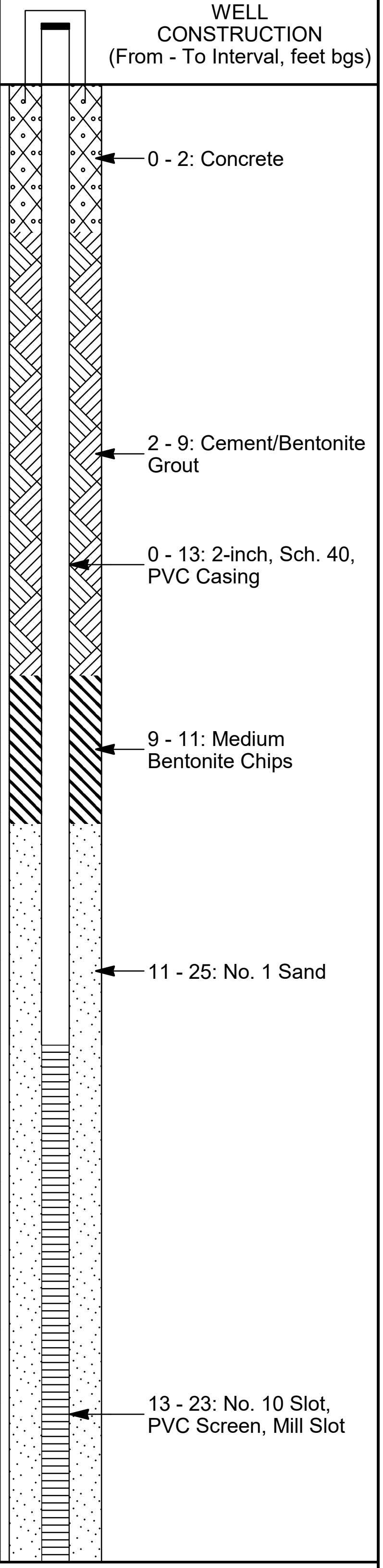
MONITORING WELL NO: **RI-MW-22**
US EPA

STARTED: 8/15/23 COMPLETED: 8/15/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 245528.43 ft
EASTING: 13448313.44 ft
G.S. ELEVATION: 590.85 ft
M.P. ELEV: 593.86 ft
INITIAL DTW: 16 ft
TOTAL DEPTH: 35.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SW	WELL GRADED SAND WITH GRAVEL. Loose, very dark gray (10YR 3/1). 3 of brown color change. Sand is subangular, well-gradewd, C-F. Gravel is subangular to angular, well-graded, 1/8-2. Trace silt. Boulder at 7 ft	Overburden	4.5	0	Moist	
					2.6		590
					1.2		
					0.8		
					0.5		
5				5	0.9		
					0.1		585
					1		
					0.5		
					0.4		
10	SM	SILTY SAND WITH GRAVEL. Loose, black (2.5Y 2.5/1). At 12 ft, 6 of change of higher gravel. Sand is subangular, well-graded, C-F. Gravel is subangular to angular, well-graded, 1/8-2. Silt is moderate to low plasticity. Boulder (4) hit at 17 ft resulting in 3 ft of lost material		6.33	1.6	Moist	
					1.7		580
					1.5		
					3.6		
					6.2		
15					2.7		
▼							575
					2.7		

WELL CONSTRUCTION
(From - To Interval, feet bgs)



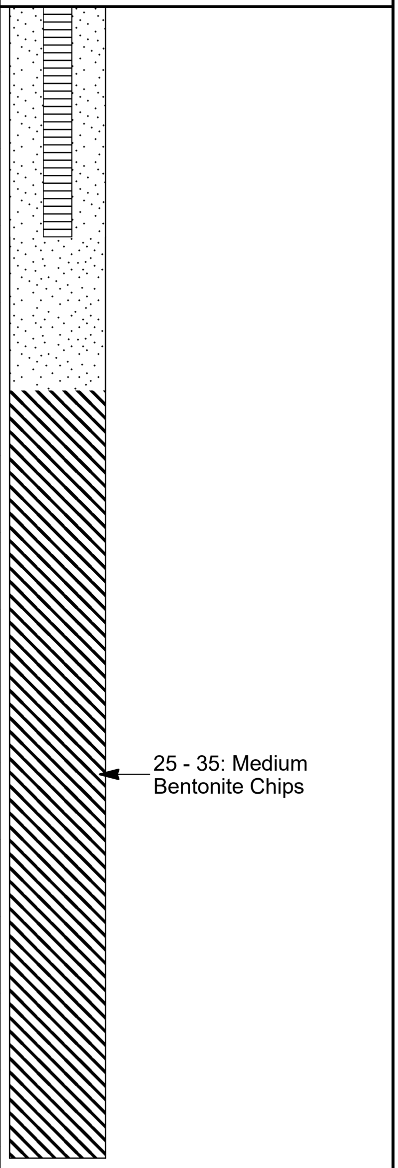
PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-22**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		SM		Overburden		0 0	Moist	570
25		CH	Whole section lost due to boulder. Likely clay transition but no material to know for sure. Gray (2.5Y 5/1).		2.5		Wet	565
30		CH	FAT CLAY WITH GRAVEL. Soft, gray (2.5Y 5/1). Clay is high plasticity, low dilantancy. Gravel is subangular to angular, moderately graded, 1/8-3/4. Sand is subangular to subround, poorly-graded, fine.		5	0 0 0 0.2	Wet	560
			DOLOMITIC LIMESTONE	Bedrock		0		
35			End of Boring, Total Depth 35 feet bgs.					555
40								550

WELL CONSTRUCTION (From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

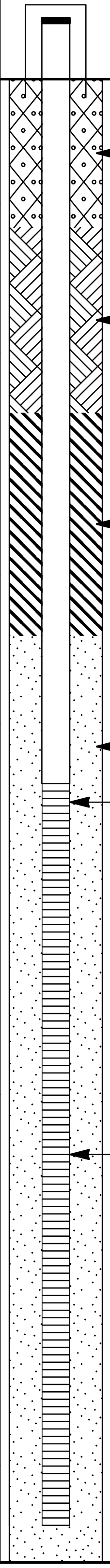
MONITORING WELL NO: **RI-MW-23**
US EPA

STARTED: 8/30/23 COMPLETED: 8/30/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 246196.99 ft
EASTING: 13448180.27 ft
G.S. ELEVATION: 588.69 ft
M.P. ELEV: 591.64 ft
INITIAL DTW: 10 ft
TOTAL DEPTH: 33.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SM	Apparent fill: SILTY SAND WITH GRAVEL. Loose, very dark grayish brown (10YR 3/2). Sand is well graded, C-F, subangular to angular. Gravel is well graded, 1/8-2, angular. Silt is low plasticity, medium dilantancy. Scrap metal throughout	Overburden		3.5	Dry to moist	
					1.8		
					1.3		
					0.7		
					0.6		585
5				8.83	0.2		
					0.2		
	SM	Apparent fill: SILTY SAND WITH GRAVEL. Loose, gray (10YR 6/1). Sand is well graded, C-F, subangular to angular. Gravel is well graded, 1/8-2, angular. Silt is low plasticity, medium dilantancy. Scrap metal throughout. Fresh wood from 7 ft - 8 ft			0.5	Dry to moist	
	SM	Apparent fill: SILTY SAND WITH GRAVEL. Loose, very dark grayish brown (10YR 3/2). Sand is well graded, C-F, subangular to angular. Gravel is well graded, 1/8-2, angular. Silt is low plasticity, medium dilantancy. Scrap metal throughout			1.9	Dry to moist	
	SP SC	Apparent fill: POORLY GRADED SAND WITH CLAY AND GRAVEL. Loose, black (10YR 2/1). Sand is subangular to subround, poorly graded, fine. Gravel is well graded, 1/4 - 3, subangular. Clay is high plasticity, medium dilantancy. Oily apperance and odor of tar or asphalt from 14 ft - 18 ft. Scrap metal throughout			1.3		580
▼ 10					0.2		
					0.8		
					4		
					12	Wet	
					18		575
15				10	18.4		
					14		
					19.5		
	ML	SANDY SILT. Soft, very dark brown (10YR 2/2). Silt was low plasticity, medium dilantancy. Sand was very fine, poorly-graded, round. Scrap metal throughout			2		
					2.4	Wet	570

WELL CONSTRUCTION
(From - To Interval, feet bgs)



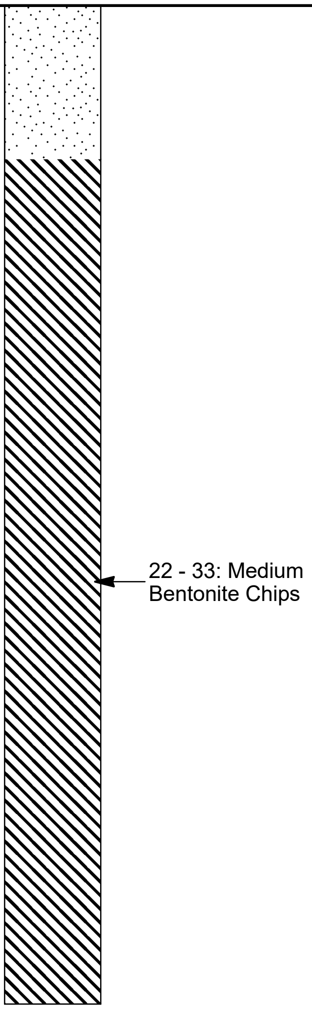
0 - 2: Concrete
2 - 4.5: Cement/Bentonite Grout
4.5 - 7.5: Medium Bentonite Chips
7.5 - 22: No. 1 Sand
0 - 19.5: 2-inch, Sch. 40, PVC Casing
9.5 - 19.5: No. 10 Slot, PVC Screen, Mill Slot

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-23**

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	ML	SANDY SILT. Soft, very dark brown (10YR 2/2). Silt was low plasticity, medium dilantancy. Sand was very fine, poorly-graded, round. Scrap metal throughout *(continued)*	Overburden	10 3	0.5	Wet	
25 30	CH	FAT CLAY WITH SAND. Soft to firm, brown (10YR 5/3). Clay is high plasticity, low dilantancy. Sand is poorly graded, very fine, round.			0.3 0.2 0.2 0.1 0.2 0.3 0.2 0.2 0.1 0.2 0.2 0.1	Wet to dry	565 560
35 40		DOLOMITIC LIMESTONE End of Boring, Total Depth 33 feet bgs.					555 550

WELL CONSTRUCTION
(From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

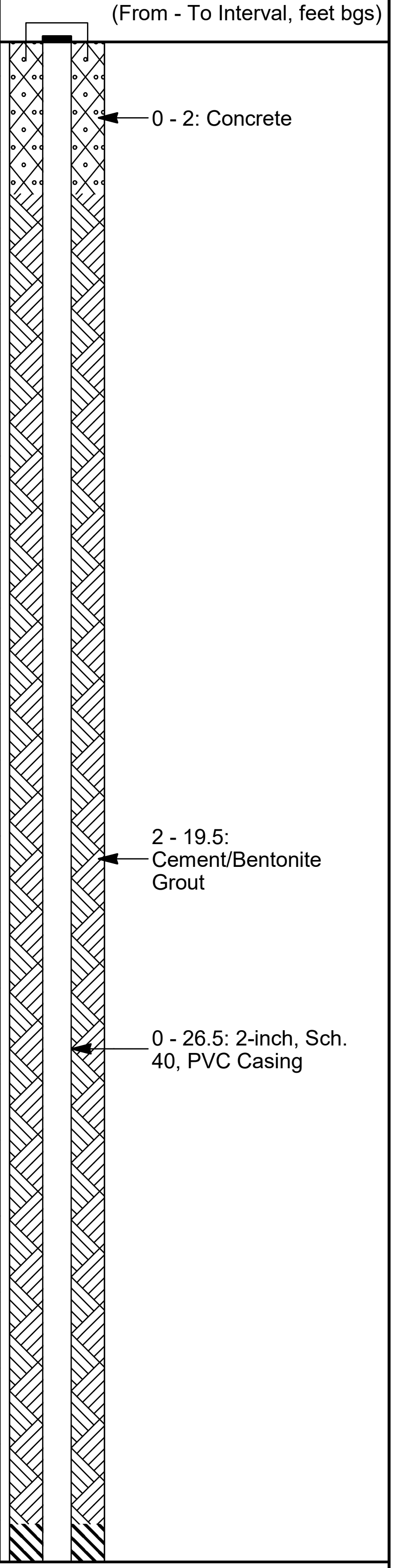
MONITORING WELL NO: **RI-MW-24**
US EPA

STARTED: 8/24/23 COMPLETED: 8/24/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Flush-mount

NORTHING: 241078.27 ft EASTING: 13447815.65 ft
G.S. ELEVATION: 585.45 ft M.P. ELEV: 585.25 ft
INITIAL DTW: 10 ft TOTAL DEPTH: 45.0 ft
LOGGED BY: Alex Pedjase
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
0	SM	SILTY SAND WITH GRAVEL. Dense. Sand is well graded, C-F, subangular to angular. Gravel is course to fine, well-graded, 1/4-2, Silt is low plasticity	Overburden		0.8	Moist to dry	585
1					0.6		
2					2.5		
3					1.2		
4					2.4		
5					0.9		580
6					4.8		
7	SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, medium grained, subangular. Gravel is fine, poorly graded, subangular. Silt is low plasticity			6.3	Moist to wet	
8					11.8		
9					16.4		
▼10					0.6		575
11					0.8		
12					1.2		
13					3.8		
14					4.2		
15					3.2		570
16					6.3		
17					1.3		
18					0.7		
19					1		

WELL CONSTRUCTION
(From - To Interval, feet bgs)



PROJECT NO. 281860

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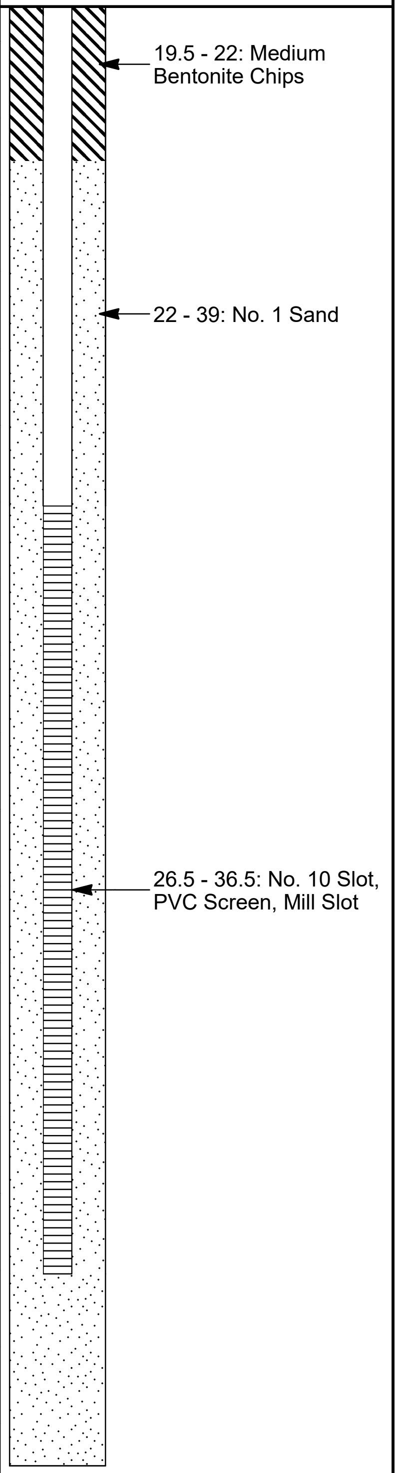
FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-24**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, medium grained, subangular. Gravel is fine, poorly graded, subangular. Silt is low plasticity *(continued)*	Overburden		1.1 2.7	Moist to wet	565
25 30 35		SM	SILTY SAND. Loose, dark gray (10YR 4/1). Sand is fine grained, poorly graded, subround. Silts and clay are moderate plasticity			3.3 0.9 0.8	Wet	560 555 550
40		CH	FAT CLAY. Hard to firm, gray (10YR 5/1). Clay is high plasticity, low dilantancy. Sand is well graded, C-F, angular to subangular. Gravel is medium to fine, subangular to angular.				Moist	545

WELL CONSTRUCTION
(From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-24**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨	CH	FAT CLAY. Hard to firm, gray (10YR 5/1). Clay is high plasticity, low dilantancy. Sand is well graded, C-F, angular to subangular. Gravel is medium to fine, subangular to angular. *(continued)*	Overburden			Moist		
45	▦		DOLOMITIC LIMESTONE	Bedrock					
			End of Boring, Total Depth 45 feet bgs.					540	
50								535	
55								530	
60								525	

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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT:	McLouth Steel Corp.	MONITORING WELL NO:	**RI-MW-25**
LOCATION:	Trenton, Michigan	US EPA	

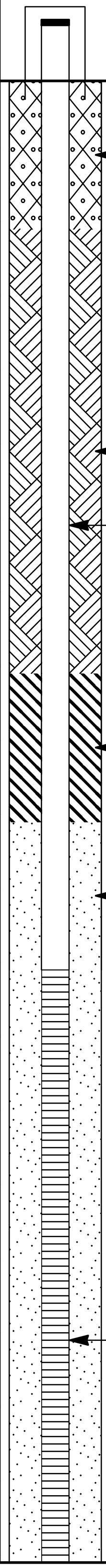
STARTED:	9/19/23 COMPLETED: 9/19/23	NORTHING:	241617.64 ft
DRILLING COMPANY:	Cascade Drilling	EASTING:	13447928.32 ft
DRILLING EQUIPMENT:	LS250 Minisonic	G.S. ELEVATION:	587.9 ft
DRILLING METHOD:	Sonic, 6-inch diameter	M.P. ELEV:	591.06 ft
SAMPLING METHOD:	Sonic Core Barrel	INITIAL DTW:	6 ft
SURFACE COMPLETION:	Steel Stickup	TOTAL DEPTH:	45.0 ft
		LOGGED BY:	Jason Wagenmaker

HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	Moisture (Field)
0 - 7	SW SM	Apparent fill: WELL GRADED SAND WITH SILT. Loose, very dark brown (10YR 2/2). Sand is well graded, C-F, subangular to angular. Gravel is well graded, C-F, 1/8 - 1. Silt is low plasticity, medium dilantancy	Overburden	5	Dry to wet
7 - 9	CH	Apparent fill: FAT CLAY. Stiff, dark gray (10YR 4/1). Clay is high plasticity, low dilantancy. Sand is poorly graded, very fine, round. Silt		5	Moist
9 - 13	SP	Apparent fill: POORLY GRADED SAND. Loose, black (10YR 2/1). Sand is poorly graded, fine, round to subround. Gravel is well-graded, 1/8-2, subangular.			Wet
13 - 17	SP	Apparent fill: POORLY GRADED SAND WITH GRAVEL. Loose, black (10YR 2/1). Sand is poorly graded, fine, round to subround. Gravel is well-graded, 1/8-2, subangular.		7.83	Wet
17 - 20	SP SM	Apparent fill: POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity, medium dilantancy			Wet

DEPTH (feet)	PID (ppm)	ELEV (ft)
0	0.6	
1	1.1	
2	1	
3	3.3	585
4	6.4	
5	0	
6	0.1	
7	2.2	
8	2.8	580
9	10.2	
10	1.4	
11	0.8	
12	1.8	
13	0.4	575
14	0.7	
15	3.4	
16	7.4	
17	66.1	
18	50.1	570
19	37.2	

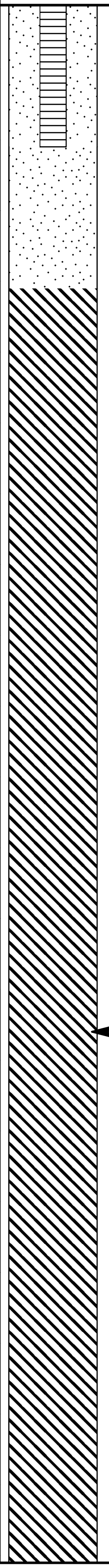
WELL CONSTRUCTION
(From - To Interval, feet bgs)



0 - 2: Concrete
2 - 8: Cement/Bentonite Grout
0 - 12: 2-inch, Sch. 40, PVC Casing
8 - 10: Medium Bentonite Chips
10 - 24: No. 1 Sand
12 - 22: No. 10 Slot, PVC Screen, Mill Slot

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SP SM	Apparent fill: POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity, medium dilantancy *(continued)*	Overburden		10.7	Wet	
					11.8		
	ML	SANDY SILT. Very soft, dark gray (2.5Y 4/1). Silt is low plasticity, medium dilantancy. Sand is poorly graded, very fine, round.			13.8	Wet	
					6.1		565
					4.6		
25				10	2.6		
					2.2		
					1.5		
					1.5		560
	CH	FAT CLAY WITH SAND. Stiff. Clay is high plasticity, low dilantancy. Sand is poorly graded, very fine, round.			1.5	Moist	
30					0.5		
					0.3		
					0.3		
					0		555
					0		
35				10	0		
					0		
					0		
					0		550
					0		
40					0.1		
					0		

WELL CONSTRUCTION (From - To Interval, feet bgs)



24 - 45: Medium Bentonite Chips

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-25**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨	CH	FAT CLAY WITH SAND. Stiff. Clay is high plasticity, low dilantancy. Sand is poorly graded, very fine, round. *(continued)*	Overburden		0 0 0	Moist	545	▨
45			DOLOMITIC LIMESTONE End of Boring, Total Depth 45 feet bgs.		5				
								540	
50									
								535	
55									
								530	
60									
								525	

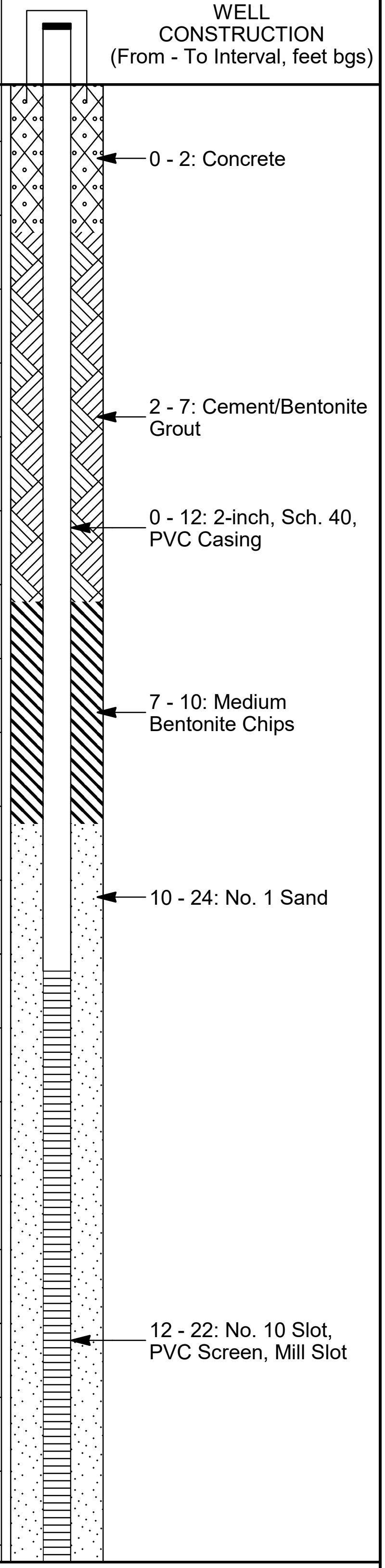
PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-26**
US EPA

STARTED: 9/15/23 COMPLETED: 9/15/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 241978.41 ft EASTING: 13448136.75 ft
G.S. ELEVATION: 591.77 ft M.P. ELEV: 594.58 ft
INITIAL DTW: 5 ft TOTAL DEPTH: 40.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
0–5	SW SM	Apparent fill: WELL GRADED SAND WITH SILT. Loose. Sand is well graded, C-F, subangular to subround. Gravel is well graded, 1/8-2, subangular to angular. Silt is low plasticity, medium dilantancy. Odorous	Overburden	5	15.1 14.2 84.3 29.5 12.7	Dry to moist	590
▼ 5	SM	Apparent fill: SILTY SAND. Loose, black (10YR 2/1). Sand is subround to round, poorly graded, fine. Silt is low plasticity, medium dilantancy. Soil has oily sheen to it, odorous		5	3.5 4.3 14.8 38.9 34.8	Wet	585
10				10	1.5 21.8 35 12.8 21.9		580
15					42.7 52.9 17 17.3 9.4		575



STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

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FINAL MONITORING WELL CONSTRUCTION LOG

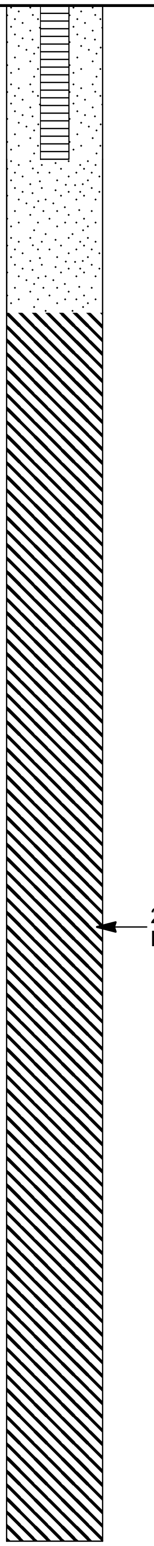
PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-26**

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SM	Apparent fill: SILTY SAND. Loose, black (10YR 2/1). Sand is subround to round, poorly graded, fine. Silt is low plasticity, medium dilantancy. Soil has oily sheen to it, odorous *(continued)*			1.4		
					0.8	Wet	
	SM	SILTY SAND. Medium dense, dark gray (2.5Y 4/1). Sand is very fine, round, poorly graded. Silt is slight plasticity, medium dilantancy. Trace clay			0		570
					0		
					0	Wet	
25				10	0		
	SP SM	POORLY GRADED SAND WITH SILT. Medium dense, dark gray (2.5Y 4/1). Sand is poorly graded, M-F, subround to round. Silt is low plasticity, medium dilantancy			0		
					0		565
					0		
					0	Wet	
30			Overburden		0		
					0		
	CH	FAT CLAY WITH SAND. Soft, dark gray (2.5Y 4/1). Clay is high plasticity, low dilantancy. Sand is poorly graded, very fine, round			0		560
					0		
					0		
35				10	0		
					0	Wet	
					0		555
					0		
40		DOLOMITIC LIMESTONE End of Boring, Total Depth 40 feet bgs.					
							550

WELL CONSTRUCTION
(From - To Interval, feet bgs)



24 - 40: Medium Bentonite Chips

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

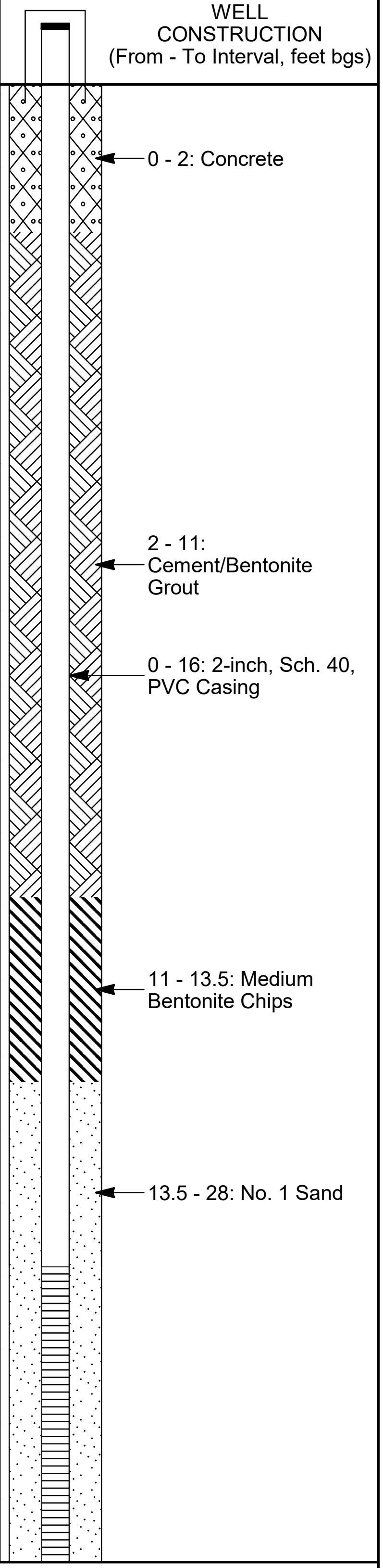
MONITORING WELL NO: **RI-MW-27**
US EPA

STARTED: 8/21/23 COMPLETED: 8/21/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 242370.15 ft EASTING: 13448211.73 ft
G.S. ELEVATION: 595.13 ft M.P. ELEV: 598.13 ft
INITIAL DTW: 16 ft TOTAL DEPTH: 40.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, very dark brown (10YR 2/2). Sand is subangular to angular, well-graded, C-F. Gravel is well graded, 1/8-1, subangular to angular. Silt is low to medium plasticity and moderate dilantancy	Overburden	4	0.2	Dry	595
					0.3		
					0.5		
	SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, pale brown (10YR 6/3). Sand is subangular to angular, well-graded, C-F. Gravel is well graded, 1/8-1, subangular to angular. Silt is low to medium plasticity and moderate dilantancy			0.9	Dry	
					1.6		
5	SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, black (10YR 2/1). Sand is subangular to angular, well-graded, C-F. Gravel is well graded, 1/8-1, subangular to angular. Silt is low to medium plasticity and moderate dilantancy		5	0.3	Dry	590
					0.4		
	SC	CLAYEY SAND WITH GRAVEL. Loose, dark brown (10YR 3/3). Sand is subangular to subround, well-graded, C-F. Clay is high plasticity and low dilantancy. Gravel is angular to subangular, 1/8-1, well graded			0.3	Moist	
					0.3		
					0.2		
10	SM	SILTY SAND WITH GRAVEL. Loose, black (7.5YR 2.5/1). Sand is subangular to angular, well-graded, C-F. Gravel is subangular to angular, 1/8-3 well graded. Silt is low plasticity and medium dilantancy		10	3.9	Moist to wet	585
					1.7		
					5.5		
					14.5		
					19		
15					10.6		580
▼	SM	WELL GRADED SAND WITH SILT. Loose, black (7.5YR 2.5/1). Sand is subangular to angular, well-graded, C-F. Gravel is subangular to angular, 1/8-3 well graded. Silt is low plasticity and medium dilantancy			5.9	Moist to wet	
	SM	SILTY SAND WITH GRAVEL. Loose, black (7.5YR 2.5/1). Sand is subangular to angular, well-graded, C-F. Gravel is subangular to angular, 1/8-3 well graded. Silt is low plasticity and medium dilantancy			0.8	Moist to wet	
					1.4		
					1.3		

WELL CONSTRUCTION
(From - To Interval, feet bgs)



STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

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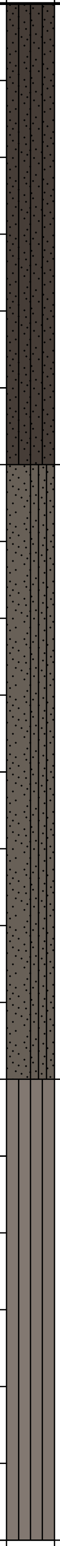
FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

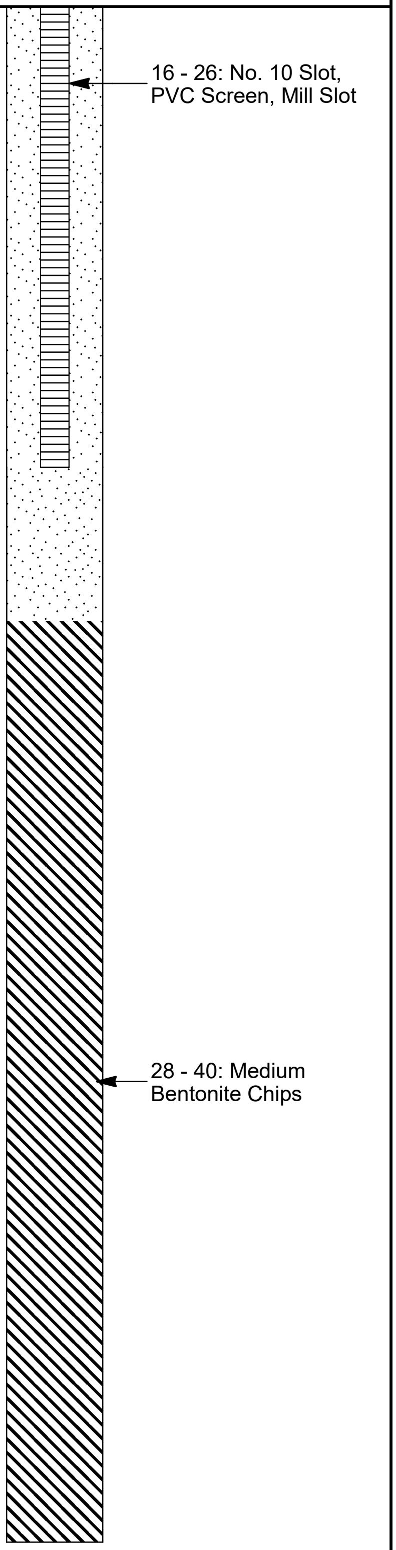
PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-27**



DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		SILTY SAND WITH GRAVEL. Loose, black (7.5YR 2.5/1). Sand is subangular to angular, well-graded, C-F. Gravel is subangular to angular, 1/8-3 well graded. Silt is low plasticity and medium dilantancy *(continued)*	Overburden		0.3		575
					0.2		
					0.3		
	SM				0.2	Moist to wet	
					0.2		
25				10	0.3		570
		POORLY GRADED SAND WITH SILT. Soft, dark gray (10YR 4/1). Sand is poorly graded, very fine. Silt is low plasticity, moderate dilantancy			0.2		
					0.2		
					0.2		
					0.1		
30	SP SM				0.1	Moist	565
					0.1		
					0.1		
					0.1		
		SANDY SILT. Soft, gray (7.5YR 5/1). Silt is low to medium plasticity and medium dilantancy			0.1		
35				10	0.1		560
					0.2		
	ML				0.9	Moist	
					1.2		
					1.3		
40		DOLOMITIC LIMESTONE End of Boring, Total Depth 40 feet bgs.					555

WELL CONSTRUCTION (From - To Interval, feet bgs)



16 - 26: No. 10 Slot, PVC Screen, Mill Slot

28 - 40: Medium Bentonite Chips

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

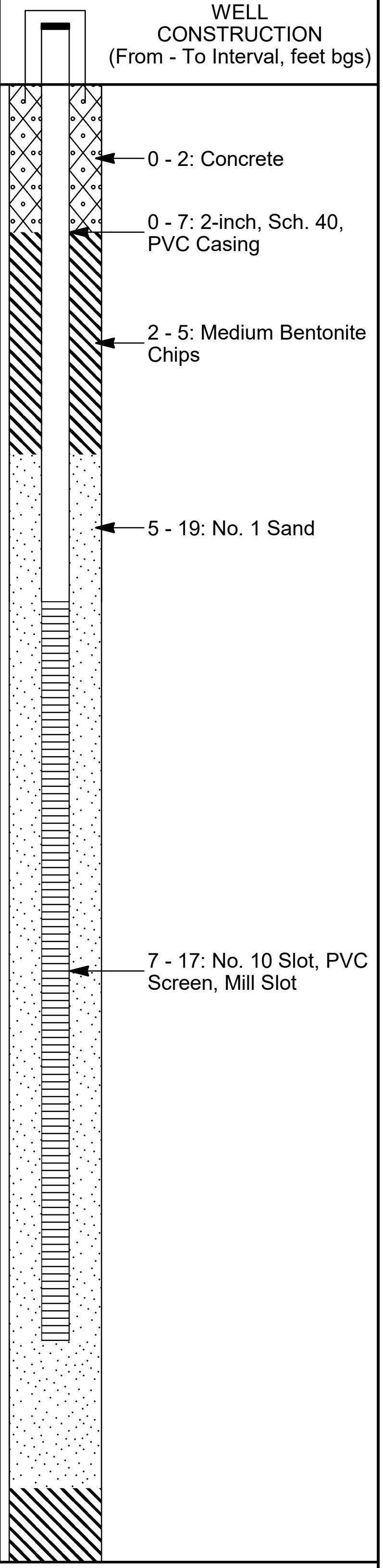
MONITORING WELL NO: **RI-MW-29**
US EPA

STARTED: 9/11/23 COMPLETED: 9/11/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 243591.19 ft
EASTING: 13448304.34 ft
G.S. ELEVATION: 588.73 ft
M.P. ELEV: 591.81 ft
INITIAL DTW: 7 ft
TOTAL DEPTH: 27.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
5 ▼	SM	Apparent fill: SILTY SAND. Loose, very dark brown (7.5YR 2.5/2). Sand is well graded, C-F, subangular to subround. Silt Is low plasticity and medium dilantancy	Overburden	5	2.8 1.9 12.9 0.6 56.3 1.2 0.8	Dry to moist	585
	SC	Apparent fill: CLAYEY SAND WITH GRAVEL. Dense, gray (10YR 6/1). Sand is well graded, C-F, subround to subangular. Gravel is well graded, 1/8-1. Clay is high plasticity and low dilantancy		5	1.7 1.2 1.6	Wet	580
10	SC	Apparent fill: CLAYEY SAND WITH GRAVEL. Dense, very dark brown (7.5YR 2.5/2). Sand is well graded, C-F, subround to subangular. Gravel is well graded, 1/8-1. Clay is high plasticity and low dilantancy			0 0	Wet	
15	SC	Apparent fill: CLAYEY SAND WITH GRAVEL. Dense, dark grayish brown (2.5Y 4/2). Sand is well graded, C-F, subround to subangular. Gravel is well graded, 1/8-1. Clay is high plasticity and low dilantancy		8	0.1 0 0 0 0	Wet	575
	SM	SILTY SAND. Dense, black (10YR 2/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity and medium dilantancy			0 0 0	Wet	570

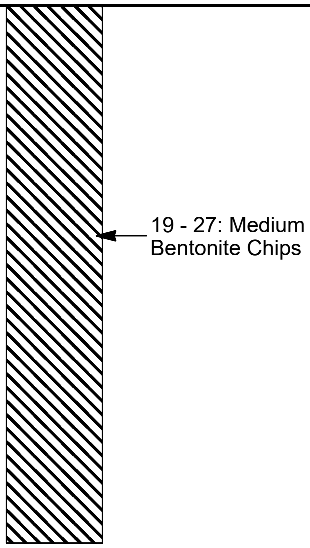
WELL CONSTRUCTION (From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-29**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
		SM	SILTY SAND. Dense, black (10YR 2/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity and medium dilantancy *(continued)*	Overburden	7	0	Wet		19 - 27: Medium Bentonite Chips
		SP SM	POORLY GRADED SAND WITH SILT. Dense, dark gray (2.5Y 4/1). Sand is poorly graded, very fine, round. Silt is low plasticity and medium dilantancy			0 0 0	Wet		
25		SM	SILTY SAND. Medium dense, dark gray (2.5Y 4/1). Sand is poorly graded, fine, round to subround. Silt is low plasticity and medium dilantancy			0	Wet	565	
			DOLOMITIC LIMESTONE	Bedrock					
30 35 40			End of Boring, Total Depth 27 feet bgs.					560 555 550	



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FINAL MONITORING WELL CONSTRUCTION LOG

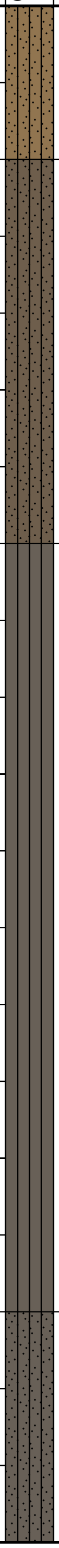
PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-30**
US EPA

STARTED: 9/20/23 COMPLETED: 9/20/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Flush-mount

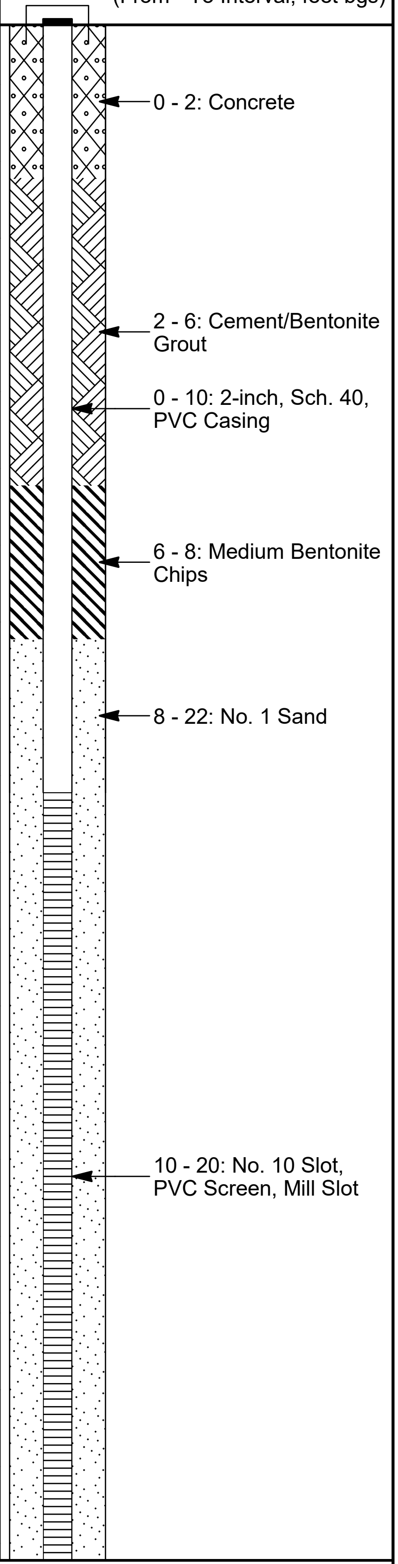
NORTHING: 241415.82 ft EASTING: 13448348.98 ft
G.S. ELEVATION: 582.78 ft M.P. ELEV: 582.42 ft
INITIAL DTW: 5 ft TOTAL DEPTH: 50.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88



DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	Moisture (Field)
0 - 2	SM	Apparent fill: SILTY SAND. Loose, yellowish brown (10YR 5/4). Sand is well graded, C-F, subangular to subround. Silt is low plasticity and medium dilantancy. Gravel is well graded, 1/8-1, subangular to subround	Overburden	Dry to wet
2 - 7	SM	Apparent fill: SILTY SAND. Loose, dark grayish brown (10YR 4/2). Sand is well graded, C-F, subangular to subround. Silt is low plasticity and medium dilantancy. Gravel is well graded, 1/8-1, subangular to subround		Dry to wet
7 - 17	ML	SANDY SILT. Soft, dark gray (10YR 4/1). Silt is low plasticity and medium dilantancy. Sand is very fine, poorly-graded, round. Silt is low plasticity and medium dilantancy. Scrap metal found throughout		Wet
17 - 20	SM	SILTY SAND. Soft, dark gray (10YR 4/1). Sand is poorly graded, very fine, round. Silt is low plasticity and medium dilantancy. Scrap metal found throughout		Wet

DEPTH (feet)	RECOV. (feet)	PID (ppm)	ELEV (ft)
0	4	6	
1		0.8	
2		1.4	
3		0.6	580
4		0.9	
5	3	0.2	
6		0.2	
7		0.2	
8		0.2	575
9		0.1	
10	10	0.1	
11		0.1	
12		0.2	
13		0.6	570
14		0.4	
15		1	
16		0	
17		1.2	
18		0.5	565
19		0.5	

WELL CONSTRUCTION
(From - To Interval, feet bgs)



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FINAL MONITORING WELL CONSTRUCTION LOG

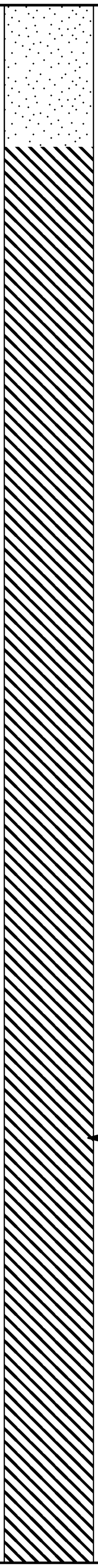
PROJECT NO. 281860

PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-30**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
20		ML	SILT WITH SAND. Dark gray (10YR 4/1). Silt is low plasticity and medium dilantancy. Sand is poorly graded, very fine, round	Overburden		0			
21						0.7			
22						0.4			
23						0.3		560	
24						0.2			
25					10	1.8			
26						0.4			
27						0.4			
28						0.4		555	
29						1.4			
30						0.1			
31						0			
32						0			
33						0.1		550	
34						0.1			
35		CH	FAT CLAY. Soft, dark gray (10YR 4/1). Clay is high plasticity and low dilantancy. Sand is poorly graded, very fine, round. Silt		10	0.2			
36						0			22 - 50: Medium Bentonite Chips
37						0			
38						0	Wet	545	
39						0			
40						0			
41						0			



DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
45	▨	CH	FAT CLAY. Soft, dark gray (10YR 4/1). Clay is high plasticity and low dilantancy. Sand is poorly graded, very fine, round. Silt *(continued)*	Overburden	7	0 0.2 0 0 0.4	Wet	540	▨
50	▦		DOLOMITIC LIMESTONE	Bedrock				535	▨
55 60			End of Boring, Total Depth 50 feet bgs.					530 525 520	

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-31**
US EPA

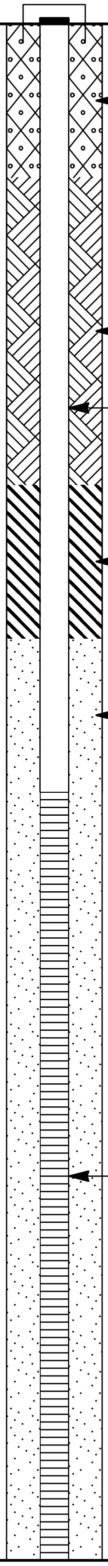
STARTED:	9/20/23 COMPLETED: 9/20/23
DRILLING COMPANY:	Cascade Drilling
DRILLING EQUIPMENT:	LS250 Minisonic
DRILLING METHOD:	Sonic, 6-inch diameter
SAMPLING METHOD:	Sonic Core Barrel
SURFACE COMPLETION:	Steel Flush-mount

NORTHING:	241061.94 ft	EASTING:	13448162.29 ft
G.S. ELEVATION:	581.21 ft	M.P. ELEV:	581.04 ft
INITIAL DTW:	7 ft	TOTAL DEPTH:	44.0 ft
LOGGED BY:	Jason Wagenmaker		

HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SW SM	WELL GRADED SAND WITH SILT. Loose, very dark grayish brown (10YR 3/2). Sand is well graded, C-F, subangular to subround. Silt is low plasticity, medium dilantancy. Gravel is well graded, 1/8-2, subround to subangular	Overburden		1.9 1.9	Moist	580
5	SW SM	WELL GRADED SAND WITH SILT. Loose, gray (10YR 5/1). Sand is well graded, C-F, subangular to subround. Silt is low plasticity, medium dilantancy. Gravel is well graded, 1/8-2, subround to subangular		5 4.5	2.4 6.8 26 6.3 10.4 6.2	Moist	575
	GP	POORLY GRADED GRAVEL. Loose, gray (2.5Y 6/1). Gravel is poorly-graded, 1/8-1/2, subangular to subround.			12.4 20.4	Wet	
10	GP	POORLY GRADED GRAVEL. Loose, black (2.5Y 2.5/1). Gravel is poorly-graded, 1/8-1/2, subangular to subround.			4.4 3	Wet	570
	ML	SILT WITH SAND. Soft, black (10YR 2/1). Silt is low plasticity and medium dilantancy. Sand is very fine, poorly-graded, round.			1.1 3 1.1	Wet	
15	ML	SILT WITH SAND. Soft, dark gray (10YR 4/1). Silt is low plasticity and medium dilantancy. Sand is very fine, poorly-graded, round.		10	0.5 0.3 0.3 0.2 0.3	Wet	565

WELL CONSTRUCTION (From - To Interval, feet bgs)

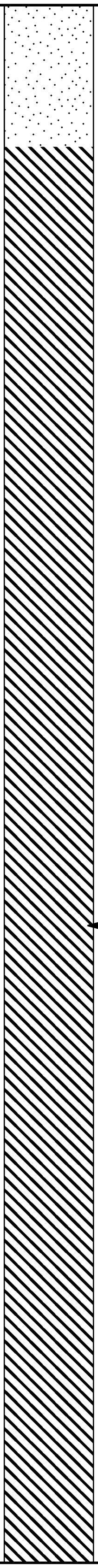


0 - 2: Concrete
2 - 6: Cement/Bentonite Grout
0 - 10: 2-inch, Sch. 40, PVC Casing
6 - 8: Medium Bentonite Chips
8 - 22: No. 1 Sand
10 - 20: No. 10 Slot, PVC Screen, Mill Slot

STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		ML	SILT WITH SAND. Soft, dark gray (10YR 4/1). Silt is low plasticity and medium dilantancy. Sand is very fine, poorly-graded, round. *(continued)*			0.5	Wet	
						0.7		560
						0.6		
						0.5		
						0.4		
25		CH	FAT CLAY. Soft, gray (10YR 5/1). Clay is high plasticity and low dilantancy. Silt		10	0	Wet	
						0		555
						0		
						0		
						0		
30			ROCK STUCK IN DRILL. NO RECOVERY FROM 30 FT - 43 FT. Appeared to be fully clay until 43 ft when bedrock began	Overburden				
								550
35					0			
								545
40								
								540

WELL CONSTRUCTION (From - To Interval, feet bgs)



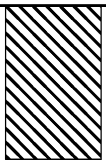
22 - 44: Medium Bentonite Chips

PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-31**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
			ROCK STUCK IN DRILL. NO RECOVERY FROM 30 FT - 43 FT. Appeared to be fully clay until 43 ft when bedrock began *(continued)*		0				
			DOLOMITIC LIMESTONE.	Bedrock					
			End of Boring, Total Depth 44 feet bgs.						
45									
								535	
50									
								530	
55									
								525	
60									
								520	



PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

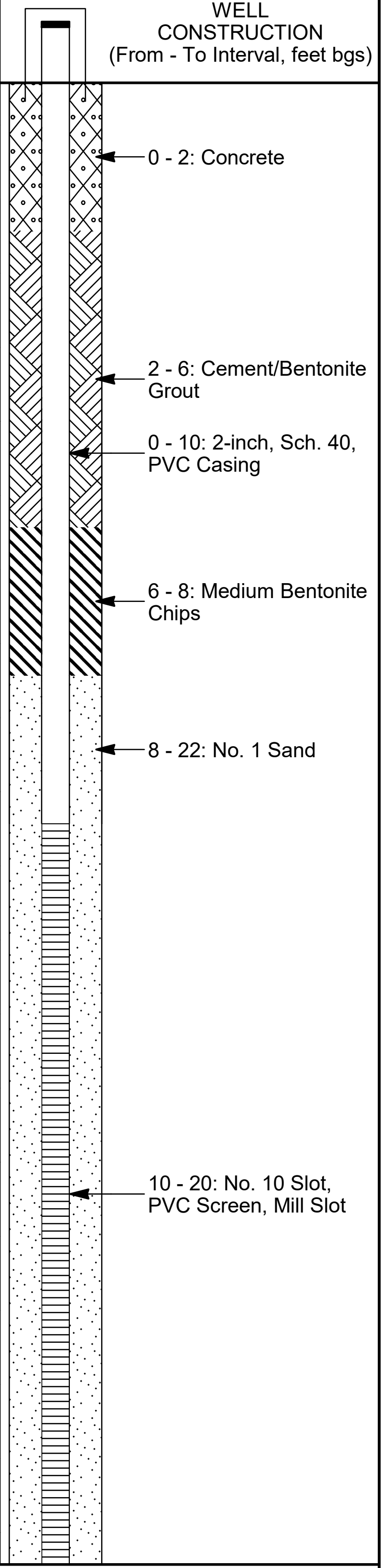
MONITORING WELL NO: **RI-MW-32**
US EPA

STARTED: 9/18/23 COMPLETED: 9/18/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 241658.80 ft
EASTING: 13448220.53 ft
G.S. ELEVATION: 584.57 ft
M.P. ELEV: 587.49 ft
INITIAL DTW: 7 ft
TOTAL DEPTH: 45.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		CONCRETE	Overburden	3			
							580
5				4			
▼		Apparent fill, scrap metal found throughout: SILTY SAND WITH GRAVEL. Loose, black (10YR 2/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity, medium dilantancy. Gravel is well graded, 1/8-2, subround to subangular.			0.1		
					0		
				3			
					0		
							575
10					0		
					0		
	SM				0	Wet	
					0		
					0		
							570
15				10	0		
					0		
		SILTY SAND. Loose, dark gray (10YR 4/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity, medium dilantancy			2.5		
					1.1		
	SM					Wet	
					0		
							565

WELL CONSTRUCTION
(From - To Interval, feet bgs)



STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

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FINAL MONITORING WELL CONSTRUCTION LOG

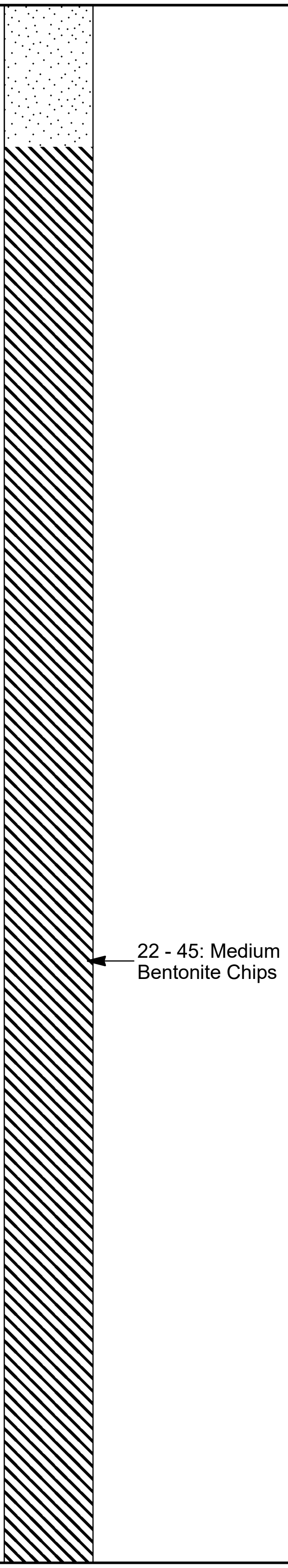
PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-32**

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		SILTY SAND. Loose, dark gray (10YR 4/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity, medium dilantancy *(continued)*			0.1		
					0.4		
					0.5		
	SM				0.1	Wet	
					0		
							560
25				10	0		
					0		
		FAT CLAY. Gray (10YR 5/1). Clay is high plasticity, low dilantancy. Silt			0		
					0		
					0		
							555
30					0		
			Overburden		0		
					0		
					0		
					0		
	CH						550
35				10	0		
					0		
					0		
					0		
					0		
							545
40					0		
					0		

WELL CONSTRUCTION (From - To Interval, feet bgs)



22 - 45: Medium Bentonite Chips

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CDM Smith

FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-32**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨	CH	FAT CLAY. Gray (10YR 5/1). Clay is high plasticity, low dilantancy. Silt *(continued)*	Overburden	5	0 0 0		540	▨
45			DOLOMITIC LIMESTONE End of Boring, Total Depth 45 feet bgs.						
50								535	
55								530	
60								525	

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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-35**
US EPA

STARTED: 9/18/23 COMPLETED: 9/18/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

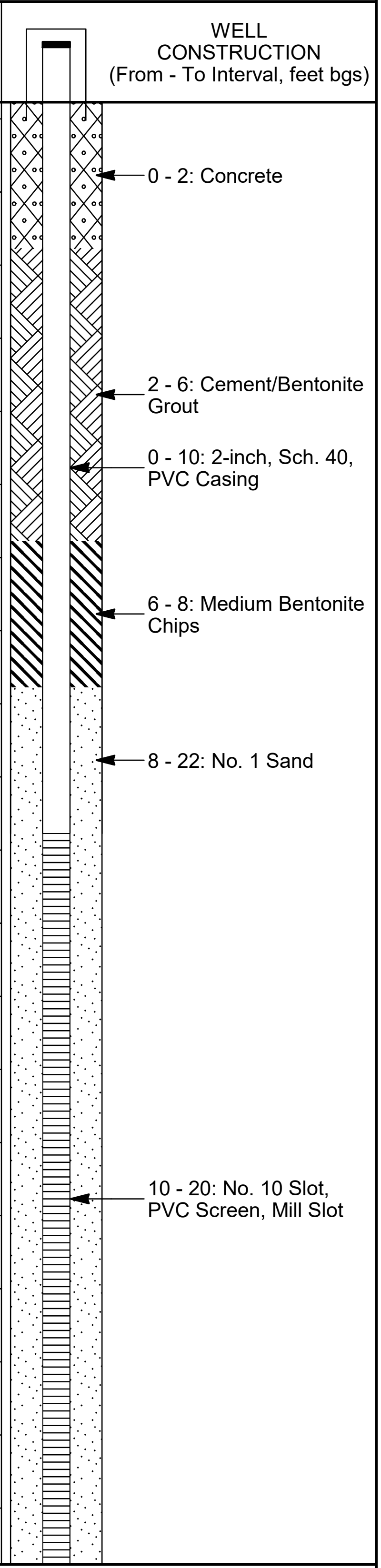
NORTHING: 242581.56 ft EASTING: 13448679.53 ft
G.S. ELEVATION: 581.23 ft M.P. ELEV: 584.24 ft
INITIAL DTW: 3 ft TOTAL DEPTH: 35.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

USCS	DESCRIPTION	STRATIGRAPHY	Moisture (Field)
SW SM	Apparent fill with scrap metal: WELL GRADED SAND WITH SILT AND GRAVEL. Loose, very dark gray (7.5YR 3/1). Sand is well graded, C-F, subangular to subround. Gravel is well graded, 1/8-1.5, subangular to well rounded. Silt is low plasticity, medium dilantancy	Overburden	Moist to wet
SW SM	Apparent fill with scrap metal: WELL GRADED SAND WITH SILT AND GRAVEL. Loose, brown (7.5YR 5/4). Sand is well graded, C-F, subangular to subround. Gravel is well graded, 1/8-1.5, subangular to well rounded. Silt is low plasticity, medium dilantancy		Moist to wet
SW SM	Apparent fill with scrap metal: WELL GRADED SAND WITH SILT AND GRAVEL. Loose, very dark gray (7.5YR 3/1). Sand is well graded, C-F, subangular to subround. Gravel is well graded, 1/8-1.5, subangular to well rounded. Silt is low plasticity, medium dilantancy		Moist to wet
SP SM	Apparent fill with scrap metal: POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity, medium dilantancy		Wet

RECOV. (feet)
3
7
10

PID (ppm)
0.3
1.6
1
0.4
3.6
2.1
4.8
4.5
7.7
61.9
3.2
23.1
8.8
18.9
23.3
10.8
36.3
21.8
18.7
14.6

DEPTH (feet): 5, 10, 15
ELEV (ft): 580, 575, 570, 565



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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

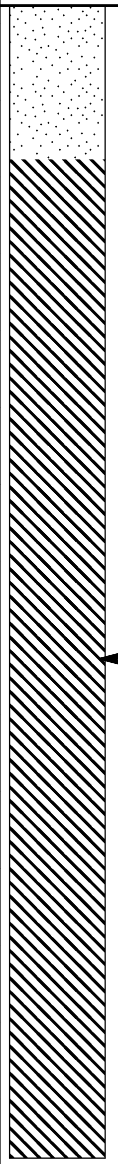
PROJECT: McLouth Steel Corp.

LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-35**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
25		SP SM	20 ft - 26 ft lost, no recovery. Apparent backfill with scrap metal: POORLY GRADED SAND WITH SILT. Loose, very dark brown (10YR 2/2). Sand is poorly graded, fine, subround to round. Silt is low plasticity, medium dilantancy	Overburden	4		Wet	560
		SP SM	Apparent fill with scrap metal: POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, subround to round. Silt is low plasticity, medium dilantancy			6 6 9.7 9.5	Wet	555
30		CH	FAT CLAY WITH SAND. Soft, gray (7.5YR 5/1). Clay is high plasticity and low dilantancy. Sand is poorly graded, very fine, round. Silt		5	0.3 0.5 0.2 0.9	Moist	550
			DOLOMITIC LIMESTONE	Bedrock				
35 40			End of Boring, Total Depth 35 feet bgs.					545 540

WELL CONSTRUCTION (From - To Interval, feet bgs)



22 - 35: Medium Bentonite Chips

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

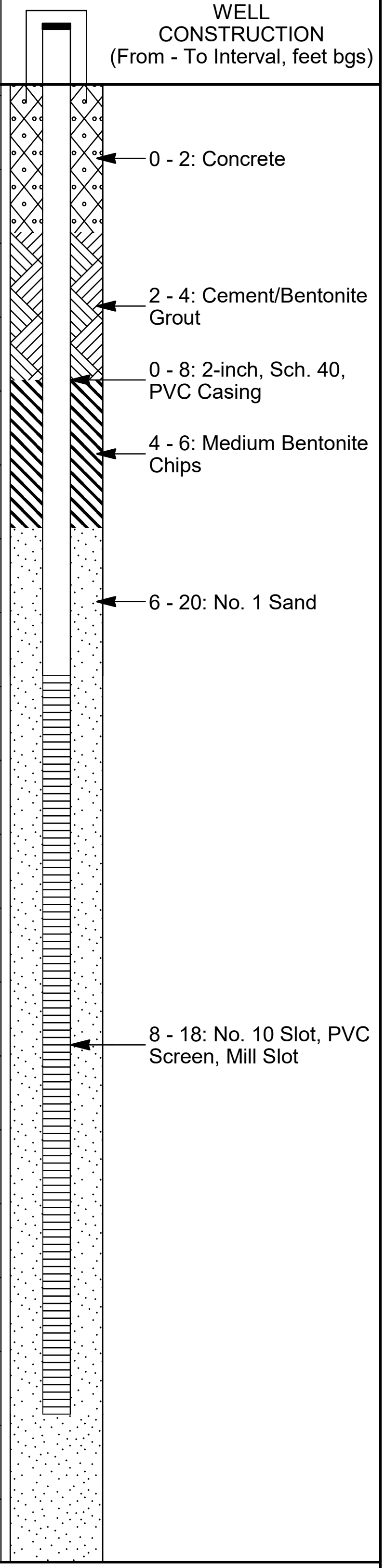
MONITORING WELL NO: **RI-MW-39**
US EPA

STARTED: 9/13/23 COMPLETED: 9/13/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 242936.62 ft EASTING: 13447604.89 ft
G.S. ELEVATION: 589.15 ft M.P. ELEV: 592.17 ft
INITIAL DTW: 6 ft TOTAL DEPTH: 30.5 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
	SM	Apparent fill with scrap metal throughout: SILTY SAND. Loose, black (10YR 2/1). Sand is well graded, C-F, angular to subround. Silt is low plasticity, medium dilantancy. Gravel is well-graded, 1/8-2, angular to subangular.	Overburden	4	0.7	Dry to wet	
					2.1		
					4		
					3.7		
					1.4		585
5				5	0.4		
▼					0.6		
					2		
					0.1		
					2.1		580
10	SW SM	WELL GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is well graded, C-F, subangular to subround. Silt is low plasticity, medium dilantancy		10	0	Wet	
					0		
	SP SM	POORLY GRADED SAND WITH SILT AND GRAVEL. Medium dense, black (10YR 2/1). Sand is poorly graded, M-F, subround to round. Gravel is subangular to subround, well graded, 1/8-2. Silt is low plasticity, medium dilantancy			0.1	Wet	
					0.1		
					0		575
15					0		
					0.1		
					0.3		
	CH	FAT CLAY. Hard, light olive brown (2.5Y 5/4). Clay is high plasticity and low dilantancy. Clay is a mixture of 2.5Y 5/4 light olive brown and 2.5Y 5/1 gray. With trace silt			0.1	Dry	
					0		570

WELL CONSTRUCTION (From - To Interval, feet bgs)



PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-39**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
	▨		FAT CLAY. Hard, light olive brown (2.5Y 5/4). Clay is high plasticity and low dilantancy. Clay is a mixture of 2.5Y 5/4 light olive brown and 2.5Y 5/1 gray. With trace silt *(continued)*			0			
						0			
						0			
						0			
						0		565	
25		CH		Overburden	10	0	Dry		20 - 30.5: Medium Bentonite Chips
						0			
						0			
						0			
						0		560	
30					0.5				
			DOLOMITIC LIMESTONE End of Boring, Total Depth 30.5 feet bgs.						
								555	
35									
								550	
40									

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

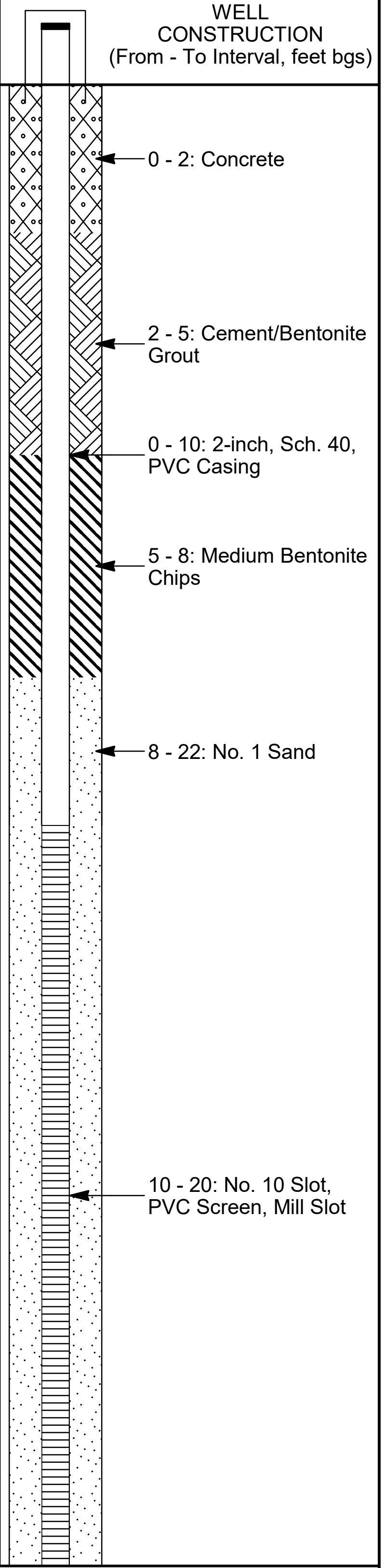
MONITORING WELL NO: **RI-MW-40**
US EPA

STARTED: 9/13/23 COMPLETED: 9/13/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 243123.01 ft
EASTING: 13447768.52 ft
G.S. ELEVATION: 588.83 ft
M.P. ELEV: 592.07 ft
INITIAL DTW: 10 ft
TOTAL DEPTH: 27.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		SM	Apparent fill: SILTY SAND. Loose, very dark brown (10YR 2/2). Sand is well-graded, C-F, subround to subangular. Silt is low plasticity, medium dilantancy. Gravel is well-graded, 1/8-1, subangular to subround	Overburden		0.5	Dry to moist	
						1.4		
					4.5	8.4		
		SM	Apparent fill: SILTY SAND. Loose, gray (10YR 5/1). Sand is well-graded, C-F, subround to subangular. Silt is low plasticity, medium dilantancy. Gravel is well-graded, 1/8-1, subangular to subround			15.4	Dry to moist	
						4.5		585
5						1.3		
						3.9		
		SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, round to subround. Silt is low plasticity, medium dilantancy		5	5.3	Moist to wet	
						5.4		
						7.4		580
▼10						4.5		
						1.5		
						1.8		
						2		
						3.1		575
15					8	3.9		
						7		
						10.2		
						8.5		
						12		570

WELL CONSTRUCTION (From - To Interval, feet bgs)



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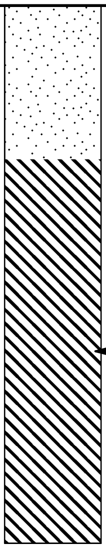
FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-40**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
		SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, round to subround. Silt is low plasticity, medium dilantancy *(continued)*	Overburden	7	1 1.5	Moist		
25		CH	FAT CLAY. Medium stiff, dark gray (10YR 4/1). Clay is high plasticity, low dilantancy			1.9 2.2 2 1.5		565	22 - 27: Medium Bentonite Chips
			DOLOMITIC LIMESTONE	Bedrock					
30 35 40			End of Boring, Total Depth 27 feet bgs.					560 555 550	



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FINAL MONITORING WELL CONSTRUCTION LOG

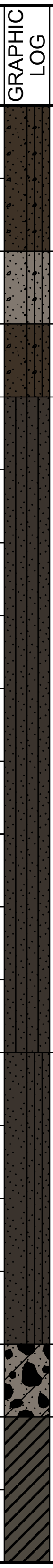
PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-41**
US EPA

STARTED: 9/6/23 COMPLETED: 9/6/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 245042.65 ft
EASTING: 13448017.12 ft
G.S. ELEVATION: 589.23 ft
M.P. ELEV: 591.94 ft
INITIAL DTW: 6 ft
TOTAL DEPTH: 33.0 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88



USCS	DESCRIPTION
SW SM	Apparent fill, scrap metal found throughout: WELL GRADED SAND WITH SILT AND GRAVEL. Very dark brown (10YR 2/2). Sand is well graded, C-F, subangular to angular. Gravel is poorly graded, 1/8-2, subangular. Silt is low plasticity, medium dilantancy
SW SM	Apparent fill, scrap metal found throughout: WELL GRADED SAND WITH SILT AND GRAVEL. Gray (10YR 5/1). Sand is well graded, C-F, subangular to angular. Gravel is poorly graded, 1/8-2, subangular. Silt is low plasticity, medium dilantancy
SW SM	Apparent fill, scrap metal found throughout: WELL GRADED SAND WITH SILT AND GRAVEL. Very dark brown (10YR 2/2). Sand is well graded, C-F, subangular to angular. Gravel is poorly graded, 1/8-2, subangular. Silt is low plasticity, medium dilantancy
SM	SILTY SAND. Looseblack (10YR 2/1). Sand is well graded, C-F, subangular to angular. Silt is low plasticity, medium dilantancy. Gravel is well graded, 1/8-1, subangular to angular
SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine grained, subround to round. Silt is low plasticity, medium dilantancy.
GC	CLAYEY GRAVEL WITH SAND. Dense, gray (10YR 5/1). Gravel is C-F, 1/8-2, angular, well graded. Sand is well graded, C-F, subangular
CH	FAT CLAY. Soft, very dark gray (2.5Y 3/1). Clay is high plasticity and low dilantancy. Silt is high plasticity, low dilantancy. With silt

DEPTH (feet): 5, 10, 15
▼

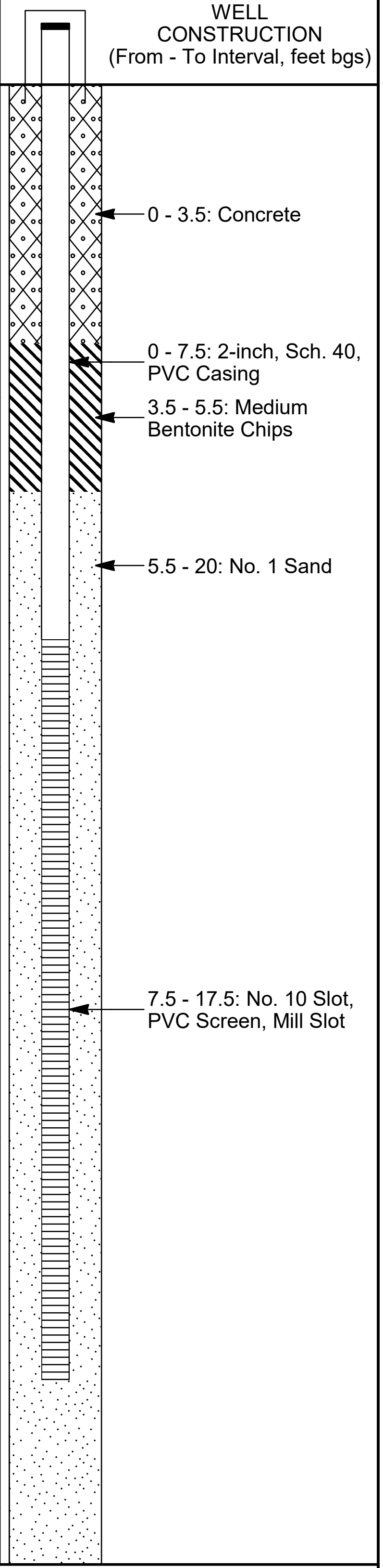
STRATIGRAPHY: Overburden

RECOV. (feet): 5, 5, 10

PID (ppm)
2.4
2.8
6.3
3.8
22.4
0.7
5.4
6.8
3.5
2
0.6
1.1
1.5
2.9
5.4
16.5
9.6
10.5
8
0.6

Moisture (Field): Wet, Wet, Wet, Moist

ELEV (ft): 585, 580, 575, 570


WELL CONSTRUCTION (From - To Interval, feet bgs)

0 - 3.5: Concrete
0 - 7.5: 2-inch, Sch. 40, PVC Casing
3.5 - 5.5: Medium Bentonite Chips
5.5 - 20: No. 1 Sand
7.5 - 17.5: No. 10 Slot, PVC Screen, Mill Slot

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-MW-41**

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
		SP SM	POORLY GRADED SAND WITH SILT. Loose, black (10YR 2/1). Sand is poorly graded, fine, subround. Silt is low plasticity, medium dilantancy	Overburden	10	5.4 3.5 4.4	Wet		20 - 33: Medium Bentonite Chips
25 30		CH	FAT CLAY. Soft to firm, olive gray (5Y 4/2). Clay is high plasticity, low dilantancy. Trace bedrock fragments found throughout		3	0 0 0 0 0 0 0 0 0	Moist to dry	565 560	
			DOLOMITIC LIMESTONE	Bedrock					
35 40			End of Boring, Total Depth 33 feet bgs.					555 550	

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535 Griswold Street
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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

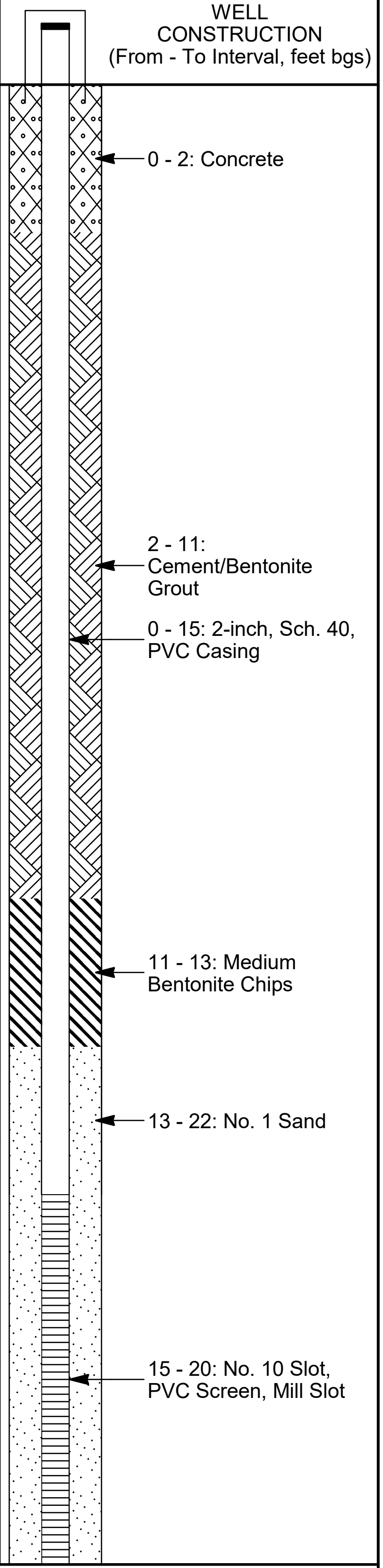
MONITORING WELL NO: **RI-MW-42**
US EPA

STARTED: 9/21/23 COMPLETED: 9/21/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: Steel Stickup

NORTHING: 246582.89 ft
EASTING: 13448029.24 ft
G.S. ELEVATION: 589.29 ft
M.P. ELEV: 592.2 ft
INITIAL DTW: 15 ft
TOTAL DEPTH: 37.0 ft
LOGGED BY: Matthew Renko
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)
		Apparent fill: SILTY SAND WITH GRAVEL. Gray (10YR 5/1). Some steel slag. 0 ft - 1.5 ft hand augered	Overburden		1.5		
					2.8		
					2.2		
				3	10.7		
					35.5		585
5					2.3		
					0.6		
	SM				4.5	Dry	
				4	3.7		
					11.8		580
10					2.6		
					3.3		
					5.4		
					2.9		
		SILTY SAND. Very dark gray (10YR 3/1). Little to no fines until 19 ft. Little silt, trace subangular gravel. Silt is non plastic			3.9		575
▼15				6	1.5		
					0.6		
	SM				0.7	Wet	
					31.1		
					36.3		570

WELL CONSTRUCTION (From - To Interval, feet bgs)



0 - 2: Concrete
2 - 11: Cement/Bentonite Grout
0 - 15: 2-inch, Sch. 40, PVC Casing
11 - 13: Medium Bentonite Chips
13 - 22: No. 1 Sand
15 - 20: No. 10 Slot, PVC Screen, Mill Slot

STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

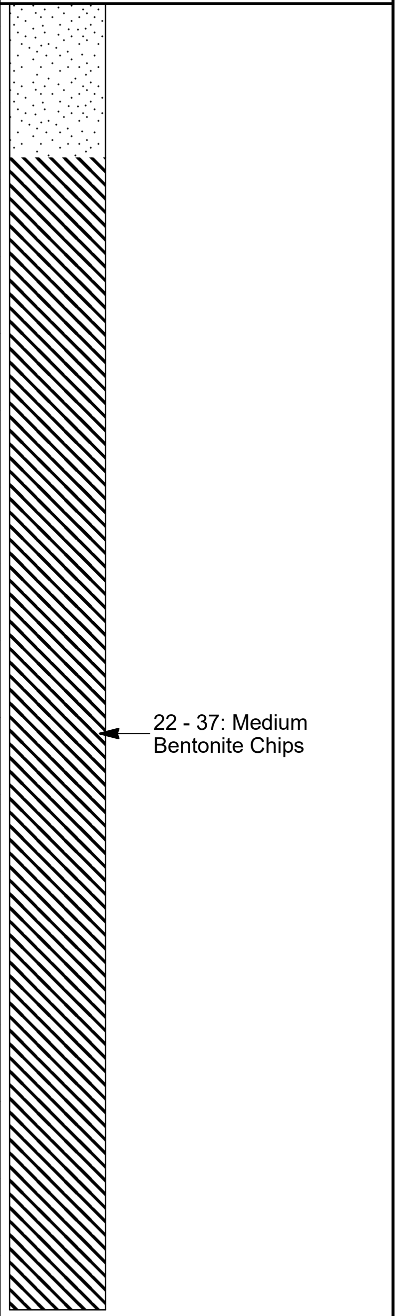
MONITORING WELL NO: **RI-MW-42**

DEPTH (feet)	USCS	DESCRIPTION	STRATIGRAPHY	RECOV. (feet)	Moisture (Field)
20 - 28	CH	SANDY FAT CLAY. Black (10YR 2/1). Some silt, medium plasticity, slow dilantancy, stiff.	Overburden	9	Moist
28 - 37	CH	FAT CLAY. Reddish gray (2.5YR 5/1). High plasticity, slow dilantancy, cohesive		7	Moist
37		DOLOMITIC LIMESTONE End of Boring, Total Depth 37 feet bgs.			

DEPTH (feet)	PID (ppm)
20	1
21	0.3
22	0.5
23	0.2
24	0.3
25	0.3
26	0.2
27	0.1
28	0.3
29	0

DEPTH (feet)	ELEV (ft)
25	565
30	560
35	555
40	550

WELL CONSTRUCTION (From - To Interval, feet bgs)



STANDARD LOG: MCLOUTH MCLOUTH.GPJ STANDARD_ENVIRONMENTAL_PROJECT.GDT 3/25/24 REV.

PROJECT: McLouth Steel Corp.
LOCATION: Trenton, Michigan

MONITORING WELL NO: **RI-SB-14**
US EPA

STARTED: 9/5/23 COMPLETED: 9/5/23
DRILLING COMPANY: Cascade Drilling
DRILLING EQUIPMENT: LS250 Minisonic
DRILLING METHOD: Sonic, 6-inch diameter
SAMPLING METHOD: Sonic Core Barrel
SURFACE COMPLETION: N/A

NORTHING: 245037.24 ft
EASTING: 13447905.74 ft
G.S. ELEVATION: 588.61 ft
M.P. ELEV: 0 ft
INITIAL DTW: N/A ft
TOTAL DEPTH: 5.5 ft
LOGGED BY: Jason Wagenmaker
HORIZONTAL DATUM: NAD 1983, COORD. SYS.: SP Michigan South
VERTICAL DATUM: NAVD88

DEPTH (feet)	GRAPHIC LOG	USCS	DESCRIPTION	STRATI-GRAPHY	RECOV. (feet)	PID (ppm)	Moisture (Field)	ELEV (ft)	WELL CONSTRUCTION (From - To Interval, feet bgs)
		SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, black (7.5YR 2.5/1). Sand is well graded, C-F, subangular to angular. Gravel is well graded, 1/8-2, subangular to angular. Silt is low plasticity, medium dilantancy.	Overburden	5	1.4 1.3 6.9	Moist		
		SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, brown (7.5YR 4/2). Sand is well graded, C-F, subangular to angular. Gravel is well graded, 1/8-2, subangular to angular. Silt is low plasticity, medium dilantancy.			3.6	Moist	585	
		SW SM	WELL GRADED SAND WITH SILT AND GRAVEL. Loose, black (7.5YR 2.5/1). Sand is well graded, C-F, subangular to angular. Gravel is well graded, 1/8-2, subangular to angular. Silt is low plasticity, medium dilantancy.			12.4	Moist		
5			Significant metal slag hit from 5 ft - 5.5 ft and drilling wasn terminated. No well was installed.		0.5				
			End of Boring, Total Depth 5.5 feet bgs.						
								580	
10									
								575	
15									
								570	

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FINAL MONITORING WELL CONSTRUCTION LOG

PROJECT NO. 281860

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
Alex Pedjae	8/14/23	Pine	36948	592-91880	945	955

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
100 PPM ISOBUTYLENE	PINE	302-40226824-103	~~CO: H_2S: LEL: O_2:~~
"	"	" NOV 26	Isobutylene:

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading					

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	''				Expected Reading	100
Actual Reading					Actual Reading	

Instrument OK? YES (Calibration Completed) NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	8/15/23	Pine	36948	592-918830	7:20	7:25

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
100 ppm ISOBUTYLENE	Pine	302-402266829-1034	CO: H_2S: LEL: O_2:
		Nov - 2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	—	0.0	—	—	—

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100
Actual Reading	/	/	/	/	Actual Reading	97.8

Instrument OK? [✓ YES] (Calibration Completed) NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): [✓ YES] NO		
Time:	Date: 8/15/23	Calibration Completed By: J. Wagenmaker	
Calibration Gas	Same as Above (Circle one)? [✓ YES] NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer PINE	Lot No./Expiration Date	Concentration(s)
		302-402266829-1034	CO: — H_2S: — LEL: — O_2: —
		Nov - 2026	Isobutylene: 109 ppm

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[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	8/16/23	Pine	36448	592-918830	7:00	7:05

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
Isobutylene	Pine	302-4022 66829-1034	CO: / H₂S: / LEL: / O₂: /
		Nov 2026	Isobutylene: 100ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100
Actual Reading	/	/	/	/	Actual Reading	100.1

Instrument OK? [✓ YES] (Calibration Completed) NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one):	[✓ YES] NO	
Time: 5:05	Date: 8/16	Calibration Completed By: Jason Wagenmaker	
Calibration Gas	Same as Above (Circle one)?	[✓ YES] NO (IF NO COMPLETE INFORMATION BELOW)	
	Manufacturer	Lot No./Expiration Date	Concentration(s)
Isobutylene	Pine	302-4022 66829-1034	CO: / H₂S: / LEL: / O₂: /
		Nov 2026	Isobutylene: 100 ppm

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[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action:

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
Jason Wagenmaker	8/17/23	Pine	36448	592-918830	7:10	7:15

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
Isobutylene	Pine	302-40226829-1034	CO: / H_2S: / LEL: / O_2: /
		Nov. 2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	/	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100 ppm
Actual Reading	/	/	/	/	Actual Reading	100.1 ppm

Instrument OK? YES (Calibration Completed) NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

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[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

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McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
Jason Wegammaker	8/17/23	Pine	23273	592-909257	1:00	1:05

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
Isobutylene	Pine	302-40 22668 29-1034	~~CO: H_2S: LEL: O_2:~~
		Nov 2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100 ppm
Actual Reading	/	/	/	/	Actual Reading	100.1 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

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[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action:

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
Jason Wagenmaker	8/18/23	Pines	23273	592-909257	7:00	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	302-402266824	CO: / H$_2$S: / LEL: / O$_2$: /
		-1034 Nov 2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H$_2$S Reading (zero)	LEL Reading (zero)	Oxygen (O$_2$)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H$_2$S Reading	LEL Reading	O$_2$ Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100 ppm
Actual Reading					Actual Reading	101 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): [✓ YES] NO		
Time: 4:10	Date: 8/18/23	Calibration Completed By: Jason Wagenmaker	
Calibration Gas	Same as Above (Circle one)? [✓ YES] NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
Iso Butylene	Pine	302-402266829	CO: / H$_2$S: / LEL: / O$_2$: /
		-1034 Nov 2026	Isobutylene: 100 ppm

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[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H$_2$S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action:

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	8/24/23	Pine	23273	592-909257	7:45	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	302-40226829	CO: / H₂S: / LEL: / O₂: /
		NOV 2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0
Actual Reading					Actual Reading	100.1

Instrument OK? [✓ YES] (Calibration Completed) NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H₂S: LEL: O₂:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

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McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
Jason Wagenmaker	8/22/23	Pine	23273	592-909257	7:05	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	302-402266829	CO: / H_2S: / LEL: / O_2: /
			Isobutylene: 100ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0
Actual Reading					Actual Reading	100.1

Instrument OK? [✓ YES] (Calibration Completed) NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES		NO (IF NO COMPLETE INFORMATION BELOW)
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

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[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
Jason Wagenver	8/22/23	Pine	73273	592-909257	7:05	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	302-402266 829-1034	CO: ✓ H₂S: ✓ LEL: ✓ O₂: ✓
		NOV 2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	✓	0.0	✓	✓	✓

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	✓	✓	✓	✓	Expected Reading	100
Actual Reading					Actual Reading	100.1

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
Jason Wagenmaker	8/21/23	Pines	23273	592-409257	7:15	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
Isobutylene	Pine	302-402266829-1034	CO: / H_2S: / LEL: / O_2: /
		Nov 2026	Isobutylene: 100ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100 ppm
Actual Reading	/	/	/	/	Actual Reading	100.1 ppm

Instrument OK? [✓ YES] (Calibration Completed) NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

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[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagemaker	8/30/23	Pine	23273	542-909257	8:15	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402556116-1	CO: / H$_2$S: / LEL: / O$_2$: /
		10/18/2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H$_2$S Reading (zero)	LEL Reading (zero)	Oxygen (O$_2$)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H$_2$S Reading	LEL Reading	O$_2$ Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading					Actual Reading	100.1 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H$_2$S: LEL: O$_2$:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

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[3] VOC – volatile organic compounds, H$_2$S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action:

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	8/22/23	Pine	23273	592-909257	8:15	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402556116-1	CO: / H$_2$S: / LEL: / O$_2$: /
		10/18/2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H$_2$S Reading (zero)	LEL Reading (zero)	Oxygen (O$_2$)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H$_2$S Reading	LEL Reading	O$_2$ Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0ppm
Actual Reading					Actual Reading	100.0 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H$_2$S: LEL: O$_2$:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

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[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	8/28/23	Pine	23273	592-909257	6:40	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
~~Pine~~	Pine	304-402556116-1	CO: / H₂S: / LEL: / O₂: /
ISOBUTYLENE		10/18/2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading	/	/			Actual Reading	109.1 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	9/8/23	Pine	214 159	592-602754	7:15	Yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTY~~E~~LENE	Pine	304-402556116-1	CO: / H_2S: / LEL: / O_2: /
		10/18/2026	Isobutylene: 100.0 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading					Actual Reading	

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ______________________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	9/6/23	Pine	214 159	592-602754	7:05	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402556116-1	CO: / H₂S: / LEL: / O₂: /
		10/18/2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading					Actual Reading	100.1 ppm

Instrument OK? YES (Calibration Completed) NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

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[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	~~8~~ 9/5/23	Pine	214159	542-602754	9:45	Yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402690404-1	CO: / H$_2$S: / LEL: / O$_2$: /
		3/21/2027	Isobutylene: 100ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H$_2$S Reading (zero)	LEL Reading (zero)	Oxygen (O$_2$)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H$_2$S Reading	LEL Reading	O$_2$ Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading					Actual Reading	100.0ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES	NO (IF NO COMPLETE INFORMATION BELOW)	
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H$_2$S: LEL: O$_2$:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H$_2$S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action:

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	9/15/23	Pine	R9914	592-000281	0700	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402556116-1	CO: / H$_2$S: / LEL: / O$_2$ /
		10/18/2026	Isobutylene: 100.0 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H$_2$S Reading (zero)	LEL Reading (zero)	Oxygen (O$_2$)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H$_2$S Reading	LEL Reading	O$_2$ Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading					Actual Reading	99.3 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H$_2$S: LEL: O$_2$:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

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[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagemaker	9/14/23	Pine	R9914	592-000281	0710	Yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402556 116-1	CO: H₂S: LEL: O₂:
		10/18/2026	Isobutylene: 100.0 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading		0.0			

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]					Expected Reading	100.0 ppm
Actual Reading					Actual Reading	100.1 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H₂S: LEL: O₂:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

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[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action:

McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J.Wagemakr	4/13/23	Pine	R4914	592-000281	07:00	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYEENE	Pine	304-40255616-1	CO: — H₂S: — LEL: — O₂: —
		10/18/2026	Isobutylene: 100.0 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading	/	/	/	/	Actual Reading	100.0 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

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[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ______

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	9/12/23	Pine	214 159	592-602754	7:05	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402556116-1	CO: / H$_2$S: / LEL: / O$_2$: /
		10/18/2026	Isobutylene: 100.0 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H$_2$S Reading (zero)	LEL Reading (zero)	Oxygen (O$_2$)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H$_2$S Reading	LEL Reading	O$_2$ Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading					Actual Reading	100.0 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H$_2$S: LEL: O$_2$:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

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[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagemaker	9/11/23	Pine	214154	592-602754	8:00	Yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-U02556116-1	CO: / H$_2$S: / LEL: / O$_2$: /
		10/18/2026	Isobutylene: 100 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H$_2$S Reading (zero)	LEL Reading (zero)	Oxygen (O$_2$)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H$_2$S Reading	LEL Reading	O$_2$ Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading	/	/	/	/	Actual Reading	100.0 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H$_2$S: LEL: O$_2$:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H$_2$S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action:

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagemaker	4/21/23	Pine	R9914	592-000281	0820	Yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYEENE	Pine	304-702 640404-1	CO: / H$_2$S: / LEL: / O$_2$: /
		3/21/2027	Isobutylene: 100.0 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H$_2$S Reading (zero)	LEL Reading (zero)	Oxygen (O$_2$)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H$_2$S Reading	LEL Reading	O$_2$ Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading	/	/	/	/	Actual Reading	100.1 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H$_2$S: LEL: O$_2$:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H$_2$S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	4/20/23	Pine	R4914	592-000281	0705	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402556 116-1	CO: / H₂S: / LEL: / O₂: /
		10/18/2026	Isobutylene: 100.0 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading	/	/	/	/	Actual Reading	100.4 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action:

McLouth Steel Corp Superfund Site

Instrument Calibration Log

RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	4/19/23	Pine	R9914	592-000281	0720	yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTLYENE	Pine	304-402556116-1	CO: — H_2S: — LEL: — O_2: —
		10/18/2026	Isobutylene: 100.0 ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading	/	0.0	/	/	/

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]	/	/	/	/	Expected Reading	100.0 ppm
Actual Reading					Actual Reading	100.1 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H_2S: LEL: O_2:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ____________________

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____

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McLouth Steel Corp Superfund Site

Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Completed By	Date	Rental Company	Rental Company Number	Instrument Serial Number	Time Instrument On[1]	Warm Up 5 to 10 Minutes[2]
J. Wagenmaker	9/18/23	Pine	R944	592-000281	07:45	Yes

Calibration Gas	Manufacturer	Lot No./Expiration Date	Concentration(s)
ISOBUTYLENE	Pine	304-402556116-1	CO: H₂S: LEL: O₂:
		10/13/2026	Isobutylene: 100.0ppm

Fresh Air Calibration	Carbon Monoxide (CO) Reading	VOC[3] Reading (zero)	H_2S Reading (zero)	LEL Reading (zero)	Oxygen (O_2)
Expected Reading[4]	Zero	Zero	Zero	Zero	20.9%
Actual Reading		0.0			

Multiple Sensor Calibration	CO Reading	H_2S Reading	LEL Reading	O_2 Reading	VOC Sensor Calibration	VOC Reading
Expected Reading[5]					Expected Reading	100.0 ppm
Actual Reading					Actual Reading	100.0 ppm

Instrument OK? [✓ YES (Calibration Completed)] NO (Problem with instrument, detail in comments)

Calibration Check[6]	Completed (Circle one): YES NO		
Time:	Date:	Calibration Completed By:	
Calibration Gas	Same as Above (Circle one)? YES NO (IF NO COMPLETE INFORMATION BELOW)		
	Manufacturer	Lot No./Expiration Date	Concentration(s)
			CO: H₂S: LEL: O₂:
			Isobutylene:

---

[1] Note time instrument is turned on for initial warm up

[2] While instrument is warming up, make sure inlet tubing is connected to a hydrophobic filter and fill one Tedlar bag with isobutylene and one with four gas mix

[3] VOC – volatile organic compounds, H_2S – hydrogen sulfide, LEL – lower explosive limit

[4] Instruments should read zero after fresh air calibration is complete, write down actual readings below headings

[5] Write concentration from calibration gas on this line

[6] Complete at the end of the day

McLouth Steel Corp Superfund Site
Instrument Calibration Log
RAE Systems .MultiRAE + (4 gas + PID)

Calibration Check Readings:				
CO:	H_2S:	LEL:	O_2:	VOC:

Comments/Corrective Action: ______________________________

Attachment B

Analytical Data Tables

Table A - PCB Aroclor Detection Results

Location						RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-04
Sample #						RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5	RI-SB-02A-1-2	RI-SB-04-0-0.5
Start Depth						0	1	4	1	0
End Depth						0.5	2	5	2	0.5
Depth Unit						ft	ft	ft	ft	ft
Sample Type						N	N	N	FD	N
Parent Sample #									RI-SB-02-1-2	
Sample Date						8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/29/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units					
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	**24**	ug/kg	U	U	U	U	**25 J**
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	**40**	ug/kg	23 J	15 J	**56**	17 J	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	**110**	ug/kg	U	U	U	U	45
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	**110**	ug/kg	U	U	U	U	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table A - PCB Aroclor Detection Results

Location						RI-SB-04	RI-SB-04	RI-SB-08	RI-SB-10	RI-SB-10
Sample #						RI-SB-04-1-2	RI-SB-04-5-6	RI-SB-08-0-0.5	RI-SB-10-0-0.5	RI-SB-10-1-2
Start Depth						1	5	0	0	1
End Depth						2	6	0.5	0.5	2
Depth Unit						ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N
Parent Sample #										
Sample Date						8/29/2023	8/29/2023	9/14/2023	9/12/2023	9/12/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units					
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	**24**	ug/kg	**76**	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	**40**	ug/kg	U	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	**110**	ug/kg	U	35 J	70 J	**150**	44
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	**110**	ug/kg	U	U	U	U	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table A - PCB Aroclor Detection Results

Location						RI-SB-11	RI-SB-11	RI-SB-11	RI-SB-16	RI-SB-16
Sample #						RI-SB-11-0-0.5	RI-SB-11-1-2	RI-SB-11-7-8	RI-SB-16-0-0.5	RI-SB-16-1-2
Start Depth						0	1	7	0	1
End Depth						0.5	2	8	0.5	2
Depth Unit						ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N
Parent Sample #										
Sample Date						9/12/2023	9/12/2023	9/12/2023	9/19/2023	9/19/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units					
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	**24**	ug/kg	**37 J**	U	U	U	**38 J**
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	**40**	ug/kg	U	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	**110**	ug/kg	56	**230**	**17000**	80	51
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	**110**	ug/kg	U	U	U	U	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table A - PCB Aroclor Detection Results

Location						RI-SB-16	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-25
Sample #						RI-SB-16-13-14	RI-SB-23-0-0.5	RI-SB-23-1-2	RI-SB-23A-0-0.5	RI-SB-25-1-2
Start Depth						13	0	1	0	1
End Depth						14	0.5	2	0.5	2
Depth Unit						ft	ft	ft	ft	ft
Sample Type						N	N	N	FD	N
Parent Sample #									RI-SB-23-0-0.5	
Sample Date						9/19/2023	8/30/2023	8/30/2023	8/30/2023	9/19/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units					
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	**24**	ug/kg	U	U	U	U	**78**
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	**40**	ug/kg	U	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	**110**	ug/kg	U	**270 J-**	**300**	**210 J-**	55
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	**110**	ug/kg	**130 J**	U	U	U	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table A - PCB Aroclor Detection Results

Location						RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-26
Sample #						RI-SB-26-0-0.5	RI-SB-26-1-2	RI-SB-26-2-3	RI-SB-26A-1-2
Start Depth						0	1	2	1
End Depth						0.5	2	3	2
Depth Unit						ft	ft	ft	ft
Sample Type						N	N	N	FD
Parent Sample #									RI-SB-26-1-2
Sample Date						9/15/2023	9/15/2023	9/15/2023	9/15/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units				
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	**24**	ug/kg	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	**40**	ug/kg	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	**110**	ug/kg	84	38	30 J	44
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	**110**	ug/kg	U	U	U	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table A - PCB Aroclor Detection Results

Location						RI-SB-39	RI-SB-39	RI-SB-39	RI-SB-40	RI-SB-40	RI-SB-40
Sample #						RI-SB-39-0-0.5	RI-SB-39-1-2	RI-SB-39-2-3	RI-SB-40-0-0.5	RI-SB-40-1-2	RI-SB-40-3-4
Start Depth						0	1	2	0	1	3
End Depth						0.5	2	3	0.5	2	4
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N
Parent Sample #											
Sample Date						9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	**24**	ug/kg	U	U	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	**40**	ug/kg	U	U	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	**110**	ug/kg	**1400 J**	**110**	**320**	**160**	**1000**	16 J
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	**110**	ug/kg	U	U	U	U	U	U

Notes:

1. **Identifies results that exceed the listed PAL value**
2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

J - The identification of the analyte is acceptable; the reported value is an estimate

J+ - The result is an estimated quantity, but the results may be biased high

J- - The result is an estimated quantity, but The results may be biased low

U - Not Detected

Table A - PCB Aroclor Detection Results

Location						RI-SB-40	RI-SB-42	RI-SB-42
Sample #						RI-SB-40A-1-2	RI-SB-42-0-0.5	RI-SB-42-1-2
Start Depth						1	0	1
End Depth						2	0.5	2
Depth Unit						ft	ft	ft
Sample Type						FD	N	N
Parent Sample #						RI-SB-40-1-2		
Sample Date						9/13/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units			
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	**24**	ug/kg	U	**61 J**	**57 J**
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	**40**	ug/kg	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	**110**	ug/kg	**1000**	**140**	86
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	**110**	ug/kg	U	U	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table A - PCB Aroclor Detection Results

Location						RI-SP-01
Sample #						RI-SP-01
Start Depth						
End Depth						
Depth Unit						
Sample Type						N
Parent Sample #						
Sample Date						9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units	
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	24	ug/kg	14 J
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	110	ug/kg	12 J

Notes:

1. Identifies results that exceed the listed PAL value

1. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

J - The identification of the analyte is acceptable; the reported value is an estimate

Table B - VOC Detection Results

Location						RI-SB-01	RI-SB-01	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-03	RI-SB-03	RI-SB-04	RI-SB-04	RI-SB-04	RI-SB-05	RI-SB-05	RI-SB-05
Sample #						RI-SB-01-0-0.5	RI-SB-01-1-2	RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5	RI-SB-02A-1-2	RI-SB-03-0-0.5	RI-SB-03-1-2	RI-SB-04-0-0.5	RI-SB-04-1-2	RI-SB-04-5-6	RI-SB-05-0-0.5	RI-SB-05-1-2	RI-SB-05-3-4
Start Depth						0	1	0	1	4	1	0	1	0	1	5	0	1	3
End Depth						0.5	2	0.5	2	5	2	0.5	2	0.5	2	6	0.5	2	4
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	FD	N	N	N	N	N	N	N	N
Parent Sample #											RI-SB-02-1-2								
Sample Date						8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/18/2023	8/18/2023	8/29/2023	8/29/2023	8/29/2023	8/16/2023	8/16/2023	8/16/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units														
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	1400	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	15.6	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	**42**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	4000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	2 J	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	**162**	ug/kg	U	U	2.5 J	1.6 J	3.4 J	U	U	U	U	U	U	U	1.2 J	U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**174**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	170	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	360	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	**17.6**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	7400	ug/kg	U	U	U	71 J+	150 J+	210 J+	U	U	25 J+	U	U	U	63	U
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	**52**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	480	ug/kg	U	4.6 J	2 J	3.6 J	U	4.4 J+	U	U	1.7 J+	3.6 J	U	6.4	15	U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	500	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	320	ug/kg	5.6 J	9.2	4.7 J	U	U	U	U	U	U	35 J-	8	U	23 J-	31 J-
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	420	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	26000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	**360**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	1480	ug/kg	U	U	U	1.5 J	17	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	**380**	ug/kg	U	U	2.4 J	U	1.4 J	U	U	U	U	U	U	U	1.6 J	U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	8200	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2400	ug/kg	U	U	U	15	30	U	U	U	U	U	U	U	15	U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2		ug/kg	U	U	2.6 J	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	26	ug/kg	U	U	U	U	U	U	U	U	9.8 J+	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	**380**	ug/kg	U	U	1.5 J	U	U	U	U	U	U	U	U	U	0.96 J	U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	**46**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	5400	ug/kg	U	U	U	U	2.9 J	U	U	U	U	U	U	U	2.1 J	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	620	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	**36**	ug/kg	U	U	U	U	U	U	2.9 J	4.9 J	2.1 J+	7.9	U	U	U	10

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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U - Not Detected

Table B - VOC Detection Results

Location						RI-SB-05	RI-SB-07	RI-SB-07	RI-SB-07	RI-SB-08	RI-SB-08	RI-SB-08	RI-SB-10	RI-SB-10	RI-SB-10	RI-SB-11	RI-SB-11	RI-SB-15	RI-SB-15
Sample #						RI-SB-05A-1-2	RI-SB-07-0-0.5	RI-SB-07-1-2	RI-SB-07-4-5	RI-SB-08-0-0.5	RI-SB-08-1-2	RI-SB-08-4-5	RI-SB-10-0-0.5	RI-SB-10-1-2	RI-SB-10-4-5	RI-SB-11-0-0.5	RI-SB-11-7-8	RI-SB-15-0-0.5	RI-SB-15-1-2
Start Depth						1	0	1	4	0	1	4	0	1	4	0	7	0	1
End Depth						2	0.5	2	5	0.5	2	5	0.5	2	5	0.5	8	0.5	2
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						FD	N	N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #						RI-SB-05-1-2													
Sample Date						8/16/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	8/24/2023	8/24/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units														
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	1400	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	15.6	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	**42**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	0.8 J	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	4000	ug/kg	3.2 J	U	U	U	U	U	U	U	U	U	U	8.2	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	**162**	ug/kg	1.2 J	U	U	U	U	U	U	U	U	U	U	0.8 J	U	U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**174**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	170	ug/kg	U	U	U	U	U	U	U	U	U	U	U	0.77 J	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	360	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	**17.6**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	7400	ug/kg	67	9.4 J	13	27	11	14	12	15	7.3 J	8.2 J	5.3 J	13	U	U
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	**52**	ug/kg	U	U	U	U	U	U	U	U	U	U	1.2 J	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	480	ug/kg	13	U	U	U	2.9 J	5.1	U	4 J	4.8	U	9.2	1.9 J	U	3.2 J
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	500	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	320	ug/kg	29 J-	U	U	U	18	14	U	5.4	30 J-	13	36 J-	U	U	28 J-
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	420	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	26000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	**360**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	1480	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	**380**	ug/kg	1.8 J	U	U	1.3 J	U	U	U	U	U	U	U	1.2 J	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	8200	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2400	ug/kg	15	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2		ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	26	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	9.6 J+	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	**380**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	0.89 J	U	U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	**46**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	5400	ug/kg	2.4 J	U	U	U	U	U	U	0.64 J	U	1.2 J	1.1 J	U	U	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	620	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	**36**	ug/kg	3.3 J	U	U	U	U	1.9 J	U	U	3.4 J	0.72 J	4.8	U	U	2.1 J

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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U - Not Detected

Table B - VOC Detection Results

Location						RI-SB-15	RI-SB-15	RI-SB-15	RI-SB-15	RI-SB-16	RI-SB-16	RI-SB-16	RI-SB-16	RI-SB-17	RI-SB-17	RI-SB-17	RI-SB-18
Sample #						RI-SB-15-23-24	RI-SB-15-23-24_ME	RI-SB-15-41-42	RI-SB-15-8-9	RI-SB-16-0-0.5	RI-SB-16-1-2	RI-SB-16-13-14	RI-SB-16-13-14_ME	RI-SB-17-0-0.5	RI-SB-17-1-2	RI-SB-17-8-9	RI-SB-18-0-0.5
Start Depth						23	23	41	8	0	1	13	13	0	1	8	0
End Depth						24	24	42	9	0.5	2	14	14	0.5	2	9	0.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #																	
Sample Date						8/24/2023	8/24/2023	8/24/2023	8/24/2023	9/19/2023	9/19/2023	9/19/2023	9/19/2023	8/17/2023	8/17/2023	8/17/2023	8/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units												
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	1400	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	15.6	ug/kg	U	U	U	U	U	1.3 J	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	**42**	ug/kg	U	**130 J-**	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	4000	ug/kg	U	110 J-	U	U	U	U	U	U	U	2 J	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	**162**	ug/kg	U	U	U	4.7 J	1.2 J	7.5	43 J+	**440**	U	3.9 J	16 J+	U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**174**	ug/kg	U	U	U	2.7 J	U	3.5 J	31 J+	**350**	U	1.9 J	11 J+	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	170	ug/kg	U	54 J-	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	360	ug/kg	U	63 J-	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	**17.6**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	7400	ug/kg	16 J+	U	24 J+	18 J+	12	10	U	U	23	U	40	U
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	**52**	ug/kg	U	U	U	U	U	U	U	U	1.2 J	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	480	ug/kg	U	U	1.9 J+	5.4	40	6.4	U	U	6.3	2.1 J	11	1.4 J
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	500	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	320	ug/kg	U	U	U	7.2	U	12	U	U	2.6 J	U	U	2.1 J
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	420	ug/kg	U	U	U	U	U	40	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	26000	ug/kg	U	U	U	6.5	U	U	U	U	U	1.7 J	35 J+	U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	**360**	ug/kg	U	U	U	U	1.9 J	0.69 J	3.7 J+	60 J	U	1.5 J	2.1 J	U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	1480	ug/kg	U	U	U	U	U	0.6 J	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	**380**	ug/kg	U	U	U	3 J	8.7	2.2 J	25 J+	280	1.3 J	3.3 J	6.3	U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	8200	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2400	ug/kg	U	U	U	U	U	U	U	U	6.5 J	U	7.7 J	U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2		ug/kg	U	U	U	5.9	U	U	U	U	U	4.3 J	150 J+	U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	26	ug/kg	15 J+	U	15 J+	U	U	14 J+	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	**380**	ug/kg	U	U	U	2 J	3.5 J	1.3 J	46 J+	310	U	1.5 J	6.7	U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	**46**	ug/kg	U	U	U	U	2.9 J	**63**	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	5400	ug/kg	U	U	U	4.3 J	U	0.91 J	U	U	2.8 J	6.9	2.2 J	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	620	ug/kg	U	U	U	U	U	2 J	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	**36**	ug/kg	U	U	U	U	U	6.3	U	U	U	U	U	U

Notes:

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Table B - VOC Detection Results

Location						RI-SB-18	RI-SB-18	RI-SB-19	RI-SB-19	RI-SB-19	RI-SB-20	RI-SB-20	RI-SB-21	RI-SB-21	RI-SB-21	RI-SB-22	RI-SB-22	RI-SB-22
Sample #						RI-SB-18-1-2	RI-SB-18-3-4	RI-SB-19-0-0.5	RI-SB-19-1-2	RI-SB-19-6-7	RI-SB-20-1-2	RI-SB-20-5-6	RI-SB-21-0-0.5	RI-SB-21-1-2	RI-SB-21-9-10	RI-SB-22-0-0.5	RI-SB-22-1-2	RI-SB-22-15-15.5
Start Depth						1	3	0	1	6	1	5	0	1	9	0	1	15
End Depth						2	4	0.5	2	7	2	6	0.5	2	10	0.5	2	15.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #																		
Sample Date						8/21/2023	8/21/2023	8/22/2023	8/22/2023	8/22/2023	8/23/2023	8/23/2023	8/16/2023	8/16/2023	8/16/2023	8/15/2023	8/15/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units													
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	1400	ug/kg	U	U	2.3 J	17	61	U	2.3 J-	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	15.6	ug/kg	U	U	U	9.9	7.2	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	**42**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	4000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	**162**	ug/kg	U	U	U	13	U	15	9.3	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**174**	ug/kg	U	U	U	4.5 J	U	7.2	3.8	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	170	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	360	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	**17.6**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	**22 J-**
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	7400	ug/kg	U	72 J+	U	37	U	16	20	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	**52**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	480	ug/kg	1.5 J	6.9	13	10	U	2.5 J	1.5 J	4.8 J-	U	U	2.7 J	4.7 J	U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	500	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	320	ug/kg	U	U	29 J-	44	43	U	5.1	46 J-	39 J-	38 J+	36	44 J-	40 J-
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	420	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	26000	ug/kg	U	U	U	U	U	U	4.7 J+	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	**360**	ug/kg	U	U	U	U	U	U	3.1 J	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	1480	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	**380**	ug/kg	U	U	U	1.8 J	U	3.3 J	8.8	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	8200	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2400	ug/kg	U	11	U	9.4 J	U	U	U	U	U	U	U	U	23 J-
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2		ug/kg	U	U	U	U	U	U	25 J+	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	26	ug/kg	U	U	U	U	U	U	U	U	8.3	U	U	U	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	**380**	ug/kg	U	U	U	U	U	2.4 J	8.2	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	**46**	ug/kg	U	U	U	19	24	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	5400	ug/kg	U	U	U	U	U	2.1 J	1.2 J	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	620	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	**36**	ug/kg	3.1 J	1.7 J	2.7 J	5 J	14	U	U	24	13	21 J+	2 J	25	34

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

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U - Not Detected

Table B - VOC Detection Results

Location						RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-24	RI-SB-24	RI-SB-24
Sample #						RI-SB-23-0-0.5	RI-SB-23-0-0.5_ME	RI-SB-23-1-2	RI-SB-23-1-2_ME	RI-SB-23-17-18	RI-SB-23-17-18_ME	RI-SB-23A-0-0.5	RI-SB-23A-0-0.5_ME	RI-SB-24-0-0.5	RI-SB-24-1-2	RI-SB-24-9-10
Start Depth						0	0	1	1	17	17	0	0	0	1	9
End Depth						0.5	0.5	2	2	18	18	0.5	0.5	0.5	2	10
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	FD	FD	N	N	N
Parent Sample #												RI-SB-23-0-0.5	RI-SB-23-0-0.5			
Sample Date						8/30/2023	8/30/2023	8/30/2023	8/30/2023	8/30/2023	8/30/2023	8/30/2023	8/30/2023	8/24/2023	8/24/2023	8/24/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units											
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	1400	ug/kg	1.4 J-	U	U	U	U	U	2.4 J-	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	15.6	ug/kg	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	**42**	ug/kg	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	4000	ug/kg	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	**162**	ug/kg	2.7 J	U	6.8	U	**690**	52 J	3.6 J	U	U	1.2 J	120 J+
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**174**	ug/kg	1.3 J	U	1.7 J	U	**310**	U	1.6 J	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	170	ug/kg	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	360	ug/kg	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	**17.6**	ug/kg	U	U	U	U	U	U	**19 J-**	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	7400	ug/kg	11 J-	U	13 J-	U	21 J-	U	16 J-	U	13 J+	U	110 J+
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	**52**	ug/kg	U	U	U	U	27	**67 J**	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	480	ug/kg	U	U	U	U	5.7 J-	73 J	U	U	5.7	16	19 J+
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	500	ug/kg	U	U	U	U	U	U	U	U	U	U	33 J+
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	320	ug/kg	29 J-	U	U	U	U	U	34 J-	U	21	43 J-	U
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	420	ug/kg	U	U	U	U	1.6 J-	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	26000	ug/kg	U	U	U	U	13	63 J	U	U	U	U	8.2 J+
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	**360**	ug/kg	U	U	U	U	320	U	U	U	U	U	26 J+
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	1480	ug/kg	U	U	U	U	120	260 J	U	U	U	U	31 J+
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	**380**	ug/kg	U	U	U	U	**2000**	370	U	U	U	U	9.8 J+
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	8200	ug/kg	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2400	ug/kg	U	U	U	U	U	U	15 J-	U	U	U	22 J+
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2		ug/kg	U	U	U	U	76	390	U	U	U	1.4 J	17 J+
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	26	ug/kg	U	U	U	U	11 J-	U	12 J-	U	10	U	13 J+
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	**380**	ug/kg	U	U	U	U	**1100**	65 J	U	U	U	U	3.2 J+
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	**46**	ug/kg	**52**	**120 J**	4.8	**84 J**	U	U	**69**	**230 J**	U	U	U
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	5400	ug/kg	U	U	U	U	86	U	U	U	U	U	1.6 J+
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	620	ug/kg	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	**36**	ug/kg	31	U	U	U	U	U	35	U	1.4 J	16	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

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J- - The result is an estimated quantity, but The results may be biased low

U - Not Detected

Table B - VOC Detection Results

Location						RI-SB-24	RI-SB-25	RI-SB-25	RI-SB-25	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-27	RI-SB-27	RI-SB-32	RI-SB-32
Sample #						RI-SB-24-9-10_ME	RI-SB-25-0-0.5	RI-SB-25-17-18	RI-SB-25-17-18_ME	RI-SB-26-0-0.5_ME	RI-SB-26-1-2	RI-SB-26-2-3	RI-SB-26A-1-2	RI-SB-27-0-0.5	RI-SB-27-14-15	RI-SB-32-0-0.5	RI-SB-32-1-2
Start Depth						9	0			0	1	2	1	0	14	0	1
End Depth						10	0.5			0.5	2	3	2	0.5	15	0.5	2
Depth Unit						ft	ft			ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	FD	N	N	N	N
Parent Sample #													RI-SB-26-1-2				
Sample Date						8/24/2023	9/19/2023	9/19/2023	9/19/2023	9/15/2023	9/15/2023	9/15/2023	9/15/2023	8/21/2023	8/21/2023	9/18/2023	9/18/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units												
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	1400	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	15.6	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	**42**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	4000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	**162**	ug/kg	**630**	U	**690**	**7200**	U	U	U	U	U	5.3	U	U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**174**	ug/kg	36 J	U	9	120 J	U	U	U	U	U	2.1 J	U	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	170	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	360	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	**17.6**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	7400	ug/kg	U	11 J+	19	U	U	17	70	24	U	80	28	14
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	**52**	ug/kg	U	U	3.4 J	U	U	U	2 J	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	480	ug/kg	140 J	2.5 J	16	U	U	2.7 J	6.6	4.1 J	1.9 J	6.1	3.6 J	U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	500	ug/kg	490 J+	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	320	ug/kg	U	1.2 J	U	U	U	1.8 J	U	2.7 J	U	U	23 J-	U
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	420	ug/kg	U	U	2.4 J	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	26000	ug/kg	91 J+	U	43	330 J	U	U	U	U	U	2.3 J	U	U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	**360**	ug/kg	300	3.4 J	41	**390**	U	U	1.3 J	U	U	1.5 J	U	U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	1480	ug/kg	150 J	U	69	910	U	U	U	U	U	1.2 J	U	U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	**380**	ug/kg	340	16	41	360	U	U	1.1 J	U	U	3.6 J	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	8200	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2400	ug/kg	U	U	U	U	U	U	28	6.2 J	U	13	6.8 J	U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2		ug/kg	250 J+	U	51	580	100 J	U	U	U	U	2.8 J	U	U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	26	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	**380**	ug/kg	70 J	7.3	11	91 J	U	U	U	U	U	2.3 J	U	U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	**46**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	5400	ug/kg	U	U	11	U	U	1.4 J	2.2 J	U	U	1.5 J	1.6 J	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	620	ug/kg	U	U	2.5 J	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	**36**	ug/kg	U	U	14	U	U	U	U	U	U	U	1.7 J	U

