Supplemental Site Investigation Report

Herriges Oil Bulk Plant South
230 Prospect Street
Kewaskum, Wisconsin

November 4, 2021
by METCO
BRRTS #: 02-67-111819
PECFA Claim #: 53040-9499-15

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November 4, 2021

WDNR BRRTS #: 02-67-111819
PECFA Claim #: 53040-9499-15

Douglas Polzean
P.O. Box 47
Kewaskum, WI 53040

Dear Mr. Polzean,

Enclosed is our "Supplemental Site Investigation Report" concerning the Herriges Oil Bulk Plant site at 230 Prospect Street in Kewaskum, Wisconsin. This report presents the complete data from all investigation activities.

According to the data collected during the investigation, it is the conclusion of METCO that under existing conditions and limitations, the extent and degree of petroleum contamination has been adequately defined in soil and groundwater to warrant a completed investigation as defined by the WDNR guidelines and regulations.

Based on the results of the investigation, METCO recommends that the Herriges Oil Bulk Plant site be **"closed"** for the following reasons:

1) The extent and degree of petroleum contamination in soil and groundwater has been adequately defined.

2) NR720 Direct Contact RCL exceedances exist, but will be addressed by a cap (gravel, grass, concrete, asphalt, and on-site building).

3) There was no free product encountered in any monitoring wells or soil borings.

4) Contaminant trends in groundwater appear to be stable to decreasing.

5) Based on the results of the sub slab vapor sampling, the risk of vapor intrusion appears unlikely.

6) The Village of Kewaskum has two municipal water supply wells within 1,200 feet of the subject property. Well #4 is located approximately 1,100 feet to the north-northwest of the subject property. Well #2 is located approximately 1,150 feet to the east of the subject property. These two wells are located upgradient and side gradient of the local groundwater flow and do not appear to be at risk. There are no known private water supply wells in the area of the subject property.

We appreciate the opportunity to be of service to you on this project. Should you have any questions or require additional information, do not hesitate to contact our La Crosse office.

Sincerely,

Eric Dahl
Hydrogeologist

C: Lee Delcore – WDNR

EXECUTIVE SUMMARY

The subject property had operated as a bulk petroleum storage facility from approximately 1920s or 1930s until 2001. The bulk petroleum storage facility consisted of five 15,000-gallon above ground storage tanks (ASTs) that contained gasoline (2), diesel, and fuel oil (2). The bulk petroleum storage facility was removed from the property in May 2001. After the bulk petroleum storage facility was removed from the property, a pole shed was constructed on the property, which is used for storage.

On April 10, 1996, Miller Engineers of Sheboygan, Wisconsin conducted a preliminary soil sampling at the subject property. During this project, one soil sample was collected from the area of the bulk petroleum storage facility and submitted for laboratory analysis (DRO and GRO). The laboratory results showed 15,100 ppm DRO and 440 ppm GRO. However, it should be noted that there is no documentation of the location from where this soil sample was collected or its depth. The petroleum contamination was subsequently reported to the WDNR, who then required that a site investigation be conducted.

On June 1, 2012, Alpha Terra Science, Inc. completed ten hand auger borings to 1-foot with soil samples collected for PID analysis. Two of the soil samples were submitted for laboratory analysis (PVOC and Naphthalene). The soil analytical results confirmed that petroleum contamination was present in the area of the former loading rack.

The site investigation consisted of three Geoprobe/Drilling Projects, sub slab vapor sampling, four rounds of groundwater sampling, and monitoring well abandonment. The results of the investigation show that released petroleum products have impacted the local soil and groundwater. Results of the investigation are as follows:

- Possible fill material consisting of black clayey gravel to gravelly sand to gravel to limestone screenings was encountered in numerous soil borings from ground surface to depths ranging from 3 to 6 feet bgs.

- Local unconsolidated materials generally consist of brown to black gravelly clay to silty clay to clay from ground surface to at least 16 feet below ground surface (bgs). One to two-foot thick lenses of clayey sand, sand, and sandy gravel were encountered in this unit in numerous soil borings.

- According to data collected from the monitoring wells, the depth to groundwater ranges from 3.25 to 11.63 feet bgs depending on well location and time of year. The local horizontal groundwater flow in the immediate area of the subject property is generally toward the southeast.

- Multiple areas of unsaturated soil contamination, which exceed the NR720 Direct Contact RCL's exist in the area of the removed AST systems. There are two areas of unsaturated soil contamination which exceed the NR720 Direct Contact RCL's for PAH compounds. The first area exists in the area of the removed ASTs and extending to the west, north, and east, which measures approximately 200 feet long, 87 feet wide and up to 4 feet thick. The second area exists to the southeast of the removed ASTs and measures approximately 16 feet long, 14 feet wide and up to 4 feet thick. An area of unsaturated soil contamination which exceeds the NR720 Direct Contact RCL's for PVOCs exists in the area of the removed ASTs and measures approximately 33 feet long, 11 feet wide and up to 4 feet thick.

- An area of unsaturated soil contamination which exceeds the NR720 Groundwater RCL's for PVOCs and Lead exists in the area of the former ASTs and measures approximately 155 feet long, 75 feet wide and up to 4.5 feet thick.

- A dissolved phase contaminant plume exceeding the NR140 ES/PAL has formed at the watertable in the area of the removed ASTs and has migrated toward the southeast. This plume is approximately 183 feet long and up to 95 feet wide.

- Based on the most recent groundwater analytical results (3/25/2020); monitoring well MW-1 shows a NR140 ES exceedance for Benzene (22.5 ppb); monitoring well MW-2 shows an NR140 ES exceedance for Benzene (17.7 ppb), Benzo(a)pyrene (0.35 ppb), Benzo(b)fluoranthene (0.74 ppb), and Chrysene (.038 ppb); monitoring well MW-3 shows a NR140 PAL exceedance for Benzo(b)fluoranthene (0.0234 ppb); and monitoring well MW-5 shows a NR140 PAL exceedance for Benzo(b)fluoranthene (0.0234 ppb). None of the other monitoring wells show any NR140 ES or PAL exceedances for any contaminants of concern.

- Based on the receptor survey, there does not appear to be any risk to any potable wells, or surface waters, contaminant migration along utility corridors, or potential vapor intrusion to any buildings

According to the data collected during the investigation, it is the conclusion of METCO that under existing conditions and limitations, the extent and degree of petroleum contamination has been adequately defined in soil and groundwater to warrant a completed investigation as defined by the WDNR guidelines and regulations.

Based on the results of the investigation, METCO recommends that the Herriges Oil Bulk Plant site be **"closed"** for the following reasons:

1) The extent and degree of petroleum contamination in soil and groundwater has been adequately defined.

2) NR720 Direct Contact RCL exceedances exist, but will be addressed by a cap (gravel, grass, concrete, asphalt, and on-site building).

3) There was no free product encountered in any monitoring wells or soil borings.

4) Contaminant trends in groundwater appear to be stable to decreasing.

5) Based on the results of the sub slab vapor sampling, the risk of vapor intrusion appears unlikely.

6) The Village of Kewaskum has two municipal water supply wells within 1,200 feet of the subject property. Well #4 is located approximately 1,100 feet to the north-northwest of the subject property. Well #2 is located approximately 1,150 feet to the east of the subject property. These two wells are located upgradient and side gradient of the local groundwater flow and do not appear to be at risk. There are no known private water supply wells in the area of the subject property.

LIST OF ACRONYMS

AST - Aboveground Storage Tank
ASTM - American Society for Testing and Materials
Cd - Cadmium
DOT - Department of Transportation
DRO - Diesel Range Organics
ES - Enforcement Standards
gpm - gallons per minute
GRO - Gasoline Range Organics
HNU - brand name for Photoionization Detector
ID - inside-diameter
LAST - Leaking Aboveground Storage Tank
LUST - Leaking Underground Storage Tank
MSL - Mean Sea Level
MTBE - Methyl-tert-butyl ether
MW - Monitoring Well
NIOSH - National Institute for Occupational Safety & Health
NR - Natural Resources
OD - outside-diameter
PAH - Polynuclear Aromatic Hydrocarbons
PAL - Preventive Action Limits
Pb - Lead
PECFA - Petroleum Environmental Cleanup Fund
PID - Photoionization Detector
POTW - Publicly Owned Treatment Works
ppb ug/kg - parts per billion
ppm mg/kg - parts per million
psi - pounds per square inch
PVC - Polyvinyl Chloride
PVOC - Petroleum Volatile Organic Compounds
RAP - Remedial Action Plan
scfm - standard cubic feet per minute
SVE - Soil Vapor Extraction
USCS - Unified Soil Classification System
USGS - United States Geological Survey
UST - Underground Storage Tank
VOC - Volatile Organic Compounds
WDNR - Wisconsin Department of Natural Resources
WPDES - Wisconsin Pollutant Discharge Elimination System

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1.0 INTRODUCTION AND BACKGROUND

A Site Investigation is required by the Wisconsin Department of Natural Resources (WDNR) by authority of Section 292.11 of the Wisconsin Statutes. According to the WDNR, any soil that tests more than 10 ppm Gasoline Range Organics (GRO) or Diesel Range Organics (DRO) requires an investigation. Any soil that tests more than the Chapter NR720 Groundwater Residual Contaminant Levels (RCLs), Direct Contact RCLs, and/or Soil Saturation (C-sat) Values may require possible remediation. Any groundwater that tests more than the Preventive Action Limits (PAL) or Enforcement Standards (ES) for compounds listed in Chapter NR140 Groundwater Quality Standards requires an investigation and possible remediation. For a further explanation of WDNR rules and regulations, see Appendix E.

This report presents data collected during the Site Investigation. The purpose of this investigation was to:

1) Determine the extent and degree of petroleum contamination in the environment.
2) Determine if any risks exist to the environment or public health.
3) As conditions warrant, bring the site to closure.

1.1 Responsible Party Information

Douglas Polzean (Herriges Oil Inc)
P.O. Box 47
Kewaskum, WI 53040
(262) 626-2688

1.2 Consultant Information

Consultant

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Subcontractors

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La Crosse, WI 54603
(608) 781-7277

DKS Transport Services, LLC
N7349 548th Street
Menomonie, WI 54751
(715) 556-2604

Fauerbach Surveying & Engineering
P.O. Box 140
Hillsboro, WI 54634
(608) 489-3363

Geiss Soil & Samples, LLC
W4490 Pope Road
Merrill, WI 54452
(715) 539-3928

On Site Environmental Services, Inc.
P.O. Box 280
Sun Prairie, WI 53590
(608) 837-8992

Synergy Environmental Lab
1990 Prospect Court
Appleton, WI 54914
(920) 830-2455

1.3 Site Location

Site Address:
230 Prospect Street
Kewaskum, Wisconsin

Latitude and Longitude:
43° 31' 12" N and 88° 13' 34" W

WTM Coordinates:
663350, 340147

Township/Range:
NW ¼, SE ¼, Section 9, Township 12 North, Range 19 East, Washington County

1.4 Site History

The subject property had operated as a bulk petroleum storage facility from approximately 1920s or 1930s until 2001. The bulk petroleum storage facility consisted of five 15,000-gallon above ground storage tanks (ASTs) that contained gasoline (2), diesel, and fuel oil (2). The bulk petroleum storage facility was removed from the property in May 2001. After the bulk petroleum storage facility was removed from the property, a pole shed was constructed on the property, which is used for storage.

On April 10, 1996, Miller Engineers of Sheboygan, Wisconsin conducted preliminary soil sampling at the subject property. During this project, one soil sample was collected from the area of the bulk petroleum storage facility and submitted for laboratory analysis (DRO and GRO). The laboratory results showed 15,100 ppm DRO and 440 ppm GRO. However, it should be noted that there is no documentation of the location from where this soil sample was collected or its depth. The petroleum contamination was subsequently reported to the WDNR, who then required that a site investigation be conducted.

On June 1, 2012, Alpha Terra Science, Inc. completed ten hand auger borings to 1-foot with soil samples collected for PID analysis. Two of the soil samples were submitted for laboratory analysis (PVOC and Naphthalene). The soil analytical results confirmed that petroleum contamination was present in the area of the former loading rack.

The nearest known LUST site is the Strobel Oil & Propane Gas Inc. (BRRTS# 03-67-274840), which is located approximately 370 feet to the south of the subject property. Due to the site being down gradient and the significant distance, it does not appear that this site is affecting or being affected by the subject property.

2.0 GEOLOGY AND RECEPTORS

2.1 Regional and Local Geology and Hydrogeology

Topography and Regional Setting

According to the USGS Hydrologic Atlas, Kewaskum is located in the western portion of the Lake Michigan Basin. Present day landforms in this area were formed by continental glaciers, which advanced from the north and east scouring the bedrock surface and transporting rock debris in the ice. As the glaciers melted, this unconsolidated material was deposited on the bedrock surface. Kettle moraine deposits, which consist of permeable stratified sediments and till, exist in much of Washington County.

The elevation of the site is approximately 945 feet above Mean Sea Level (MSL). See Appendix A for site location.

Soil and Bedrock

Soil samples were described by METCO field personnel. Assisting literature included the Hydrologic Atlas, Wisconsin Geologic Logs, and Wisconsin Well Constructor Reports.

Possible fill material consisting of black clayey gravel to gravelly sand to gravel to limestone screenings was encountered in numerous soil borings from ground surface to depths ranging from 3 to 6 feet bgs.

Local unconsolidated materials generally consist of brown to black gravelly clay to silty clay to clay from ground surface to at least 16 feet below ground surface (bgs). One to two-foot thick lenses of clayey sand, sand, and sandy gravel were encountered in this unit in numerous soil borings.

Please note that this is a generalization of the local geology and may not be consistent throughout the entire investigation area.

No other characteristics concerning the local sediments such as structures, voids, layering, lenses or secondary permeability are documented at this time.

Hydrogeology

According to data collected from the monitoring wells, the depth to groundwater ranges from 3.25 to 11.63 feet bgs depending on well location and time of year.

According to the watertable measurements collected during groundwater sampling, the local horizontal groundwater flow in the immediate area of the subject property is generally toward the southeast. Groundwater Flow Direction Maps are presented in Section 6.

We are not currently aware of any existing aquitards or perched water in this area.

2.2 Receptors

Buildings, Basements, Sumps, and Utility Corridors

The extent of petroleum contamination in groundwater exceeding the NR140 ES and/or PAL extends beneath the building at 230 Prospect Street. However, based on the sub-slab vapor results, there does not appear to be any risk of vapor intrusion to the building.

Numerous utility corridors (sanitary sewer, water, telephone/fiber optic, natural gas, and

electric) exist within the area of the NR140 ES/PAL contaminant plume in groundwater and/or the area of soil contamination exceeding the NR720 RCLs. A telephone/fiber optic line, natural gas line, electric line and sewer line all exist in the area of unsaturated soil contamination exceeding the NR720 Direct Contact RCLs. A sewer and water line exist in the area of the NR140 ES/PAL contaminant plume. The sewer line exists at 6-8 feet bgs and is backfilled with native material. Natural gas, electric, and telephone/fiber optic lines typically exist at 2-3 feet bgs and are likely backfilled with native material. The water main is buried at 6 feet bgs is backfilled with native material. Since all of these utilities are backfilled with native soil, it is unlikely they are acting as contaminant migration pathways.

Municipal and Private Water Supply Wells

The subject property and surrounding properties are all served by the Village of Kewaskum municipal water supply. The village has four municipal water supply wells, two of which are within 1,200 feet of the subject property. Well #4 is located approximately 1,100 feet to the north-northwest of the subject property. Well #2 is located approximately 1,150 feet to the east of the subject property. There are no known private water supply wells in the area of the subject property. Since the two municipal wells within 1,200 feet of the subject property are located up gradient and side gradient of the local groundwater flow direction, there does not appear to be any risk to the municipal wells.

Surface Waters

The nearest surface water is the Milwaukee River, which exists approximately 950 feet to the southeast of the subject property. It does not appear that the soil or groundwater contamination has migrated to any surface waters.

METCO is not currently aware of any other impacts, receptors, risks, or local problems associated with the subject property.

3.0 SITE INVESTIGATION RESULTS AND RISK CRITERIA

3.1 Methods of Investigation

Workscope

The workscope performed for the LUST Investigation included the following:

1) On January 17, 2019, METCO prepared a Site Investigation Field Procedures workplan.
2) On March 25-26, 2019, METCO personnel supervised the completion of fifteen Geoprobe borings (G-1 through G-15) and five monitoring wells (MW-1 through MW-5). Ninety-eight soil samples and fifteen groundwater samples were collected for field and/or laboratory analysis. Upon completion, the monitoring wells were properly developed.
3) On June 18, 2019, METCO personnel collected groundwater samples from five monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5) for laboratory analysis (Round 1). During the groundwater sampling event, hydraulic conductivity tests were performed on three monitoring wells (MW-1, MW-2, and MW-5). The monitoring well network was also surveyed by Fauerbach Surveying & Engineering of Hillsboro, Wisconsin.
4) On September 10, 2019, METCO personnel collected groundwater samples from five monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5) for laboratory analysis (Round 2).
5) On September 10, 2019, Braun Intertec installed three sub-slab vapor sampling ports (SS-1, SS-2, and SS-3) in the slab on grade building on the subject property and collected vapor samples from the three sub-slab vapor sampling ports.

6) On December 9, 2019, METCO personnel supervised the completion of six Geoprobe borings (G-16 through G-21) and two monitoring wells (MW-6 and MW-7). Fourteen soil samples were collected for field and/or laboratory analysis. Upon completion, the monitoring wells were not developed as they were dry.
7) On January 6, 2020, METCO personnel collected groundwater samples from seven monitoring wells (MW-1 through MW-7) for laboratory analysis (Round 3). The two new monitoring wells (MW-6 and MW-7) were surveyed to msl by METCO personnel
8) On March 25, 2020, METCO personnel collected groundwater samples from seven monitoring wells (MW-1 through MW-7) for laboratory analysis (Round 4).
9) On June 29, 2020, METCO personnel abandoned the seven monitoring wells (MW-1 through MW-7).
10) On March 8, 2021, METCO personnel supervised the completion of twelve Geoprobe borings (G-22 through G-33). Twelve soil samples were collected for field and/or laboratory analysis.

Site Access Problems

No site access permission problems were encountered during the site investigation.

Analytical Methods

All samples were collected in a manner as to maintain their quality and to eliminate any possible cross contamination. METCO did not deviate from any WDNR or laboratory recommended procedures for sample collection, preservation, or transportation on this project to our knowledge.

Equipment advanced into the subsurface was cleaned between sampling locations. Cleaning consisted of washing with a biodegradable Alconox solution and rinsing with potable water. Disposable equipment was not cleaned, but immediately disposed of after use.

All samples were constantly kept on ice in a cooler and hand delivered to the laboratory.

3.2 Data Discussion

Soil Sampling Data

On March 25-26, 2019, METCO personnel supervised the completion of fifteen Geoprobe borings (G-1 through G-15) and five monitoring wells (MW-1 through MW-5). Ninety-eight soil samples were collected for field and/or laboratory analysis (PID, Lead, PVOC, Naphthalene, PAH, TCLP Lead and TCLP Benzene).

On December 9, 2019, METCO personnel supervised the completion of six Geoprobe borings (G-16 thru G-21) and two monitoring wells (MW-6 and MW-7). Fourteen soil samples were collected for field and/or laboratory analysis (PID and PAH).

On March 8, 2021, METCO personnel supervised the completion of twelve Geoprobe borings (G-22 thru G-33). Twelve soil samples were collected for field and/or laboratory analysis (PVOC, PID, and PAH).

Soil analytical results are summarized in the Soil Analytical Results Tables with exceedances of the NR720 Groundwater RCL values noted.

Soil sample locations are presented in the Detailed Site Map found in Section 6. All data is presented in the data tables in Section 7. The laboratory reports from the March 2019 and December 2019 sampling are presented in Appendix B of the Site Investigation Report dated June 10, 2020. The laboratory reports from the March 2021 sampling are presented in Appendix B of this Site Investigation Report.

Risk Based Approach for Addressing PAH Non-Industrial Direct Contact RCL Exceedances

The WDNR NR722.11 risk assessment approach for calculating cPAH non-industrial direct contact RCLs was used to further evaluate the risks associated with the PAH contamination in soil. This approach evaluates the carcinogenic PAH compounds on a cumulative basis only, rather than on an individual compound basis and a cumulative basis. The results of this risk assessment are as follows:

G-1/G-30

Soil sample G-1-1, collected at 3.5 feet bgs, showed NR720 Direct Contact RCL exceedances for Benzo(a)Anthracene (2.46 ppm), Benzo(a)Pyrene (3.6 ppm), Benzo(b)Fluoranthene (5 ppm), Dibenzo(a,h)Anthracene (0.239 ppm), and Indeno(1,2,3-cd)Pyrene (2.61 ppm).

Soil sample G-30-1, was collected at 1.5 feet bgs in the same location as soil boring G-1 and showed no NR720 Direct Contact RCL exceedances.

The cPAH calculations for soil sample G-1-1 showed a cumulative cancer risk of 4.2×10^{-5}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. This area is currently covered in asphalt and maintenance of this asphalt cap will likely be required by the WDNR upon site closure.

G-3/G-24

Soil sample G-3-1, collected at 3.5 feet bgs, showed NR720 Direct Contact RCL exceedances for Benzo(a)Anthracene (1.71 ppm), Benzo(a)Pyrene (2.22 ppm), Benzo(b)Fluoranthene (3.3 ppm), Dibenzo(a,h)Anthracene (0.13 ppm), Indeno(1,2,3-cd)Pyrene (1.57 ppm), 1-Methylnaphthalene (19.6 ppm), and Naphthalene (12.6 ppm).

Soil sample G-24-1, was collected at 1.5 feet bgs in the same location as soil boring G-3 and showed no NR720 Direct Contact RCL exceedances.

The cPAH calculations for soil sample G-3-1 showed a cumulative cancer risk of 2.6×10^{-5}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. This area is currently covered in gravel. Since the shallow soil sample from G-24 at 1.5 feet did not show any NR720 Direct Contact RCL exceedances, maintenance of this gravel cap will be sufficient as a WDNR mandated institutional control upon site closure.

G-5/G-25

Soil sample G-5-1, collected at 3 feet bgs, showed NR720 Direct Contact RCL exceedances for Benzo(a)Anthracene (2.83 ppm), Benzo(a)Pyrene (5 ppm), Benzo(b)Fluoranthene (7.4 ppm), Dibenzo(a,h)Anthracene (1.33 ppm), Indeno(1,2,3-cd)Pyrene (4.6 ppm), 1-Methylnaphthalene (33 ppm), and Naphthalene (8.2 ppm).

Soil sample G-25-1, was collected at 1.5 feet bgs in the same location as soil boring G-5 and showed no NR720 Direct Contact RCL exceedances.

The cPAH calculations for soil sample G-5-1 showed a cumulative cancer risk of 6.8×10^{-5}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. This area is currently covered in gravel. Since the shallow soil sample from G-25 at 1.5 feet did not show any NR720 Direct Contact RCL exceedances, maintenance of this gravel cap will be sufficient as a WDNR mandated institutional control upon site closure.

G-6

Soil sample G-6-1, collected at 3.5 feet bgs, showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.79 ppm).

The cPAH calculations for soil sample G-6-1 showed a cumulative cancer risk of 9.3×10^{-6}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. This area is currently covered in gravel. Since three feet of gravel fill was documented in this area, maintenance of this gravel cap will be sufficient as a WDNR mandated institutional control upon site closure.

G-10

Soil sample G-10-1, collected at 3.5 feet bgs, showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.41 ppm).

The cPAH calculations for soil sample G-10-1 showed a cumulative cancer risk of 4.9×10^{-6}, which is less than the target cancer risk of 5×10^{-6} and thus does not appear to be a direct contact risk.

G-11/G-23

Soil sample G-11-1, collected at 3.5 feet bgs, showed NR720 Direct Contact RCL exceedances for Benzo(a)Anthracene (66 ppm), Benzo(a)Pyrene (58 ppm), Benzo(b)Fluoranthene (78 ppm), Benzo(k)Fluoranthene (27 ppm), Dibenzo(a,h)Anthracene (2.89 ppm), and Indeno(1,2,3-cd)Pyrene (28.1 ppm).

Soil sample G-23-1, was collected at 1.5 feet bgs in the same location as soil boring G-11 and showed NR720 Direct Contact RCL exceedances for Benzo(a)Anthracene (50 ppm), Benzo(a)Pyrene (47 ppm), Benzo(b)Fluoranthene (53 ppm), Benzo(k)Fluoranthene (19.6 ppm), Dibenzo(a,h)Anthracene (5.5 ppm), and Indeno(1,2,3-cd)Pyrene (29.5 ppm).

The cPAH calculations for soil sample G-11-1 showed a cumulative cancer risk of 6.8×10^{-4}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. The cPAH calculations for soil sample G-23-1 showed a cumulative cancer risk of 5.7×10^{-4}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. This area is currently covered in gravel. The WDNR will likely require that this area be capped with concrete or asphalt and maintenance of this concrete/asphalt cap will likely be required by the upon site closure.

G-12

Soil sample G-12-1, collected at 3.5 feet bgs, showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.116 ppm).

The cPAH calculations for soil sample G-12-1 showed a cumulative cancer risk of 1.4×10^{-6}, which is less than the target cancer risk of 5×10^{-6} and thus does not appear to be a direct contact risk.

G-14

Soil sample G-14-1, collected at 3.5 feet bgs, showed NR720 Direct Contact RCL exceedances for Benzo(a)Pyrene (0.92 ppm) and Benzo(b)Fluoranthene (1.38 ppm).

The cPAH calculations for soil sample G-14-1 showed a cumulative cancer risk of 1.1×10^{-5}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. This soil boring was completed off the edge of an asphalt pad and maintenance of this asphalt cap will likely be required by the WDNR upon site closure.

MW-2/G-29

Soil sample MW-2-1, collected at 3.5 feet bgs, showed NR720 Direct Contact RCL exceedances for Benzo(a)Anthracene (11.9 ppm), Benzo(a)Pyrene (11 ppm), Benzo(b)Fluoranthene (15.5 ppm), Dibenzo(a,h)Anthracene (0.59 ppm), and Indeno(1,2,3-cd)Pyrene (5.6 ppm).

Soil sample G-29-1, was collected at 1.5 feet bgs in the same location as soil boring MW-2 and showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.87 ppm).

The cPAH calculations for soil sample MW-2-1 showed a cumulative cancer risk of 1.3×10^{-4}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. The cPAH calculations for soil sample G-29-1 showed a cumulative cancer risk of 1.1×10^{-5}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. This area is currently covered in asphalt and maintenance of this asphalt cap will likely be required by the WDNR upon site closure.

MW-4/G-22

Soil sample MW-4-1, collected at 3.5 feet bgs, showed NR720 Direct Contact RCL exceedances for Benzo(a)Anthracene (1.52 ppm), Benzo(a)Pyrene (1.47 ppm), and Benzo(b)Fluoranthene (2.42 ppm).

Soil sample G-22-1, was collected at 1.5 feet bgs in the same location as soil boring MW-4 and showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.66 ppm).

The cPAH calculations for soil sample MW-4-1 showed a cumulative cancer risk of 1.8×10^{-5}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. The cPAH calculations for soil sample G-22-1 showed a cumulative cancer risk of 8.1×10^{-6}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct contact risk. This area is currently covered in grass and maintenance of this grass cap will likely be required by the WDNR upon site closure.

G-16

Soil sample G-16-1, collected at 3.5 feet bgs, showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.62 ppm).

The cPAH calculations for soil sample G-6-1 showed a cumulative cancer risk of 7.7×10^{-6}, which exceeds the target cancer risk of 5×10^{-6} and thus must still be considered a direct

contact risk. This area is currently covered in gravel and maintenance of this gravel cap will be sufficient as a WDNR mandated institutional control upon site closure.

G-17

Soil sample G-17-1, collected at 3.5 feet bgs, showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.125 ppm).

The cPAH calculations for soil sample G-17-1 showed a cumulative cancer risk of 1.6×10^{-6}, which is less than the target cancer risk of 5×10^{-6} and thus does not appear to be a direct contact risk.

G-18

Soil sample G-18-1, collected at 3.5 feet bgs, showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.116 ppm).

The cPAH calculations for soil sample G-18-1 showed a cumulative cancer risk of 1.4×10^{-6}, which is less than the target cancer risk of 5×10^{-6} and thus does not appear to be a direct contact risk.

G-20

Soil sample G-20-1, collected at 3.5 feet bgs, showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.298 ppm).

The cPAH calculations for soil sample G-20-1 showed a cumulative cancer risk of 3.8×10^{-6}, which is less than the target cancer risk of 5×10^{-6} and thus does not appear to be a direct contact risk.

G-21

Soil sample G-21-1, collected at 3.5 feet bgs, showed a NR720 Direct Contact RCL exceedance for Benzo(a)Pyrene (0.267 ppm).

The cPAH calculations for soil sample G-21-1 showed a cumulative cancer risk of 3.4×10^{-6}, which is less than the target cancer risk of 5×10^{-6} and thus does not appear to be a direct contact risk.

Groundwater Sampling Data

On March 25-26, 2019, METCO personnel supervised the completion of fifteen Geoprobe borings (G-1 thru G-15). Fifteen groundwater samples were collected for laboratory analysis (PVOC and Naphthalene). Five monitoring wells (MW-1 through MW-5) were also installed.

On June 18, 2019, METCO personnel collected groundwater samples from five monitoring wells (MW-1 through MW-5) for laboratory analysis (Dissolved Lead, VOC, PAH, Nitrate/Nitrite, Sulfate, Dissolved Iron and Manganese). Water level, dissolved oxygen, pH, ORP, specific conductance, and temperature measurements were collected from all sampled monitoring wells.

On September 10, 2019, METCO personnel collected groundwater samples from five monitoring wells (MW-1 through MW-5) for laboratory analysis (PVOC and PAH). Water level, dissolved oxygen, pH, ORP, specific conductance, and temperature measurements were collected from all sampled monitoring wells.

On December 9, 2019, METCO personnel supervised the completion two monitoring wells (MW-6 and MW-7).

On January 6, 2019, METCO personnel collected groundwater samples from seven monitoring wells (MW-1 through MW-7) for laboratory analysis (PVOC, VOC and PAH). Water level, dissolved oxygen, pH, ORP, specific conductance, and temperature measurements were collected from all sampled monitoring wells.

On March 25, 2019, METCO personnel collected groundwater samples from seven monitoring wells (MW-1 through MW-7) for laboratory analysis (PVOC and PAH). Water level, dissolved oxygen, pH, ORP, specific conductance, and temperature measurements were collected from all sampled monitoring wells.

On June 29, 2020, METCO personnel abandoned the seven monitoring wells (MW-1 through MW-7).

Geoprobe groundwater and monitoring well analytical results are summarized in the Groundwater Analytical Tables with exceedances of the NR140 Preventive Action Limits (PAL) and/or Enforcement Standard (ES) noted.

The soil boring and monitoring well locations are presented in the Detailed Site Map in Section 6. All data is presented in the data tables in Section 7. The lab reports are presented in Appendix B of the Site Investigation Report dated June 10, 2020.

Sub-Slab Vapor Sampling Data

On September 10, 2019, Braun Intertec of La Crosse, WI installed three sub-slab vapor sampling ports (SS-1 through SS-3) in the slab-on-grade building on the subject property and collected vapor samples from the sub-slab sampling ports for PVOC and Naphthalene (TO-15) analysis.

The sub-slab vapor sampling locations are presented in the Detailed Site Map in Section 6. All data is presented in the data tables in Section 7. The lab reports are presented in Appendix B of the Site Investigation Report dated June 10, 2020.

