COPY

Site Investigation Report

Chapman Oil Bulk Plant
314 Wisconsin Street
Eagle, Wisconsin

October 22, 2015
by METCO
WDNR File Reference #: 02-68-215749
PECFA Claim #: 53119-9998-14

METCO

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This document was prepared by:

Jason T. Powell
Staff Scientist

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October 22, 2015

WDNR BRRTS#: 02-68-215749
PECFA Claim #: 53119-9998-14

Greg Michael
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, Wisconsin 53188

Dear Mr. Michael,

Enclosed is our "Site Investigation Report" concerning the Chapman Oil Bulk Plant in Eagle, 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 defined to a practical extent in soil and groundwater to warrant a completed investigation as defined by the WDNR guidelines and regulations.

METCO recommends that the Chapman 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) Residual soil contamination exceeding the NR720 Direct Contact RCLs can be addressed by a Cap Maintenance Plan. 3) Contaminant levels in groundwater do not exceed the NR140 Enforcement Standards. 4) Based on the receptor survey, there does not appear to be any risk to potable wells, utility corridors, surface waters, or vapor intrusion to nearby buildings.

A closure request is being submitted along with this Site Investigation Report.

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,

Jason T. Powell
Staff Scientist

cc: Rob Chapman - Client

EXECUTIVE SUMMARY

A bulk petroleum storage facility existed on the subject property from at least the 1930's until 2000. The facility consisted of three 17,000-gallon AST's (gasoline, diesel, and fuel oil), three 10,000-gallon AST's (two fuel oil and one diesel), a 4,000-gallon diesel AST, and a 3,000-gallon gasoline AST. All remnants of the former bulk petroleum facility have been removed from the property and the property is currently a vacant wooded lot.

On January 25, 1999, Fluid Management, Inc. completed four Geoprobe borings at the subject property. One soil sample was collected from each boring and submitted for laboratory analysis. Petroleum contamination was encountered in soil sample GP-1 (16 ppm DRO) and subsequently reported to the WDNR. The WDNR then required that a site investigation be conducted at the Chapman Oil Bulk Plant property.

Other nearby LUST sites include The Kettle of Eagle (03-68-196496), which exists approximately 175 feet to the southwest and Allys Restaurant (03-68-275957), which exists approximately 225 feet to the northwest. It does not appear that these sites are impacting or being impacted by the subject property.

The site investigation consisted of the completion of ten Geoprobe borings, five hand-augured borings, the installation of three monitoring wells, and two rounds of groundwater monitoring.

The Geoprobe Project, Drilling Project, Hand Sampling Project, and two rounds of groundwater monitoring clearly show that released petroleum products have impacted the local soil and groundwater. Results of the investigation are as follows:

- Native unconsolidated materials in this area generally consist of fine to coarse grained sand with gravel and cobbles (till).
- Bedrock was not encountered during the site investigation, but sandstone bedrock is expected to exist at 100 feet bgs.
- According to data collected from the monitoring wells, the depth to groundwater ranges from 28.62 to 32.13 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 north.
- An area of unsaturated soil contamination, exceeding the NR720 Groundwater and/or Direct Contact RCL values, exists in the area of the former AST systems. This irregular shaped area measures up to 148 feet long, 109 feet wide, and up to 5 feet thick.

- A dissolved phase contaminant plume exceeding the NR140 PAL has formed at the watertable and has migrated toward the north. This plume is approximately 89 feet long and 37 feet wide.

- Based on the receptor survey, there does not appear to be any risk to potable wells, utility corridors, surface waters, or vapor intrusion to nearby 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 defined to a practical extent in soil and groundwater to warrant a completed investigation as defined by the WDNR guidelines and regulations.

METCO recommends that the Chapman 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) Residual soil contamination exceeding the NR720 Direct Contact RCLs can be addressed by a Cap Maintenance Plan. 3) Contaminant levels in groundwater do not exceed the NR140 Enforcement Standards. 4) Based on the receptor survey, there does not appear to be any risk to potable wells, utility corridors, surface waters, or vapor intrusion to nearby buildings.

A closure request is being submitted along with this Site Investigation Report.