Notes:

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Table B - VOC Detection Results

Location						RI-SB-32	RI-SB-35	RI-SB-35	RI-SB-35	RI-SB-35	RI-SB-39	RI-SB-39	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-42	RI-SB-42
Sample #						RI-SB-32-18-19	RI-SB-35-0-0.5	RI-SB-35-1-2	RI-SB-35-9-10	RI-SB-35-9-10_ME	RI-SB-39-0-0.5	RI-SB-39-1-2	RI-SB-40-0-0.5	RI-SB-40-3-4	RI-SB-40A-1-2	RI-SB-42-0-0.5	RI-SB-42-0-0.5_ME
Start Depth						18	0	1	9	9	0	1	0	3	1	0	0
End Depth						19	0.5	2	10	10	0.5	2	0.5	4	2	0.5	0.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	FD	N	N
Parent Sample #															RI-SB-40-1-2		
Sample Date						9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units												
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	1400	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	15.6	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	**42**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	4000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	**162**	ug/kg	6.2 J+	U	U	**250 J+**	**950**	U	0.91 J	U	36	U	7.3	U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**174**	ug/kg	2.9 J+	U	U	**230 J+**	**570**	U	U	U	13	U	2.4 J	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	170	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	360	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	**17.6**	ug/kg	U	U	11 J-	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	7400	ug/kg	31	7.6 J	9.1 J-	U	U	26	34	6.6 J	39	U	5.1 J	U
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	**52**	ug/kg	U	U	U	U	U	U	U	U	7.8	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	480	ug/kg	2 J	1.3 J	U	28 J+	78 J-	U	1.6 J	U	3.3 J	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	500	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	320	ug/kg	U	31 J-	33 J-	U	U	5.2 J	13	U	39 J-	U	3.6 J	U
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	420	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	26000	ug/kg	U	U	U	U	40 J	U	U	U	13	U	U	U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	**360**	ug/kg	U	U	U	36 J+	230 J	U	U	U	4.1 J	U	140	290
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	1480	ug/kg	2 J+	U	U	48 J+	120 J	U	U	U	1.8 J	U	2.5 J	U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	**380**	ug/kg	3 J	U	U	200 J+	**980**	U	U	U	15	U	**800**	**1600**
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	8200	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2400	ug/kg	10 J	U	15 J-	U	U	U	6.2 J	U	12	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2		ug/kg	1.6 J	U	U	31 J+	280 J	U	U	U	46	U	1.5 J	U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	26	ug/kg	9.9 J+	U	U	21 J+	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	**380**	ug/kg	1.8 J	U	U	170 J+	**600**	U	U	U	11	U	300	**650**
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	**46**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	5400	ug/kg	2.1 J	U	U	9.1 J+	U	U	U	U	7.6	U	0.9 J	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	620	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	**36**	ug/kg	U	5.5	26	U	U	U	1.9 J	U	**46**	4.2 J	U	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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U - Not Detected

Table B - VOC Detection Results

Location						RI-SB-42	RI-SB-42	RI-SB-42
Sample #						RI-SB-42-1-2	RI-SB-42-1-2_ME	RI-SB-42-19-20
Start Depth						1	1	19
End Depth						2	2	20
Depth Unit						ft	ft	ft
Sample Type						N	N	N
Parent Sample #								
Sample Date						9/21/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units			
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	1400	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	15.6	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	**42**	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	4000	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	**162**	ug/kg	5.2	U	26
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	**174**	ug/kg	1.7 J	U	8.7
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	170	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	360	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	**17.6**	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	7400	ug/kg	31	U	18
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	**52**	ug/kg	U	U	3.4 J
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	480	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	500	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	320	ug/kg	33 J-	U	44 J-
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	420	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	26000	ug/kg	U	U	1.4 J
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	**360**	ug/kg	58	U	1.9 J
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	1480	ug/kg	1.3 J	U	1.1 J
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	**380**	ug/kg	330	160 J	8.5
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	8200	ug/kg	6.9	170 J	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	2400	ug/kg	11	U	U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2		ug/kg	1.9 J	U	3 J
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	26	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	**380**	ug/kg	130	75 J	5.1 J
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	**46**	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	5400	ug/kg	0.69 J	U	4.9 J
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	620	ug/kg	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	**36**	ug/kg	3.6 J	U	8.4

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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U - Not Detected

Table C - SVOC Detection Results

Location						RI-SB-01	RI-SB-01	RI-SB-01	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-03	RI-SB-03	RI-SB-03	RI-SB-04	RI-SB-04	RI-SB-04	RI-SB-05	RI-SB-05
Sample #						RI-SB-01-0-0.5	RI-SB-01-1-2	RI-SB-01-4-5	RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5	RI-SB-02A-1-2	RI-SB-03-0-0.5	RI-SB-03-1-2	RI-SB-03-3-4	RI-SB-04-0-0.5	RI-SB-04-1-2	RI-SB-04-5-6	RI-SB-05-0-0.5	RI-SB-05-1-2
Start Depth						0	1	4	0	1	4	1	0	1	3	0	1	5	0	1
End Depth						0.5	2	5	0.5	2	5	2	0.5	2	4	0.5	2	6	0.5	2
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N
Parent Sample #												RI-SB-02-1-2								
Sample Date						8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/18/2023	8/18/2023	8/18/2023	8/29/2023	8/29/2023	8/29/2023	8/16/2023	8/16/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units															
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	**1.88**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	**120**	ug/kg	5.8	5.6	8.5	71	18	93	6.6 J-	2.3 J	6.7	6.3	2.1 J	5.3	6.6	1.7 J	3.9
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	7800	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	**380**	ug/kg	5.9	9.8	13	120	29	150	8.8 J-	3.4 J	9.9	8.5	2.9 J	14	8.7	3.2 J	9.8
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	600	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	8700	ug/kg	1.7 J	1.6 J	U	17	7.3	15	4.2 J-	U	1.7 J	1.4 J	1.9 J	7	4.8	0.96 J	2.1 J
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	5900	ug/kg	2.7 J	2.2 J	U	6.8	3.7	4 J	1.6 J-	U	1.4 J	U	U	3 J	8	6.7	1.7 J
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	1160	ug/kg	62 J	78 J	89 J	44 J	59 J	U	60 J	57 J	U	62 J	120 J	220 J	120 J	220 J	53 J
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	41000	ug/kg	7.2	4.7	1.3 J	21	11	18	8 J-	1.7 J	4.1	2.8 J	2.1 J	16	23	9.5	4.1
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	**220**	ug/kg	26	22	4.2	51	40	48	27 J-	16	26	19	27	**250**	110	27	32
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	**110**	ug/kg	20	27	4	91 J+	55	66	30 J-	21	39	26	59	**250**	**120**	40	40
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	**1100**	ug/kg	29	38	5.4	190	76	76 J+	36 J-	30	47	30	81	430	150	54	97
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	2500000	ug/kg	18	18	2.6 J	52	33	53	19 J-	21	37	21	57	260	53	58	61
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	11000	ug/kg	9.5	13	2.2 J	29	26	19	12 J-	10	16	10	23	160	39	17	27
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	**17.4**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	28000	ug/kg	U	U	43 J	300 J+	2700	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	1100	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	110000	ug/kg	30	28	4.7	110 J+	68	79 J+	27 J-	19	27	20	28	330	120	38	120
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	**110**	ug/kg	U	5.1	U	15	10	U	6.1 J-	5.6	9.5	5.3	15	59	15	10	14
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	**300**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	4600	ug/kg	U	U	U	99 J	230	190 J	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	5500	ug/kg	130	38	7.3	220 J+	140	200 J+	47 J-	23	32	26	21	590	250	35	50
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	5300	ug/kg	U	1.2 J	U	17	8.2	14	3.6 J-	U	1 J	0.94 J	U	1.8 J	5.6	1 J	0.95 J
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	78	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	**1100**	ug/kg	13	15	2.3 J	42	29	35	19 J-	19	32	19	48	200	47	35	46
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	**7.6**	ug/kg	2.2 J	**7.6**	**8**	**55**	**28**	**280**	**8.5 J-**	4.1	**11**	6.6	2.6 J	**12**	**7.9**	2.1 J	6.1
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	1340	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	**2100**	ug/kg	60	18	8.1	140	59	100	38 J-	9.3	19	17	8.8	160	110	15	23
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	6600	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	26000	ug/kg	67	37	6.1	200 J+	150	170 J+	41 J-	23	29	23	22	450	210	42	87

Notes:

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Table C - SVOC Detection Results

Location						RI-SB-05	RI-SB-05	RI-SB-07	RI-SB-07	RI-SB-07	RI-SB-08	RI-SB-08	RI-SB-08	RI-SB-10	RI-SB-10	RI-SB-10	RI-SB-11	RI-SB-11	RI-SB-11	RI-SB-13
Sample #						RI-SB-05-3-4	RI-SB-05A-1-2	RI-SB-07-0-0.5	RI-SB-07-1-2	RI-SB-07-4-5	RI-SB-08-0-0.5	RI-SB-08-1-2	RI-SB-08-4-5	RI-SB-10-0-0.5	RI-SB-10-1-2	RI-SB-10-4-5	RI-SB-11-0-0.5	RI-SB-11-1-2	RI-SB-11-7-8	RI-SB-13-19-20
Start Depth						3	1	0	1	4	0	1	4	0	1	4	0	1	7	19
End Depth						4	2	0.5	2	5	0.5	2	5	0.5	2	5	0.5	2	8	20
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #							RI-SB-05-1-2													
Sample Date						8/16/2023	8/16/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/8/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units															
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	**1.88**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	**2.8 J**
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	**120**	ug/kg	1.5 J	4.7	U	U	39	32	7.5 J	19 J	5.4	2.5 J	8.8	63	6.1	17	U
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	7800	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	**380**	ug/kg	4.6	12	U	U	58	46	11	25	8.5	4	14	84	9.4	19	U
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	600	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	8700	ug/kg	5.1	2.7 J	U	U	3.2 J	5.6 J-	2.4 J	17	2.9 J	U	U	11	2.4 J	15	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	5900	ug/kg	1.7 J	3.4 J	U	U	7.6	1.7 J-	7.9	39	5.2	U	U	10	3.7	3.6 J	U
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	1160	ug/kg	73 J	69 J	130 J	78 J	57 J	U	390	330 J	U	150 J	150 J	100 J	110 J	180 J	U
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	41000	ug/kg	18	6.3	U	U	18	9.7	6.3	53	7	U	U	46	7.5	15	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	**220**	ug/kg	**300**	39	1.3 J	1.7 J	**240**	25	27	**240**	36	2.6 J	0.91 J	170	25	110	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	**110**	ug/kg	**220**	49	1.9 J	2.2 J	**260**	30	37	**280**	94	3.9	U	**110**	28	**140**	U
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	**1100**	ug/kg	490	130	3.5 J	7.5	550	46	50	340	120	6.5	2 J	220	44	250	U
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	2500000	ug/kg	250	75	3.7	5.1	280	33	33	190	210	7.4	1.7 J	79	27	83	U
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	11000	ug/kg	140	30	1.5 J	1.9 J	180	14	17	100	29	2.3 J	0.8 J	72	15	55	U
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	**17.4**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	28000	ug/kg	U	U	U	U	U	U	U	U	110 J	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	1100	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	110000	ug/kg	430	130	2.9 J	10	380	52	33	260	170	8.3	2.7 J	210	48	110	U
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	**110**	ug/kg	48	17	U	U	75	8.8	8.3	35	U	U	U	27	7.1	22	U
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	**300**	ug/kg	U	U	U	U	37 J	U	U	U	U	U	U	53 J	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	4600	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	5500	ug/kg	990	47	2.7 J	3.2 J	520	60	38	550	100	5.9	1.4 J	530	48	240	U
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	5300	ug/kg	0.87 J	1.5 J	U	U	2.2 J	4.4 J-	1.3 J	25	2.1 J	U	U	3.7 J	1.4 J	12	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	78	ug/kg	U	U	U	U	65 J	U	U	U	U	U	U	U	U	50 J	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	**1100**	ug/kg	200	55	2.2 J	4.2	240	22	26	130	49	2.9 J	U	82	25	74	U
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	**7.6**	ug/kg	**12**	7.4	0.96 J	1.8 J	**63**	**19**	**8.4**	**28**	4.4	3.3 J	6.7	**23**	**11**	**20**	U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	1340	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	**2100**	ug/kg	760	29	1.6 J	3.2 J	290	66	24	390	27	5.7	5.2	530	28	78	U
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	6600	ug/kg	U	U	U	U	U	U	130 J	56 J	U	U	U	U	U	49 J	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	26000	ug/kg	700	110	3.1 J	2.4 J	430	51	35	460	220	9.1	1.9 J	380	70	220	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
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U - Not Detected

Table C - SVOC Detection Results

Location						RI-SB-15	RI-SB-15	RI-SB-15	RI-SB-15	RI-SB-15	RI-SB-15	RI-SB-16	RI-SB-16	RI-SB-16	RI-SB-17	RI-SB-17	RI-SB-17	RI-SB-18	RI-SB-18	RI-SB-18
Sample #						RI-SB-15-0-0.5	RI-SB-15-1-2	RI-SB-15-23-24	RI-SB-15-41-42	RI-SB-15-8-9	RI-SB-15A-0-0.5	RI-SB-16-0-0.5	RI-SB-16-1-2	RI-SB-16-13-14	RI-SB-17-0-0.5	RI-SB-17-1-2	RI-SB-17-8-9	RI-SB-18-0-0.5	RI-SB-18-1-2	RI-SB-18-3-4
Start Depth						0	1	23	41	8	0	0	1	13	0	1	8	0	1	3
End Depth						0.5	2	24	42	9	0.5	0.5	2	14	0.5	2	9	0.5	2	4
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
Parent Sample #											RI-SB-15-0-0.5									
Sample Date						8/24/2023	8/24/2023	8/24/2023	8/24/2023	8/24/2023	8/24/2023	9/19/2023	9/19/2023	9/19/2023	8/17/2023	8/17/2023	8/17/2023	8/21/2023	8/21/2023	8/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units															
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	**1.88**	ug/kg	U	U	U	U	U	U	U	U	**12**	U	U	**2.9 J**	U	U	U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	**120**	ug/kg	0.91 J	U	2 J	U	81	2.7 J	7.4	32	**250**	0.88 J	18	65	5.1	4.1	40
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	7800	ug/kg	U	U	140 J	U	120 J	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	**380**	ug/kg	1.3 J	1.5 J	2.3 J	U	120	3.9	17	65	**380**	1.3 J	24	99	8.8	6.7	76
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	600	ug/kg	U	U	U	U	U	U	U	U	84 J	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	8700	ug/kg	0.91 J	U	U	U	63	0.8 J	1.6 J	120	110	U	7	36	6.4	1 J	22 J-
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	5900	ug/kg	2.9 J	U	U	U	18	4.4	1.6 J	10	66	U	2.6 J	4.8	8.2	3 J	9.2 J-
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	1160	ug/kg	100 J	U	U	U	75 J	U	220 J	350 J	300 J	U	58 J	110 J	100 J	90 J	110 J
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	41000	ug/kg	5	U	U	U	150	4.6	3.2 J	230	150	U	5.7	94	11	4.1	35 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	**220**	ug/kg	14	5.3 J-	U	U	**430**	10	17	**1700**	**740**	1.2 J	30	**270**	56	17	95
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	**110**	ug/kg	20	8.3 J-	U	U	**410**	27	17	**2100**	**1100**	U	47	**210**	75	20	100 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	**1100**	ug/kg	21	14 J-	6.8 J-	1 J	630	27	32	**2800**	**1700**	2.2 J	79	270	86	24	130 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	2500000	ug/kg	38	7.3 J-	1.8 J-	U	290	91	22	1800	1000	2.8 J	68	100	66	14	81 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	11000	ug/kg	8.7	5.1 J-	5 J-	U	150 J-	7.1	9.9	920	510	U	20	58	49	8.9	38 J-
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	**17.4**	ug/kg	U	U	U	U	U	U	U	U	**65 J**	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	28000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	49 J	U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	1100	ug/kg	U	U	U	U	96 J	U	U	52 J	84 J	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	110000	ug/kg	25	11 J-	3.4 J-	1.1 J	500	41	20	1800	1000	2 J	44	300	50	18	110
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	**110**	ug/kg	6.6	1.9 J-	U	U	40 J-	11	5.2	**500**	**290**	U	15	24	22	3.7 J	20 J-
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	**300**	ug/kg	U	U	U	U	60 J	U	U	93 J	110 J	U	U	48 J	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	4600	ug/kg	U	U	U	U	U	U	U	U	35 J	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	5500	ug/kg	46	11 J-	1.7 J-	U	1000	21	30	3100	1100	2.4 J	57	1100	49	23	190
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	5300	ug/kg	1.1 J	U	U	U	100	0.93 J	0.96 J	39	210	U	5.3	43	2 J	0.91 J	23 J-
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	78	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	**1100**	ug/kg	16	5.7 J-	U	U	250	23	16	**1500**	790	1.5 J	48	79	55	12	65 J-
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	**7.6**	ug/kg	0.77 J	1 J	**78**	2.8 J	**140**	1.9 J	**9.1**	**71**	**460**	1.3 J	5.4	**270**	6.9	**7.8**	**83**
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	1340	ug/kg	U	U	U	U	410	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	**2100**	ug/kg	21	3.2 J	10 J-	1.9 J	800	13	11	1500	950	2.3 J	40	510	28	15	140
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	6600	ug/kg	U	U	U	U	U	U	80 J	67 J	70 J	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	26000	ug/kg	38	9.1 J-	2.1 J-	U	840	29	28	2500	1100	2.5 J	77	980	52	22	210

Notes:

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2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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Location						RI-SB-19	RI-SB-19	RI-SB-19	RI-SB-20	RI-SB-20	RI-SB-20	RI-SB-21	RI-SB-21	RI-SB-21	RI-SB-22	RI-SB-22	RI-SB-22	RI-SB-23	RI-SB-23	RI-SB-23
Sample #						RI-SB-19-0-0.5	RI-SB-19-1-2	RI-SB-19-6-7	RI-SB-20-0-0.5	RI-SB-20-1-2	RI-SB-20-5-6	RI-SB-21-0-0.5	RI-SB-21-1-2	RI-SB-21-9-10	RI-SB-22-0-0.5	RI-SB-22-1-2	RI-SB-22-15-15.5	RI-SB-23-0-0.5	RI-SB-23-1-2	RI-SB-23-17-18
Start Depth						0	1	6	0	1	5	0	1	9	0	1	15	0	1	17
End Depth						0.5	2	7	0.5	2	6	0.5	2	10	0.5	2	15.5	0.5	2	18
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #																				
Sample Date						8/22/2023	8/22/2023	8/22/2023	8/23/2023	8/23/2023	8/23/2023	8/16/2023	8/16/2023	8/16/2023	8/15/2023	8/15/2023	8/15/2023	8/30/2023	8/30/2023	8/30/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units															
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	**1.88**	ug/kg	U	U	**5.5 J**	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	**120**	ug/kg	9.4	95	8.5	31	33	**1700**	1.1 J	1.3 J	U	1.4 J	8.1	97	**330 J-**	76	100
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	7800	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	**380**	ug/kg	15	130	11	42	57	160 J+	2.4 J	3.6 J	U	3.5 J	16	200	350 J-	110	100
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	600	ug/kg	U	U	U	U	U	88 J	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	8700	ug/kg	41	94	10 J-	6.3 J-	7.3 J-	550	U	2 J	U	U	36	3.4 J	13	100	46 J-
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	5900	ug/kg	3.1 J	140	5.1 J-	2.7 J-	4.5 J-	29 J-	2.6 J	1.1 J	U	U	1.3 J	U	10	53	4.4 J-
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	1160	ug/kg	130 J	120 J	89 J	70 J	66 J	91 J	60 J	U	50 J	61 J	120 J	U	79 J	210 J	310 J
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	41000	ug/kg	110	590	110	6.4 J-	13	U	2.8 J	2.9 J	U	1.3 J	15	1.3 J	6	290	20 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	**220**	ug/kg	**260**	**1600**	**440**	19	7.3	18 J-	15	26	6.3	3.3 J	200	8.7	26 J-	**460**	21 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	**110**	ug/kg	**220**	**2000**	**390**	22	11	20 J-	11	32	14	4.7	**310**	15	12 J-	**460**	15 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	**1100**	ug/kg	270	**3000**	520	31	13	23 J-	30	52	21	13	480	20	250	560	18 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	2500000	ug/kg	120	2300	300	18	15	14 J-	15	36	15	6.7	310	19	49 J-	340	9.4 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	11000	ug/kg	77	840	200	11	4.7	7.9 J-	10	19	6.9	3.3 J	120	7.2	33 J-	210	5.6 J-
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	**17.4**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	**64 J**	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	28000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	1100	ug/kg	43 J	85 J	U	U	U	U	U	U	U	U	U	U	U	100 J	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	110000	ug/kg	260	2300	430	24	8.5	23 J-	29	38	9	16	320	13	260	500	41 J-
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	**110**	ug/kg	37	**570**	49 J-	4.7	3.3 J	4.5 J-	U	11	3.8	U	58	4.3	14 J-	45 J-	3.1 J-
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	**300**	ug/kg	U	63 J	U	U	U	U	U	U	U	U	U	U	U	110 J	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	4600	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	5500	ug/kg	670	3200 J	950 J	36	9.7	46 J-	29	31	36	19	470	30	480	1200	60 J-
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	5300	ug/kg	40	190	17 J-	6.9 J-	7.1 J-	720	U	U	U	U	5.4	U	U	160	57 J-
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	78	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	**1100**	ug/kg	100	**1700**	240	15	11	13 J-	12	32	13	5.9	250	15	36 J-	260	7.6 J-
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	**7.6**	ug/kg	**15**	**96**	**9.4**	**10**	**21**	U	2 J	3.6 J	0.92 J	2.6 J	**9.9**	**15**	**32**	**68**	**78**
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	1340	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	**2100**	ug/kg	400	1400	480	34 J-	31	1100	8.4	19	23	9.6	150	84	400	1100	170 J-
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	6600	ug/kg	U	U	U	U	U	96 J	U	U	U	U	U	U	U	37 J	55 J
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	26000	ug/kg	500	2800 J	730 J	32	15	310 J	42	37	23	7.8	270	15	300	940	130

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table C - SVOC Detection Results

Location						RI-SB-23	RI-SB-24	RI-SB-24	RI-SB-24	RI-SB-25	RI-SB-25	RI-SB-25	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-27	RI-SB-27	RI-SB-27
Sample #						RI-SB-23A-0-0.5	RI-SB-24-0-0.5	RI-SB-24-1-2	RI-SB-24-9-10	RI-SB-25-0-0.5	RI-SB-25-1-2	RI-SB-25-17-18	RI-SB-26-0-0.5	RI-SB-26-1-2	RI-SB-26-2-3	RI-SB-26A-1-2	RI-SB-27-0-0.5	RI-SB-27-1-2	RI-SB-27-14-15
Start Depth						0	0	1	9	0	1		0	1	2	1	0	1	14
End Depth						0.5	0.5	2	10	0.5	2		0.5	2	3	2	0.5	2	15
Depth Unit						ft	ft	ft	ft	ft	ft		ft	ft	ft	ft	ft	ft	ft
Sample Type						FD	N	N	N	N	N	N	N	N	N	FD	N	N	N
Parent Sample #						RI-SB-23-0-0.5										RI-SB-26-1-2			
Sample Date						8/30/2023	8/24/2023	8/24/2023	8/24/2023	9/19/2023	9/19/2023	9/19/2023	9/15/2023	9/15/2023	9/15/2023	9/15/2023	8/21/2023	8/21/2023	8/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units														
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	**1.88**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	**120**	ug/kg	**280**	6.4	4.1	**320**	2.9 J	13	**13000**	40 J	U	U	U	11	13	44
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	7800	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	**380**	ug/kg	270	19	5	270	6.4	41	**8100**	76	2.2 J	4.3	1.1 J	35	44	50
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	600	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	8700	ug/kg	13 J-	2.4 J	1.9 J	160	1.6 J	4.2	2900	4.7	0.9 J	1.3 J	U	5.1	12	27 J-
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	5900	ug/kg	8.5 J-	5.5	U	350	8.5	2.1 J	U	3 J	U	U	U	5.1	4.1	17 J-
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	1160	ug/kg	110 J	U	83 J	290 J	130 J	180 J	U	140 J	U	U	U	U	79 J	130 J
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	41000	ug/kg	9.3 J-	11	1.8 J	810 J+	11	12	380	18	U	0.84 J	U	11	9.7	57 J-
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	**220**	ug/kg	37 J-	15	5.3	**1300 J+**	20	44	**400**	29	3 J	3.7	1.5 J	97	180	**220**
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	**110**	ug/kg	26 J-	43	4.8	**780 J+**	42	68	**210**	29	4.4	4.4	2.3 J	**250**	**380**	**220**
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	**1100**	ug/kg	260	53	8.6	**1300 J+**	74	210	290	44	7.4	6.5	3.7	290	430	280
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	2500000	ug/kg	48 J-	74 J+	4.5	460 J+	73	110	160	26	5.1	4.4	2.8 J	370	380	200
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	11000	ug/kg	30 J-	14	3.3 J	480 J+	21	48	150	14	2.3 J	2.2 J	1.2 J	53	140	83
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	**17.4**	ug/kg	**56 J**	U	U	**47 J**	U	U	**1800 J**	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	28000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	1100	ug/kg	U	U	U	94 J+	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	110000	ug/kg	260	51	9.3	1300 J+	52	230	1900	55	5.9	6.9	2.9 J	220	240	240
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	**110**	ug/kg	14 J-	U	U	85	14	21	U	7.8	U	U	U	40	51 J-	30 J-
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	**300**	ug/kg	U	U	U	150 J	U	U	**1600 J**	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	4600	ug/kg	U	U	U	59 J+	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	5500	ug/kg	450	30	18	2700 J+	23	130	1900	45	4.2	6.6	2.2 J	110	210	530
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	5300	ug/kg	U	U	2.2 J	640	2 J	3.1 J	1400	6.5	U	0.91 J	U	2.5 J	2.9 J	32 J-
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	78	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	**1100**	ug/kg	38 J-	35	3.4 J	450 J+	36	83	88 J	19	3.7	3.1 J	2 J	200	270	120
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	**7.6**	ug/kg	**25**	5.3	1.9 J	**240**	4.2	**17**	**14000**	**30**	1.9 J	3.4 J	0.97 J	**17**	**28**	**100**
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	1340	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	**2100**	ug/kg	350	16	19	**2200 J+**	17	54	**6700**	140	4	7.3	2.2 J	39	47	240
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	6600	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	26000	ug/kg	320	130 J+	21	2000 J+	31	140	3100	45	3.9	6.5	2 J	220	220	450

Notes:

1. Identifies results that exceed the listed PAL value

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Table C - SVOC Detection Results

Location						RI-SB-32	RI-SB-32	RI-SB-32	RI-SB-35	RI-SB-35	RI-SB-35	RI-SB-39	RI-SB-39	RI-SB-39	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-42	RI-SB-42
Sample #						RI-SB-32-0-0.5	RI-SB-32-1-2	RI-SB-32-18-19	RI-SB-35-0-0.5	RI-SB-35-1-2	RI-SB-35-9-10	RI-SB-39-0-0.5	RI-SB-39-1-2	RI-SB-39-2-3	RI-SB-40-0-0.5	RI-SB-40-1-2	RI-SB-40-3-4	RI-SB-40A-1-2	RI-SB-42-0-0.5	RI-SB-42-1-2
Start Depth						0	1	18	0	1	9	0	1	2	0	1	3	1	0	1
End Depth						0.5	2	19	0.5	2	10	0.5	2	3	0.5	2	4	2	0.5	2
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N
Parent Sample #																		RI-SB-40-1-2		
Sample Date						9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units															
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	**1.88**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	**120**	ug/kg	U	U	U	U	U	41 J	4.6	18	39	26	**140**	**430**	84	5.6	7.8
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	7800	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	**380**	ug/kg	2.6 J	1.5 J-	1.8 J-	U	U	57	8.9	27	61	65	240	**880**	150	15	18
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	600	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	8700	ug/kg	1.2 J	U	2.3 J-	U	U	38	2.9 J	3.6	5.9	22	24	25	14	1.9 J	3.8
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	5900	ug/kg	U	U	3.3 J-	U	U	6.4	4.4	9.6	7.7	19	13	170	9.9	6.5	7.5
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	1160	ug/kg	130 J	130 J	150 J	130 J	U	210 J	190 J	130 J	U	U	110 J	220 J	82 J	140 J	160 J
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	41000	ug/kg	U	1.4 J-	5.2 J-	U	U	41	12	12	16	41	7.6	260	5.1	7.3	7.2
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	**220**	ug/kg	2.1 J	2.5 J-	21	U	U	120	18	46	49	**430**	32	**1400**	20	52	150
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	**110**	ug/kg	2 J	1.7 J-	19	U	U	**110**	42	60	68 J+	**700**	32	**1200**	23	91	**210**
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	**1100**	ug/kg	2.7 J	4.2 J-	22	U	U	130	40	81	95 J+	900	51	**1700**	38	210	420
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	2500000	ug/kg	3.1 J	1.9 J-	11	U	U	57	42	56	93 J+	560	38	680	27	120	250
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	11000	ug/kg	0.97 J	1.1 J-	9	U	U	45	23	28	34	300	19	600	14	49	120
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	**17.4**	ug/kg	U	U	U	U	U	U	U	U	U	U	U	**96 J**	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	28000	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	1100	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	110000	ug/kg	3.5 J	5.5 J-	23	1.4 J-	0.96 J-	130	37	56	69 J+	550	34	1300	24	110	320
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	**110**	ug/kg	U	U	3.6 J	U	U	17	8	14	20	**120 J+**	10	**240**	7.6	28	58
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	**300**	ug/kg	U	U	U	U	U	U	U	U	U	U	51 J	170 J	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	4600	ug/kg	U	U	U	U	U	U	U	U	71 J	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	5500	ug/kg	4.5	30 J-	37	4.7 J-	0.99 J-	320	34	58	84 J+	490	46	2500	28	85	360
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	5300	ug/kg	0.78 J	U	2.7 J-	U	U	39	2.2 J	2.1 J	3.8	9	7.3	15	5.4	1.1 J	1.5 J
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	78	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	**1100**	ug/kg	1.3 J	1.3 J-	9.5	U	U	49	24	42	55	480	33	710	24	89	200
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	**7.6**	ug/kg	2.5 J	0.83 J-	4.6 J-	U	U	**110**	**8**	**19**	**41**	**46**	**32**	**510**	**28**	**29**	**53**
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	1340	ug/kg	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	**2100**	ug/kg	4.7	14 J-	14 J-	0.95 J-	3.1 J-	260	23	32	65	140	150	750	110	33	210
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	6600	ug/kg	U	U	U	U	U	U	310 J	210 J	230 J	U	U	53 J	U	U	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	26000	ug/kg	4.3	28 J-	32	3.6 J-	1.3 J-	290	50	55	77 J+	490	43	2000	28	70	240

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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Table C - SVOC Detection Results

Location						RI-SB-42
Sample #						RI-SB-42-19-20
Start Depth						19
End Depth						20
Depth Unit						ft
Sample Type						N
Parent Sample #						
Sample Date						9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units	
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	**1.88**	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	**120**	ug/kg	**340**
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	7800	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	**380**	ug/kg	**490**
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	600	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	8700	ug/kg	9.9
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	5900	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	1160	ug/kg	170 J
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	41000	ug/kg	6.3
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	**220**	ug/kg	53
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	**110**	ug/kg	44
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	**1100**	ug/kg	64
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	2500000	ug/kg	35
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	11000	ug/kg	24
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	**17.4**	ug/kg	**43 J**
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	28000	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	1100	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	110000	ug/kg	60
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	**110**	ug/kg	10
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	**300**	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	4600	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	5500	ug/kg	150
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	5300	ug/kg	3.8 J
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	78	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	**1100**	ug/kg	30
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	**7.6**	ug/kg	**180**
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	1340	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	**2100**	ug/kg	210
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	6600	ug/kg	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	26000	ug/kg	120

Notes:

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Table C - SVOC Detection Results

Location						RI-SP-01	RI-SP-02
Sample #						RI-SP-01	RI-SP-02
Start Depth							
End Depth							
Depth Unit							
Sample Type						N	N
Parent Sample #							
Sample Date						9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units		
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	120	ug/kg	4.3	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	380	ug/kg	11	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	8700	ug/kg	5.6	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	5900	ug/kg	4.7	U
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	**1160**	ug/kg	160 J	**4400 J**
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	41000	ug/kg	7.4	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	220	ug/kg	57	83 J
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	**110**	ug/kg	96	**170**
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	1100	ug/kg	110	270
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	2500000	ug/kg	100	400
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	11000	ug/kg	37	89 J
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	110000	ug/kg	92	140
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	110	ug/kg	23	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	5500	ug/kg	61	160
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	5300	ug/kg	2.2 J	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	1100	ug/kg	67	200
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	**7.6**	ug/kg	**12**	U
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	2100	ug/kg	43	51 J
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	26000	ug/kg	65	150

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

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Table D - Pesticide Detection Results

Location						RI-SB-01	RI-SB-01	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-04	RI-SB-04	RI-SB-04
Sample #						RI-SB-01-0-0.5	RI-SB-01-1-2	RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5	RI-SB-02A-1-2	RI-SB-04-0-0.5	RI-SB-04-1-2	RI-SB-04-5-6
Start Depth						0	1	0	1	4	1	0	1	5
End Depth						0.5	2	0.5	2	5	2	0.5	2	6
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	FD	N	N	N
Parent Sample #											RI-SB-02-1-2			
Sample Date						8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/29/2023	8/29/2023	8/29/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units									
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	**3**	ug/kg	U	U	0.33 J	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	980	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	2800	ug/kg	U	U	U	U	U	U	0.36 J	U	U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	2800	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	3	ug/kg	U	U	0.4 J	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	**1.42**	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	4200	ug/kg	U	1 J	U	U	U	U	0.97 J	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	1620	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	20	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	70	ug/kg	U	U	0.28 J	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	150	ug/kg	0.39 J	U	U	U	0.47 J	U	U	U	2.1 J
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	220	ug/kg	1.2 J	U	0.95 J	U	U	U	0.39 J	130	4.9 J
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	1540	ug/kg	0.55 J	0.52 J	0.76 J	0.69 J	1.6 J	1.5 J	2.1 J	3.2 J	4.6

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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U - Not Detected

Table D - Pesticide Detection Results

Location						RI-SB-07	RI-SB-07	RI-SB-07	RI-SB-08	RI-SB-08	RI-SB-08	RI-SB-10	RI-SB-10	RI-SB-10
Sample #						RI-SB-07-0-0.5	RI-SB-07-1-2	RI-SB-07-4-5	RI-SB-08-0-0.5	RI-SB-08-1-2	RI-SB-08-4-5	RI-SB-10-0-0.5	RI-SB-10-1-2	RI-SB-10-4-5
Start Depth						0	1	4	0	1	4	0	1	4
End Depth						0.5	2	5	0.5	2	5	0.5	2	5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N
Parent Sample #														
Sample Date						9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/12/2023	9/12/2023	9/12/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units									
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	**3**	ug/kg	U	0.31 J	1.7 J	0.21 J-	**13 J**	U	0.42 J	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	980	ug/kg	U	U	U	U	7.6 J	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	2800	ug/kg	U	U	U	U	U	U	U	0.31 J	U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	2800	ug/kg	U	U	U	U	U	U	1.8 J	U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	3	ug/kg	0.2 J	0.4 J	U	U	2.9 J	0.29 J	0.49 J	U	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	**1.42**	ug/kg	U	U	U	U	U	U	1.4 J	0.38 J	U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	4200	ug/kg	2.1 J	4.7 J	64 J	U	600 J	10 J	U	0.56 J	0.24 J
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	1620	ug/kg	U	U	U	U	U	U	1.1 J	0.33 J	U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	20	ug/kg	U	U	U	U	U	U	0.39 J	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	70	ug/kg	0.25 J	U	U	0.19 J-	U	U	U	U	0.21 J
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	150	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	220	ug/kg	U	U	U	U	U	U	0.63 J	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	1540	ug/kg	0.75 J	0.3 J	U	0.59 J-	U	U	6.2	1.4 J	0.4 J

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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J- - The result is an esEmated quanEty, but The results may be biased low
U - Not Detected

Table D - Pesticide Detection Results

Location						RI-SB-11	RI-SB-11	RI-SB-11	RI-SB-16	RI-SB-16	RI-SB-16	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-23
Sample #						RI-SB-11-0-0.5	RI-SB-11-1-2	RI-SB-11-7-8	RI-SB-16-0-0.5	RI-SB-16-1-2	RI-SB-16-13-14	RI-SB-23-0-0.5	RI-SB-23-1-2	RI-SB-23-17-18	RI-SB-23A-0-0.5
Start Depth						0	1	7	0	1	13	0	1	17	0
End Depth						0.5	2	8	0.5	2	14	0.5	2	18	0.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	FD
Parent Sample #															RI-SB-23-0-0.5
Sample Date						9/12/2023	9/12/2023	9/12/2023	9/19/2023	9/19/2023	9/19/2023	8/30/2023	8/30/2023	8/30/2023	8/30/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units										
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	**3**	ug/kg	0.84 J	U	U	U	U	1.6 J	2.7 J	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	980	ug/kg	U	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	2800	ug/kg	U	1.6 J	35 J	0.54 J	U	U	4.4 J-	3 J	U	2.5 J
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	2800	ug/kg	1.2 J	2.5	91 J	U	U	U	7.9 J-	U	U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	3	ug/kg	U	0.19 J	0.56 J	U	0.86 J	0.98 J	U	U	0.33 J-	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	**1.42**	ug/kg	U	**1.8 J**	U	U	U	**3.3 J**	**7.6**	U	U	**3.4 J**
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	4200	ug/kg	U	4.1 J	170 J	2 J	U	U	9 J	8.5 J	U	4.6 J
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	1620	ug/kg	U	1.7 J	35 J	0.37 J	U	U	3 J	U	U	2.4 J
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	20	ug/kg	U	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	70	ug/kg	U	U	U	U	0.57 J	1.6 J	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	150	ug/kg	U	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	220	ug/kg	2.1 J	U	U	U	U	U	7 J-	U	3.2 J-	54
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	1540	ug/kg	2.9 J	10	450	4.2	U	3.9 J	31 J-	13 J	9.9 J-	18 J

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table D - Pesticide Detection Results

Location						RI-SB-25	RI-SB-25	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-32	RI-SB-32	RI-SB-35
Sample #						RI-SB-25-0-0.5	RI-SB-25-1-2	RI-SB-26-0-0.5	RI-SB-26-1-2	RI-SB-26-2-3	RI-SB-26A-1-2	RI-SB-32-1-2	RI-SB-32-18-19	RI-SB-35-9-10
Start Depth						0	1	0	1	2	1	1	18	9
End Depth						0.5	2	0.5	2	3	2	2	19	10
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	FD	N	N	N
Parent Sample #											RI-SB-26-1-2			
Sample Date						9/19/2023	9/19/2023	9/15/2023	9/15/2023	9/15/2023	9/15/2023	9/18/2023	9/18/2023	9/18/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units									
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	**3**	ug/kg	U	0.65 J	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	980	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	2800	ug/kg	U	U	1.8 J	0.19 J	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	2800	ug/kg	U	U	U	0.54 J	0.3 J	0.47 J	U	U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	3	ug/kg	0.26 J	0.55 J	U	U	U	U	0.35 J	1.5 J	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	**1.42**	ug/kg	U	U	U	1.1 J	0.46 J	0.97 J	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	4200	ug/kg	U	U	2.6 J	0.71 J	0.38 J	0.59 J	U	0.59 J	U
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	1620	ug/kg	U	U	0.86 J	0.22 J	U	0.19 J	U	U	U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	20	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	70	ug/kg	0.26 J	1.2 J	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	150	ug/kg	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	220	ug/kg	7.8	0.44 J	U	U	U	U	U	U	0.51 J
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	1540	ug/kg	U	2.8 J	4.3	2.7 J	0.92 J	2.3 J	U	U	1.6 J

Notes:

1. Identifies results that exceed the listed PAL value

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Table D - Pesticide Detection Results

Location						RI-SB-39	RI-SB-39	RI-SB-39	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-42	RI-SB-42	RI-SB-42
Sample #						RI-SB-39-0-0.5	RI-SB-39-1-2	RI-SB-39-2-3	RI-SB-40-0-0.5	RI-SB-40-1-2	RI-SB-40-3-4	RI-SB-40A-1-2	RI-SB-42-0-0.5	RI-SB-42-1-2	RI-SB-42-19-20
Start Depth						0	1	2	0	1	3	1	0	1	19
End Depth						0.5	2	3	0.5	2	4	2	0.5	2	20
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	FD	N	N	N
Parent Sample #												RI-SB-40-1-2			
Sample Date						9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/21/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units										
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	**3**	ug/kg	U	U	U	0.29 J	U	1 J	U	U	0.22 J	1.1 J
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	980	ug/kg	U	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	2800	ug/kg	12 J	1.3 J	2 J	U	5.2 J	U	3.5 J	1 J	U	U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	2800	ug/kg	U	1.2 J	2.6 J	U	2.6 J	U	1.7 J	U	U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	3	ug/kg	U	U	U	0.44 J	0.23 J	U	0.34 J	0.24 J	0.33 J	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	**1.42**	ug/kg	U	**2 J**	**4.5**	U	U	U	U	1.2 J	U	U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	4200	ug/kg	56 J	U	7.1 J	U	20 J	U	14 J	U	1 J	1.1 J
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	1620	ug/kg	13 J	U	1.2 J	U	U	U	U	1.1 J	0.44 J	U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	20	ug/kg	U	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	70	ug/kg	U	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	150	ug/kg	U	U	U	U	U	U	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	220	ug/kg	U	U	U	U	U	U	U	U	0.41 J	2 J
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	1540	ug/kg	130 J-	7.1 J	17 J	2.9 J	52	U	36	8.4	3.6 J	U

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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U - Not Detected

Table D - Pesticide Detection Results

Location						RI-SP-01
Sample #						RI-SP-01
Start Depth						
End Depth						
Depth Unit						
Sample Type						N
Parent Sample #						
Sample Date						9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units	
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	3	ug/kg	0.16 J
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	70	ug/kg	0.18 J
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	150	ug/kg	0.35 J
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	1540	ug/kg	0.59 J

Notes:

1. Identifies results that exceed the listed PAL value

1. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

J - The identification of the analyte is acceptable; the reported value is an estimate

Table E - Dioxin/Furan Detection Results

Location						RI-SB-01	RI-SB-01	RI-SB-01	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-04	RI-SB-04	RI-SB-04	RI-SB-07	RI-SB-07	RI-SB-07
Sample #						RI-SB-01-0-0.5	RI-SB-01-1-2	RI-SB-01-4-5	RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5	RI-SB-02A-1-2	RI-SB-04-0-0.5	RI-SB-04-1-2	RI-SB-04-5-6	RI-SB-07-0-0.5	RI-SB-07-1-2	RI-SB-07-4-5
Start Depth						0	1	4	0	1	4	1	0	1	5	0	1	4
End Depth						0.5	2	5	0.5	2	5	2	0.5	2	6	0.5	2	5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	FD	N	N	N	N	N	N
Parent Sample #												RI-SB-02-1-2						
Sample Date						8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/29/2023	8/29/2023	8/29/2023	9/14/2023	9/14/2023	9/14/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units													
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4		pg/g	8.07 A	124 A	24.2 A	183 A	492 A	1360 A	596 A	24 A	52.9 A	688 A	2670 A	961 A	469 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9		pg/g	8.01 A	68.6 A	19.1 A	94.7 A	127 A	321 A	162 A	20.5 A	41.5 A	88 A	1540 A	278 A	219 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7		pg/g	0.41 J EMPCA	2.03 JA	0.511 J EMPCA	5.07 A	10.4 A	14.3 A	10.4 A	0.49 J EMPCA	1.3 J EMPCA	7.29 A	48 A	17 A	5.76 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9		pg/g	0.488 J EMPCA	6.58 A	1.55 J EMPCA	20.3 A	26.8 A	21.8 A	26.4 A	2.02 JA	8.22 A	10 A	599 A	267 A	18.6 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6		pg/g	U	0.961 J EMPCA	0.432 J EMPCA	2.36 J EMPCA	4.53 A	2.82 A	4.77 A	U	1.45 JA	1.46 JA	374 A	61 A	2.9 A
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9		pg/g	0.423 J EMPCA	4.54 A	0.504 JA	7.14 EMPCA	23.1 A	13.1 A	26.1 A	1.5 JA	6.63 A	6.55 A	478 A	215 A	10.9 A
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7		pg/g	1.19 JA	14.5 A	0.92 JA	22.1 A	35.2 A	21.1 A	40.3 A	3.48 A	6.73 A	6.42 A	467 A	78.3 A	83 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9		pg/g	U	U	U	U	U	U	U	U	U	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3		pg/g	U	5.52 A	0.565 J EMPCA	8.9 A	14.6 A	8.02 A	15.4 A	1.49 JA	3.43 A	2.87 A	358 A	61.4 A	28.1 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6		pg/g	U	1.57 JA	0.919 JA	2.35 JA	7.3 A	7.94 A	6.98 A	1.17 JA	2.36 JA	2.99 A	428 A	231 A	3.95 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4		pg/g	U	1.28 J EMPCA	U	3.25 EMPCA	5.46 A	3.21 A	5.98 A	U	0.882 JA	1.04 J EMPCA	406 A	80.6 A	3.81 EMPCA
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5		pg/g	0.907 JA	6.56 A	0.6 J EMPCA	11 A	49.2 A	16 A	47.5 A	1.77 JA	5.63 EMPCA	10.7 A	349 A	147 A	11.7 A
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4		pg/g	1.67 J EMPCA	9.63 A	1.02 J EMPCA	14.7 A	80.2 A	19.8 A	78.9 A	2.49 EMPCA	9.36 A	18.4 A	601 A	310 A	14 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9		pg/g	U	0.952 A	0.69 EMPCA	1.87 A	3.85 A	10.1 A	4.16 A	0.852 EMPCA	2.92 A	3.01 A	523 A	300 A	2 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	**4.8**	pg/g	U	0.481 JA	U	0.791 EMPCA	1.17 EMPCA	1.28 A	1.17 A	0.264 JA	0.209 J EMPCA	0.391 J EMPCA	**88.7 A**	**34 A**	1.07 A
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF		pg/g	16.4 EMPCA	206 A	44 EMPCA	299 A	884 A	2390 A	1090 A	42.2 EMPCA	72.7 EMPCA	1230 A	3090 A	1130 A	767 A
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD		pg/g	16.1 A	150 A	38.3 A	212 A	272 A	707 A	337 A	58.9 A	104 A	171 A	3740 A	657 A	374 A
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF		pg/g	13.6 EMPCA	119 EMPCA	15.4 EMPCA	179 EMPCA	794 A	594 EMPCA	836 A	26.4 EMPCA	100 EMPCA	324 A	6480 A	2800 A	273 EMPCA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD		pg/g	8.24 EMPCA	109 EMPCA	7.74 EMPCA	194 EMPCA	288 A	185 EMPCA	328 A	29.6 EMPCA	55.8 EMPCA	54.5 A	8540 A	1380 A	657 A
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0		pg/g	4.17 J EMPCA	43.8 A	11.6 A	58.4 A	226 A	635 A	290 A	11.7 A	17.8 A	347 A	262 A	79.1 A	183 A
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9		pg/g	39.9 A	242 A	252 A	365 A	528 A	6420 A	606 A	136 A	157 A	735 A	2480 A	401 A	619 A
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF		pg/g	19 EMPCA	160 EMPCA	9.05 EMPCA	197 EMPCA	1090 A	246 EMPCA	1060 A	37.7 EMPCA	110 EMPCA	206 EMPCA	10800 A	5660 A	255 EMPCA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD		pg/g	0.555 EMPCA	20.9 EMPCA	0.996 EMPCA	72.7 EMPCA	81.7 EMPCA	51.2 EMPCA	81.5 EMPCA	5.67 EMPCA	14.2 EMPCA	12.9 EMPCA	15000 A	2160 A	131 EMPCA
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD		pg/g	U	5.06 EMPCA	U	14.4 EMPCA	19.8 EMPCA	22.5 EMPCA	19.4 EMPCA	5.16 EMPCA	6 EMPCA	5.17 EMPCA	18300 A	2630 A	25.8 EMPCA
007-Mclouth_DioxFur	SW1613B	Total Dioxin TEQ (Mammal)	TEQ(M)	**4.8**	pg/g	1.08642902 JA	**10.70716 A**	1.498001339 JA	**18.88946 A**	**53.225 A**	**39.117 A**	**55.5322 A**	2.815027733 JA	**8.48941 A**	**19.3721 A**	**1046.1122 A**	**340.22776 A**	**32.1439 A**
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5		pg/g	8.52 EMPCA	95 EMPCA	7.25 EMPCA	134 EMPCA	440 A	279 A	454 EMPCA	27.1 EMPCA	91 EMPCA	102 EMPCA	18200 A	10600 A	232 EMPCA

Notes:

1. The analytical data shown above has not been validated by a third-party validator. The data is presented for discussion purposes only.
2. **Identifies results that exceed the listed PAL value**
3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
A - Unvalidated result
EMPC - Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
J - The identification of the analyte is acceptable; the reported value is an estimate
U - Not Detected

Table E - Dioxin/Furan Detection Results

Location						RI-SB-08	RI-SB-08	RI-SB-08	RI-SB-10	RI-SB-10	RI-SB-10	RI-SB-11	RI-SB-11	RI-SB-11	RI-SB-12	RI-SB-12	RI-SB-12
Sample #						RI-SB-08-0-0.5	RI-SB-08-1-2	RI-SB-08-4-5	RI-SB-10-0-0.5	RI-SB-10-1-2	RI-SB-10-4-5	RI-SB-11-0-0.5	RI-SB-11-1-2	RI-SB-11-7-8	RI-SB-12-0-0.5	RI-SB-12-1-2	RI-SB-12-16-17
Start Depth						0	1	4	0	1	4	0	1	7	0	1	16
End Depth						0.5	2	5	0.5	2	5	0.5	2	8	0.5	2	17
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #																	
Sample Date						9/14/2023	9/14/2023	9/14/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/8/2023	9/8/2023	9/8/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units												
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4		pg/g	121 A	124 A	156 A	5.58 A	2.45 JA	2.96 A	69 A	110 A	386 A			2.6 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9		pg/g	165 A	338 A	105 A	81.2 A	46.8 A	127 A	69.1 A	89.3 A	141 A	5.75 A	18.5 A	31.7 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7		pg/g	3.69 A	7.11 A	4.13 A	1.29 JA	U	U	2.04 JA	2.09 J EMPCA	26.9 A	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9		pg/g	15.8 A	26.8 A	13.7 A	2.33 JA	0.769 J EMPCA	U	3.11 A	4.73 A	106 A	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6		pg/g	4.84 A	1.66 J EMPCA	1.82 J EMPCA	U	U	0.383 J BA	0.856 J BA	0.915 J BA	6.52 A	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9		pg/g	10.9 A	8.75 A	8.97 A	1.3 J EMPCA	0.436 JA	U	2.63 A	2.97 EMPCA	40.9 A	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7		pg/g	11.5 A	11.1 A	21 A	2.99 A	1.9 JA	5.87 A	9.84 A	12.7 A	37.1 A	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9		pg/g	U	U	U	U	U	U	U	U	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3		pg/g	5.97 A	3.17 EMPCA	7.86 A	1.48 J EMPCA	0.871 J EMPCA	2.31 JA	4.14 A	4.67 A	13.4 A	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6		pg/g	11.7 A	14.5 A	3.24 A	1.25 JA	0.681 JA	U	1.02 JA	1.53 JA	12.3 A	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4		pg/g	5.78 A	U	2.5 EMPCA	U	U	U	U	U	18.7 A	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5		pg/g	10 A	6.46 A	8.77 A	0.718 J EMPCA	0.505 JA	0.397 JA	5.46 A	5.27 A	33 A	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4		pg/g	19.8 A	11.7 A	13.9 A	3.3 A	1.38 JA	U	8.38 A	9.52 A	81.2 A	0.72 J EMPCA	4.45 A	2.29 JA
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9		pg/g	25.7 A	6.13 A	1.79 EMPCA	2.32 EMPCA	1.13 A	U	1.05 EMPCA	1.45 EMPCA	17 A	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	**4.8**	pg/g	2.93 EMPCA	0.432 J EMPCA	0.488 J EMPCA	U	U	0.342 JA	U	0.487 A	1.64 A	U	U	U
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF		pg/g	266 A	330 A	275 A	13.8 EMPCA	5.44 EMPCA	7.98 A	161 A	223 EMPCA	660 A	U	U	9.86 A
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD		pg/g	577 A	641 A	210 A	146 A	101 A	276 A	165 A	199 A	290 A	10.8 EMPCA	32.1 EMPCA	51.7 A
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF		pg/g	174 EMPCA	185 EMPCA	162 EMPCA	16.5 EMPCA	5.53 EMPCA	4.34 A	104 EMPCA	119 EMPCA	566 A	3.72 EMPCA	18.9 EMPCA	9.25 EMPCA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD		pg/g	160 A	80.8 EMPCA	195 EMPCA	19.3 EMPCA	15.8 EMPCA	41.6 A	71.3 EMPCA	94 A	339 A	3.84 EMPCA	6.88 A	5.18 A
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0		pg/g	299 A	263 A	68.5 A	8.22 EMPCA	3.27 JA	2.9 JA	53 A	69.5 A	207 A	U	U	5.34 EMPCA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9		pg/g	1070 A	3610 A	471 A	550 A	242 A	661 A	314 A	452 A	542 A	37.5 A	109 EMPCA	203 A
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF		pg/g	273 EMPCA	255 A	248 EMPCA	22 EMPCA	10.3 EMPCA	1.7 A	87.3 EMPCA	114 EMPCA	722 EMPCA	7.78 EMPCA	35.5 A	15.9 EMPCA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD		pg/g	164 EMPCA	30.8 EMPCA	49.8 EMPCA	2.21 EMPCA	0.634 EMPCA	U	5.53 EMPCA	8.06 EMPCA	255 EMPCA	U	U	U
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD		pg/g	280 EMPCA	35.1 EMPCA	17.9 EMPCA	U	0.507 EMPCA	0.342 A	0.749 EMPCA	4.65 EMPCA	148 EMPCA	U	U	U
007-Mclouth_DioxFur	SW1613B	Total Dioxin TEQ (Mammal)	TEQ(M)	**4.8**	pg/g	**26.8165 A**	**17.26138462 A**	**16.490275 A**	3.474197596 A	1.6566722 JA	2.757192273 A	**6.969103896 A**	**9.078260417 A**	**76.2868 A**	1.016993199 JA	4.184814444 JA	2.198410268 JA
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5		pg/g	459 A	118 EMPCA	171 EMPCA	25.4 EMPCA	10.2 EMPCA	U	34.2 EMPCA	71.8 EMPCA	489 EMPCA	2.83 EMPCA	14 EMPCA	8.06 EMPCA

Notes:

1. The analytical data shown above has not been validated by a third-party validator. The data is presented for discussion purposes only.
2. **Identifies results that exceed the listed PAL value**
3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
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A - Unvalidated result
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J - The identification of the analyte is acceptable; the reported value is an estimate
U - Not Detected