Laboratory Certification

Synergy Environmental Lab
Wisconsin Lab Certification #445037560

3.3 Permeability and Hydraulic Conductivity

On June 18, 2019, METCO conducted a slug test on monitoring wells MW-1, MW-2 and MW-5. The slug test data was evaluated using the curve fitting program AQTESOLV developed by Glenn M Duffield, Hydrosolve, Inc.

Slug test data was evaluated using the Bouwer and Rice method. The average hydraulic gradient from the four rounds of groundwater monitoring was calculated to be 6.04×10^{-2} and the effective porosity was estimated to be 30%. Hydrogeologic parameters were estimated as follows:

Monitoring Well MW-1
Hydraulic Conductivity (K) = 1.13×10^{-3} cm/sec
Transmissivity = 1.04×10^{-2} cm^2/sec
Flow Velocity (V=KI/n) = 72.0252 m/yr

Monitoring Well MW-2
Hydraulic Conductivity (K) = 1.69×10^{-3} cm/sec
Transmissivity = 1.58×10^{-2} cm^2/sec
Flow Velocity (V=KI/n) = 107.4279 m/yr

Monitoring Well MW-5
Hydraulic Conductivity (K) = 2.31×10^{-3} cm/sec
Transmissivity = 1.08×10^{-2} cm^2/sec
Flow Velocity (V=KI/n) = 146.8132 m/yr

Since the thickness of the unconfined aquifer was unknown, the bottoms of monitoring wells MW-1, -2, and -5 were assumed as the lower extent of the aquifer for calculation purposes.

Flow velocity calculations are presented in Appendix E of the Site Investigation Report dated June 10, 2020.

3.4 Discussion of Results

The site investigation consisted of three Geoprobe/Drilling Projects, sub slab vapor sampling, four rounds of groundwater sampling, and monitoring well abandonment. The results of the investigation show that released petroleum products have impacted the local soil and groundwater. Results of the investigation are as follows:

- Possible fill material consisting of black clayey gravel to gravelly sand to gravel to limestone screenings was encountered in numerous soil borings from ground surface to depths ranging from 3 to 6 feet bgs.

- Local unconsolidated materials generally consist of brown to black gravelly clay to silty clay to clay from ground surface to at least 16 feet below ground surface (bgs). One to two-foot thick lenses of clayey sand, sand, and sandy gravel were encountered in this unit in numerous soil borings.

- According to data collected from the monitoring wells, the depth to groundwater ranges from 3.25 to 11.63 feet bgs depending on well location and time of year. The local horizontal groundwater flow in the immediate area of the subject property is generally toward the southeast.

- Multiple areas of unsaturated soil contamination, which exceed the NR720 Direct Contact RCL's exist in the area of the removed AST systems. There are two areas of unsaturated soil contamination which exceed the NR720 Direct Contact RCL's for PAH compounds. The first area exists in the area of the removed ASTs and extending to the west, north, and east, which measures approximately 200 feet long, 87 feet wide and up to 4 feet thick. The second area exists to the southeast of the removed ASTs and measures approximately 16 feet long, 14 feet wide and up to 4 feet thick. An area of unsaturated soil contamination which exceeds the NR720 Direct Contact RCL's for PVOCs exists in the area of the removed ASTs and measures approximately 33 feet long, 11 feet wide and up to 4 feet thick.

- An area of unsaturated soil contamination which exceeds the NR720 Groundwater RCL's for PVOCs and Lead exists in the area of the former ASTs and measures approximately 155 feet long, 75 feet wide and up to 4.5 feet thick.

- A dissolved phase contaminant plume exceeding the NR140 ES and/or PAL has formed at the watertable in the area of the removed ASTs and has migrated toward the southeast. This plume is approximately 183 feet long and up to 95 feet wide.

- Based on the most recent groundwater analytical results (3/25/2020); monitoring well MW-1 shows a NR140 ES exceedance for Benzene (22.5 ppb); monitoring well MW-2 shows an NR140 ES exceedance for Benzene (17.7 ppb), Benzo(a)pyrene (0.35 ppb), Benzo(b)fluoranthene (0.74 ppb), and Chrysene (.038 ppb); monitoring well MW-3 shows a NR140 PAL exceedance for Benzo(b)fluoranthene (0.0234 ppb); and monitoring well MW-5 shows a NR140 PAL exceedance for Benzo(b)fluoranthene (0.0234 ppb). None of the other monitoring wells show any NR140 ES or PAL exceedances for any contaminants of concern.

- Based on the receptor survey, there does not appear to be any risk to any potable wells, or surface waters, contaminant migration along utility corridors, or potential vapor intrusion to any buildings

To our knowledge, this investigation has not had any major difficulties, unanticipated results, or questionable results.

The Location Map, Detailed Site Map, Soil Contamination Map, Groundwater Flow Direction Maps, Groundwater Isoconcentration Map, and Geologic Cross- Section Figures, which visually define the extent of contamination, are presented in Section 6.

3.5 Risk Assessment

Per the NR746.03 definitions a release from petroleum tanks is considered "high risk" if any of the four following criteria are met:

1) Verified contaminant concentrations in a private or public potable well that exceeds the Preventive Action Limit established under Chapter, Stats. 160.
2) Petroleum product that is not in the dissolved phase (floating product) is present with a thickness of 0.01 feet or more and verified by more than one sampling event.
3) An Enforcement Standard exceedance in groundwater within 1,000 feet of a well operated by a public utility, or within 100 feet of any other well used to provide water for human consumption.
4) An Enforcement Standard exceedance in fractured bedrock.

A "medium risk" site is defined as a site where contaminants have extended beyond the boundary of the source property, or there is confirmed contamination in the groundwater, but the site does not meet the definition of a "high risk" site.

A "low risk" site is defined as a site where contaminants are contained only within the soil on the source property and there is no confirmed contamination in groundwater.

Based on the NR746.03 definitions, the Hanson Property site is currently a "medium risk" site since there is confirmed groundwater contamination.

4.0 CONCLUSION

4.1 Investigation Summary

According to the data collected during the investigation, it is the conclusion of METCO that under existing conditions and limitations, the extent and degree of petroleum contamination has been adequately defined in soil and groundwater to warrant a completed investigation as defined by the WDNR guidelines and regulations.

4.2 Recommendations

Based on the results of the investigation, METCO recommends that the Herriges Oil Bulk Plant site be **"closed"** for the following reasons:

1) The extent and degree of petroleum contamination in soil and groundwater has been adequately defined.

2) NR720 Direct Contact RCL exceedances exist, but will be addressed by a cap (gravel, grass, concrete, asphalt, and on-site building).

3) There was no free product encountered in any monitoring wells or soil borings.

4) Contaminant trends in groundwater appear to be stable to decreasing.

5) Based on the results of the sub slab vapor sampling, the risk of vapor intrusion appears unlikely.

6) The Village of Kewaskum has two municipal water supply wells within 1,200 feet of the subject property. Well #4 is located approximately 1,100 feet to the north-northwest of the subject property. Well #2 is located approximately 1,150 feet to the east of the subject property. These two wells are located upgradient and side gradient of the local groundwater flow and do not appear to be at risk. There are no known private water supply wells in the area of the subject property.

5.0 REFERENCES

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Fetter, C.W., 1988, Applied Hydrogeology, Columbus, Ohio.

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Borman, R.G., Skinner, E.L., 1973, Water Resources of Wisconsin – Lake Michigan Basin, Hydrologic Investigations, Atlas HA-432, U.S. Geological Survey, Washington D.C.

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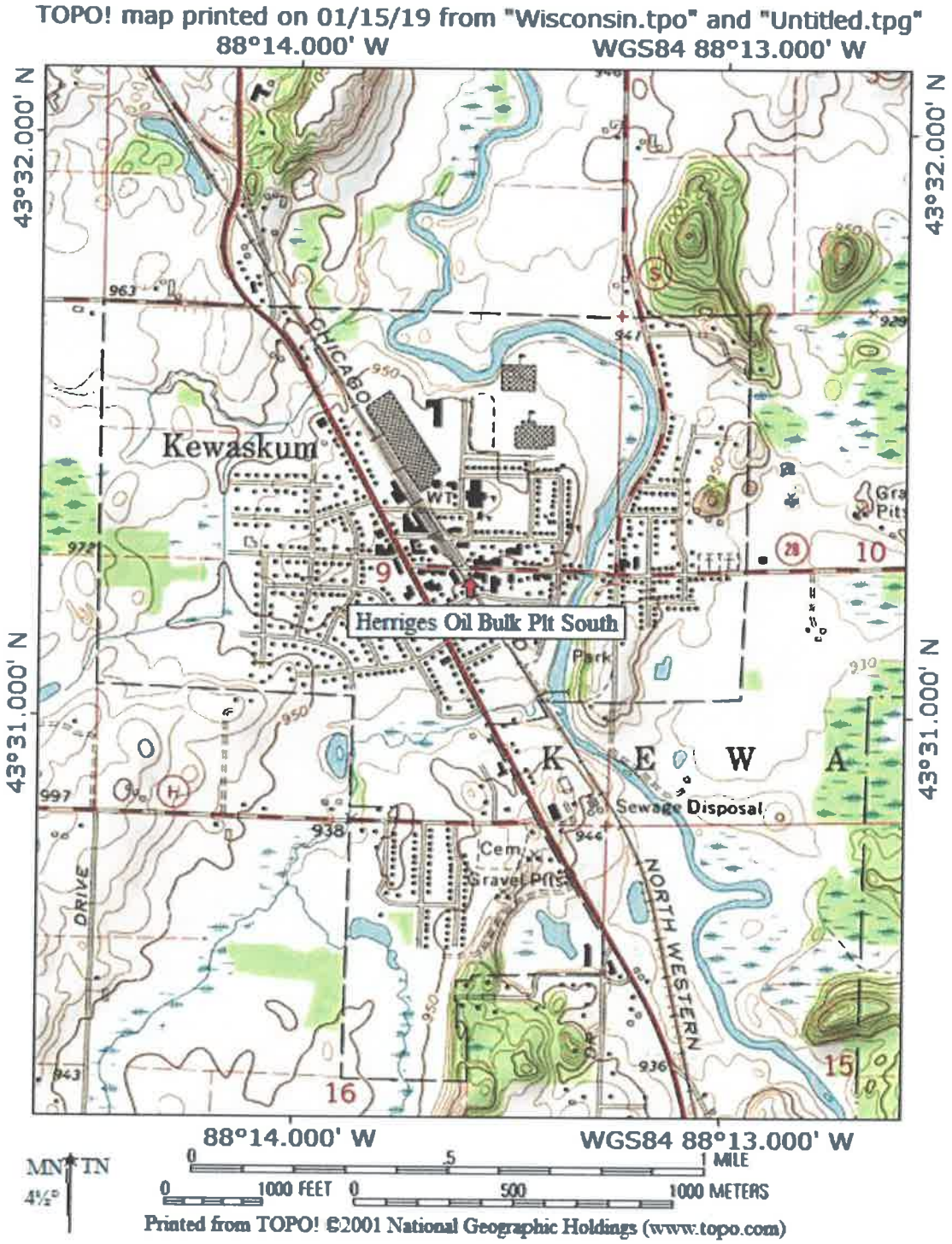
Seamless USGS Topographic Maps on CD-ROM, 2001, National Geographic Holdings, Inc., San Francisco, California.

Walton, W.C., 1989, Groundwater Pumping Tests, Chelsea, Michigan.

Weston, R.F., 1987, Remedial Technologies for Leaking Underground Storage Tanks.

Other information and data was collected from Douglas Polzean, Village of Kewaskum, Diggers Hotline, Geiss Soil & Samples, LLC, Fauerbach Surveying & Engineering, Synergy Environmental Lab, Wisconsin Department of Natural Resources, and local people.

6.0 FIGURES



B.1.a LOCATION MAP
CONTOUR INTERVAL 10 FEET
HERRIGES OIL BULK PLT SOUTH – KEWASKUM, WI
SEAMLESS USGS TOPOGRAPHIC MAPS ON CD-ROM

B.I.b
DETAILED SITE MAP
HERRIGES OIL
BULK PLANT SOUTH

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KEWASKUM, WISCONSIN

DRAWN BY: ED
DATE: 6/14/2019

NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ● - HAND AUGER BORING LOCATION - ALPHA TERRA - 2012 LOCATIONS ARE APPROXIMATE. BASED ON STREET VIEW PHOTO
- ✕ - GEOPROBE BORING LOCATION
- ◒ - MONITORING WELL LOCATION (ABANDONED)
- ■ - SUB SLAB VAPOR SAMPLE LOCATION
- ○ - POLE
- □ - STORM SEWER COVER
- — — — — - PROPERTY BOUNDARY
- — · — · — - WATER LINE
- —— · · · —— - SEWER LINE
- —— · · —— - NATURAL GAS LINE
- — — — — — - BURIED ELECTRIC LINE
- ═══ - OVERHEAD UTILITIES
- ------ - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 30 FEET
0 15 30

RESIDENCE
219/221 MAIN STREET

HAIR ON MAIN
227/229 MAIN STREET

BOOTLEGGERZ SALOON
215/217 MAIN STREET

ASPHALT

GARAGE

SHED

GRASS

G-19

G-31

G-28 G-18 G-14 G-17 G-32 G-33

B-3 B-6

GRAVEL

G-16

FENCE

B-2 B-5 B-8 B-9 B-10 G-2

G-29 FORMER LOADING RACK

MW-2

B-1 B-4 B-7

G-30 G-1

CONCRETE

FORMER LOADING PLATFORM

SS-3

SS-1

MW-4

G-22

G-27

G-13

FORMER SHED

POLE SHED
230 PROSPECT STREET
PARCEL #: V4-0391,-V4-03092

G-3

G-24

MW-1

SS-2

G-12

G-5 G-25

G-15

GRASS

G-20

G-21

HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL
305 MAIN STREET/
305 PROSPECT STREET

EISENBAHN STATE TRAIL

GRASS

G-8

G-26

CONCRETE

G-11 G-23

G-4

G-6

REMOVED AST'S

GRAVEL

G-10

MW-5

GONCRETE

MW-7

AREA OF GREASE TRAPS

G-9

SIDEWALK

SIGN

MW-3

SIDEWALK

PROSPECT STREET

MW-6

SIGN

SIDEWALK

PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL

B.3.c GROUNDWATER FLOW DIRECTION (6/18/2019)
HERRIGES OIL
BULK PLANT SOUTH

KEWASKUM, WISCONSIN

DRAWN BY: ED
DATE: 01/14/2020

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- □ - STORM SEWER COVER
- — — — — - PROPERTY BOUNDARY
- — · — · — - WATER LINE
- —— · · · —— - SEWER LINE
- —— · · —— - NATURAL GAS LINE
- — — — — — - BURIED ELECTRIC LINE
- ═══ - OVERHEAD UTILITIES
- ---------- - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 30 FEET
0 15 30

RESIDENCE
219/221 MAIN STREET

HAIR ON MAIN
227/229 MAIN STREET

BOOTLEGGERZ SALOON
215/217 MAIN STREET

ASPHALT

GARAGE

SHED

GRASS

G-19

G-18 G-14 G-17 G-16

B-3 B-6

942.35' msl

MW-2

B-2 B-5 B-8 B-9 B-10 G-2

FORMER LOADING RACK

B-1 B-4 B-7 G-1

942.00' msl

G-7 G-13

FORMER SHED

CONCRETE

FORMER LOADING PLATFORM

SS-3

SS-1

POLE SHED
230 PROSPECT STREET

941.00' msl

G-3 G-5

MW-1 941.96' msl

SS-2

940.00' msl

G-15

G-4

REMOVED AST'S

G-6

939.00' msl

GRAVEL

938.00' msl

G-10

MW-5 936.04' msl

CONCRETE

937.00' msl

G-9

SIDEWALK

936.00' msl

935.00' msl

SIGN

MW-3 934.54' msl

SIDEWALK

PROSPECT STREET

MW-6

SIGN

SIDEWALK

GRAVEL

FENCE

935.96' msl

MW-4

G-12

GRASS

G-8

EISENBAHN STATE TRAIL

GRASS

HOLY TRINITY CONGREGATIONAL
CHURCH & SCHOOL
305 MAIN STREET/
305 PROSPECT STREET

G-21

G-20

MW-7

AREA OF GREASE TRAPS

PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL

B.3.c GROUNDWATER FLOW DIRECTION (9/10/2019)
HERRIGES OIL
BULK PLANT SOUTH

KEWASKUM, WISCONSIN

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- × - GEOPROBE BORING LOCATION
- ⊕ - MONITORING WELL LOCATION
- ■ - SUB SLAB VAPOR SAMPLE LOCATION
- ○ - POLE
- □ - STORM SEWER COVER
- — — — — - PROPERTY BOUNDARY
- — · — · — - WATER LINE
- —— · · · —— - SEWER LINE
- —— · · —— - NATURAL GAS LINE
- – – – – – - BURIED ELECTRIC LINE
- ≡ ≡ ≡ ≡ - OVERHEAD UTILITIES
- ------ - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 30 FEET
0 15 30

BOOTLEGGERZ SALOON
215/217 MAIN STREET

RESIDENCE
219/221 MAIN STREET

HAIR ON MAIN
227/229 MAIN STREET

ASPHALT

GARAGE

SHED

GRASS

G-19

G-18 G-14 G-17 G-16

B-3 B-6

B-2 B-5 B-8 B-9 B-10 G-2

MW-2
941.80' MSL

FORMER LOADING RACK

B-1 B-4 B-7 G-1

941.00' MSL

G-13

FORMER SHED

CONCRETE

FORMER LOADING PLATFORM

SS-3

SS-1

POLE SHED
230 PROSPECT STREET

935.25' MSL

MW-4

GRAVEL

FENCE

HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL
305 MAIN STREET/
305 PROSPECT STREET

G-21

G-20

G-12

G-3

MW-1
941.79' MSL

SS-2

G-15

G-5
940.00' MSL

939.00' MSL

G-6

G-4

REMOVED AST'S

CONCRETE G-11

GRAVEL

938.00' MSL

G-10

MW-5
935.96' MSL

CONCRETE

937.00' MSL

G-9

MW-7

AREA OF GREASE TRAPS

SIDEWALK

936.00' MSL

935.00' MSL

SIGN

MW-3
934.39' MSL

SIDEWALK

PROSPECT STREET

MW-6

SIGN

SIDEWALK

EISENBAHN STATE TRAIL

GRASS

G-8

GRASS

PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL

B.3.c GROUNDWATER FLOW DIRECTION (1/6/2020)
HERRIGES OIL
BULK PLANT SOUTH

METCO
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KEWASKUM, WISCONSIN

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DATE: 01/14/2020

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- ■ - SUB SLAB VAPOR SAMPLE LOCATION
- ○ - POLE
- □ - STORM SEWER COVER
- — — — — - PROPERTY BOUNDARY
- — · — · — - WATER LINE
- —— · · · —— - SEWER LINE
- —— · · —— - NATURAL GAS LINE
- – – – – – – - BURIED ELECTRIC LINE
- ═══ ═══ - OVERHEAD UTILITIES
- ------------------- - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 30 FEET
0 15 30

BOOTLEGGERZ SALOON
215/217 MAIN STREET

RESIDENCE
219/221 MAIN STREET

HAIR ON MAIN
227/229 MAIN STREET

GARAGE

SHED

ASPHALT

GRASS

G-19

G-18

G-14

B-3

B-6

G-17

941.80' msl

MW-2

B-2

B-5

B-8

B-9

B-10

G-2

FORMER LOADING RACK

B-1

B-4

B-7

G-1

942.00' msl

941.00' msl

G-13

FORMER SHED

CONCRETE

FORMER LOADING PLATFORM

SS-3

POLE SHED
230 PROSPECT STREET

SS-1

G-3

MW-1

942.26' msl

G-5

940.00' msl

SS-2

G-15

939.00' msl

G-6

G-4

REMOVED AST'S

CONCRETE

G-11

GRAVEL

938.00' msl

G-10

MW-5

936.30' msl

937.00' msl

G-9

G-8

EISENBAHN STATE TRAIL

GRASS

936.00' msl

SIDEWALK

935.00' msl

SIGN

MW-3

934.53' msl

PROSPECT STREET

SIDEWALK

MW-6

936.08' msl

SIGN

SIDEWALK

GRAVEL

FENCE

G-16

935.87' msl

MW-4

G-21

G-12

GRASS

G-20

ASPHALT

HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL
305 MAIN STREET/
305 PROSPECT STREET

CONCRETE

MW-7

935.50' msl

AREA OF GREASE TRAPS

SIDEWALK

PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL

B.3.c GROUNDWATER FLOW DIRECTION (3/25/2020)
HERRIGES OIL BULK PLANT SOUTH

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NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ● - HAND AUGER BORING LOCATION - ALPHA TERRA - 2012 LOCATIONS ARE APPROXIMATE, BASED ON STREET VIEW PHOTO
- ✕ - GEOPROBE BORING LOCATION
- ◐ - MONITORING WELL LOCATION
- ■ - SUB SLAB VAPOR SAMPLE LOCATION
- ○ - POLE
- □ - STORM SEWER COVER
- — — — — - PROPERTY BOUNDARY
- —— · —— · —— - WATER LINE
- —— · · · —— - SEWER LINE
- —— · · —— - NATURAL GAS LINE
- — — — — — - BURIED ELECTRIC LINE
- ═══ - OVERHEAD UTILITIES
- ------------ - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 30 FEET
0 15 30

BOOTLEGGERZ SALOON
215/217 MAIN STREET

RESIDENCE
219/221 MAIN STREET

HAIR ON MAIN
227/229 MAIN STREET

GARAGE

SHED

ASPHALT

GRASS

G-19

G-18 G-14 G-17 G-16

B-3 B-6

B-2 B-5 B-8 B-9 B-10 G-2

MW-2 943.05' msl
943.00' msl

FORMER LOADING RACK

B-1 B-4 B-7 G-1 G-7

CONCRETE

FORMER LOADING PLATFORM

SS-3

GRAVEL

FENCE

HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL
305 MAIN STREET/
305 PROSPECT STREET

MW-4 936.47' msl G-21

G-13 942.00' msl

FORMER SHED

POLE SHED
230 PROSPECT STREET

SS-1

G-3 942.57' msl MW-1

SS-2

G-12

G-5 941.00' msl

G-15

G-20

EISENBAHN STATE TRAIL

G-8

940.00' msl

G-6

G-4

CONCRETE G-11

REMOVED ASTS

939.00' msl

GRAVEL

G-10

MW-5 936.63' msl

GONCRETE

938.00' msl

MW-7 936.28' msl

AREA OF GREASE TRAPS

G-9

937.00' msl

SIDEWALK

936.00' msl

938.00' msl

SIGN

MW-3 935.00' msl

SIDEWALK

934.80' msl

PROSPECT STREET

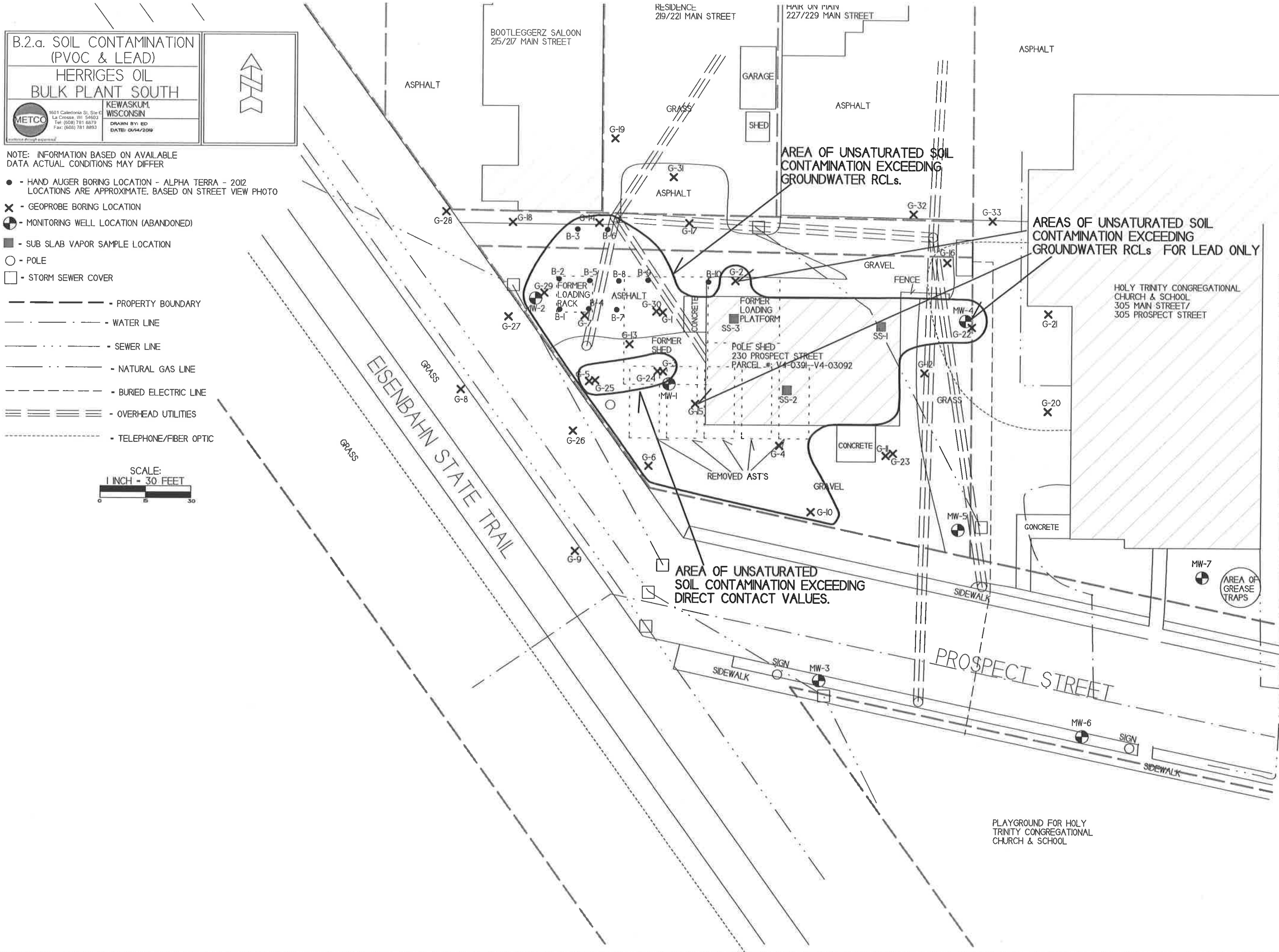
937.00' msl

MW-6 938.50' msl

SIGN

SIDEWALK

PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL


B.2.a. SOIL CONTAMINATION (PVOC & LEAD)
HERRIGES OIL BULK PLANT SOUTH
KEWASKUM, WISCONSIN
METCO
1601 Caledonia St. Ste E La Crosse, WI 54603 Tel: (608) 781 8879 Fax: (608) 781 8893
DRAWN BY: ED
DATE: 01/14/2019
NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER
• - HAND AUGER BORING LOCATION - ALPHA TERRA - 2012 LOCATIONS ARE APPROXIMATE, BASED ON STREET VIEW PHOTO
X - GEOPROBE BORING LOCATION
- MONITORING WELL LOCATION (ABANDONED)
- SUB SLAB VAPOR SAMPLE LOCATION
- POLE
- STORM SEWER COVER
- PROPERTY BOUNDARY
- WATER LINE
- SEWER LINE
- NATURAL GAS LINE
- BURIED ELECTRIC LINE
- OVERHEAD UTILITIES
- TELEPHONE/FIBER OPTIC
SCALE: 1 INCH = 30 FEET
0 15 30
RESIDENCE 219/221 MAIN STREET
HAIR ON MAIN 227/229 MAIN STREET
BOOTLEGGERZ SALOON 215/217 MAIN STREET
ASPHALT
GARAGE
SHED
GRASS
AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING GROUNDWATER RCLs.
AREAS OF UNSATURATED SOIL CONTAMINATION EXCEEDING GROUNDWATER RCLs FOR LEAD ONLY
HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL 305 MAIN STREET/ 305 PROSPECT STREET
FORMER LOADING RACK
FORMER LOADING PLATFORM
FORMER SHED
POLE SHED 230 PROSPECT STREET PARCEL #: V4-0391-V4-03092
CONCRETE
GRAVEL
FENCE
REMOVED AST'S
EISENBAHN STATE TRAIL
AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING DIRECT CONTACT VALUES.
SIDEWALK
SIGN
PROSPECT STREET
AREA OF GREASE TRAPS
PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL
MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7
SS-1 SS-2 SS-3
B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10
G-1 G-2 G-4 G-5 G-6 G-8 G-9 G-10 G-11 G-12 G-13 G-14 G-15 G-16 G-17 G-18 G-19 G-20 G-21 G-22 G-23 G-24 G-25 G-26 G-27 G-28 G-29 G-30 G-31 G-32 G-33

B.2.a. SOIL CONTAMINATION (PAH)

HERRIGES OIL BULK PLANT SOUTH

METCO
1601 Caledonia St, Ste C
La Crosse, WI 54603
Tel: (608) 781-8879
Fax: (608) 781-8893

KEWASKUM, WISCONSIN

DRAWN BY: ED
DATE: 01/14/2019

NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ● - HAND AUGER BORING LOCATION - ALPHA TERRA - 2012 LOCATIONS ARE APPROXIMATE. BASED ON STREET VIEW PHOTO
- × - GEOPROBE BORING LOCATION
- ◐ - MONITORING WELL LOCATION
- ■ - SUB SLAB VAPOR SAMPLE LOCATION
- ○ - POLE
- □ - STORM SEWER COVER
- — — — - PROPERTY BOUNDARY
- — · — - WATER LINE
- — · · · — - SEWER LINE
- — · · — - NATURAL GAS LINE
- - - - - - BURIED ELECTRIC LINE
- ═ ═ ═ - OVERHEAD UTILITIES
- ········ - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 30 FEET
0 15 30

AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING NR720 DIRECT CONTACT VALUES (PAH ONLY). PLEASE NOTE SEVERAL PAH NR720 GROUNDWATER RCLS ALSO EXIST WITHIN THIS AREA.