Table of Contents

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

Rob Chapman
W344 S9450 Jericho Drive
Eagle, Wisconsin 53119
(262) 844-0185

1.2 Consultant Information

Consultant

METCO
Ronald J. Anderson P.G.
Jason T. Powell
709 Gillette Street, Suite 3
La Crosse, WI 54603
(608) 781-8879

Subcontractors

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 and Samples, LLC
W4490 Pope Road
Merrill, WI 54452
(715) 539-3928

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

1.3 Site Location

Site address:
314 Wisconsin Street
Eagle, Wisconsin 53119

Latitude and Longitude:
42° 52' 49.59" N and 88° 28' 22.33" W

WTM Coordinates:
644721, 268668

Township/Range:
SW ¼, NE ¼, Section 22, Township 05 North, Range 17 East, Waukesha County

1.4 Site History

A bulk petroleum storage facility existed on the subject property from at least the 1930's until 2000. The facility consisted of three 17,000-gallon AST's (gasoline, diesel, and fuel oil), three 10,000-gallon AST's (two fuel oil and one diesel), a 4,000-gallon diesel AST, and a 3,000-gallon gasoline AST. All remnants of the former bulk petroleum facility have been removed from the property and the property is currently a vacant wooded lot.

On January 25, 1999, Fluid Management, Inc. completed four Geoprobe borings at the subject property. One soil sample was collected from each boring and submitted for laboratory analysis. Petroleum contamination was encountered in soil sample GP-1 (16 ppm DRO) and subsequently reported to the WDNR. The WDNR then required that a site investigation be conducted at the Chapman Oil Bulk Plant property.

Other nearby LUST sites include The Kettle of Eagle (03-68-196496), which exists approximately 175 feet to the southwest and Allys Restaurant (03-68-275957), which exists approximately 225 feet to the northwest. It does not appear that these sites are impacting or being impacted 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, Eagle is located in the eastern portion of the Rock-Fox River Basin. This area is characterized by a rolling landscape shaped by the underlying bedrock surface and glacial deposits of varying thickness. Kettle moraine deposits, which consist of permeable stratified sediments and till, exist in much of Waukesha 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.

Native unconsolidated materials in this area generally consist of fine to coarse grained sand with gravel and cobbles (till).

Bedrock was not encountered during the site investigation, but sandstone bedrock is expected to exist at 100 feet bgs.

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 28.62 to 32.13 feet bgs depending on well location and time of year.

According to the watertable measurements collected during groundwater sampling, local horizontal groundwater flow in the immediate area of the subject property is generally toward the north. 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, Utility Corridors

It does not appear that the extent of soil and groundwater contamination comes in contact with any utility corridors.

Municipal and Private Water Supply Wells

The subject property and surrounding properties are all served by the Village of Eagle municipal water supply. The Village of Eagle has three municipal wells, the nearest (Well #2) being approximately 2,500 feet to the east-southeast of the subject property. The other two municipal wells (Wells #3 and #4) are located approximately 2 miles from the subject property. There are no known private wells in the area of the subject property.

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

Surface Waters

The nearest surface water is an unnamed intermittent creak, which exists approximately 4,000 feet to the south-southeast of the subject property.

3.0 SITE INVESTIGATION RESULTS, RISK CRITERIA

3.1 Methods of Investigation

Workscope

The workscope performed for the LUST Investigation included the following:

1) Collected site background information.
2) On April 2, 2013, METCO prepared a LUST Investigation Field Procedures Workplan.
3) On August 12-13, 2013, METCO completed ten Geoprobe borings (G-1 through G-10). Sixty-five soil samples and five groundwater samples were collected for field and/or laboratory analysis.

4) On August 12-13, 2014, METCO completed five hand-augured borings (HA-1 through HA-5) and two Geoprobe borings (B-1and B-2), and installed three monitoring wells (MW-1 through MW-3). Twenty-nine soil samples were collected for field and/or laboratory analysis.
5) On September 22, 2014, METCO surveyed and collected groundwater samples from the three monitoring wells for field and laboratory analysis. METCO also conducted slug tests on monitoring wells MW-1 and MW-3.
6) On December 16, 2014, METCO collected groundwater samples from the three monitoring wells for field and laboratory analysis.
7) On December 30, 2014, DKS Transport Services, LLC picked up and properly disposed of two drums of soil cuttings.

Site Access Problems

No site access problems were encountered during the LUST 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 August 12-13, 2013, METCO completed ten Geoprobe borings (G-1 through G-10). Sixty-five soil samples and five groundwater samples were collected for field and/or laboratory analysis (DRO, GRO, VOC's, PVOC, PAH, Naphthalene, Lead).

On August 12-13, 2014, METCO completed five hand-augured borings (HA-1 through HA-5) and two Geoprobe borings (B-1and B-2), and installed three monitoring wells (MW-1 through MW-3). Twenty-nine soil samples were collected for field and/or laboratory analysis (PAH, TCLP Lead, TCLP Benzene).

Soil analytical results are summarized in the Pre-Remedial Soil Analytical Tables with exceedances of the NR720 Groundwater RCL's, Direct Contact RCL's and/or Soil Saturation Concentration (C-Sat) 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 are presented in Appendix B.

Groundwater Sampling Data

On August 12-13, 2013, during the Geoprobe Project, METCO collected five groundwater samples (G-1-W through G-5-W) for laboratory analysis (PVOC and Naphthalene).