Table E - Dioxin/Furan Detection Results

Location						RI-SB-12	RI-SB-13	RI-SB-13	RI-SB-13	RI-SB-14	RI-SB-14	RI-SB-16	RI-SB-16	RI-SB-16	RI-SB-23	RI-SB-23	RI-SB-23
Sample #						RI-SB-12A-0-0.5	RI-SB-13-0-0.5	RI-SB-13-1-2	RI-SB-13-19-20	RI-SB-14-0-0.5	RI-SB-14-1-2	RI-SB-16-0-0.5	RI-SB-16-1-2	RI-SB-16-13-14	RI-SB-23-0-0.5	RI-SB-23-1-2	RI-SB-23-17-18
Start Depth						0	0	1	19	0	1	0	1	13	0	1	17
End Depth						0.5	0.5	2	20	0.5	2	0.5	2	14	0.5	2	18
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						FD	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #						RI-SB-12-0-0.5											
Sample Date						9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/5/2023	9/5/2023	9/19/2023	9/19/2023	9/19/2023	8/30/2023	8/30/2023	8/30/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units												
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4		pg/g	U	12.7 A	37.6 A	133 A	19.3 A	57.2 A	14.7 A	165 A	370 A	12.9 A	121 A	3340 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9		pg/g	U	48.8 A	230 A	74.4 A	87.9 A	208 A	42.2 A	238 A	289 A	29.2 A	64.9 A	455 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7		pg/g	U	U	1.53 J EMPCA	2.74 A	U	U	0.65 J EMPCA	26.6 A	41.8 A	U	7.43 A	48.8 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9		pg/g	U	2.56 EMPCA	4.21 A	5.68 A	4.73 A	8.36 A	6.13 A	23.1 A	103 A	4.75 A	22.6 A	144 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6		pg/g	U	U	0.79 J BA	0.998 J B EMPCA	2.58 EMPCA	3.35 EMPCA	1.23 J EMPCA	5.48 A	14.8 A	U	2.29 J EMPCA	16.4 A
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9		pg/g	U	1.23 J EMPCA	2.58 A	3.55 A	2.31 JA	4.55 A	1.51 JA	23.2 A	55.1 A	3.54 A	17.8 A	47.6 A
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7		pg/g	U	2.33 J EMPCA	11.4 A	6.55 A	8.08 A	13.9 A	2.19 J EMPCA	13 A	59 A	4.62 A	14.2 A	103 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9		pg/g	U	U	U	U	U	U	U	13.2 A	50.8 A	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3		pg/g	U	1.75 JA	5.46 A	2.76 EMPCA	8.14 EMPCA	7.57 A	1.84 J EMPCA	8.18 A	30.6 A	2.52 EMPCA	6.22 A	35.3 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6		pg/g	U	U	2.67 A	1.83 JA	2.22 JA	4.2 A	1.18 J EMPCA	10.7 A	26.7 A	2.87 A	4.92 A	14.7 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4		pg/g	U	U	0.928 JA	1.31 JA	2.97 EMPCA	U	U	2.56 EMPCA	26.5 A	U	3.58 EMPCA	36.7 A
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5		pg/g	U	2.45 A	3.29 A	5.21 A	2.86 A	5.3 A	2.11 J EMPCA	31.5 A	45.1 A	3.18 A	34.3 A	74.9 A
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4		pg/g	U	5.6 A	6.55 A	6.08 EMPCA	3.49 A	9.74 A	3.51 A	24.3 A	156 A	7.8 A	60.6 A	90.2 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9		pg/g	U	2.26 EMPCA	4.22 A	2.13 A	2.49 A	5.76 EMPCA	1.81 EMPCA	9.56 A	21.8 A	9.61 A	4.55 A	13 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	**4.8**	pg/g	U	U	U	0.387 J EMPCA	1.81 A	U	U	U	4.45 EMPCA	U	0.961 A	**7.1 A**
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF		pg/g	U	22.6 EMPCA	78.5 EMPCA	235 A	36.1 A	119 A	26.9 EMPCA	330 A	696 A	20.6 EMPCA	236 A	6130 A
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD		pg/g	U	110 A	497 A	186 A	271 A	449 A	154 A	809 A	620 A	60.9 A	154 A	1010 A
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF		pg/g	3.23 A	35.7 EMPCA	51 A	95.4 EMPCA	32.6 A	86.8 EMPCA	37.5 EMPCA	278 A	1260 A	39 A	458 A	2290 A
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD		pg/g	U	25.9 EMPCA	83.1 EMPCA	68.1 EMPCA	105 EMPCA	159 EMPCA	35.5 EMPCA	208 A	615 A	48.1 EMPCA	124 EMPCA	801 EMPCA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0		pg/g	U	12.8 A	34.9 A	53.4 A	30.4 A	103 A	19.5 A	558 A	225 A	20.9 EMPCA	99.1 A	1540 A
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9		pg/g	64.1 A	393 A	1270 A	980 A	801 A	2170 A	346 A	1410 A	3190 A	174 A	317 A	1280 A
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF		pg/g	7.91 A	65.1 EMPCA	56.6 EMPCA	74 EMPCA	33.7 EMPCA	79 EMPCA	59.7 EMPCA	307 EMPCA	1340 A	62.5 A	491 EMPCA	660 EMPCA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD		pg/g	U	2.03 A	13 EMPCA	22 EMPCA	40.1 EMPCA	45.5 A	2.95 A	63.7 EMPCA	338 EMPCA	7.25 EMPCA	39.6 EMPCA	459 EMPCA
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD		pg/g	U	2.47 EMPCA	8.72 EMPCA	8.92 EMPCA	20.1 EMPCA	26.7 EMPCA	U	38.5 EMPCA	144 EMPCA	7.78 EMPCA	12.2 EMPCA	173 EMPCA
007-Mclouth_DioxFur	SW1613B	Total Dioxin TEQ (Mammal)	TEQ(M)	**4.8**	pg/g	0.01923 A	4.035441633 JA	**9.303306 A**	**8.707893333 A**	**10.37142 A**	**11.82104923 A**	**4.824214286 JA**	**28.12448 A**	**124.6035 A**	**6.188715636 A**	**35.174745 A**	**154.154 A**
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5		pg/g	U	35.1 EMPCA	43.6 EMPCA	61.8 EMPCA	28.7 EMPCA	93.3 EMPCA	28.3 EMPCA	500 EMPCA	815 A	81.4 EMPCA	195 EMPCA	801 EMPCA

Notes:

1. The analytical data shown above has not been validated by a third-party validator. The data is presented for discussion purposes only.
2. **Identifies results that exceed the listed PAL value**
3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
A - Unvalidated result
EMPC - Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
J - The identification of the analyte is acceptable; the reported value is an estimate
U - Not Detected

Table E - Dioxin/Furan Detection Results

Location						RI-SB-23	RI-SB-25	RI-SB-25	RI-SB-25	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-29	RI-SB-29	RI-SB-29	RI-SB-30
Sample #						RI-SB-23A-0-0.5	RI-SB-25-0-0.5	RI-SB-25-1-2	RI-SB-25-17-18	RI-SB-26-0-0.5	RI-SB-26-1-2	RI-SB-26-2-3	RI-SB-26A-1-2	RI-SB-29-0-0.5	RI-SB-29-1-2	RI-SB-29-4-5	RI-SB-30-0-0.5
Start Depth						0	0	1		0	1	2	1	0	1	4	0
End Depth						0.5	0.5	2		0.5	2	3	2	0.5	2	5	0.5
Depth Unit						ft	ft	ft		ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						FD	N	N	N	N	N	N	FD	N	N	N	N
Parent Sample #						RI-SB-23-0-0.5							RI-SB-26-1-2				
Sample Date						8/30/2023	9/19/2023	9/19/2023	9/19/2023	9/15/2023	9/15/2023	9/15/2023	9/15/2023	9/11/2023	9/11/2023	9/11/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units												
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4		pg/g	32.4 A	7.59 A	14.6 A	3950 A	17.1 A	1.85 JA	8.75 A	1.99 JA	47.2 A	16.8 A	17.2 A	1.46 JA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9		pg/g	61.6 A	23.2 A	77.2 A	238 A	42.1 A	6.05 A	6.99 A	6.02 A	368 A	18.3 A	30.3 A	2.25 J EMPCA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7		pg/g	3.2 EMPCA	U	1.83 JA	U	1.21 JA	U	U	U	4.36 A	U	0.958 J EMPCA	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9		pg/g	7.68 A	1.78 JA	3.95 A	15.1 EMPCA	5.72 A	0.279 J EMPCA	0.261 JA	0.334 J EMPCA	7.55 A	2.16 JA	3.29 A	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6		pg/g	U	U	1.71 JA	7.95 A	1.34 JA	0.711 JA	0.534 JA	0.696 JA	2.74 A	U	0.803 J B EMPCA	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9		pg/g	5.64 A	0.864 J EMPCA	2.81 A	15.1 EMPCA	3.93 A	0.201 JA	0.124 J EMPCA	0.234 J EMPCA	6.31 A	1.59 J EMPCA	2.47 A	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7		pg/g	9.71 A	1.6 JA	12 A	40 A	4.12 A	0.7 JA	0.751 JA	0.638 J EMPCA	10.3 A	5.02 A	5.45 A	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9		pg/g	U	U	U	U	U	U	U	U	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3		pg/g	3.98 EMPCA	1.06 JA	5.37 EMPCA	19.9 A	2.05 JA	0.648 JA	0.731 J EMPCA	0.647 J EMPCA	5.45 A	2.71 A	2.76 A	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6		pg/g	3.4 A	1.07 JA	2.55 EMPCA	U	6.01 A	0.375 JA	0.236 J EMPCA	0.346 JA	6.35 A	1.29 J EMPCA	3.89 A	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4		pg/g	U	U	1.42 JA	U	1.13 J EMPCA	U	U	U	1.3 J EMPCA	1.72 JA	0.655 J EMPCA	U
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5		pg/g	8.19 A	1.44 JA	3.16 EMPCA	13.7 A	2.29 JA	0.227 J EMPCA	0.312 JA	0.249 JA	6.94 A	1.45 J EMPCA	3.44 A	U
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4		pg/g	17 A	2.33 JA	6.49 A	U	3.53 A	0.401 JA	0.648 JA	0.687 JA	9.65 A	2.01 J EMPCA	6.78 A	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9		pg/g	9.84 A	1.66 A	6.07 A	U	3.25 A	0.714 EMPCA	1.08 A	1.12 A	7.55 A	2.89 EMPCA	9.42 A	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	**4.8**	pg/g	U	U	0.415 JA	U	0.468 JA	U	U	U	0.631 A	1.01 EMPCA	0.853 A	U
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF		pg/g	63.3 EMPCA	12.9 EMPCA	29.7 EMPCA	6820 A	27.7 A	2.53 EMPCA	13.1 A	3.27 A	144 A	24 A	32.5 EMPCA	3.02 EMPCA
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD		pg/g	148 A	56.6 A	166 A	457 A	98.8 A	11.3 A	10.8 A	11.2 A	1290 A	38.8 A	61.6 A	6.26 EMPCA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF		pg/g	110 A	13.9 EMPCA	33 EMPCA	1700 EMPCA	33.5 EMPCA	2.44 EMPCA	3.61 EMPCA	2.48 EMPCA	88.5 EMPCA	20.5 EMPCA	33.1 EMPCA	2.06 A
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD		pg/g	90.3 EMPCA	14.2 EMPCA	78.7 EMPCA	424 A	45.4 A	6.15 A	6.19 EMPCA	5.97 EMPCA	145 A	33.2 EMPCA	45.9 EMPCA	U
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0		pg/g	68.5 A	11.2 A	18.8 A	1650 A	13 A	0.664 J EMPCA	4.66 JA	0.806 J EMPCA	140 A	6.6 A	13.7 A	U
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9		pg/g	327 A	179 A	430 A	791 A	212 A	11.6 A	12.8 A	14.8 A	3150 A	65.1 A	118 A	22.3 EMPCA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF		pg/g	130 A	23.3 EMPCA	54.5 EMPCA	U	44.5 EMPCA	3.19 EMPCA	3.22 EMPCA	5.75 EMPCA	95.4 EMPCA	21.4 EMPCA	61.1 EMPCA	U
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD		pg/g	19.9 EMPCA	0.829 EMPCA	14.6 EMPCA	U	31.6 EMPCA	0.895 EMPCA	0.496 EMPCA	U	22 EMPCA	10.5 EMPCA	12.1 EMPCA	U
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD		pg/g	9.32 EMPCA	U	6.28 EMPCA	U	39.5 EMPCA	U	U	U	14.8 EMPCA	5.31 EMPCA	9.54 EMPCA	U
007-Mclouth_DioxFur	SW1613B	Total Dioxin TEQ (Mammal)	TEQ(M)	**4.8**	pg/g	**11.60384267 A**	2.169948571 JA	**8.44841 A**	**57.16490476 A**	**5.7869 A**	0.803957867 JA	0.828480914 JA	1.028285615 JA	**14.9193 A**	**5.359285 JA**	**6.952935 A**	0.872200705 JA
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5		pg/g	127 EMPCA	17.1 EMPCA	72.9 EMPCA	U	45.6 EMPCA	5.46 EMPCA	6.86 EMPCA	13.2 EMPCA	80 EMPCA	34.3 EMPCA	106 EMPCA	U

Notes:

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2. Identifies results that exceed the listed PAL value

3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
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J - The identification of the analyte is acceptable; the reported value is an estimate
U - Not Detected

Table E - Dioxin/Furan Detection Results

Location						RI-SB-30	RI-SB-30	RI-SB-31	RI-SB-31	RI-SB-31	RI-SB-32	RI-SB-32	RI-SB-32	RI-SB-35	RI-SB-35	RI-SB-35	RI-SB-39
Sample #						RI-SB-30-1-2	RI-SB-30-2-3	RI-SB-31-0-0.5	RI-SB-31-1-2	RI-SB-31-4-5	RI-SB-32-0-0.5	RI-SB-32-1-2	RI-SB-32-18-19	RI-SB-35-0-0.5	RI-SB-35-1-2	RI-SB-35-9-10	RI-SB-39-0-0.5
Start Depth						1	2	0	1	4	0	1	18	0	1	9	0
End Depth						2	3	0.5	2	5	0.5	2	19	0.5	2	10	0.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #																	
Sample Date						9/20/2023	9/20/2023	9/20/2023	9/20/2023	9/20/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/13/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units												
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4		pg/g	10.1 A	15.8 A	50.1 A	35.3 A	5.94 A	1.76 JA	47.1 A	228 A	0.439 JA	0.266 JA	855 A	115 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9		pg/g	33 A	63.4 A	86 A	73.3 A	17.3 A	4.79 A	59.8 A	192 A	0.86 J EMPCA	1.14 J EMPCA	91.8 A	1400 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7		pg/g	0.667 J EMPCA	1.42 JA	3.99 A	2.61 EMPCA	U	U	1.86 JA	26.2 A	U	U	7.02 A	16.1 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9		pg/g	1.36 J EMPCA	2.41 JA	11.5 A	6.01 A	0.657 JA	0.818 JA	10.5 A	187 A	U	U	19.1 A	11.9 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6		pg/g	0.382 J BA	0.834 JA	1.87 JA	1.38 JA	U	0.309 JA	2.06 JA	4.04 A	U	U	2.9 A	6.04 A
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9		pg/g	1.13 J EMPCA	1.55 JA	6.63 A	3.73 EMPCA	0.456 J EMPCA	0.566 JA	7.99 A	51.9 A	U	U	12.7 A	5.68 A
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7		pg/g	2.2 J EMPCA	4.23 A	7.57 A	8.95 A	4.87 EMPCA	0.731 J EMPCA	29.3 A	30.6 A	U	U	19.2 A	42 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9		pg/g	U	U	U	U	U	U	U	U	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3		pg/g	0.659 J EMPCA	1.92 JA	3.74 EMPCA	3.99 EMPCA	1.93 JA	U	10.7 A	12.6 A	U	U	8.48 A	15.7 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6		pg/g	0.92 J EMPCA	1 JA	4.3 A	2.08 JA	0.229 J EMPCA	0.908 JA	2.35 JA	116 A	U	U	5.93 A	2.96 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4		pg/g	U	0.96 JA	1.87 JA	1.63 JA	U	U	3.7 EMPCA	4.17 A	U	U	3.78 A	3.95 A
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5		pg/g	1.35 J EMPCA	2.37 J EMPCA	12.2 A	7.23 A	0.341 JA	0.514 JA	17.6 A	26 A	U	U	11.4 A	7.01 A
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4		pg/g	2.74 EMPCA	5.68 A	15.5 A	9.56 A	0.759 J EMPCA	1.47 J EMPCA	24.6 A	94.6 A	U	U	14.8 A	8.81 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9		pg/g	1.8 A	2.91 A	5.74 A	2.4 EMPCA	0.451 J EMPCA	1.48 A	2.01 A	116 A	U	0.162 J EMPCA	3.28 A	5.84 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	**4.8**	pg/g	U	0.744 A	0.544 EMPCA	0.387 JA	U	U	0.73 A	1.46 A	U	U	1.04 A	2.79 EMPCA
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF		pg/g	26.3 EMPCA	54.4 A	101 A	74.3 EMPCA	11.5 A	2.95 EMPCA	72.2 A	390 A	0.645 EMPCA	0.521 A	1400 A	414 A
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD		pg/g	94.4 A	144 A	231 A	221 A	32.3 A	10.5 A	105 A	537 A	2.38 EMPCA	3.17 EMPCA	174 A	2610 A
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF		pg/g	19.8 EMPCA	34.4 EMPCA	163 EMPCA	96.8 EMPCA	6.27 EMPCA	5.84 EMPCA	201 A	513 A	0.827 EMPCA	0.233 EMPCA	411 A	147 EMPCA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD		pg/g	16.8 EMPCA	31.3 A	77.9 EMPCA	80 EMPCA	26.6 EMPCA	5.58 EMPCA	201 EMPCA	917 A	0.976 EMPCA	0.941 EMPCA	183 A	299 A
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0		pg/g	18.5 A	58.2 A	68.6 A	42.8 A	5.16 A	1.19 JA	7.22 A	152 A	0.303 J EMPCA	0.311 J EMPCA	336 A	428 A
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9		pg/g	388 A	757 A	553 A	415 A	51.9 A	32.4 A	149 A	1380 A	5.82 A	9.34 A	504 A	15300 EA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF		pg/g	28 EMPCA	51 EMPCA	190 EMPCA	107 EMPCA	4.53 EMPCA	13.3 EMPCA	148 EMPCA	615 A	U	0.383 A	360 EMPCA	87.6 EMPCA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD		pg/g	0.999 EMPCA	7.14 EMPCA	19.6 EMPCA	19 EMPCA	0.594 EMPCA	0.47 A	156 EMPCA	472 EMPCA	U	U	65.5 A	32 EMPCA
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD		pg/g	0.506 A	4.65 EMPCA	8.98 EMPCA	4.41 EMPCA	U	U	156 EMPCA	106 A	U	U	26.5 EMPCA	11.8 EMPCA
007-Mclouth_DioxFur	SW1613B	Total Dioxin TEQ (Mammal)	TEQ(M)	**4.8**	pg/g	2.483393455 JA	**6.12699 A**	**13.73562 A**	**9.58531 A**	1.438023916 JA	1.075005029 JA	**21.041349 A**	**85.2712 A**	0.303992667 JA	0.197528942 JA	**26.9876 A**	**39.007 A**
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5		pg/g	22.9 EMPCA	44.5 EMPCA	99.5 EMPCA	59.4 EMPCA	5.41 EMPCA	24.2 EMPCA	89.8 A	562 EMPCA	U	0.55 EMPCA	321 A	57 EMPCA

Notes:

1. The analytical data shown above has not been validated by a third-party validator. The data is presented for discussion purposes only.
2. **Identifies results that exceed the listed PAL value**
3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

A - Unvalidated result

EMPC - Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.

J - The identification of the analyte is acceptable; the reported value is an estimate

U - Not Detected

Table E - Dioxin/Furan Detection Results

Location						RI-SB-39	RI-SB-39	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-41	RI-SB-41	RI-SB-41	RI-SB-42	RI-SB-42	RI-SB-42
Sample #						RI-SB-39-1-2	RI-SB-39-2-3	RI-SB-40-0-0.5	RI-SB-40-1-2	RI-SB-40-3-4	RI-SB-40A-1-2	RI-SB-41-0-0.5	RI-SB-41-1-2	RI-SB-41-4-5	RI-SB-42-0-0.5	RI-SB-42-1-2	RI-SB-42-19-20
Start Depth						1	2	0	1	3	1	0	1	4	0	1	19
End Depth						2	3	0.5	2	4	2	0.5	2	5	0.5	2	20
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	FD	N	N	N	N	N	N
Parent Sample #											RI-SB-40-1-2						
Sample Date						9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/6/2023	9/6/2023	9/6/2023	9/21/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units												
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4		pg/g	46.2 A	42.6 A	57.2 A	50.3 A	4.15 A	49 A	15.1 A	46.4 A	104 A	23.3 A	15.9 A	21.8 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9		pg/g	46.9 A	101 A	224 A	65.7 A	4.26 A	62.3 A	59.2 A	169 A	23.1 A	70.9 A	60 A	18.3 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7		pg/g	2.86 A	3.11 A	4.7 A	4.64 A	0.51 J EMPCA	3.26 A		2.58 A	1.67 JA	1.83 J EMPCA	1.38 JA	8.31 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9		pg/g	8.49 A	5.04 EMPCA	15.2 A	41.1 A	1.1 J EMPCA	33.5 A	2.15 J EMPCA	5.16 A	6.48 A	6.2 A	6.39 A	50.3 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6		pg/g	0.763 J EMPCA	U	2.98 A	1.24 J EMPCA	0.482 JA		1.14 JA	2.01 JA	0.747 J EMPCA	1.15 J B EMPCA	0.77 J B EMPCA	0.613 J BA
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9		pg/g	4.29 A	3.18 A	9.05 A	21 A	1.71 JA	13.9 A	1.58 JA	3.41 A	3.97 A	6.75 A	4.46 A	13.1 A
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7		pg/g	7.86 A	10.7 A	10.3 A	8.58 A	0.815 JA	6.69 A	4.52 A	11.4 A	5.56 A	7.84 A	7.22 A	2.65 EMPCA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9		pg/g	U	U	U	U	U	U	U	U	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3		pg/g	2.97 A	3.74 EMPCA	6.96 A	3.48 A	U	3.08 A	2.48 EMPCA	5.49 A	2.12 JA	4.12 EMPCA	3.44 A	1.22 J EMPCA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6		pg/g	3.93 A	2.29 JA	8.01 A	14.8 A	1.15 J EMPCA	23.5 A	2.57 A	2.56 A	1.38 JA	9.44 A	5.64 A	25.2 A
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4		pg/g	1.33 JA	1.73 J EMPCA	2.46 EMPCA	1.77 JA		1.6 JA	U	1.28 J EMPCA	1.4 J EMPCA	1.32 J EMPCA	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5		pg/g	4.28 EMPCA	3.58 A	11.2 A	7.14 A	1.27 J EMPCA	6.91 A	2.07 JA	4.53 A	3.06 A	6.82 A	4.05 A	4.37 EMPCA
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4		pg/g	7.96 EMPCA	6.08 A	15.7 A	14.6 A	2.26 JA	12.1 A	2.68 A	7.86 A	4.81 A	10 A	7.74 A	19.5 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9		pg/g	2.9 A	2.3 A	13.1 A	3.74 A	2.46 A	4.24 A	1.86 A	5.32 A	0.948 A	9.22 A	10.2 A	17.2 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	**4.8**	pg/g	U	0.539 A	0.977 A	0.359 JA	U	U	U	U	U	0.426 J EMPCA	0.355 J EMPCA	U
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF		pg/g	93.9 A	90.2 A	116 A	102 A	6.83 EMPCA	98 A	29.5 EMPCA	110 A	174 A	50.2 EMPCA	33.9 A	39 A
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD		pg/g	110 A	238 A	665 A	187 A	10.1 A	184 A	148 A	354 A	50.4 A	224 A	171 A	37.7 A
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF		pg/g	78.6 EMPCA	59.7 EMPCA	130 A	181 EMPCA	13.2 EMPCA	162 EMPCA	27.2 EMPCA	68.1 EMPCA	73.2 A	80.6 EMPCA	50.9 EMPCA	103 EMPCA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD		pg/g	74.8 EMPCA	101 EMPCA	138 EMPCA	68.5 EMPCA	1.3 A	59.1 A	42.4 EMPCA	101 A	43.7 EMPCA	83.2 EMPCA	63.6 EMPCA	19.7 EMPCA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0		pg/g	60.6 A	76.9 A	79.2 A	44.8 A	2.93 JA	46.4 A	20.9 A	94 A	42.2 A	28 EMPCA	23.3 A	18.7 A
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9		pg/g	343 A	854 A	1960 A	400 A	15.2 A	454 A	380 A	1250 A	155 A	539 A	381 A	80 A
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF		pg/g	92.6 EMPCA	58.8 EMPCA	167 EMPCA	254 A	21.9 EMPCA	293 EMPCA	27.9 EMPCA	65.6 A	103 A	108 EMPCA	73.8 EMPCA	122 EMPCA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD		pg/g	11.7 EMPCA	13.8 EMPCA	35.5 EMPCA	17.6 EMPCA	1.33 A	19.6 EMPCA	7.27 EMPCA	19.4 EMPCA	22.7 EMPCA	16.9 EMPCA	8.46 EMPCA	4.02 EMPCA
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD		pg/g	2.87 EMPCA	3.33 EMPCA	23 EMPCA	9.34 EMPCA	1.77 EMPCA	7.3 EMPCA	3.31 A	6.95 EMPCA	7.92 EMPCA	4.69 EMPCA	2.86 EMPCA	2.05 EMPCA
007-Mclouth_DioxFur	SW1613B	Total Dioxin TEQ (Mammal)	TEQ(M)	**4.8**	pg/g	**8.234395 JA**	**8.82664375 A**	**18.77244 A**	**16.95076 A**	1.779151184 JA	**14.155088 A**	3.608484821 A	**10.12856 A**	**6.615084375 A**	**10.38295 A**	**7.482354286 A**	**16.21646389 A**
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5		pg/g	49.7 EMPCA	37.6 EMPCA	156 EMPCA	82.8 EMPCA	46.5 EMPCA	146 EMPCA	29 EMPCA	72.1 A	101 EMPCA	90.6 EMPCA	77.2 EMPCA	73.5 EMPCA

Notes:

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3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

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EMPC - Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
J - The identification of the analyte is acceptable; the reported value is an estimate
U - Not Detected

Table E - Dioxin/Furan Detection Results

Location						RI-SP-01	RI-SP-02
Sample #						RI-SP-01	RI-SP-02
Start Depth							
End Depth							
Depth Unit							
Sample Type						N	N
Parent Sample #							
Sample Date						9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units		
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4		pg/g	18.4 A	3.69 EMPCA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9		pg/g	81.6 A	15.6 A
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7		pg/g	2.41 JA	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9		pg/g	3.97 A	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6		pg/g	1.01 J B EMPCA	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9		pg/g	3.63 A	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7		pg/g	3.35 A	1.11 J EMPCA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3		pg/g	2.12 J EMPCA	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6		pg/g	2.04 J EMPCA	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4		pg/g	1.06 J EMPCA	U
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5		pg/g	3.35 EMPCA	2.1 JA
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4		pg/g	4.33 A	4.7 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9		pg/g	2.94 A	0.91 A
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	4.8	pg/g	0.427 J EMPCA	U
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF		pg/g	39.7 EMPCA	8.49 EMPCA
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD		pg/g	193 A	40.1 A
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF		pg/g	33.1 EMPCA	20.9 EMPCA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD		pg/g	38.9 EMPCA	12 EMPCA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0		pg/g	38.4 A	5.85 EMPCA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9		pg/g	705 A	123 A
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF		pg/g	38.1 EMPCA	45.2 EMPCA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD		pg/g	18.6 EMPCA	U
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD		pg/g	17.9 EMPCA	U
007-Mclouth_DioxFur	SW1613B	Total Dioxin TEQ (Mammal)	TEQ(M)	**4.8**	pg/g	**6.14284 A**	2.34295746 JA
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5		pg/g	43.3 EMPCA	13.8 EMPCA

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EMPC - Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise
U - Not Detected

Table F - Inorganic Detection Results

Location						RI-SB-01	RI-SB-01	RI-SB-01	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-03	RI-SB-03	RI-SB-03	RI-SB-04	RI-SB-04	RI-SB-04	RI-SB-05
Sample #						RI-SB-01-0-0.5	RI-SB-01-1-2	RI-SB-01-4-5	RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5	RI-SB-02A-1-2	RI-SB-03-0-0.5	RI-SB-03-1-2	RI-SB-03-3-4	RI-SB-04-0-0.5	RI-SB-04-1-2	RI-SB-04-5-6	RI-SB-05-0-0.5
Start Depth						0	1	4	0	1	4	1	0	1	3	0	1	5	0
End Depth						0.5	2	5	0.5	2	5	2	0.5	2	4	0.5	2	6	0.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	FD	N	N	N	N	N	N	N
Parent Sample #												RI-SB-02-1-2							
Sample Date						8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/18/2023	8/18/2023	8/18/2023	8/29/2023	8/29/2023	8/29/2023	8/16/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units														
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	**20000 J**	**17000 J**	3600 J	**11000 J**	4600 J	4400 J	4600 J	**7300**	5500	3400	**8000 J**	**16000 J**	**16000 J**	**16000**
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	U	U	U	U	**2.1 J+**	**22 J+**	U	**2.6 J+**	**2.1 J+**	**1.9 J+**	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**1.3 J**	**0.97 J**	**5.6 J**	**2.4 J**	**5.6 J**	**6.7 J**	**2.5 J**	**3.4**	**6**	**2.6**	**1.8 J**	**1.9 J**	**1.3 J**	**2.7**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	180 J+	150 J+	100	140 J+	180 J+	**910**	**330 J+**	170	**560**	88	65	120	89	**310**
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	4.6 J	4.4 J	0.42 J	1.4 J	0.6 J	0.52 J	0.46 J	1.5	0.47	0.77	0.73 J	2 J	1 J	3.2
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	U	0.38 J	0.33 J	0.69	**1.9**	**19**	**2**	**15**	**2.3**	0.4 J	**2**	0.39 J	0.66	0.57
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	130000	120000		78000	82000	U	U	68000	15000	3600	42000	210000 J-	150000	170000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**15 J+**	**84 J+**	**25 J+**	**57 J+**	**220 J+**	**96 J+**	**86 J+**	**60**	**130**	**44**	**150 J**	**490 J**	**260 J**	**560 J-**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**1.4 J+**	**0.91 J+**	**3 J+**	**3 J+**	**4.8 J+**	**7.6 J+**	**5.7 J+**	**4.6**	**7.7**	**18**	**3.9**	**2.7**	**4.4**	**3.6**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	U	U	**92**	51	**210**	**830**	**180**	**210 J+**	**200 J+**	**160 J+**	**65**	15	21	41
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	U	**0.63**	U	U	**0.31 J**	**0.45 J**	U	U	U	U	**0.32 J**	U	U	**9.9 J+**
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	U	U	U	U	U	**37000 J**	U	**16000**	**34000**	**34000**	**34000 J**	**98000 J-**	**12000 J**	**58000**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	U	13 J+	95 J+	40 J+	160 J+	**730 J+**	69 J+	89 J+	100 J+	80 J+	45 J+	15 J+	71 J+	**380 J+**
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	**13000 J+**	**14000 J+**	550 J+	**11000 J+**	**18000 J+**	1500 J+	2800 J+	**8900**	1400	1200	6400 J	**18000 J**	**13000 J**	**29000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**2300 J+**	**3300 J+**	**930 J+**	**1600 J+**	**3100 J+**	**1400 J+**	**1800 J+**	**1100 J+**	**1300 J+**	**260 J+**	**1800 J+**	**12000 J+**	**710 J+**	**8300**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	U	U	0.026 J	U	**0.09 J**	**0.34**	**0.14**	**0.35**	**0.77**	**1.2**	U	U	U	**0.082 J**
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	U	U	29 J-	28 J-	**98 J-**	**130 J-**	**75 J-**	47	**220**	45	**94 J-**	**76 J-**	**130 J-**	**84**
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	1500 J+	1000 J+	U	720 J+	U	U	U	420 J	440	160 J	650	780	900	650
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	**2 J**	**1.7 J**	U	**0.75 J**	U	**4**	U	**2.6**	U	U	U	U	U	**0.95 J**
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	U	U	0.087 J	**0.11 J**	**0.28 J**	**2**	**0.58**	**0.27 J**	**1.5**	**0.19 J**	U	0.076 J	U	**0.16 J**
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	3100	470 J	77 J	260 J	140 J	180 J	120 J	590	520	480	180 J	500	400 J	1000
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	U	U	U	0.071 J	U	U	0.044 J	U	U	U	0.05 J	U	0.073 J	U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	6.7 J+	20 J+	11 J+	19 J+	**40 J+**	20 J+	4.4 J+	7.5	13	10	15	**290**	6.1	**150**
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	U	U	U	U	**190 J+**	**530 J+**	**120 J+**	**130 J+**	**130 J+**	52 J+	99 J+	56 J+	110 J+	**610 J+**

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table F - Inorganic Detection Results

Location						RI-SB-05	RI-SB-05	RI-SB-05	RI-SB-07	RI-SB-07	RI-SB-07	RI-SB-08	RI-SB-08	RI-SB-08	RI-SB-10	RI-SB-10	RI-SB-10	RI-SB-11	RI-SB-11
Sample #						RI-SB-05-1-2	RI-SB-05-3-4	RI-SB-05A-1-2	RI-SB-07-0-0.5	RI-SB-07-1-2	RI-SB-07-4-5	RI-SB-08-0-0.5	RI-SB-08-1-2	RI-SB-08-4-5	RI-SB-10-0-0.5	RI-SB-10-1-2	RI-SB-10-4-5	RI-SB-11-0-0.5	RI-SB-11-1-2
Start Depth						1	3	1	0	1	4	0	1	4	0	1	4	0	1
End Depth						2	4	2	0.5	2	5	0.5	2	5	0.5	2	5	0.5	2
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	FD	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #								RI-SB-05-1-2											
Sample Date						8/16/2023	8/16/2023	8/16/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units														
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	**12000**	**11000**	**16000**	**8800**	3300	5300	**11000**	**9300**	3700	**8200**	**15000**	**7000**	**17000**	**20000**
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	U	U	U	U	**1.8 J+**	**3.7 J+**	U	**2.4 J+**	**2.8 J+**	U	**1.2 J+**	U	U	U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**3.4**	**5.6**	**4.6**	**4.4**	**11**	**10**	**3.4**	**11**	**5.7**	**4.9**	**5.1**	**6.3**	**2**	**1.8**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	130	67	110	88	100	260	110	170	140	43	120	47	180	170
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	2.8	0.42	1.2	1.4	1.6	0.85	1.6	3.4	0.72	0.59 J+	1.6 J+	U	4.2 J+	4.9 J+
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	0.41 J	0.23 J	0.51	**1.4 J-**	**2.2 J-**	**2.8 J-**	**0.93 J-**	**1.9 J-**	**2.2 J-**	**1 J-**	**1 J-**	0.64 J-	**1.1 J-**	**0.92 J-**
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	200000	250000	200000	100000 J-	20000 J-	38000 J-	170000 J-	120000 J-	60000 J-	180000 J-	190000 J-	170000 J-	180000 J-	120000 J-
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**870 J-**	**1300 J-**	**1100 J-**	**30**	**130**	**180**	**450**	**510**	**200**	**180**	**620**	**37**	**110**	**43**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**3.1**	**5.6**	**6.3**	**2.2**	**5.4**	**9.4**	**2.5**	**6.9**	**5.1**	**3**	**3.8**	**4.4**	**1.2**	**1.1**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	**55**	29	**69**	29	**110**	**290**	35	**110**	**78**	23	40	18	15	22
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	U	U	U	U	U	**0.36 J**	U	U	U	U	U	U	**0.66**	**0.62**
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	**160000**	**170000**	**110000**	**21000**	**24000**	**26000**	**120000**	**79000**	**16000**	**63000**	**74000**	**17000**	**17000**	**7200**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	44 J+	14 J+	48 J+	29 J+	69 J+	240 J+	30 J+	81 J+	66 J+	59 J+	94 J+	7.7 J+	66 J+	18 J+
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	**21000**	**27000**	**26000**	**13000**	3200	**8600**	**18000**	**13000**	**8400**	**30000**	**27000**	**22000**	**12000**	**12000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**18000**	**29000**	**23000 J+**	**780 J+**	**1500 J+**	**2800 J+**	**22000 J+**	**10000 J+**	**4900 J+**	**2700 J+**	**13000 J+**	**610 J+**	**4600 J+**	**2600 J+**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	**0.079 J**	0.021 J	**0.073 J**	**0.051 J**	**0.05 J**	**0.11**	**0.068 J**	**0.15**	**0.36**	**0.083 J**	0.048 J	U	0.034 J	**0.069 J**
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	**61**	**210**	**190**	17	46	**170**	27	**73**	**170**	31	50	18	13	10
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	490	580	700	740	390 J	530	740	710	560	360 J	580	960	560	950
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	**1.2 J**	**0.94 J**	**0.96 J**	**0.81 J**	**0.59 J**	U	**1.1 J**	**1.5 J**	**0.79 J**	**0.73 J**	**1.1 J**	**0.56 J**	**3.2**	**2.3**
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	**0.15 J**	**0.15 J**	**0.21 J**	U	**0.1 J**	**0.66**	0.093 J	**0.17 J**	**0.5**	U	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	1000	970	980	420 J	130 J	220 J	530	400	140 J	280 J	350 J	270 J	350 J	500
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	U	U	U	U	0.05 J	0.064 J	U	0.042 J	**0.08 J**	0.067 J	**0.078 J**	**0.15 J**	U	U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	**350**	**720**	**420**	11	17	24	**170**	**100**	**57**	**78**	**290**	24	33	10
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	**230 J+**	32 J+	**160 J+**	25 J+	77 J+	**350 J+**	110 J+	100 J+	**140 J+**	44 J-	85 J-	36 J-	34 J-	25 J-

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved F
Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is an e
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table F - Inorganic Detection Results

Location						RI-SB-11	RI-SB-12	RI-SB-12	RI-SB-12	RI-SB-12	RI-SB-13	RI-SB-13	RI-SB-13	RI-SB-14	RI-SB-14	RI-SB-15	RI-SB-15	RI-SB-15
Sample #						RI-SB-11-7-8	RI-SB-12-0-0.5	RI-SB-12-1-2	RI-SB-12-16-17	RI-SB-12A-0-0.5	RI-SB-13-0-0.5	RI-SB-13-1-2	RI-SB-13-19-20	RI-SB-14-0-0.5	RI-SB-14-1-2	RI-SB-15-0-0.5	RI-SB-15-1-2	RI-SB-15-23-24
Start Depth						7	0	1	16	0	0	1	19	0	1	0	1	23
End Depth						8	0.5	2	17	0.5	0.5	2	20	0.5	2	0.5	2	24
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	FD	N	N	N	N	N	N	N	N
Parent Sample #										RI-SB-12-0-0.5								
Sample Date						9/12/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/5/2023	9/5/2023	8/24/2023	8/24/2023	8/24/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units													
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	5200	4300 J	6500 J	3000 J	**7200 J**	**9200 J**	**7400 J**	6200 J	**11000 J**	**8200 J**	**8000**	**24000**	6000
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	**7.1 J+**	U	U	U	U	U	U	**2.2 J+**	**1.7 J+**	**3 J+**	U	U	U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**25**	**3.9**	**4**	**2.1**	**3.1**	**3.5**	**3**	**6.7**	**5.6**	**13**	**2.1 J**	0.5 J	**9.4 J**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	110	77	43	77	88	120	68	82	98	100	93	160	42
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	0.55 J+	1.9 J+	1.2 J+	1.8 J+	2.2 J+	2.1 J+	0.59 J+	0.49 J+	1.1 J+	0.58 J+	2.2 J+	5.6 J+	U
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	**1.3 J-**	U	0.095 J	U	0.089 J	0.25 J	0.3 J	0.46	0.64	**1.7**	U	U	0.19 J
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	30000 J-	110000 J+	120000 J+	170000	120000	160000 J+	170000 J+	44000	180000	74000	120000	220000	75000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**120**	**12 J**	**71 J**	**13 J**	**24 J**	**240 J**	**980 J**	**120 J**	**1400 J**	**1500 J**	**96 J+**	**13 J+**	**13 J+**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**14**	**2.2**	**1.7**	**1.3**	**1.8**	**3.9**	**3.8**	**4.7**	**7.4**	**27**	**1.4 J+**	U	**7.6 J+**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	**240**	11	13	5.5	8.7	18	28	**81**	**79**	**170**	7.7	1.6	16
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	U	U	U	U	U	U	**0.35 J**	**0.62**	U	**3.2**	U	U	U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	**100000**	**5400**	**15000**	**5300**	**5300**	**39000**	**110000 J+**	**28000**	**130000**	**160000**	**54000**	**2500**	**21000**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	90 J+	6.9 J+	17 J+	5.1 J+	6.4 J+	38 J+	31 J+	**310 J+**	120 J+	170 J+	9 J+	4 J+	6.6 J+
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	6500	**40000**	**22000**	**49000**	**32000**	**26000**	**32000**	7800	**34000**	**10000**	**41000**	**35000**	**17000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**1400 J+**	**950 J+**	**1800 J+**	**900 J+**	**1200 J+**	**5600 J+**	**21000 J+**	**1400 J+**	**14000 J+**	**9700 J+**	**2400 J**	**3700 J**	**330 J**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	**0.26**	U	U	U	U	0.028 J	**0.06 J**	**0.098 J**	**0.46**	**1.6**	U	U	U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	**130**	6.7	5.1	4.4	5.7	**120**	**110**	**84**	**300**	**1500**	5 J+	1.3 J+	24 J+
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	690	460	580	390 J	670	780	370 J	670	270 J	350 J	520	1200	1200
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	U	**1.2 J**	**0.73 J**	**1 J**	**1.1 J**	**1.4 J**	**0.77 J**	U	**1 J**	**0.63 J**	**0.62 J**	**1.8 J**	U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	**0.28 J**	U	U	U	U	**0.1 J**	**0.23 J**	**0.21 J**	**0.48 J**	**1.1**	U	U	U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	410 J	260 J-	310 J-	240 J-	370 J-	440 J-	280 J-	450 J-	330 J-	590 J-	400 J	780	140 J
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	0.071 J	U	U	U	U	0.047 J	0.057 J	U	**0.1 J**	**0.18 J**	U	U	**0.15 J**
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	16	10 J	**55 J**	8.9 J	27 J	**67 J**	**580 J**	22 J	**210 J**	**140 J**	**70**	4.6	15
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	110 J-	36 J	36 J	25 J	39 J+	**120 J**	73 J+	61 J+	**850 J**	**590 J**	49 J+	11 J+	55 J+

Notes:

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2. The Soil PAL values were sourced from Worksheet #15 of the approved F
Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
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N - Field sample
J - The identification of the analyte is acceptable; the reported value is an e
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table F - Inorganic Detection Results

Location						RI-SB-15	RI-SB-15	RI-SB-15	RI-SB-16	RI-SB-16	RI-SB-16	RI-SB-17	RI-SB-17	RI-SB-17	RI-SB-18	RI-SB-18	RI-SB-18	RI-SB-19
Sample #						RI-SB-15-41-42	RI-SB-15-8-9	RI-SB-15A-0-0.5	RI-SB-16-0-0.5	RI-SB-16-1-2	RI-SB-16-13-14	RI-SB-17-0-0.5	RI-SB-17-1-2	RI-SB-17-8-9	RI-SB-18-0-0.5	RI-SB-18-1-2	RI-SB-18-3-4	RI-SB-19-0-0.5
Start Depth						41	8	0	0	1	13	0	1	8	0	1	3	0
End Depth						42	9	0.5	0.5	2	14	0.5	2	9	0.5	2	4	0.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	FD	N	N	N	N	N	N	N	N	N	N
Parent Sample #								RI-SB-15-0-0.5										
Sample Date						8/24/2023	8/24/2023	8/24/2023	9/19/2023	9/19/2023	9/19/2023	8/17/2023	8/17/2023	8/17/2023	8/21/2023	8/21/2023	8/21/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units													
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	**7900**	4400	**10000**	**24000**	**16000**	5600	**15000**	**13000**	6800	**16000**	**7700**	5100	**15000**
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	U	**34 J+**	U	U	**1.4 J+**	**14 J+**	U	U	**2.2 J+**	**1.2 J+**	**1.9 J+**	**2.8 J+**	**1.2 J+**
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**6.5 J**	**7.9 J**	**2.4 J**	**1.8 J**	**12 J**	**13 J**	**1.4**	**2.2**	**7.1**	**6.2 J**	**5.1 J**	**6.4 J**	**11 J**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	79	**1500**	130	220 J	110 J	**440 J**	170	120	280	160	140	240	140
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	U	1.2 J+	2.7 J+	5.3 J	1.6 J	0.4 J	4.7	3.5	0.35 J	3.1 J+	1.3 J+	0.58 J+	3 J+
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	0.17 J	**11**	0.11 J	0.56	**2**	**24**	0.21 J	0.14 J	**8.3**	**0.91**	**1.4**	**2.2**	**3**
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	82000	19000	130000	160000	120000	22000	180000	250000	18000	120000	66000	25000	130000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**21 J+**	**90 J+**	**79 J+**	**85 J**	**1200 J**	**160 J**	**120**	**160**	**65**	**980**	**380**	**99**	**180 J+**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**8.5 J+**	**7.5 J+**	**1.5 J+**	**1.4**	**13**	**10**	**1.3**	**2.1**	**5**	**6.1**	**3.7**	**5.4**	**7.2**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	**71**	**210**	8.6	14 J	**140 J**	**470 J**	26 J+	21 J+	**150 J+**	**61**	**100**	**230**	**88**
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	U	U	U	**0.36 J**	U	**0.54 J**	U	U	U	U	U	**1.4**	U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	**17000**	**41000**	**30000**	**30000**	**130000**	**80000**	**150000**	**89000**	**40000**	**100000**	**64000**	**39000**	**160000**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	7.5 J+	**750 J+**	14 J+	29 J+	92 J+	**650 J+**	64 J+	110 J+	240 J+	160 J+	81 J+	170 J+	110 J+
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	**24000**	1400	**33000**	**37000**	**20000**	2900	**26000**	**18000**	1300	**20000**	**11000**	3600	**11000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**490 J**	**1200 J**	**2200 J**	**4300 J+**	**13000 J+**	**1400 J+**	**4600**	**4400 J+**	**1100 J+**	**9300 J**	**9900 J**	**1000 J**	**4600 J**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	U	**0.95**	U	U	**0.067 J**	**2.9**	0.023 J	U	**0.084 J**	U	**0.11**	**0.23**	U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	28 J+	**120 J+**	6 J+	16	**470**	**170**	28	**53**	47	**300**	46	**95**	46 J+
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	1500	1700	640	880	760	660	1300	1100	600	820	560	390 J	740
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	U	**4**	**0.87 J**	**2.3 J**	**1.3 J**	**1.2 J**	U	U	**0.93 J**	**0.86 J**	U	U	**0.68 J**
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	U	**1.3**	U	**0.1 J**	**1.3**	**0.92**	**0.1 J**	**0.12 J**	**0.17 J**	**0.28 J**	**0.23 J**	**0.65**	**0.35 J**
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	200 J	370 J	460 J	780	840	610	1100	920	610	580	380 J	190 J	660
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	U	**0.15 J**	U	U	0.055 J	**0.089 J**	0.076 J	0.072 J	U	0.076 J	U	0.058 J	U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	18	12	**47**	31 J	**160 J**	14 J	24	34	12	**110**	**130**	10	**49**
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	42 J+	**400 J+**	58 J+	**120 J+**	**240 J+**	**1600 J+**	74 J+	47 J+	95 J+	**310 J+**	**130 J+**	**390 J+**	**180 J+**

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved F
Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

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Table F - Inorganic Detection Results

Location						RI-SB-19	RI-SB-19	RI-SB-20	RI-SB-20	RI-SB-20	RI-SB-21	RI-SB-21	RI-SB-21	RI-SB-22	RI-SB-22	RI-SB-22	RI-SB-23	RI-SB-23
Sample #						RI-SB-19-1-2	RI-SB-19-6-7	RI-SB-20-0-0.5	RI-SB-20-1-2	RI-SB-20-5-6	RI-SB-21-0-0.5	RI-SB-21-1-2	RI-SB-21-9-10	RI-SB-22-0-0.5	RI-SB-22-1-2	RI-SB-22-15-15.5	RI-SB-23-0-0.5	RI-SB-23-1-2
Start Depth						1	6	0	1	5	0	1	9	0	1	15	0	1
End Depth						2	7	0.5	2	6	0.5	2	10	0.5	2	15.5	0.5	2
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #																		
Sample Date						8/22/2023	8/22/2023	8/23/2023	8/23/2023	8/23/2023	8/16/2023	8/16/2023	8/16/2023	8/15/2023	8/15/2023	8/15/2023	8/30/2023	8/30/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units													
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	5900	3900	**14000**	**12000**	**8600**	**9200**	**9400**	**8000**	**12000**	**7700**	**11000**	5200 J	6700 J
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	**9.3 J+**	**3.1 J+**	1.1 J+	**1.5 J+**	**1.3 J+**	U	U	U	U	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**9.9 J**	**6.8 J**	**8.6 J**	**14 J**	**10 J**	**0.86**	**3.6**	**2.4**	**2.7**	**3.5**	**2.4**	**2.6 J**	**5.5 J**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	**550**	170	180	93	53	31	50	100	32	74	86	41	96
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	0.58 J+	U	3.7 J+	2.2 J+	U	0.39 J	0.88	4.9	0.44	0.68	0.35 J	0.44 J	0.57 J
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	**10**	**2.2**	**2.8**	**3**	**0.8**	0.21 J	0.37 J	U	0.26 J	0.36 J	0.18 J	0.21 J	**1.5**
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	76000	30000	120000	110000	150000	250000	210000	210000	170000	180000	220000	210000	65000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**220 J+**	**40 J+**	**280**	**260**	**87**	**530 J-**	**2500 J-**	**1300 J-**	**850 J-**	**1100 J-**	**1700 J-**	**1000 J**	**380 J**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**7.5**	**5.7**	**4.8**	**7.7**	**5.2**	**0.88**	**6**	**2.5**	**3.7**	**4.2**	**2.3**	**3**	**8.2**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	**1600**	**93**	**68**	**140**	**75**	13	41	31	28	37	32	25	**88**
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	**1.9**	**1.3**	U	U	U	U	U	U	U	U	**9.6 J+**	**0.64**	U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	**82000**	**40000**	**86000**	**220000**	**76000**	**190000**	**160000**	**140000**	**240000**	**200000**	**170000**	**150000 J**	**120000 J**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	**400 J+**	110 J+	260 J+	120 J+	130 J+	41 J+	24 J+	9.9 J+	45 J+	57 J+	25 J+	24 J+	80 J+
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	**8800**	4300	**17000**	**9400**	**11000**	**47000**	**35000**	**29000**	**28000**	**19000**	**31000**	**23000 J**	**10000 J**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**4000 J**	**620 J**	**11000 J**	**9800 J**	**1800 J**	**14000**	**35000**	**22000**	**15000**	**31000**	**34000**	**31000 J+**	**4100 J+**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	**0.28**	**0.18**	**0.5**	U	**0.076 J**	0.036 J	U	U	**0.097 J**	**0.11**	0.039 J	0.023 J	U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	**68 J+**	**95 J+**	**61**	**140**	34	10	**160**	**68**	**130**	**120**	20	41 J-	**190 J-**
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	410	340 J	790	1300	1300	170 J	370 J	270 J	320 J	320 J	420 J	190 J	460
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	**1.4 J**	U	**0.85 J**	**0.85 J**	U	U	**0.81 J**	**2.1 J**	U	**0.82 J**	**0.55 J**	U	U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	**1**	**0.57**	**0.91**	**0.31 J**	**0.22 J**	0.096 J	**0.26 J**	U	**0.16 J**	**0.29 J**	0.073 J	**0.13 J**	**0.21 J**
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	280 J	150 J	590	790	400 J	860	950	1100	1200	1100	1100	280 J	360 J
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	U	0.071 J	U	U	U	U	U	U	0.056 J	0.061 J	U	U	0.061 J
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	**57**	9.2	**100**	**90**	**41**	**380**	**410**	**310**	**360**	**350**	**410**	**400**	27
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	**210 J+**	96 J+	**1600 J+**	**250 J+**	**650 J+**	**340 J+**	55 J+	28 J+	**580 J+**	**150 J+**	34 J+	42 J+	**130 J+**

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved F
Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

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Table F - Inorganic Detection Results

Location						RI-SB-23	RI-SB-23	RI-SB-24	RI-SB-24	RI-SB-24	RI-SB-25	RI-SB-25	RI-SB-25	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-27
Sample #						RI-SB-23-17-18	RI-SB-23A-0-0.5	RI-SB-24-0-0.5	RI-SB-24-1-2	RI-SB-24-9-10	RI-SB-25-0-0.5	RI-SB-25-1-2	RI-SB-25-17-18	RI-SB-26-0-0.5	RI-SB-26-1-2	RI-SB-26-2-3	RI-SB-26A-1-2	RI-SB-27-0-0.5
Start Depth						17	0	0	1	9	0	1		0	1	2	1	0
End Depth						18	0.5	0.5	2	10	0.5	2		0.5	2	3	2	0.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft		ft	ft	ft	ft	ft
Sample Type						N	FD	N	N	N	N	N	N	N	N	N	FD	N
Parent Sample #							RI-SB-23-0-0.5										RI-SB-26-1-2	
Sample Date						8/30/2023	8/30/2023	8/24/2023	8/24/2023	8/24/2023	9/19/2023	9/19/2023	9/19/2023	9/15/2023	9/15/2023	9/15/2023	9/15/2023	8/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units													
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	3600 J	**10000 J**	**25000 J**	**23000 J**	**7400 J**	**15000**	**24000**	3300	**16000**	**13000**	**15000**	**21000**	6600
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	**7.2 J+**	U	U	U	**1.8 J+**	U	U	**5.4 J+**	U	U	U	U	1 J+
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**16 J**	**3.3 J**	**1.8 J**	0.5 J	**5.3 J**	**2.2 J**	**1.7 J**	**36 J**	**4**	**2.8**	**1.8**	**1.7**	**5.8 J**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	**340**	81	**340**	180	200	110 J	170 J	**530 J**	130	270	100	210	77
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	0.4 J	1 J	11 J	6.1 J	0.68 J	3.4 J	3.7 J	0.35 J	2.9	5.6	2	4.2	0.72 J+
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	**3**	0.39 J	0.46 J	U	**1.1**	0.6	**0.89**	**1**	**1.1**	0.15 J	0.11 J	0.089 J	**3.3**
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	16000	210000	190000	190000	24000	230000	220000	26000	110000	100000	130000	170000	110000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**180 J**	**1500 J**	**270 J**	**11 J**	**83 J**	**71 J**	**150 J**	**620 J**	**64**	**63**	**33**	**27**	**390**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**9.3**	**7.9**	**1.4**	0.27 J	**5**	**1.6**	**1.2**	**37**	**2.6**	**3.8**	**2.6**	**1.7**	**5.5**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	**490**	42	22	1.3	**120**	9.3 J	9.6 J	**500 J**	42 J	13 J	34 J	5.7 J	48
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	U	U	**0.4 J**	U	**0.47 J**	**0.44 J**	**0.29 J**	**8.1**	**0.34 J**	U	U	U	**0.34 J**
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	**56000 J**	**130000 J**	**32000 J**	**1400 J**	**43000 J**	**110000**	**46000**	**150000**	**44000**	**140000**	**200000**	**140000**	**73000**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	**300 J+**	56 J+	52 J+	1.9 J+	120 J+	55 J+	56 J+	83 J+	77 J+	3.2 J+	2.9 J+	2 J+	**300 J+**
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	6600 J	**30000 J**	**33000 J**	**30000 J**	1200 J	**45000**	**34000**	5300	**22000**	**22000**	**26000**	**33000**	**27000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**860 J+**	**25000 J+**	**11000 J+**	**3000 J+**	**1700 J+**	**2800 J+**	**5800 J+**	**3100 J+**	**2000 J+**	**3000 J+**	**1500 J+**	**1700 J+**	**4600 J**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	**0.27**	**0.15**	U	U	**0.071 J**	U	U	**0.29**	**0.051 J**	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	**190 J-**	**370 J-**	7.7 J-	1.1 J-	**110 J-**	8	14	**2300**	16	8.5	22	4	**140**
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	530 J	440 J	1400	1300	870	660	1200	310 J	920	570	710	930	590
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	U	U	**2.5**	**1.5 J**	U	**1.3 J**	**1.8 J**	**1.6 J**	**1.3 J**	**1.2 J**	**0.76 J**	**1.2 J**	U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	**8.4**	**0.27 J**	**0.12 J**	U	**0.14 J**	**0.18 J**	**0.39 J**	**0.31 J**	**0.18 J**	U	U	U	**1.5**
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	180 J	340 J	760	650	230 J	690	1200	570	630	770	890	1100	430 J
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	**0.14 J**	U	**0.087 J**	U	0.056 J	**0.094 J**	**0.09 J**	U	0.065 J	U	0.044 J	U	**0.36 J**
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	14	**290**	**110**	4.2	12	36 J	**53 J**	29 J	22	34	22	18	**51**
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	**250 J+**	62 J+	**700 J+**	11 J+	110 J+	**580 J+**	**280 J+**	**260 J+**	**140 J+**	14 J+	21 J+	11 J+	**1400 J+**

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved F
Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
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J - The identification of the analyte is acceptable; the reported value is an e
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U - Not Detected