B.3.b GROUNDWATER ISOCONCENTRATION MAP (3/25/2020)

HERRIGES OIL BULK PLANT SOUTH

KEWASKUM, WISCONSIN

DRAWN BY: ED
DATE: 04/14/2020

METCO
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La Crosse, WI 54603
Tel: (608) 781-8879
Fax: (608) 781-8893

NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ● - HAND AUGER BORING LOCATION - ALPHA TERRA - 2012 LOCATIONS ARE APPROXIMATE. BASED ON STREET VIEW PHOTO
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- ◒ - MONITORING WELL LOCATION (ABANDONED)
- ■ - SUB SLAB VAPOR SAMPLE LOCATION
- ○ - POLE
- □ - STORM SEWER COVER
- — — — — - PROPERTY BOUNDARY
- — · — · — - WATER LINE
- —— · · · —— - SEWER LINE
- —— · · —— - NATURAL GAS LINE
- — — — — — - BURIED ELECTRIC LINE
- ═══ - OVERHEAD UTILITIES
- ------ - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 30 FEET
0 15 30

BOOTLEGGERZ SALOON
215/217 MAIN STREET

RESIDENCE
219/221 MAIN STREET

HAIR ON MAIN
227/229 MAIN STREET

ASPHALT

GARAGE

SHED

GRASS

G-19

G-31

G-28

G-18

G-14

G-17

G-32

G-33

B-3

B-6

GRAVEL

FENCE

G-16

B-2

B-5

B-8

B-9

B-10

G-2

G-29

FORMER LOADING RACK

MW-2

B-1

B-4

B-7

G-30

G-1

CONCRETE

FORMER LOADING PLATFORM

SS-3

SS-1

MW-4

G-22

G-21

HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL
305 MAIN STREET/
305 PROSPECT STREET

G-27

G-13

FORMER SHED

POLE SHED
230 PROSPECT STREET
PARCEL #: V4-0391, V4-03092

G-3

G-5

G-24

G-25

MW-1

SS-2

G-12

GRASS

G-20

EISENBAHN STATE TRAIL

GRASS

G-8

G-26

G-15

CONCRETE

G-11

G-23

G-6

G-4

REMOVED AST'S

GRAVEL

G-10

MW-5

CONCRETE

G-9

MW-7

AREA OF GREASE TRAPS

ES

SIDEWALK

SIGN

MW-3

PAL

PROSPECT STREET

MW-6

SIGN

SIDEWALK

ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING NR140 ENFORCEMENT STANDARDS (ES) AND/OR PREVENTIVE ACTION LIMITS (PAL)

PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL

B.3.a.I GEOLOGIC CROSS SECTION MAP
HERRIGES OIL BULK PLANT SOUTH

METCO
1601 Caledonia St, Ste C
La Crosse, WI 54603
Tel. (608) 781-8879
Fax: (608) 781-8893
excellence through experience

KEWASKUM, WISCONSIN

DRAWN BY: ED
DATE: 01/14/2016

NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ● - HAND AUGER BORING LOCATION - ALPHA TERRA - 2012 LOCATIONS ARE APPROXIMATE. BASED ON STREET VIEW PHOTO
- × - GEOPROBE BORING LOCATION
- ⊕ - MONITORING WELL LOCATION (ABANDONED)
- ■ - SUB SLAB VAPOR SAMPLE LOCATION
- ○ - POLE
- □ - STORM SEWER COVER
- — — — — - PROPERTY BOUNDARY
- — · — · — - WATER LINE
- — · · · — - SEWER LINE
- — · · — - NATURAL GAS LINE
- — — — — — - BURIED ELECTRIC LINE
- ═ ═ ═ ═ - OVERHEAD UTILITIES
- ------ - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 30 FEET
0 15 30

BOOTLEGGERZ SALOON
215/217 MAIN STREET

RESIDENCE
219/221 MAIN STREET

HAIR ON MAIN
227/229 MAIN STREET

ASPHALT

GARAGE

SHED

GRASS

AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING GROUNDWATER RCLs (PVOCs).

AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING NR720 DIRECT CONTACT VALUES (PAH ONLY). PLEASE NOTE SEVERAL PAH NR720 GROUNDWATER RCLS ALSO EXIST WITHIN THIS AREA.

AREAS OF UNSATURATED SOIL CONTAMINATION EXCEEDING GROUNDWATER RCLs FOR LEAD ONLY

HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL
305 MAIN STREET/
305 PROSPECT STREET

GRAVEL

FENCE

CONCRETE

FORMER LOADING PLATFORM

FORMER LOADING DOCK

FORMER SHED

POLE SHED
230 PROSPECT STREET
PARCEL #: V4-0391, -V4-0309.2

REMOVED AST'S

EISENBAHN STATE TRAIL

AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING DIRECT CONTACT VALUES (PVOCs).

ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING NR140 ENFORCEMENT STANDARDS (ES) AND/OR PREVENTIVE ACTION LIMITS (PAL)

ES

PAL

PROSPECT STREET

SIDEWALK

SIGN

AREA OF GREASE TRAPS

PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL

A

A'

G-1 G-2 G-3 G-4 G-5 G-6 G-7 G-8 G-9 G-10 G-11 G-12 G-13 G-14 G-15 G-16 G-17 G-18 G-19 G-20 G-21 G-22 G-23 G-24 G-25 G-26 G-27 G-28 G-29 G-30 G-31 G-32 G-33

B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7

SS-1 SS-2 SS-3

B.3.a.2 GEOLOGIC CROSS SECTION MAP (CLOSE UP)

HERRIGES OIL BULK PLANT SOUTH

KEWASKUM, WISCONSIN

DRAWN BY: ED

DATE: 01/14/2013

METCO
1601 Caledonia St. Ste C
La Crosse, WI 54603
Tel: (608) 781-8870
Fax: (608) 781-8893

NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- ● - HAND AUGER BORING LOCATION - ALPHA TERRA - 2012 LOCATIONS ARE APPROXIMATE. BASED ON STREET VIEW PHOTO
- ✕ - GEOPROBE BORING LOCATION
- ⊕ - MONITORING WELL LOCATION (ABANDONED)
- ■ - SUB SLAB VAPOR SAMPLE LOCATION
- ○ - POLE
- □ - STORM SEWER COVER
- — — — — - PROPERTY BOUNDARY
- — · — · — - WATER LINE
- —— · · · —— - SEWER LINE
- —— · · —— - NATURAL GAS LINE
- — — — — — - BURIED ELECTRIC LINE
- ═══ - OVERHEAD UTILITIES
- ------ - TELEPHONE/FIBER OPTIC

SCALE:
1 INCH = 20 FEET
0 20

AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING NR720 DIRECT CONTACT VALUES (PAH ONLY). PLEASE NOTE SEVERAL PAH NR720 GROUNDWATER RCLS ALSO EXIST WITHIN THIS AREA. LEAD ONLY

AREAS OF UNSATURATED SOIL CONTAMINATION EXCEEDING GROUNDWATER RCLs FOR

AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING GROUNDWATER RCLs (PVOCs).

AREA OF UNSATURATED SOIL CONTAMINATION EXCEEDING DIRECT CONTACT VALUES (PVOCs).

ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING NR140 ENFORCEMENT STANDARDS (ES) AND/OR PREVENTIVE ACTION LIMITS (PAL)

PLAYGROUND FOR HOLY TRINITY CONGREGATIONAL CHURCH & SCHOOL

ASPHALT
GRAVEL
CONCRETE
GRASS
FENCE
SIDEWALK
SIGN
FORMER LOADING PLATFORM
FORMER LOADING RACK
FORMER SHED
POLE SHED
230 PROSPECT STREET
PARCEL #: V4-0391--V4-03092
REMOVED AST'S
EISENBAHN STATE TRAIL
PROSPECT STREET
ES
PAL
A
A'
G-1 G-2 G-3 G-4 G-5 G-6 G-7 G-8 G-9 G-10 G-11 G-12 G-13 G-14 G-15 G-16 G-17 G-18 G-20 G-21 G-22 G-23 G-24 G-25 G-26 G-27 G-28 G-29 G-30 G-31 G-32 G-33
B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10
MW-1 MW-2 MW-3 MW-4 MW-5 MW-6
SS-1 SS-2 SS-3

B.3.a.3 GEOLOGIC CROSS SECTION FIGURE
HERRIGES OIL
BULK PLANT SOUTH

METCC | KEWASKUM, WISCONSIN | DRAWN BY: BH 1/4/2019 | UPDATED BY: ED 10/28/21

SCALE:
1 INCH = 20 FEET
0 20

SCALE:
1 INCH = 5 FEET
0 5

INFORMATION BASED ON AVAILABLE DATA. ACTUAL CONDITIONS MAY DIFFER.

GROUNDWATER SAMPLE RESULTS ARE PRESENTED IN PARTS PER BILLION (PPB)

NOTE: SOIL AND GROUNDWATER SAMPLE DATA IS BASED ON LABORATORY RESULTS FROM SAMPLES COLLECTED DURING THE:
GEOPROBE PROJECT/DRILLING PROJECT - (03/25-26/2019)
DRILLING PROJECT - (12/09/2019)
4TH ROUND OF GROUNDWATER MONITORING - (03/25/2020)
GEOPROBE PROJECT - (3/8/21)

NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

- X - GEOPROBE BORING LOCATION
- X - GEOPROBE SOIL SAMPLING LOCATION
- - MONITORING WELL LOCATION
- - MONITORING WELL SOIL SAMPLING LOCATION

B - BENZENE
E - ETHYLBENZENE
MTBE - METHYL TERT-BUTYL ETHER
N - NAPHTHALENE
T - TOLUENE
TMB - TRIMETHYLBENZENE
X - XYLENE
B(a)P - BENZO(a)PYRENE
B(b)F - BENZO(b)FLUOANTHENE
C - CHRYSENE

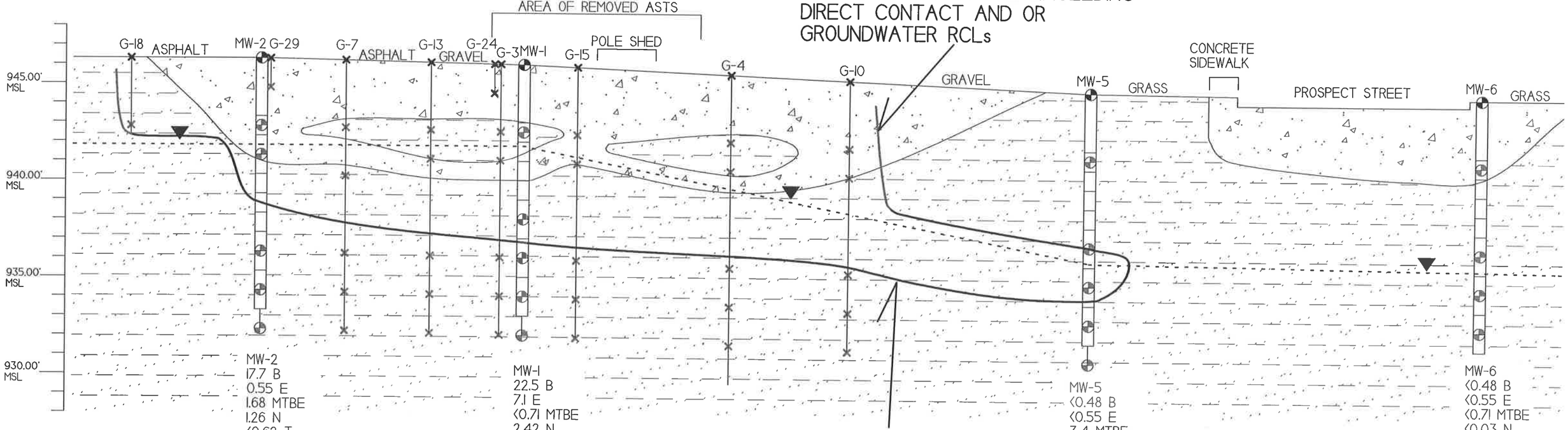
- - WATER TABLE
ALL TIME LOW (9/10/19)

BLACK CLAYEY GRAVEL TO GRAVELLY SAND TO GRAVEL TO LIMESTONE SCREENINGS (POSSIBLE FILL MATERIAL)

BROWN TO BLACK GRAVELLY CLAY TO SILTY CLAY TO CLAY

A

A'



7.0 DATA TABLES, GRAPHS, AND STATISTICAL ANALYSIS

A.1 Groundwater Analytical Table
(Geoprobe)
Herriges Oil BP S BRRTS #02-67-111819

Sample ID	Date	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
G-1-W	3/25/2019	<0.22	0.27	0.29	<2.1	0.45	<1.43	2.47
G-2-W	3/25/2019	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
G-3-W	3/25/2019	**68**	82	<1.4	**440**	<0.95	<7.15	<3.60
G-4-W	3/26/2019	<0.22	<0.26	1.33	<2.1	<0.19	<1.43	<0.72
G-5-W	3/25/2019	**79**	5.1	<1.4	**140**	1.8	8.5-12.5	9.4-10.85
G-6-W	3/25/2019	**38**	1.6	5.1	*45*	0.27	<1.43	12.28
G-7-W	3/26/2019	*2.78*	<0.26	0.47	*18.8*	<0.19	<1.43	2.31
G-8-W	3/25/2019	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
G-9-W	3/25/2019	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
G-10-W	3/26/2019	<0.22	<0.26	*22.7*	<2.1	<0.19	<1.43	<0.72
G-11-W	3/26/2019	*1.55*	2.65	<1.4	**158**	<0.95	<7.15	2.05-4.20
G-12-W	3/26/2019	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	1.53
G-13-W	3/26/2019	**19.8**	<2.6	<2.8	**177**	<1.9	<14.3	7.1-10
G-14-W	3/26/2019	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
G-15-W	3/26/2019	*3.5*	0.46	<0.28	*26.8*	0.33	0.88-1.51	1.43
ENFORCEMENT STANDARD ES = Bold		**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT PAL = Italics		*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

NS = Not Sampled
(ppb) = parts per billion

A.1 Groundwater Analytical Table
Herriges Oil BP S BRRTS #02-67-111819

Well Sampling Conducted on:	06/18/19	06/18/19	06/18/19	06/18/19	06/18/19	01/06/20	01/06/20		
VOC's								**ENFORCEMENT STANDARD = ES – Bold**	*PREVENTIVE ACTION LIMIT = PAL - Italics*
Well Name	**MW-1**	**MW-2**	**MW-3**	**MW-4**	**MW-5**	**MW-6**	**MW-7**		
Lead, dissolved/ppb	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	NS	NS	**15**	*1.5*
Benzene/ppb	**16.9**	**7.2**	<0.22	< 0.22	< 0.22	< 0.22	< 0.22	**5**	*0.5*
Bromobenzene/ppb	< 0.44	< 0.44	< 0.44	< 0.44	< 0.44	< 0.44	< 0.44	==	==
Bromodichloromethane/ppb	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	**0.6**	*0.06*
Bromoform/ppb	< 0.45	< 0.45	< 0.45	< 0.45	< 0.45	< 0.45	< 0.45	**4.4**	*0.44*
tert-Butylbenzene/ppb	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	==	==
sec-Butylbenzene/ppb	1.67 "J"	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	==	==
n-Butylbenzene/ppb	1.85 "J"	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	< 0.71	==	==
Carbon Tetrachloride/ppb	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	**5**	*0.5*
Chlorobenzene/ppb	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	==	==
Chloroethane/ppb	< 0.61	< 0.61	< 0.61	< 0.61	< 0.61	< 0.61	< 0.61	**400**	*80*
Chloroform/ppb	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	**6**	*0.6*
Chloromethane/ppb	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	< 0.54	**30**	*3*
2-Chlorotoluene/ppb	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	==	==
4-Chlorotoluene/ppb	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	==	==
1,2-Dibromo-3-chloropropane/ppb	< 2.96	< 2.96	< 2.96	< 2.96	< 2.96	< 2.96	< 2.96	**0.2**	*0.02*
Dibromochloromethane/ppb	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	< 0.22	**60**	*6*
1,4-Dichlorobenzene/ppb	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	**75**	*15*
1,3-Dichlorobenzene/ppb	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	**600**	*120*
1,2-Dichlorobenzene/ppb	< 0.86	< 0.86	< 0.86	< 0.86	< 0.86	< 0.86	< 0.86	**600**	*60*
Dichlorodifluoromethane/ppb	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	**1000**	*200*
1,2-Dichloroethane/ppb	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	**5**	*0.5*
1,1-Dichloroethane/ppb	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	**850**	*85*
1,1-Dichloroethene/ppb	< 0.42	< 0.42	< 0.42	< 0.42	< 0.42	< 0.42	< 0.42	**7**	*0.7*
cis-1,2-Dichloroethene/ppb	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	< 0.37	**70**	*7*
trans-1,2-Dichloroethene/ppb	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	**100**	*20*
1,2-Dichloropropane/ppb	< 0.44	< 0.44	< 0.44	< 0.44	< 0.44	< 0.44	< 0.44	**5**	*0.5*
1,3-Dichloropropane/ppb	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	==	==
trans-1,3-Dichloropropene/ppb	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	**0.4**	*0.04*
cis-1,3-Dichloropropene/ppb	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26		
Di-isopropyl ether/ppb	< 0.21	0.30 "J"	< 0.21	< 0.21	< 0.21	< 0.21	< 0.21	==	==
EDB (1,2-Dibromoethane)/ppb	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	**0.05**	*0.005*
Ethylbenzene/ppb	4.8	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	< 0.26	**700**	*140*
Hexachlorobutadiene/ppb	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	==	==
Isopropylbenzene/ppb	5.9	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	==	==
p-Isopropyltoluene/ppb	1.07	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24	==	==
Methylene chloride/ppb	< 1.32	< 1.32	< 1.32	< 1.32	< 1.32	< 1.32	< 1.32	**5**	*0.5*
Methyl tert-butyl ether (MTBE)/ppb	< 0.28	6.7	0.56 "J"	< 0.28	3.7	< 0.28	< 0.28	**60**	*12*
Naphthalene/ppb	*24.8*	< 2.1	< 2.1	< 2.1	< 2.1	0.109	< 2.1	**100**	*10*
n-Propylbenzene/ppb	9.1	< 0.61	< 0.61	< 0.61	< 0.61	< 0.61	< 0.61	==	==
1,1,2,2-Tetrachloroethane/ppb	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	**0.2**	*0.02*
1,1,1,2-Tetrachloroethane/ppb	< 0.35	< 0.35	< 0.35	< 0.35	< 0.35	< 0.35	< 0.35	**70**	*7*
Tetrachloroethene (PCE)/ppb	*1.05 "J"*	*0.74 "J"*	0.40 "J"	< 0.38	< 0.38	< 0.38	< 0.38	**5**	*0.5*
Toluene/ppb	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	< 0.19	**800**	*160*
1,2,4-Trichlorobenzene/ppb	< 1.15	< 1.15	< 1.15	< 1.15	< 1.15	< 1.15	< 1.15	**70**	*14*
1,2,3-Trichlorobenzene/ppb	< 1.71	< 1.71	< 1.71	< 1.71	< 1.71	< 1.71	< 1.71	==	==
1,1,1-Trichloroethane/ppb	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	**200**	*40*
1,1,2-Trichloroethane/ppb	< 0.42	< 0.42	< 0.42	< 0.42	< 0.42	< 0.42	< 0.42	**5**	*0.5*
Trichloroethene (TCE)/ppb	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	**5**	*0.5*
Trichlorofluoromethane/ppb	< 0.35	< 0.35	< 0.35	< 0.35	< 0.35	< 0.35	< 0.35	==	==
1,2,4-Trimethylbenzene/ppb	3.5	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	**Total TMB's 480**	*Total TMB's 96*
1,3,5-Trimethylbenzene/ppb	2.61	< 0.63	< 0.63	< 0.63	< 0.63	< 0.63	< 0.63		
Vinyl Chloride/ppb	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	**0.2**	*0.02*
m&p-Xylene/ppb	1.53	< 0.43	< 0.43	< 0.43	< 0.43	< 0.43	< 0.43	**Total Xylenes 2000**	*Total Xylenes 400*
o-Xylene/ppb	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29	< 0.29		

NS = not sampled, NM = Not Measured
Q = Analyte detected above laboratory method detection limit but below practical quantitation limit.
= = No Exceedences
(ppb) = parts per billion
"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

A.1 Groundwater Analytical Table
Herriges Oil BP S BRRTS #02-67-111819

Well MW-1
PVC Elevation = 945.77 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl-benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
06/18/19	941.96	3.81	<1.1	**16.9**	4.8	<0.28	*24.8*	<0.19	6.11	1.53-1.82
09/10/19	941.79	3.98	NS	**20.6**	4.8	<0.24	0.224	0.4	3.71	1.51-2.21
01/06/20	942.26	3.51	NS	**31**	8.7	<0.71	3.80	0.68	1.47-2.13	<2.04
3/25/2020	942.57	3.20	NS	**22.5**	7.1	<0.71	2.42	0.72	8.51	<2.04
ENFORCEMENT STANDARD **ES = Bold**			**15**	**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT *PAL = Italics*			*1.5*	*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

Well MW-2
PVC Elevation = 946.00 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl-benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
06/18/19	942.35	3.65	<1.1	**7.2**	<0.26	6.7	<2.1	<0.19	<1.43	<0.72
09/10/19	941.80	4.20	NS	**19.4**	<0.29	4.3	0.12	<0.29	<1.13	<1.22
01/06/20	941.98	4.02	NS	**7.7**	<0.55	2.4	1.36	<0.62	<1.37	<2.04
3/25/2020	943.05	2.95	NS	**17.7**	<0.55	1.68	1.26	<0.62	<1.37	<2.04
ENFORCEMENT STANDARD **ES = Bold**			**15**	**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT *PAL = Italics*			*1.5*	*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

Well MW-3
PVC Elevation = 945.70 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl-benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
06/18/19	934.54	11.16	<1.1	<0.22	<0.26	0.56	<2.1	<0.19	<1.43	<0.72
09/10/19	934.39	11.31	NS	<0.32	<0.29	<0.24	0.041	<0.29	<1.13	<1.22
01/06/20	934.53	11.17	NS	<0.48	<0.55	<0.71	0.114	<0.62	<1.37	<2.04
3/25/2020	934.80	10.90	NS	<0.48	<0.55	<0.71	<0.013	<0.62	<1.37	<2.04
ENFORCEMENT STANDARD **ES = Bold**			**15**	**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT *PAL = Italics*			*1.5*	*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table
Herriges Oil BP S BRRTS #02-67-111819

Well MW-4
PVC Elevation = 944.56 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl-benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
06/18/19	935.96	8.60	<1.1	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
09/10/19	935.25	9.31	NS	<0.32	<0.29	<0.24	0.051	<0.29	<1.13	<1.22
01/06/20	935.87	8.69	NS	<0.48	<0.55	<0.71	0.075	<0.62	<1.37	<2.04
3/25/2020	936.47	8.09	NS	<0.48	<0.55	<0.71	<0.03	<0.62	<1.37	<2.04
ENFORCEMENT STANDARD **ES = Bold**			**15**	**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT *PAL = Italics*			*1.5*	*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

Well MW-5
PVC Elevation = 944.37 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl-benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
06/18/19	936.04	8.33	<1.1	<0.22	<0.26	3.7	<2.1	<0.19	<1.43	<0.72
09/10/19	935.96	8.41	NS	<0.32	<0.29	3.02	0.046	<0.29	<1.13	<1.22
01/06/20	936.30	8.07	NS	<0.48	<0.55	3.6	0.066	<0.62	<1.37	<2.04
3/25/2020	936.63	7.74	NS	<0.48	<0.55	3.4	<0.03	<0.62	<1.37	<2.04
ENFORCEMENT STANDARD **ES = Bold**			**15**	**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT *PAL = Italics*			*1.5*	*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

Well MW-6
PVC Elevation = 944.13 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl-benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
01/06/20	936.08	8.05	NS	<0.22	<0.26	<0.28	0.109	<0.19	<1.43	<0.72
3/25/2020	938.50	5.63	NS	<0.48	<0.55	<0.71	<0.03	<0.62	<1.37	<2.04
ENFORCEMENT STANDARD **ES = Bold**			**15**	**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT *PAL = Italics*			*1.5*	*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table
Herriges Oil BP S BRRTS #02-67-111819

Well MW-7
PVC Elevation = 944.00 (feet) (MSL)

Date	Water Elevation (in feet msl)	Depth to water from top of PVC (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl-benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
01/06/20	935.50	8.50	NS	<0.22	<0.26	<0.28	<2.1	<0.19	<1.43	<0.72
3/25/2020	936.28	7.72	NS	<0.48	<0.55	<0.71	<0.03	<0.62	<1.37	<2.04
ENFORCEMENT STANDARD **ES = Bold**			**15**	**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT *PAL = Italics*			*1.5*	*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table
(PAH)
Herriges Oil BP S BRRTS #02-67-111819

Well MW-1

Date	Ace-naphthene (ppb)	Acenaph-thylene (ppb)	Anthracene (ppb)	Benzo(a) anthracene (ppb)	Benzo(a) pyrene (ppb)	Benzo(b) fluoranthene (ppb)	Benzo(g,h,i) Perylene (ppb)	Benzo(k) fluoranthene (ppb)	Chrysene (ppb)	Dibenzo(a,h) anthracene (ppb)	Fluoran-thene (ppb)	Fluorene (ppb)	Indeno(1,2,3-cd) pyrene (ppb)	1-Methyl-naphthalene (ppb)	2-Methyl-naphthalene (ppb)	Naph-thalene (ppb)	Phenan-threne (ppb)	Pyrene (ppb)
6/18/2019	<0.0282	<0.0468	<0.045	0.049	<0.0501	<0.048	<0.0426	<0.0438	<0.0471	<0.0519	0.032	0.036	<0.0363	<0.0573	<0.0558	<0.078	<0.0429	<0.0363
9/10/2019	0.127	0.057	0.052	0.027	0.0181	*0.042*	0.0289	0.0167	*0.0254*	<0.0173	0.042	0.84	<0.0121	0.123	0.107	0.224	0.082	0.037
1/6/2020	0.289	0.0296	0.172	<0.02	<0.0167	*0.0234*	0.0163	<0.0146	<0.0157	<0.0173	0.0312	0.39	<0.0121	2.84	0.184	3.80	0.133	0.0239
3/25/2020	0.42	0.078	0.097	0.0213	<0.0167	<0.016	<0.0142	<0.0146	<0.0157	<0.0173	0.0308	0.53	<0.0121	3.9	0.36	2.42	0.153	0.0274
ENFORCEMENT STANDARD = ES – Bold			**3000**	-	**0.2**	**0.2**	-	-	**0.2**	-	**400**	**400**	-	-	-	**100**	-	**250**
PREVENTIVE ACTION LIMIT = *PAL - Italics*			*600*	-	*0.02*	*0.02*	-	-	*0.02*	-	*80*	*80*	-	-	-	*10*	-	*50*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

Well MW-2

Date	Ace-naphthene (ppb)	Acenaph-thylene (ppb)	Anthracene (ppb)	Benzo(a) anthracene (ppb)	Benzo(a) pyrene (ppb)	Benzo(b) fluoranthene (ppb)	Benzo(g,h,i) Perylene (ppb)	Benzo(k) fluoranthene (ppb)	Chrysene (ppb)	Dibenzo(a,h) anthracene (ppb)	Fluoran-thene (ppb)	Fluorene (ppb)	Indeno(1,2,3-cd) pyrene (ppb)	1-Methyl-naphthalene (ppb)	2-Methyl-naphthalene (ppb)	Naph-thalene (ppb)	Phenan-threne (ppb)	Pyrene (ppb)
6/18/2019	<0.0094	<0.0156	<0.015	0.036	*0.021*	*0.033*	0.024	0.022	*0.035*	0.020	0.031	0.013	0.023	<0.0191	<0.0186	0.101	0.042	0.029
9/10/2019	0.0154	<0.0156	0.0165	0.033	*0.0276*	*0.057*	0.048	0.021	*0.037*	<0.0173	0.062	0.0215	<0.0121	0.04	0.0188	0.12	0.046	0.051
1/6/2020	0.143	0.034	0.039	0.091	*0.122*	**0.218**	0.113	0.069	*0.131*	0.0201	0.184	0.037	0.085	1.13	0.251	1.36	0.099	0.164
3/25/2020	0.17	0.044	0.079	0.234	**0.35**	**0.74**	0.286	0.202	**0.38**	0.0570	0.64	0.076	0.256	1.37	0.146	1.26	0.253	0.55
ENFORCEMENT STANDARD = ES – Bold			**3000**	-	**0.2**	**0.2**	-	-	**0.2**	-	**400**	**400**	-	-	-	**100**	-	**250**
PREVENTIVE ACTION LIMIT = *PAL - Italics*			*600*	-	*0.02*	*0.02*	-	-	*0.02*	-	*80*	*80*	-	-	-	*10*	-	*50*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

Well MW-3

Date	Ace-naphthene (ppb)	Acenaph-thylene (ppb)	Anthracene (ppb)	Benzo(a) anthracene (ppb)	Benzo(a) pyrene (ppb)	Benzo(b) fluoranthene (ppb)	Benzo(g,h,i) Perylene (ppb)	Benzo(k) fluoranthene (ppb)	Chrysene (ppb)	Dibenzo(a,h) anthracene (ppb)	Fluoran-thene (ppb)	Fluorene (ppb)	Indeno(1,2,3-cd) pyrene (ppb)	1-Methyl-naphthalene (ppb)	2-Methyl-naphthalene (ppb)	Naph-thalene (ppb)	Phenan-threne (ppb)	Pyrene (ppb)
6/18/2019	<0.0094	<0.0156	<0.015	0.018	<0.0167	*0.038*	0.027	0.017	*0.027*	<0.0173	0.033	<0.0079	0.018	<0.0191	<0.0186	<0.026	0.026	0.038
9/10/2019	<0.0094	<0.0156	<0.015	0.0166	<0.0167	*0.0218*	0.0143	<0.0146	0.0158	<0.0173	0.0192	<0.0079	<0.0121	0.084	0.066	0.041	0.0218	0.0199
1/6/2020	0.0253	<0.0156	0.0186	0.0265	*0.03*	*0.051*	0.029	0.0266	*0.033*	<0.0173	0.041	0.06	0.0229	0.158	0.176	0.114	0.14	0.038
3/25/2020	<0.0094	<0.0156	<0.015	<0.02	<0.0167	*0.0234*	0.0149	<0.0146	<0.0157	<0.0173	0.0134	<0.0079	<0.0121	<0.0191	<0.0186	<0.03	0.0146	0.0123
ENFORCEMENT STANDARD = ES – Bold			**3000**	-	**0.2**	**0.2**	-	-	**0.2**	-	**400**	**400**	-	-	-	**100**	-	**250**
PREVENTIVE ACTION LIMIT = *PAL - Italics*			*600*	-	*0.02*	*0.02*	-	-	*0.02*	-	*80*	*80*	-	-	-	*10*	-	*50*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table
(PAH)
Herriges Oil BP S BRRTS #02-67-111819

Well MW-4

Date	Ace-naphthene (ppb)	Acenaph-thylene (ppb)	Anthracene (ppb)	Benzo(a) anthracene (ppb)	Benzo(a) pyrene (ppb)	Benzo(b) fluoranthene (ppb)	Benzo(g,h,I) Perylene (ppb)	Benzo(k) fluoranthene (ppb)	Chrysene (ppb)	Dibenzo(a,h) anthracene (ppb)	Fluoran-thene (ppb)	Fluorene (ppb)	Indeno(1,2,3-cd) pyrene (ppb)	1-Methyl-naphthalene (ppb)	2-Methyl-naphthalene (ppb)	Naph-thalene (ppb)	Phenan-threne (ppb)	Pyrene (ppb)
6/18/2019	<0.0094	<0.0156	<0.015	0.024	<0.0167	*0.037*	0.024	0.017	*0.028*	<0.0173	0.036	<0.0079	0.022	<0.0191	<0.0186	0.062	0.045	0.031
9/10/2019	<0.0094	<0.0156	0.0277	0.051	*0.032*	*0.076*	0.038	0.027	*0.055*	<0.0173	0.124	0.012	<0.0121	<0.0191	<0.0186	0.051	0.106	0.096
1/6/2020	<0.0094	<0.0156	<0.015	0.0304	*0.032*	*0.07*	0.0298	0.0231	*0.0287*	<0.0173	0.049	0.0183	0.0241	0.0258	0.04	0.075	0.054	0.044
3/25/2020	<0.0094	<0.0156	<0.015	<0.02	<0.0167	0.0163	<0.0142	<0.0146	<0.0157	<0.0173	0.0152	<0.0079	<0.0121	<0.0191	<0.0186	<0.03	0.0199	0.0134
ENFORCEMENT STANDARD = **ES – Bold**			**3000**	-	**0.2**	**0.2**	-	-	**0.2**	-	**400**	**400**	-	-	-	**100**	-	**250**
PREVENTIVE ACTION LIMIT = *PAL - Italics*			*600*	-	*0.02*	*0.02*	-	-	*0.02*	-	*80*	*80*	-	-	-	*10*	-	*50*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