Table F - Inorganic Detection Results

Location						RI-SB-27	RI-SB-27	RI-SB-29	RI-SB-29	RI-SB-29	RI-SB-30	RI-SB-30	RI-SB-30	RI-SB-31	RI-SB-31	RI-SB-31	RI-SB-32	RI-SB-32	RI-SB-32
Sample #						RI-SB-27-1-2	RI-SB-27-14-15	RI-SB-29-0-0.5	RI-SB-29-1-2	RI-SB-29-4-5	RI-SB-30-0-0.5	RI-SB-30-1-2	RI-SB-30-2-3	RI-SB-31-0-0.5	RI-SB-31-1-2	RI-SB-31-4-5	RI-SB-32-0-0.5	RI-SB-32-1-2	RI-SB-32-18-19
Start Depth						1	14	0	1	4	0	1	2	0	1	4	0	1	18
End Depth						2	15	0.5	2	5	0.5	2	3	0.5	2	5	0.5	2	19
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #																			
Sample Date						8/21/2023	8/21/2023	9/11/2023	9/11/2023	9/11/2023	9/20/2023	9/20/2023	9/20/2023	9/20/2023	9/20/2023	9/20/2023	9/18/2023	9/18/2023	9/18/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units														
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	**8000**	5300	**11000 J**	**12000 J**	6500 J	5200	**15000**	**16000**	**13000**	**15000**	**20000**	**18000**	2000	5000
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	**1.3 J+**	**4.1 J+**	**1.5 J+**	U	**1.6 J+**	U	U	U	1 J+	U	U	U	**230 J+**	U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**7.2 J**	**3.9 J**	**6.7**	**5.5**	**17**	**4.2 J**	**1.9 J**	**2.5 J**	**7 J**	**2 J**	**0.71 J**	**2.6**	**5.2**	**6.2**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	160	120	110	76	76	47	**320**	280	160	180	230	130	200	130
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	0.84 J+	U	1.6 J+	1.8 J+	1.5 J+	0.28 J	5.3 J	5.7 J	2.4 J	3.6 J	6.1 J	3.4	0.46 J	0.49 J
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	**5.7**	**1.3**	**2.1**	**0.9**	**2.6**	0.27 J	0.54	**0.72**	**1**	0.65	0.49	0.35 J	0.64	**11**
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	110000	54000	120000 J+	170000 J+	59000	78000	140000	150000	240000	160000	190000	170000	5200	140000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**770**	**95**	**580 J**	**660 J**	**140 J**	**11**	**47**	**120**	**410**	**320**	**11**	**37**	**59**	**79**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**6**	**3.9**	**5.9**	**2.8**	**14**	**5.5**	**1.2**	**2.1**	**2.4**	**1.1**	0.38 J	**1.9**	**3.5**	**7.5**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	**66**	**160**	**71**	18	**68**	12 J	13 J	15 J	39 J	22 J	5.3 J	15 J	**240 J**	**96 J**
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	**0.57**	**0.51 J**	**0.28 J**	U	U	**0.24 J**	**0.39 J**	**0.43 J**	**0.56**	**0.64**	**0.29 J**	**0.32 J**	U	U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	**200000**	**19000**	**130000 J+**	**200000 J+**	**390000 J+**	**8000 J+**	**20000 J+**	**30000 J+**	**88000 J**	**37000 J+**	**3700 J+**	**25000**	**9800**	**19000**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	**450 J+**	81 J+	170 J+	68 J+	200 J+	6.5 J+	26 J+	32 J+	66 J+	32 J+	6.5 J+	14 J+	**1500 J+**	110 J+
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	**19000**	**22000**	**18000**	**33000**	5900	**14000 J**	**29000 J**	**23000 J**	**17000 J**	**23000 J**	**31000 J**	**25000**	1400	**15000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**12000 J**	**960 J**	**9500 J+**	**22000 J+**	**5200 J+**	**300 J+**	**3000 J+**	**7800 J+**	**9800 J+**	**7400 J+**	**2500 J+**	**1900 J+**	**2300 J+**	**360 J+**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	**0.13**	**0.097**	**0.17**	0.035 J	**0.11**	0.018 J	0.04 J	0.047 J	**0.13**	**0.063 J**	U	**0.13**	**0.063 J**	**2.1**
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	**150**	**69**	**100**	46	**55**	15 J	15 J	14 J	31 J	17 J	2.3 J	8.6	31	28
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	450	530 J	760	720	410 J	1300	1200	1400	910	660	890	1600	450	770
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	U	U	**0.78 J**	**0.87 J**	U	U	**1.9 J**	**2.7**	**1.8 J**	**1.8 J**	**2.8**	**1.4 J**	U	**0.99 J**
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	**2.3**	**0.52**	**0.67**	**0.25 J**	**0.94**	U	0.094 J	**0.11 J**	**0.23 J**	**0.13 J**	0.087 J	0.068 J	**0.52 J**	**1.5**
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	920	190 J	620 J-	520 J-	820 J-	140 J	780	720	580	580	860	770	75 J	330 J
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	**0.6**	0.044 J	**0.12 J**	0.05 J	**0.098 J**	0.06 J	0.047 J	U	**0.21 J**	U	U	0.076 J	U	**0.23 J**
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	**99**	11	**160 J**	**320 J**	37 J	13 J	15 J	**56 J**	**150 J**	**95 J**	5.1 J	18	10	17
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	**2200 J+**	**140 J+**	**680 J+**	**120 J+**	**320 J+**	49 J+	69 J+	60 J+	**250 J+**	60 J+	10 J+	**240 J+**	**150 J+**	**400 J+**

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Table F - Inorganic Detection Results

Location						RI-SB-35	RI-SB-35	RI-SB-35	RI-SB-39	RI-SB-39	RI-SB-39	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-41	RI-SB-41	RI-SB-41	RI-SB-42
Sample #						RI-SB-35-0-0.5	RI-SB-35-1-2	RI-SB-35-9-10	RI-SB-39-0-0.5	RI-SB-39-1-2	RI-SB-39-2-3	RI-SB-40-0-0.5	RI-SB-40-1-2	RI-SB-40-3-4	RI-SB-40A-1-2	RI-SB-41-0-0.5	RI-SB-41-1-2	RI-SB-41-4-5	RI-SB-42-0-0.5
Start Depth						0	1	9	0	1	2	0	1	3	1	0	1	4	0
End Depth						0.5	2	10	0.5	2	3	0.5	2	4	2	0.5	2	5	0.5
Depth Unit						ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N	N	N	N	FD	N	N	N	N
Parent Sample #															RI-SB-40-1-2				
Sample Date						9/18/2023	9/18/2023	9/18/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/6/2023	9/6/2023	9/6/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units														
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	**13000**	**14000**	**12000**	**8700**	**7800**	3400	**12000**	5600	**8300**	**8600**	**18000 J**	6500 J	3200 J	**10000**
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	U	U	**2.3 J+**	**2.1 J+**	**2.6 J+**	**2.7 J+**	**2 J+**	**1.5 J+**	U	**1.9 J+**	1 J+	**3.9 J+**	**1.5 J+**	**2.4 J+**
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**0.72**	0.6	**13**	**9.6**	**15**	**14**	**8.4**	**7.8**	**15**	**7.6**	**6.7**	**36**	**5.8**	**8 J**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	40	35	**350**	73	79	79	140	100	47	200	93	51	**580**	97 J
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	0.35 J	0.22 J	0.52	0.79 J+	0.78	0.61	1.8	1.4	0.8	1.4	2 J+	0.55 J+	U	1.1 J
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	U	U	**1.7**	**1.8 J-**	**2.5 J-**	**2.6 J-**	**3.9 J-**	**2.7 J-**	**1 J-**	**2.7 J-**	**0.77**	0.68	0.28 J	**1.4**
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	200000	210000	47000	160000 J-	65000 J-	120000 J-	96000 J-	85000 J-	340000 J-	140000 J-	150000 J+	71000	11000	170000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**1100**	**1100**	**150**	**1100**	**280**	**220**	**380**	**72**	**11**	**330**	**1000 J**	**17000 J**	**69 J**	**1200 J**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**1**	**0.8**	**7.6**	**6**	**8.9**	**7.1**	**7.6**	**7**	**6.1**	**19**	**9**	**96**	**3.9**	**9**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	11 J	7.8 J	**230 J**	**90**	**190**	**190**	**370**	**87**	19	**280**	**56**	**390**	**74**	**200 J**
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	U	U	**0.31 J**	U	U	U	**0.91**	U	**1.6**	**0.33 J**	U	**0.45 J**	**0.28 J**	**0.39 J**
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	**130000**	**130000**	**46000**	**190000**	**79000**	**35000**	**120000**	**50000**	**8500**	**41000**	**150000 J+**	**350000 J+**	**37000**	**190000**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	1.9 J+	1.1 J+	**470 J+**	**360 J+**	230 J+	190 J+	270 J+	120 J+	18 J+	140 J+	83 J+	110 J+	66 J+	140 J+
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	**32000**	**30000**	2800	**18000**	5500	2900	**19000**	6200	7300	**45000**	**30000**	**9200**	2500	**26000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**21000 J+**	**13000 J+**	**1600 J+**	**18000 J+**	**3800 J+**	**3800 J+**	**7700 J+**	**1100 J+**	**290 J+**	**2800 J+**	**9400 J+**	**9900 J+**	**1300 J+**	**19000 J+**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	U	U	**0.15**	**0.44**	**0.24**	**0.21**	**0.15**	**0.16**	**0.34**	**0.17**	**0.098 J**	**0.12**	**0.13**	**0.15**
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	3.8	2.8	**250**	**80**	**140**	**110**	**100**	36	15	**71**	**310**	**7200**	**76**	**290**
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	U	U	1100	370 J	650	280 J	790	680	790	460 J	670	390 J	280 J	200 J
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	**0.89 J**	**0.68 J**	U	**0.72 J**	U	U	**1.4 J**	**0.73 J**	**1.4 J**	**1 J**	**1.1 J**	U	U	**1.1 J**
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	U	U	**0.42 J**	**0.54**	**0.23 J**	**0.14 J**	**0.9**	**0.1 J**	U	**0.25 J**	**0.39 J**	**1.2**	**0.25 J**	**2.5**
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	190 J	360 J	700	450	270 J	120 J	570	940	440 J	1400	550 J-	750 J-	140 J-	680
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	U	U	0.063 J	**0.4 J**	0.045 J	0.042 J	**0.25 J**	U	0.067 J	0.053 J	**0.081 J**	0.044 J	U	**0.084 J**
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	**600**	**500**	14	**330**	**40**	32	**99**	33	20	**74**	**190 J**	**140 J**	13 J	**220 J**
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	37 J+	21 J+	**440 J+**	**3200 J-**	88 J+	100 J+	**1200 J+**	**210 J+**	**120 J+**	**260 J+**	**860 J**	**290 J**	54 J	**2000 J+**

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Table F - Inorganic Detection Results

Location						RI-SB-42	RI-SB-42
Sample #						RI-SB-42-1-2	RI-SB-42-19-20
Start Depth						1	19
End Depth						2	20
Depth Unit						ft	ft
Sample Type						N	N
Parent Sample #							
Sample Date						9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units		
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	**16000**	5900
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	**1.2**	mg/kg	U	U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	**4.8 J**	**5.3 J**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	**288.6**	mg/kg	69 J	40 J
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	0.74 J	0.35 J
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	**1.1**	0.26 J
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	190000	120000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	**1100 J**	**120 J**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	**7.8**	**3.5**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	45 J	13 J
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	**1.4**	**1.3**
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	**180000**	**20000**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	**280**	mg/kg	86 J+	21 J+
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	**22000**	**14000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	**22000 J+**	**3700 J+**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	**0.05**	mg/kg	**0.086 J**	U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	**52**	mg/kg	**230**	13
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	360 J	460 J
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	**0.9 J**	U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	**0.65**	U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	710	420 J
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	0.054 J	U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	**260 J**	**52 J**
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	**1100 J+**	57 J+

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U - Not Detected

Table F - Inorganic Detection Results

Location						FAC CENTER POINT	FAC CENTER POINT	FAC CENTER POINT	RI-SP-01	RI-SP-02
Sample #						RI-WC-04	RI-WC-05	RI-WC-05A	RI-SP-01	RI-SP-02
Start Depth										
End Depth										
Depth Unit										
Sample Type						N	N	N	N	N
Parent Sample #										
Sample Date						9/22/2023	9/22/2023	9/22/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units					
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	**6900**	mg/kg	U	U	U	**9000**	**7000**
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	**0.68**	mg/kg	U	U	U	**7.7 J**	**4.2 J**
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	288.6	mg/kg	U	U	U	50 J	58 J
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	16	mg/kg	U	U	U	0.72 J	0.76 J
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	**0.71**	mg/kg	U	U	U	**1.8**	0.26 J
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2		mg/kg	U	U	U	120000	140000
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	**0.3**	mg/kg	U	U	U	**420 J**	**270 J**
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	**0.54**	mg/kg	U	U	U	**7.2**	**2.5**
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	**51.8**	mg/kg	U	U	U	**57 J**	15 J
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	**0.1**	mg/kg	**0.31 J**	**0.5 J**	**0.31 J**	U	U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	**6**	mg/kg	U	U	U	**280000**	**53000**
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	280	mg/kg	U	U	U	140 J+	14 J+
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	**8000**	mg/kg	U	U	U	**36000**	**39000**
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	**1**	mg/kg	U	U	U	**12000 J+**	**5200 J+**
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	0.05	mg/kg	U	U	U	0.047 J	U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	52	mg/kg	U	U	U	44	13
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7		mg/kg	U	U	U	160 J	430
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	**0.4**	mg/kg	U	U	U	U	**0.67 J**
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	**0.1**	mg/kg	U	U	U	**0.72**	U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5		mg/kg	U	U	U	960	380 J
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	**0.078**	mg/kg	U	U	U	0.077 J	**0.096 J**
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	**39**	mg/kg	U	U	U	**250 J**	**110 J**
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	**119.04**	mg/kg	U	U	U	**2800 J+**	63 J+

Notes:

1. **Identifies results that exceed the listed PAL value**
2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp.

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
J - The identification of the analyte is acceptable; the reported value is
J+ - The result is an estimated quantity, but the results may be biased
J- - The result is an estimated quantity, but The results may be biased
U - Not Detected

Unvalidated Data

Table G - PFAS Detection Results

Location					RI-SB-01	RI-SB-01	RI-SB-01	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-02	RI-SB-04	RI-SB-04	RI-SB-04	RI-SB-07	RI-SB-07	RI-SB-07	RI-SB-08	RI-SB-08	RI-SB-08
Sample #					RI-SB-01-0-0.5	RI-SB-01-1-2	RI-SB-01-4-5	RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5	RI-SB-02A-1-2	RI-SB-04-0-0.5	RI-SB-04-1-2	RI-SB-04-5-6	RI-SB-07-0-0.5	RI-SB-07-1-2	RI-SB-07-4-5	RI-SB-08-0-0.5	RI-SB-08-1-2	RI-SB-08-4-5
Start Depth					0	1	4	0	1	4	1	0	1	5	0	1	4	0	1	4
End Depth					0.5	2	5	0.5	2	5	2	0.5	2	6	0.5	2	5	0.5	2	5
Depth Unit					ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type					N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
Parent Sample #											RI-SB-02-1-2									
Sample Date					8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/29/2023	8/29/2023	8/29/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/14/2023
Method Group	Analyte	CAS #	Soil PAL	Units																
012-Mclouth_PFOS	11Cl-PF3OUdS	83329-89-9		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27619-96-1		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	27619-93-8		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	27619-94-9		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	9Cl-PF3ONS	73606-19-6		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	ADONA	958445-44-8		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Hexafluoropropylene oxide dimer acid	13252-13-6	23000	ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	N-ethyl perfluorooctanesulfonamidoacetic acid	2991-50-6		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UJA	22.1 UA	27.5 UA
012-Mclouth_PFOS	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UJA	22.1 UA	27.5 UA
012-Mclouth_PFOS	perfluoro-1-decanesulfonate (PFDS)	2806-15-7		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	perfluoro-1-heptanesulfonate (PFHpS)	21934-50-9		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	perfluoro-1-nonanesulfonate (PFNS)	98789-57-2		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	perfluoro-1-pentanesulfonate (PFPeS)	630402-22-1		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Perfluorobutanesulfonic acid	375-73-5	3800	ng/kg	133 UA	135 UA	119 UA	128 UA	113 UA	130 UA	102 UA	109 UA	106 UA	112 UA	135 UA	121 UA	131 UA	144 UA	110 UA	138 UA
012-Mclouth_PFOS	perfluorobutyl sulfonate	29420-49-3		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	**71.5 TA**	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Perfluorodecanoic acid	335-76-2	67700	ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Perfluorododecanoic acid	307-55-1		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	**102 KTA**	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Perfluoroheptanoic acid	375-85-9		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Perfluorohexanoic acid	307-24-4	6200000	ng/kg	53.2 UA	53.9 UA	47.4 UA	51.1 UA	45.1 UA	51.9 UA	40.9 UA	43.5 UA	42.5 UA	44.6 UA	53.8 UA	48.4 UA	52.5 UA	57.6 UA	44.1 UA	55 UA
012-Mclouth_PFOS	perfluorohexyl sulfonate	3871-99-6		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	**67 TA**	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Perfluorononanoic acid	375-95-1	500	ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Perfluorooctanesulfonamide	754-91-6		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	perfluorooctanoate	3825-26-1		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	25.9 UA	20.4 UA	23.5 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	perfluorooctyl sulfonate	2795-39-3		ng/kg	31.9 UA	32.3 UA	28.5 UA	30.7 UA	27 UA	**181 TA**	24.5 UA	**211 A**	**74.3 A**	**72.4 A**	**37.8 A**	29 UA	31.5 UA	**35 A**	**63 A**	**42 A**
012-Mclouth_PFOS	Perfluoropentanoic acid	2706-90-3		ng/kg	133 UA	135 UA	119 UA	128 UA	113 UA	130 UA	102 UA	109 UA	106 UA	112 UA	135 UA	**164 A**	**436 TA**	144 UA	110 UA	138 UA
012-Mclouth_PFOS	Perfluorotetradecanoic acid	376-06-7		ng/kg	26.6 UJA	26.9 UJA	23.7 UA	25.6 UA	22.5 UA	**191 KTA**	20.4 UA	**52 TA**	21.3 UJA	22.3 UJA	26.9 UA	24.2 UA	**28.8 KTA**	**27.8 LTA**	22.1 UJA	27.5 UA
012-Mclouth_PFOS	Perfluorotridecanoic acid	72629-94-8		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	**313 KTA**	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA
012-Mclouth_PFOS	Perfluoroundecanoic acid	2058-94-8		ng/kg	26.6 UA	26.9 UA	23.7 UA	25.6 UA	22.5 UA	**26 KTA**	20.4 UA	21.7 UA	21.3 UA	22.3 UA	26.9 UA	24.2 UA	26.3 UA	28.8 UA	22.1 UA	27.5 UA

Notes:

1. The analytical data shown above has not been validated by a third-party validator. The data is presented for discussion purposes only.
2. **Bold Text** - Identifies results over the detection limit
3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
A - Unvalidated result
I - Ion ratio criteria is not met for this analyte
J - The identification of the analyte is acceptable; the reported value is an estimate
K - The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value

L - The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.

T - When quantitatively compared to replicate data, this value may be biased high or a false positive due to possible erratic contamination present in consumables used for sample collection, preparation, and analysis.

U - Not Detected

Unvalidated Data

Table G - PFAS Detection Results

Location					RI-SB-10	RI-SB-10	RI-SB-10	RI-SB-11	RI-SB-11	RI-SB-11	RI-SB-12	RI-SB-12	RI-SB-12	RI-SB-12	RI-SB-13	RI-SB-13	RI-SB-13	RI-SB-14	RI-SB-14
Sample #					RI-SB-10-0-0.5	RI-SB-10-1-2	RI-SB-10-4-5	RI-SB-11-0-0.5	RI-SB-11-1-2	RI-SB-11-7-8	RI-SB-12-0-0.5	RI-SB-12-1-2	RI-SB-12-16-17	RI-SB-12A-0-0.5	RI-SB-13-0-0.5	RI-SB-13-1-2	RI-SB-13-19-20	RI-SB-14-0-0.5	RI-SB-14-1-2
Start Depth					0	1	4	0	1	7	0	1	16	0	0	1	19	0	1
End Depth					0.5	2	5	0.5	2	8	0.5	2	17	0.5	0.5	2	20	0.5	2
Depth Unit					ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type					N	N	N	N	N	N	N	N	N	FD	N	N	N	N	N
Parent Sample #														RI-SB-12-0-0.5					
Sample Date					9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/5/2023	9/5/2023
Method Group	Analyte	CAS #	Soil PAL	Units															
012-Mclouth_PFOS	11Cl-PF3OUdS	83329-89-9		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27619-96-1		ng/kg	19.8 UA	**33.3 TA**	22.8 UA	25.9 UJA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	27619-93-8		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	27619-94-9		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	**90.3 TA**	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	9Cl-PF3ONS	73606-19-6		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	ADONA	958445-44-8		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	Hexafluoropropylene oxide dimer acid	13252-13-6	23000	ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	N-ethyl perfluorooctanesulfonamidoacetic acid	2991-50-6		ng/kg	19.8 UA	27.1 UJA	22.8 UA	25.9 UJA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	**52.8 A**
012-Mclouth_PFOS	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9		ng/kg	19.8 UA	27.1 UJA	22.8 UA	25.9 UJA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	perfluoro-1-decanesulfonate (PFDS)	2806-15-7		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	**30.9 A**	**47.1 A**	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	perfluoro-1-heptanesulfonate (PFHpS)	21934-50-9		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	perfluoro-1-nonanesulfonate (PFNS)	98789-57-2		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	perfluoro-1-pentanesulfonate (PFPeS)	630402-22-1		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	Perfluorobutanesulfonic acid	375-73-5	3800	ng/kg	98.8 UA	136 UA	114 UA	130 UA	121 UA	128 UA	122 UA	116 UA	121 UA	115 UA	98 UA	122 UA	121 UA	112 UA	115 UA
012-Mclouth_PFOS	perfluorobutyl sulfonate	29420-49-3		ng/kg	19.8 UA	27.1 UA	63.9 UTA	25.9 UA	24.2 UA	**2020 TA**	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	Perfluorodecanoic acid	335-76-2	67700	ng/kg	**31.9 JA**	**103 TA**	**38.3 A**	**547 TA**	**327 TA**	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	**25.8 TA**	24.3 UA	**33.9 TA**	**58 A**	23 UA
012-Mclouth_PFOS	Perfluorododecanoic acid	307-55-1		ng/kg	**2150 TA**	**89.4 TA**	**144 TA**	**3100 LTA**	**1400 TA**	**35.5 TA**	24.5 UA	23.2 UA	**2170 TA**	23 UA	**345 TA**	**33.7 A**	**172 TA**	**117 A**	23 UA
012-Mclouth_PFOS	Perfluoroheptanoic acid	375-85-9		ng/kg	19.8 UA	**69.6 TA**	**55.4 TA**	**31.3 TA**	**52.3 A**	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	Perfluorohexanoic acid	307-24-4	6200000	ng/kg	39.5 UA	54.2 UA	45.7 UA	51.9 UA	48.3 UA	51.3 UA	48.9 UA	46.5 UA	48.5 UA	46 UA	39.2 UA	48.7 UA	48.2 UA	44.6 UA	45.9 UA
012-Mclouth_PFOS	perfluorohexyl sulfonate	3871-99-6		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	**37.3 TA**	24.5 UA	23.2 UA	**27.1 A**	23 UA	**20.2 IA**	**46.5 A**	**110 A**	22.3 UA	23 UA
012-Mclouth_PFOS	Perfluorononanoic acid	375-95-1	500	ng/kg	19.8 UA	**33.9 TA**	22.8 UA	**77.4 TA**	**205 TA**	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	**25.2 TA**	23 UA
012-Mclouth_PFOS	Perfluorooctanesulfonamide	754-91-6		ng/kg	19.8 UA	27.1 UA	22.8 UA	25.9 UA	24.2 UA	25.7 UA	24.5 UA	23.2 UA	24.3 UA	23 UA	19.6 UA	24.3 UA	24.1 UA	22.3 UA	23 UA
012-Mclouth_PFOS	perfluorooctanoate	3825-26-1		ng/kg	19.8 UA	**60.6 TA**	22.8 UA	25.9 UA	**33.5 TA**	25.7 UA	24.5 UA	23.2 UA	24.3 UA	**168 TA**	19.6 UA	24.3 UA	24.1 UA	**28.6 A**	23 UA
012-Mclouth_PFOS	perfluorooctyl sulfonate	2795-39-3		ng/kg	**40.1 JA**	**128 A**	27.4 UA	**74.5 A**	**366 TA**	**166 TA**	64 UA	60.8 UA	**95.7 JA**	60.1 UA	**324 JA**	**973 A**	**801 A**	**473 A**	**134 A**
012-Mclouth_PFOS	Perfluoropentanoic acid	2706-90-3		ng/kg	98.8 UA	136 UA	114 UA	130 UA	121 UA	128 UA	122 UA	116 UA	121 UA	115 UA	98 UA	122 UA	121 UA	112 UA	115 UA
012-Mclouth_PFOS	Perfluorotetradecanoic acid	376-06-7		ng/kg	**3570 LTA**	27.1 UJA	**36.8 LTA**	**145 LTA**	**915 TA**	**50.9 TA**	24.5 UA	23.2 UA	**1660 TA**	23 UA	**268 TA**	24.3 UJA	**376 TA**	**61.9 A**	23 UA
012-Mclouth_PFOS	Perfluorotridecanoic acid	72629-94-8		ng/kg	**2970 TA**	27.1 UA	**28.1 TA**	**878 LTA**	**1820 TA**	**236 TA**	24.5 UA	23.2 UA	**1790 TA**	23 UA	**783 TA**	24.3 UA	**2180 TA**	**49.7 A**	23 UA
012-Mclouth_PFOS	Perfluoroundecanoic acid	2058-94-8		ng/kg	**88.4 TA**	**45.7 TA**	**625 TA**	**2670 TA**	**924 TA**	**139 TA**	24.5 UA	23.2 UA	**222 TA**	23 UA	**154 TA**	**26.8 A**	**1390 TA**	**79 A**	23 UA

Notes:

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3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
A - Unvalidated result
I - Ion ratio criteria is not met for this analyte
J - The identification of the analyte is acceptable; the reported value is an estimate
K - The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value
L - The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.
T - When quantitatively compared to replicate data, this value may be biased high or a false positive due to possible erratic contamination present in consumables used for sample collection, preparation, and analysis.
U - Not Detected

Unvalidated Data

Table G - PFAS Detection Results

Location					RI-SB-16	RI-SB-16	RI-SB-16	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-25	RI-SB-25	RI-SB-25	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-26
Sample #					RI-SB-16-0-0.5	RI-SB-16-1-2	RI-SB-16-13-14	RI-SB-23-0-0.5	RI-SB-23-1-2	RI-SB-23-17-18	RI-SB-23A-0-0.5	RI-SB-25-0-0.5	RI-SB-25-1-2	RI-SB-25-17-18	RI-SB-26-0-0.5	RI-SB-26-1-2	RI-SB-26-2-3	RI-SB-26A-1-2
Start Depth					0	1	13	0	1	17	0	0	1		0	1	2	1
End Depth					0.5	2	14	0.5	2	18	0.5	0.5	2		0.5	2	3	2
Depth Unit					ft	ft	ft	ft	ft	ft	ft	ft	ft		ft	ft	ft	ft
Sample Type					N	N	N	N	N	N	FD	N	N	N	N	N	N	FD
Parent Sample #											RI-SB-23-0-0.5							RI-SB-26-1-2
Sample Date					9/19/2023	9/19/2023	9/19/2023	8/30/2023	8/30/2023	8/30/2023	8/30/2023	9/19/2023	9/19/2023	9/19/2023	9/15/2023	9/15/2023	9/15/2023	9/15/2023
Method Group	Analyte	CAS #	Soil PAL	Units														
012-Mclouth_PFOS	11Cl-PF3OUdS	83329-89-9		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27619-96-1		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	27619-93-8		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	27619-94-9		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	**79.5 TA**	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	9Cl-PF3ONS	73606-19-6		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	ADONA	958445-44-8		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Hexafluoropropylene oxide dimer acid	13252-13-6	23000	ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UJA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	N-ethyl perfluorooctanesulfonamidoacetic acid	2991-50-6		ng/kg	25.9 UA	**43.2 A**	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UJA	19.5 UA	19.8 UJA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UJA	19.5 UA	19.8 UJA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	perfluoro-1-decanesulfonate (PFDS)	2806-15-7		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	perfluoro-1-heptanesulfonate (PFHpS)	21934-50-9		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	perfluoro-1-nonanesulfonate (PFNS)	98789-57-2		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	perfluoro-1-pentanesulfonate (PFPeS)	630402-22-1		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Perfluorobutanesulfonic acid	375-73-5	3800	ng/kg	129 UA	135 UA	130 UA	94.9 UA	129 UA	116 UA	121 UA	97.4 UA	99.2 UA	150 UA	121 UA	115 UA	120 UA	95.7 UA
012-Mclouth_PFOS	perfluorobutyl sulfonate	29420-49-3		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Perfluorodecanoic acid	335-76-2	67700	ng/kg	**31.7 A**	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UA	**36.5 A**	**35.7 A**	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Perfluorododecanoic acid	307-55-1		ng/kg	**29.8 A**	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UJA	**90.4 A**	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Perfluoroheptanoic acid	375-85-9		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	**28.6 A**	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Perfluorohexanoic acid	307-24-4	6200000	ng/kg	51.7 UA	53.8 UA	51.8 UA	38 UA	51.5 UA	46.3 UA	48.3 UA	38.9 UA	39.7 UA	59.9 UA	48.3 UA	45.8 UA	48.2 UA	38.3 UA
012-Mclouth_PFOS	perfluorohexyl sulfonate	3871-99-6		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Perfluorononanoic acid	375-95-1	500	ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Perfluorooctanesulfonamide	754-91-6		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UA	25.7 UA	23.2 UA	24.2 UA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	perfluorooctanoate	3825-26-1		ng/kg	25.9 UA	26.9 UA	25.9 UA	**36.5 A**	25.7 UA	23.2 UA	**30 A**	**28.8 JTA**	19.8 UA	30 UA	**53.5 A**	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	perfluorooctyl sulfonate	2795-39-3		ng/kg	**169 A**	**85.4 A**	31.1 UA	**81.3 A**	**196 TA**	**87 A**	**96.9 A**	**30 A**	23.8 UA	**181 A**	**131 A**	27.5 UA	28.9 UA	23 UA
012-Mclouth_PFOS	Perfluoropentanoic acid	2706-90-3		ng/kg	129 UA	135 UA	130 UA	94.9 UA	129 UA	116 UA	121 UA	97.4 UA	99.2 UA	150 UA	121 UA	115 UA	120 UA	95.7 UA
012-Mclouth_PFOS	Perfluorotetradecanoic acid	376-06-7		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UJA	**39.9 A**	19.8 UJA	30 UA	24.2 UJA	22.9 UA	24.1 UJA	19.1 UA
012-Mclouth_PFOS	Perfluorotridecanoic acid	72629-94-8		ng/kg	25.9 UA	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UJA	19.5 UA	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA
012-Mclouth_PFOS	Perfluoroundecanoic acid	2058-94-8		ng/kg	**30.4 A**	26.9 UA	25.9 UA	19 UJA	25.7 UA	23.2 UA	24.2 UA	**45.5 A**	19.8 UA	30 UA	24.2 UA	22.9 UA	24.1 UA	19.1 UA

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U - Not Detected

Unvalidated Data

Table G - PFAS Detection Results

Location					RI-SB-29	RI-SB-29	RI-SB-29	RI-SB-30	RI-SB-30	RI-SB-30	RI-SB-31	RI-SB-31	RI-SB-31	RI-SB-32	RI-SB-32	RI-SB-32	RI-SB-35	RI-SB-35	RI-SB-35	RI-SB-39	RI-SB-39
Sample #					RI-SB-29-0-0.5	RI-SB-29-1-2	RI-SB-29-4-5	RI-SB-30-0-0.5	RI-SB-30-1-2	RI-SB-30-2-3	RI-SB-31-0-0.5	RI-SB-31-1-2	RI-SB-31-4-5	RI-SB-32-0-0.5	RI-SB-32-1-2	RI-SB-32-18-19	RI-SB-35-0-0.5	RI-SB-35-1-2	RI-SB-35-9-10	RI-SB-39-0-0.5	RI-SB-39-1-2
Start Depth					0	1	4	0	1	2	0	1	4	0	1	18	0	1	9	0	1
End Depth					0.5	2	5	0.5	2	3	0.5	2	5	0.5	2	19	0.5	2	10	0.5	2
Depth Unit					ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Parent Sample #																					
Sample Date					9/11/2023	9/11/2023	9/11/2023	9/20/2023	9/20/2023	9/20/2023	9/20/2023	9/20/2023	9/20/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023	9/13/2023	9/13/2023
Method Group	Analyte	CAS #	Soil PAL	Units																	
012-Mclouth_PFOS	11Cl-PF3OUdS	83329-89-9		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27619-96-1		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	27619-93-8		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	27619-94-9		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	9Cl-PF3ONS	73606-19-6		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	ADONA	958445-44-8		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	Hexafluoropropylene oxide dimer acid	13252-13-6	23000	ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	N-ethyl perfluorooctanesulfonamidoacetic acid	2991-50-6		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	**26.6 JA**	23.5 UJA
012-Mclouth_PFOS	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	perfluoro-1-decanesulfonate (PFDS)	2806-15-7		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	perfluoro-1-heptanesulfonate (PFHpS)	21934-50-9		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	perfluoro-1-nonanesulfonate (PFNS)	98789-57-2		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	perfluoro-1-pentanesulfonate (PFPeS)	630402-22-1		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	Perfluorobutanesulfonic acid	375-73-5	3800	ng/kg	135 UA	137 UA	109 UA	118 UA	114 UA	134 UA	101 UA	99.1 UA	120 UA	114 UA	98.1 UA	144 UA	101 UA	125 UA	126 UA	125 UJA	118 UJA
012-Mclouth_PFOS	perfluorobutyl sulfonate	29420-49-3		ng/kg	**137 TA**	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	Perfluorodecanoic acid	335-76-2	67700	ng/kg	**71.6 A**	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	**271 TA**	**33.9 A**	24.1 UA	22.8 UA	19.6 UA	28.8 UA	**35.9 JA**	25.1 UA	25.3 UA	**625 JA**	**25.9 JA**
012-Mclouth_PFOS	Perfluorododecanoic acid	307-55-1		ng/kg	**817 TA**	27.4 UA	**401 TA**	23.5 UA	22.8 UA	26.9 UA	**1150 TA**	19.8 UA	**24.8 TA**	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UJA	25.3 UA	**51.3 JA**	23.5 UJA
012-Mclouth_PFOS	Perfluoroheptanoic acid	375-85-9		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	**27.3 TA**	**23.7 TA**	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	**56 JA**	23.5 UJA
012-Mclouth_PFOS	Perfluorohexanoic acid	307-24-4	6200000	ng/kg	53.9 UA	54.9 UA	43.7 UA	47 UA	45.7 UA	53.7 UA	40.3 UA	39.6 UA	48.1 UA	45.6 UA	39.2 UA	57.6 UA	40.4 UA	50.1 UA	50.6 UA	**113 JA**	47 UJA
012-Mclouth_PFOS	perfluorohexyl sulfonate	3871-99-6		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	Perfluorononanoic acid	375-95-1	500	ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	**52.6 TA**	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	**148 JA**	**67.5 JA**
012-Mclouth_PFOS	Perfluorooctanesulfonamide	754-91-6		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	20.2 UA	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	perfluorooctanoate	3825-26-1		ng/kg	27 UA	27.4 UA	21.8 UA	23.5 UA	22.8 UA	26.9 UA	**31 TA**	19.8 UA	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	**74.9 JA**	**26.8 JA**
012-Mclouth_PFOS	perfluorooctyl sulfonate	2795-39-3		ng/kg	**93.8 JA**	71.8 UA	57.1 UA	28.2 UA	27.4 UA	32.2 UA	**205 TA**	23.8 UA	28.9 UA	27.4 UA	**28.3 A**	34.5 UA	**68.3 JA**	**78.6 A**	30.4 UA	**454 JA**	**216 JTA**
012-Mclouth_PFOS	Perfluoropentanoic acid	2706-90-3		ng/kg	135 UA	137 UA	109 UA	118 UA	114 UA	134 UA	101 UA	99.1 UA	120 UA	114 UA	98.1 UA	144 UA	101 UA	125 UA	126 UA	**262 JA**	118 UJA
012-Mclouth_PFOS	Perfluorotetradecanoic acid	376-06-7		ng/kg	**981 TA**	27.4 UA	**23.6 TA**	23.5 UA	22.8 UA	**79.5 KTA**	**1060 TA**	19.8 UJA	24.1 UJA	22.8 UJA	19.6 UA	**172 TA**	20.2 UJA	25.1 UJA	25.3 UA	**26.1 JA**	**32.2 JA**
012-Mclouth_PFOS	Perfluorotridecanoic acid	72629-94-8		ng/kg	**1230 TA**	27.4 UA	**323 TA**	23.5 UA	22.8 UA	26.9 UA	**805 TA**	19.8 UA	24.1 UA	22.8 UA	19.6 UA	**38.8 TA**	20.2 UJA	25.1 UJA	25.3 UA	25.1 UJA	23.5 UJA
012-Mclouth_PFOS	Perfluoroundecanoic acid	2058-94-8		ng/kg	**794 TA**	27.4 UA	**77.5 TA**	23.5 UA	**47.8 TA**	26.9 UA	**755 TA**	**23.4 TA**	24.1 UA	22.8 UA	19.6 UA	28.8 UA	20.2 UA	25.1 UA	25.3 UA	**51.4 JA**	23.5 UJA

Notes:

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than the reported value.

T - When quantitatively compared to replicate data, this value may be biased high or a false positive due to possible erratic
contamination present in consumables used for sample collection, preparation, and analysis.

U - Not Detected

Unvalidated Data

Table G - PFAS Detection Results

	Location				RI-SB-39
	Sample #				RI-SB-39-2-3
	Start Depth				2
	End Depth				3
	Depth Unit				ft
	Sample Type				N
	Parent Sample #				
	Sample Date				9/13/2023
Method Group	Analyte	CAS #	Soil PAL	Units	
012-Mclouth_PFOS	11Cl-PF3OUdS	83329-89-9		ng/kg	26.9 UJA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27619-96-1		ng/kg	26.9 UJA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	27619-93-8		ng/kg	26.9 UJA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	27619-94-9		ng/kg	26.9 UJA
012-Mclouth_PFOS	9Cl-PF3ONS	73606-19-6		ng/kg	26.9 UJA
012-Mclouth_PFOS	ADONA	958445-44-8		ng/kg	26.9 UJA
012-Mclouth_PFOS	Hexafluoropropylene oxide dimer acid	13252-13-6	23000	ng/kg	26.9 UJA
012-Mclouth_PFOS	N-ethyl perfluorooctanesulfonamidoacetic acid	2991-50-6		ng/kg	26.9 UJA
012-Mclouth_PFOS	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9		ng/kg	26.9 UJA
012-Mclouth_PFOS	perfluoro-1-decanesulfonate (PFDS)	2806-15-7		ng/kg	26.9 UJA
012-Mclouth_PFOS	perfluoro-1-heptanesulfonate (PFHpS)	21934-50-9		ng/kg	26.9 UJA
012-Mclouth_PFOS	perfluoro-1-nonanesulfonate (PFNS)	98789-57-2		ng/kg	26.9 UJA
012-Mclouth_PFOS	perfluoro-1-pentanesulfonate (PFPeS)	630402-22-1		ng/kg	26.9 UJA
012-Mclouth_PFOS	Perfluorobutanesulfonic acid	375-73-5	3800	ng/kg	135 UJA
012-Mclouth_PFOS	perfluorobutyl sulfonate	29420-49-3		ng/kg	26.9 UJA
012-Mclouth_PFOS	Perfluorodecanoic acid	335-76-2	67700	ng/kg	**33.4 JA**
012-Mclouth_PFOS	Perfluorododecanoic acid	307-55-1		ng/kg	26.9 UJA
012-Mclouth_PFOS	Perfluoroheptanoic acid	375-85-9		ng/kg	26.9 UJA
012-Mclouth_PFOS	Perfluorohexanoic acid	307-24-4	6200000	ng/kg	53.8 UJA
012-Mclouth_PFOS	perfluorohexyl sulfonate	3871-99-6		ng/kg	26.9 UJA
012-Mclouth_PFOS	Perfluorononanoic acid	375-95-1	500	ng/kg	**61.2 JA**
012-Mclouth_PFOS	Perfluorooctanesulfonamide	754-91-6		ng/kg	26.9 UJA
012-Mclouth_PFOS	perfluorooctanoate	3825-26-1		ng/kg	26.9 UJA
012-Mclouth_PFOS	perfluorooctyl sulfonate	2795-39-3		ng/kg	**251 JA**
012-Mclouth_PFOS	Perfluoropentanoic acid	2706-90-3		ng/kg	135 UJA
012-Mclouth_PFOS	Perfluorotetradecanoic acid	376-06-7		ng/kg	26.9 UJA
012-Mclouth_PFOS	Perfluorotridecanoic acid	72629-94-8		ng/kg	26.9 UJA
012-Mclouth_PFOS	Perfluoroundecanoic acid	2058-94-8		ng/kg	26.9 UJA

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U - Not Detected

Unvalidated Data

Table G - PFAS Detection Results

Location					RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-41	RI-SB-41	RI-SB-41	RI-SB-42	RI-SB-42	RI-SB-42
Sample #					RI-SB-40-0-0.5	RI-SB-40-1-2	RI-SB-40-3-4	RI-SB-40A-1-2	RI-SB-41-0-0.5	RI-SB-41-1-2	RI-SB-41-4-5	RI-SB-42-0-0.5	RI-SB-42-1-2	RI-SB-42-19-20
Start Depth					0	1	3	1	0	1	4	0	1	19
End Depth					0.5	2	4	2	0.5	2	5	0.5	2	20
Depth Unit					ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
Sample Type					N	N	N	FD	N	N	N	N	N	N
Parent Sample #								RI-SB-40-1-2						
Sample Date					9/13/2023	9/13/2023	9/13/2023	9/13/2023	9/6/2023	9/6/2023	9/6/2023	9/21/2023	9/21/2023	9/21/2023
Method Group	Analyte	CAS #	Soil PAL	Units										
012-Mclouth_PFOS	11Cl-PF3OUdS	83329-89-9		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27619-96-1		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UJA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	27619-93-8		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	27619-94-9		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	9Cl-PF3ONS	73606-19-6		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	ADONA	958445-44-8		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	Hexafluoropropylene oxide dimer acid	13252-13-6	23000	ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	N-ethyl perfluorooctanesulfonamidoacetic acid	2991-50-6		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	**1230 JTA**	**212 JA**	**37.6 JA**	19.6 UA	24.7 UA	26 UJA
012-Mclouth_PFOS	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UJA
012-Mclouth_PFOS	perfluoro-1-decanesulfonate (PFDS)	2806-15-7		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	perfluoro-1-heptanesulfonate (PFHpS)	21934-50-9		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	perfluoro-1-nonanesulfonate (PFNS)	98789-57-2		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	perfluoro-1-pentanesulfonate (PFPeS)	630402-22-1		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	Perfluorobutanesulfonic acid	375-73-5	3800	ng/kg	118 UJA	138 UJA	140 UJA	134 UJA	596 UJA	131 UJA	105 UJA	97.9 UA	123 UA	130 UA
012-Mclouth_PFOS	perfluorobutyl sulfonate	29420-49-3		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	Perfluorodecanoic acid	335-76-2	67700	ng/kg	**38.2 JA**	**41.9 JA**	**48.6 JA**	**40.9 JA**	**41.4 JA**	26.1 UJA	21 UJA	**76.3 A**	**73.8 A**	26 UA
012-Mclouth_PFOS	Perfluorododecanoic acid	307-55-1		ng/kg	**34 JA**	27.6 UJA	28 UJA	26.8 UJA	**51.8 JA**	26.1 UJA	21 UJA	**55.4 A**	**41.1 LA**	26 UJA
012-Mclouth_PFOS	Perfluoroheptanoic acid	375-85-9		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	Perfluorohexanoic acid	307-24-4	6200000	ng/kg	47.2 UJA	55.1 UJA	55.9 UJA	53.6 UJA	238 UJA	52.2 UJA	42 UJA	39.2 UA	49.4 UA	52 UA
012-Mclouth_PFOS	perfluorohexyl sulfonate	3871-99-6		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	Perfluorononanoic acid	375-95-1	500	ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	Perfluorooctanesulfonamide	754-91-6		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	**56.3 JA**	**28.6 JA**	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	perfluorooctanoate	3825-26-1		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	**56.3 JA**	**54.4 JA**	21 UJA	19.6 UA	24.7 UA	26 UA
012-Mclouth_PFOS	perfluorooctyl sulfonate	2795-39-3		ng/kg	**93.6 JA**	**122 JA**	**239 JA**	**127 JA**	**1420 JA**	**582 JA**	**412 JA**	**36 A**	**56.6 A**	31.2 UA
012-Mclouth_PFOS	Perfluoropentanoic acid	2706-90-3		ng/kg	118 UJA	138 UJA	140 UJA	134 UJA	596 UJA	131 UJA	**106 JA**	97.9 UA	123 UA	130 UA
012-Mclouth_PFOS	Perfluorotetradecanoic acid	376-06-7		ng/kg	**26.9 JA**	27.6 UJA	28 UJA	26.8 UJA	**37.9 JA**	26.1 UJA	21 UJA	**27.5 A**	24.7 UJA	26 UJA
012-Mclouth_PFOS	Perfluorotridecanoic acid	72629-94-8		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	119 UJA	26.1 UJA	21 UJA	19.6 UA	24.7 UA	26 UJA
012-Mclouth_PFOS	Perfluoroundecanoic acid	2058-94-8		ng/kg	23.6 UJA	27.6 UJA	28 UJA	26.8 UJA	**35.2 JA**	26.1 UJA	21 UJA	**94.2 A**	**72.9 A**	26 UJA

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U - Not Detected

Table G - PFAS Detection Results

Location					RI-SP-01	RI-SP-02
Sample #					RI-SP-01	RI-SP-02
Start Depth						
End Depth						
Depth Unit						
Sample Type					N	N
Parent Sample #						
Sample Date					9/21/2023	9/21/2023
Method Group	Analyte	CAS #	Soil PAL	Units		
012-Mclouth_PFOS	11Cl-PF3OUdS	83329-89-9		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	27619-96-1		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	27619-93-8		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	27619-94-9		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	9Cl-PF3ONS	73606-19-6		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	ADONA	958445-44-8		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	Hexafluoropropylene oxide dimer acid	13252-13-6	23000	ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	N-ethyl perfluorooctanesulfonamidoacetic acid	2991-50-6		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	perfluoro-1-decanesulfonate (PFDS)	2806-15-7		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	perfluoro-1-heptanesulfonate (PFHpS)	21934-50-9		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	perfluoro-1-nonanesulfonate (PFNS)	98789-57-2		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	perfluoro-1-pentanesulfonate (PFPeS)	630402-22-1		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	Perfluorobutanesulfonic acid	375-73-5	3800	ng/kg	104 UA	113 UA
012-Mclouth_PFOS	perfluorobutyl sulfonate	29420-49-3		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	Perfluorodecanoic acid	335-76-2	67700	ng/kg	**151 A**	22.5 UA
012-Mclouth_PFOS	Perfluorododecanoic acid	307-55-1		ng/kg	**82 A**	22.5 UA
012-Mclouth_PFOS	Perfluoroheptanoic acid	375-85-9		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	Perfluorohexanoic acid	307-24-4	6200000	ng/kg	41.6 UA	45 UA
012-Mclouth_PFOS	perfluorohexyl sulfonate	3871-99-6		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	Perfluorononanoic acid	375-95-1	500	ng/kg	**130 A**	22.5 UA
012-Mclouth_PFOS	Perfluorooctanesulfonamide	754-91-6		ng/kg	20.8 UA	22.5 UA
012-Mclouth_PFOS	perfluorooctanoate	3825-26-1		ng/kg	**33.7 A**	22.5 UA
012-Mclouth_PFOS	perfluorooctyl sulfonate	2795-39-3		ng/kg	**709 A**	**42.9 A**
012-Mclouth_PFOS	Perfluoropentanoic acid	2706-90-3		ng/kg	104 UA	113 UA
012-Mclouth_PFOS	Perfluorotetradecanoic acid	376-06-7		ng/kg	**45.9 A**	**41.8 KTA**
012-Mclouth_PFOS	Perfluorotridecanoic acid	72629-94-8		ng/kg	**30.5 A**	22.5 UA
012-Mclouth_PFOS	Perfluoroundecanoic acid	2058-94-8		ng/kg	**87.1 A**	22.5 UA

Notes:

1. The analytical data shown above has not been validated by a third-party validator. The data is presented for discussion purposes only.
2. **Bold Text** - Identifies results over the detection limit
3. The Soil PAL value was sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
A - Unvalidated result
I - Ion ratio criteria is not met for this analyte
J - The identification of the analyte is acceptable; the reported value is an estimate
K - The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than the reported value
L - The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.
T - When quantitatively compared to replicate data, this value may be biased high or a false positive due to possible erratic contamination present in consumables used for sample collection, preparation, and analysis.
U - Not Detected

Table H - General Chemistry Results

Location						FAC CENTER POINT	FAC CENTER POINT	FAC CENTER POINT	FAC CENTER POINT
Sample #						RI-WC-01	RI-WC-02	RI-WC-03	RI-WC-04
Start Depth									
End Depth									
Depth Unit									
Sample Type						N	N	N	N
Parent Sample #									
Sample Date						9/22/2023	9/22/2023	9/22/2023	9/22/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units				
025-Mclouth_GenChem	ASTM D2216	SOLIDS, PERCENT	SOLID		%	87 A	92 A	88 A	86 A
025-Mclouth_GenChem	SM4500 S2F	SULFIDE	18496-25-8		ug/kg	83000 A	8700 A	50000 A	140000 A
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	U	U	U	U

Notes:

1. The analytical data shown above has not been validated by a third-party
2. **Identifies results that exceed the listed PAL value**
3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

N - Field sample

A - Unvalidated result

U - Not Detected

Table H - General Chemistry Results

Location						FAC CENTER POINT	FAC CENTER POINT	RI-SP-01	RI-SP-02
Sample #						RI-WC-05	RI-WC-05A	RI-SP-01	RI-SP-02
Start Depth									
End Depth									
Depth Unit									
Sample Type						N	N	N	N
Parent Sample #									
Sample Date						9/22/2023	9/22/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units				
025-Mclouth_GenChem	ASTM D2216	SOLIDS, PERCENT	SOLID		%	88 A	86 A	U	U
025-Mclouth_GenChem	SM4500 S2F	SULFIDE	18496-25-8		ug/kg	14000 A	32000 A	U	U
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	U	U	90600	68600

Notes:

1. The analytical data shown above has not been validated by a third-party
2. **Identifies results that exceed the listed PAL value**
3. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
N - Field sample
A - Unvalidated result
U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-01	RI-SB-01	RI-SB-01	RI-SB-02	RI-SB-02	RI-SB-02
Sample #						RI-SB-01-0-0.5	RI-SB-01-1-2	RI-SB-01-4-5	RI-SB-02-0-0.5	RI-SB-02-1-2	RI-SB-02-4-5
Start Depth						0	1	4	0	1	4
End Depth						0.5	2	5	0.5	2	5
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N
Parent Sample #											
Sample Date						8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023	8/28/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	86.8	89.3	89.7	90	88	80.8
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	20900	13500	21200	22100	34400	68200

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-02	RI-SB-04	RI-SB-04	RI-SB-04	RI-SB-07	RI-SB-07
Sample #						RI-SB-02A-1-2	RI-SB-04-0-0.5	RI-SB-04-1-2	RI-SB-04-5-6	RI-SB-07-0-0.5	RI-SB-07-1-2
Start Depth						1	0	1	5	0	1
End Depth						2	0.5	2	6	0.5	2
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						FD	N	N	N	N	N
Parent Sample #						RI-SB-02-1-2					
Sample Date						8/28/2023	8/29/2023	8/29/2023	8/29/2023	9/14/2023	9/14/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	87.6	80.6	89.2	84.7	U	U
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	26400	25000	15300	59000	76400	77300

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-07	RI-SB-08	RI-SB-08	RI-SB-08	RI-SB-10	RI-SB-10
Sample #						RI-SB-07-4-5	RI-SB-08-0-0.5	RI-SB-08-1-2	RI-SB-08-4-5	RI-SB-10-0-0.5	RI-SB-10-1-2
Start Depth						4	0	1	4	0	1
End Depth						5	0.5	2	5	0.5	2
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N
Parent Sample #											
Sample Date						9/14/2023	9/14/2023	9/14/2023	9/14/2023	9/12/2023	9/12/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	U	U	U	U	93.3	90.9
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	35100	48700	24300	33300	81300	32800

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

U - Not Detected

Table H - General Chemistry Results

		Location				RI-SB-10	RI-SB-11	RI-SB-11	RI-SB-11	RI-SB-12	RI-SB-12
		Sample #				RI-SB-10-4-5	RI-SB-11-0-0.5	RI-SB-11-1-2	RI-SB-11-7-8	RI-SB-12-0-0.5	RI-SB-12-1-2
		Start Depth				4	0	1	7	0	1
		End Depth				5	0.5	2	8	0.5	2
		Depth Unit				ft	ft	ft	ft	ft	ft
		Sample Type				N	N	N	N	N	N
		Parent Sample #									
		Sample Date				9/12/2023	9/12/2023	9/12/2023	9/12/2023	9/8/2023	9/8/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	93.9	87	87.8	82.5	93.3	92.2
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	41000	39000	17900	20800	81100	88100

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-12	RI-SB-12	RI-SB-13	RI-SB-13	RI-SB-13
Sample #						RI-SB-12-16-17	RI-SB-12A-0-0.5	RI-SB-13-0-0.5	RI-SB-13-1-2	RI-SB-13-19-20
Start Depth						16	0	0	1	19
End Depth						17	0.5	0.5	2	20
Depth Unit						ft	ft	ft	ft	ft
Sample Type						N	FD	N	N	N
Parent Sample #							RI-SB-12-0-0.5			
Sample Date						9/8/2023	9/8/2023	9/8/2023	9/8/2023	9/8/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units					
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	86.5	92.5	90.9	85.8	84.4
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	95900	60500	57700	45700	25300

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-14	RI-SB-14	RI-SB-16	RI-SB-16	RI-SB-16	RI-SB-23
Sample #						RI-SB-14-0-0.5	RI-SB-14-1-2	RI-SB-16-0-0.5	RI-SB-16-1-2	RI-SB-16-13-14	RI-SB-23-0-0.5
Start Depth						0	1	0	1	13	0
End Depth						0.5	2	0.5	2	14	0.5
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N
Parent Sample #											
Sample Date						9/5/2023	9/5/2023	9/19/2023	9/19/2023	9/19/2023	8/30/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	85.2	91.5	U	U	U	93.5
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	63100	52800	26200	15000	38600	24700

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-23	RI-SB-23	RI-SB-23	RI-SB-25	RI-SB-25
Sample #						RI-SB-23-1-2	RI-SB-23-17-18	RI-SB-23A-0-0.5	RI-SB-25-0-0.5	RI-SB-25-1-2
Start Depth						1	17	0	0	1
End Depth						2	18	0.5	0.5	2
Depth Unit						ft	ft	ft	ft	ft
Sample Type						N	N	FD	N	N
Parent Sample #								RI-SB-23-0-0.5		
Sample Date						8/30/2023	8/30/2023	8/30/2023	9/19/2023	9/19/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units					
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	93.2	81.2	90.6	U	U
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	25200	34900	29400	37500	21100

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-25	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-26	RI-SB-29
Sample #						RI-SB-25-17-18	RI-SB-26-0-0.5	RI-SB-26-1-2	RI-SB-26-2-3	RI-SB-26A-1-2	RI-SB-29-0-0.5
Start Depth							0	1	2	1	0
End Depth							0.5	2	3	2	0.5
Depth Unit							ft	ft	ft	ft	ft
Sample Type						N	N	N	N	FD	N
Parent Sample #										RI-SB-26-1-2	
Sample Date						9/19/2023	9/15/2023	9/15/2023	9/15/2023	9/15/2023	9/11/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	U	U	U	U	U	90.7
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	91000	251000	9700	15800	24300	63200

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-29	RI-SB-29	RI-SB-30	RI-SB-30	RI-SB-30	RI-SB-31
Sample #						RI-SB-29-1-2	RI-SB-29-4-5	RI-SB-30-0-0.5	RI-SB-30-1-2	RI-SB-30-2-3	RI-SB-31-0-0.5
Start Depth						1	4	0	1	2	0
End Depth						2	5	0.5	2	3	0.5
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N
Parent Sample #											
Sample Date						9/11/2023	9/11/2023	9/20/2023	9/20/2023	9/20/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	87.9	88.6	U	U	U	U
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	24200	24200	29100	24400	25600	42300

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-31	RI-SB-31	RI-SB-32	RI-SB-32	RI-SB-32	RI-SB-35
Sample #						RI-SB-31-1-2	RI-SB-31-4-5	RI-SB-32-0-0.5	RI-SB-32-1-2	RI-SB-32-18-19	RI-SB-35-0-0.5
Start Depth						1	4	0	1	18	0
End Depth						2	5	0.5	2	19	0.5
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N
Parent Sample #											
Sample Date						9/20/2023	9/20/2023	9/18/2023	9/18/2023	9/18/2023	9/18/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	U	U	U	U	U	U
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	19200	4420	17700	24100	55000	8280

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-35	RI-SB-35	RI-SB-39	RI-SB-39	RI-SB-39	RI-SB-40
Sample #						RI-SB-35-1-2	RI-SB-35-9-10	RI-SB-39-0-0.5	RI-SB-39-1-2	RI-SB-39-2-3	RI-SB-40-0-0.5
Start Depth						1	9	0	1	2	0
End Depth						2	10	0.5	2	3	0.5
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						N	N	N	N	N	N
Parent Sample #											
Sample Date						9/18/2023	9/18/2023	9/13/2023	9/13/2023	9/13/2023	9/13/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	U	U	90.2 J	91.3 J	92.5 J	87.4 J
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	8500	33600	62500	24300	26200	72400

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number

FD - Field duplicate

N - Field sample

U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-40	RI-SB-40	RI-SB-40	RI-SB-41	RI-SB-41	RI-SB-41
Sample #						RI-SB-40-1-2	RI-SB-40-3-4	RI-SB-40A-1-2	RI-SB-41-0-0.5	RI-SB-41-1-2	RI-SB-41-4-5
Start Depth						1	3	1	0	1	4
End Depth						2	4	2	0.5	2	5
Depth Unit						ft	ft	ft	ft	ft	ft
Sample Type						N	N	FD	N	N	N
Parent Sample #								RI-SB-40-1-2			
Sample Date						9/13/2023	9/13/2023	9/13/2023	9/6/2023	9/6/2023	9/6/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units						
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	82.9 J	79 J	83.4	92.7 J	92.6 J	85.6 J
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	50000	119000	48400	23800	16700	110000

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
U - Not Detected

Table H - General Chemistry Results

Location						RI-SB-42	RI-SB-42	RI-SB-42
Sample #						RI-SB-42-0-0.5	RI-SB-42-1-2	RI-SB-42-19-20
Start Depth						0	1	19
End Depth						0.5	2	20
Depth Unit						ft	ft	ft
Sample Type						N	N	N
Parent Sample #								
Sample Date						9/21/2023	9/21/2023	9/21/2023
Method Group	Method	Analyte	CAS #	Soil PAL	Units			
025-Mclouth_GenChem	SM2540G	SOLIDS, PERCENT	SOLID		%	U	U	U
025-Mclouth_GenChem	SM5310B	Total Organic Carbon	TOC		mg/kg	56300	35400	66200

Notes:

1. Identifies results that exceed the listed PAL value

2. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
FD - Field duplicate
N - Field sample
U - Not Detected