Well MW-5

Date	Ace-naphthene (ppb)	Acenaph-thylene (ppb)	Anthracene (ppb)	Benzo(a) anthracene (ppb)	Benzo(a) pyrene (ppb)	Benzo(b) fluoranthene (ppb)	Benzo(g,h,I) Perylene (ppb)	Benzo(k) fluoranthene (ppb)	Chrysene (ppb)	Dibenzo(a,h) anthracene (ppb)	Fluoran-thene (ppb)	Fluorene (ppb)	Indeno(1,2,3-cd) pyrene (ppb)	1-Methyl-naphthalene (ppb)	2-Methyl-naphthalene (ppb)	Naph-thalene (ppb)	Phenan-threne (ppb)	Pyrene (ppb)
6/18/2019	0.018	0.229	0.165	0.51	**0.59**	**0.83**	0.55	0.292	**0.48**	0.121	0.71	0.032	0.43	<0.0191	<0.0186	0.049	0.279	0.66
9/10/2019	0.0113	0.206	0.126	0.40	**0.49**	**0.72**	0.43	0.227	**0.36**	0.10	0.52	<0.0079	0.314	<0.01961	<0.0186	0.046	0.185	0.51
1/6/2020	0.0132	0.224	0.108	0.34	**0.48**	**0.67**	0.33	0.19	**0.37**	0.058	0.47	0.02	**0.254**	0.0234	0.027	0.066	0.158	0.45
3/25/2020	0.012	<0.0156	<0.015	0.0235	0.0197	*0.0257*	0.0172	<0.0146	<0.0157	<0.0173	0.0137	<0.0079	0.0129	<0.0191	<0.0186	<0.03	<0.0143	0.0151
ENFORCEMENT STANDARD = **ES – Bold**			**3000**	-	**0.2**	**0.2**	-	-	**0.2**	-	**400**	**400**	-	-	-	**100**	-	**250**
PREVENTIVE ACTION LIMIT = *PAL - Italics*			*600*	-	*0.02*	*0.02*	-	-	*0.02*	-	*80*	*80*	-	-	-	*10*	-	*50*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

Well MW-6

Date	Ace-naphthene (ppb)	Acenaph-thylene (ppb)	Anthracene (ppb)	Benzo(a) anthracene (ppb)	Benzo(a) pyrene (ppb)	Benzo(b) fluoranthene (ppb)	Benzo(g,h,I) Perylene (ppb)	Benzo(k) fluoranthene (ppb)	Chrysene (ppb)	Dibenzo(a,h) anthracene (ppb)	Fluoran-thene (ppb)	Fluorene (ppb)	Indeno(1,2,3-cd) pyrene (ppb)	1-Methyl-naphthalene (ppb)	2-Methyl-naphthalene (ppb)	Naph-thalene (ppb)	Phenan-threne (ppb)	Pyrene (ppb)
1/6/2020	0.0146	0.0209	0.0207	0.147	*0.165*	**0.246**	0.108	0.111	*0.163*	0.038	0.19	0.019	0.093	0.0217	0.038	0.109	0.083	0.166
3/25/2020	<0.0094	<0.0156	<0.015	<0.02	<0.0167	<0.016	<0.0142	<0.0146	<0.0157	<0.0173	<0.0088	<0.0079	<0.0121	<0.0191	<0.0186	<0.03	<0.0143	<0.0121
ENFORCEMENT STANDARD = **ES – Bold**			**3000**	-	**0.2**	**0.2**	-	-	**0.2**	-	**400**	**400**	-	-	-	**100**	-	**250**
PREVENTIVE ACTION LIMIT = *PAL - Italics*			*600*	-	*0.02*	*0.02*	-	-	*0.02*	-	*80*	*80*	-	-	-	*10*	-	*50*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

A.1 Groundwater Analytical Table
(PAH)
Herriges Oil BP S BRRTS #02-67-111819

Well MW-7

Date	Ace-naphthene (ppb)	Acenaph-thylene (ppb)	Anthracene (ppb)	Benzo(a) anthracene (ppb)	Benzo(a) pyrene (ppb)	Benzo(b) fluoranthene (ppb)	Benzo(g,h,i) Perylene (ppb)	Benzo(k) fluoranthene (ppb)	Chrysene (ppb)	Dibenzo(a,h) anthracene (ppb)	Fluoran-thene (ppb)	Fluorene (ppb)	Indeno(1,2,3-cd) pyrene (ppb)	1-Methyl-naphthalene (ppb)	2-Methyl-naphthalene (ppb)	Naph-thalene (ppb)	Phenan-threne (ppb)	Pyrene (ppb)
1/6/2020	0.0095	<0.0156	0.0153	0.0273	*0.0234*	*0.034*	0.0231	0.0194	*0.0241*	<0.0173	0.033	0.0127	0.0203	0.038	0.056	0.117	0.048	0.031
3/25/2020	<0.0094	<0.0156	<0.015	<0.02	<0.0167	<0.016	<0.0142	<0.0146	<0.0157	<0.0173	0.014	<0.0079	<0.0121	<0.0191	<0.0186	<0.03	0.0153	0.0145
ENFORCEMENT STANDARD = **ES – Bold**			**3000**	-	**0.2**	**0.2**	-	-	**0.2**	-	**400**	**400**	-	-	-	**100**	-	**250**
PREVENTIVE ACTION LIMIT = *PAL - Italics*			*600*	-	*0.02*	*0.02*	-	-	*0.02*	-	*80*	*80*	-	-	-	*10*	-	*50*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured
Note: Elevations are presented in feet mean sea level (msl).

A.2 Soil Analytical Results Table
Herriges Oil BP S BRRTS #02-67-111819

Sample ID	Depth (feet)	Saturation U/S	Date	PID	Lead (ppm)	DRO (ppm)	GRO (ppm)	Benzene (ppm)	Ethyl-benzene (ppm)	MTBE (ppm)	Naph-thalene (ppm)	Toluene (ppm)	1,2,4-Trime-thylbenzene (ppm)	1,3,5-Trime-thylbenzene (ppm)	Xylene (Total) (ppm)	Other VOC's (ppb)	NR720 Direct Contact Hazard Risk (PVOC and PAH)		
																	Exeedance Count	Hazard Index	Cumulative Cancer Risk
B-1	8-12	U	06/01/12	47.0	NS	NS	NS	<0.2	<0.2	<0.2	**3.87**	0.271J	**1.4**	1	1.281J	NS			
B-2	8-12	U	06/01/12	8.6	NS	NS	NS	NOT SAMPLED											
B-3	8-12	U	06/01/12	1.5	NS	NS	NS	NOT SAMPLED											
B-4	8-12	U	06/01/12	683.0	NS	NS	NS	<2	**12.6**	<2	**50.7**	**4.03**	**(358)***	**169**	**225**	NS			
B-5	8-12	U	06/01/12	44.0	NS	NS	NS	NOT SAMPLED											
B-6	8-12	U	06/01/12	40.0	NS	NS	NS	NOT SAMPLED											
B-7	8-12	U	06/01/12	3.0	NS	NS	NS	NOT SAMPLED											
B-8	8-12	U	06/01/12	1.6	NS	NS	NS	NOT SAMPLED											
B-9	8-12	U	06/01/12	2.5	NS	NS	NS	NOT SAMPLED											
B-10	8-12	U	06/01/12	20.2	NS	NS	NS	NOT SAMPLED											
G-1-1	3.5	U	03/25/19	0.10	**210.0**	NS	NS	**0.075**	<0.025	<0.025	0.124	0.084	0.056	0.044	0.143	NS	**5**	0.7357	**4.2E-05**
G-1-2	8.0	S	03/25/19	0.10	NS	NS	NS									NS			
G-1-3	12.0	S	03/25/19	0.20	NOT SAMPLED														
G-2-1	3.5	U	03/25/19	0.30	**49.2**	NS	NS	<0.025	<0.025	<0.025	0.082	<0.025	<0.025	0.0284	0.0294-0.0794	NS			
G-2-2	6.0	S	03/25/19	1.00	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-2-3	12.0	S	03/25/19	0.80	NOT SAMPLED														
G-2-4	14.0	S	03/25/19	0.70	NOT SAMPLED														
G-2-5	16.0	S	03/25/19	0.60	NOT SAMPLED														
G-3-1	3.5	U	03/25/19	275.20	12.8	NS	NS	<1.25	<1.25	<1.25	**(58)**	**1.4**	**10.7**	**6.1**	**6.65**	NS	**7**	0.6271	**3.9E-05**
G-3-2	5.0	S	03/25/19	1157.00	NS	2350	4400	**0.51**	0.33	<0.05	**2.78**	<0.032	0.035	<0.032	<0.116	SEE VOC SHEET TCLP LEAD <0.1 TCLP BENZENE <0.05			
G-3-3	10.0	S	03/25/19	1.50	NOT SAMPLED														
G-3-4	12.0	S	03/25/19	1.30	NOT SAMPLED														
G-3-5	14.0	S	03/25/19	1.20	NOT SAMPLED														
G-4-1	3.5	U	03/25/19	2.20	4.1	NS	NS	<0.025	<0.025	<0.025	0.10	<0.025	0.045	<0.025	<0.075	NS			
Groundwater RCL					**27**	-	-	**0.0051**	**1.57**	**0.027**	**0.6582**	**1.1072**	**1.3787**		**3.96**	-			
Non-Industrial Direct Contact RCL					**400**	-	-	**1.6**	**8.02**	**63.8**	**5.52**	**818**	**219**	**182**	**260**	-		1.00E+00	1.00E-05
Industrial Direct Contact RCL					**(800)**	-	-	**(7.07)**	**(35.4)**	**(282)**	**(24.1)**	**(818)**	**(219)**	**(182)**	**(260)**	-		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat)*					-	-	-	**1820***	**480***	**8870***	-	**818***	**219***	**182***	**260***	-			

Bold = Groundwater RCL Exceedance
Bold & Underline = Non Industrial Direct Contact RCL Exceedance
(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
NS = Not Sampled
NM = Not Measured
(ppm) = parts per million
ND = No Detects
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
PVOC's = Petroleum Volatile Organic Compounds
VOC's = Volatile Organic Compounds
Note: Non-Industrial RCLs apply to this site.

U=UNSATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)
S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

A.2 Soil Analytical Results Table
Herriges Oil BP S BRRTS #02-67-111819

Sample ID	Depth (feet)	Saturation U/S	Date	PID	Lead (ppm)	DRO (ppm)	GRO (ppm)	Benzene (ppm)	Ethyl-benzene (ppm)	MTBE (ppm)	Naph-thalene (ppm)	Toluene (ppm)	1,2,4-Trime-thylbenzene (ppm)	1,3,5-Trime-thylbenzene (ppm)	Xylene (Total) (ppm)	Other VOC's (ppb)	NR720 Direct Contact Hazard Risk (PVOC and PAH)		
																	Exeedance Count	Hazard Index	Cumulative Cancer Risk
G-4-2	5.0	U	03/25/19	22.20	NS	NS	NS	<1.25	<1.25	<1.25	**45**	<1.25	**5.1**	**4.0**	**4.73**	NS			
G-4-3	10.0	S	03/25/19	1.90	NOT SAMPLED														
G-4-4	12.0	S	03/25/19	1.00	NOT SAMPLED														
G-4-5	14.0	S	03/25/19	0.90	NOT SAMPLED														
G-5-1	3.0	U	03/25/19	844.00	**316.0**	NS	NS	**2.17**	**3.2**	<0.25	**(26.8)**	**6.1**	**8.9**	**9.6**	**13.8**	NS	8	1.3849	**7.7E-05**
G-5-2	6.0	S	03/25/19	898.00	NS	NS	NS	**0.32**	0.92	<0.025	**4.5**	**1.5**	**0.80**	**2.07**	**4.05**	NS			
G-5-3	10.0	S	03/25/19	61.00	NOT SAMPLED														
G-5-4	12.0	S	03/25/19	4.00	NOT SAMPLED														
G-5-5	14.0	S	03/25/19	1.00	NOT SAMPLED														
G-6-1	3.5	U	03/25/19	4.10	11.9	NS	NS	**0.082**	0.149	<0.025	0.51	0.28	**0.39**	**1.0**	0.761	NS	1	0.0549	**9.5E-06**
G-6-2	6.0	S	03/25/19	50.40	NS	NS	NS	<0.025	0.111	<0.025	**1.71**	<0.025	0.262	0.126	0.385	NS			
G-6-3	10.0	S	03/25/19	2.10	NOT SAMPLED														
G-6-4	12.0	S	03/25/19	3.50	NOT SAMPLED														
G-6-5	16.0	S	03/25/19	3.60	NOT SAMPLED														
G-7-1	3.5	U	03/25/19	13.70	6.3	NS	NS	**0.075**	<0.025	<0.025	0.141	0.061	<0.025	0.0295	<0.075	NS			
G-7-2	6.0	S	03/25/19	2.40	NS	NS	NS	<0.025	0.077	<0.025	0.42	0.035	0.061	0.0296	0.083	NS			
G-7-3	10.0	S	03/25/19	2.30	NOT SAMPLED														
G-7-4	12.0	S	03/25/19	1.30	NOT SAMPLED														
G-7-5	14.0	S	03/25/19	0.90	NS	NS	NS	<0.025	<0.025	<0.025	0.0277	<0.025	<0.025	<0.025	<0.075	NS			
G-8-1	3.5	U	03/25/19	4.30	25.9	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-8-2	8.0	S	03/25/19	2.70	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-8-3	10.0	S	03/25/19	8.60	NOT SAMPLED														
G-8-4	12.0	S	03/25/19	0.50	NOT SAMPLED														
G-8-5	14.0	S	03/25/19	1.60	NS	NS	NS	<0.025	<0.025	<0.025	0.045	<0.025	<0.025	<0.025	<0.075	NS			
G-9-1	3.5	U	03/25/19	9.70	24.8	NS	NS	<0.025	0.048	<0.025	0.39	0.070	0.14	0.080	0.192	NS			
G-9-2	8.0	S	03/25/19	8.20	NS	NS	NS	<0.025	0.0281	<0.025	0.251	0.041	0.090	0.055	0.139	NS			
G-9-3	10.0	S	03/25/19	1.10	NOT SAMPLED														
Groundwater RCL					**27**	-	-	**0.0051**	**1.57**	**0.027**	**0.6582**	**1.1072**	**1.3787**		**3.96**	-			
Non-Industrial Direct Contact RCL					**400**	-	-	**1.6**	**8.02**	**63.8**	**5.52**	**818**	**219**	**182**	**260**	-		1.00E+00	1.00E-05
Industrial Direct Contact RCL					**(800)**	-	-	**(7.07)**	**(35.4)**	**(282)**	**(24.1)**	**(818)**	**(219)**	**(182)**	**(260)**	-		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat)*					-	-	-	**1820***	**480***	**8870***	-	**818***	**219***	**182***	**260***	-			

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Bold & Asteric * = C-sat Exceedance
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DRO = Diesel Range Organics
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S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

A.2 Soil Analytical Results Table
Herriges Oil BP S BRRTS #02-67-111819

Sample ID	Depth (feet)	Saturation U/S	Date	PID	Lead (ppm)	DRO (ppm)	GRO (ppm)	Benzene (ppm)	Ethyl-benzene (ppm)	MTBE (ppm)	Naph-thalene (ppm)	Toluene (ppm)	1,2,4-Trime-thylbenzene (ppm)	1,3,5-Trime-thylbenzene (ppm)	Xylene (Total) (ppm)	Other VOC's (ppb)	NR720 Direct Contact Hazard Risk (PVOC and PAH)		
																	Exeedance Count	Hazard Index	Cumulative Cancer Risk
G-9-4	12.0	S	03/25/19	2.60	NOT SAMPLED														
G-9-5	14.0	S	03/25/19	1.40	NS	NS	NS	<0.025	<0.025	<0.025	0.053	<0.025	<0.025	<0.025	<0.075	NS			
G-10-1	3.5	U	03/25/19	1.80	**86.1**	NS	NS	<0.025	<0.025	<0.025	0.128	0.072	0.041	0.045	0.049-0.099	NS	**1**	0.2407	**4.9E-06**
G-10-2	5.0	U	03/25/19	1.90	NS	NS	NS	**0.030**	0.035	0.044	0.114	0.143	0.067	0.066	0.181	NS			
G-10-3	10.0	S	03/25/19	2.80	NOT SAMPLED														
G-10-4	12.0	S	03/25/19	1.40	NOT SAMPLED														
G-10-5	14.0	S	03/25/19	2.20	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-11-1	3.5	U	03/25/19	2.20	**47.0**	NS	NS	<0.25	<0.25	<0.25	**11.9**	<0.25	<0.25	<0.25	<0.75	NS	7	3.5089	**6.9E-04**
G-11-2	5.0	U	03/25/19	53.80	NS	NS	NS	<1.25	<1.25	<1.25	**58**	<1.25	**2.37**	**1.87**	<3.75	NS			
G-11-3	10.0	S	03/25/19	5.30	T SAMPLED														
G-11-4	12.0	S	03/25/19	0.80	T SAMPLED														
G-11-5	14.0	S	03/25/19	0.80	NS	NS	NS	<0.025	<0.025	<0.025	0.077	<0.025	<0.025	<0.025	<0.075	NS			
G-12-1	3.5	U	03/25/19	27.50	**274.0**	NS	NS	<0.25	0.42	<0.25	**12.3**	0.308	**4.2**	**3.8**	2.48	NS	**2**	0.7894	**3.9E-06**
G-12-2	5.0	U	03/25/19	21.90	NS	NS	NS	<1.25	<1.25	<1.25	**60**	<1.25	**5.1**	**5.5**	1.56-4.06	NS			
G-12-3	10.0	S	03/25/19	3.00	T SAMPLED														
G-12-4	12.0	S	03/25/19	2.20	T SAMPLED														
G-12-5	14.0	S	03/25/19	2.00	NS	NS	NS	<0.025	<0.025	<0.025	0.051	<0.025	<0.025	<0.025	<0.075	NS			
G-13-1	3.5	U	03/26/19	34.40	4.68	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-13-2	5.0	S	03/26/19	74.20	NS	NS	NS	**0.34**	0.289	<0.25	**4.6**	0.62	**1.05**	**0.90**	1.68	NS			
G-13-3	10.0	S	03/26/19	0.60	NOT SAMPLED														
G-13-4	12.0	S	03/26/19	0.80	NOT SAMPLED														
G-13-5	14.0	S	03/26/19	0.70	NS	NS	NS	<0.025	<0.025	<0.025	0.041	<0.025	<0.025	<0.025	<0.075	NS			
G-14-1	3.5	U	03/26/19	1.00	**351.0**	NS	NS	<0.025	0.0311	<0.025	0.284	0.080	0.112	0.055	0.224	NS	2	0.9333	**1.1E-05**
G-14-2	8.0	S	03/26/19	1.10	NS	NS	NS	<0.025	0.032	<0.025	0.161	0.040	0.063	0.032	0.186	NS			
G-14-3	10.0	S	03/26/19	0.70	NOT SAMPLED														
G-14-4	12.0	S	03/26/19	0.60	NOT SAMPLED														
G-14-5	14.0	S	03/26/19	0.70	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
Groundwater RCL					**27**	-	-	**0.0051**	**1.57**	**0.027**	**0.6582**	**1.1072**	**1.3787**		**3.96**	-			
Non-Industrial Direct Contact RCL					**400**	-	-	**1.6**	**8.02**	**63.8**	**5.52**	**818**	**219**	**182**	**260**	-		1.00E+00	1.00E-05
Industrial Direct Contact RCL					**(800)**	-	-	**(7.07)**	**(35.4)**	**(282)**	**(24.1)**	**(818)**	**(219)**	**(182)**	**(260)**	-		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat)*					-	-	-	**1820***	**480***	**8870***	-	**818***	**219***	**182***	**260***	-			

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Bold & Asteric * = C-sat Exceedance
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DRO = Diesel Range Organics
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PVOC's = Petroleum Volatile Organic Compounds
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Note: Non-Industrial RCLs apply to this site.

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A.2 Soil Analytical Results Table
Herriges Oil BP S BRRTS #02-67-111819

Sample ID	Depth (feet)	Saturation U/S	Date	PID	Lead (ppm)	DRO (ppm)	GRO (ppm)	Benzene (ppm)	Ethyl-benzene (ppm)	MTBE (ppm)	Naph-thalene (ppm)	Toluene (ppm)	1,2,4-Trime-thylbenzene (ppm)	1,3,5-Trime-thylbenzene (ppm)	Xylene (Total) (ppm)	Other VOC's (ppb)	NR720 Direct Contact Hazard Risk (PVOC and PAH)		
																	Exeedance Count	Hazard Index	Cumulative Cancer Risk
G-15-1	3.5	U	03/26/19	91.10	**146.0**	NS	NS	<0.025	<0.025	<0.025	0.40	<0.025	0.048	0.035	0.091	NS			
G-15-2	5.0	S	03/26/19	342.90	NS	NS	NS	**0.29**	<0.25	<0.25	**9.2**	0.37	**1.19**	**1.28**	1.17	NS			
G-15-3	10.0	S	03/26/19	3.60	NOT SAMPLED														
G-15-4	12.0	S	03/26/19	2.00	NOT SAMPLED														
G-15-5	14.0	S	03/26/19	1.20	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
MW-1-1	3.5	U	03/26/19	381.00	NOT SAMPLED														
MW-1-2	8.0	S	03/26/19	852.00	NOT SAMPLED														
MW-1-3	10.0	S	03/26/19	12.50	NOT SAMPLED														
MW-1-4	12.0	S	03/26/19	6.10	NOT SAMPLED														
MW-1-5	14.0	S	03/26/19	4.00	NS	NS	NS	<0.025	<0.025	<0.025	0.0267	<0.025	<0.025	<0.025	<0.075	NS			
MW-2-1	3.5	U	03/26/19	1.90	**261.0**	NS	NS	**0.0268**	<0.025	<0.025	0.262	0.034	0.077	0.042	0.054-0.071	NS	**5**	1.2972	**1.3E-04**
MW-2-2	5.0	S	03/26/19	1.40	NS	NS	NS	<0.025	<0.025	<0.025	0.201	0.034	0.064	0.037	0.104	NS			
MW-2-3	10.0	S	03/26/19	1.60	NOT SAMPLED														
MW-2-4	12.0	S	03/26/19	1.70	NOT SAMPLED														
MW-2-5	14.0	S		1.20	NS	NS	NS	<0.025	<0.025	<0.025	0.0273	<0.025	<0.025	<0.025	<0.075	NS			
MW-3-1	3.5	U	03/26/19	2.60	3.69	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
MW-3-2	5.0	U	03/26/19	2.60	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
MW-3-3	10.0	S	03/26/19	2.10	NOT SAMPLED														
MW-3-4	12.0	S	03/26/19	2.10	NOT SAMPLED														
MW-3-5	14.0	S	03/26/19	2.00	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
MW-4-1	0-4	U	03/26/19	2.80	**51.0**	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.0261-0.0761	NS	**3**	0.0877	**1.8E-05**
MW-4-2	4-8	S	03/26/19	2.70	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
MW-4-3	8.0	S	03/26/19	2.00	NOT SAMPLED														
MW-4-4	12.0	S	03/26/19	2.40	NOT SAMPLED														
MW-4-5	14.0	S	03/26/19	1.70	NS	NS	NS	<0.025	<0.025	<0.025	0.044	<0.025	<0.025	<0.025	<0.075	NS			
MW-5-1	3.5	U	03/26/19	2.60	5.79	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
MW-5-2	8.0	S	03/26/19	2.50	NS	NS	NS	<0.025	<0.025	<0.025	0.071	<0.025	<0.025	<0.025	<0.075	NS			
MW-5-3	10.0	S	03/26/19	1.90	NOT SAMPLED														
Groundwater RCL					**27**	-	-	**0.0051**	**1.57**	**0.027**	**0.6582**	**1.1072**	**1.3787**		**3.96**	-			
Non-Industrial Direct Contact RCL					**400**	-	-	**1.6**	**8.02**	**63.8**	**5.52**	**818**	**219**	**182**	**260**	-		1.00E+00	1.00E-05
Industrial Direct Contact RCL					**(800)**	-	-	**(7.07)**	**(35.4)**	**(282)**	**(24.1)**	**(818)**	**(219)**	**(182)**	**(260)**	-		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat)*					-	-	-	**1820***	**480***	**8870***	-	**818***	**219***	**182***	**260***	-			

Bold = Groundwater RCL Exceedance
Bold & Underline = Non Industrial Direct Contact RCL Exceedance
(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
NS = Not Sampled
NM = Not Measured
(ppm) = parts per million
ND = No Detects
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
PVOC's = Petroleum Volatile Organic Compounds
VOC's = Volatile Organic Compounds
Note: Non-Industrial RCLs apply to this site.

U=UNSATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)
S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

A.2 Soil Analytical Results Table
Herriges Oil BP S BRRTS #02-67-111819

Sample ID	Depth (feet)	Saturation U/S	Date	PID	Lead (ppm)	DRO (ppm)	GRO (ppm)	Benzene (ppm)	Ethyl-benzene (ppm)	MTBE (ppm)	Naph-thalene (ppm)	Toluene (ppm)	1,2,4-Trime-thylbenzene (ppm)	1,3,5-Trime-thylbenzene (ppm)	Xylene (Total) (ppm)	Other VOC's (ppb)	NR720 Direct Contact Hazard Risk (PVOC and PAH)		
																	Exeedance Count	Hazard Index	Cumulative Cancer Risk
MW-5-4	12.0	S	03/26/19	1.80	NOT SAMPLED														
MW-5-5	14.0	S	03/26/19	1.60	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
MW-6-1	3.5	U	12/09/19	0.80	NOT SAMPLED														
MW-6-2	8.0	S	12/09/19	0.60	NOT SAMPLED														
MW-6-3	12.0	S	12/09/19	0.50	NOT SAMPLED														
MW-6-4	NO RECOVERY																		
MW-7-1	3.5	U	12/09/19	0.70	NOT SAMPLED														
MW-7-2	8.0	S	12/09/19	0.60	NOT SAMPLED														
MW-7-3	12.0	S	12/09/19	0.30	NOT SAMPLED														
MW-7-4	14.0	S	12/09/19	0.40	NOT SAMPLED														
G-16-1	3.5	U	12/09/19	2.80	NOT SAMPLED												1	0.0355	7.7E-06
G-17-1	3.5	U	12/09/19	1.20	NOT SAMPLED												1	0.0073	1.6E-06
G-18-1	3.5	U	12/09/19	1.20	NOT SAMPLED												1	0.0069	1.4E-06
G-19-1	3.5	U	12/09/19	1.10	NOT SAMPLED														
G-20-1	3.5	U	12/09/19	0.20	NOT SAMPLED												1	0.0176	3.8E-06
G-21-1	3.5	U	12/09/19	0.40	NOT SAMPLED												1	0.0156	3.4E-06
G-22-1	1.5	U	03/08/21	0.50	NOT SAMPLED												1	0.0389	8.1E-06
G-23-1	1.5	U	03/08/21	0.87	NOT SAMPLED												6	2.772	5.7E-04
G-24-1	1.5	U	03/08/21	65.0	NS	NS	NS	**0.061**	0.159	<0.025	**0.68**	0.111	**8.1**	**2.93**	0.92	NS			
G-25-1	1.5	U	03/08/21	7.80	NS	NS	NS	**0.046**	0.069	<0.025	0.097	0.244	0.279	0.136	0.682	NS			
G-26-1	3.0	U	03/08/21	0.73	NOT SAMPLED														
G-27-1	3.0	U	03/08/21	0.63	NOT SAMPLED														
G-28-1	3.0	U	03/08/21	1.30	NOT SAMPLED														
G-29-1	1.5	U	03/08/21	0.78	NOT SAMPLED												1	0.0503	1.1E-05
G-30-1	1.5	U	03/08/21	1.70	NOT SAMPLED														
G-31-1	3.0	U	03/08/21	1.30	NOT SAMPLED														
G-32-1	3.0	U	03/08/21	1.30	NOT SAMPLED														
G-33-1	3.0	U	03/08/21	1.00	NOT SAMPLED														
Groundwater RCL					**27**	-	-	**0.0051**	**1.57**	**0.027**	**0.6582**	**1.1072**	**1.3787**		**3.96**	-			
Non-Industrial Direct Contact RCL					**400**	-	-	**1.6**	**8.02**	**63.8**	**5.52**	**818**	**219**	**182**	**260**	-		1.00E+00	1.00E-05
Industrial Direct Contact RCL					**(800)**	-	-	**(7.07)**	**(35.4)**	**(282)**	**(24.1)**	**(818)**	**(219)**	**(182)**	**(260)**	-		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat)*					-	-	-	**1820***	**480***	**8870***	-	**818***	**219***	**182***	**260***	-			

Bold = Groundwater RCL Exceedance
Bold & Underline = Non Industrial Direct Contact RCL Exceedance
(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
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(ppm) = parts per million
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DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
PVOC's = Petroleum Volatile Organic Compounds
VOC's = Volatile Organic Compounds
Note: Non-Industrial RCLs apply to this site.

U=UNSATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)
S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

A.2 Soil Analytical Results Table
Herriges Oil BP S BRRTS #02-67-111819

Sampling Conducted on March 25, 2019

VOC's		Bold = Groundwater RCL	Underline & Bold = Non-Industrial Direct Contact RCL	(Parenthesis & Bold) = Industrial Direct Contact RCL	Asteric * & Bold =Soil Saturation (C-sat) RCL
Sample ID#	G-3-2				
Sample Depth/ft.	5				
Benzene/ppm	0.51	0.0051	1.6	(7.07)	1820*
Bromobenzene/ppm	< 0.025	= =	342	(679)	= =
Bromodichloromethane/ppm	< 0.074	0.0003	0.418	(1.83)	= =
Bromoform/ppm	< 0.029	0.0023	25.4	(113)	= =
tert-Butylbenzene/ppm	0.044 "J"	= =	183	(183)	183*
sec-Butylbenzene/ppm	0.55	= =	145	(145)	145*
n-Butylbenzene/ppm	1.25	= =	108	(108)	108*
Carbon Tetrachloride/ppm	< 0.016	0.0039	0.916	(4.03)	= =
Chlorobenzene/ppm	< 0.013	= =	370	(761)	761*
Chloroethane/ppm	< 0.091	0.2266	= =	= =	= =
Chloroform/ppm	< 0.035	0.0033	0.454	(1.98)	= =
Chloromethane/ppm	< 0.076	0.0155	159	(669)	= =
2-Chlorotoluene/ppm	< 0.015	= =	= =	= =	= =
4-Chlorotoluene/ppm	< 0.018	= =	= =	= =	= =
1,2-Dibromo-3-chloropropane/ppm	< 0.058	0.0002	0.008	(0.092)	= =
Dibromochloromethane/ppm	< 0.025	0.032	8.28	(38.9)	= =
1,4-Dichlorobenzene/ppm	< 0.037	0.144	3.74	(16.4)	= =
1,3-Dichlorobenzene/ppm	< 0.037	1.1528	297	(297)	297*
1,2-Dichlorobenzene/ppm	< 0.028	1.168	376	(376)	376*
Dichlorodifluoromethane/ppm	< 0.048	3.0863	126	(530)	= =
1,2-Dichloroethane/ppm	< 0.038	0.0028	0.652	(2.87)	540*
1,1-Dichloroethane/ppm	< 0.034	0.4834	5.06	(22.2)	= =
1,1-Dichloroethene/ppm	< 0.022	0.005	320	(1190)	1190*
cis-1,2-Dichloroethene/ppm	< 0.032	0.0412	156	(2340)	= =
trans-1,2-Dichloroethene/ppm	< 0.028	0.0626	1560	(1850)	= =
1,2-Dichloropropane/ppm	< 0.035	0.0033	3.4	(15)	= =
1,3-Dichloropropane/ppm	< 0.025	= =	1490	(1490)	1490*
trans-1,3-Dichloropropene/ppm	< 0.022	0.003	1510	(1510)	= =
cis-1,3-Dichloropropene/ppm	< 0.039		1210	(1210)	= =
Di-isopropyl ether/ppm	< 0.01	= =	2260	(2260)	2260*
EDB (1,2-Dibromoethane)/ppm	< 0.023	0.0000282	0.05	(0.221)	= =
Ethylbenzene/ppm	0.33	1.57	8.02	(35.4)	480*
Hexachlorobutadiene/ppm	< 0.085	= =	1.63	(7.19)	= =
Isopropylbenzene/ppm	0.84	= =	= =	= =	= =
p-Isopropyltoluene/ppm	0.191	= =	162	(162)	162*
Methylene chloride/ppm	< 0.15	0.0026	61.8	(1150)	= =
Methyl tert-butyl ether (MTBE)/ppm	< 0.05	0.027	63.8	(282)	8870*
Naphthalene/ppm	2.78	0.6582	5.52	(24.1)	= =
n-Propylbenzene/ppm	2.16	= =	= =	= =	= =
1,1,2,2-Tetrachloroethane/ppm	< 0.028	0.0002	0.81	(3.6)	= =
1,1,1,2-Tetrachloroethane/ppm	< 0.028	0.0534	2.78	(12.3)	= =
Tetrachloroethene (PCE)/ppm	< 0.032	0.0045	33	(145)	= =
Toluene/ppm	< 0.032	1.1072	818	(818)	818*
1,2,4-Trichlorobenzene/ppm	< 0.064	0.408	24	(113)	= =
1,2,3-Trichlorobenzene/ppm	< 0.066	= =	62.6	(934)	= =
1,1,1-Trichloroethane/ppm	< 0.03	0.1402	= =	= =	= =
1,1,2-Trichloroethane/ppm	< 0.033	0.0032	1.59	(7.01)	= =
Trichloroethene (TCE)/ppm	< 0.041	0.0036	1.3	(8.41)	= =
Trichlorofluoromethane/ppm	< 0.041	2.2387	1230	(1230)	1230*
1,2,4-Trimethylbenzene/ppm	0.035 "J"	1.3787	219	(219)	219*
1,3,5-Trimethylbenzene/ppm	< 0.032		182	(182)	182*
Vinyl Chloride/ppm	< 0.019	0.0001	0.07	(2.08)	= =
m&p-Xylene/ppm	< 0.072	3.96	260	(260)	260*
o-Xylene/ppm	< 0.044				

NS = Not Sampled, NM = Not Measured
(ppm) = parts per million
= = No Exceedences
"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Note: Non-Industrial RCLs apply to this site.

A.2 Soil Analytical Results Table
(PAH)
Herriges Oil BP S BRRTS #02-67-111819

Sample	Depth (feet)	Saturation U/S	Date	Acenaph-thene (ppm)	Acenaph-thylene (ppm)	Anthracene (ppm)	Benzo(a) anthracene (ppm)	Benzo(a) pyrene (ppm)	Benzo(b) fluoranthene (ppm)	Benzo(g,h,I) perylene (ppm)	Benzo(k) fluoranthene (ppm)	Chrysene (ppm)	Dibenzo(a,h) anthracene (ppm)	Fluoranthene (ppm)	Fluorene (ppm)	Indeno(1,2,3-cd) pyrene (ppm)	1-Methyl-naphthalene (ppm)	2-Methyl-naphthalene (ppm)	Naph-thalene (ppm)	Phenan-threne (ppm)	Pyrene (ppm)	NR722 Direct Contact Hazard Risk (cPAH)		
																						Exeedance Count	Hazard Index	Cumulative Cancer Risk
G-1-1	3.5	U	03/25/19	0.16	0.54	0.91	**2.46**	**(3.60)**	**5.00**	3.50	1.59	**3.70**	**0.239**	6.00	0.301	**2.61**	0.166	0.198	0.172	2.60	5.40	**5**	0.2022	**4.20E-05**
G-2-1	3.5	U	03/25/19	<0.0163	0.01	<0.0043	<0.016	<0.0124	<0.0109	0.0111	<0.0091	<0.006	<0.0101	0.0057	<0.0086	<0.0082	<0.0086	<0.0147	<0.0153	<0.0071	<0.0067			
G-3-1	3.5	U	03/25/19	0.44	0.65	0.73	**1.71**	**(2.22)**	**3.30**	2.37	1.03	**2.43**	**0.13**	3.60	1.28	**1.57**	**19.6**	24	**12.6**	2.56	3.50	**7**	0.1247	**2.6E-05**
G-4-1	3.5	U	03/25/19	<0.0163	0.0124	0.0049	<0.016	<0.0124	0.0154	0.0106	<0.0091	0.0102	<0.0101	0.0173	<0.0086	<0.0082	0.164	0.038	0.059	0.0164	0.0143			
G-5-1	3.0	U	03/25/19	1.87	1.94	1.69	**2.83**	**(5.00)**	**7.40**	6.40	1.98	**4.00**	**1.33**	6.70	3.06	**4.60**	**33.0**	13.2	**8.20**	4.30	7.40	**7**	0.2809	**6.8E-05**
G-6-1	3.5	U	03/25/19	0.0203	0.06	0.262	0.68	**0.79**	**1.10**	0.66	0.35	**0.84**	0.042	1.62	0.044	0.53	0.071	0.097	0.079	0.73	1.32	**1**	0.0444	**9.3E-06**
G-7-1	3.5	U	03/25/19	<0.0163	<0.0086	<0.0043	0.0195	0.0134	0.0209	0.0122	<0.0091	0.0172	<0.0101	0.0214	<0.0086	<0.0082	0.0278	0.0232	<0.0153	0.0242	0.0182			
G-8-1	3.5	U	03/25/19	<0.0163	<0.0086	<0.0043	<0.016	<0.0124	<0.0109	<0.0084	<0.0091	<0.006	<0.0101	<0.0054	<0.0086	<0.0082	<0.0086	<0.0147	<0.0153	<0.0071	<0.0067			
G-9-1	3.5	U	03/25/19	<0.0163	0.036	0.037	0.0283	0.0167	0.039	0.0229	0.01	0.0294	<0.0101	0.036	0.0089	0.0166	0.274	0.293	0.102	0.148	0.037			
G-10-1	3.5	U	03/25/19	0.037	0.07	0.122	0.39	**0.41**	**0.61**	0.306	0.192	**0.45**	0.0255	0.70	0.038	0.235	0.094	0.109	0.076	0.53	0.67	**1**	0.023	4.9E-06
G-11-1	3.5	U	03/25/19	14.1	2.35	59.0	**(66.0)**	**(58.0)**	**(78.0)**	29.5	**27.0**	**65.0**	**(2.89)**	**166**	**26.0**	**(28.1)**	6.00	4.10	**4.60**	158	**130**	**6**	3.2584	**6.8E-04**
G-12-1	3.5	U	03/25/19	<0.0163	0.068	0.056	0.101	**0.116**	0.169	0.129	0.056	0.102	<0.0101	0.165	0.032	0.091	0.071	0.136	0.0192	0.135	0.141	**1**	0.0065	1.4E-06
G-13-1	3.5	U	03/26/19	<0.0163	0.0293	0.0166	0.04	0.038	0.054	0.044	0.018	0.036	<0.0101	0.052	0.0098	0.0253	<0.0086	<0.0147	<0.0153	0.038	0.046			
G-14-1	3.5	U	03/26/19	<0.0163	0.32	0.202	0.61	**0.92**	**1.38**	0.86	0.42	**0.79**	0.052	0.95	0.045	0.61	0.113	0.142	0.078	0.40	0.91	**2**	0.0517	**1.1E-05**
G-15-1	3.5	U	03/26/19	<0.0163	0.0171	0.06	<0.016	<0.0124	<0.0109	0.022	<0.0091	<0.006	<0.0101	0.0062	0.0209	0.0088	0.154	0.36	0.141	0.05	0.0107			
MW-2-1	3.5	U	03/26/19	0.97	0.273	6.70	**11.9**	**(11.0)**	**15.5**	5.90	5.10	**11.8**	**0.59**	25.7	2.12	**5.60**	0.172	0.173	0.097	15.8	20.6	**5**	0.618	**1.3E-04**
MW-3-1	3.5	U	03/26/19	<0.0163	<0.0086	0.0079	0.0192	0.0134	0.0201	<0.0084	<0.0091	0.0146	<0.0101	0.0247	<0.0086	<0.0082	<0.0086	<0.00147	<0.0153	0.0177	0.0205			
MW-4-1	0-4	U	03/26/19	0.34	0.039	0.94	**1.52**	**1.47**	**2.42**	0.90	0.65	**1.85**	0.061	4.70	0.45	0.85	0.045	0.053	0.042	4.40	3.50	**3**	0.0826	**1.8E-05**
MW-5-1	3.5	U	03/26/19	<0.0163	<0.0086	<0.0043	<0.016	<0.0124	<0.0109	<0.0084	<0.0091	0.0064	<0.0101	0.0102	<0.0086	<0.0082	<0.0086	<0.0147	<0.0153	0.0098	0.0093			
G-16-1	3.5	U	12/09/19	<0.0163	0.21	0.094	0.36	**0.62**	**0.74**	0.64	0.262	**0.42**	0.109	0.51	0.0151	0.48	0.0098	<0.0147	0.022	0.185	0.50	**1**	0.0348	**7.7E-06**
G-17-1	3.5	U	12/09/19	<0.0163	0.067	0.0311	0.088	**0.125**	0.183	0.139	0.058	0.116	0.0239	0.128	0.0095	0.107	0.0086	<0.0147	<0.0153	0.063	0.122	**1**	0.007	1.6E-06
G-18-1	3.5	U	12/09/19	<0.0163	0.0104	0.042	0.109	**0.116**	0.159	0.084	0.056	0.123	0.0134	0.293	0.0187	0.077	<0.0086	<0.0147	<0.0153	0.227	0.243	1	0.0065	1.4E-06
G-19-1	3.5	U	12/09/19	<0.0163	0.0228	0.0125	0.04	0.048	0.074	0.054	0.0203	0.046	<0.0101	0.058	<0.0086	0.042	<0.0086	<0.0147	<0.0153	0.0279	0.055			
G-20-1	3.5	U	12/09/19	0.0294	<0.0086	0.103	0.303	**0.298**	0.45	0.237	0.133	**0.35**	0.043	0.82	0.035	0.21	<0.0086	<0.0147	<0.0153	0.49	0.64	**1**	0.0167	3.8E-06
G-21-1	3.5	U	12/09/19	<0.0163	0.0198	0.058	0.231	**0.267**	0.38	0.211	0.127	**0.267**	0.039	0.52	0.0132	0.185	<0.0086	<0.0147	<0.0153	0.221	0.44	**1**	0.015	3.4E-06
G-22-1	1.5	U	03/08/21	0.064	0.034	0.306	0.76	**0.66**	**0.88**	0.294	0.283	**0.74**	0.067	1.87	0.069	0.37	<0.0101	<0.0138	<0.0096	0.99	1.47	**1**	0.0371	**8.1E-06**
G-23-1	1.5	U	03/08/21	8.90	2.45	36.0	**(50.0)**	**(47.0)**	**(53.0)**	26.3	**19.6**	**45.0**	**(5.50)**	**114**	13.9	**(29.5)**	2.22	1.39	**2.62**	88.0	**94.0**	**6**	2.6404	**5.7E-04**
G-24-1	1.5	U	03/08/21	0.44	0.263	0.269	0.059	0.064	0.085	0.046	0.0258	0.066	<0.0142	0.128	0.64	0.051	4.70	1.09	**0.68**	0.99	0.199			
G-25-1	1.5	U	03/08/21	<0.0132	0.044	0.037	0.0289	0.062	0.074	0.065	0.0179	0.0314	<0.0142	0.033	0.0135	0.057	0.126	0.192	0.097	0.079	0.07			
G-26-1	3.0	U	03/08/21	<0.0132	0.0165	<0.0073	<0.0158	<0.0142	<0.0099	<0.0118	<0.0091	<0.0124	<0.0142	<0.0091	<0.0094	<0.0126	<0.0101	<0.0138	<0.0096	0.008	<0.0091			
G-27-1	3.0	U	03/08/21	<0.0132	0.0124	<0.0073	<0.0158	<0.0142	<0.0099	<0.0118	<0.0091	<0.0124	<0.0142	<0.0091	<0.0094	<0.0126	<0.0101	<0.0138	<0.0096	<0.0077	<0.0091			
G-28-1	3.0	U	03/08/21	<0.0132	0.0116	<0.0073	<0.0158	<0.0142	<0.0099	<0.0118	<0.0091	<0.0124	<0.0142	0.0115	<0.0094	<0.0126	<0.0101	<0.0138	<0.0096	0.0103	0.0111			
G-29-1	1.5	U	03/08/21	0.0145	0.052	0.155	0.80	**0.87**	**1.14**	0.41	0.38	**0.81**	0.097	1.39	0.0198	0.51	0.0221	0.0198	0.0155	0.28	1.19	**1**	0.0489	**1.1E-05**
G-30-1	1.5	U	03/08/21	<0.0132	<0.0092	<0.0073	<0.0158	<0.0142	<0.0099	<0.0118	<0.0091	<0.0124	<0.0142	<0.0091	<0.0094	<0.0126	<0.0101	<0.0138	<0.0096	<0.0077	<0.0091			
G-31-1	3.0	U	03/08/21	<0.0132	0.0237	0.0148	0.051	0.059	0.087	0.036	0.0266	0.051	<0.0142	0.075	<0.0094	0.043	<0.0101	<0.0138	<0.0096	0.0249	0.07			
G-32-1	3.0	U	03/08/21	<0.0132	<0.0092	<0.0073	<0.0158	<0.0142	<0.0099	<0.0118	<0.0091	<0.0124	<0.0142	0.0095	<0.0094	<0.0126	<0.0101	<0.0138	<0.0096	<0.0077	0.0109			
G-33-1	3.0	U	03/08/21	<0.0132	<0.0092	<0.0073	<0.0158	<0.0142	<0.0099	<0.0118	<0.0091	<0.0124	<0.0142	0.0159	<0.0094	<0.0126	<0.0101	<0.0138	<0.0096	0.011	0.0129			
Groundwater RCL				---	---	**197**	---	**0.47**	**0.4781**	---	---	**0.1442**	---	**88.8**	**14.8**	---	---	---	**0.6582**	---	**54.5**			
Non-Industrial Direct Contact RCL				**3590**	---	**17900**	**1.14**	**0.115**	**1.15**	---	**11.5**	**115**	**0.115**	**2390**	**2390**	**1.15**	**17.6**	**239**	**5.52**	---	**1790**		**1.00E+00**	**5.00E-06**
Industrial Direct Contact RCL				**(45200)**	---	**(100000)**	**(20.8)**	**(2.11)**	**(21.1)**	---	**(211)**	**(2110)**	**(2.11)**	**(30100)**	**(30100)**	**(21.1)**	**(72.7)**	**(3010)**	**(24.1)**	---	**(22600)**			
Soil Saturation Concentration (C-sat)*				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			

Bold = Groundwater RCL Exceedance
Bold & Underline = Non Industrial Direct Contact RCL Exceedance
(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance
Bold &Asteric * = C-sat Exceedance
NS = Not Sampled
(ppm) = parts per million
PAH = Polynuclear Aromatic Hydrocarbons

NM = Not Measured
ND = No Detects

U=UNSATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)
S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

A.3 Residual Soil Analytical Results Table
Herriges Oil BP S BRRTS #02-67-111819

Sample ID	Depth (feet)	Saturation U/S	Date	PID	Lead (ppm)	DRO (ppm)	GRO (ppm)	Benzene (ppm)	Ethyl-benzene (ppm)	MTBE (ppm)	Naph-thalene (ppm)	Toluene (ppm)	1,2,4-Trime-thylbenzene (ppm)	1,3,5-Trime-thylbenzene (ppm)	Xylene (Total) (ppm)	Other VOC's (ppb)	NR720 Direct Contact Hazard Risk (PVOC and PAH)		
																	Exeedance Count	Hazard Index	Cumulative Cancer Risk
B-1	8-12	S	06/01/12	47.0	NS	NS	NS	<0.2	<0.2	<0.2	**3.87**	0.271J	**1.4**	**1**	1.281J	NS			
B-4	8-12	S	06/01/12	683.0	NS	NS	NS	<2	**12.6**	<2	**50.7**	**4.03**	**358***	**169**	**225**	NS			
G-1-1	3.5	U	03/25/19	0.10	**210.0**	NS	NS	**0.075**	<0.025	<0.025	0.124	0.084	0.056	0.044	0.143	NS	**5**	0.7357	**4.2E-05**
G-2-1	3.5	U	03/25/19	0.30	**49.2**	NS	NS	<0.025	<0.025	<0.025	0.082	<0.025	<0.025	0.0284	0.0294-0.0794	NS			
G-3-1	3.5	U	03/25/19	275.20	12.8	NS	NS	<1.25	<1.25	<1.25	**(58)**	**1.4**	**10.7**	**6.1**	**6.65**	NS	**7**	0.6271	**3.9E-05**
G-3-2	5.0	S	03/25/19	1157.00	NS	2350	4400	**0.51**	0.33	<0.05	**2.78**	<0.032	0.035	<0.032	<0.116	SEE VOC SHEET TCLP LEAD <0.1 TCLP BENZENE <0.05			
G-4-2	5.0	U	03/25/19	22.20	NS	NS	NS	<1.25	<1.25	<1.25	**45**	<1.25	**5.1**	**4.0**	**4.73**	NS			
G-5-1	3.0	U	03/25/19	844.00	**316.0**	NS	NS	**2.17**	**3.2**	<0.25	**(26.8)**	**6.1**	**8.9**	**9.6**	**13.8**	NS	8	1.3849	**7.7E-05**
G-5-2	6.0	S	03/25/19	898.00	NS	NS	NS	**0.32**	0.92	<0.025	**4.5**	**1.5**	**0.80**	**2.07**	**4.05**	NS			
G-6-1	3.5	U	03/25/19	4.10	11.9	NS	NS	**0.082**	0.149	<0.025	0.51	0.28	**0.39**	**1.0**	0.761	NS	**1**	0.0549	**9.5E-06**
G-6-2	6.0	S	03/25/19	50.40	NS	NS	NS	<0.025	0.111	<0.025	**1.71**	<0.025	0.262	0.126	0.385	NS			
G-7-1	3.5	U	03/25/19	13.70	6.3	NS	NS	**0.075**	<0.025	<0.025	0.141	0.061	<0.025	0.0295	<0.075	NS			
G-10-1	3.5	U	03/25/19	1.80	**86.1**	NS	NS	<0.025	<0.025	<0.025	0.128	0.072	0.041	0.045	0.049-0.099	NS	**1**	0.2407	**4.9E-06**
G-10-2	5.0	U	03/25/19	1.90	NS	NS	NS	**0.030**	0.035	**0.044**	0.114	0.143	0.067	0.066	0.181	NS			
G-11-1	3.5	U	03/25/19	2.20	**47.0**	NS	NS	<0.25	<0.25	<0.25	**11.9**	<0.25	<0.25	<0.25	<0.75	NS	7	3.5089	**6.9E-04**
G-11-2	5.0	U	03/25/19	53.80	NS	NS	NS	<1.25	<1.25	<1.25	**58**	<1.25	**2.37**	**1.87**	<3.75	NS			
G-12-1	3.5	U	03/25/19	27.50	**274.0**	NS	NS	<0.25	0.42	<0.25	**12.3**	0.308	**4.2**	**3.8**	2.48	NS	**2**	0.7894	**3.9E-06**
G-12-2	5.0	U	03/25/19	21.90	NS	NS	NS	<1.25	<1.25	<1.25	**60**	<1.25	**5.1**	**5.5**	1.56-4.06	NS			
G-13-2	5.0	S	03/26/19	74.20	NS	NS	NS	**0.34**	0.289	<0.25	**4.6**	0.62	**1.05**	**0.90**	1.68	NS			
G-14-1	3.5	U	03/26/19	1.00	**351.0**	NS	NS	<0.025	0.0311	<0.025	0.284	0.080	0.112	0.055	0.224	NS	**2**	0.9333	**1.1E-05**
G-15-1	3.5	U	03/26/19	91.10	**146.0**	NS	NS	<0.025	<0.025	<0.025	0.40	<0.025	0.048	0.035	0.091	NS			
G-15-2	5.0	S	03/26/19	342.90	NS	NS	NS	**0.29**	<0.25	<0.25	**9.2**	0.37	**1.19**	**1.28**	1.17	NS			
MW-2-1	3.5	U	03/26/19	1.90	**261.0**	NS	NS	**0.0268**	<0.025	<0.025	0.262	0.034	0.077	0.042	0.054-0.071	NS	**5**	1.2972	**1.3E-04**
MW-4-1	0-4	U	03/26/19	2.80	**51.0**	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.0261-0.0761	NS	**3**	0.0877	**1.8E-05**
G-24-1	1.5	U	03/08/21	65.0	NS	NS	NS	**0.061**	0.159	<0.025	**0.68**	0.111	**8.1**	**2.93**	0.92	NS			
G-25-1	1.5	U	03/08/21	7.80	NS	NS	NS	**0.046**	0.069	<0.025	0.097	0.244	0.279	0.136	0.682	NS			
Groundwater RCL					**27**	-	-	**0.0051**	**1.57**	**0.027**	**0.6582**	**1.1072**	**1.3787**		**3.96**	-			
Non-Industrial Direct Contact RCL					**400**	-	-	**1.6**	**8.02**	**63.8**	**5.52**	**818**	**219**	**182**	**260**	-		1.00E+00	1.00E-05
Industrial Direct Contact RCL					**(800)**	-	-	**(7.07)**	**(35.4)**	**(282)**	**(24.1)**	**(818)**	**(219)**	**(182)**	**(260)**	-		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat)*					-	-	-	**1820***	**480***	**8870***	-	**818***	**219***	**182***	**260***	-			

Bold = Groundwater RCL Exceedance
Bold & Underline = Non Industrial Direct Contact RCL Exceedance
(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
NS = Not Sampled
NM = Not Measured
(ppm) = parts per million
ND = No Detects
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
PVOC's = Petroleum Volatile Organic Compounds
VOC's = Volatile Organic Compounds
Note: Non-Industrial RCLs apply to this site.

U=UNSATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)
S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

A.3 Residual Soil Analytical Results Table
(PAH)
Herriges Oil BP S BRRTS #02-67-111819

Sample	Depth (feet)	Saturation U/S	Date	Acenaph-thene (ppm)	Acenaph-thylene (ppm)	Anthracene (ppm)	Benzo(a) anthracene (ppm)	Benzo(a) pyrene (ppm)	Benzo(b) fluoranthene (ppm)	Benzo(g,h,i) perylene (ppm)	Benzo(k) fluoranthene (ppm)	Chrysene (ppm)	Dibenzo(a,h) anthracene (ppm)	Fluoranthene (ppm)	Fluorene (ppm)	Indeno(1,2,3-cd) pyrene (ppm)	1-Methyl-naphthalene (ppm)	2-Methyl-naphthalene (ppm)	Naph-thalene (ppm)	Phenan-threne (ppm)	Pyrene (ppm)	NR722 Direct Contact Hazard Risk (cPAH)		
																						Exeedance Count	Hazard Index	Cumulative Cancer Risk
G-1-1	3.5	U	03/25/19	0.16	0.54	0.91	**2.46**	**(3.60)**	**5.00**	3.50	1.59	**3.70**	**0.239**	6.00	0.301	**2.61**	0.166	0.198	0.172	2.60	5.40	5	0.2022	**4.2E-05**
G-3-1	3.5	U	03/25/19	0.44	0.65	0.73	**1.71**	**(2.22)**	**3.30**	2.37	1.03	**2.43**	**0.13**	3.60	1.28	**1.57**	**19.6**	24	**12.6**	2.56	3.50	7	0.1247	**2.6E-05**
G-5-1	3.0	U	03/25/19	1.87	1.94	1.69	**2.83**	**(5.00)**	**7.40**	6.40	1.98	**4.00**	**1.33**	6.70	3.06	**4.60**	**33.0**	13.2	**8.20**	4.30	7.40	7	0.2809	**6.8E-05**
G-6-1	3.5	U	03/25/19	0.0203	0.06	0.262	0.68	**0.79**	**1.10**	0.66	0.35	**0.84**	0.042	1.62	0.044	0.53	0.071	0.097	0.079	0.73	1.32	1	0.0444	**9.3E-06**
G-10-1	3.5	U	03/25/19	0.037	0.07	0.122	0.39	**0.41**	**0.61**	0.306	0.192	**0.45**	0.0255	0.70	0.038	0.235	0.094	0.109	0.076	0.53	0.67	1	0.023	4.9E-06
G-11-1	3.5	U	03/25/19	14.1	2.35	59.0	**(66.0)**	**(58.0)**	**(78.0)**	29.5	**27.0**	**65.0**	**(2.89)**	**166**	**26.0**	**(28.1)**	6.00	4.10	**4.60**	158	**130**	6	3.2584	**6.8E-04**
G-12-1	3.5	U	03/25/19	<0.0163	0.068	0.056	0.101	**0.116**	0.169	0.129	0.056	0.102	<0.0101	0.165	0.032	0.091	0.071	0.136	0.0192	0.135	0.141	1	0.0065	1.4E-06
G-14-1	3.5	U	03/26/19	<0.0163	0.32	0.202	0.61	**0.92**	**1.38**	0.86	0.42	**0.79**	0.052	0.95	0.045	0.61	0.113	0.142	0.078	0.40	0.91	2	0.0517	**1.1E-05**
MW-2-1	3.5	U	03/26/19	0.97	0.273	6.70	**11.9**	**(11.0)**	**15.5**	5.90	5.10	**11.8**	**0.59**	25.7	2.12	**5.60**	0.172	0.173	0.097	15.8	20.6	5	0.618	**1.3E-04**
MW-4-1	0-4	U	03/26/19	0.34	0.039	0.94	**1.52**	**1.47**	**2.42**	0.90	0.65	**1.85**	0.061	4.70	0.45	0.85	0.045	0.053	0.042	4.40	3.50	3	0.0826	**1.8E-05**
G-16-1	3.5	U	12/09/19	<0.0163	0.21	0.094	0.36	**0.62**	**0.74**	0.64	0.262	**0.42**	0.109	0.51	0.0151	0.48	0.0098	<0.0147	0.022	0.185	0.50	1	0.0348	**7.7E-06**
G-17-1	3.5	U	12/09/19	<0.0163	0.067	0.0311	0.088	**0.125**	0.183	0.139	0.058	0.116	0.0239	0.128	0.0095	0.107	0.0086	<0.0147	<0.0153	0.063	0.122	1	0.007	1.6E-06
G-18-1	3.5	U	12/09/19	<0.0163	0.0104	0.042	0.109	**0.116**	0.159	0.084	0.056	0.123	0.0134	0.293	0.0187	0.077	<0.0086	<0.0147	<0.0153	0.227	0.243	1	0.0065	1.4E-06
G-20-1	3.5	U	12/09/19	0.0294	<0.0086	0.103	0.303	**0.298**	0.45	0.237	0.133	**0.35**	0.043	0.82	0.035	0.21	<0.0086	<0.0147	<0.0153	0.49	0.64	1	0.0167	3.8E-06
G-21-1	3.5	U	12/09/19	<0.0163	0.0198	0.058	0.231	**0.267**	0.38	0.211	0.127	**0.267**	0.039	0.52	0.0132	0.185	<0.0086	<0.0147	<0.0153	0.221	**0.44**	1	0.015	3.4E-06
G-22-1	1.5	U	03/08/21	0.064	0.034	0.306	0.76	**0.66**	**0.88**	0.294	0.283	**0.74**	0.067	1.87	0.069	0.37	<0.0101	<0.0138	<0.0096	0.99	1.47	1	0.0371	**8.1E-06**
G-23-1	1.5	U	03/08/21	8.90	2.45	36.0	**(50.0)**	**(47.0)**	**(53.0)**	26.3	**19.6**	**45.0**	**(5.50)**	**114**	13.9	**(29.5)**	2.22	1.39	**2.62**	88.0	**94.0**	6	2.6404	**5.7E-04**
G-29-1	1.5	U	03/08/21	0.0145	0.052	0.155	0.80	**0.87**	**1.14**	0.41	0.38	**0.81**	0.097	1.39	0.0198	0.51	0.0221	0.0198	0.0155	0.28	1.19	1	0.0489	**1.1E-05**
Groundwater RCL				---	---	**197**	---	**0.47**	**0.4781**	---	---	**0.1442**	---	**88.8**	**14.8**	---	---	---	**0.6582**	---	**54.5**			
Non-Industrial Direct Contact RCL				**3590**	---	**17900**	**1.14**	**0.115**	**1.15**	---	**11.5**	**115**	**0.115**	**2390**	**2390**	**1.15**	**17.6**	**239**	**5.52**	---	**1790**		**1.00E+00**	**5.00E-06**
Industrial Direct Contact RCL				**(45200)**	---	**(100000)**	**(20.8)**	**(2.11)**	**(21.1)**	---	**(211)**	**(2110)**	**(2.11)**	**(30100)**	**(30100)**	**(21.1)**	**(72.7)**	**(3010)**	**(24.1)**	---	**(22600)**			
Soil Saturation Concentration (C-sat)*				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			

Bold = Groundwater RCL Exceedance
Bold & Underline = Non Industrial Direct Contact RCL Exceedance
(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance
Bold &Asteric * = C-sat Exceedance
NS = Not Sampled
(ppm) = parts per million
PAH = Polynuclear Aromatic Hydrocarbons

NM = Not Measured
ND = No Detects

U=UNSATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)
S=SATURATED (BASED ON ALL TIME LOW WATER TABLE PER WDNR)

A.6 Water Level Elevations
Herriges Oil BP S BRRTS #02-67-111819
Kewaskum, Wisconsin

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
Ground Surface (feet msl)	946.01	946.30	946.02	944.95	944.76	944.55	944.49
PVC top (feet msl)	945.77	946.00	945.70	944.56	944.37	944.13	944.00
Well Depth (feet)	13.00	13.00	13.00	13.00	13.00	13.00	13.00
Top of screen (feet msl)	943.01	943.30	943.02	941.95	941.76	941.55	941.49
Bottom of screen (feet msl)	933.01	933.30	933.02	931.95	931.76	931.55	931.49
Depth to Water From Top of PVC (feet)							
06/18/19	3.81	3.65	11.16	8.60	8.33	NI	NI
09/10/19	3.98	4.20	11.31	9.31	8.41	NI	NI
01/06/20	3.51	4.02	11.17	8.69	8.07	8.05	8.50
03/25/20	3.20	2.95	10.90	8.09	7.74	5.63	7.72
Depth to Water From Ground Surface (feet)							
06/18/19	4.05	3.95	11.48	8.99	8.72	NI	NI
09/10/19	4.22	4.50	11.63	9.70	8.80	NI	NI
01/06/20	3.75	4.32	11.49	9.08	8.46	8.47	8.99
03/25/20	3.44	3.25	11.22	8.48	8.13	6.05	8.21
Groundwater Elevation (feet msl)							
06/18/19	941.96	942.35	934.54	935.96	936.04	NI	NI
09/10/19	941.79	941.80	934.39	935.25	935.96	NI	NI
01/06/20	942.26	941.98	934.53	935.87	936.30	936.08	935.50
03/25/20	942.57	943.05	934.80	936.47	936.63	938.50	936.28

Note: Elevations are presented in feet mean sea level (msl).

A.7 Other
Groundwater NA Indicator Results
Herriges Oil BP S BRRTS #02-67-111819

Well MW-1

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Man-ganese (ppb)
06/18/19	2.79	6.03	-102.8	12.99	1478	<0.47	30.9	0.03	**1010**
09/10/19	0.93	7.10	-39.5	18.05	1621	NS	NS	NS	NS
01/06/20	1.86	6.72	-5.8	6.42	1897	NS	NS	NS	NS
03/25/20	4.14	6.70	-70.7	3.77	2433	NS	NS	NS	NS
ENFORCEMENT STANDARD = **ES – Bold**						**10**	-	-	**300**
PREVENTIVE ACTION LIMIT = *PAL - Italics*						*2*	-	-	*60*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured ORP = Oxidation Reduction Potential
Note: Elevations are presented in feet mean sea level (msl).