Table I - QC Sample Results

Location								
Sample #					EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2,2-TETRACHLOROETHANE	79-34-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLOROETHANE	79-00-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHENE	75-35-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROPROPANE	96-18-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	106-93-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROBENZENE	95-50-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROETHANE	107-06-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROPROPANE	78-87-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	ug/l	8.3 J	8.3 J	6.6 J	6.6 J
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	BROMOCHLOROMETHANE	74-97-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	BROMODICHLOROMETHANE	75-27-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	BROMOFORM	75-25-2	ug/l	5 U	5 U	5 U	5 U

Table I - QC Sample Results

Location								
Sample #					EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	BROMOMETHANE	74-83-9	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CARBON TETRACHLORIDE	56-23-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROETHANE	75-00-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROMETHANE	74-87-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CIS-1,3-DICHLOROPROPENE	10061-01-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	DIBROMOCHLOROMETHANE	124-48-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	DICHLORODIFLUOROMETHANE	75-71-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	STYRENE	100-42-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TERT-BUTYL METHYL ETHER	1634-04-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	ug/l	5 U	5 U	5 U	5 U

Table I - QC Sample Results

		Location						
		Sample #			EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			EB	EB	EB	EB
		Parent Sample #						
		Sample Date			8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRANS-1,3-DICHLOROPROPENE	10061-02-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRICHLOROFLUOROMETHANE	75-69-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	VINYL CHLORIDE	75-01-4	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	1,2,4,5-TETRACHLOROBENZENE	95-94-3	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	ug/l	0.2 U	0.2 U	0.2 U	0.2 U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	2,3,4,6-TETRACHLOROPHENOL	58-90-2	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4,5-TRICHLOROPHENOL	95-95-4	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4,6-TRICHLOROPHENOL	88-06-2	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4-DICHLOROPHENOL	120-83-2	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4-DIMETHYLPHENOL	105-67-9	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROPHENOL	51-28-5	ug/l	10 U	10 U	10 UJ	10 U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROTOLUENE	121-14-2	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2,6-DINITROTOLUENE	606-20-2	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2-CHLOROPHENOL	95-57-8	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	2-METHYLPHENOL (O-CRESOL)	95-48-7	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	2-NITROANILINE	88-74-4	ug/l	5 U	5 U	5 UJ	5 U
002-Mclouth_SVOC	SFAM01.1	2-NITROPHENOL	88-75-5	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	3,3'-DICHLOROBENZIDINE	91-94-1	ug/l	10 U	10 U	10 U	10 U

Table I - QC Sample Results

		Location						
		Sample #			EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			EB	EB	EB	EB
		Parent Sample #						
		Sample Date			8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	3-NITROANILINE	99-09-2	ug/l	10 U	10 U	10 UJ	10 U
002-Mclouth_SVOC	SFAM01.1	4,6-DINITRO-2-METHYLPHENOL	534-52-1	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	4-BROMOPHENYL PHENYL ETHER	101-55-3	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	4-CHLORO-3-METHYLPHENOL	59-50-7	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROANILINE	106-47-8	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROPHENYL PHENYL ETHER	7005-72-3	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	4-NITROANILINE	100-01-6	ug/l	10 U	10 U	10 UJ	10 U
002-Mclouth_SVOC	SFAM01.1	4-NITROPHENOL	100-02-7	ug/l	10 U	10 U	10 UJ	10 U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	ATRAZINE	1912-24-9	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	BENZALDEHYDE	100-52-7	ug/l	10 U	10 U	10 U	1.2 J
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	ug/l	0.1 U	1.8 J	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	ug/l	0.1 U	1.7 J	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	ug/l	0.1 U	1.9 J	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	ug/l	0.1 U	1.5 J	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	ug/l	0.1 U	1.8 J	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZYL BUTYL PHTHALATE	85-68-7	ug/l	5 U	1.9 J	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHOXY) METHANE	111-91-1	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	111-44-4	ug/l	10 U	10 U	10 U	10 U

Table I - QC Sample Results

Location								
Sample #					EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	5 U	2.1 J	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	CAPROLACTAM	105-60-2	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	ug/l	0.1 U	1.9 J	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	ug/l	0.1 U	1.5 J	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	DIETHYL PHTHALATE	84-66-2	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	DIMETHYL PHTHALATE	131-11-3	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	ug/l	5 U	1.5 J	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	DI-N-OCTYLPHTHALATE	117-84-0	ug/l	10 U	2 J	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBUTADIENE	87-68-3	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROCYCLOPENTADIENE	77-47-4	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROETHANE	67-72-1	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	ug/l	0.1 U	1.5 J	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	ISOPHORONE	78-59-1	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	ug/l	0.1 U	0.1 U	0.1 U	0.02 J
002-Mclouth_SVOC	SFAM01.1	NITROBENZENE	98-95-3	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODI-N-PROPYLAMINE	621-64-7	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	PENTACHLOROPHENOL	87-86-5	ug/l	0.2 U	0.2 U	0.2 U	0.2 U

Table I - QC Sample Results

Location								
Sample #					EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	ug/l	10 U	10 U	10 U	10 U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	ug/l	0.1 U	0.1 U	0.1 U	0.1 U
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA ENDOSULFAN	959-98-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN ALDEHYDE	7421-93-4	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN KETONE	53494-70-5	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR	76-44-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	METHOXYCHLOR	72-43-5	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	TOXAPHENE	8001-35-2	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
006-Mclouth_Aro	SFAM01.1	PCB-1016 (AROCLOR 1016)	12674-11-2	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1221 (AROCLOR 1221)	11104-28-2	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1232 (AROCLOR 1232)	11141-16-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1248 (AROCLOR 1248)	12672-29-6	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1262 (AROCLOR 1262)	37324-23-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	ug/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5	pg/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	ug/l	28	50	49	16 J
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	ug/l	2 U	2 U	2 U	2 U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	ug/l	0.76 J	0.92 J	1.9 J	10 U
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	ug/l	1 UJ	1 UJ	1 UJ	1 U
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2	ug/l	450 J-	1900 J-	5800 J-	1100
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	ug/l	1 J	1.3 J	1.5 J	0.38 J
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	ug/l	0.06 J	0.27 J	0.15 J	1 U
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	ug/l	2 U	1.2 J	2 U	2 U
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	ug/l	10 U	10 U	10 U	10 U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	ug/l	200	200	260	110 J
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	ug/l	130 J	280 J	1600	94 J

Table I - QC Sample Results

		Location						
		Sample #			EB-01-SO-Y1	EB-02-SO-Y1	EB-03-SO-Y1	EB-04-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			EB	EB	EB	EB
		Parent Sample #						
		Sample Date			8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	ug/l	7.5	17	17	2.9 J+
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	ug/l	0.2 U	0.2 U	0.2 U	0.2 U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	ug/l	0.61 J	0.72 J	0.55 J	0.11 J
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7	ug/l	49 J	68 J	100 J	500 U
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	ug/l	5 U	5 U	5 U	5 U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5	ug/l	500 U	500 U	500 U	500 U
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	ug/l	5 U	0.48 J	0.21 J	5 U
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	ug/l	5.6 J+	7.1 J+	8 J+	5 U

Notes:

1. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the McLouth Steel Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
TB - Trip blank
EB - Equipment blank
FB - Field blank
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table I - QC Sample Results

		Location						
		Sample #			EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			EB	EB	EB	EB
		Parent Sample #						
		Sample Date			8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,1,2,2-TETRACHLOROETHANE	79-34-5	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLOROETHANE	79-00-5	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHENE	75-35-4	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROPROPANE	96-18-4	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	106-93-4	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROBENZENE	95-50-1	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROETHANE	107-06-2	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROPROPANE	78-87-5	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	ug/l	10 U	10 U	10 U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	ug/l	6.7 J	8.5 J	8.1 J	U
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	BROMOCHLOROMETHANE	74-97-5	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	BROMODICHLOROMETHANE	75-27-4	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	BROMOFORM	75-25-2	ug/l	5 U	5 U	5 U	U

Table I - QC Sample Results

Location								
Sample #					EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	BROMOMETHANE	74-83-9	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CARBON TETRACHLORIDE	56-23-5	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CHLOROETHANE	75-00-3	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CHLOROMETHANE	74-87-3	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CIS-1,3-DICHLOROPROPENE	10061-01-5	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	DIBROMOCHLOROMETHANE	124-48-1	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	DICHLORODIFLUOROMETHANE	75-71-8	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	ug/l	10 U	10 U	10 U	U
001-Mclouth_VOC	SFAM01.1	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	ug/l	10 U	10 U	10 U	U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	STYRENE	100-42-5	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	TERT-BUTYL METHYL ETHER	1634-04-4	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	ug/l	5 U	5 U	5 U	U

Table I - QC Sample Results

Location								
Sample #					EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,3-DICHLOROPROPENE	10061-02-6	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROFLUOROMETHANE	75-69-4	ug/l	5 U	5 U	5 U	U
001-Mclouth_VOC	SFAM01.1	VINYL CHLORIDE	75-01-4	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	1,2,4,5-TETRACHLOROBENZENE	95-94-3	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	ug/l	0.2 U	0.2 U	0.2 U	0.08 J
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	2,3,4,6-TETRACHLOROPHENOL	58-90-2	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	2,4,5-TRICHLOROPHENOL	95-95-4	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	2,4,6-TRICHLOROPHENOL	88-06-2	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DICHLOROPHENOL	120-83-2	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DIMETHYLPHENOL	105-67-9	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROPHENOL	51-28-5	ug/l	10 U	10 U	10 UJ	U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROTOLUENE	121-14-2	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	2,6-DINITROTOLUENE	606-20-2	ug/l	5 U	5 U	5 UJ	U
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	2-CHLOROPHENOL	95-57-8	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLPHENOL (O-CRESOL)	95-48-7	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	2-NITROANILINE	88-74-4	ug/l	5 U	5 U	5 UJ	U
002-Mclouth_SVOC	SFAM01.1	2-NITROPHENOL	88-75-5	ug/l	5 U	5 U	5 UJ	U
002-Mclouth_SVOC	SFAM01.1	3,3'-DICHLOROBENZIDINE	91-94-1	ug/l	10 U	10 U	10 U	U

Table I - QC Sample Results

		Location						
		Sample #			EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			EB	EB	EB	EB
		Parent Sample #						
		Sample Date			8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	3-NITROANILINE	99-09-2	ug/l	10 U	10 U	10 UJ	U
002-Mclouth_SVOC	SFAM01.1	4,6-DINITRO-2-METHYLPHENOL	534-52-1	ug/l	10 U	10 U	10 UJ	U
002-Mclouth_SVOC	SFAM01.1	4-BROMOPHENYL PHENYL ETHER	101-55-3	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLORO-3-METHYLPHENOL	59-50-7	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROANILINE	106-47-8	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROPHENYL PHENYL ETHER	7005-72-3	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	4-NITROANILINE	100-01-6	ug/l	10 U	10 U	10 UJ	U
002-Mclouth_SVOC	SFAM01.1	4-NITROPHENOL	100-02-7	ug/l	10 U	10 U	10 UJ	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	ATRAZINE	1912-24-9	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	BENZALDEHYDE	100-52-7	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	BENZYL BUTYL PHTHALATE	85-68-7	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHOXY) METHANE	111-91-1	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	111-44-4	ug/l	10 U	10 U	10 U	U

Table I - QC Sample Results

Location								
Sample #					EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	CAPROLACTAM	105-60-2	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	DIETHYL PHTHALATE	84-66-2	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	DIMETHYL PHTHALATE	131-11-3	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-OCTYLPHTHALATE	117-84-0	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBUTADIENE	87-68-3	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROCYCLOPENTADIENE	77-47-4	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROETHANE	67-72-1	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	ISOPHORONE	78-59-1	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	NITROBENZENE	98-95-3	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODI-N-PROPYLAMINE	621-64-7	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	ug/l	5 U	5 U	5 U	U
002-Mclouth_SVOC	SFAM01.1	PENTACHLOROPHENOL	87-86-5	ug/l	0.2 U	0.2 U	0.2 U	U

Table I - QC Sample Results

		Location						
		Sample #			EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			EB	EB	EB	EB
		Parent Sample #						
		Sample Date			8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	ug/l	0.1 U	0.1 U	0.1 U	U
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	ug/l	10 U	10 U	10 U	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	ug/l	0.1 U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	ALPHA ENDOSULFAN	959-98-8	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN ALDEHYDE	7421-93-4	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN KETONE	53494-70-5	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR	76-44-8	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	ug/l	U	0.05 U	0.05 U	U
003-Mclouth_Pest	SFAM01.1	METHOXYCHLOR	72-43-5	ug/l	U	0.5 U	0.5 U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	ug/l	U	0.1 U	0.1 U	U
003-Mclouth_Pest	SFAM01.1	TOXAPHENE	8001-35-2	ug/l	U	5 U	5 U	U

Table I - QC Sample Results

Location								
Sample #					EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
006-Mclouth_Aro	SFAM01.1	PCB-1016 (AROCLOR 1016)	12674-11-2	ug/l	U	1 U	1 U	U
006-Mclouth_Aro	SFAM01.1	PCB-1221 (AROCLOR 1221)	11104-28-2	ug/l	U	1 U	1 U	U
006-Mclouth_Aro	SFAM01.1	PCB-1232 (AROCLOR 1232)	11141-16-5	ug/l	U	1 U	1 U	U
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	ug/l	U	1 U	1 U	U
006-Mclouth_Aro	SFAM01.1	PCB-1248 (AROCLOR 1248)	12672-29-6	ug/l	U	1 U	1 U	U
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	ug/l	U	1 U	1 U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	ug/l	U	1 U	1 U	U
006-Mclouth_Aro	SFAM01.1	PCB-1262 (AROCLOR 1262)	37324-23-5	ug/l	U	1 U	1 U	U
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	ug/l	U	1 U	1 U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l	U	1.45 UA	1.61 UA	1.99 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l	U	2.75 UA	2.67 UA	2.93 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l	U	2.26 UA	2.17 UA	2.89 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l	U	1.94 UA	1.95 UA	2.09 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l	U	3.23 UA	2.68 UA	2.68 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l	U	1.82 UA	1.7 UA	1.9 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l	U	3.32 UA	2.69 UA	2.61 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l	U	2.47 UA	2.7 UA	2.48 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l	U	3.15 UA	2.68 UA	2.79 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l	U	1.94 UA	1.65 UA	1.69 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l	U	2.97 UA	2.61 UA	2.24 UA
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l	U	1.99 UA	2 UA	1.97 UA
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l	U	1.95 UA	1.62 UA	1.66 UA
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l	U	1.62 UA	1.15 UA	1.2 UA
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l	U	2.09 UA	1.51 UA	2.26 UA

Table I - QC Sample Results

Location								
Sample #					EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	pg/l	U	1.81 UA	1.86 UA	2.39 UA
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	pg/l	U	2.75 UA	2.67 UA	2.93 UA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	pg/l	U	2.03 UA	2.05 UA	2.09 UA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	pg/l	U	3.22 UA	2.68 UA	2.69 UA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l	U	3.64 UA	4.24 UA	3.85 UA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l	U	6.36 UA	5.94 UA	6.26 UA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	pg/l	U	1.95 UA	1.64 UA	1.68 UA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	pg/l	U	2.97 UA	2.61 UA	2.24 UA
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	pg/l	U	2.09 UA	1.51 UA	2.26 UA
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5	pg/l	U	1.62 UA	1.15 UA	1.2 UA
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	ug/l	13 J	21	49	240
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	ug/l	2 U	2 U	2 U	2 U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	ug/l	10 U	10 U	1.2 J	1.6 J
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2	ug/l	480 J	480 J	2600	710
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	ug/l	0.32 J	0.95 J	1.2 J	1.5 J
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	ug/l	0.17 J	0.07 J	0.48 J	0.15 J
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	ug/l	2 U	2 U	4.5	2 U
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	ug/l	10 U	10 U	10 U	10 U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	ug/l	180 J	480	2400	350
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	ug/l	57 J	74 J	210 J	110 J

Table I - QC Sample Results

Location								
Sample #					EB-05-SO-Y1	EB-06-SO-Y1	EB-07-SO-Y1	EB-08-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	9/5/2023
Method Group	Method	Analyte	CAS #	Units				
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	ug/l	3.7 J+	13 J+	54 J+	18 J+
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	ug/l	0.2 U	0.2 U	0.2 U	0.2 U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	ug/l	0.13 J	0.46 J-	1.7 J-	0.49 J
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7	ug/l	500 U	27 J	54 J	79 J
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	ug/l	5 U	5 U	5 U	5 U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5	ug/l	500 U	500 U	500 U	500 U
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	ug/l	5 U	5 U	0.29 J	0.64 J
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	ug/l	5 U	5 J+	9.6 J+	5 U

Notes:

1. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the
Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
TB - Trip blank
EB - Equipment blank
FB - Field blank
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table I - QC Sample Results

		Location						
		Sample #			EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			EB	EB	EB	EB
		Parent Sample #						
		Sample Date			9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1,2,2-TETRACHLOROETHANE	79-34-5	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLOROETHANE	79-00-5	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHENE	75-35-4	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROPROPANE	96-18-4	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	106-93-4	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROBENZENE	95-50-1	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROETHANE	107-06-2	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROPROPANE	78-87-5	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	BROMOCHLOROMETHANE	74-97-5	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	BROMODICHLOROMETHANE	75-27-4	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	BROMOFORM	75-25-2	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	BROMOMETHANE	74-83-9	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CARBON TETRACHLORIDE	56-23-5	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROETHANE	75-00-3	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CHLOROMETHANE	74-87-3	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CIS-1,3-DICHLOROPROPENE	10061-01-5	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	DIBROMOCHLOROMETHANE	124-48-1	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	DICHLORODIFLUOROMETHANE	75-71-8	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	STYRENE	100-42-5	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TERT-BUTYL METHYL ETHER	1634-04-4	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRANS-1,3-DICHLOROPROPENE	10061-02-6	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	TRICHLOROFLUOROMETHANE	75-69-4	ug/l	U	U	U	U
001-Mclouth_VOC	SFAM01.1	VINYL CHLORIDE	75-01-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	1,2,4,5-TETRACHLOROBENZENE	95-94-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	ug/l	0.17 J	U	U	U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	ug/l	U	U	0.02 J-	U
002-Mclouth_SVOC	SFAM01.1	2,3,4,6-TETRACHLOROPHENOL	58-90-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4,5-TRICHLOROPHENOL	95-95-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4,6-TRICHLOROPHENOL	88-06-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DICHLOROPHENOL	120-83-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DIMETHYLPHENOL	105-67-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROPHENOL	51-28-5	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROTOLUENE	121-14-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,6-DINITROTOLUENE	606-20-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-CHLOROPHENOL	95-57-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLPHENOL (O-CRESOL)	95-48-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-NITROANILINE	88-74-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-NITROPHENOL	88-75-5	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	3,3'-DICHLOROBENZIDINE	91-94-1	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	3-NITROANILINE	99-09-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4,6-DINITRO-2-METHYLPHENOL	534-52-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-BROMOPHENYL PHENYL ETHER	101-55-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLORO-3-METHYLPHENOL	59-50-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROANILINE	106-47-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROPHENYL PHENYL ETHER	7005-72-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-NITROANILINE	100-01-6	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-NITROPHENOL	100-02-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ATRAZINE	1912-24-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZALDEHYDE	100-52-7	ug/l	U	U	2.4 J-	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZYL BUTYL PHTHALATE	85-68-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHOXY) METHANE	111-91-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	111-44-4	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CAPROLACTAM	105-60-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DIETHYL PHTHALATE	84-66-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DIMETHYL PHTHALATE	131-11-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-OCTYLPHTHALATE	117-84-0	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBUTADIENE	87-68-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROCYCLOPENTADIENE	77-47-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROETHANE	67-72-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ISOPHORONE	78-59-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	NITROBENZENE	98-95-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODI-N-PROPYLAMINE	621-64-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PENTACHLOROPHENOL	87-86-5	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA ENDOSULFAN	959-98-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN ALDEHYDE	7421-93-4	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN KETONE	53494-70-5	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR	76-44-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	METHOXYCHLOR	72-43-5	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	TOXAPHENE	8001-35-2	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
006-Mclouth_Aro	SFAM01.1	PCB-1016 (AROCLOR 1016)	12674-11-2	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1221 (AROCLOR 1221)	11104-28-2	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1232 (AROCLOR 1232)	11141-16-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1248 (AROCLOR 1248)	12672-29-6	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1262 (AROCLOR 1262)	37324-23-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	ug/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l	1.07 UA	1.21 UA	1.38 UA	1.34 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l	1.77 UA	1.85 UA	1.99 UA	2.29 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l	1.55 UA	1.67 UA	1.99 UA	1.69 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l	1.43 UA	1.36 UA	1.36 UA	1.75 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l	1.75 UA	2.45 UA	2.52 UA	2.7 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l	1.15 UA	1.26 UA	1.32 UA	1.41 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l	1.84 UA	2.24 UA	2.44 UA	2.53 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l	1.85 UA	1.65 UA	1.84 UA	2.52 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l	1.9 UA	2.24 UA	2.44 UA	2.68 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l	0.954 UA	1.48 UA	1.73 UA	1.55 UA
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l	2.45 UA	2.63 UA	2.47 UA	2.86 UA
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l	1.31 UA	1.43 UA	1.41 UA	1.7 UA
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l	0.936 UA	1.59 UA	1.82 UA	1.55 UA
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l	1.2 UA	1.26 UA	1.32 UA	1.39 UA
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l	2.17 UA	2.21 UA	2.16 UA	2.11 UA

Table I - QC Sample Results

		Location						
		Sample #			EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			EB	EB	EB	EB
		Parent Sample #						
		Sample Date			9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	pg/l	1.28 UA	1.42 UA	1.66 UA	1.5 UA
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	pg/l	1.77 UA	1.85 UA	1.99 UA	2.29 UA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	pg/l	1.41 UA	1.42 UA	1.47 UA	1.8 UA
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	pg/l	1.83 UA	2.3 UA	2.46 UA	2.63 UA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l	3.68 UA	3.08 UA	3.11 UA	5.16 UA
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l	4.67 UA	4.25 UA	4.05 UA	5.32 UA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	pg/l	0.945 UA	1.53 UA	1.77 UA	1.55 UA
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	pg/l	2.45 UA	2.63 UA	2.47 UA	2.86 UA
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	pg/l	2.17 UA	2.21 UA	2.16 UA	2.11 UA
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5	pg/l	1.2 UA	1.26 UA	1.32 UA	1.39 UA
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	ug/l	19 J	20 U	20 U	11 J
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	ug/l	2 U	2 U	2 U	2 U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	ug/l	10 U	10 U	10 U	10 U
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	ug/l	1 U	1 U	1 UJ	1 U
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2	ug/l	390 J	260 J	270 J	68 J
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	ug/l	0.25 J	0.19 J	0.37 J	2 U
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	ug/l	2 U	2 U	2 U	2 U
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	ug/l	10 U	10 U	10 U	10 U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	ug/l	37 J	40 J	130 J	200 U
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	ug/l	34 J	500 U	45 J	500 U

Table I - QC Sample Results

Location								
Sample #					EB-09-SO-Y1	EB-10-SO-Y1	EB-11-SO-Y1	EB-12-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					EB	EB	EB	EB
Parent Sample #								
Sample Date					9/8/2023	9/11/2023	9/12/2023	9/20/2023
Method Group	Method	Analyte	CAS #	Units				
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	ug/l	1 J+	1.9 J+	5	1.6
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	ug/l	0.2 U	0.2 U	0.2 U	0.09 J
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	ug/l	1 U	1 U	0.21 J	1 U
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7	ug/l	500 U	500 U	32 J	500 U
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	ug/l	5 U	5 U	5 U	5 U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5	ug/l	500 U	500 U	500 U	500 U
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	ug/l	1 U	1 U	1 U	1 U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	ug/l	5 U	5 U	5 U	5 U
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	ug/l	5 U	5 U	0.72 J-	1.1 J

Notes:

1. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the
Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
TB - Trip blank
EB - Equipment blank
FB - Field blank
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table I - QC Sample Results

Location								
Sample #					TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	TB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2,2-TETRACHLOROETHANE	79-34-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLOROETHANE	79-00-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHENE	75-35-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROPROPANE	96-18-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	106-93-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROBENZENE	95-50-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROETHANE	107-06-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROPROPANE	78-87-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	ug/l	8.4 J	8.2 J	8.1 J	8.3 J
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	BROMOCHLOROMETHANE	74-97-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	BROMODICHLOROMETHANE	75-27-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	BROMOFORM	75-25-2	ug/l	5 U	5 U	5 U	5 U

Table I - QC Sample Results

Location								
Sample #					TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	TB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	BROMOMETHANE	74-83-9	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CARBON TETRACHLORIDE	56-23-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROETHANE	75-00-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROMETHANE	74-87-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CIS-1,3-DICHLOROPROPENE	10061-01-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	DIBROMOCHLOROMETHANE	124-48-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	DICHLORODIFLUOROMETHANE	75-71-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	STYRENE	100-42-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TERT-BUTYL METHYL ETHER	1634-04-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	ug/l	5 U	5 U	5 U	5 U

Table I - QC Sample Results

		Location						
		Sample #			TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			TB	TB	TB	TB
		Parent Sample #						
		Sample Date			8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRANS-1,3-DICHLOROPROPENE	10061-02-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRICHLOROFLUOROMETHANE	75-69-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	VINYL CHLORIDE	75-01-4	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	1,2,4,5-TETRACHLOROBENZENE	95-94-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,3,4,6-TETRACHLOROPHENOL	58-90-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4,5-TRICHLOROPHENOL	95-95-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4,6-TRICHLOROPHENOL	88-06-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DICHLOROPHENOL	120-83-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DIMETHYLPHENOL	105-67-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROPHENOL	51-28-5	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROTOLUENE	121-14-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2,6-DINITROTOLUENE	606-20-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-CHLOROPHENOL	95-57-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-METHYLPHENOL (O-CRESOL)	95-48-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-NITROANILINE	88-74-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	2-NITROPHENOL	88-75-5	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	3,3'-DICHLOROBENZIDINE	91-94-1	ug/l	U	U	U	U

Table I - QC Sample Results

		Location						
		Sample #			TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			TB	TB	TB	TB
		Parent Sample #						
		Sample Date			8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	3-NITROANILINE	99-09-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4,6-DINITRO-2-METHYLPHENOL	534-52-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-BROMOPHENYL PHENYL ETHER	101-55-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLORO-3-METHYLPHENOL	59-50-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROANILINE	106-47-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROPHENYL PHENYL ETHER	7005-72-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-NITROANILINE	100-01-6	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	4-NITROPHENOL	100-02-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ATRAZINE	1912-24-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZALDEHYDE	100-52-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BENZYL BUTYL PHTHALATE	85-68-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHOXY) METHANE	111-91-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	111-44-4	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	TB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CAPROLACTAM	105-60-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DIETHYL PHTHALATE	84-66-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DIMETHYL PHTHALATE	131-11-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	DI-N-OCTYLPHTHALATE	117-84-0	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBUTADIENE	87-68-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROCYCLOPENTADIENE	77-47-4	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROETHANE	67-72-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	ISOPHORONE	78-59-1	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	NITROBENZENE	98-95-3	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODI-N-PROPYLAMINE	621-64-7	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PENTACHLOROPHENOL	87-86-5	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	TB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	ug/l	U	U	U	U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA ENDOSULFAN	959-98-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN ALDEHYDE	7421-93-4	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	ENDRIN KETONE	53494-70-5	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR	76-44-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	METHOXYCHLOR	72-43-5	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	ug/l	U	U	U	U
003-Mclouth_Pest	SFAM01.1	TOXAPHENE	8001-35-2	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	TB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
006-Mclouth_Aro	SFAM01.1	PCB-1016 (AROCLOR 1016)	12674-11-2	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1221 (AROCLOR 1221)	11104-28-2	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1232 (AROCLOR 1232)	11141-16-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1248 (AROCLOR 1248)	12672-29-6	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1262 (AROCLOR 1262)	37324-23-5	ug/l	U	U	U	U
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	ug/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	TB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5	pg/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	ug/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					TB-01-SO-Y1	TB-02-SO-Y1	TB-03-SO-Y1	TB-04-SO-Y1
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	TB
Parent Sample #								
Sample Date					8/15/2023	8/16/2023	8/18/2023	8/22/2023
Method Group	Method	Analyte	CAS #	Units				
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	ug/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	ug/l	U	U	U	U

Notes:

1. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the M
Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
TB - Trip blank
EB - Equipment blank
FB - Field blank
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Table I - QC Sample Results

		Location Sample # Start Depth End Depth Depth Unit Sample Type Parent Sample # Sample Date			TB-05-SO-Y1 TB 8/24/2023	TB-06-SO-Y1 TB 8/28/2023	TB-07-SO-Y1 TB 8/29/2023	WB-01-081523 FB 8/15/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	1,1,1-TRICHLOROETHANE	71-55-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2,2-TETRACHLOROETHANE	79-34-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	76-13-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1,2-TRICHLOROETHANE	79-00-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHANE	75-34-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,1-DICHLOROETHENE	75-35-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROBENZENE	87-61-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,3-TRICHLOROPROPANE	96-18-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRICHLOROBENZENE	120-82-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2,4-TRIMETHYLBENZENE	95-63-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	106-93-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROBENZENE	95-50-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROETHANE	107-06-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,2-DICHLOROPROPANE	78-87-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	108-67-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,3-DICHLOROBENZENE	541-73-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	1,4-DICHLOROBENZENE	106-46-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	2-HEXANONE	591-78-6	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	ACETONE	67-64-1	ug/l	7.6 J	7.3 J	7.2 J	4.5 J
001-Mclouth_VOC	SFAM01.1	BENZENE	71-43-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	BROMOCHLOROMETHANE	74-97-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	BROMODICHLOROMETHANE	75-27-4	ug/l	5 U	5 U	5 U	11
001-Mclouth_VOC	SFAM01.1	BROMOFORM	75-25-2	ug/l	5 U	5 U	5 U	5 U

Table I - QC Sample Results

Location								
Sample #					TB-05-SO-Y1	TB-06-SO-Y1	TB-07-SO-Y1	WB-01-081523
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	FB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	BROMOMETHANE	74-83-9	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CARBON DISULFIDE	75-15-0	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CARBON TETRACHLORIDE	56-23-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROBENZENE	108-90-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROETHANE	75-00-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CHLOROFORM	67-66-3	ug/l	5 U	5 U	5 U	26
001-Mclouth_VOC	SFAM01.1	CHLOROMETHANE	74-87-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CIS-1,2-DICHLOROETHYLENE	156-59-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CIS-1,3-DICHLOROPROPENE	10061-01-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	CYCLOHEXANE	110-82-7	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	DIBROMOCHLOROMETHANE	124-48-1	ug/l	5 U	5 U	5 U	5.2
001-Mclouth_VOC	SFAM01.1	DICHLORODIFLUOROMETHANE	75-71-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	ETHYLBENZENE	100-41-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	ISOPROPYLBENZENE (CUMENE)	98-82-8	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	m,p-Xylene	179601-23-1	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYL ACETATE	79-20-9	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	108-10-1	ug/l	10 U	10 U	10 U	10 U
001-Mclouth_VOC	SFAM01.1	METHYLCYCLOHEXANE	108-87-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	METHYLENE CHLORIDE	75-09-2	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	O-XYLENE (1,2-DIMETHYLBENZENE)	95-47-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	STYRENE	100-42-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TERT-BUTYL METHYL ETHER	1634-04-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TETRACHLOROETHENE (PCE)	127-18-4	ug/l	5 U	5 U	5 U	5 U

Table I - QC Sample Results

		Location						
		Sample #			TB-05-SO-Y1	TB-06-SO-Y1	TB-07-SO-Y1	WB-01-081523
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			TB	TB	TB	FB
		Parent Sample #						
		Sample Date			8/24/2023	8/28/2023	8/29/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Units				
001-Mclouth_VOC	SFAM01.1	TOLUENE	108-88-3	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRANS-1,2-DICHLOROETHENE	156-60-5	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRANS-1,3-DICHLOROPROPENE	10061-02-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRICHLOROETHENE (TCE)	79-01-6	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	TRICHLOROFLUOROMETHANE	75-69-4	ug/l	5 U	5 U	5 U	5 U
001-Mclouth_VOC	SFAM01.1	VINYL CHLORIDE	75-01-4	ug/l	5 U	5 U	5 U	5 U
002-Mclouth_SVOC	SFAM01.1	1,2,4,5-TETRACHLOROBENZENE	95-94-3	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	1,4-DIOXANE (P-DIOXANE)	123-91-1	ug/l	U	U	U	0.2 U
002-Mclouth_SVOC	SFAM01.1	1-METHYLNAPHTHALENE	90-12-0	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	2,3,4,6-TETRACHLOROPHENOL	58-90-2	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4,5-TRICHLOROPHENOL	95-95-4	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4,6-TRICHLOROPHENOL	88-06-2	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4-DICHLOROPHENOL	120-83-2	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4-DIMETHYLPHENOL	105-67-9	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROPHENOL	51-28-5	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	2,4-DINITROTOLUENE	121-14-2	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2,6-DINITROTOLUENE	606-20-2	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2-CHLORONAPHTHALENE	91-58-7	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2-CHLOROPHENOL	95-57-8	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2-METHYLNAPHTHALENE	91-57-6	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	2-METHYLPHENOL (O-CRESOL)	95-48-7	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	2-NITROANILINE	88-74-4	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	2-NITROPHENOL	88-75-5	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	3,3'-DICHLOROBENZIDINE	91-94-1	ug/l	U	U	U	10 U

Table I - QC Sample Results

Location								
Sample #					TB-05-SO-Y1	TB-06-SO-Y1	TB-07-SO-Y1	WB-01-081523
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	FB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	3-NITROANILINE	99-09-2	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	4,6-DINITRO-2-METHYLPHENOL	534-52-1	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	4-BROMOPHENYL PHENYL ETHER	101-55-3	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	4-CHLORO-3-METHYLPHENOL	59-50-7	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROANILINE	106-47-8	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	4-CHLOROPHENYL PHENYL ETHER	7005-72-3	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	4-METHYLPHENOL (P-CRESOL)	106-44-5	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	4-NITROANILINE	100-01-6	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	4-NITROPHENOL	100-02-7	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHENE	83-32-9	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	ACENAPHTHYLENE	208-96-8	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	ACETOPHENONE	98-86-2	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	ANTHRACENE	120-12-7	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	ATRAZINE	1912-24-9	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	BENZALDEHYDE	100-52-7	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)ANTHRACENE	56-55-3	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZO(A)PYRENE	50-32-8	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZO(B)FLUORANTHENE	205-99-2	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZO(G,H,I)PERYLENE	191-24-2	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZO(K)FLUORANTHENE	207-08-9	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	BENZYL BUTYL PHTHALATE	85-68-7	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	BIPHENYL (DIPHENYL)	92-52-4	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHOXY) METHANE	111-91-1	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHER)	111-44-4	ug/l	U	U	U	10 U

Table I - QC Sample Results

		Location						
		Sample #			TB-05-SO-Y1	TB-06-SO-Y1	TB-07-SO-Y1	WB-01-081523
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			TB	TB	TB	FB
		Parent Sample #						
		Sample Date			8/24/2023	8/28/2023	8/29/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	BIS(2-CHLOROISOPROPYL) ETHER	108-60-1	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	BIS(2-ETHYLHEXYL) PHTHALATE	117-81-7	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	CAPROLACTAM	105-60-2	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	CARBAZOLE	86-74-8	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	CHRYSENE	218-01-9	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	DIBENZ(A,H)ANTHRACENE	53-70-3	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	DIBENZOFURAN	132-64-9	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	DIETHYL PHTHALATE	84-66-2	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	DIMETHYL PHTHALATE	131-11-3	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	DI-N-BUTYL PHTHALATE	84-74-2	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	DI-N-OCTYLPHTHALATE	117-84-0	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	FLUORANTHENE	206-44-0	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	FLUORENE	86-73-7	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBENZENE	118-74-1	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROBUTADIENE	87-68-3	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROCYCLOPENTADIENE	77-47-4	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	HEXACHLOROETHANE	67-72-1	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	INDENO(1,2,3-C,D)PYRENE	193-39-5	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	ISOPHORONE	78-59-1	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	NAPHTHALENE	91-20-3	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	NITROBENZENE	98-95-3	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODI-N-PROPYLAMINE	621-64-7	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	N-NITROSODIPHENYLAMINE	86-30-6	ug/l	U	U	U	5 U
002-Mclouth_SVOC	SFAM01.1	PENTACHLOROPHENOL	87-86-5	ug/l	U	U	U	0.2 U

Table I - QC Sample Results

Location								
Sample #					TB-05-SO-Y1	TB-06-SO-Y1	TB-07-SO-Y1	WB-01-081523
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	FB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Units				
002-Mclouth_SVOC	SFAM01.1	PHENANTHRENE	85-01-8	ug/l	U	U	U	0.1 U
002-Mclouth_SVOC	SFAM01.1	PHENOL	108-95-2	ug/l	U	U	U	10 U
002-Mclouth_SVOC	SFAM01.1	PYRENE	129-00-0	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	ALDRIN	309-00-2	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	319-84-6	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	ALPHA ENDOSULFAN	959-98-8	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	ALPHA-CHLORDANE	5103-71-9	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	319-85-7	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	BETA ENDOSULFAN	33213-65-9	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	BETA-CHLORDANE	5103-74-2	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	319-86-8	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	DIELDRIN	60-57-1	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	ENDOSULFAN SULFATE	1031-07-8	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	ENDRIN	72-20-8	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	ENDRIN ALDEHYDE	7421-93-4	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	ENDRIN KETONE	53494-70-5	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	GAMMA BHC (LINDANE)	58-89-9	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR	76-44-8	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	HEPTACHLOR EPOXIDE	1024-57-3	ug/l	U	U	U	0.05 U
003-Mclouth_Pest	SFAM01.1	METHOXYCHLOR	72-43-5	ug/l	U	U	U	0.5 U
003-Mclouth_Pest	SFAM01.1	P,P'-DDD	72-54-8	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	P,P'-DDE	72-55-9	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	P,P'-DDT	50-29-3	ug/l	U	U	U	0.1 U
003-Mclouth_Pest	SFAM01.1	TOXAPHENE	8001-35-2	ug/l	U	U	U	5 U

Table I - QC Sample Results

		Location						
		Sample #			TB-05-SO-Y1	TB-06-SO-Y1	TB-07-SO-Y1	WB-01-081523
		Start Depth						
		End Depth						
		Depth Unit						
		Sample Type			TB	TB	TB	FB
		Parent Sample #						
		Sample Date			8/24/2023	8/28/2023	8/29/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Units				
006-Mclouth_Aro	SFAM01.1	PCB-1016 (AROCLOR 1016)	12674-11-2	ug/l	U	U	U	1 U
006-Mclouth_Aro	SFAM01.1	PCB-1221 (AROCLOR 1221)	11104-28-2	ug/l	U	U	U	1 U
006-Mclouth_Aro	SFAM01.1	PCB-1232 (AROCLOR 1232)	11141-16-5	ug/l	U	U	U	1 U
006-Mclouth_Aro	SFAM01.1	PCB-1242 (AROCLOR 1242)	53469-21-9	ug/l	U	U	U	1 U
006-Mclouth_Aro	SFAM01.1	PCB-1248 (AROCLOR 1248)	12672-29-6	ug/l	U	U	U	1 U
006-Mclouth_Aro	SFAM01.1	PCB-1254 (AROCLOR 1254)	11097-69-1	ug/l	U	U	U	1 U
006-Mclouth_Aro	SFAM01.1	PCB-1260 (AROCLOR 1260)	11096-82-5	ug/l	U	U	U	1 U
006-Mclouth_Aro	SFAM01.1	PCB-1262 (AROCLOR 1262)	37324-23-5	ug/l	U	U	U	1 U
006-Mclouth_Aro	SFAM01.1	PCB-1268 (AROCLOR 1268)	11100-14-4	ug/l	U	U	U	1 U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN	67562-39-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	35822-46-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN	55673-89-7	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN	70648-26-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN	39227-28-6	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN	57117-44-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	57653-85-7	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN	72918-21-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	19408-74-3	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZOFURAN	57117-41-6	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	40321-76-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN	60851-34-5	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZOFURAN	51207-31-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN	1746-01-6	pg/l	U	U	U	U

Table I - QC Sample Results

Location								
Sample #					TB-05-SO-Y1	TB-06-SO-Y1	TB-07-SO-Y1	WB-01-081523
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	FB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Units				
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZOFURANS, (TOTAL)	HPCDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEPTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HPCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZOFURANS, (TOTAL)	HXCDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	HEXACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	HXCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZOFURAN	39001-02-0	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	OCTACHLORODIBENZO-P-DIOXIN	3268-87-9	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZOFURANS, (TOTAL)	PECDF	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	PENTACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	PECDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	TETRACHLORINATED DIBENZO-P-DIOXINS, (TOTAL)	TCDD	pg/l	U	U	U	U
007-Mclouth_DioxFur	SW1613B	Total TCDF	55722-27-5	pg/l	U	U	U	U
014-Mclouth_Inorg	SFAM01.1	Aluminum	7429-90-5	ug/l	U	U	U	51
014-Mclouth_Inorg	SFAM01.1	Antimony	7440-36-0	ug/l	U	U	U	2 U
014-Mclouth_Inorg	SFAM01.1	Arsenic	7440-38-2	ug/l	U	U	U	0.4 J
014-Mclouth_Inorg	SFAM01.1	Barium	7440-39-3	ug/l	U	U	U	15
014-Mclouth_Inorg	SFAM01.1	Beryllium	7440-41-7	ug/l	U	U	U	1 U
014-Mclouth_Inorg	SFAM01.1	Cadmium	7440-43-9	ug/l	U	U	U	1 UJ
014-Mclouth_Inorg	SFAM01.1	Calcium	7440-70-2	ug/l	U	U	U	28000 J-
014-Mclouth_Inorg	SFAM01.1	Chromium	7440-47-3	ug/l	U	U	U	3.6
014-Mclouth_Inorg	SFAM01.1	Cobalt	7440-48-4	ug/l	U	U	U	0.07 J
014-Mclouth_Inorg	SFAM01.1	Copper	7440-50-8	ug/l	U	U	U	1.6 J
014-Mclouth_Inorg	SFAM01.1	CYANIDE	57-12-5	ug/l	U	U	U	10 U
014-Mclouth_Inorg	SFAM01.1	Iron	7439-89-6	ug/l	U	U	U	220
014-Mclouth_Inorg	SFAM01.1	Lead	7439-92-1	ug/l	U	U	U	1 U
014-Mclouth_Inorg	SFAM01.1	Magnesium	7439-95-4	ug/l	U	U	U	7400

Table I - QC Sample Results

Location								
Sample #					TB-05-SO-Y1	TB-06-SO-Y1	TB-07-SO-Y1	WB-01-081523
Start Depth								
End Depth								
Depth Unit								
Sample Type					TB	TB	TB	FB
Parent Sample #								
Sample Date					8/24/2023	8/28/2023	8/29/2023	8/15/2023
Method Group	Method	Analyte	CAS #	Units				
014-Mclouth_Inorg	SFAM01.1	Manganese	7439-96-5	ug/l	U	U	U	3
014-Mclouth_Inorg	SFAM01.1	Mercury	7439-97-6	ug/l	U	U	U	0.2 U
014-Mclouth_Inorg	SFAM01.1	Nickel	7440-02-0	ug/l	U	U	U	2
014-Mclouth_Inorg	SFAM01.1	Potassium	7440-09-7	ug/l	U	U	U	1100
014-Mclouth_Inorg	SFAM01.1	Selenium	7782-49-2	ug/l	U	U	U	5 U
014-Mclouth_Inorg	SFAM01.1	Silver	7440-22-4	ug/l	U	U	U	1 U
014-Mclouth_Inorg	SFAM01.1	Sodium	7440-23-5	ug/l	U	U	U	5800
014-Mclouth_Inorg	SFAM01.1	Thallium	7440-28-0	ug/l	U	U	U	1 U
014-Mclouth_Inorg	SFAM01.1	Vanadium	7440-62-2	ug/l	U	U	U	0.88 J
014-Mclouth_Inorg	SFAM01.1	Zinc	7440-66-6	ug/l	U	U	U	39 J+

Notes:

1. The Soil PAL values were sourced from Worksheet #15 of the approved Final Quality Assurance Plan for the M
Corp. Superfund Site (July 2023)

Acronyms:

CAS # - Chemical Abstract Service Number
TB - Trip blank
EB - Equipment blank
FB - Field blank
J - The identification of the analyte is acceptable; the reported value is an estimate
J+ - The result is an estimated quantity, but the results may be biased high
J- - The result is an estimated quantity, but The results may be biased low
U - Not Detected

Attachment C

Geotechnical Data

CDM Smith

CDM Smith Geotechnical Laboratory Testing Summary Sheet

Client: EPA Region 5
Project Name: McLouth Steel Superfund Site, OU1 Y1
Project Location: Trenton, MI

Project Number: 107178-281860
Task: 3501-5F0033-0001.2.1.2
Assigned By: T. Bennett

Reviewed By: M. Polsky - Lab Manager
Date Reviewed: 9/28/2023

		Identification Tests												
Sample Date	Sample	Water Content %	LL %	PL %	Gravel %	Sand %	Fines %	Organic %	Bulk Density pcf	Dry Density pcf	Por-osity %	Perm-eability (cm/sec)	Spec. Grav.	Soil Description
8/4/2023	RI-SB-01-0-0.5-GS	9.9			46.0	46.8	7.2							Brown well-graded sand with silt and gravel
8/3/2023	RI-SB-01-1-2-GS	13.0			27.6	52.8	19.6							Dark brown silty sand with gravel
8/4/2023	RI-SB-01-5-6-GS	22.6	42	21	0.0	12.5	87.5							Gray-brown lean clay
8/3/2023	RI-SB-02-0-0.5-GS	8.8			31.0	55.2	13.8							Dark brown silty sand with gravel
8/3/2023	RI-SB-02-1-2-GS	12.4			6.2	70.2	23.6							Dark brown silty sand (with clay lenses)
8/3/2023	RI-SB-02-3-5-GS	19.9			22.1	66.2	11.7							Black poorly graded sand with silt and gravel (with glass)
8/3/2023	RI-SB-04-0-0.5-GS	**			40.7	53.6	5.7	** Jar broke during shipment. No moisture content tested.						Gray-brown well-graded sand with silt and gravel
8/3/2023	RI-SB-04-1-2-GS	11.5			10.6	69.3	20.1							Dark brown silty sand
8/3/2023	RI-SB-04-11-12-GS	20.4	37	22	0.0	18.8	81.2							Brown lean clay with sand
8/16/2023	RI-SB-05-13-14-GS	25.5	35	21	0.0	20.8	79.2							Brown lean clay with sand
8/4/2023	RI-SB-16-0-0.5-GS	12.8			45.4	46.7	7.9							Dark brown well-graded sand with silt and gravel
8/4/2023	RI-SB-16-1-1.7-GS	13.7			34.5	54.9	10.6							Brown poorly graded sand with silt and gravel
8/4/2023	RI-SB-35-0-0.5-GS	**			23.6	66.4	10.0	** Jar broke during shipment. No moisture content tested.						Brown poorly graded sand with silt and gravel
8/4/2023	RI-SB-35-1-2-GS	10.9			32.3	63.6	4.1							Gray-brown well-graded sand with gravel
8/4/2023	RI-SB-40-0-0.5-GS	10.0			33.8	52.3	13.9							Dark brown silty sand with gravel

CDM Smith Geotechnical Laboratory Testing Summary Sheet

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		Identification Tests												
Sample Date	Sample	Water Content %	LL %	PL %	Gravel %	Sand %	Fines %	Organic %	Bulk Density pcf	Dry Density pcf	Por-osity %	Perm-eability (cm/sec)	Spec. Grav.	Soil Description
8/4/2023	RI-SB-40-1-2-GS	27.8			32.6	42.9	24.5							Dark brown silty sand with gravel
8/4/2023	RI-SB-40-6-7-GS	14.4			10.7	79.7	9.6							Dark brown poorly graded sand with silt
8/28/2023	RI-SB-01-0-0.5	16.4			22.0	64.7	13.3							Gray-brown silty sand with gravel
8/28/2023	RI-SB-01-1-2	12.8			5.7	93.3	1.0							Gray-brown silty sand
8/28/2023	RI-SB-01-4-5	9.5			13.7	79.1	7.2							Dark brown poorly graded sand with silt
8/28/2023	RI-SB-02-0-0.5	11.1			15.9	61.3	22.8							Brown silty sand with gravel
8/28/2023	RI-SB-02-1-2	14.3			12.9	74.1	13.0							Brown silty sand
8/28/2023	RI-SB-02-4-5	23.5			24.1	57.2	18.7							Black silty sand with gravel
8/28/2023	RI-SB-02A-1-2	17.5			19.1	67.7	13.2							Dark brown silty sand with gravel
8/29/2023	RI-SB-04-0-0.5	12.8			19.3	65.1	15.6							Dark brown silty sand with gravel
8/29/2023	RI-SB-04-1-2	11.4			35.6	57.7	6.7							Brown poorly graded sand with silt and gravel
8/29/2023	RI-SB-04-5-6	15.9			26.4	48.9	24.7							Brown silty sand with gravel
8/30/2023	RI-SB-23-0-0.5	7.4			43.3	50.7	6.0							Gray-brown well-graded sand with silt and gravel
8/30/2023	RI-SB-23-1-2	6.0			34.4	59.5	6.1							Dark brown poorly graded sand with silt and gravel

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		Identification Tests												
Sample Date	Sample	Water Content %	LL %	PL %	Gravel %	Sand %	Fines %	Organic %	Bulk Density pcf	Dry Density pcf	Por-osity %	Perm-eability (cm/sec)	Spec. Grav.	Soil Description
8/30/2023	RI-SB-23-17-18	18.9			19.4	67.4	13.2							Dark brown silty sand with gravel
9/5/2023	RI-SB-14-0-0.5	18.8			42.2	47.6	10.2							Brown poorly graded sand with silt and gravel
9/5/2023	RI-SB-14-1-2	8.1			34.1	50.6	15.3							Dark brown silty sand with gravel
9/6/2023	RI-SB-41-0-0.5	7.1			15.4	65.5	19.1							Brown silty sand with gravel
9/6/2023	RI-SB-41-1-2	7.5			14.3	65.5	20.2							Dark brown silty sand
9/6/2023	RI-SB-41-4-5	15.9			7.9	79.3	12.8							Dark brown silty sand

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Reviewed By: M. Polsky - Lab Manager
Date Reviewed: 10/5/2023

Sample Date	Sample	Identification Tests												Soil Description
		Water Content %	LL %	PL %	Gravel %	Sand %	Fines %	Organic %	Bulk Density pcf	Dry Density pcf	Porosity %	Permeability	Spec. Grav.	
9/14/2023	RI-SB-07-0-0.5	8.7			32.8	50.3	16.9							Dark brown silty sand with gravel
9/14/2023	RI-SB-07-1-2	9.3			13.3	74.4	12.3							Dark brown silty sand
9/14/2023	RI-SB-07-4-5	11.1			24.7	62.2	13.1							Dark brown silty sand with gravel
9/14/2023	RI-SB-08-0-0.5	13.5			43.1	48.9	8.0							Dark brown poorly graded sand with silt and gravel
9/14/2023	RI-SB-08-1-2	13.0			17.7	68.2	14.1							Brown silty sand with gravel
9/14/2023	RI-SB-08-4-5	14.5			43.2	50.5	6.3							Brown poorly graded sand with silt and gravel
9/12/2023	RI-SB-10-0-0.5	5.9			38.2	57.8	4.0							Brown poorly graded sand with gravel
9/12/2023	RI-SB-10-1-2	8.0			16.4	63.3	20.3							Gray-brown silty sand with gravel
9/12/2023	RI-SB-10-4-5	5.9			11.0	60.3	28.7							Gray-brown silty sand
9/8/2023	RI-SB-12-0-0.5	6.7			43.6	55.9	0.5							Dark brown well-graded sand with gravel (with asphalt/petroleum)
9/8/2023	RI-SB-12-1-2	8.0			39.4	60.0	0.6							Dk brown poorly-graded sand with gravel (with asphalt/petroleum)
9/8/2023	RI-SB-12-16-17	13.6			63.4	35.6	1.0							Black well-graded gravel with sand (with asphalt/petroleum)
9/8/2023	RI-SB-12A-0-0.5	7.4			38.3	60.2	1.5							Black poorly-graded gravel with sand (with asphalt/petroleum)
9/8/2023	RI-SB-13-0-0.5	8.6			28.9	65.3	5.8							Brown poorly graded sand with silt and gravel
9/8/2023	RI-SB-13-1-2	18.0			21.6	62.8	15.6							Gray-brown silty sand with gravel

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Project Location: Trenton, MI
Assigned By: T. Bennett
Date Reviewed: 10/5/2023

Sample Date	Sample	Identification Tests												Soil Description
		Water Content %	LL %	PL %	Gravel %	Sand %	Fines %	Organic %	Bulk Density pcf	Dry Density pcf	Por-osity %	Perm-eability	Spec. Grav.	
9/8/2023	RI-SB-13-19-20	18.0			22.0	62.7	15.3							Dark brown silty sand with gravel
9/19/2023	RI-SB-16-1-2	15.7			18.7	63.6	17.7							Brown silty sand with gravel
9/19/2023	RI-SB-16-13-14	18.1			10.8	74.7	14.5							Dark brown silty sand
9/19/2023	RI-SB-25-0-0.5	11.3			0.0	99.0	1.0							Brown poorly graded gravel with silt and sand
9/19/2023	RI-SB-25-1-2	12.6			10.2	76.1	13.7							Gray-brown silty sand
9/19/2023	RI-SB-25-17-18	34.3			0.0	74.2	25.8							Dark brown silty sand
9/15/2023	RI-SB-26-0-0.5	10.0			25.7	55.7	18.6							Dark brown silty sand with gravel
9/15/2023	RI-SB-26-1-2	7.0			18.8	68.1	13.1							Brown silty sand with gravel
9/15/2023	RI-SB-26-2-3	8.1			29.1	56.6	14.3							Brown silty sand with gravel
9/15/2023	RI-SB-26A-1-2	6.9			24.9	64.7	10.4							Brown poorly graded sand with silt and gravel
9/11/2023	RI-SB-29-0-0.5	9.9			29.2	56.3	14.5							Black silty sand with gravel
9/11/2023	RI-SB-29-1-2	10.6			28.3	61.3	10.4							Brown poorly graded sand with silt and gravel
9/11/2023	RI-SB-29-4-5	9.0			15.5	52.5	32.0							Red-brown silty sand with gravel
9/20/2023	RI-SB-30-0-0.5	12.4			27.8	58.4	13.8							Light brown silty sand with gravel
9/20/2023	RI-SB-30-1-2	8.4			10.9	74.6	14.5							Gray-brown silty sand

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Sample Date	Sample	Identification Tests												Soil Description
		Water Content %	LL %	PL %	Gravel %	Sand %	Fines %	Organic %	Bulk Density pcf	Dry Density pcf	Por-osity %	Perm-eability	Spec. Grav.	
9/20/2023	RI-SB-30-2-3	11.2			8.5	68.1	23.4							Brown silty sand
9/20/2023	RI-SB-31-0-0.5	12.0			32.7	55.6	11.7							Brown poorly graded sand with silt and gravel
9/20/2023	RI-SB-31-1-2	13.6			21.0	66.2	12.8							Gray-brown silty sand with gravel
9/20/2023	RI-SB-31-4-5	15.8			8.1	78.9	13.0							Gray silty sand
9/18/2023	RI-SB-32-0-0.5	20.7			2.9	77.1	20.0							Gray silty sand
9/18/2023	RI-SB-32-1-2	25.9			9.0	77.4	13.6							Dark brown silty sand
9/18/2023	RI-SB-32-18-19	38.9			0.0	11.4	88.6							Gray silt
9/18/2023	RI-SB-35-0-0.5	12.2			34.2	54.3	11.5							Gray well-graded sand with silt and gravel
9/18/2023	RI-SB-35-1-2	13.0			29.4	62.2	8.4							Gray well-graded sand with silt and gravel
9/18/2023	RI-SB-35-9-10	16.0			17.9	65.5	16.6							Dark brown silty sand with gravel
9/13/2023	RI-SB-39-0-0.5	8.5			14.4	71.2	14.4							Dark brown silty sand
9/13/2023	RI-SB-39-1-2	8.5			23.4	63.5	13.1							Dark brown silty sand with gravel
9/13/2023	RI-SB-39-2-3	7.3			21.9	63.0	15.1							Brown silty sand with gravel
9/13/2023	RI-SB-40-0-0.5	13.3			39.8	45.7	14.5							Dark brown silty sand with gravel
9/13/2023	RI-SB-40-1-2	19.5			19.5	71.1	9.4							Gray-brown poorly graded sand with silt and gravel

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Reviewed By: M. Polsky - Lab Manager
Date Reviewed: 10/6/2023

		Identification Tests												
Sample Date	Sample	Water Content %	LL %	PL %	Gravel %	Sand %	Fines %	Organic %	Bulk Density pcf	Dry Density pcf	Por-osity %	Perm-eability	Spec. Grav.	Soil Description
9/13/2023	RI-SB-40-3-4	27.5			23.3	64.6	12.1							Gray and brown silty sand with gravel
9/13/2023	RI-SB-40A-1-2	18.8			18.8	71.8	9.4							Gray-brown well-graded sand with silt and gravel
9/21/2023	RI-SB-42-0-0.5	7.6			25.7	66.6	7.7							Brown poorly graded sand with silt and gravel
9/21/2023	RI-SB-42-1-2	11.1			13.0	80.9	6.1							Light brown well-graded sand with silt
9/21/2023	RI-SB-42-19-20	23.1			53.1	40.1	6.8							Gray and brown poorly graded gravel with silt and sand
9/21/2023	RI-SP-01	6.7			20.2	78.7	1.1							Gray-brown poorly graded sand with gravel
9/21/2023	RI-SP-02	3.4			29.0	65.4	5.6							Light brown well-graded sand with silt and gravel

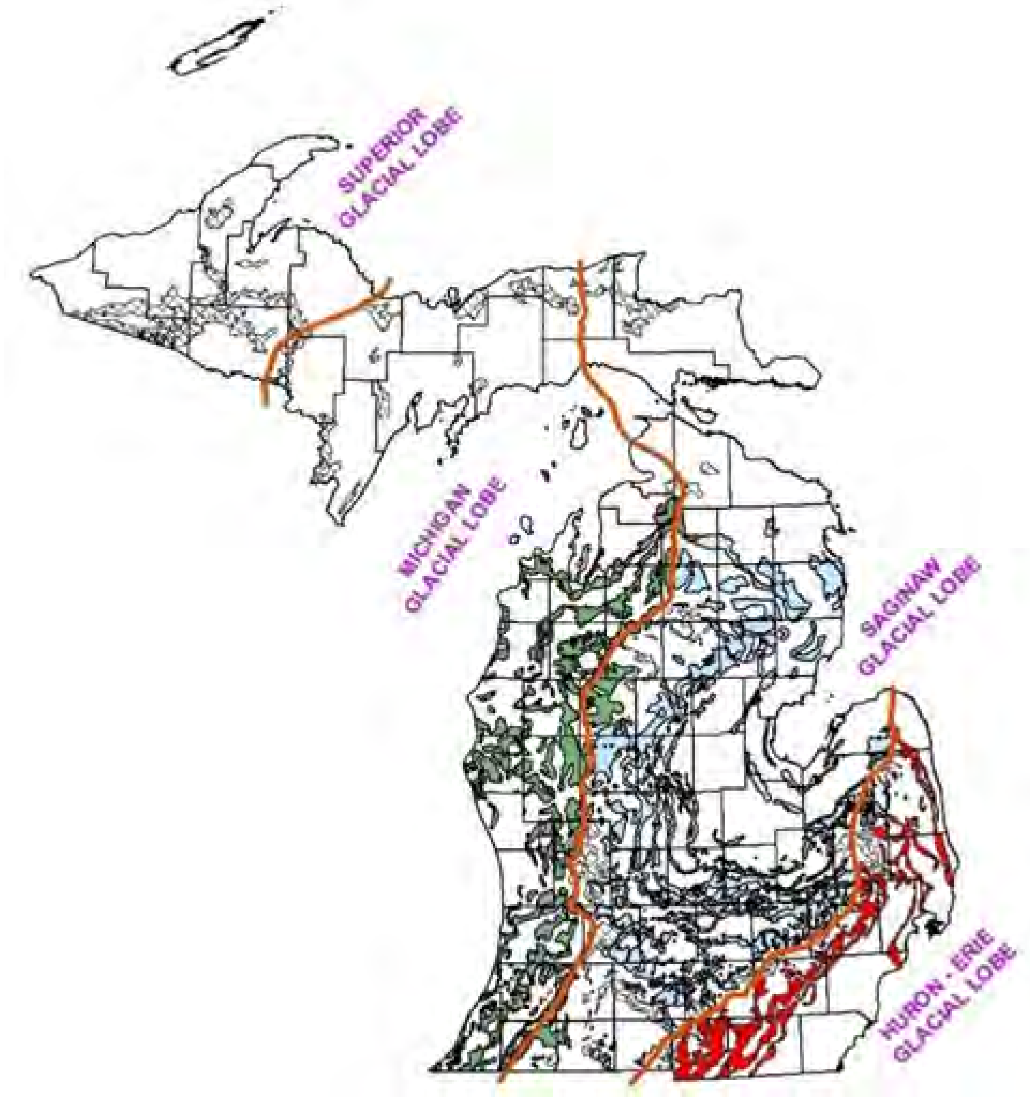
Attachment D

Michigan EGLE Background Soil Survey

REMEDIATION AND REDEVELOPMENT DIVISION

SOIL BACKGROUND and USE OF THE 2005 MICHIGAN BACKGROUND SOIL SURVEY

RESOURCE MATERIALS



Prepared by:

Michigan Department of Environment, Great Lakes, and Energy
Remediation and Redevelopment Division
525 West Allegan Street
Lansing, Michigan 48933
September 2019
Revised January 2023

EGLE
REMEDIATION AND REDEVELOPMENT DIVISION

In order to promote a consistent and informed approach for Michigan Department of Environment, Great Lakes, and Energy (EGLE) staff, this document was developed to provide information to EGLE staff and contractors on methodology and applications for the determination of background concentrations of metals in soil.