Well MW-2

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Man-ganese (ppb)
06/18/19	2.76	6.40	-104.0	15.96	1484	<0.47	18.3	0.04	**1120**
09/10/19	1.49	6.99	89.10	20.42	1176	NS	NS	NS	NS
01/06/20	1.72	6.67	143.50	8.43	1717	NS	NS	NS	NS
03/25/20	4.18	6.67	237.60	6.03	1764	NS	NS	NS	NS
ENFORCEMENT STANDARD = **ES – Bold**						**10**	-	-	**300**
PREVENTIVE ACTION LIMIT = *PAL - Italics*						*2*	-	-	*60*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured ORP = Oxidation Reduction Potential
Note: Elevations are presented in feet mean sea level (msl).

Well MW-3

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Man-ganese (ppb)
06/18/19	3.22	6.76	-80.2	12.15	3120	<0.47	82.4	<0.03	**572**
09/10/19	2.51	7.28	315.20	17.21	2630	NS	NS	NS	NS
01/06/20	5.61	7.12	160.30	9.81	4491	NS	NS	NS	NS
03/25/20	7.30	6.96	235.80	8.89	8593	NS	NS	NS	NS
ENFORCEMENT STANDARD = **ES – Bold**						**10**	-	-	**300**
PREVENTIVE ACTION LIMIT = *PAL - Italics*						*2*	-	-	*60*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured ORP = Oxidation Reduction Potential
Note: Elevations are presented in feet mean sea level (msl).

A.7 Other
Groundwater NA Indicator Results
Herriges Oil BP S BRRTS #02-67-111819

Well MW-4

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Man-ganese (ppb)
06/18/19	3.01	6.47	-90.5	11.08	1036	<0.47	11.1	0.14	*173*
09/10/19	2.85	7.25	313.50	15.83	418	NS	NS	NS	NS
01/06/20	2.35	7.01	150.00	9.39	1008	NS	NS	NS	NS
03/25/20	4.64	6.97	219.10	7.93	1038	NS	NS	NS	NS
ENFORCEMENT STANDARD = **ES – Bold**						**10**	-	-	**300**
PREVENTIVE ACTION LIMIT = *PAL - Italics*						*2*	-	-	*60*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured ORP = Oxidation Reduction Potential
Note: Elevations are presented in feet mean sea level (msl).

Well MW-5

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Man-ganese (ppb)
06/18/19	2.99	6.42	-96.9	11.38	1679	<0.47	27.8	0.15	**503**
09/10/19	1.03	7.29	298.40	16.19	1674	NS	NS	NS	NS
01/06/20	3.16	6.92	174.80	10.13	1837	NS	NS	NS	NS
03/25/20	5.02	6.90	338.50	7.97	1796	NS	NS	NS	NS
ENFORCEMENT STANDARD = **ES – Bold**						**10**	-	-	**300**
PREVENTIVE ACTION LIMIT = *PAL - Italics*						*2*	-	-	*60*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured ORP = Oxidation Reduction Potential
Note: Elevations are presented in feet mean sea level (msl).

Well MW-6

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Man-ganese (ppb)
01/06/20	2.14	6.96	70.80	10.39	2279	NS	NS	NS	NS
03/25/20	4.04	7.13	230.00	7.59	1917	NS	NS	NS	NS
ENFORCEMENT STANDARD = **ES – Bold**						**10**	-	-	**300**
PREVENTIVE ACTION LIMIT = *PAL - Italics*						*2*	-	-	*60*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured ORP = Oxidation Reduction Potential
Note: Elevations are presented in feet mean sea level (msl).

A.7 Other
Groundwater NA Indicator Results
Herriges Oil BP S BRRTS #02-67-111819

Well MW-7

Date	Dissolved Oxygen (ppm)	pH	ORP	Temp (C)	Specific Conductance	Nitrate + Nitrite (ppm)	Total Sulfate (ppm)	Dissolved Iron (ppm)	Man-ganese (ppb)
01/06/20	2.15	6.81	43.10	11.80	3240	NS	NS	NS	NS
03/25/20	3.96	6.86	176.50	10.45	4070	NS	NS	NS	NS
ENFORCEMENT STANDARD = **ES – Bold**						**10**	-	-	**300**
PREVENTIVE ACTION LIMIT = *PAL - Italics*						*2*	-	-	*60*

(ppb) = parts per billion (ppm) = parts per million
NS = not sampled NM = not measured ORP = Oxidation Reduction Potential
Note: Elevations are presented in feet mean sea level (msl).

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-1-1 3.5'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
5	0.7357	4.2E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		0.075		0.0007	4.7E-08
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		0.025		0.	3.1E-09
Toluene	108-88-3	5,240.	-	818.	Csat		0.084		0.	
Xylenes	1330-20-7	818.	-	260.	Csat		0.143		0.0002	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.025		0.	3.9E-10
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		0.056		0.0002	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		0.044		0.0001	
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.124		0.0007	2.2E-08
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		3.6	E	0.2022	3.1E-05
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.16		0.	
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.91		0.0001	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		2.46	E		2.2E-06
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		5.	E		4.3E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		1.59			1.4E-07
Chrysene	218-01-9	-	115.	115.	ca		3.7			3.2E-08
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.239	E		2.1E-06
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		6.		0.0025	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.301		0.0001	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		2.61	E		2.3E-06
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.166		0.	9.4E-09
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.198		0.0008	
Pyrene	129-00-0	1,790.	-	1,790.	nc		5.4		0.003	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	210.		0.525	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-3-1 3.5'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
7	0.6271	3.9E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		1.25		0.0118	7.8E-07
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		1.25		0.0003	1.6E-07
Toluene	108-88-3	5,240.	-	818.	Csat		1.4		0.0003	
Xylenes	1330-20-7	818.	-	260.	Csat		6.65		0.0081	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		1.25		0.0001	2.0E-08
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		10.7		0.0287	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		6.1		0.018	
Naphthalene	91-20-3	178.	5.52	5.52	ca		58.	E	0.3258	1.1E-05
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		2.22	E	0.1247	1.9E-05
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.44		0.0001	
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.73		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		1.71	E		1.5E-06
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		3.3	E		2.9E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		1.03			9.0E-08
Chrysene	218-01-9	-	115.	115.	ca		2.43			2.1E-08
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.13	E		1.1E-06
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		3.6		0.0015	
Fluorene	86-73-7	2,390.	-	2,390.	nc		1.28		0.0005	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		1.57	E		1.4E-06
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		19.6	E	0.0047	1.1E-06
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		24.		0.1004	
Pyrene	129-00-0	1,790.	-	1,790.	nc		3.5		0.002	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	12.8			

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-5-1 3.0'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
8	1.3849	7.7E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		2.17	E	0.0205	1.4E-06
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		3.2		0.0008	4.0E-07
Toluene	108-88-3	5,240.	-	818.	Csat		6.1		0.0012	
Xylenes	1330-20-7	818.	-	260.	Csat		13.8		0.0169	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.25		0.	3.9E-09
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		8.9		0.0239	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		9.6		0.0283	
Naphthalene	91-20-3	178.	5.52	5.52	ca		26.8	E	0.1506	4.9E-06
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		5.	E	0.2809	4.3E-05
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		1.87		0.0005	
Anthracene	120-12-7	17,900.	-	17,900.	nc		1.69		0.0001	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		2.83	E		2.5E-06
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		7.4	E		6.4E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		1.98			1.7E-07
Chrysene	218-01-9	-	115.	115.	ca		4.			3.5E-08
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		1.33	E		1.2E-05
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		6.7		0.0028	
Fluorene	86-73-7	2,390.	-	2,390.	nc		3.06		0.0013	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		4.6	E		4.0E-06
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		33.	E	0.0079	1.9E-06
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		13.2		0.0552	
Pyrene	129-00-0	1,790.	-	1,790.	nc		7.4		0.0041	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	316.		0.79	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-6-1 3.5'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.0549	9.5E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		0.082		0.0008	5.1E-08
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		0.149		0.	1.9E-08
Toluene	108-88-3	5,240.	-	818.	Csat		0.28		0.0001	
Xylenes	1330-20-7	818.	-	260.	Csat		0.761		0.0009	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.025		0.	3.9E-10
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		0.39		0.001	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		1.		0.0029	
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.51		0.0029	9.2E-08
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.79	E	0.0444	6.9E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0203		0.	
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.262		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.68			6.0E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		1.1			9.6E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.35			3.0E-08
Chrysene	218-01-9	-	115.	115.	ca		0.84			7.3E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.042			3.7E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		1.62		0.0007	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.044		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.53			4.6E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.071		0.	4.0E-09
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.097		0.0004	
Pyrene	129-00-0	1,790.	-	1,790.	nc		1.32		0.0007	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	11.9			

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-10-1 3.5'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.2407	4.9E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		0.025		0.0002	1.6E-08
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		0.025		0.	3.1E-09
Toluene	108-88-3	5,240.	-	818.	Csat		0.072		0.	
Xylenes	1330-20-7	818.	-	260.	Csat		0.049		0.0001	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.025		0.	3.9E-10
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		0.041		0.0001	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		0.045		0.0001	
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.128		0.0007	2.3E-08
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.41	E	0.023	3.6E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.037		0.	
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.122		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.39			3.4E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.61			5.3E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.192			1.7E-08
Chrysene	218-01-9	-	115.	115.	ca		0.45			3.9E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.0255			2.2E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		0.7		0.0003	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.038		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.235			2.0E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.094		0.	5.3E-09
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.109		0.0005	
Pyrene	129-00-0	1,790.	-	1,790.	nc		0.67		0.0004	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	86.1		0.2153	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-11-1 3.5'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
7	3.5089	6.9E-04

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		0.25		0.0024	1.6E-07
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		0.25		0.0001	3.1E-08
Toluene	108-88-3	5,240.	-	818.	Csat		0.25		0.	
Xylenes	1330-20-7	818.	-	260.	Csat		0.75		0.0009	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.25		0.	3.9E-09
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		0.25		0.0007	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		0.25		0.0007	
Naphthalene	91-20-3	178.	5.52	5.52	ca		11.9	E	0.0669	2.2E-06
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		58.	E	3.2584	5.0E-04
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		14.1		0.0039	
Anthracene	120-12-7	17,900.	-	17,900.	nc		59.		0.0033	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		66.	E		5.8E-05
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		78.	E		6.8E-05
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		27.	E		2.3E-06
Chrysene	218-01-9	-	115.	115.	ca		65.			5.7E-07
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		2.89	E		2.5E-05
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		166.		0.0695	
Fluorene	86-73-7	2,390.	-	2,390.	nc		26.		0.0109	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		28.1	E		2.4E-05
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		6.		0.0014	3.4E-07
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		4.1		0.0172	
Pyrene	129-00-0	1,790.	-	1,790.	nc		130.		0.0726	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	47.			

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-12-1 3.5'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
2	0.7894	3.9E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		0.25		0.0024	1.6E-07
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		0.42		0.0001	5.2E-08
Toluene	108-88-3	5,240.	-	818.	Csat		0.308		0.0001	
Xylenes	1330-20-7	818.	-	260.	Csat		2.48		0.003	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.25		0.	3.9E-09
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		4.2		0.0113	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		3.8		0.0112	
Naphthalene	91-20-3	178.	5.52	5.52	ca		12.3	E	0.0691	2.2E-06
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.116	E	0.0065	1.0E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0163		0.	
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.056		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.101			8.9E-08
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.169			1.5E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.056			4.9E-09
Chrysene	218-01-9	-	115.	115.	ca		0.102			8.9E-10
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.0101			8.8E-08
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		0.165		0.0001	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.032		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.091			7.9E-08
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.071		0.	4.0E-09
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.136		0.0006	
Pyrene	129-00-0	1,790.	-	1,790.	nc		0.141		0.0001	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	274.		0.685	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-14-1 3.5'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
2	0.9333	1.1E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		0.025		0.0002	1.6E-08
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		0.0311		0.	3.9E-09
Toluene	108-88-3	5,240.	-	818.	Csat		0.08		0.	
Xylenes	1330-20-7	818.	-	260.	Csat		0.224		0.0003	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.025		0.	3.9E-10
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		0.112		0.0003	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		0.055		0.0002	
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.284		0.0016	5.1E-08
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.92	E	0.0517	8.0E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0163		0.	
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.202		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.61			5.4E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		1.38	E		1.2E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.42			3.7E-08
Chrysene	218-01-9	-	115.	115.	ca		0.79			6.9E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.052			4.5E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		0.95		0.0004	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.045		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.61			5.3E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.113		0.	6.4E-09
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.142		0.0006	
Pyrene	129-00-0	1,790.	-	1,790.	nc		0.91		0.0005	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	351.		0.8775	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S MW-2-1 3.5'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
5	1.2972	1.3E-04

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		0.0268		0.0003	1.7E-08
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		0.025		0.	3.1E-09
Toluene	108-88-3	5,240.	-	818.	Csat		0.034		0.	
Xylenes	1330-20-7	818.	-	260.	Csat		0.054		0.0001	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.025		0.	3.9E-10
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		0.077		0.0002	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		0.042		0.0001	
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.262		0.0015	4.7E-08
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		11.	E	0.618	9.6E-05
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.97		0.0003	
Anthracene	120-12-7	17,900.	-	17,900.	nc		6.7		0.0004	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		11.9	E		1.0E-05
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		15.5	E		1.3E-05
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		5.1			4.4E-07
Chrysene	218-01-9	-	115.	115.	ca		11.8			1.0E-07
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.59	E		5.1E-06
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		25.7		0.0108	
Fluorene	86-73-7	2,390.	-	2,390.	nc		2.12		0.0009	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		5.6	E		4.9E-06
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.172		0.	9.8E-09
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.173		0.0007	
Pyrene	129-00-0	1,790.	-	1,790.	nc		20.6		0.0115	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	261.		0.6525	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S MW-4-1 0-4'

# of Soil-Concentration Entries: 23

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
3	0.0877	1.8E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	106.	1.6	1.6	ca		0.025		0.0002	1.6E-08
Ethylbenzene	100-41-4	4,080.	8.02	8.02	ca		0.025		0.	3.1E-09
Toluene	108-88-3	5,240.	-	818.	Csat		0.025		0.	
Xylenes	1330-20-7	818.	-	260.	Csat		0.0261		0.	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.	63.8	63.8	ca		0.025		0.	3.9E-10
Trimethylbenzene, 1,2,4-	95-63-6	373.	-	219.	Csat		0.025		0.0001	
Trimethylbenzene, 1,3,5-	108-67-8	339.	-	182.	Csat		0.025		0.0001	
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.042		0.0002	7.6E-09
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		1.47	E	0.0826	1.3E-05
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.34		0.0001	
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.94		0.0001	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		1.52	E		1.3E-06
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		2.42	E		2.1E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.65			5.7E-08
Chrysene	218-01-9	-	115.	115.	ca		1.85			1.6E-08
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.061			5.3E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		4.7		0.002	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.45		0.0002	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.85			7.4E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.045		0.	2.6E-09
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.053		0.0002	
Pyrene	129-00-0	1,790.	-	1,790.	nc		3.5		0.002	
Lead and Compounds	7439-92-1	400.	-	400.	nc	52.	51.			

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-16-1 3.5'

# of Soil-Concentration Entries: 18

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.0355	7.7E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.022		0.0001	4.0E-09
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.62	E	0.0348	5.4E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0163		0.	
Acenaphthylene	208-96-8	-	-				0.21			
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.094		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.36			3.2E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.74			6.4E-07
Benzo[g,h,i]perylene	191-24-2	-	-				0.64			
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.262			2.3E-08
Chrysene	218-01-9	-	115.	115.	ca		0.42			3.7E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.109			9.5E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		0.51		0.0002	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.0151		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.48			4.2E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.0098		0.	5.6E-10
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.0147		0.0001	
Phenanthrene	85-01-8	-	-				0.185			
Pyrene	129-00-0	1,790.	-	1,790.	nc		0.5		0.0003	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-17-1 3.5'

# of Soil-Concentration Entries: 18

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.0073	1.6E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.0153		0.0001	2.8E-09
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.125	E	0.007	1.1E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0163		0.	
Acenaphthylene	208-96-8	-	-				0.067			
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.0311		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.088			7.7E-08
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.183			1.6E-07
Benzo[g,h,i]perylene	191-24-2	-	-				0.139			
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.058			5.0E-09
Chrysene	218-01-9	-	115.	115.	ca		0.116			1.0E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.0239			2.1E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		0.128		0.0001	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.0095		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.107			9.3E-08
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.0086		0.	4.9E-10
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.0147		0.0001	
Phenanthrene	85-01-8	-	-				0.063			
Pyrene	129-00-0	1,790.	-	1,790.	nc		0.122		0.0001	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-18-1 3.5'

# of Soil-Concentration Entries: 18

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.0069	1.4E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.0153		0.0001	2.8E-09
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.116	E	0.0065	1.0E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0163		0.	
Acenaphthylene	208-96-8	-	-				0.0104			
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.042		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.109			9.6E-08
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.159			1.4E-07
Benzo[g,h,i]perylene	191-24-2	-	-				0.084			
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.056			4.9E-09
Chrysene	218-01-9	-	115.	115.	ca		0.123			1.1E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.0134			1.2E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		0.293		0.0001	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.0187		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.077			6.7E-08
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.0086		0.	4.9E-10
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.0147		0.0001	
Phenanthrene	85-01-8	-	-				0.227			
Pyrene	129-00-0	1,790.	-	1,790.	nc		0.243		0.0001	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-20-1 3.5'

# of Soil-Concentration Entries: 18

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.0176	3.8E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.0153		0.0001	2.8E-09
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.298	E	0.0167	2.6E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0294		0.	
Acenaphthylene	208-96-8	-	-				0.0086			
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.103		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.303			2.7E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.45			3.9E-07
Benzo[g,h,i]perylene	191-24-2	-	-				0.237			
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.133			1.2E-08
Chrysene	218-01-9	-	115.	115.	ca		0.35			3.0E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.043			3.7E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		0.82		0.0003	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.035		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.21			1.8E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.0086		0.	4.9E-10
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.0147		0.0001	
Phenanthrene	85-01-8	-	-				0.49			
Pyrene	129-00-0	1,790.	-	1,790.	nc		0.64		0.0004	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 Herriges Oil BP S G-21-1 3.5'

# of Soil-Concentration Entries: 18

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.0156	3.4E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 06/01/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.0153		0.0001	2.8E-09
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.267	E	0.015	2.3E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0163		0.	
Acenaphthylene	208-96-8	-	-				0.0198			
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.058		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.231			2.0E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.38			3.3E-07
Benzo[g,h,i]perylene	191-24-2	-	-				0.211			
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.127			1.1E-08
Chrysene	218-01-9	-	115.	115.	ca		0.267			2.3E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.039			3.4E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		0.52		0.0002	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.0132		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.185			1.6E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.0086		0.	4.9E-10
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.0147		0.0001	
Phenanthrene	85-01-8	-	-				0.221			
Pyrene	129-00-0	1,790.	-	1,790.	nc		0.44		0.0002	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-11819 Herriges Oil BP South G-22-1 1.5'

# of Soil-Concentration Entries: 18

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.0389	8.1E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 11/20/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.0096		0.0001	1.7E-09
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.66	E	0.0371	5.7E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.064		0.	
Acenaphthylene	208-96-8	-	-				0.034			
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.306		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.76			6.7E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.88			7.7E-07
Benzo[g,h,i]perylene	191-24-2	-	-				0.294			
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.283			2.5E-08
Chrysene	218-01-9	-	115.	115.	ca		0.74			6.4E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.067			5.8E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		1.87		0.0008	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.069		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.37			3.2E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.0101		0.	5.7E-10
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.0138		0.0001	
Phenanthrene	85-01-8	-	-				0.99			
Pyrene	129-00-0	1,790.	-	1,790.	nc		1.47		0.0008	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-11819 Herriges Oil BP South G-23-1 1.5'

# of Soil-Concentration Entries: 18

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
6	2.772	5.7E-04

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 11/20/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Naphthalene	91-20-3	178.	5.52	5.52	ca		2.62		0.0147	4.7E-07
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		47.	E	2.6404	4.1E-04
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		8.9		0.0025	
Acenaphthylene	208-96-8	-	-				2.45			
Anthracene	120-12-7	17,900.	-	17,900.	nc		36.		0.002	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		50.	E		4.4E-05
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		53.	E		4.6E-05
Benzo[g,h,i]perylene	191-24-2	-	-				26.3			
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		19.6	E		1.7E-06
Chrysene	218-01-9	-	115.	115.	ca		45.			3.9E-07
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		5.5	E		4.8E-05
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		114.		0.0477	
Fluorene	86-73-7	2,390.	-	2,390.	nc		13.9		0.0058	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		29.5	E		2.6E-05
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		2.22		0.0005	1.3E-07
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		1.39		0.0058	
Phenanthrene	85-01-8	-	-				88.			
Pyrene	129-00-0	1,790.	-	1,790.	nc		94.		0.0525	

NR 720 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-11819 Herriges Oil BP South G-29-1 1.5

# of Soil-Concentration Entries: 18

Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1	0.0503	1.1E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 11/20/2018.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Naphthalene	91-20-3	178.	5.52	5.52	ca		0.0155		0.0001	2.8E-09
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.87	E	0.0489	7.6E-06
Acenaphthene	83-32-9	3,590.	-	3,590.	nc		0.0145		0.	
Acenaphthylene	208-96-8	-	-				0.052			
Anthracene	120-12-7	17,900.	-	17,900.	nc		0.155		0.	
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.8			7.0E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		1.14			9.9E-07
Benzo[g,h,i]perylene	191-24-2	-	-				0.41			
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.38			3.3E-08
Chrysene	218-01-9	-	115.	115.	ca		0.81			7.0E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.097			8.4E-07
Fluoranthene	206-44-0	2,390.	-	2,390.	nc		1.39		0.0006	
Fluorene	86-73-7	2,390.	-	2,390.	nc		0.0198		0.	
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.51			4.4E-07
Methylnaphthalene, 1-	90-12-0	4,180.	17.6	17.6	ca		0.0221		0.	1.3E-09
Methylnaphthalene, 2-	91-57-6	239.	-	239.	nc		0.0198		0.0001	
Phenanthrene	85-01-8	-	-				0.28			
Pyrene	129-00-0	1,790.	-	1,790.	nc		1.19		0.0007	

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-1-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
4.2E-05	0	0.2022	4.2E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/26/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		3.6	3.13E-05	cPAH	0.2022	3.1E-05
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		2.46	2.16E-06	cPAH		2.2E-06
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		5.	4.35E-06	cPAH		4.3E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		1.59	1.38E-07	cPAH		1.4E-07
Chrysene	218-01-9	-	115.	115.	ca		3.7	3.22E-08	cPAH		3.2E-08
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.239	2.08E-06	cPAH		2.1E-06
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		2.61	2.27E-06	cPAH		2.3E-06

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-3-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
2.6E-05	0	0.1247	2.6E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		2.22	1.93E-05	cPAH	0.1247	1.9E-05
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		1.71	1.50E-06	cPAH		1.5E-06
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		3.3	2.87E-06	cPAH		2.9E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		1.03	8.96E-08	cPAH		9.0E-08
Chrysene	218-01-9	-	115.	115.	ca		2.43	2.11E-08	cPAH		2.1E-08
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.13	1.13E-06	cPAH		1.1E-06
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		1.57	1.37E-06	cPAH		1.4E-06

NR 722 Direct-Contact ***Exceedance - Hazard - Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-5-1 (3 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
6.8E-05	0	0.2809	6.8E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		5.	4.35E-05	cPAH	0.2809	4.3E-05
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		2.83	2.48E-06	cPAH		2.5E-06
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		7.4	6.43E-06	cPAH		6.4E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		1.98	1.72E-07	cPAH		1.7E-07
Chrysene	218-01-9	-	115.	115.	ca		4.	3.48E-08	cPAH		3.5E-08
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		1.33	1.16E-05	cPAH		1.2E-05
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		4.6	4.00E-06	cPAH		4.0E-06

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-6-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
9.3E-06	0	0.0444	9.3E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.79	6.87E-06	cPAH	0.0444	6.9E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.68	5.96E-07	cPAH		6.0E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		1.1	9.57E-07	cPAH		9.6E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.35	3.04E-08	cPAH		3.0E-08
Chrysene	218-01-9	-	115.	115.	ca		0.84	7.30E-09	cPAH		7.3E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.042	3.65E-07	cPAH		3.7E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.53	4.61E-07	cPAH		4.6E-07

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-10-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
4.9E-06	0	0.023	4.9E-06

Bottom-Line: Yes, levels are below direct-contact concern.

Date of Entry: 10/22/2021
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.41	3.57E-06	cPAH	0.023	3.6E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.39	3.42E-07	cPAH		3.4E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.61	5.30E-07	cPAH		5.3E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.192	1.67E-08	cPAH		1.7E-08
Chrysene	218-01-9	-	115.	115.	ca		0.45	3.91E-09	cPAH		3.9E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.0255	2.22E-07	cPAH		2.2E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.235	2.04E-07	cPAH		2.0E-07

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-11-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
6.8E-04	0	3.2584	6.8E-04

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/22/2021
Date of Worksheet Used: 03/14/2017

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		58.	5.04E-04	cPAH	3.2584	5.0E-04
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		66.	5.79E-05	cPAH		5.8E-05
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		78.	6.78E-05	cPAH		6.8E-05
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		27.	2.35E-06	cPAH		2.3E-06
Chrysene	218-01-9	-	115.	115.	ca		65.	5.65E-07	cPAH		5.7E-07
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		2.89	2.51E-05	cPAH		2.5E-05
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		28.1	2.44E-05	cPAH		2.4E-05

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-12-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1.4E-06	0	0.0065	1.4E-06

Bottom-Line: Yes, levels are below direct-contact concern.

Date of Entry: 10/22/2021
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.116	1.01E-06	cPAH	0.0065	1.0E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.101	8.86E-08	cPAH		8.9E-08
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.169	1.47E-07	cPAH		1.5E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.056	4.87E-09	cPAH		4.9E-09
Chrysene	218-01-9	-	115.	115.	ca		0.102	8.87E-10	cPAH		8.9E-10
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.0101	8.78E-08	cPAH		8.8E-08
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.091	7.91E-08	cPAH		7.9E-08

NR 722 Direct-Contact ***Exceedance - Hazard - Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-14-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1.1E-05	0	0.0517	1.1E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.92	8.00E-06	cPAH	0.0517	8.0E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.61	5.35E-07	cPAH		5.4E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		1.38	1.20E-06	cPAH		1.2E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.42	3.65E-08	cPAH		3.7E-08
Chrysene	218-01-9	-	115.	115.	ca		0.79	6.87E-09	cPAH		6.9E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.052	4.52E-07	cPAH		4.5E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.61	5.30E-07	cPAH		5.3E-07

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - MW-2-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1.3E-04	0	0.618	1.3E-04

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		11.	9.57E-05	cPAH	0.618	9.6E-05
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		11.9	1.04E-05	cPAH		1.0E-05
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		15.5	1.35E-05	cPAH		1.3E-05
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		5.1	4.43E-07	cPAH		4.4E-07
Chrysene	218-01-9	-	115.	115.	ca		11.8	1.03E-07	cPAH		1.0E-07
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.59	5.13E-06	cPAH		5.1E-06
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		5.6	4.87E-06	cPAH		4.9E-06

NR 722 Direct-Contact ***Exceedance - Hazard - Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - MW-4-1 (0-4 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1.8E-05	0	0.0826	1.8E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		1.47	1.28E-05	cPAH	0.0826	1.3E-05
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		1.52	1.33E-06	cPAH		1.3E-06
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		2.42	2.10E-06	cPAH		2.1E-06
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.65	5.65E-08	cPAH		5.7E-08
Chrysene	218-01-9	-	115.	115.	ca		1.85	1.61E-08	cPAH		1.6E-08
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.061	5.30E-07	cPAH		5.3E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.85	7.39E-07	cPAH		7.4E-07

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-16-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
7.7E-06	0	0.0348	7.7E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.62	5.39E-06	cPAH	0.0348	5.4E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.36	3.16E-07	cPAH		3.2E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.74	6.43E-07	cPAH		6.4E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.262	2.28E-08	cPAH		2.3E-08
Chrysene	218-01-9	-	115.	115.	ca		0.42	3.65E-09	cPAH		3.7E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.109	9.48E-07	cPAH		9.5E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.48	4.17E-07	cPAH		4.2E-07

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-17-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1.6E-06	0	0.007	1.6E-06

Bottom-Line: Yes, levels are below direct-contact concern.

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.125	1.09E-06	cPAH	0.007	1.1E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.088	7.72E-08	cPAH		7.7E-08
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.183	1.59E-07	cPAH		1.6E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.058	5.04E-09	cPAH		5.0E-09
Chrysene	218-01-9	-	115.	115.	ca		0.116	1.01E-09	cPAH		1.0E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.0239	2.08E-07	cPAH		2.1E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.107	9.30E-08	cPAH		9.3E-08

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-18-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1.4E-06	0	0.0065	1.4E-06

Bottom-Line: Yes, levels are below direct-contact concern.

Date of Entry: 10/22/2021
Date of Worksheet Used: 03/14/2017

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.116	1.01E-06	cPAH	0.0065	1.0E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.109	9.56E-08	cPAH		9.6E-08
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.159	1.38E-07	cPAH		1.4E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.056	4.87E-09	cPAH		4.9E-09
Chrysene	218-01-9	-	115.	115.	ca		0.123	1.07E-09	cPAH		1.1E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.0134	1.17E-07	cPAH		1.2E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.077	6.70E-08	cPAH		6.7E-08

NR 722 Direct-Contact ***Exceedance - Hazard - Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-20-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
3.8E-06	0	0.0167	3.8E-06

Bottom-Line: Yes, levels are below direct-contact concern.

Date of Entry: 10/22/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.298	2.59E-06	cPAH	0.0167	2.6E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.303	2.66E-07	cPAH		2.7E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.45	3.91E-07	cPAH		3.9E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.133	1.16E-08	cPAH		1.2E-08
Chrysene	218-01-9	-	115.	115.	ca		0.35	3.04E-09	cPAH		3.0E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.043	3.74E-07	cPAH		3.7E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.21	1.83E-07	cPAH		1.8E-07

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-21-1 (3.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
3.4E-06	0	0.015	3.4E-06

Bottom-Line: Yes, levels are below direct-contact concern.

Date of Entry: 10/25/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.267	2.32E-06	cPAH	0.015	2.3E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.231	2.03E-07	cPAH		2.0E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.38	3.30E-07	cPAH		3.3E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.127	1.10E-08	cPAH		1.1E-08
Chrysene	218-01-9	-	115.	115.	ca		0.267	2.32E-09	cPAH		2.3E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.039	3.39E-07	cPAH		3.4E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.185	1.61E-07	cPAH		1.6E-07

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-22-1 (1.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
8.1E-06	0	0.0371	8.1E-06

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/25/2021.
Date of Worksheet Used: 03/14/2017.

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.66	5.74E-06	cPAH	0.0371	5.7E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.76	6.67E-07	cPAH		6.7E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		0.88	7.65E-07	cPAH		7.7E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.283	2.46E-08	cPAH		2.5E-08
Chrysene	218-01-9	-	115.	115.	ca		0.74	6.43E-09	cPAH		6.4E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.067	5.83E-07	cPAH		5.8E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.37	3.22E-07	cPAH		3.2E-07

NR 722 Direct-Contact ***Exceedance - Hazard - Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-23-1 (1.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
5.7E-04	0	2.6404	5.7E-04

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/25/2021
Date of Worksheet Used: 03/14/2017

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		47.	4.09E-04	cPAH	2.6404	4.1E-04
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		50.	4.39E-05	cPAH		4.4E-05
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		53.	4.61E-05	cPAH		4.6E-05
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		19.6	1.70E-06	cPAH		1.7E-06
Chrysene	218-01-9	-	115.	115.	ca		45.	3.91E-07	cPAH		3.9E-07
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		5.5	4.78E-05	cPAH		4.8E-05
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		29.5	2.57E-05	cPAH		2.6E-05

NR 722 Direct-Contact ***Exceedance*** - ***Hazard*** - ***Risk*** Calculation Summary from Soil Data (Exclusive Cumulative-only Assessment of cPAHs)

Note: This Summary is OLD. Update with 'Get Summary' in Row 924 of the applicable *_DC_RCLs tab.

BRRTS # :
02-67-111819 - Herriges Oil BP South - G-29-1 (1.5 feet)

# of Soil-Concentration Entries: 7

(Cumulative) cPAH Cancer Risk	Number of Individual Exceedance	(Cumulative) Hazard Index	(Cumulative) Cancer Risk
1.1E-05	0	0.0489	1.1E-05

Bottom-Line: **NO! This NON-INDUSTRIAL site sampling location will need either further cleanup to lower contaminant levels or the construction of a cap/cover to address the direct-contact pathway.**

Date of Entry: 10/25/2021
Date of Worksheet Used: 03/14/2017

List below only has contaminants with data.

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	BTV (mg/kg)	INPUTTED Site Data (mg/kg)	cPAH Cancer Risk from Data	Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzo[a]pyrene	50-32-8	17.8	0.115	0.115	ca		0.87	7.57E-06	cPAH	0.0489	7.6E-06
Benz[a]anthracene	56-55-3	-	1.14	1.14	ca		0.8	7.02E-07	cPAH		7.0E-07
Benzo[b]fluoranthene	205-99-2	-	1.15	1.15	ca		1.14	9.91E-07	cPAH		9.9E-07
Benzo[k]fluoranthene	207-08-9	-	11.5	11.5	ca		0.38	3.30E-08	cPAH		3.3E-08
Chrysene	218-01-9	-	115.	115.	ca		0.81	7.04E-09	cPAH		7.0E-09
Dibenz[a,h]anthracene	53-70-3	-	0.115	0.115	ca		0.097	8.43E-07	cPAH		8.4E-07
Indeno[1,2,3-cd]pyrene	193-39-5	-	1.15	1.15	ca		0.51	4.43E-07	cPAH		4.4E-07

8.0 PHOTOS

Photo #1: Area of former ASTs looking north.

Photo #2: Area of former ASTs looking east.

Photo #3: Area of former ASTs looking south.

APPENDIX A/ METHODS OF INVESTIGATION

Geoprobe Project

Geoprobe sampling was completed by Geiss Soil and Samples LLC. of Merrill, Wisconsin and On Site Environmental Services of Sun Prairie, Wisconsin, under the supervision of METCO personnel. The Geoprobe consists of a truck or track-mounted, hydraulically driven unit that advances interconnected, 1-inch diameter, 4 foot long, and stainless steel rods into the subsurface.

Field observations such as soil characteristics, petroleum odors, and petroleum staining associated with all the collected samples were continuously noted throughout sampling. All Geoprobe holes were properly abandoned to ground level using bentonite clay.

The purpose of the Geoprobe Project was to cost effectively determine if the released contaminants have impacted the soil and groundwater and determine the general extent of contamination along those mediums. This collected information would then be used to guide the Drilling Project, if required.

Geoprobe Soil Sampling

The procedure consisted of advancing an assembled stainless steel sampler to the top of the interval to be sampled. A stop-pin was then removed, and the sampler driven until filled. The rods were retracted from the hole and the sample recovered.

Geoprobe Groundwater Sampling

This procedure consisted of advancing a stainless steel, mill slotted well point into the watertable interface. Disposable, flexible, ¼ inch diameter polyethylene tubing was then introduced through the steel rods and down to the watertable interface. A hand-held pump was used to slowly draw an undisturbed water sample into the polyethylene tube, which was then removed from the steel rods and the water sample immediately placed into sampling containers.

Drilling Project

Soil borings were conducted by Geiss Soil & Samples LLC, of Merrill, Wisconsin, and under the supervision of METCO personnel. Using a truck-mounted auger drill rig, all borings were completed in accordance with ASTM D-1452, "Soil Investigation and Sampling by Auger Boring," using 4.25-inch, inside-diameter (ID) augers. Soil sampling was conducted using a Geoprobe. Using this procedure, an assembled stainless steel sampler is advanced to the top of the interval to be sampled, a stop pin is then removed, and the sampler is driven until filled. Field observations such as soil characteristics, petroleum odors, and petroleum staining were continuously noted throughout the drilling process.

The purpose of the Drilling Project and subsequent well installation/sampling was to investigate subsurface conditions and characteristics, verify the extent of petroleum contamination in local soil and groundwater, and collect aquifer data.

Field Screening

Selected soil samples were scanned with a Rae Systems Mini RaeLite Photo-ionization Detector (PID) equipped with a 10.6 eV lamp. Metered calibrations were done at the beginning of each workday using an isobutylene standard. A quart sized Ziploc bag was filled, by gloved hand,

one-third full with the sample. The Ziploc bags were sealed and shaken vigorously for 30 seconds. Headspace development was established by allowing the sample to rest for at least 15 minutes. If ambient temperatures are below 70 degrees Fahrenheit, headspace development takes place in a heated environment, which allows the sample enough time to establish satisfactory headspace. To take readings, the PID probe was inserted through the Ziploc seal and the highest meter response recorded.

Throughout the field projects the PID Meter did not encounter any vast temperature or humidity changes, malfunctions, repairs, or any other obvious interferences that would affect its results.

Monitoring Well Installation, Development, and Sampling

Monitoring well installation was completed by Geiss Soil & Samples LLC under the supervision of METCO personnel and done in accordance with Wisconsin Department of Natural Resources Chapter NR141, "Groundwater Monitoring Well Requirements." The monitoring wells were constructed of flush threaded, 2-inch inside-diameter schedule 40 polyvinyl chloride (PVC) piping. Ten-foot well screens with 0.010-inch slots were installed partially into the groundwater, with the watertable intersecting the screen. Uniform washed sand was installed around the well screens to serve as a filter pack. Bentonite was used above the filter pack to provide an annular space seal.

Locking watertight caps along with steel flush-mounted covers were installed with the wells for protection. Monitoring Well Construction Forms and a Groundwater Monitoring Well Information Form are presented in Appendix C.

The wells were surveyed by Fauerbach Surveying & Engineering of Hillsboro, Wisconsin. Measurements were recorded in feet mean sea level.

Each well was alternately surged and purged by METCO personnel with a bottom loading, disposable, polyethylene bailer for 15-20 minutes to remove fines from the well screen. Approximately 0.25-20 gallons of groundwater was then removed with a small electrical submersible pump. Well Development Forms are presented in Appendix C.

Groundwater samples for laboratory analysis were collected using a bottom loading, disposable, polyethylene bailer and disposable, polyethylene twine. A minimum of four well volumes was purged from the well immediately before sampling.

Field observations such as color, turbidity, petroleum odors, and petroleum sheens associated with the collected samples were continuously noted throughout sampling.

Sub-Slab Soil Vapor Sampling

Sub-slab vapor sampling port installation was completed Braun Intertec under the supervision of METCO personnel. The sub-slab vapor sampling port was constructed by drilling a ½-inch pilot hole through the concrete slab and several inches into the sub slab material with a hammer drill. A 1½-inch outer hole is then drilled to depths ranging from ¾ -inch to 1-inch, depending on the concrete slab thickness. The hole was cleaned of dust and drilling debris using a shop-vac. A stainless steel vapor pin is installed in the inner hole with a silicon sleeve to obtain an air tight seal with the concrete floor. Vapor samples were collected by using a short length of Teflon tubing to connect the sampling port and a 1-liter Suma canister. The air sample was collected using a Suma canister with a flow regulator that allowed two sub-slab vapor samples to be collected over a 30 minute period. Prior to sampling, a water dam test and shut in test were completed to assure that the vapor sampling point and sampling apparatus were sealed properly.

Sample Preparation

The volume of sample, size of container, and type of sample preservation was dependent on the specific parameter for which the sample was to be analyzed. Parameter specific information is presented in the LUST Sample Guidelines located in Appendix E.

Field Sampling and Transportation Quality Control

All samples were collected in a manner as to maintain their quality and to eliminate any possible cross contamination. METCO did not deviate from any WDNR or laboratory recommended procedures for sample collection, preservation, or transportation on this project.

Equipment advanced into the subsurface was cleaned between sampling locations. Cleaning consisted of washing with a biodegradable Alconox solution and rinsing with potable water. Disposable equipment was not cleaned, but immediately disposed of after use.

All samples were constantly kept on ice in a cooler and hand delivered to the laboratory.

Laboratory Quality Control

See Appendix B for the results of any field blanks, trip blanks, temperature blanks, lab spikes, split samples, replicate spikes, and duplicates.

Investigative Wastes

On June 14, 2019 DKS Transport Services, LLC picked-up and properly disposed of 5 drums of soil cuttings at the Advanced Disposal, Seven Mile Creek Landfill in Eau Claire, Wisconsin.

On March 6, 2020 DKS Transport Services, LLC picked-up and properly disposed of 2 drums of soil cuttings at the Advanced Disposal, Seven Mile Creek Landfill in Eau Claire, Wisconsin.

APPENDIX B/ ANALYTICAL METHODS & LABORATORY DATA REPORTS

Synergy Environmental Lab,

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

JASON POWELL
METCO
709 GILLETTE ST
LA CROSSE, WI 54603-2382

Report Date *18-Mar-21*

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #
Lab Code 5039147A
Sample ID G-22-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.5	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	0.064	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	0.034 "J"	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	0.306	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	0.76	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	0.66	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	0.88	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	0.294	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	0.283	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	0.74	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	0.067	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	1.87	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	0.069	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	0.37	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	< 0.0101	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	< 0.0138	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	< 0.0096	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	0.99	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	1.47	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147B
Sample ID G-23-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	91.3	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	8.90	mg/kg	0.66	2.55	50	M8270C	3/16/2021	3/17/2021	NJC	1
Acenaphthylene	2.45	mg/kg	0.46	1.75	50	M8270C	3/16/2021	3/17/2021	NJC	1
Anthracene	36.0	mg/kg	0.365	1.4	50	M8270C	3/16/2021	3/17/2021	NJC	1
Benzo(a)anthracene	50.0	mg/kg	0.79	3.05	50	M8270C	3/16/2021	3/17/2021	NJC	1
Benzo(a)pyrene	47.0	mg/kg	0.71	2.75	50	M8270C	3/16/2021	3/17/2021	NJC	1
Benzo(b)fluoranthene	53.0	mg/kg	0.495	1.9	50	M8270C	3/16/2021	3/17/2021	NJC	1
Benzo(g,h,i)perylene	26.3	mg/kg	0.59	2.25	50	M8270C	3/16/2021	3/17/2021	NJC	1
Benzo(k)fluoranthene	19.6	mg/kg	0.455	1.75	50	M8270C	3/16/2021	3/17/2021	NJC	1
Chrysene	45.0	mg/kg	0.62	2.4	50	M8270C	3/16/2021	3/17/2021	NJC	1
Dibenzo(a,h)anthracene	5.50	mg/kg	0.71	2.75	50	M8270C	3/16/2021	3/17/2021	NJC	1
Fluoranthene	114	mg/kg	0.455	1.75	50	M8270C	3/16/2021	3/17/2021	NJC	1
Fluorene	13.9	mg/kg	0.47	1.8	50	M8270C	3/16/2021	3/17/2021	NJC	1
Indeno(1,2,3-cd)pyrene	29.5	mg/kg	0.63	2.4	50	M8270C	3/16/2021	3/17/2021	NJC	1
1-Methyl naphthalene	2.22	mg/kg	0.505	1.95	50	M8270C	3/16/2021	3/17/2021	NJC	1
2-Methyl naphthalene	1.39 "J"	mg/kg	0.69	2.65	50	M8270C	3/16/2021	3/17/2021	NJC	1
Naphthalene	2.62	mg/kg	0.48	1.85	50	M8270C	3/16/2021	3/17/2021	NJC	1
Phenanthrene	88.0	mg/kg	0.385	1.5	50	M8270C	3/16/2021	3/17/2021	NJC	1
Pyrene	94.0	mg/kg	0.455	1.75	50	M8270C	3/16/2021	3/17/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147C
Sample ID G-24-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	92.4	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	0.44	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	0.263	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	0.269	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	0.059 "J"	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	0.064	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	0.085	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	0.046	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	0.0258 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	0.066	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	0.128	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	0.64	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	0.051	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	4.70	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	1.09	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	0.68	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	0.99	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	0.199	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
PVOC										
Benzene	0.061 "J"	mg/kg	0.016	0.062	1	GRO95/8021		3/17/2021	CJR	1
Ethylbenzene	0.159	mg/kg	0.015	0.059	1	GRO95/8021		3/17/2021	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.018	0.071	1	GRO95/8021		3/17/2021	CJR	1
Toluene	0.111	mg/kg	0.016	0.061	1	GRO95/8021		3/17/2021	CJR	1
1,2,4-Trimethylbenzene	8.1	mg/kg	0.013	0.052	1	GRO95/8021		3/17/2021	CJR	1
1,3,5-Trimethylbenzene	2.93	mg/kg	0.017	0.066	1	GRO95/8021		3/17/2021	CJR	1
m&p-Xylene	0.44	mg/kg	0.039	0.15	1	GRO95/8021		3/17/2021	CJR	1
o-Xylene	0.48	mg/kg	0.014	0.055	1	GRO95/8021		3/17/2021	CJR	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147D
Sample ID G-25-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	90.3	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	< 0.0132	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	0.044	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	0.037	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	0.0289 "J"	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	0.062	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	0.074	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	0.065	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	0.0179 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	0.0314 "J"	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	0.033 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	0.0135 "J"	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	0.057	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	0.126	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	0.192	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	0.097	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	0.079	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	0.07	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
PVOC										
Benzene	0.046 "J"	mg/kg	0.016	0.062	1	GRO95/8021		3/17/2021	CJR	1
Ethylbenzene	0.069	mg/kg	0.015	0.059	1	GRO95/8021		3/17/2021	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.018	0.071	1	GRO95/8021		3/17/2021	CJR	1
Toluene	0.244	mg/kg	0.016	0.061	1	GRO95/8021		3/17/2021	CJR	1
1,2,4-Trimethylbenzene	0.279	mg/kg	0.013	0.052	1	GRO95/8021		3/17/2021	CJR	1
1,3,5-Trimethylbenzene	0.136	mg/kg	0.017	0.066	1	GRO95/8021		3/17/2021	CJR	1
m&p-Xylene	0.49	mg/kg	0.039	0.15	1	GRO95/8021		3/17/2021	CJR	1
o-Xylene	0.192	mg/kg	0.014	0.055	1	GRO95/8021		3/17/2021	CJR	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147E
Sample ID G-26-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.0	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	< 0.0132	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	0.0165 "J"	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	< 0.0073	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	< 0.0158	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	< 0.0099	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	< 0.0118	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	< 0.0124	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	< 0.0094	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0126	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	< 0.0101	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	< 0.0138	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	< 0.0096	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	0.008 "J"	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147F
Sample ID G-27-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	89.3	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	< 0.0132	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	0.0124 "J"	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	< 0.0073	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	< 0.0158	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	< 0.0099	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	< 0.0118	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	< 0.0124	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	< 0.0094	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0126	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	< 0.0101	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	< 0.0138	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	< 0.0096	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	< 0.0077	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147G
Sample ID G-28-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.1	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	< 0.0132	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	0.0116 "J"	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	< 0.0073	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	< 0.0158	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	< 0.0099	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	< 0.0118	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	< 0.0124	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	0.0115 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	< 0.0094	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0126	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	< 0.0101	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	< 0.0138	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	< 0.0096	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	0.0103 "J"	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	0.0111 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147H
Sample ID G-29-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	91.5	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	0.0145 "J"	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	0.052	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	0.155	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	0.80	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	0.87	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	1.14	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	0.41	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	0.38	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	0.81	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	0.097	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	1.39	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	0.0198 "J"	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	0.51	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	0.0221 "J"	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	0.0198 "J"	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	0.0155 "J"	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	0.28	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	1.19	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147I
Sample ID G-30-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.8	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	< 0.0132	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	< 0.0092	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	< 0.0073	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	< 0.0158	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	< 0.0099	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	< 0.0118	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	< 0.0124	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	< 0.0094	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0126	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	< 0.0101	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	< 0.0138	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	< 0.0096	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	< 0.0077	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147J
Sample ID G-31-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	72.6	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	< 0.0132	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	0.0237 "J"	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	0.0148 "J"	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	0.051 "J"	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	0.059	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	0.087	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	0.036 "J"	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	0.0266 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	0.051	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	0.075	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	< 0.0094	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	0.043 "J"	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	< 0.0101	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	< 0.0138	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	< 0.0096	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	0.0249 "J"	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	0.07	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147K
Sample ID G-32-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	91.3	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	< 0.0132	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	< 0.0092	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	< 0.0073	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	< 0.0158	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	< 0.0099	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	< 0.0118	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	< 0.0124	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	0.0095 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	< 0.0094	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0126	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	< 0.0101	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	< 0.0138	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	< 0.0096	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	< 0.0077	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	0.0109 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

Project Name HERRIGES OIL BULK PLANT **Invoice #** E39147
Project #

Lab Code 5039147L
Sample ID G-33-1
Sample Matrix Soil
Sample Date 3/8/2021

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.0	%			1	5021		3/10/2021	NJC	1
Organic										
PAH SIM										
Acenaphthene	< 0.0132	mg/kg	0.0132	0.051	1	M8270C	3/16/2021	3/16/2021	NJC	1
Acenaphthylene	< 0.0092	mg/kg	0.0092	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Anthracene	< 0.0073	mg/kg	0.0073	0.028	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)anthracene	< 0.0158	mg/kg	0.0158	0.061	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(a)pyrene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(b)fluoranthene	< 0.0099	mg/kg	0.0099	0.038	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(g,h,i)perylene	< 0.0118	mg/kg	0.0118	0.045	1	M8270C	3/16/2021	3/16/2021	NJC	1
Benzo(k)fluoranthene	< 0.0091	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Chrysene	< 0.0124	mg/kg	0.0124	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
Dibenzo(a,h)anthracene	< 0.0142	mg/kg	0.0142	0.055	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluoranthene	0.0159 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1
Fluorene	< 0.0094	mg/kg	0.0094	0.036	1	M8270C	3/16/2021	3/16/2021	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0126	mg/kg	0.0126	0.048	1	M8270C	3/16/2021	3/16/2021	NJC	1
1-Methyl naphthalene	< 0.0101	mg/kg	0.0101	0.039	1	M8270C	3/16/2021	3/16/2021	NJC	1
2-Methyl naphthalene	< 0.0138	mg/kg	0.0138	0.053	1	M8270C	3/16/2021	3/16/2021	NJC	1
Naphthalene	< 0.0096	mg/kg	0.0096	0.037	1	M8270C	3/16/2021	3/16/2021	NJC	1
Phenanthrene	0.011 "J"	mg/kg	0.0077	0.03	1	M8270C	3/16/2021	3/16/2021	NJC	1
Pyrene	0.0129 "J"	mg/kg	0.0091	0.035	1	M8270C	3/16/2021	3/16/2021	NJC	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature Michael Ricker

CHAIN OF CUSTODY RECORD

Synergy Environmental Lab, Inc.

www.synergy-lab.net
1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • mrsynergy@wi.twcbc.com

Chain # No 40457

Page 1 of 1

Sample Handling Request
____ Rush Analysis Date Required: _____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #	
QUOTE # :	
Project #:	
Sampler: (signature)	L. T. Powell
Project (Name / Location):	Herriges 0.1 Bulk Plant South - Kewaskum
Reports To:	Invoice To:
Company METCO	Company METCO
Address	Address
City State Zip La Crosse WI	City State Zip La Crosse WI
Phone 608-781-8879	Phone
Email	Email

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	VOC AIR (TO - 15)	8-RCRA METALS	PID/ FID
50397147A	G-22-1	3/8/21	9:30A		1	S	—						✓										
B	G-23-1		9:40A		1		—						✓										
C	G-24-1		9:45A		3		HCl						✓		✓								
D	G-25-1		9:50A		3		HCl						✓		✓								
E	G-26-1		10:00A		1		—						✓										
F	G-27-1		10:20A		1		—						✓										
G	G-28-1		10:30A		1		—						✓										
H	G-29-1		10:40A		1		—						✓										
I	G-30-1		10:50A		1		—						✓										
J	G-31-1		11:00A		1		—						✓										
K	G-32-1		11:10A		1		—						✓										
L	G-33-1		11:20A		1		—						✓										

Analysis Requested — Other Analysis

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge, etc.)

Sample Integrity - To be completed by receiving lab.
Method of Shipment: GC
Temp. of Temp. Blank: _____ °C On Ice: X
Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
L. T. Powell	9:00 AM.	3/9/21			

Received In Laboratory By: _____ Time: 8:00 Date: 3/10/21

APPENDIX C/ WELL AND BOREHOLE DOCUMENTATION

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-22

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi Firm: On Site Environmental	03/08/2021 MM/ DD/ YYYY	03/08/2021 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
G-22-1 (1.5 feet)	24 24		0 2 4 6 8 10 12 14 16 18	0-0.5 feet, Organic rich silt/clay 0.5-2 feet, Light brown silt/clay w/ gravel EOB@ 2 ft bgs, borehole abandoned.	ML/CL ML/CL			0.50		M				No Petro Odor

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature: Firm: **METCO**

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295 and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-23

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi	03/08/2021	03/08/2021	Geoprobe
Firm: On Site Environmental	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
				0-0.5 feet, Gravel	Fill									
G-23-1 (1.5 feet)	24 24		2	0.5-2 feet, Dark brown to black sill/clay	ML/CL			0.87		M				No Petro Odor
				EOB@ 2 ft bgs, borehole abandoned.										
			4											
			6											
			8											
			10											
			12											
			14											
			16											
			18											

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature: Firm: METCO

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-24

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi Firm: On Site Environmental	03/08/2021 MM/ DD/ YYYY	03/08/2021 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties										
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
G-24-1 (1.5 feet)	24 24		0 2 4 6 8 10 12 14 16 18	0-0.5 feet, Gravel 0.5-2 feet, Dark brown to black silt/clay EOB@ 2 ft bgs, borehole abandoned.	Fill ML/CL			65		M				Petro Odor and Staining

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature: Firm: **METCO**

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-25

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi	03/08/2021	03/08/2021	Geoprobe
Firm: On Site Environmental	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
				0-0.5 feet, Gravel	Fill									
G-25-1 (1.5 feet)	24 24		2	0.5-2 feet, Brown to black organic rich silt/clay	ML/CL			7.8		M				Slight to No Petro Odor
				EOB@ 2 ft bgs, borehole abandoned.										
			4											
			6											
			8											
			10											
			12											
			14											
			16											
			18											

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature: Firm: **METCO**

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-26

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi Firm: On Site Environmental	03/08/2021 MM/ DD/ YYYY	03/08/2021 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E NW ¼ of SE ¼ of Section 09 , T12N, R19E	Lat 43 ° 31 ' 12 " Long 88 ° 13 ' 34 "	N E Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties										
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
			2	0-3 feet, Dark brown to black silty sand w/ layers of gravel	Fill									
G-26-1 (3 feet)	48 42		4	3-4 feet, Brown sandy silt/clay	CL			0.73		M				No Petro Odor
			6	EOB@ 4ft bgs, borehole abandoned.										
			8											
			10											
			12											
			14											
			16											
			18											

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature: Firm: **METCO**

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-27

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi	03/08/2021	03/08/2021	Geoprobe
Firm: On Site Environmental	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location	
State Plane N, E	Lat 43 ° 31 ' 12 "	N	E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S	Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties										
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
				0-3 feet, Dark brown to black silty sand w/ layers of gravel	Fill									
G-27-1 (3 feet)	48 42		2	3-4 feet, Brown sandy silt/clay	CL			0.63		M				No Petro Odor
			4	EOB@ 4ft bgs, borehole abandoned.										
			6											
			8											
			10											
			12											
			14											
			16											
			18											

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature: Firm: **METCO**

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-28

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi Firm: On Site Environmental	03/08/2021 MM/ DD/ YYYY	03/08/2021 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
			2	0-3 feet, Dark brown to black silty sand w/ layers of gravel	Fill									
G-28-1 (3 feet)	48 42		4	3-4 feet, Brown sandy silt/clay	CL			1.3		M				No Petro Odor
			6	EOB@ 4ft bgs, borehole abandoned.										
			8											
			10											
			12											
			14											
			16											
			18											

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-29

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi Firm: On Site Environmental	03/08/2021 MM/ DD/ YYYY	03/08/2021 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E NW ¼ of SE ¼ of Section 09 , T12N, R19E	Lat 43 ° 31 ' 12 " Long 88 ° 13 ' 34 "	N E Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
G-29-1 (1.5 feet)	24 24		2 4 6 8 10 12 14 16 18	0-0.5 feet, Gravel 0.5-2 feet, Brown to black organic rich silt/clay EOB@ 2 ft bgs, borehole abandoned.	Fill ML/CL			0.78		M				No Petro Odor

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-30

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi Firm: On Site Environmental	03/08/2021 MM/ DD/ YYYY	03/08/2021 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
G-30-1 (1.5 feet)	24 24		2	0-0.5 feet, Concrete	Fill									
				0.5-2 feet, Brown silt/clay to sandy silt w/ gravel	ML/CL			1.7		M				No Petro Odor
			4	EOB@ 2 ft bgs, borehole abandoned.										
			6											
			8											
			10											
			12											
			14											
			16											
			18											

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-31

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi Firm: On Site Environmental	03/08/2021 MM/ DD/ YYYY	03/08/2021 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
				0-0.5 feet, Gravel	Fill									
			2	0.5-2.5 feet, Organic rich silt/clay	ML/CL									
G-31-1 (3 feet)	48 42		4	2.5-4 feet, Brown sandy silt/clay	ML/CL			1.3		M				No Petro Odor
				EOB@ 4ft bgs, borehole abandoned.										
			6											
			8											
			10											
			12											
			14											
			16											
			18											

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-32

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi	03/08/2021	03/08/2021	Geoprobe
Firm: On Site Environmental	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	Soil Properties: USCS	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
				0-0.5 feet, Gravel	Fill									
G-32-1 (3 feet)	48 42		2 4	0.5-4 feet, Dark brown to brown silt/clay to sandy silt/clay w/ gravel	ML/CL			1.3		M				No Petro Odor
				EOB@ 4ft bgs, borehole abandoned.										
			6 8 10 12 14 16 18											

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Signature: Firm: **METCO**

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed / Wastewater: Waste Management:
Remediation / Redevelopment: X Other:

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Herriges Oil Bulk Plant South		G-33

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Gage Last: Kapugi Firm: On Site Environmental	03/08/2021 MM/ DD/ YYYY	03/08/2021 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			950 feet msl	950 feet msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 43 ° 31 ' 12 "	N E
NW ¼ of SE ¼ of Section 09 , T12N, R19E	Long 88 ° 13 ' 34 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
267158760	Washington	67	Kewaskum

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
				0-1 feet, Gravel	Fill									
G-33-1 (3 feet)	48 42		2 4	1-4 feet, Dark brown to brown silt/clay to sandy silt/clay w/ gravel	ML/CL			1.0		M				No Petro Odor
			6 8 10 12 14 16 18	EOB@ 4ft bgs, borehole abandoned.										

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature: Firm: **METCO**

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APPENDIX D/ WASTE DISPOSAL DOCUMENTATION

DKS Transport Services, LLC
N7349 548th Street
Menomonie, WI 54751
715-556-2604

INVOICE

6-14 20 19

CUSTOMER: METco % Aunt: Douglas Polzean
709 Gillette St
La Crosse WI 54603

JOB NAME: Herriges Oil Bulk Plant Soil
Keewaskum WI

☐ CASH ☐ CHECK # _____ ☒ IN-HOUSE ACCOUNT

QUANTITY DATE	QUANTITY SHIPPED	DESCRIPTION	QTY.	UNIT PRICE		AMOUNT	
	1	Mobilization	1	316	47	316	47
	5	Haul soil drums to Advanced Disposal For Clean	5	108	15	540	75
		Thank You					
					TOTAL	857	22

Due upon receipt of invoice.
1.5% per month Service Charge (18% Annual Percentage Rate) will be added to past due accounts.

242

SIGNATURE _____

For Waste Disposal
Reviewed 6/14/19
OK

DKS Transport Services, LLC
N7349 548th Street
Menomonie, WI 54751
715-556-2604

INVOICE

3-6 2020

CUSTOMER
METCO % Douglas Polzean
709 Gillette ST
La Crosse WI 54603

JOB NAME
Herriges Oil Inc
Kewaskum WI

☐ CASH ☐ CHECK # _____ ☒ IN-HOUSE ACCOUNT

QUANTITY DATE	QUANTITY SHIPPED	DESCRIPTION	QTY.	UNIT PRICE		AMOUNT	
	1	Mobilization	1	316	47	316	47
	2	Haul Soil drums to Advanced Disposal Eau Claire	2	111	39	222	78
		Thank You					
					TOTAL	539	25

Due upon receipt of invoice.
1.5% per month Service Charge (18% Annual Percentage Rate) will be added to past due accounts.

SIGNATURE _____ 281

Inv Waste Disposal
Reviewed 3/19/20
OK

APPENDIX E/ OTHER DOCUMENTATION

RCL Quick Reference Table

March 2017

Contaminant	Not-To-Exceed D-C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	RCL-gw (mg/kg) DF=2
	Non - Industrial	Industrial	
Benzene	1.6	7.07	0.0051
Ethylbenzene	, 8.02	, 35.4	, 1.57
Toluene	,818.	,818.	, 1.1072
Xylenes	,260.	,260.	, 3.96
Methyl tert-Butyl Ether (MTBE)	, 63.8	,282.	, 0.027
Dichloroethane, 1,2- (DCA)	, 0.652	, 2.87	, 0.0028
Dibromoethane, 1,2-	, 0.05	, 0.221	2.82E-05
Trichloroethylene (TCE)	1.3	8.41	0.0036
Tetrachloroethylene (PCE)	33	145	0.0045
Vinyl Chloride (VC)	0.067	2.06	0.0001
Dichloroethylene, 1,1- (DCE)	,320.	1,190.	0.005
Dichloroethylene, 1,2-trans-	1,560.	1,850.	, 0.0626
Dichloroethylene, 1,2-cis-	,156.	2,340.	, 0.0412
Trichloroethane, 1,1,1-	,640.	,640.	, 0.1402
Carbon Tetrachloride	, 0.916	, 4.03	, 0.0039
Pentachlorophenol (PCP)	, 1.02	, 3.97	, 0.0028
Trimethylbenzene, 1,2,4-	,219.	,219.	, 1.382
Trimethylbenzene, 1,3,5-	,182.	,182.	
Naphthalene	5.52	24.1	0.6582
Benzo[a]pyrene	0.115	2.11	0.47
Acenaphthene	3,590.	45,200.	
Anthracene	17,900.	100,000.	,196.9492
Benz[a]anthracene	, 1.14	, 20.8	

Contaminant	Not-To-Exceed D-C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	RCL-gw (mg/kg) DF=2	Background Threshold Value (BTV) (mg/kg)
	Non - Industrial	Industrial		
Benzo(j)fluoranthene	, 0.424	, 1.76		
Benzo[b]fluoranthene	, 1.15	, 21.1	, 0.4793	
Benzo[k]fluoranthene	, 11.5	,211.		
Chrysene	,115.	2,110.	, 0.1446	
Dibenz[a,h]anthracene	, 0.115	, 2.11		
Dibenzo(a,e)pyrene	, 0.042	, 0.176		
Dimethylbenz(a)anthracene, 7,12-	4.59E-04	, 0.008		
Fluoranthene	2,390.	30,100.	, 88.8778	
Fluorene	2,390.	30,100.	, 14.8299	
Indeno[1,2,3-cd]pyrene	, 1.15	, 21.1		
Methylnaphthalene, 1-	, 17.6	, 72.7		
Methylnaphthalene, 2-	,239.	3,010.		
Nitropyrene, 4-	, 0.424	, 1.76		
Pyrene	1,790.	22,600.	, 54.5455	
Arsenic, Inorganic	0.677	3.	0.584	8
Barium	15,300.	100,000.	,164.8	364
Beryllium and compounds	,156.	2,300.	, 6.32	
Cadmium (Diet)	, 71.1	,985.	, 0.752	1
Chromium(VI)	, 0.301	, 6.36	, 3.84	
Chromium, Total			360,000 if no Cr-VI	44
Lead and Compounds	,400.	,800.	,27.	52
Mercury (elemental)	, 3.13	, 3.13	, 0.208	
Selenium	,391.	5,840.	, 0.52	

NOTES:

1) This table of the most common compounds is intended to be a quick reference ONLY. It does not take into account cumulative effects as required in NR 700.