This document is available as a technical reference to assist any party interested in the determination of background concentrations of metals in the soil at a site to evaluate if response actions are warranted or if the metals can be attributed to naturally occurring sources.

This document is explanatory and does not contain any regulatory requirements. It does not establish or affect the legal rights or obligations for the determination of background concentrations of metals in the soil. It does not have the force or effect of law and is not legally binding on the public or the regulated community. Any regulatory decisions made by EGLE regarding background concentrations of metals in the soil will be made by applying the governing statutes and administrative rules to relevant facts.

Approved: Kathleen Shirey
Kathleen Shirey, Acting Division Director
Remediation and Redevelopment Division
October 4, 2019

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PURPOSE

The primary goal of Michigan's cleanup programs is to protect human health and the environment from current and potential threats posed by uncontrolled releases of hazardous substances (contamination). Contamination at a site[1] may originate from releases attributable to the site in question, as well as contamination that originated from other sources, including natural sources not attributable to the specific site releases under investigation. In some cases, the same hazardous substance associated with a release is also a background constituent.

If contaminants at a site are the result of a release and exceed generic cleanup criteria, remediation or due care obligations are typically required. If the contaminant is present due to natural conditions, cleanup or due care obligations are not required under Michigan's cleanup statutes, even if the concentrations exceed the risk-based generic cleanup criteria. Consequently, it may be important in the management of a site to determine whether or not the presence of a contaminant represents natural background conditions.

Background has been defined for the Michigan cleanup programs since 1990 as the concentration or level of a hazardous substance which exists in the environment at or regionally proximate to a site that is not attributable to any release at or regionally proximate to the site. The options available to demonstrate that a hazardous substance is not present at a level that exceeds soil background concentration are included with the statutory definition of background[2].

An evaluation of local background soil concentrations may be appropriate at a site whenever it is suspected that metal contaminants detected above applicable cleanup criteria may be equal to, or less than, natural background soil concentrations. Consistent with statutory and rule provisions, when the background concentration for a hazardous substance is greater than the calculated generic cleanup criteria, the criterion is the background concentration[3].

The purpose of this document is to describe the applicability of the 2005 Michigan Background Soil Survey (MBSS) in the demonstration of naturally occurring background metals concentrations for a property. In addition, the 2015 update to the MBSS is included as an appendix to this document and may be used consistent with the provisions for the 2005 MBSS.

Some contaminants, both manmade and natural, are ubiquitous in the environment due to human activities. Examples include polycyclic aromatic hydrocarbons (PAHs), lead, and dioxins. Low levels that exist in the environment due to human activities not associated with any specific release are termed anthropogenic background. Michigan statutes and rules do not recognize comparisons with anthropogenic background concentrations as a basis for determining a cleanup criterion in place of a generic criterion. However, when delineating the boundaries of contamination attributable to a release, anthropogenic background concentrations may be useful. They may be used to help establish the area where liability for cleanup may exist by defining where the chemical concentrations from the release become indistinguishable from concentrations present from other, non-specific sources. Developing background concentrations is also useful in this context (i.e., establishing the nature and extent of the release), despite the somewhat different objective from concentration comparisons with natural background. Developing anthropogenic background concentrations, if useful in this context should be discussed with project managers to ensure its acceptability for site delineation.

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[1] For the purpose of this document, the term "site" is being used as a general reference to a property with environmental contamination and is not intended to be applied as it is statutorily defined in the Natural Resources and Environmental Protection Act (NREPA), PA 451 of 1994, as amended.

[2] Sec. 20101(1)(e)

[3] Sec. 20120a(10); Part 201 Administrative Rules, Cleanup Criteria Requirements for Response Activity, Michigan Administrative Code, 2013 AACS R 299.1 – R 299.50

1.0 INTRODUCTION

In Michigan, metals are commonly detected in soil at sites of contamination. However, the detection of metals in the soil does not necessarily indicate that the metals were released from man-made sources. The presence of metals in Michigan's soil may be naturally occurring as a result of Michigan's unique geology and glacial history.

The 2005 *Michigan Background Soil Survey (2005 MBSS)* is one resource to determine background concentrations for naturally occurring metals. Part 201, Environmental Remediation, of Natural Resources and Environmental Protection Act, 1994 PA 451, was amended in 2015 to include methods to establish background concentrations using the 2005 MBSS. The data provided in the 2005 MBSS is a compilation of soil sampling data from regulated facilities and samples collected and analyzed by the state incorporated into a soil background database. Additional data from the United States Geological Survey (USGS) and the United States Army Corps of Engineers (USACE) is also included in the 2005 MBSS. In 2014, additional soil sampling data from locations that represent background conditions were collected from files of the EGLE Remediation and Redevelopment Division (RRD), and the 2005 MBSS was updated in 2015 by the department. The use of the methods for the 2005 MBSS[4] are appropriate for the 2015 update of the MBSS.

Michigan's unique geology and glacial history has resulted in the deposition of many naturally occurring metals in soils. The ice moving across Michigan followed four individual flow paths, called glacial lobes. Because these glacial lobes have varying points of origin and traverse different types of bedrock, the resulting glacial sediments have varying chemical characteristics based on source rock influences.

The soil metals concentrations presented in the 2005 MBSS were compiled from limited locations across the state and a number of geographic areas did not have background soil information. Due to the variability in the concerns at each of the locations where the soil background samples were collected, different suites of metals were analyzed, and a uniform set of analytical data for each hazardous substance listed is not available.

2.0 USE OF THE 2005 MICHIGAN BACKGROUND SOIL SURVEY

The *2005 MBSS* includes the 25 metals listed below for which there are published typical background ranges.

Aluminum	Cadmium	Lead	Molybdenum	Strontium
Antimony	Chromium	Lithium	Nickel	Thallium
Arsenic	Cobalt	Magnesium	Selenium	Titanium
Barium	Copper	Manganese	Silver	Vanadium
Beryllium	Iron	Mercury	Sodium	Zinc

Statistical analyses of the sample data for each of the compounds listed, where available, was completed with subcategories for topsoil, sand, and clay and defined by Michigan's four glacial lobe areas.

A description of the methods to establish a metal background concentration utilizing the 2005 MBSS is located within the background definition[5]. In Appendix A of this document is a flowchart that outlines the methods for utilizing the 2005 MBSS, or the 2015 update, pursuant to this provision. The *2005*

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[4] Sec. 20101(1)(e)(ii)

[5] Sec. 20101(1)(e)(ii)

MBSS, or the 2015 update, may be used to determine background concentrations where there is sufficient information that meets all of the following conditions:

- **Same Glacial Lobe** – Source rock composition is critical in determining the makeup of the glacial drift from which it has originated. The 2005 MBSS identifies four different glacial lobes, Huron-Erie, Saginaw, Michigan, and Superior, with source rock variations that influence the concentrations of metals present in the deposited drift materials. The survey identifies the variations in metals concentrations based upon glacial lobes and depicts the geographic areas affected by each lobe. Background soil evaluation data comparisons should be consistent with the glacial lobe for the geographic area for which the demonstration is being made.

- **Similar Soil Type –** Soil type influences the concentrations of metals present. For simplicity's sake, the 2005 MBSS categorizes soils into three broad types: sand, clay, and topsoil. Sandy soils typically have lower metals concentrations, while clays tend to have higher naturally occurring concentrations of metals. Topsoil can vary depending on the composition of the soil horizons below this layer. When performing a background demonstration, the values published for similar soils should be used.

- **Specific Metal Data Available** – Due to the nature of the data compiled for the 2005 MBSS, the database lacks populations of data for specific metals; there are some areas where no metals samples were collected. For example, antimony was not analyzed in any of the topsoil samples collected across the state. For this case, the use of the 2005 MBSS is not appropriate for demonstrating background concentrations for antimony in topsoil.

Tables 2, 3, and 4 of the 2005 MBSS include the standard deviation of the substances that have an arithmetic or geometric mean in the glacial lobes that have at least nine samples. However, the 2005 MBSS does not contain the two standard deviations of the arithmetic or geometric mean, nor does it include the 97.5 quantile for the hazardous substances with nonparametric medians, both of which are specifically identified in the background definition. Included in Appendix B of this document are updated Tables 2, 3, and 4 with the two standard deviations and the 97.5 quantiles calculated using the data from the 2005 MBSS for each soil type and glacial lobe. Appendix D of this document includes modified Tables 2, 3, and 4 for the MBSS 2015 Update that includes the two standard deviations, 97.5 quantiles and highlighted numbers showing the appropriate number to use for a background concentration.

The 2005 MBSS contains combined statewide data columns on Tables 2, 3, and 4 that are not appropriate for use in demonstrating background concentrations. This is due to significant data gaps across the state, which has widely varied geology, where entire blocks of counties or most of the Upper Peninsula have no information.

Another method to establish background concentrations allows for the use of the 2005 MBSS in a manner that is approved by the department[6]. The sole use of the uppermost value in the typical range of data in Table 1 is not approved unless it is the lesser of the values indicated in 20101(1)(e)(ii)(A) or (B). Contact the EGLE project manager to discuss any other proposed methods to utilize the 2005 MBSS.

Soil analytical data from the area for which the background demonstration is being performed is needed to complete the comparison and show consistency with the conditions described in the *2005 MBSS*.

When a background concentration has been established utilizing the MBSS, site concentrations will generally be compared to the established background concentrations on a point-by-point basis.

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[6] Sec.20101(1)(e)(ii)(C)

Statistical analysis of the site metals data may be conducted and used for comparison to the established background concentration; however, the method for the site data statistical analysis must be proposed on a case-by-case basis if EGLE approval of a response action is being sought.

Certain sites may contain more than one metal in the soil. Multiple methods included in the background definition to establish background concentrations may be used for different metals for the same site.

The MBSS may be an appropriate and useful resource for comparing geographic, geological, and analytical information to demonstrate background concentrations in an area that is unaffected by a release of hazardous substances.

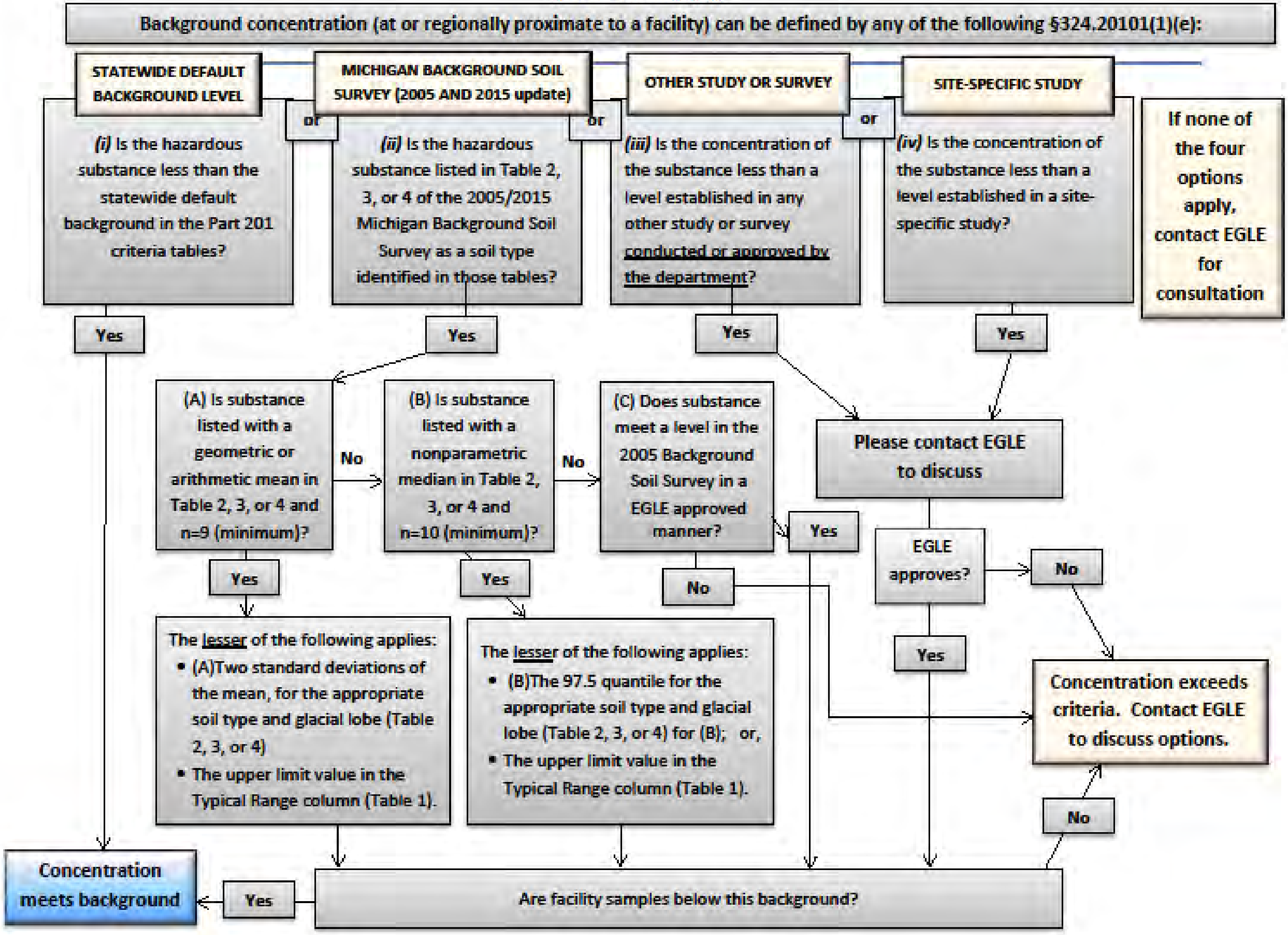
NOTE: If a site is also subject to corrective action under Michigan's Hazardous Waste Management Program (Part 111), please be aware that methods for demonstrating compliance with background concentration as defined under Section 324.20101(1)(e) cannot be automatically applied. Such sites may use site-specific background determinations (as approved by the Hazardous Waste Program) or the statewide default background levels listed in the September 28, 2012 Part 201 generic soil cleanup criteria and screening levels (Tables 2 and 3). This distinction is necessary until the U.S. Environmental Protection Agency approves Michigan to use the January 15, 2015 Part 201 definition for background concentration in its Hazardous Waste Management Program.

Appendix A

FLOW CHART

Background Concentration Flowchart

[per 324.20101(1)(e)]



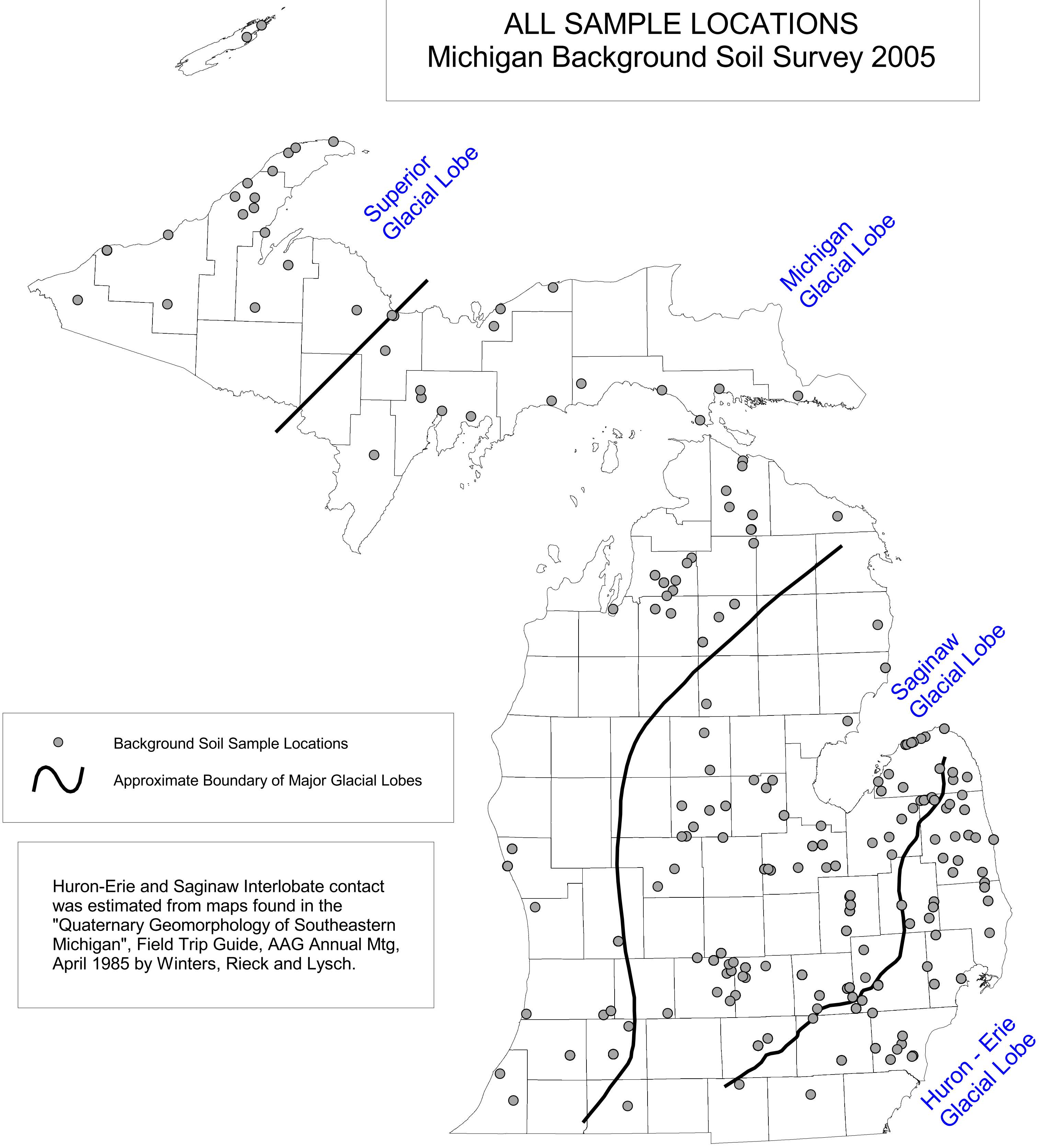
Appendix B

GLACIAL LOBE MAP

UPDATED TABLES 2, 3, AND 4

2005 Michigan Background Soil Survey

ALL SAMPLE LOCATIONS
Michigan Background Soil Survey 2005



Huron-Erie and Saginaw Interlobate contact was estimated from maps found in the "Quaternary Geomorphology of Southeastern Michigan", Field Trip Guide, AAG Annual Mtg, April 1985 by Winters, Rieck and Lysch.

FIGURE 1

Table 2 - TOPSOIL

METAL	Dist.	Part 201 Statewide Default Background	Table 1 Upper Range Value	HURON - ERIE LOBE			SAGINAW LOBE			MICHIGAN LOBE			SUPERIOR LOBE		
				n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles
Al	**L**	**6,900**	16,324	10	**9,690**	#	37	**12,531**	#	34	**3,234**	#	16	**17,664**	#
Sb	**non**	**NA**	2.5	0	--	--	0	--	--	0	--	--	0	--	--
As	**L**	**5.8**	27.7	47	**15.2**	#	93	**13.2**	#	39	**4.67**	#	18	**3.80**	#
Ba	**L**	**75**	220	15	**248**	#	42	**78.3**	#	39	**68.1**	#	16	**163**	#
Be	**non**	**NA**	1.8	2	--	--	12	#	**0.37**	0	--	--	0	--	--
Cd	**non**	**1.2**	2.5	15	#	**2.0**	42	#	*100% ND*	38	#	*100% ND*	18	#	*100% ND*
Cr	**L**	**18**	55	15	**37.3**	#	45	**32.7**	#	39	**10.2**	#	18	**36.4**	#
Co	**non**	**6.8**	12	10	#	**7.0**	29	#	**6.2**	32	#	*100% ND*	16	#	**11.7**
Cu	**L**	**32**	58	15	**56.6**	#	42	**27.5**	#	39	**13.3**	#	18	**172**	#
Fe	**L**	**12,000**	34,233	10	**21,218**	#	42	**31,334**	#	38	**8,645**	#	18	**24,099**	#
Pb	**L**	**21**	45	38	**42.5**	#	60	**34.9**	#	39	**24.8**	#	18	**73.4**	#
Li	**L**	**9.8**	41	10	**10.7**	#	34	**14.7**	#	32	#	**3.9**	18	**10.8**	#
Mg	**L**	**NA**	29875	2	--	--	8	--	--	0	--	--	0	--	--
Mn	**L**	**440**	1391	10	**2,145**	#	42	**1,114**	#	38	**1,083**	#	18	**965**	#
Hg	**non**	**0.13**	0.6	15	#	**0.17**	42	#	**0.24**	38	#	**0.10**	18	#	**0.12**
Mo	--	**NA**	*100% ND*	2	--	--	12	#	*100% ND*	0	--	--	0	--	--
Ni	**L**	**20**	39	11	**19.5**	#	42	**16.6**	#	38	--	--	18	**70.4**	#
Se	**non**	**0.41**	1.2	22	#	**4.9**	42	#	**0.50**	38	--	--	18	#	**0.65**
Ag	**non**	**1**	2	6	--	--	5	--	--	0	--	--	0	--	--
Na	**N**	**NA**	194.5	2	--	--	5	--	--	0	--	--	0	--	--
Sr	**non**	**NA**	150	0	--	--	7	--	--	0	--	--	0	--	--
Tl	**non**	**NA**	3.8	2	--	--	5	--	--	0	--	--	0	--	--
Ti	**N**	**MNL**	217	2	--	--	12	**221**	#	0	--	--	0	--	--
V	**L**	**NA**	89	2	--	--	12	**30.5**	#	0	--	--	0	--	--
Zn	**N**	**47**	75	23	**79.0**	#	45	**61.3**	#	39	**27.4**	#	18	**100**	#

All data are in mg/kg (ppm)

L	Lognormal distribution
N	Normal distribution
non	Nonparametric distribution
ND	Non-detect

Dist.	Distribution of Data
n	Number of Samples
NA	Not Applicable (no value listed in Part 201)
MNL	Metal Not Listed in Part 201
--	No value calculated (too few samples/detections)
▨	Less than Table 1 Upper Value
#	Not appropriate calculation method
98 - 100% ND	Non-detect percentage too high to estimate a value - use Table 1

2005 MBSS

Table 3 - SAND

METAL	Dist.	Part 201 Statewide Default Background	Table 1 Upper Range Value	HURON - ERIE LOBE			SAGINAW LOBE			MICHIGAN LOBE			SUPERIOR LOBE		
				n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles
Al	L	6,900	16,324.0	2	--	--	54	8,677	#	34	8,449	#	3	--	--
Sb	non	NA	2.5	1	--	--	3	--	--	3	--	--	0	--	--
As	L	5.8	27.7	34	19.6	#	118	26.1	#	53	8.41	#	3	--	--
Ba	L	75	220.0	22	612	#	71	48.9	#	51	67.9	#	3	--	--
Be	non	NA	1.8	3	--	--	51	#	*98% ND*	6	--	--	0	--	--
Cd	non	1.2	2.5	22	#	2.0	67	#	1.6	39	#	2.0	3	--	--
Cr	L	18	55.0	22	20.3	#	90	20.0	#	67	18.4	#	3	--	--
Co	non	6.8	12.0	2	--	--	61	#	6.6	16	#	7.3	3	--	--
Cu	L	32	58.0	22	29.7	#	90	19.0	#	67	22.7	#	3	--	--
Fe	L	12,000	34,233.0	2	--	--	55	16,819	#	17	11,779	#	3	--	--
Pb	L	21	45.0	25	25.3	#	95	24.4	#	52	38.8	#	3	--	--
Li	L	9.8	41.0	2	--	--	62	11.0	#	11	23.3	#	3	--	--
Mg	L	NA	29,875.0	2	--	--	44	13,772	#	13	2,029.8	#	0	--	--
Mn	L	440	1,391.0	2	--	--	62	692	#	24	1,353	#	3	--	--
Hg	non	0.13	0.6	17	#	0.40	66	#	0.10	22	#	0.1	3	--	--
Mo	--	NA	*100% ND*	2	--	--	51	#	*100% ND*	6	--	--	0	--	--
Ni	L	20	39.0	8	--	--	78	22.2	#	40	18.3	#	3	--	--
Se	non	0.41	1.2	18	#	0.50	62	#	0.33	20	#	1.3	3	--	--
Ag	non	1	2.0	8	--	--	48	#	*100% ND*	13	#	0.7	0	--	--
Na	N	NA	194.5	2	--	--	44	166	#	12	168	#	0	--	--
Sr	non	NA	150.0	0	--	--	7	--	--	6	--	--	0	--	--
Tl	non	NA	3.8	3	--	--	46	#	3.6	9	--	--	0	--	--
Ti	N	MNL	217.0	2	--	--	44	207	#	0	--	--	0	--	--
V	L	NA	89.0	2	--	--	51	62.0	#	19	45.1	#	0	--	--
Zn	N	47	75.0	22	65.8	#	80	48.0	#	64	51.4	#	3	--	--

All data are in mg/kg (ppm)

L	Lognormal distribution
N	Normal distribution
non	Nonparametric distribution
ND	Non-detect

Dist.	Distribution of Data
n	Number of Samples
NA	Not Applicable (no value listed in Part 201)
MNL	Metal Not Listed in Part 201
--	No value calculated (too few samples/detections)
▨	Less than Table 1 Upper Value
#	Not appropriate calculation method
98 - 100% ND	Non-detect percentage too high to estimate a value - use Table 1

2005 MBSS

Table 4 - CLAY

METAL	Dist.	Part 201 Statewide Default Background	Table 1 Upper Range Value	HURON - ERIE LOBE			SAGINAW LOBE			MICHIGAN LOBE			SUPERIOR LOBE		
				n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles	n	Two Standard Deviations	97.5 Quantiles
Al	**L**	**6,900**	16,324.0	23	**12,631**	#	51	**13,795**	#	6	--	--	3	--	--
Sb	**non**	**NA**	2.5	8	--	--	0	--	--	12	#	*100% ND*	0	--	--
As	**L**	**5.8**	27.7	126	**36.6**	#	224	**17.9**	#	17	**6.95**	#	3	--	--
Ba	**L**	**75**	220.0	104	**277**	#	48	**110**	#	6	--	--	3	--	--
Be	**L**	**NA**	1.8	11	**1.9**	#	9	--	--	12	#	**0.5**	0	--	--
Cd	**N**	**1.2**	2.5	128	#	**3.4**	108	#	**2.5**	16	#	**2.0**	3	--	--
Cr	**L**	**18**	55.0	107	**62.8**	#	111	**37.1**	#	17	**23.0**	#	3	--	--
Co	**N**	**6.8**	12.0	29	**14.0**	#	22	**13.4**	#	6	--	--	3	--	--
Cu	**L**	**32**	58.0	103	**48.2**	#	103	**28.0**	#	17	**27.0**	#	3	--	--
Fe	**L**	**12,000**	34,233.0	26	**24,544**	#	24	**29,099**	#	6	--	--	3	--	--
Pb	**L**	**21**	45.0	126	**30.3**	#	125	**71.5**	#	17	**47.9**	#	3	--	--
Li	**L**	**9.8**	41.0	29	**40.9**	#	22	**40.6**	#	4	--	--	3	--	--
Mg	**N**	**NA**	29,875.0	0	--	--	8	--	--	2	--	--	0	--	--
Mn	**L**	**440**	1,391.0	29	**767**	#	52	**584**	#	6	--	--	3	--	--
Hg	**non**	**0.13**	0.6	97	#	**0.63**	54	#	*98% ND*	5	--	--	3	--	--
Mo	--	**NA**	*100% ND*	3	--	--	9	--	--	0	--	--	0	--	--
Ni	**N**	**20**	39.0	100	**45.0**	#	105	**36.7**	#	6	--	--	3	--	--
Se	**non**	**0.41**	1.2	94	#	**1.0**	43	#	**1.3**	16	#	**1.7**	3	--	--
Ag	**non**	**1**	2.0	61	#	**1.9**	28	#	**1.0**	12	#	**1.5**	0	--	--
Na	**N**	**NA**	194.5	0	--	--	8	--	--	2	--	--	0	--	--
Sr	**non**	**NA**	150.0	3	--	--	1	--	--	0	--	--	0	--	--
Tl	**non**	**NA**	3.8	8	--	--	8	--	--	1	--	--	0	--	--
Ti	**N**	**MNL**	217.0	0	--	--	8	--	--	0	--	--	0	--	--
V	**L**	**NA**	89.0	4	--	--	9	**62.1**	#	2	--	--	0	--	--
Zn	**N**	**47**	75.0	126	**83.1**	#	97	**65.7**	#	6	--	--	3	--	--

All data are in mg/kg (ppm)

L	Lognormal distribution
N	Normal distribution
non	Nonparametric distribution
ND	Non-detect

Dist.	Distribution of Data
n	Number of Samples
NA	Not Applicable (no value listed in Part 201)
MNL	Metal Not Listed in Part 201
--	No value calculated (too few samples/detections)
▨	Less than Table 1 Upper Value
#	Not appropriate calculation method
98 - 100% ND	Non-detect percentage too high to estimate a value - use Table 1

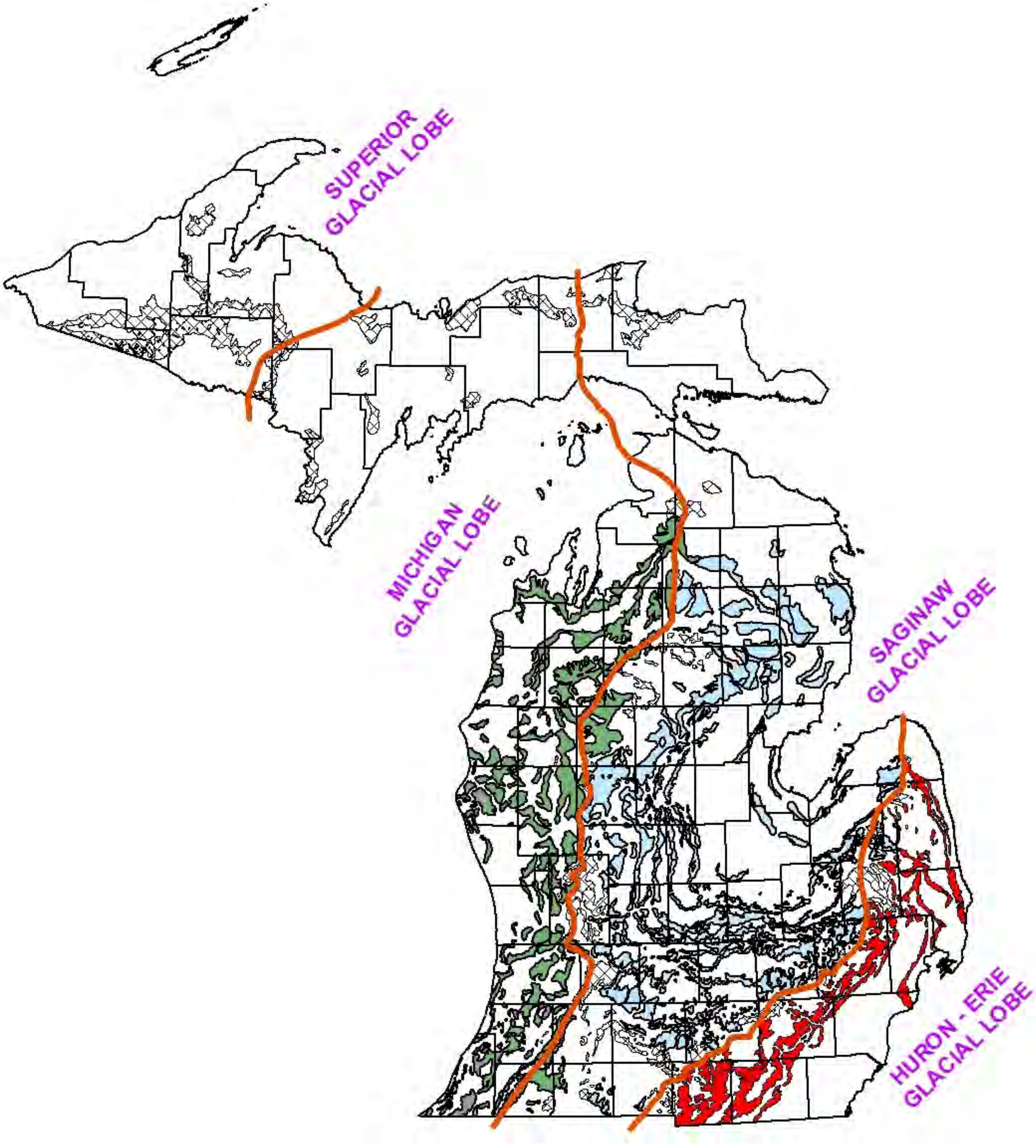
2005 MBSS

Appendix C

Michigan Background Soil Survey
(Updated 2015)

The Michigan Department of Environmental Quality (MDEQ) was reorganized and renamed as the Michigan Department of Environment, Great Lakes, and Energy (EGLE) on April 22, 2019. Because this report reflects activities prior to this date, references to DEQ remain and are understood to refer to EGLE.

MICHIGAN BACKGROUND SOIL SURVEY
(Updated 2015)



Permit & Corrective Action Unit
Hazardous Waste Section
Office of Waste Management & Radiological Protection

Michigan Background Soil Survey 2015 Update

Introduction

In 1991, the Michigan Department of Natural Resources (MDNR) released a compilation of soil sampling data that represented what is assumed to be the naturally occurring background concentration of metals in Michigan soils. The data were presented in the “Michigan Background Soil Survey” (MBSS) in April 1991 and after the creation of the Michigan Department of Environmental Quality (MDEQ) the 2005 version was published. In 2014, additional soil sampling data from locations that represent background conditions were collected from files of the Remediation and Redevelopment Division (RRD), and the MBSS 2005 has been updated in 2015 by the MDEQ (1).

History

During the mid-1980s, closure plans were submitted to the state pursuant to cleanups and corrective action work at regulated hazardous waste treatment, storage, and disposal facilities. In order to assure that soil removal performed to achieve clean closure was accomplished, standards were established that mandated the removal of contaminants until concentrations were non-detectable or within the naturally occurring background range. Therefore, facilities undergoing closure or corrective action for metals were required to submit analyses of soil from their specific location to determine the criteria to be met, which is statistically equivalent to the local, un-impacted background conditions. In order to evaluate the validity of these site-specific background values, a Michigan soil background database was compiled. That background soils database included information gathered by regulated facilities, as well as samples collected and analyzed by the state.

Background soil data from the regulated facilities were obtained using standard sampling and analytical techniques at the time of collection, which were approved by the state, usually as part of a closure plan or remediation efforts. Common analytical methods from EPA/SW-846 were used (EPA method 200.7, SW-846 method series 6000/7000, etc.). Samples collected by the state were analyzed by an approved contract laboratory, or through the State of Michigan Environmental Laboratory. Some data included was from United States Geological Survey (USGS) and the Army Corp of Engineers. All results represent a total (environmentally available) metals analysis.

Data Reduction

The background soil data for each metal has been reviewed in two basic ways. The first is looking at the data by general soil type. Based usually on a visual observation, and occasionally a soil classification system, soil samples were divided into the following general soil types: topsoil, sand or clay. The other breakdown was by geographic location, using glacial geology distinctions. In Michigan there were several different glacial ice sheets (lobes) that covered distinct areas. The glacial lobes have varying points of origin and traverse differing types of bedrock, and thus the resulting glacial sediments could have varying chemical characteristics based on source rock influences. The assumed boundaries of the glacial lobes have been revised for the 2015 update based on additional information resources (2). Summary statistics are presented for general soil types and for broad geographic areas based on the location of major glacial lobes.

Since the data comes from investigations at different sites, each with various parameters of concern, the suite of metals analyzed was not the same in each case. Depending on how commonly the metal was a pollutant of concern, and the number of samples taken for site-specific background determinations, each metal will have a different total number of individual samples and number of sites/locations the samples came from.

Statistics

A basic statistical analysis was performed for each metal represented in the database (3). First, the percentage of non-detect values was determined, followed by analysis of the underlying distribution of the data. Finally, summary statistics such as the mean, median, standard deviation, quantiles and the range of concentrations for a metal were calculated with normal, lognormal, or nonparametric methods as appropriate.

In terms of detection limits, metals with 0 – 15 % non-detect results had a value equal to one half (1/2) of the respective detection limit substituted for calculation of summary statistics (Al, As, Ba, Cr, Cu, Fe, Mg, Mn, Sr, Ti, V, Zn). Metals with 15 - 50% non-detect results had summary statistics calculated using Cohen's adjustment (Co, Li, Na, Ni, Pb). For metals with over 50% non-detects, a nonparametric method was used (Ag, Be, Cd, Hg, Mo, Sb, Se, Tl).

The data distribution was analyzed using graphical techniques (histogram, probability plot, box plot) and the Shapiro-Francia or Shapiro-Wilk Goodness-of-Fit test. For simplicity's sake, only normal or lognormal distributions were checked and the best fit to the respective metals' data was chosen. Subsequently, summary statistics were calculated as appropriate for a normal, lognormal, or nonparametric distribution. Tables are attached that list the summary statistics for each metal.

Summary

The MBSS is meant to provide a resource for information regarding the concentration of naturally occurring metals that can be expected in various general soil types and geographic areas of Michigan. Site-specific data is recommended to get the best representation of a local background concentration.

Contact Information

If there are any questions, or a desire to obtain data, please contact those listed below:

Dale Bridgford 517-284-6556 bridgfordd@michigan.gov

Attachments

Table 1	Statewide Information – all data combined
Tables 2, 3, 4	Topsoil, Sand and Clay - typical range of concentrations
Figure 1	All Sample Locations and glacial lobe boundaries
Figures 2, 3, 4	Topsoil, Sand and Clay - sample locations

TABLE 1 - Statewide Information

METAL	Number of samples	Sites	Percent Non-detect	Assumed Distribution of Data	{a} Mean (mg/kg)	{b} Standard Deviation	Median (mg/kg)	{c} Typical Range of data (mg/kg)
Aluminum (Al)	508	171	0 %	Lognormal	3085	2.317	3205	594 - 16014
Antimony (Sb)	259	82	83.8 %	Non-para	na	na	< 0.30	<0.04 - 11.5
Arsenic (As)	1795	490	6.3 %	Lognormal	2.5	3.088	2.8	< 0.3 - 22.8
Barium (Ba)	1241	401	2.0 %	Lognormal	20.2	2.981	21.7	2.4 - 172
Beryllium (Be)	390	155	71.3 %	Non-para	na	na	< 0.21	<0.09 – 1.0
Cadmium (Cd)	1347	413	69.9 %	Non-para	na	na	< 0.23	<0.05 – 2.0
Chromium (Cr)	861	247	12.5 %	Lognormal	5.7	3.197	6.1	< 0.6 - 55.6
Cobalt (Co)	1161	426	18.4 %	Cen-Log	4.9	2.378	5.1	<0.9 – 26.8
Copper (Cu)	1393	437	7.4 %	Lognormal	6.2	2.920	7.3	<8 - 50.6
Iron (Fe)	568	197	0 %	Lognormal	5533	2.537	5825	86 - 34311
Lead (Pb)	1619	482	18.0 %	Cen-Log	4.0	3.192	5.0	<0.4 - 38.9
Lithium (Li)	312	124	28.5 %	Cen-Log	3.8	3.231	3.5	<0.4 - 37.9
Magnesium (Mg)	248	88	0 %	Lognormal	1884	4.508	1715	98 - 36049
Manganese (Mn)	574	209	0 %	Lognormal	121	3.240	152	12 - 1212
Mercury (Hg)	1168	414	89.1 %	Non-para	na	na	< 0.05	<0.01 - 0.5
Molybdenum (Mo)	275	116	89.1 %	Non-para	na	na	< 1	<0.25 – 5.0
Nickel (Ni)	850	255	18.8 %	Cen-Log	7.4	2.788	8.2	<1- 55.2
Selenium (Se)	1209	420	77.3 %	Non-para	na	na	< 0.44	<0.05 – 1.3
Silver (Ag)	973	320	92.2 %	Non-para	na	na	<0.20	<0.03 – 1.4
Sodium (Na)	216	76	31.9 %	Cen-Log	58.7	3.041	85	<6.6 - 519
Strontium (Sr)	81	51	0 %	Non-para	na	na	31	1.7 - 150
Thallium (Tl)	369	124	90.2 %	Non-para	na	na	< 0.50	<0.08 – 2.7
Titanium (Ti)	97	41	0 %	Normal	118	45.0	108	28 - 208
Vanadium (V)	406	167	1.7 %	Lognormal	9.9	2.500	9.9	1.6 - 59.6
Zinc (Zn)	1392	433	2.2 %	Lognormal	18.3	2.593	22	3 - 118

{a} For lognormal distributions, this represents the geometric mean. For normal distributions this represents the arithmetic mean. The mean was not estimated for data with non-parametric distributions (greater than 50% non-detect).

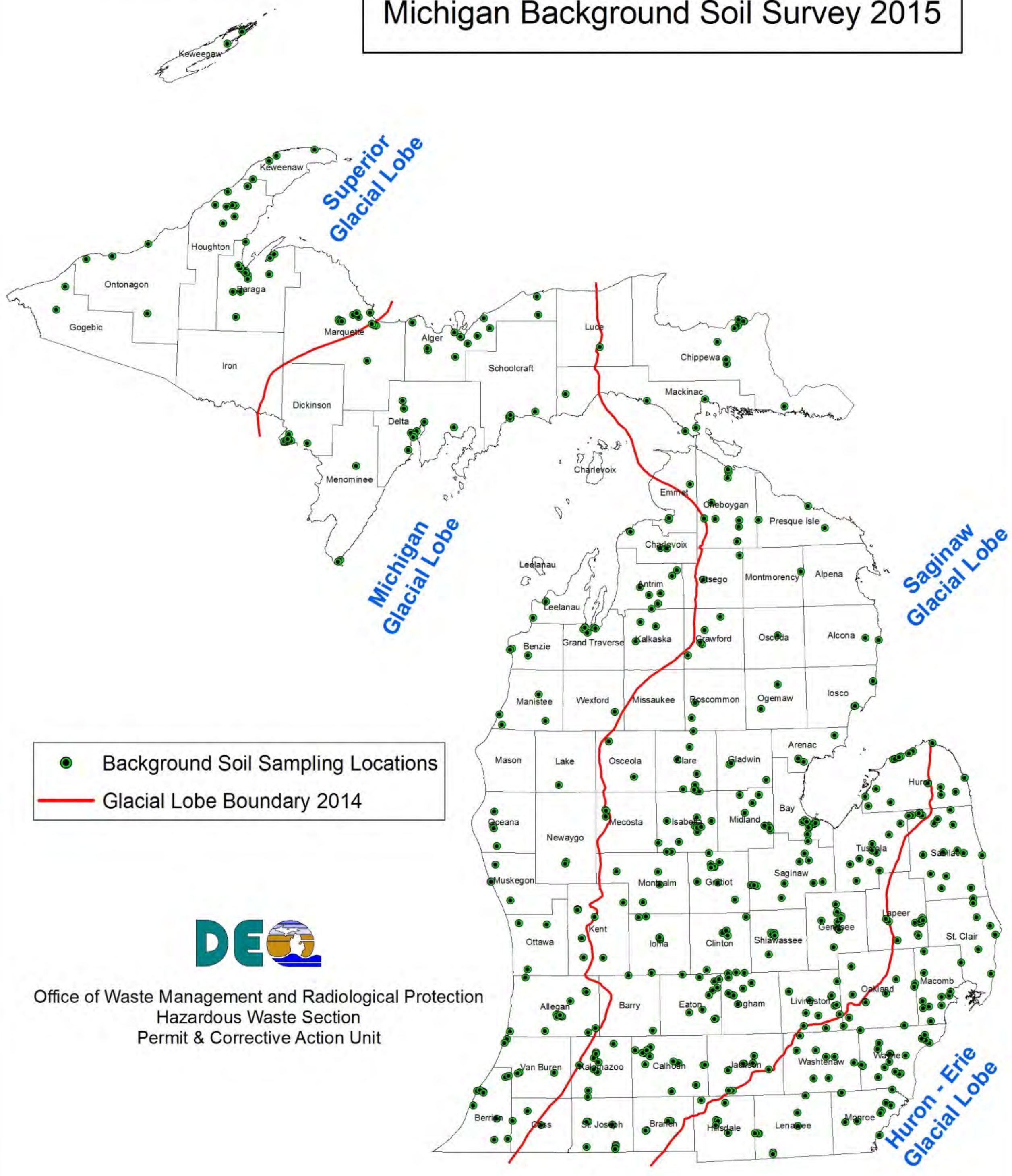
{b} For lognormal distributions, this represents the geometric standard deviation and is unit-less. The standard deviation is not estimated for data with non-parametric distributions.

{c} Typical range given is the central 95% of the data, or two standard deviations, calculated using the appropriate normal or lognormal formulas. The non-parametric range is based on the 2.5th and 97.5th quantiles of the data set.

na = not applicable for nonparametric data distribution
Non-para = nonparametric (> 50% non-detect)
Cen-Log – censored lognormal (<15 – <50% non-detect)

FIGURE 1

ALL SAMPLING LOCATIONS
Michigan Background Soil Survey 2015



Office of Waste Management and Radiological Protection
Hazardous Waste Section
Permit & Corrective Action Unit

TABLE 2 – TOPSOIL

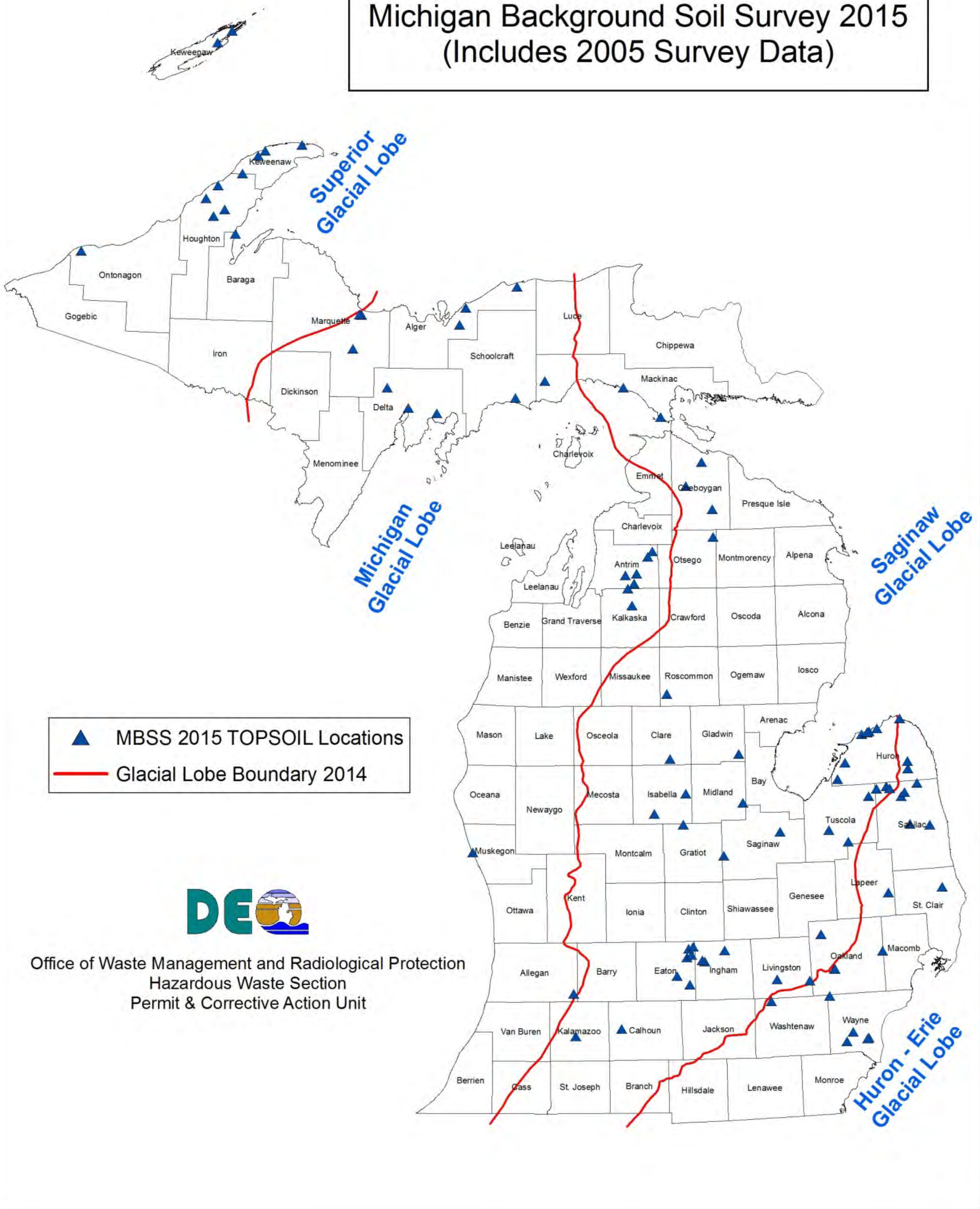
	Dist.	Glacial Lobe Area																				Statewide						
		HURON - ERIE					SAGINAW					MICHIGAN					SUPERIOR					TOPSOIL – Combined Statewide Data						
		n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	min	max	x	SD	1 SD	**2 SD**
Al	L	11	4554	1.439	6553	**9294**	47	2253	2.236	5038	**10908**	25	1041	1.751	1823	**3121**	15	3488	2.110	7360	**15072**	98	340	9950	2141	2.330	4989	**11237**
Sb	Np	0	--	--	--	**--**	1	--	--	--	**--**	0	--	--	--	**--**	0	--	--	--	**--**	1	--	--	--	--	--	**--**
As	L	51	5.7	1.630	9.3	**14.9**	103	2.2	2.357	5.2	**11.8**	29	1.0	2.149	2.1	**4.5**	17	1.4	1.707	2.4	**4.0**	200	<0.25	34	2.4	2.537	6.1	**14.9**
Ba	L	16	40	2.602	104	**261**	52	22.7	1.876	42.6	**77.9**	29	13.5	2.242	30.3	**65.7**	17	41.4	1.749	72.4	**124**	114	<2.2	103	23.6	2.272	53.6	**118**
Be	Np	2	<0.20	--	--	**--**	13	<0.30	--	0.31	**0.71**	0	--	--	--	**--**	0	--	--	--	**--**	15	<0.20	0.84	<0.30	--	0.3	**0.69**
Cd	Np	16	<2.0	--	2.0	**2.0**	52	<2.0	--	<2.0	**<2.0**	29	<2.0	--	<2.0	**<2.0**	17	<2.0	--	<2.0	**<2.0**	114	<0.12	2.0	<2.0	--	<2.0	**2.0**
Cr	L	19	13.1	1.698	22.2	**37.0**	53	5.3	2.459	13.0	**30.9**	29	3.2	1.851	5.9	**10.7**	17	7.7	2.227	17.1	**37.0**	118	<0.70	36	5.7	2.438	13.9	**32.7**
Co	Np	11	<5.0	--	5.7	**7.0**	39	<5.0	--	<5.0	**6.1**	23	<5.0	--	<5.0	**<5.0**	15	<5.0	--	6.1	**11.8**	88	<2.5	14	<5.0	--	<5.0	**7.0**
Cu	L	16	9.9	2.343	23.2	**52.5**	53	4.3	2.377	10.2	**23.5**	29	2.4	2.308	5.5	**12.4**	17	31.3	2.290	71.7	**159**	115	<0.50	82.5	5.6	3.270	18.3	**57.1**
Fe	L	11	9476	1.473	13958	**20244**	51	4439	2.540	11275	**27590**	29	2175	1.840	4002	**7186**	17	5247	2.060	10809	**21632**	108	320	22300	4065	2.431	9882	**23185**
Pb	CL	42	11.6	1.973	22.9	**43.9**	67	8.0	1.968	15.7	**30.2**	29	6.9	1.825	12.6	**22.4**	17	12.1	2.524	30.5	**74.3**	155	<2.3	66.2	9.1	2.048	18.6	**37.1**
Li	V	11	4.3	1.581	6.8	**10.6**	43	2.3	2.581	5.9	**14.8**	23	< 2.0	--	2.3	**3.0**	17	2.9	1.932	5.6	**10.5**	94	<2.0	12	2.2	2.363	5.2	**11.9**
Mg	L	5	3184	2.088	6648	**13489**	5	1410	1.829	2579	**4604**	0	--	--	--	**--**	0	--	--	--	**--**	10	490	8900	2119	2.152	4560	**9517**
Mn	L	11	524	2.224	1165	**2510**	52	113	2.891	327	**905**	29	109	3.441	375	**1228**	17	154	2.413	372	**866**	109	3.0	1500	137	3.154	432	**1302**
Hg	Np	16	<0.10	--	0.10	**0.16**	52	<0.10	--	<0.10	**0.4**	29	<0.10	--	<0.10	**0.10**	17	<0.10	--	<0.10	**0.12**	114	<0.05	0.5	<0.10	--	<0.10	**0.27**
Mo	Np	2	<5.0	--	--	**--**	12	<5.0	--	<5.0	**<5.0**	0	--	--	--	**--**	0	--	--	--	**--**	14	<5.0	<5.0	<5.0	--	<5.0	**<5.0**
Ni	V	12	9.3	3.7	13.0	**16.6**	52	< 5.0	--	9.0	**14.0**	29	<5.0	--	<5.0	**7.1**	17	8.2	3.012	24.7	**71.2**	110	<3.5	47	4.3	2.448	10.5	**24.9**
Se	Np	23	<0.5	--	1.3	**4.7**	51	<0.50	--	<0.50	**0.65**	29	<0.50	--	<0.50	**0.53**	17	<0.50	--	<0.50	**0.65**	120	<0.05	8	<0.50	--	<0.50	**1.3**
Ag	Np	6	<0.25	--	0.75	**1.6**	5	<0.25	--	<0.25	**<0.25**	0	--	--	--	**--**	0	--	--	--	**--**	11	<0.20	1.7	<0.25	--	0.35	**1.4**
Na	V	2	125	--	--	**--**	5	92	24.6	117	**140**	0	--	--	--	**--**	0	--	--	--	**--**	7	<65	130	101	25.9	127	**153**
Sr	Np	0	--	--	--	**--**	7	106	--	148	**156**	0	--	--	--	**--**	0	--	--	--	**--**	7	73	157	106	--	148	**156**
Tl	Np	2	<1.0	--	--	**--**	5	<1.0	--	<1.0	**<1.0**	0	--	--	--	**--**	0	--	--	--	**--**	7	<1.0	<1.0	<1.0	--	<1.0	**<1.0**
Ti	N	2	94.5	--	---	**--**	12	133	43.9	177	**219**	0	--	--	--	**--**	0	--	--	--	**--**	14	73	210	127	42.8	170	**211**
V	L	2	21	--	--	**--**	12	14.1	1.483	20.9	**30.5**	0	--	--	--	**--**	0	--	--	--	**--**	14	<8.0	28	14.9	1.480	22.1	**32.1**
Zn	L	27	39.8	1.770	70.4	**122**	53	18.5	2.057	38.1	**76.1**	29	9.7	2.207	21.4	**45.8**	17	36.7	2.039	74.8	**148**	126	<2.5	99	20.6	2.400	49.4	**115**