2) Values in this table are taken from the RCL spreadsheet which is periodically updated. PLEASE be sure to reference the RCL spreadsheet for the most current values.

Site-specific

Resident Screening Levels (RSL) for Soil

ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),
ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,
Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide).
Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	GIABS	ABS	RBA	Volatilization Factor (m^3/kg)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)
Benzene	1	-	1	5.10E+03	1.82E+03	1.56E+09	1.26E+01	-	1.84E+00	1.60E+00
Dibromoethane, 1,2-	1	-	1	1.25E+04	1.34E+03	1.56E+09	3.48E-01	-	5.84E-02	5.00E-02
Dichloroethane, 1,2-	1	-	1	6.60E+03	2.98E+03	1.56E+09	7.64E+00	-	7.13E-01	6.52E-01
Ethylbenzene	1	-	1	8.18E+03	4.80E+02	1.56E+09	6.32E+01	-	9.19E+00	8.02E+00
Lead and Compounds	1	-	1	-	-	1.56E+09	-	-	-	-
Methyl tert-Butyl Ether (MTBE)	1	-	1	7.08E+03	8.87E+03	1.56E+09	3.86E+02	-	7.64E+01	6.38E+01
Acenaphthene	1	0.13	1	2.03E+05	-	1.56E+09	-	-	-	-
Anthracene	1	0.13	1	7.56E+05	-	1.56E+09	-	-	-	-
Benz[a]anthracene	1	0.13	1	6.37E+06	-	1.56E+09	2.10E-01	6.29E-01	5.85E+01	1.57E-01
Benzo(j)fluoranthene	1	0.13	1	-	-	1.56E+09	5.79E-01	1.58E+00	3.98E+04	4.24E-01
Benzo[a]pyrene	1	0.13	1	-	-	1.56E+09	2.10E-02	6.29E-02	1.44E+03	1.57E-02
Benzo[b]fluoranthene	1	0.13	1	-	-	1.56E+09	2.10E-01	6.29E-01	1.44E+04	1.57E-01
Benzo[k]fluoranthene	1	0.13	1	-	-	1.56E+09	2.10E+00	6.29E+00	1.44E+04	1.57E+00
Chrysene	1	0.13	1	-	-	1.56E+09	2.10E+01	6.29E+01	1.44E+05	1.57E+01
Dibenz[a,h]anthracene	1	0.13	1	-	-	1.56E+09	2.10E-02	6.29E-02	1.32E+03	1.57E-02
Dibenzo(a,e)pyrene	1	0.13	1	-	-	1.56E+09	5.79E-02	1.58E-01	3.98E+03	4.24E-02
Dimethylbenz(a)anthracene, 7,12-	1	0.13	1	-	-	1.56E+09	6.13E-04	1.84E-03	2.23E+01	4.59E-04
Fluoranthene	1	0.13	1	-	-	1.56E+09	-	-	-	-
Fluorene	1	0.13	1	4.06E+05	-	1.56E+09	-	-	-	-
Indeno[1,2,3-cd]pyrene	1	0.13	1	-	-	1.56E+09	2.10E-01	6.29E-01	1.44E+04	1.57E-01
Methylnaphthalene, 1-	1	0.13	1	8.46E+04	3.94E+02	1.56E+09	2.40E+01	6.55E+01	-	1.76E+01
Methylnaphthalene, 2-	1	0.13	1	8.37E+04	-	1.56E+09	-	-	-	-
Naphthalene	1	0.13	1	6.69E+04	-	1.56E+09	-	-	5.52E+00	5.52E+00
Nitropyrene, 4-	1	0.13	1	-	-	1.56E+09	5.79E-01	1.58E+00	3.98E+04	4.24E-01
Pyrene	1	0.13	1	3.43E+06	-	1.56E+09	-	-	-	-
Toluene	1	-	1	6.19E+03	8.18E+02	1.56E+09	-	-	-	-
Trimethylbenzene, 1,2,4-	1	-	1	1.14E+04	2.19E+02	1.56E+09	-	-	-	-
Trimethylbenzene, 1,3,5-	1	-	1	9.54E+03	1.82E+02	1.56E+09	-	-	-	-
Xylenes	1	-	1	8.28E+03	2.60E+02	1.56E+09	-	-	-	-

(22) "Wastewater and sludge storage or treatment lagoon" means a natural or man−made containment structure, constructed primarily of earthen materials for the treatment or storage of wastewater or sludge, which is not a land disposal system.

History: Cr. Register, September, 1985, No. 357, eff. 10−1−85; cr. (1m), am. (7), (17) and (18), Register, October, 1988, No. 394, eff. 11−1−88; am. (6), cr. (20h) and (20m), Register, March, 1994, No. 459, eff. 4−1−94; cr. (1s), (10e), (10s), (20k), r. and recr. (12), (13), Register, August, 1995, No. 476, eff. 9−1−95; cr. (14m), Register, October, 1996, No. 490, eff. 11−1−96; am. (20), Register, December, 1998, No. 516, eff. 1−1−99; correction in (9) made under s. 13.93 (2m) (b) 7., Stats., Register, April, 2001, No. 544; CR 02−134: cr. (1u), (1w), (1y) and (20s) Register June 2003 No. 570, eff. 7−1−03; correction in (20) made under s. 13.92 (4) (b) 6., Stats., Register January 2012 No. 673.

Subchapter II — Groundwater Quality Standards

NR 140.10 Public health related groundwater standards. The groundwater quality standards for substances of public health concern are listed in Table 1.

Note: For all substances that have carcinogenic, mutagenic or teratogenic properties or interactive effects, the preventive action limit is 10% of the enforcement standard. The preventive action limit is 20% of the enforcement standard for all other substances that are of public health concern. Enforcement standards and preventive action limits for additional substances will be added to Table 1 as recommendations are developed pursuant to ss. 160.07, 160.13 and 160.15, Stats.

Table 1
Public Health Groundwater Quality Standards

Substance[1]	Enforcement Standard (micrograms per liter − except as noted)	Preventive Action Limit (micrograms per liter − except as noted)
Acetochlor	7	0.7
Acetochlor ethane sulfonic acid + oxanilic acid (Acetochlor − ESA + OXA)	230	46
Acetone	9 mg/l	1.8 mg/l
Alachlor	2	0.2
Alachlor ethane sulfonic acid (Alachlor − ESA)	20	4
Aldicarb	10	2
Aluminum	200	40
Ammonia (as N)	9.7 mg/l	0.97 mg/l
Antimony	6	1.2
Anthracene	3000	600
Arsenic	10	1
Asbestos	7 million fibers per liter (MFL)	0.7 MFL
Atrazine, total chlorinated residues	3[2]	0.3[2]
Bacteria, Total Coliform	0[3]	0[3]
Barium	2 milligrams/liter (mg/l)	0.4 mg/l
Bentazon	300	60
Benzene	5	0.5
Benzo(b)fluoranthene	0.2	0.02
Benzo(a)pyrene	0.2	0.02
Beryllium	4	0.4
Boron	1000	200
Bromodichloromethane	0.6	0.06
Bromoform	4.4	0.44
Bromomethane	10	1
Butylate	400	80
Cadmium	5	0.5
Carbaryl	40	4
Carbofuran	40	8
Carbon disulfide	1000	200
Carbon tetrachloride	5	0.5
Chloramben	150	30
Chlordane	2	0.2
Chlorodifluoromethane	7 mg/l	0.7 mg/l
Chloroethane	400	80
Chloroform	6	0.6
Chlorpyrifos	2	0.4
Chloromethane	30	3
Chromium (total)	100	10
Chrysene	0.2	0.02

Table 1 – Continued
Public Health Groundwater Quality Standards

Substance[1]	Enforcement Standard (micrograms per liter – except as noted)	Preventive Action Limit (micrograms per liter – except as noted)
Cobalt	40	8
Copper	1300	130
Cyanazine	1	0.1
Cyanide, free[4]	200	40
Dacthal	70	14
1,2–Dibromoethane (EDB)	0.05	0.005
Dibromochloromethane	60	6
1,2–Dibromo–3–chloropropane (DBCP)	0.2	0.02
Dibutyl phthalate	1000	100
Dicamba	300	60
1,2–Dichlorobenzene	600	60
1,3–Dichlorobenzene	600	120
1,4–Dichlorobenzene	75	15
Dichlorodifluoromethane	1000	200
1,1–Dichloroethane	850	85
1,2–Dichloroethane	5	0.5
1,1–Dichloroethylene	7	0.7
1,2–Dichloroethylene (cis)	70	7
1,2–Dichloroethylene (trans)	100	20
2,4–Dichlorophenoxyacetic Acid (2,4–D)	70	7
1,2–Dichloropropane	5	0.5
1,3–Dichloropropene (cis/trans)	0.4	0.04
Di (2–ethylhexyl) phthalate	6	0.6
Dimethenamid/Dimethenamid–P	50	5
Dimethoate	2	0.4
2,4–Dinitrotoluene	0.05	0.005
2,6–Dinitrotoluene	0.05	0.005
Dinitrotoluene, Total Residues[5]	0.05	0.005
Dinoseb	7	1.4
1,4–Dioxane	3	0.3
Dioxin (2, 3, 7, 8–TCDD)	0.00003	0.000003
Endrin	2	0.4
EPTC	250	50
Ethylbenzene	700	140
Ethyl ether	1000	100
Ethylene glycol	14 mg/l	2.8 mg/l
Fluoranthene	400	80
Fluorene	400	80
Fluoride	4 mg/l	0.8 mg/l
Fluorotrichloromethane	3490	698
Formaldehyde	1000	100
Heptachlor	0.4	0.04
Heptachlor epoxide	0.2	0.02
Hexachlorobenzene	1	0.1
N–Hexane	600	120
Hydrogen sulfide	30	6
Lead	15	1.5
Lindane	0.2	0.02
Manganese	300	60
Mercury	2	0.2

Table 1 – Continued
Public Health Groundwater Quality Standards

Substance[1]	Enforcement Standard (micrograms per liter – except as noted)	Preventive Action Limit (micrograms per liter – except as noted)
Methanol	5000	1000
Methoxychlor	40	4
Methylene chloride	5	0.5
Methyl ethyl ketone (MEK)	4 mg/l	0.8 mg/l
Methyl isobutyl ketone (MIBK)	500	50
Methyl tert–butyl ether (MTBE)	60	12
Metolachlor/s–Metolachlor	100	10
Metolachlor ethane sulfonic acid + oxanilic acid (Metolachlor – ESA + OXA)	1.3 mg/l	0.26 mg/l
Metribuzin	70	14
Molybdenum	40	8
Monochlorobenzene	100	20
Naphthalene	100	10
Nickel	100	20
Nitrate (as N)	10 mg/l	2 mg/l
Nitrate + Nitrite (as N)	10 mg/l	2 mg/l
Nitrite (as N)	1 mg/l	0.2 mg/l
N–Nitrosodiphenylamine	7	0.7
Pentachlorophenol (PCP)	1	0.1
Perchlorate	1	0.1
Phenol	2 mg/l	0.4 mg/l
Picloram	500	100
Polychlorinated biphenyls (PCBs)	0.03	0.003
Prometon	100	20
Propazine	10	2
Pyrene	250	50
Pyridine	10	2
Selenium	50	10
Silver	50	10
Simazine	4	0.4
Styrene	100	10
Tertiary Butyl Alcohol (TBA)	12	1.2
1,1,1,2–Tetrachloroethane	70	7
1,1,2,2–Tetrachloroethane	0.2	0.02
Tetrachloroethylene	5	0.5
Tetrahydrofuran	50	10
Thallium	2	0.4
Toluene	800	160
Toxaphene	3	0.3
1,2,4–Trichlorobenzene	70	14
1,1,1–Trichloroethane	200	40
1,1,2–Trichloroethane	5	0.5
Trichloroethylene (TCE)	5	0.5
2,4,5–Trichlorophenoxy–propionic acid (2,4,5–TP)	50	5
1,2,3–Trichloropropane	60	12
Trifluralin	7.5	0.75
Trimethylbenzenes (1,2,4– and 1,3,5– combined)	480	96
Vanadium	30	6

Table 1 – Continued
Public Health Groundwater Quality Standards

Substance[1]	Enforcement Standard (micrograms per liter – except as noted)	Preventive Action Limit (micrograms per liter – except as noted)
Vinyl chloride	0.2	0.02
Xylene[6]	2 mg/l	0.4 mg/l

[1] Appendix I contains Chemical Abstract Service (CAS) registry numbers, common synonyms and trade names for most substances listed in Table 1.

[2] Total chlorinated atrazine residues includes parent compound and the following metabolites of health concern: 2-chloro-4-amino-6-isopropylamino-s-triazine (formerly deethylatrazine), 2-chloro-4-amino-6-ethylamino-s-triazine (formerly deisopropylatrazine) and 2-chloro-4,6-diamino-s-triazine (formerly diaminoatrazine).

[3] Total coliform bacteria may not be present in any 100 ml sample using either the membrane filter (MF) technique, the presence-absence (P-A) coliform test, the minimal medium ONPG-MUG (MMO-MUG) test or not present in any 10 ml portion of the 10-tube multiple tube fermentation (MTF) technique.

[4] "Cyanide, free" refers to the simple cyanides (HCN, CN^-) and /or readily dissociable metal-cyanide complexes. Free cyanide is regulatorily equivalent to cyanide quantified by approved analytical methods for "amenable cyanide" or "available cyanide".

[5] Dinitrotoluene, Total Residues includes the dinitrotoluene (DNT) isomers: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT and 3,5-DNT.

[6] Xylene includes meta-, ortho-, and para-xylene combined.

History: Cr. Register, September, 1985, No. 357, eff. 10-1-85; am. table 1, Register, October, 1988, No. 394, eff. 11-1-88; am. table 1, Register, September, 1990, No. 417, eff. 10-1-90; am. Register, January, 1992, No. 433, eff. 2-1-92; am. Table 1, Register, March, 1994, No. 459, eff. 4-1-94; am. Table 1, Register, August, 1995, No. 476, eff. 9-1-95; am. Table 1, Register, December, 1998, No. 516, eff. 1-1-99; am. Table 1, boron, Register, December, 1998, No. 516, eff. 12-31-99; am. Table 1, Register, March, 2000, No. 531, eff. 4-1-00; CR 03-063: am Table 1, Register February 2004 No. 578, eff. 3-1-04; CR 02-095: am. Table 1, Register November 2006 No. 611, eff. 12-1-06; reprinted to correct errors in Table 1, Register January 2007 No. 613; CR 07-034: am. Table 1 Register January 2008 No. 625, eff. 2-1-08; CR 09-102: am. Table 1 Register December 2010 No. 660, eff. 1-1-11.

NR 140.12 Public welfare related groundwater standards. The groundwater quality standards for substances of public welfare concern are listed in Table 2.

Note: For each substance of public welfare concern, the preventive action limit is 50% of the established enforcement standard.

Table 2
Public Welfare Groundwater Quality Standards

Substance	Enforcement Standard (milligrams per liter – except as noted)	Preventive Action Limit (milligrams per liter – except as noted)
Chloride	250	125
Color	15 color units	7.5 color units
Foaming agents MBAS (Methylene-Blue Active Substances)	0.5	0.25
Iron	0.3	0.15
Manganese	0.05	0.025
Odor	3 (Threshold Odor No.)	1.5 (Threshold Odor No.)
Sulfate	250	125
Zinc	5	2.5

History: Cr. Register, September, 1985, No. 357, eff. 10-1-85; am. table 2, Register, October, 1990, No. 418, eff. 11-1-90; am. Table 2, Register, March, 1994, No. 459, eff. 4-1-94.

NR 140.14 Statistical procedures. (1) If a preventive action limit or an enforcement standard for a substance listed in Table 1 or 2, an alternative concentration limit issued in accordance with s. NR 140.28 or a preventive action limit for an indicator parameter established according to s. NR 140.20 (2) is attained or exceeded at a point of standards application:

(a) The owner or operator of the facility, practice or activity at which a standard is attained or exceeded shall notify the appropriate regulatory agency that a standard has been attained or exceeded; and

(b) The regulatory agency shall require a response in accordance with the rules promulgated under s. 160.21, Stats. No response shall be required if it is demonstrated to the satisfaction of the appropriate regulatory agency that a scientifically valid determination cannot be made that the preventive action limit or enforcement standard for a substance in Table 1 or 2 has been attained or exceeded based on consideration of sampling procedures or laboratory precision and accuracy, at a significance level of 0.05.

(2) The regulatory agency shall use one or more valid statistical procedures to determine if a change in the concentration of a substance has occurred. A significance level of 0.05 shall be used for all tests.

(3) In addition to sub. (2), the following applies when a preventive action limit or enforcement standard is equal to or less than the limit of quantitation:

(a) If a substance is not detected in a sample, the regulatory agency may not consider the preventive action limit or enforcement standard to have been attained or exceeded.

(b) If the preventive action limit or enforcement standard is less than the limit of detection, and the concentration of a substance is reported between the limit of detection and the limit of quantitation, the regulatory agency shall consider the preventive action limit or enforcement standard to be attained or exceeded only if:

1. The substance has been analytically confirmed to be present in the same sample using an equivalently sensitive analytical method or the same analytical method, and

2. The substance has been statistically confirmed to be present above the preventive action limit or enforcement standard, determined by an appropriate statistical test with sufficient samples at a significance level of 0.05.

(c) If the preventive action limit or enforcement standard is between the limit of detection and the limit of quantitation, the regulatory agency shall consider the preventive action limit or

Petroleum Substance Discharged	Analysis of Samples Collected for UST Tank Closure Assessments	Solid Waste Program Requirements for Soils to be landfilled[5]	Site Investigation, Pretreatment and Posttreatment Sample Analysis[11]
Regular Gasoline	GRO[2]	Free Liquids[6] GRO Benzene[7] Pb[7] Haz. Waste Deter.[8]	GRO VOC/PVOC[15] Pb[12]
Unleaded Gasoline; Grades 80 100, and 100 LL (Low Lead) Aviation Fuel	GRO[2]	Free Liquids[6] GRO Benzene[7] Pb[7] Haz. Waste Deter.[8]	GRO PVOC
Diesel; Jet Fuels; and No's 1, 2, and 4 Fuel Oil	DRO[3]	Free Liquids[6] DRO Benzene[7] Haz. Waste Deter.[8]	DRO[3] PVOC PAH[13 14]
Crude Oil; Lubricating Oils; No. 6 Fuel Oil	DRO[3]	Free Liquids[6] DRO Haz. Waste Deter.[8]	DRO[3] PAH[13 14]
Unknown Petroleum	GRO[7] and DRO[3 4]	Free Liquids[6] GRO and DRO Pb, Cd[7] Haz. Waste Deter.[8] CN[19] S[2 10]	GRO and DRO[3 4] VOC/PVOC[15] PAH[13 14] Pb, Cd[12]
Waste Oil	DRO[3]	Free Liquids[6] DRO Pb, Cd[7] Haz. Waste Deter.[8] CN[19] S[2 10]	DRO[3] VOC/PVOC[15] PAH[13 14] PCBs[16] Pb, Cd[12]

Abbreviations:

GRO - Gasoline Range Organics, Determined by the Wisconsin Modified GRO Method

DRO - Diesel Range Organics, Determined by the Wisconsin Modified DRO Method

VOC - Volatile Organic Compounds (See Section 11.1 for a list of VOC compounds)

PVOC - Petroleum Organic Compounds (See Section 11.2 for a list of PVOC compounds)

PAH - Polynuclear Aromatic Hydrocarbons (See Section 11.3 for a list of the PAH compounds)

PCBs - Polychlorinated Biphenyls

Pb - Lead

SYNERGY ENVIRONMENTAL LAB – Sample Bottle Requirements

TABLE 1
SAMPLE & PRESERVATION REQUIREMENTS FOR WATER and DRINKING WATER SAMPLES

Test	Original Sample Container	Preserved	Holding Time to Analysis
WET CHEMISTRY			
Alkalinity SM2320B/EPA 310.2	250 mL HDPE	4°C	14 days
Ammonia EPA 350.1	250 mL HDPE	4°C, pH<2 with H_2SO_4	28 days
BOD, cBOD SM5210B	1L ~~500 ml~~ HDPE	4°C	48 hrs.
COD EPA 410.4	250 ml HDPE	4°C, pH<2 with H_2SO_4	28 days
Chloride EPA 300.0/EPA 325.2	250 mL HDPE	4°C	28 days
Cyanide SW846 9012A/SM4500-CN-C	250 mL HDPE	4°C, pH>12 with NaOH	14 days
Flashpoint SW846 1010	250 mL HDPE	4°C	28 days
Fluoride EPA 300.0	250 mL HDPE	4°C	28 days
Hardness SW846 6010B	250 mL HDPE	4°C, pH<2 with HNO_3	180 days
TKN EPA 351.2	250Liter HDPE	4°C, pH<2 with H_2SO_4	28 days
Nitrate EPA 300.0	250 mL HDPE	4°C	48 hours
Nitrate+Nitrite EPA 300.0	250 mL HDPE	4°C, pH<2 with H_2SO_4	28 days
Nitrite EPA 300.0	250 mL HDPE	4°C	48 hours
Oil & Grease EPA 1664	1 Liter Glass	4°C, pH<2 with H_2SO_4	28 days
Organic Carbon SW846 9060/ EPA 415.1	250 ml amber Glass	4°C, pH<2 with H_2SO_4 or HCL	28 days
Phenol, Total EPA 420.1	1 Liter Glass	4°C, pH<2 with H_2SO_4	28 days
Phosphorus, Total EPA 365.3	250 mL HDPE	4°C, pH<2 with H_2SO_4	28 days
Sulfate EPA 300.0	250 mL HDPE	4°C	28 days
Total Dissolved Solids EPA 160.1	500 ml HDPE	4°C	7 days
Total Solids EPA 160.3	500 ml HDPE	4°C	7 days
Total Suspended Solids EPA 160.2	500 mL HDPE	4°C	7 days
METALS			
Metals	250 mL HDPE	4°C, pH<2 with HNO_3	6 months
Mercury SW8467470/EPA 245.1	250 mL HDPE	4°C, pH<2 with HNO_3	28 days
ORGANICS			
Semivolatiles SW846 8270C	1 Liter amber glass, collect 2 for one of the samples submitted .	4°C	7 days extr. 40 days following extr
PAH SW846 8270C	250 ml amber glass, collect 2 for one of the samples submitted	4°C	7 days extr. 40 days following extr
PCB SW846 8082	250 ml amber glass, collect 2 for one of the samples submitted.	4°C	7 days extr. 40 days following extr
DRO, Modified DNR Sep 95	1 Liter amber glass with Teflon lined cap	4°C, 5 mL 50% HCl	7 days extr. 40 days following extr
VOC'S SW846 8260B/EPA524.2	(3) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl, No Headspace	14 days
GRO/VOC	(4) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl prior to adding sample to jar	14 days
GRO, Modified DNR Sep 95	(3) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl prior to adding sample to jar	14 days
GRO/PVOC	(3) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl prior to adding sample to jar	14 days
PVOC	(3) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl prior to adding sample to jar	14 days

All samples are to be cooled to 4°C until tested.
HDPE = High Density Polyethylene.

SYNERGY ENVIRONMENTAL LAB – Sample Bottle Requirements

TABLE 2
SAMPLE & PRESERVATION REQUIREMENTS FOR SOIL SAMPLES

Test	Original Sample Container	Preserved	Holding Times from Date and Time of Collection			
			Solvent Addition	Shipping	Extraction	Analysis
METALS						
Metals	2 oz glass or soil cup	4°C	NA	NA	NA	180 days
Mercury SW846 7471	2 oz glass or soil cup	4°C	NA	NA	NA	28 days
Chromium Hexavalent SM3500-Cr	2 oz glass or soil cup	4°C	NA	NA	NA	24 hours
ORGANICS						
Any combinations of GRO, VOC, PVOC	1- tared VOC vial with 10 mls methanol, 13 grams of soil collected with syringe	4°C, 1:1 with methanol	Immediately	4 days	21 days	21 days
DRO, Modified	1- tared VOC vial, 13 grams of soil collected with syringe jar	4°C, Hexane	10 days	4 days	47 days	47 days
PAH, SW846 8270C	2 oz glass untared	4°C	NA	NA	14 days	40 days
Semivolatile SW846 8270C	2 oz glass untared	4°C	NA	NA	14 days	40 days
PCB SW846 8082	2 oz glass untared	4°C	NA	NA	14 days	40 days

All samples are to be cooled to 4°C until tested.

APPENDIX F/ QUALIFICATIONS OF METCO PERSONNEL

Ronald J. Anderson, P.G.

Professional Titles

- Senior Hydrogeologist
- Project Manager

Credentials

- Licensed Professional Geologist in Wisconsin
- Licensed Professional Geologist in Minnesota
- Recognized by the State of Wisconsin Department of Natural Resources (Chapter NR712) as a qualified Hydrogeologist
- Certified tank closure site assessor (#41861) in Wisconsin
- Member of the Wisconsin Groundwater Association
- Member of the Minnesota Groundwater Association
- Member of the Federation of Environmental Technologist, Inc.

Education

Includes a BA in Earth Science from the University of Minnesota-Duluth. Applicable courses successfully completed include Hydrogeology, Applied Hydrogeology, Environmental Geology, Geological Field Methods, Geology Field Camp, Geomorphology, Structural Geology, Stratigraphy/Tectonics, Mineralogy/Petrology, Glacial/Quaternary Geology, Geology of North America, Oceanography, General Chemistry, Organic Chemistry, and Environmental Conservation.

Post-Graduate Education

Includes Personnel Protection and Safety, Conducting Comprehensive Environmental Property Assessments, Groundwater Flow and Well Hydraulics, Effective Techniques for Contaminated Groundwater Treatment, and numerous other continuing education classes and conferences.

Work Experience

Includes nine months with the Wisconsin Department of Natural Resources Leaking Underground Storage Tank Program regulating LUST sites and since June 1990, with METCO as a Hydrogeologist and Project Manager. Duties have included: managing, conducting, and reporting tank closure assessments; property assessment, LUST investigations; spill investigations; agricultural chemical investigations, dry cleaning chemical investigations, general geotechnical/environmental investigations; Geoprobe projects (soil, groundwater, soil gas sampling); drilling projects (soil boring and monitoring wells); and remedial projects. Since 1989, METCO has sampled/consulted over 1,465 environmental sites.

Eric J. Dahl

Professional Title

- Hydrogeologist

Credentials

- Recognized by the State of Wisconsin Department of Natural Resources (Chapter NR712) as a qualified Hydrogeologist.

Education

Includes B.S. in Geology from the University of Wisconsin-Eau Claire. Applicable courses successfully completed include Environmental Geology, Physical Hydrogeology, Chemical Hydrogeology, Computer Modeling in Hydrogeology, Aqueous Geochemistry, Field Geology I and II, Mineralogy and Petrology I and II, Sedimentology and Stratigraphy, Petroleum and Economic Geology, Earth Resources, Earth History, and Structural Geology.

Post-Graduate Education

40-hour OSHA Hazardous Materials Safety Training course with 8-hour refresher course.

Work Experience

With METCO since November 1999 as a Hydrogeologist. Duties have included: Site Investigations, Phase I and Phase II Environmental Site Assessments, Case Closure Requests/GIS Registry, Geoprobe projects (oversight, direction, and sampling), drilling projects/monitoring well installation (oversight, direction, and sampling), soil excavation projects (oversight, direction, and sampling), Geoprobe operation, and operation and maintenance of remedial systems.

Thomas P. Pignet, P.E.

Professional Titles

- Chemical Engineer
- Industrial Engineer

Credentials

- Licensed Professional Engineer in Wisconsin

Education

Undergraduate: B.S. in Chemical Engineering from the University of Wisconsin. Applicable courses include the standard chemistry curriculum - basic, physical, organic, etc. - plus engineering transport phenomena, chemical unit operations (e.g. separations), fluid mechanics, etc.

Post-Graduate Education

Ph.D. in Chemical Engineering from the University of Minnesota - with applicable special training in absorption & catalysis; M.S. in Industrial Engineering from the University of Wisconsin - Milwaukee - with special emphasis on statistical techniques and data analysis. Applicable further training: continuing education, semester-length courses in [1] Understanding Environmental & Safety Regulation; [2] Hazardous & Toxic Waste Management; and a number of 1-2 day workshops - Fire & Explosion Safety; Small Quantity Generations of Hazardous Waste.

Work Experience

Includes ten years as a research chemical engineer with a large chemical manufacturer; one year as process development engineer and demonstration-scale test analyst on a unique coal gasification project; ten years in association with UW-M, teaching and consulting to industry on energy efficiency, waste minimization and productivity improvement. One year working with a small engineering consulting firm on energy, environmental, and process improvement projects, including LUST Investigations and Remediations. With METCO since February 2000. Duties include Remedial Action Plan preparation, pilot test design and performance, remedial systems design and implementation, and general management of METCO's remedial projects.

Robert Wilmoth

Professional Title

- Hydrogeologist

Credentials

- OSHA 40 Hour HAZWOPER
- OSHA 10 Hour Construction Safety and Health

Education

Includes B.S. in Geology and Environmental Sciences from the university of Wisconsin – Eau Claire. Applicable courses successfully completed include Physical and Applied Chemical Hydrogeology, Geochemistry, Mineralogy and Petrology I and II, Glacial Geology, Sedimentology and Stratigraphy, Earth History, Geologic Field Mapping (Field Camp), Water Recourses, Earth Resources, and Geographic Informational Systems.

Work Experience

With METCO since April 2019 as Hydrogeologist. Duties include: soil and groundwater sampling, operation and maintenance of remedial systems, Geoprobe projects (oversight, direction, and sampling), site mapping, data reduction and analysis, and reporting.

APPENDIX G/ STANDARD OF CARE

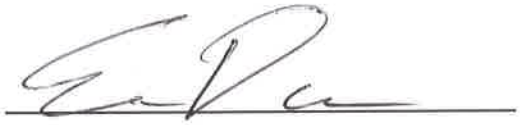
STANDARD OF CARE

The analysis and conclusions expressed in this report are based upon data obtained from the indicated subsurface locations and from other sources discussed in this report. Actual subsurface conditions may vary and may not become evident without further assessment.

All work conducted by METCO is in accordance with currently accepted hydrogeologic and engineering practices and they neither imply nor intend warranty.

We appreciate the opportunity to be of service to you. If you have any questions or require additional information, please do not hesitate to contact us.

I, Eric Dahl, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



11/4/21

Eric Dahl
Hydrogeologist

Date

I, Ronald J. Anderson, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

11/4/21

Ronald J. Anderson PG
Senior Hydrogeologist/Project Manager

Date