Data in mg/kg
Dist. = Distribution of data (CL – Censored Lognormal, L-Lognormal, Np- Nonparametric, N- Normal, V-various).
n = number of samples.
x = arithmetic or geometric mean, nonparametric median (mg/kg).
SD = arithmetic or geometric standard deviation, not applicable for nonparametric.
min = minimum value in data set (mg/kg).
max = maximum value in data set (mg/kg)

Data Range	Lognormal Distribution	Normal Distribution	Nonparametric equivalent
1 SD	(x)(SD)	x + (1)SD	84th quantile
2 SD	$(x)(SD)^{1.96}$	x+ (1.96)SD	97.5th quantile

FIGURE 2

TOPSOIL SAMPLING LOCATIONS
Michigan Background Soil Survey 2015
(Includes 2005 Survey Data)



Office of Waste Management and Radiological Protection
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TABLE 3 – SAND

	Dist.	Glacial Lobe Area																				Statewide						
		HURON - ERIE					SAGINAW					MICHIGAN					SUPERIOR					SAND – Combined Statewide Data						
		n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	min	max	x	SD	1 SD	**2 SD**
Al	L	31	3024	1.667	5041	**8233**	162	2265	1.930	4371	**8218**	67	1842	1.850	3408	**6151**	26	5256	2.324	12215	**27446**	286	250	24900	2404	2.031	4883	**9639**
Sb	Np	15	<0.33	--	0.65	**8.7**	58	<0.42	--	< 1.0	**10.8**	50	<0.30	--	<2.9	**5**	57	<0.30	--	0.30	**1.9**	180	<0.08	12.9	<0.30	--	< 1.0	**5.9**
As	L	175	4.1	2.580	10.6	**26.3**	509	1.8	3.140	5.7	**17**	194	0.86	2.630	2.3	**5.7**	87	1.0	2.052	2.1	**4.1**	965	<0.05	40	1.7	3.189	5.4	**16.5**
Ba	L	103	28.1	2.713	76.2	**199**	374	12.4	2.350	29.1	**66.2**	199	8.4	2.784	23.4	**62.5**	85	18.9	2.399	45.3	**105**	761	<0.50	240	13.1	2.713	35.5	**92.6**
Be	Np	31	<0.20	--	0.51	**0.78**	125	<0.20	--	<1.0	**1.0**	74	<0.20	--	<0.50	**1.0**	57	<0.20	--	0.31	**0.86**	287	<0.04	2	<0.20	--	0.50	**1.0**
Cd	Np	97	<0.24	--	2.0	**2.0**	378	<0.2	--	2.0	**2.0**	214	<0.2	--	0.76	**2.0**	79	<0.2	--	0.20	**2.0**	768	<0.01	2.1	<0.20	--	2.0	**2.0**
Cr	L	67	4.1	2.778	11.4	**30.4**	219	3.7	2.347	8.7	**19.7**	100	1.7	3.401	5.8	**18.7**	60	3.1	2.782	8.6	**23.0**	446	<0.25	50	3.1	2.835	8.8	**23.9**
Co	CL	78	6.6	1.666	11.0	**17.9**	376	3.8	2.037	7.7	**15.3**	226	2.9	2.327	6.7	**15.2**	95	7.9	2.137	16.9	**35.0**	775	<0.50	36.7	4.1	2.265	9.3	**20.4**
Cu	L	116	6.5	1.928	12.5	**23.5**	397	3.6	2.412	8.7	**20.2**	210	2.9	3.282	9.5	**29.8**	92	12.7	3.139	39.9	**120**	815	<0.25	375	4.3	2.937	12.6	**35.5**
Fe	L	36	5863	1.934	11339	**21359**	165	4005	2.270	9091	**19972**	80	3032	1.973	5982	**11486**	60	7398	2.270	16793	**36891**	341	100	39000	4351	2.289	9959	**22054**
Pb	CL	132	6.1	2.017	12.3	**24.1**	429	2.8	2.586	7.2	**18.0**	245	1.8	3.206	5.8	**17.7**	155	1.4	4.357	6.1	**25.1**	961	<0.07	36	2.5	3.173	7.9	**24.0**
Li	V	7	3.5	--	7.3	**9.6**	101	2.8	2.232	6.2	**13.5**	22	2.3	2.287	5.3	**11.6**	18	9.7	8.1	17.8	**25.9**	148	<0.80	24.4	2.9	2.575	7.5	**18.5**
Mg	L	18	1411	3.341	4714	**15008**	112	1184	4.016	4755	**18063**	46	1288	3.868	4982	**18255**	26	2010	2.162	4346	**9110**	202	6.9	28000	1312	3.689	4840	**16946**
Mn	L	24	89.2	3.202	286	**873**	170	73.3	3.079	226	**664**	73	64.8	3.478	225	**745**	65	133	3.104	413	**1225**	332	1.0	3600	81.3	3.252	264	**820**
Hg	Np	102	<0.05	--	<0.10	**0.12**	320	<0.05	--	<0.10	**0.23**	188	<0.05	--	<0.10	**0.10**	82	<0.05	--	0.10	**0.11**	692	<0.01	1.2	<0.05	--	<0.10	**0.13**
Mo	Np	17	< 1.0	--	<5.0	**5.0**	95	<5.0	--	<5.0	**5.0**	45	<1.0	--	<5.0	**<5.0**	53	<1.0	--	1.0	**1.4**	210	<0.20	5.0	<1.0	--	<5.0	**5.0**
Ni	V	49	7.8	1.987	15.5	**30.0**	201	4.9	1.968	9.6	**18.5**	128	3.3	2.862	9.4	**25.9**	78	9.3	6.8	16.1	**22.9**	456	<0.08	39.9	4.8	2.469	11.9	**28.2**
Se	Np	109	<0.40	--	0.6	**3.9**	336	<0.35	--	0.54	**1.1**	175	<0.40	--	<0.50	**1.0**	74	<0.20	--	0.47	**0.91**	694	<0.05	4.4	<0.34	--	0.53	**1.2**
Ag	Np	92	<0.20	--	<0.89	**1.2**	296	<0.21	--	<0.50	**<2.0**	185	<0.15	--	<0.50	**0.79**	78	<0.10	--	0.19	**0.50**	651	<0.01	2.0	<0.18	--	<0.50	**1.1**
Na	V	17	<88	--	316	**487**	103	52.6	3.364	177	**567**	40	68.3	41.0	109	**150**	24	43.7	1.750	76.5	**131**	184	<1.9	680	50.9	2.978	152	**432**
Sr	Np	4	28	--	93	**141**	31	28	--	77	**150**	9	4.9	--	70	**94**	15	10	--	16	**72**	59	1.3	150	12.3	--	70	**150**
Tl	Np	39	<0.50	--	<2.7	**3.2**	127	<1.0	--	<1.0	**2.0**	63	<0.50	--	<1.0	**1.7**	58	<0.50	--	0.50	**1.2**	287	<0.02	6.1	<0.50	--	<1.0	**2.8**
Ti	N	4	150	45.5	196	**239**	58	115	40.3	155	**194**	12	111	54.8	166	**218**	0	--	--	--	**--**	74	13	250	117	43.3	160	**202**
V	L	39	9.7	2.020	19.6	**38.5**	145	7.6	2.245	17.1	**37.1**	77	5.2	2.305	12.0	**26.7**	59	15.8	2.251	35.6	**77.5**	320	<0.05	100	8.2	2.412	19.8	**46.1**
Zn	L	115	23.7	1.928	45.7	**85.8**	391	11.3	2.602	29.4	**73.6**	200	9.3	2.509	23.3	**56.4**	91	15.8	2.177	34.4	**72.6**	797	<0.50	95	12.4	2.558	31.7	**78.1**

Data in mg/kg

Dist. = Distribution of data (CL – Censored Lognormal, L-Lognormal, Np- Nonparametric, N- Normal, V-various).

n = number of samples.

x = arithmetic or geometric mean, nonparametric median (mg/kg).

SD = arithmetic or geometric standard deviation, not applicable for nonparametric.

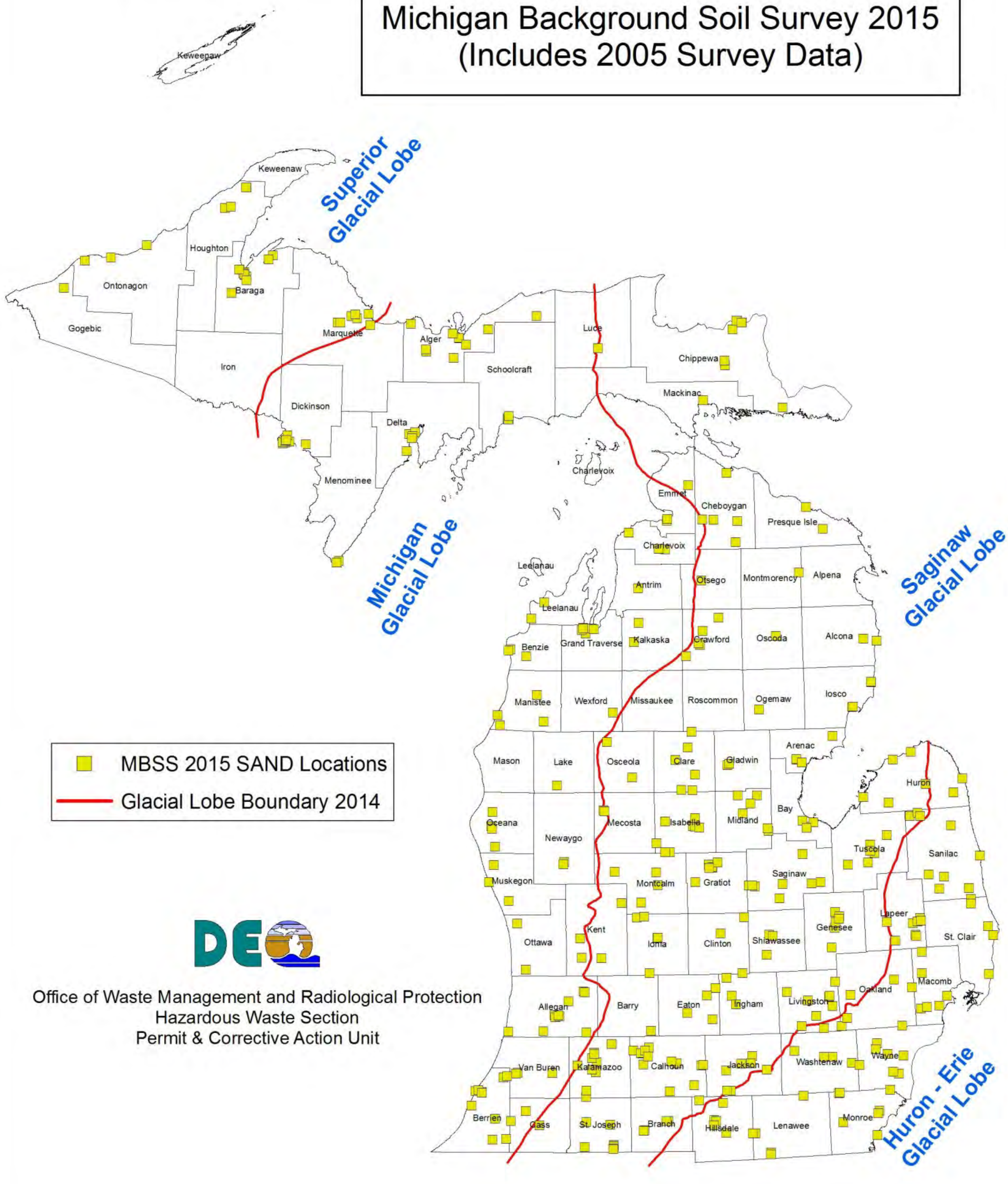
min = minimum value in data set (mg/kg).

max = maximum value in data set (mg/kg).

Data Range	Lognormal Distribution	Normal Distribution	Nonparametric equivalent
1 SD	(x)(SD)	x + (1)SD	84th quantile
2 SD	$(x)(SD)^{1.96}$	x+ (1.96)SD	97.5th quantile

FIGURE 3

SAND SAMPLING LOCATIONS
Michigan Background Soil Survey 2015
(Includes 2005 Survey Data)



Office of Waste Management and Radiological Protection
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TABLE 4 – CLAY

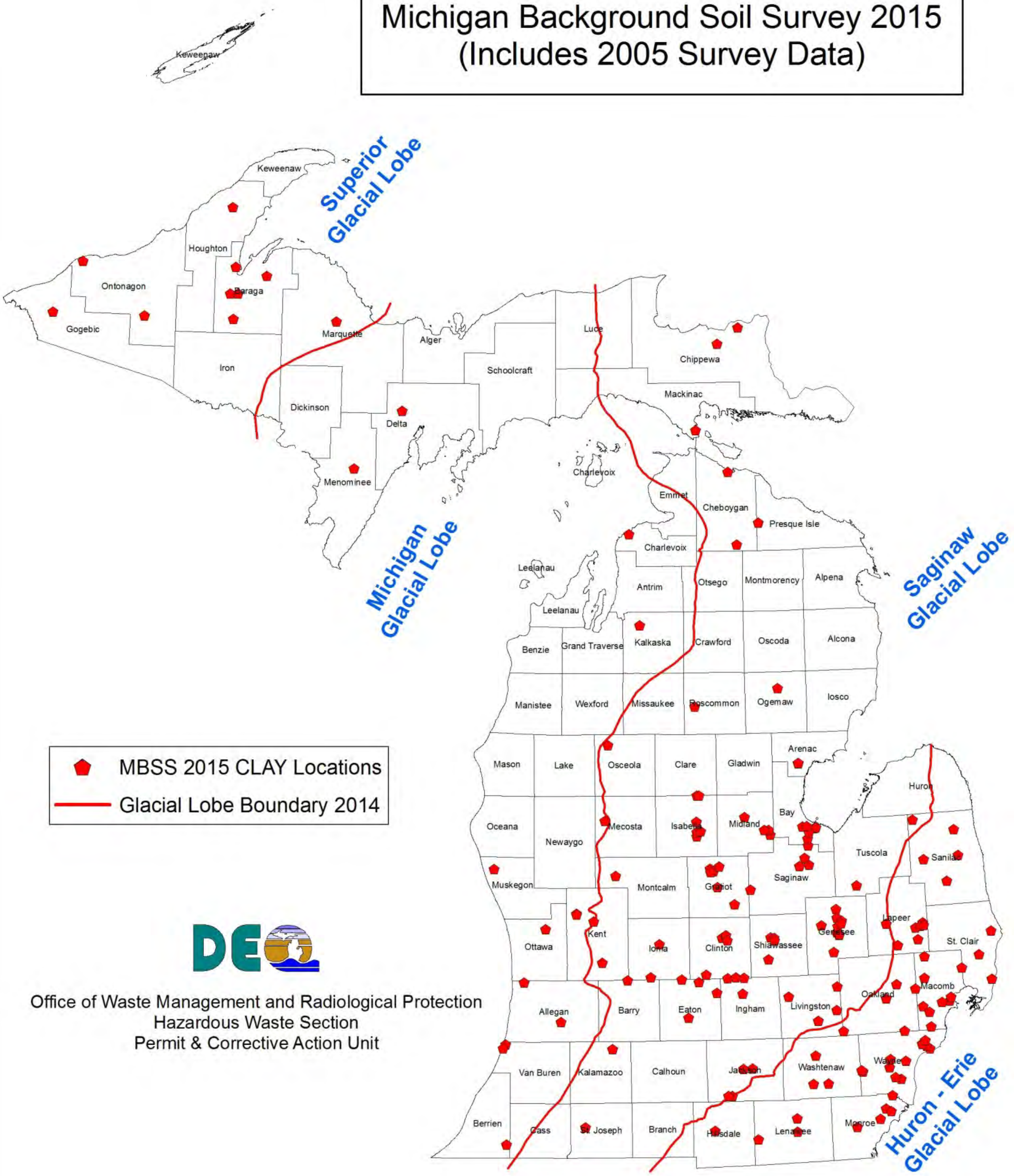
	Dist.	Glacial Lobe Area																				Statewide						
		HURON - ERIE					SAGINAW					MICHIGAN					SUPERIOR					CLAY – Combined Statewide Data						
		n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	x	SD	1 SD	**2 SD**	n	min	max	x	SD	1 SD	**2 SD**
Al	L	56	7445	1.615	12024	**19049**	62	6994	1.451	10148	**14508**	3	10430	1.577	16448	**25470**	3	9490	1.131	10733	**12080**	124	1240	19000	7318	1.530	11197	**16842**
Sb	Np	42	<0.52	--	11.3	**13**	33	<0.03	--	<0.5	**1.0**	3	<0.50	--	<3.6	**<50**	0	--	--	--	**--**	78	<0.04	14.4	<0.40	--	2.2	**13.0**
As	L	237	6.9	2.166	14.9	**31.4**	354	3.7	2.182	8.1	**17.1**	29	2.8	1.783	5.0	**8.7**	10	3.2	1.829	5.9	**10.4**	630	<0.20	88	4.6	2.298	10.6	**23.5**
Ba	L	166	64.4	1.903	123	**227**	171	37.6	2.334	87.8	**198**	25	30.5	1.905	58.1	**108**	4	51.8	3.338	173	**550**	366	<2.5	291	47.5	2.229	106	**229**
Be	V	35	0.48	1.744	0.84	**1.43**	42	0.26	2.608	0.68	**1.70**	5	<0.50	--	1.0	**1.0**	6	<1.0	--	2.2	**2.9**	88	<0.09	3.9	0.36	2.348	0.84	**1.9**
Cd	Np	196	<1.1	--	2.0	**3.1**	240	<0.50	--	2.0	**2.4**	25	<0.13	--	0.21	**2**	4	<1.0	--	<1.0	**<1.0**	465	<0.04	4.7	<0.66	--	2.0	**2.5**
Cr	L	139	16.9	2.168	36.6	**77.0**	141	11.5	1.971	22.7	**43.5**	8	11.0	2.608	28.7	**72.0**	9	29.4	1.543	45.4	**68.8**	297	<0.25	70	14.1	2.138	30.1	**62.5**
Co	CL	98	10.1	1.665	16.8	**27.4**	167	9.4	2.126	20.0	**41.2**	30	7.8	1.904	14.9	**27.6**	19	6.5	2.444	15.9	**37.5**	298	<0.20	85.1	9.3	2.019	18.8	**36.9**
Cu	L	192	14.2	1.840	26.1	**46.9**	232	11.1	1.722	19.1	**32.2**	29	7.9	1.760	13.9	**23.9**	10	19.4	2.066	40.1	**80.4**	463	<0.56	130	12.2	1.825	22.3	**39.7**
Fe	L	59	18110	1.438	26042	**36908**	52	11920	1.814	21623	**38301**	5	10620	1.701	18065	**30082**	3	10970	1.119	12275	**13674**	119	2100	32000	14560	1.690	24606	**40721**
Pb	CL	196	8.6	1.767	15.2	**26.2**	267	8.2	2.327	19.1	**42.9**	29	5.1	1.745	8.9	**15.2**	11	6.2	2.387	14.8	**34.1**	503	<0.86	32	8.1	2.097	17.0	**34.6**
Li	L	32	19.3	1.458	28.1	**40.4**	25	13.5	1.719	23.2	**39.0**	4	13.0	--	16.5	**16.9**	9	14.4	1.596	23.0	**36.0**	70	<3.5	77	15.9	1.611	25.6	**40.5**
Mg	L	20	11760	2.883	33904	**93692**	15	16700	3.269	54592	**170203**	1	24000	--	--	**--**	0	--	--	--	**--**	36	895	140000	13880	3.002	41668	**119706**
Mn	L	53	321	1.725	554	**935**	65	267	1.588	424	**661**	6	243	1.593	387	**605**	9	335	1.517	508	**758**	133	67	1200	290	1.648	478	**772**
Hg	Np	168	<0.06	--	<0.11	**0.58**	164	<0.07	--	<0.10	**0.5**	20	<0.05	--	0.10	**0.70**	10	0.11	--	0.55	**0.61**	362	<0.01	1.2	<0.06	--	<0.10	**0.57**
Mo	Np	14	<2.5	--	4.9	**5.0**	27	<1.0	--	<5.0	**5.0**	4	<3.0	--	<3.0	**<3.0**	6	<3.0	--	<3.0	**<3.0**	51	<0.22	5.0	<2.2	--	<5	**5.0**
Ni	V	140	23.0	10.2	33.2	**43.4**	126	18.9	8.7	27.6	**36.0**	9	10.8	2.001	21.6	**42.1**	9	18.0	6.3	24.3	**30.6**	284	<0.56	53	20.7	9.7	30.4	**40.1**
Se	V	189	<0.50	--	1.0	**1.2**	169	<0.50	--	0.60	**1.1**	27	<0.2	--	0.48	**1.5**	10	0.45	0.11	0.56	**0.67**	395	<0.05	2.4	<0.50	--	0.70	**1.2**
Ag	Np	139	<0.50	--	1.2	**6.0**	148	<0.20	--	<0.50	**1.0**	23	<0.10	--	<0.31	**0.50**	1	<0.5	--	--	**--**	311	<0.02	6.2	<0.25	--	<0.90	**2.8**
Na	V	10	114	240	354	**594**	14	186	1.382	257	**351**	1	--	--	--	**--**	0	--	--	--	**--**	25	<4.5	477	178	129	307	**436**
Sr	Np	6	102	--	150	**150**	1	100	--	--	**--**	2	110	--	--	**--**	6	100	--	150	**150**	15	53	150	100	--	150	**150**
Tl	Np	39	<0.56	--	1.1	**1.7**	33	<1.5	--	<1.5	**<1.5**	3	<0.50	--	<0.50	**<0.50**	0	--	--	--	**--**	75	<0.09	1.8	<0.50	--	<1.0	**1.6**
Ti	N	1	100	--	--	**--**	8	123	67.3	190	**255**	0	--	--	--	**--**	0	--	--	--	**--**	9	42	210	120	63.4	183	**244**
V	L	28	22.9	2.068	47.4	**95.1**	33	16.4	1.742	28.6	**48.7**	5	19.0	2.455	46.6	**110**	6	57.7	1.509	87.1	**129**	72	<4.3	150	21.0	2.050	43.1	**85.8**
Zn	L	218	43.9	1.537	67.5	**102**	212	27.8	1.841	51.2	**91.9**	29	24.0	1.705	40.9	**68.3**	10	26.8	2.819	75.5	**204**	469	<1.5	140	34.0	1.805	61.4	**108**

Data in mg/kg
Dist. = Distribution of data (CL – Censored Lognormal, L-Lognormal, Np- Nonparametric, N- Normal, V-various).
n = number of samples.
x = arithmetic or geometric mean, nonparametric median (mg/kg).
SD = arithmetic or geometric standard deviation, not applicable for nonparametric.
min = minimum value in data set (mg/kg).
max = maximum value in data set (mg/kg).

Data Range	Lognormal Distribution	Normal Distribution	Nonparametric equivalent
1 SD	(x)(SD)	x + (1)SD	84th quantile
2 SD	$(x)(SD)^{1.96}$	x+ (1.96)SD	97.5th quantile

FIGURE 4

CLAY SAMPLING LOCATIONS
Michigan Background Soil Survey 2015
(Includes 2005 Survey Data)



Office of Waste Management and Radiological Protection
Hazardous Waste Section
Permit & Corrective Action Unit

References

(1) Background soil data:

a) The RRD Soil Background Technical Assistance Program Support (TAPS) Team was formed, that includes technical staff with backgrounds in geology, environmental engineering, quality assurance, soil science, chemistry and statistics, including a representative from each of DEQ's District offices. The TAPS Team developed the data collection Data Quality Objective (DQO). This team compiled and analyzed the new data to ensure that it met the data quality objectives specified. This TAPS team will work with stakeholders to ensure that the process is transparent and the results are technically sound.

b) Data was collected, organized, scanned and data entered into spreadsheets by Zachary Spots (student intern from Western Michigan University) and RRD staff in Lansing and the District offices.

c) A Data Quality Objective (DQO) dated September 20, 2013 was developed to describe how to collect new data and accept as valid natural background. Data collection followed this DQO. A separate DQO dated July 10, 2014 was completed address the statistical review of the data.

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Appendix D

MODIFIED TABLES 2, 3, AND 4

2005 Michigan Background Soil Survey UPDATED 2015

Table 2 - TOPSOIL

	Dist.	Part 201 Statewide Default Background	Table 1 Upper Range Value	Glacial Lobe Area											
				HURON - ERIE			SAGINAW			MICHIGAN			SUPERIOR		
				n	2 SD	97.5 Quantiles	n	2 SD	97.5 Quantiles	n	2 SD	97.5 Quantiles	n	2 SD	97.5 Quantiles
Aluminum (Al)	L	6,900	16,014	11	**9,294**	#	47	**10,908**	#	25	**3,121**	#	15	**15,072**	#
Antimony (Sb)	Np	NA	11.5	0	--	--	1	--	--	0	--	--	0	--	--
Arsenic (As)	L	5.8	22.8	51	**14.9**	#	103	**11.8**	#	29	**4.5**	#	17	**4**	#
Barium (Ba)	L	75	172	16	**261**	#	52	**77.9**	#	29	**65.7**	#	17	**124**	#
Beryllium (Be)	Np	NA	1	2	--	--	13	#	**0.71**	0	--	--	0	--	--
Cadmium (Cd)	Np	1.2	2	16	#	**2**	52	#	**<2.0**	29	#	**<2.0**	17	#	**<2.0**
Chromium (Cr)	L	18	55.6	19	**37**	#	53	**30.9**	#	29	**10.7**	#	17	**37**	#
Cobalt (Co)	Np	6.8	26.8	11	#	**7**	39	#	**6.1**	23	#	**<5.0**	15	#	**11.8**
Copper (Cu)	L	32	50.6	16	**52.5**	#	53	**23.5**	#	29	**12.4**	#	17	**159**	#
Iron (Fe)	L	12,000	34,311	11	**20,244**	#	51	**27,590**	#	29	**7,186**	#	17	**21,632**	#
Lead (Pb)	CL	21	38.9	42	**43.9**	#	67	**30.2**	#	29	**22.4**	#	17	**74.3**	#
Lithium (Li)	V	9.8	37.9	11	**10.6**	#	43	**14.8**	#	23	**3**	#	17	**10.5**	#
Magnesium (Mg)	L	NA	36,049	5	**13,489**	#	5	**4,604**	#	0	--	--	0	--	--
Manganese (Mn)	L	440	1,212	11	**2,510**	#	52	**905**	#	29	**1,228**	#	17	**866**	#
Mercury (Hg)	Np	0.13	0.5	16	#	**0.16**	52	#	**0.4**	29	#	**0.1**	17	#	**0.12**
Molybdenum (Mo)	Np	NA	5	2	--	--	12	#	**<5.0**	0	--	--	0	--	--
Nickel (Ni)	V	20	55.2	12	**16.6**	#	52	**14**	#	29	**7.1**	#	17	**71.2**	#
Selenium (Se)	Np	0.41	1.3	23	#	**4.7**	51	#	**0.65**	29	#	**0.53**	17	#	**0.65**
Silver (Ag)	Np	1	1.4	6	#	**1.6**	5	#	**<0.25**	0	--	--	0	--	--
Sodium (Na)	V	NA	519	2	--	--	5	**140**	#	0	--	--	0	--	--
Strontium (Sr)	Np	NA	150	0	--	--	7	#	**156**	0	--	--	0	--	--
Thallium (Tl)	Np	NA	2.7	2	--	--	5	#	**<1.0**	0	--	--	0	--	--
Titanium (Ti)	N	MNL	208	2	--	--	12	**219**	#	0	--	--	0	--	--
Vanadium (V)	L	NA	59.6	2	--	--	12	**30.5**	#	0	--	--	0	--	--
Zinc (Zn)	L	47	118	27	**122**	#	53	**76.1**	#	29	**45.8**	#	17	**148**	#

All data in mg/kg (ppm)

Dist.	Distribution of data
L	Lognormal distribution
N	Normal distribution
CL	Censored lognormal distribution
Np	Nonparametric distribution
V	Various distributions

n	Number of samples
SD	Arithmetic or geometric standard deviation, not applicable for nonparametric.
NA	Not Applicable (no value listed in Part 201)
MNL	Metal not listed in Part 201 Criteria
--	No value calculated due to too few samples/detections
#	Not appropriate calculation method
▨	Less than Table 1 Upper Range Value

2005 MBSS
Updated 2015

Table 3 - SAND

	Dist.	**Part 201 Statewide Default Background**	**Table 1 Upper Range Value**	**Glacial Lobe Area**											
				HURON - ERIE			**SAGINAW**			**MICHIGAN**			**SUPERIOR**		
				n	**2 SD**	**97.5 Quantiles**	**n**	**2 SD**	**97.5 Quantiles**	**n**	**2 SD**	**97.5 Quantiles**	**n**	**2 SD**	**97.5 Quantiles**
Aluminum (Al)	L	6,900	16,014	31	**8,233**	#	162	**8,218**	#	67	**6,151**	#	26	**27,446**	#
Antimony (Sb)	Np	NA	11.5	15	#	**8.7**	58	#	**10.8**	50	#	**5**	57	#	**1.9**
Arsenic (As)	L	5.8	22.8	175	**26.3**	#	509	**17**	#	194	**5.7**	#	87	**4.1**	#
Barium (Ba)	L	75	172	103	**199**	#	374	**66.2**	#	199	**62.5**	#	85	**105**	#
Beryllium (Be)	Np	NA	1	31	#	**0.78**	125	#	**1**	74	#	**1**	57	#	**0.86**
Cadmium (Cd)	Np	1.2	2	97	#	**2**	378	#	**2**	214	#	**2**	79	#	**2**
Chromium (Cr)	L	18	55.6	67	**30.4**	#	219	**19.7**	#	100	**18.7**	#	60	**23**	#
Cobalt (Co)	CL	6.8	26.8	78	**17.9**	#	376	**15.3**	#	226	**15.2**	#	95	**35**	#
Copper (Cu)	L	32	50.6	116	**23.5**	#	397	**20.2**	#	210	**29.8**	#	92	**120**	#
Iron (Fe)	L	12,000	34,311	36	**21,359**	#	165	**19,972**	#	80	**11,486**	#	60	**36,891**	#
Lead (Pb)	CL	21	38.9	132	**24.1**	#	429	**18**	#	245	**17.7**	#	155	**25.1**	#
Lithium (Li)	V	9.8	37.9	7	**9.6**	#	101	**13.5**	#	22	**11.6**	#	18	**25.9**	#
Magnesium (Mg)	L	NA	36,049	18	**15,008**	#	112	**18,063**	#	46	**18,255**	#	26	**9,110**	#
Manganese (Mn)	L	440	1,212	24	**873**	#	170	**664**	#	73	**745**	#	65	**1,225**	#
Mercury (Hg)	Np	0.13	0.5	102	#	**0.12**	320	#	**0.23**	188	#	**0.1**	82	#	**0.11**
Molybdenum (Mo)	Np	NA	5	17	#	**5**	95	#	**5**	45	#	**<5.0**	53	#	**1.4**
Nickel (Ni)	V	20	55.2	49	**30**	#	201	**18.5**	#	128	**25.9**	#	78	**22.9**	#
Selenium (Se)	Np	0.41	1.3	109	#	**3.9**	336	#	**1.1**	175	#	**1**	74	#	**0.91**
Silver (Ag)	Np	1	1.4	92	#	**1.2**	296	#	**<2.0**	185	#	**0.79**	78	#	**0.5**
Sodium (Na)	V	NA	519	17	**487**	#	103	**567**	#	40	**150**	#	24	**131**	#
Strontium (Sr)	Np	NA	150	4	#	**141**	31	#	**150**	9	#	**94**	15	#	**72**
Thallium (Tl)	Np	NA	2.7	39	#	**3.2**	127	#	**2**	63	#	**1.7**	58	#	**1.2**
Titanium (Ti)	N	MNL	208	4	**239**	#	58	**194**	#	12	**218**	#	0	**--**	**--**
Vanadium (V)	L	NA	59.6	39	**38.5**	#	145	**37.1**	#	77	**26.7**	#	59	**77.5**	#
Zinc (Zn)	L	47	118	115	**85.8**	#	391	**73.6**	#	200	**56.4**	#	91	**72.6**	#

All data in mg/kg (ppm)

Dist.	Distribution of data
L	Lognormal distribution
N	Normal distribution
CL	Censored lognormal distribution
Np	Nonparametric distribution
V	Various distributions

n	Number of samples
SD	Arithmetic or geometric standard deviation, not applicable for nonparametric.
NA	Not Applicable (no value listed in Part 201)
MNL	Metal not listed in Part 201 Criteria
--	No value calculated due to too few samples/detections
#	Not appropriate calculation method
▨	Less than Table 1 Upper Range Value

2005 MBSS
Updated 2015

Table 4 - CLAY

	Dist.	**Part 201 Statewide Default Background**	**Table 1 Upper Range Value**	**Glacial Lobe Area**											
				HURON - ERIE			**SAGINAW**			**MICHIGAN**			**SUPERIOR**		
				n	**2 SD**	**97.5 Quantiles**	**n**	**2 SD**	**97.5 Quantiles**	**n**	**2 SD**	**97.5 Quantiles**	**n**	**2 SD**	**97.5 Quantiles**
Aluminum (Al)	L	6,900	16,014	56	**19,049**	#	62	**14,508**	#	3	**25,470**	#	3	**12,080**	#
Antimony (Sb)	Np	NA	11.5	42	#	**13**	33	#	**1**	3	#	**<50**	0	**--**	**--**
Arsenic (As)	L	5.8	22.8	237	**31.4**	#	354	**17.1**	#	29	**8.7**	#	10	**10.4**	#
Barium (Ba)	L	75	172	166	**227**	#	171	**198**	#	25	**108**	#	4	**550**	#
Beryllium (Be)	V	NA	1	35	**1.43**	#	42	**1.7**	#	5	**1**	#	6	**2.9**	#
Cadmium (Cd)	Np	1.2	2	196	#	**3.1**	240	#	**2.4**	25	#	**2**	4	#	**<1.0**
Chromium (Cr)	L	18	55.6	139	**77**	#	141	**43.5**	#	8	**72**	#	9	**68.8**	#
Cobalt (Co)	CL	6.8	26.8	98	**27.4**	#	167	**41.2**	#	30	**27.6**	#	19	**37.5**	#
Copper (Cu)	L	32	50.6	192	**46.9**	#	232	**32.2**	#	29	**23.9**	#	10	**80.4**	#
Iron (Fe)	L	12,000	34,311	59	**36,908**	#	52	**38,301**	#	5	**30,082**	#	3	**13,674**	#
Lead (Pb)	CL	21	38.9	196	**26.2**	#	267	**42.9**	#	29	**15.2**	#	11	**34.1**	#
Lithium (Li)	L	9.8	37.9	32	**40.4**	#	25	**39**	#	4	**16.9**	#	9	**36**	#
Magnesium (Mg)	L	NA	36,049	20	**93,692**	#	15	**170,203**	#	1	**--**	**--**	0	**--**	**--**
Manganese (Mn)	L	440	1,212	53	**935**	#	65	**661**	#	6	**605**	#	9	**758**	#
Mercury (Hg)	Np	0.13	0.5	168	#	**0.58**	164	#	**0.5**	20	#	**0.7**	10	#	**0.61**
Molybdenum (Mo)	Np	NA	5	14	#	**5**	27	#	**5**	4	#	**<3.0**	6	#	**<3.0**
Nickel (Ni)	V	20	55.2	140	**43.4**	#	126	**36**	#	9	**42.1**	#	9	**30.6**	#
Selenium (Se)	V	0.41	1.3	189	**1.2**	#	169	**1.1**	#	27	**1.5**	#	10	**0.67**	#
Silver (Ag)	Np	1	1.4	139	#	**6**	148	#	**1**	23	#	**0.5**	1	**--**	**--**
Sodium (Na)	V	NA	519	10	**594**	#	14	**351**	#	1	**--**	**--**	0	**--**	**--**
Strontium (Sr)	Np	NA	150	6	#	**150**	1	**--**	**--**	2	**--**	**--**	6	#	**150**
Thallium (Tl)	Np	NA	2.7	39	#	**1.7**	33	#	**<1.5**	3	#	**<0.50**	0	**--**	**--**
Titanium (Ti)	N	MNL	208	1	**--**	**--**	8	**255**	#	0	**--**	**--**	0	**--**	**--**
Vanadium (V)	L	NA	59.6	28	**95.1**	#	33	**48.7**	#	5	**110**	#	6	**129**	#
Zinc (Zn)	L	47	118	218	**102**	#	212	**91.9**	#	29	**68.3**	#	10	**204**	#

All data in mg/kg (ppm)

Dist.	Distribution of data
L	Lognormal distribution
N	Normal distribution
CL	Censored lognormal distribution
Np	Nonparametric distribution
V	Various distributions

n	Number of samples
SD	Arithmetic or geometric standard deviation, not applicable for nonparametric.
NA	Not Applicable (no value listed in Part 201)
MNL	Metal not listed in Part 201 Criteria
--	No value calculated due to too few samples/detections
#	Not appropriate calculation method
▨	Less than Table 1 Upper Range Value

2005 MBSS
Updated 2015

Appendix E

APPLICATION OF SOIL BACKGROUND IN FILL

2005 Michigan Background Soil Survey UPDATED 2015

APPENDIX E - Soil Background and Use of the 2005 Michigan Background Soil Survey

APPLICATION OF SOIL BACKGROUND FOR FILL MATERIAL

For this document, the following terms are defined:

Definitions:

Background concentration: Concentration or level of a hazardous substance that exists in the environment at or regionally proximate to a facility that is not attributable to any release (Section 20101(1)(e)).

Environmental contamination: Release of a hazardous substance, or the potential release of a discarded hazardous substance, in a quantity which is or may become injurious to the environment or to the public health, safety, or welfare (Section 20101(1)(p)).

Glacial lobe: Geographic area defined by characteristic glacial deposition of soil and rock by fingers or lobes of ice as the glacier advanced and retreated.

Natural fill: Fill that is entirely comprised of soil that is unaltered by human activity from when it was originally generated by natural processes and is not associated with a release.

- **Native fill:** Natural fill from the same glacial lobe area based on the glacial lobe areas depicted in the Michigan Background Soil Survey.
- **Non-native fill**: Natural fill from a different glacial lobe area based on the glacial lobe areas depicted in the Michigan Background Soil Survey.

Non-natural fill: Fill that is comprised of a mixture of soil and waste materials, e.g., coal, clinkers, slag, cement kiln dust, foundry sand, stamp sands, fly ash, etc.

Soil: An unconsolidated mixture of weathered rock, such as, sand, silt, clay, etc. that may contain organic matter, and is produced through natural processes.

TAPS Team: Technical Assistance and Program Support Team that provides technical advice based on subject area technical experience and knowledge, and/or guidance, or direction consistent with statute, rule and policy and procedure.

Purpose:

Background concentrations by definition are developed as the level of hazardous substance that exists in the environment[1]. Environment is defined as natural resources that includes land (soils) and groundwater[2]. The generic criteria, as referenced in the criteria tables, are

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[1] Sec.20101(1)(e)

[2] Sec. 20101(1)(o)

developed for soil or groundwater[3]. The generic soil criteria include soil chemical and physical properties in their development. The provisions for developing generic cleanup criteria states that if the background concentration for a hazardous substance is greater than the generic cleanup criterion, the background concentration becomes the criterion[4].

Natural fill consists entirely of soil. Non-natural fill material contains soil (derived locally or brought onsite) and waste (e.g., coal ash, foundry sands, dredged spoils, and construction debris). The application of background to natural and non-natural fill materials may be acceptable when the fill material is soil, or it can be demonstrated that the mixture of soil and waste does not alter the soil properties used to develop criteria. EGLE has the ability to make a determination whether the presence of waste in soil represents “environmental contamination”. EGLE may determine if the presence of waste in soil is not injurious to the environment or to the public health, safety, or welfare. This requires an official EGLE determination that the quantity and characteristics of waste in the soil would not likely affect soil properties and allow background concentrations to apply. If the waste in the soil is determined to represent environmental contamination and likely to affect soil properties, then soil background concentrations cannot apply.

This document details a process to determine whether soil background may replace generic or site-specific criteria if background concentrations exceed criteria in fill material. An EGLE site-specific determination through the TAPS Team is required to allow the use of soil background concentrations for a non-natural fill on a specific property. The information necessary for an EGLE determination and the review process is included in this document.

Statute and References:

Background concentration is defined in Section 20101(1)(e) of Part 201 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), as the concentration or level of a hazardous substance that exists in the environment at or regionally proximate to a facility that is not attributable to any release at or regionally proximate to the facility. All of the background concentrations in the Statewide Default Background Levels and the Michigan Background Soil Survey are based on naturally occurring concentrations, and do not represent anthropogenic concentrations. Section 20120a(10) states “If the . . . background concentration for a hazardous substance is greater than a cleanup criterion developed for a category pursuant to subsection (1), the criterion is the . . . background concentration, whichever is larger, for that hazardous substance in that category.” This means that the background concentrations become criteria when the criteria are less than the background concentrations. Because the background concentration definition defines background as concentrations not attributable to any release, only naturally occurring background concentrations can become criteria.

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[3] R 299.46-49 or Rules 46 -49

[4] Sec. 20120a(10)

Natural Fill:

Natural fill is fill that is entirely comprised of soil that is unaltered by human activity from when it was originally deposited by natural processes and is not associated with a release. Natural fill can be native, indicating its origin is in the same glacial lobe area as its current location. The glacial lobe areas in Michigan are depicted in the Michigan Background Soil Survey. An example of native fill would be soil moved from an uncontaminated sand pit in Owosso, Michigan to a property in Ionia, Michigan, both cities being located within the Saginaw Glacial Lobe. Non-native fill is natural fill moved from one glacial lobe area into another glacial lobe area. An example of non-native fill would be natural fill moved from Caseville, Michigan, which is in the Saginaw Lobe, and placed on a property in Muskegon, Michigan, which is located in the Michigan Glacial Lobe.

Section 20101(1)(e) allows four different methods to determine background concentrations. Method (i) is the Statewide Default Background Levels (SDBLs) that are included with the table of Part 201 Generic Cleanup Criteria and Part 213 Risk Based Screening Levels. The SDBLs are applicable to native and non-native natural fill and can be used for any soil type for the entire state.

Method (ii) is the use of the Michigan Background Soil Survey (MBSS). The background concentrations listed in both the 2005 MBSS and the MBSS Updated 2015 are broken down by glacial lobe area and by soil type. The background concentrations from the MBSS can be utilized for native and non-native natural fill based on the glacial lobe placement location of the fill. For example, if natural fill from the Saginaw Glacial Lobe was placed on a property in the Michigan Glacial Lobe, the background concentrations from the Michigan Glacial Lobe would apply to the fill. While the origin glacial lobe location of the natural fill is not necessary to utilize the MBSS, additional investigation may be necessary to confirm the soil is natural fill and not contaminated.

Method (iii) allows the use of a background concentration listed in a study or survey conducted or approved by the department. Up to the date of this document, a study or survey under Method (iii) has not been approved.

Method (iv) are background concentrations from a site-specific demonstration. EGLE approval is required for the use of naturally occurring background concentrations established under Method (iv) in accordance with Section 20120b(2). A site-specific background concentration established for a native soil that originated at that property, can be used for natural fill located at the same property and is the same soil type upon EGLE approval. For example, both sand and clay were brought to a property as natural fill. A site-specific background was established for the property using the native soil that originated at the property, which is sand. The site-specific background could be applied to the natural fill that is sand, if the site-specific background is higher than criteria. However, this site-specific background could not apply to the natural fill that was clay.
It is important to note that a site-specific background concentration is approved to use only at the

origin property. A site-specific background concentration established for native soil on the origin property cannot be used for soil that was moved from the origin property to another location. For example, a site-specific background concentration was established and approved for a native soil on a property in Muskegon (origin property). This native soil from Muskegon was then moved to another property to be used as fill material at a property in Benton Harbor. The site-specific background concentration only applies to the origin property in Muskegon, not to the location the soil was used as fill in Benton Harbor.

Non-natural Fill:

Non-natural fill is fill that is comprised of soil and any amount of waste, like coal, coal ash, clinkers, slag, cement kiln dust, foundry sand, fly ash, stamp sands, etc. Waste in soil can fundamentally alter soil properties like soil texture and soil chemistry that are used in developing criteria. By altering the texture of soil with wastes, such as slag or foundry sand, the naturally occurring metal concentration can be altered by changing how much metals are weathering and leaching out of the soil mixture. Additionally, Part 201 criteria are based on specific soil properties (e.g., adherence, absorption, etc.) and these properties can be changed by the addition of waste. Certain types of waste can alter the pH, such as cement kiln dust, allowing some naturally occurring metals, such as lead, to leach in alkaline conditions. There are methods to differentiate naturally occurring metals from metals related to the waste material (e.g., bioavailability, chromium speciation) that may be conducted.

In using a naturally occurring background concentration, it is assumed there is a certain amount of metal concentration that relates entirely to natural conditions. However, the assumption for how much of the metal contaminant in the soil is from naturally occurring concentrations can no longer be true when soil properties have been altered by waste. It is not appropriate to use the naturally occurring background concentrations to replace generic or site-specific criteria for facilities where waste has altered the soil properties.

Non-natural fill material may fall under the provisions outlined in Part 115, Solid Waste Management of NREPA. If fill material is entirely composed of Solid Waste as defined in Section 11506(1), soil background concentrations cannot apply to the fill. Solid Waste is defined as garbage, rubbish, ashes, incinerator ash, incinerator residue, street sweepings, municipal and industrial sludges, solid commercial waste, solid industrial waste, and animal waste. Further information, including exemptions from Solid Waste, can be found in Section 11506 of NREPA or by consulting with Materials Management Division (MMD) staff in the EGLE District office representing the location of the site. If there is written approval from EGLE's MMD under Section 11553 that is specifically for the fill material from a particular location that has been categorized as beneficial use by-product or inert material, further evaluation whether soil background concentrations can apply to the fill by the RRD is not necessary.

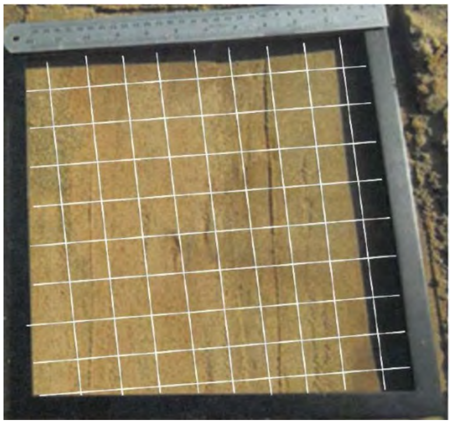
It is also prudent to determine if the site in question is a Hazardous Waste Treatment, Storage, or Disposal facility, where compliance with all Part 201 obligations may not address all environmental obligations at the site. Please see this map to see if your site is within one mile of a Hazardous Waste Treatment, Storage, or Disposal facility. If your site is within one mile of a Hazardous Waste Treatment, Storage, or Disposal facility, please consult with the MMD's Hazardous Waste Section for further information.

Submittal Contents for Determination of Use of Background for Non-natural Fill:

A person may request an EGLE determination to allow the use of soil background concentrations for a non-natural fill on a specific property only if there 10% or less waste present. **The full extent of the fill area(s) must be adequately characterized, including soil type, fill thickness and depth.** If eligible, the following information, as applicable, should be supplied to EGLE RRD in the district where the property with the non-natural fill is located in for review. If the non-natural fill contains less than 10% waste by weight or volume, after review of all factors listed and it is determined that the presence of the waste is not injurious to public health, safety, welfare and the environment, EGLE staff consistent with this process may determine that background concentrations may apply for the non-natural fill. A cover letter with the request for EGLE to determine whether background concentrations can apply to a non-natural fill must be included with each submittal. Timeframes for review should take all steps into consideration along with statutory deadlines, such as if this request was submitted with a No Further Action Report.

- **Property Information** - Facility or Site Name and ID for the property where the non-natural fill is located. Also include property address and proposed activities on the property.
- **Current and proposed land use** – Describe the current and proposed land use of the property where the non-natural fill is located.
- **Location and amount of non-natural fill material** – Provide site figures, boring logs and photographs to show where in the soil column the non-natural fill material is located and the horizontal and vertical extent of the fill material. Provide an estimate in cubic yards of the amount of non-natural fill material on the property.
- **Type(s) of waste** – Describe the type(s) of waste included in the non-natural fill (e.g. coal, clinkers, slag, CKD, foundry sand, fly ash, demolition debris, etc.). Please provide digital photographs or video of the non-natural fill in-situ with enough detail to show grain size, color, and waste type.

- **Quantity of waste** – Determine the percentage of waste in the non-natural fill. If the non-natural fill contains greater than 10% waste by volume or by dry weight, the non-natural fill is considered to be waste, soil background will not apply, and must be addressed instead with provisions under Part 115 or Part 111. Determinations of the quantity of waste may be made by weight if the waste is large enough in size to be manually segregated from the fill. The ASTM D6913/D6913M-17 Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis testing method may be used for this analysis with the modification of obtaining the weight of the segregated waste. If the waste within the fill cannot be manually segregated, a visual method may be utilized. To assure the method will be acceptable, please contact the RRD state project manager for the area of the property of interest to discuss the proposed method. If the waste cannot be manually segregated from the soil matrix and the waste is visually indistinguishable from the soil matrix, soil background will not apply, and must be addressed instead with provisions under Part 115 or Part 111.
- **Source of non-natural fill** – Describe the source of the non-natural fill, if known. Include the property address, property owner information, and glacial lobe of both the waste and soil matrix. Provide the historic usage of the waste and non-natural fill source property and purpose it was placed on the current property.



- **Contaminants in non-natural fill** – Provide analytical results of the non-natural fill material compared to Generic Cleanup Criteria or Risk-Based Screening Levels. Describe the sampling protocol used to collect the samples and provide the laboratory analytical report with chain of custody. The samples will be analyzed at a minimum for Michigan Ten Metals (arsenic, barium, cadmium, total chromium (combined hexavalent and trivalent), copper, mercury, selenium, silver, and zinc. Additional metals may need to be added for analysis depending on the waste type. For example, if there is cement kiln dust mixed with the soil, the non-natural fill should also be analyzed for molybdenum, thallium and vanadium. Contact the RRD Project Manager if there are questions regarding appropriate analysis for a waste type. There also should be a representative number of samples analyzed for pH. Overall, there should be sufficient number of soil samples to adequately characterize the vertical and horizontal extent of non-natural fill that is located on the property.
- **Leaching potential** - Conduct leachate testing using Synthetic Precipitation Leaching Procedure (SPLP) on the non-natural fill material sample with the highest metals

concentration to determine the likelihood of metals contamination leaching from the non-natural fill and potentially entering groundwater or surface water. An analysis of the samples of the same non-natural fill that is leach tested must be conducted to determine concentrations of the metals in the non-natural fill prior to leaching. A separate non-natural fill sample cannot be subsequently collected after leaching is conducted and used to determine concentrations of metals. The laboratory data for the total metal concentrations in the non-natural fill needs to be provided with the laboratory data for concentrations leached from the non-natural fill.

Mercury, Non-Natural Fill and the Volatilization to Indoor Air Pathway (VIAP)

There is an additional process that can support the use of soil background concentrations to replace **mercury**[5] VIAP screening levels or site specific criteria in non-natural fill. For the VIAP, the key soil properties and characteristics that affect how the fill materials differ from soil for generic exposure assumptions are different from other pathways. The extent to which the media (e.g., fill materials) allows vapors to migrate through it is mainly dependent on particle or grain size, not other soil characteristics that would differ between native soils and common industrial fill materials. Therefore, where there is no other indication of a potential mercury release in fill materials, the statewide default background level or MBSS glacial lobe area sand background concentration may replace the mercury VIAP screening levels or site specific criteria when:

1. The non-natural fill material is not garbage, rubbish, street cleanings, municipal and industrial sludges, solid commercial waste, solid industrial waste, or animal waste as included in the solid waste definition of Part 115, but may include other common non-natural fill materials as defined by this document.
2. There has been a grain size analysis using a US Standard Sieve No 10, and 85% of the material (non-natural fill and/or soils) passes through the sieve.

This is a site-specific evaluation that would require department approval. A submittal for department approval should contain information regarding the location and amount of non-natural waste including the locations where samples were conducted as part of this process, confirmation that the waste contains defined non-natural materials, and documentation that the results of the grain size analysis resulted in 85% of the material passing through the sieve.

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[5] Mercury is both naturally occurring and a volatile under Part 201 and Part 213 allowing the use of a background concentration for the VIAP.

APPENDIX E - Soil Background and Use of the 2005 Michigan Background Soil Survey

Frequently Asked Questions (FAQs):

The following are common questions asked about the use of soil background concentrations from Methods (i) through (iv) to replace criteria for fill material:

1. Is extra soil from construction work considered "fill"?
   Soil brought on to a property for construction is typically a sand backfill material, extracted from a local "sand and gravel pit". While some pits have been used to illegally dispose of waste, some pits are a source of uncontaminated fill material that could be considered natural fill. Extra soil that was removed from a property to accommodate construction could also be considered natural fill, if the soil was unaltered other than its removal from the ground and there has been no release at the property. Documentation of the source of the natural fill needs to be obtained for verification to ensure that it is not non-natural fill.

2. If there is non-natural fill that has metals concentration less than the soil background concentration, but greater than criteria, is cleanup required?
   This document provides a method for a person to request that soil background be applied to a particular non-natural fill material on a property. Without authorization from EGLE, soil background concentrations cannot replace criteria for non-natural fill. The necessity of remedial action for relevant pathways and exceedances of applicable criteria and/or response action to address an unacceptable exposure for a complete pathway will depend on the results of the site characterization.

3. Can you apply SDBLs or MBSS background concentrations for natural fill when the source of the natural fill is unknown? If so, what glacial lobe for the MBSS would you use if geographical source is unknown?
   Both the SDBLs and the MBSS background concentration can apply to natural fill from an unknown source. However, additional investigation may need to be conducted to confirm it is natural fill and does not contain waste or contaminants indicative of a release not associated with contaminants in the native soil on the property. The MBSS background concentration that can apply in this situation must be based on the glacial lobe(s) the natural fill is currently located in and the soil type of the natural fill.

4. What if the fill is MDOT Class II sand from a local source or a source within Michigan?
   In most cases, sand from a local sand and gravel pit can be considered natural fill and documentation of the source can be readily obtained. An exception would be if the pit

had been used for illegal disposal, causing a release. Commonly, the backfill material for large construction projects must be analyzed for both grain size and contaminants prior to the fill being brought onsite for this reason.

5. If natural fill (e.g. clay) excavated from the Huron-Erie lobe exceeds the MBSS background concentration for arsenic for that lobe, can it be moved within that lobe without creating a release?
   Section 20120a(10) states that a background concentration for a hazardous substance, if greater than a cleanup criterion, becomes the criterion for the hazardous substance. Using the MBSS, updated 2015, the arsenic background concentration for clay in the Huron-Erie lobe is 22,800 ug/kg. This concentration exceeds the arsenic Part 201 residential criteria for drinking water protection, groundwater surface water interface protection and direct contact, thus becomes the criteria. Using that information, if the arsenic concentration in the clay soil being excavated exceeds 22,800 ug/kg, then it exceeds all of the listed criteria, and the property is a Part 201 facility. Any relocation of this soil in any glacial lobe area, must comply with Section 20120c(1) or 21304b, relocation of contaminated soil, to avoid creating a new facility. Pursuant to Sections 20120c(1) or 21304b, contaminated soil shall not be relocated to a location that is not a facility or site.

6. For natural fill that is clay with concentrations of arsenic as high as 12,000 ug/kg, could that clay be used as fill at a property within the Saginaw Glacial Lobe? Within the Michigan Glacial Lobe?
   See the chart below. With the maximum MBSS background concentration for arsenic in clay soil in the Saginaw Glacial Lobe at 17,900 ug/kg exceeding the residential drinking water protection criteria, the groundwater surface water protection criteria and the residential direct contact criteria, the background concentration becomes all three of the criteria. The site concentration at 12,000 ug/kg does not exceed these criteria, thus as long as the concentrations of the arsenic in the natural fill was not related to any release or anthropogenic sources, the clay could be used as natural fill on properties within the Saginaw Glacial Lobe without creating a Part 201 facility.

   For properties in the Michigan Glacial Lobe, the maximum MBSS background concentration for arsenic in clay soil is 8,700 ug/kg, which still exceeds all three of the previously mentioned criteria and becomes the criteria. However, the clay from the Saginaw Glacial Lobe could NOT be used as natural fill on properties within the Michigan

Glacial Lobe without creating a new facility, as the arsenic concentration at 12,000 ug/kg exceeds criteria at 8,700 ug/kg.

UNITS ug/kg	MBSS Background Concentration - Clay, Saginaw Lobe		MBSS Background Concentration - Clay, Michigan Lobe		Residential Drinking Water Protection Criteria	Groundwater Surface Water Interface Protection Criteria	Residential Direct Contact Criteria
	2015	2005	2015	2005			
Arsenic	17,100	17,900	8,700	6,950	4,600	4,600	7,600