On August 12-13, 2014, during the Drilling Project, METCO installed three monitoring wells (MW-1 through MW-3). All three monitoring wells were subsequently developed.

On September 22, 2014, METCO collected groundwater samples from the three monitoring wells for field and laboratory analysis (VOC, PAH, Dissolved Lead, Dissolved Iron, Dissolved Manganese, Nitrate/Nitrite, and Sulfate). Field measurements for water level, Dissolved Oxygen, pH, Oxidation Reduction Potential (ORP), temperature, and Specific Conductivity were also collected. The three monitoring wells were also surveyed to Mean Sea Level at this time.

On December 16, 2014, METCO collected groundwater samples from the three monitoring wells for field and laboratory analysis (PVOC, PAH, and Dissolved Lead). Field measurements for water level, Dissolved Oxygen, pH, ORP, temperature, and Specific Conductivity were also collected. It should be noted that the bottles containing the PAH samples from monitoring wells MW-1 and MW-2 were found to be broken upon arrival at Synergy Laboratory.

Geoprobe and monitoring well groundwater analytical results are summarized in the Groundwater Analytical Results Summary Table with exceedances of the NR140 Preventive Action Limits (PAL) and Enforcement Standards (ES) noted.

The Geoprobe borings 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.

Laboratory Certification

Synergy Environmental Lab
Wisconsin Lab Certification #445037560

3.3 Permeability and Hydraulic Conductivities

On September 22, 2014, METCO conducted slug tests on monitoring wells MW-1 and MW-3. The slug test data from monitoring wells MW-1 and MW-3 were evaluated using the curve fitting program "Hydro-Test for Windows" Produced by Dakota Environmental, Inc.

Slug test data was evaluated using the Bouwer and Rice method. Hydrogeologic parameters were estimated as follows:

Monitoring Well MW-1
Hydraulic Conductivity (K) = 0.0178 cm/sec
Transmissivity = 2.52 cm^2/sec
Flow Velocity (V=KI/n) = 138.90 m/yr

Monitoring Well MW-3
Hydraulic Conductivity (K) = 0.00344 cm/sec
Transmissivity = 0.883 cm^2/sec
Flow Velocity (V=KI/n) = 26.83 m/yr

Since the thickness of the unconfined aquifer was unknown, the bottoms of monitoring wells MW-1 and MW-3 were assumed as the lower extent of the aquifer for calculation purposes. Slug test data is presented in Appendix E.

A slug test was attempted on monitoring well MW-2. However, the transducer cord for the data logger was not long enough to reach the water table in MW-2. Therefore no hydraulic conductivity data was collected from MW-2.

3.4 Discussion of Results

The Geoprobe Project, Drilling Project, Hand Sampling Project, and two rounds of groundwater monitoring clearly shows that released petroleum products have impacted the local soil and groundwater.

Native unconsolidated materials in this area generally consist of fine to coarse grained sand with gravel and cobbles (till).

Bedrock was not encountered during the site investigation, but sandstone bedrock is expected to exist at 100 feet bgs.

According to data collected from the monitoring wells, the depth to groundwater ranges from 28.62 to 32.13 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 north.

An area of unsaturated soil contamination exceeding the NR720 Groundwater and/or Direct Contact RCL values exists in the areas of the former AST systems. This irregular shaped area measures up to 148 feet long, 109 feet wide, and up to 5 feet thick.

A dissolved phase contaminant plume exceeding the NR140 PAL has formed at the watertable and has migrated toward the north. This plume is approximately 89 feet long and 37 feet wide.

Based on the receptor survey, there does not appear to be any risk to potable wells, utility corridors, surface waters, or vapor intrusion to nearby buildings.

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

The Detailed Site Map, Pre-Remedial Soil Contamination Map, Groundwater Contour Maps, Groundwater Isoconcentration Map, and Geologic Cross-Section figures, which visually define the extent of contamination, are presented in Section 6.

3.6 Risk Assessment

Per the NR746.03 definitions a release from petroleum tanks is considered "high risk" if any of the four following criterion 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 Chapman Oil Bulk Plant site is currently a "medium risk" site.

4.0 CONCLUSIONS

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

METCO recommends that the Chapman 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) Residual soil contamination exceeding the NR720 Direct Contact RCLs can be addressed by a Cap Maintenance Plan. 3) Contaminant levels in groundwater do exceed the NR140 Enforcement Standards. 4) Based on the receptor survey, there does not appear to be any risk to potable wells, utility corridors, surface waters, or vapor intrusion to nearby buildings.

A closure request is being submitted along with this Site Investigation Report.

5.0 REFERENCES

Driscoll, F. G., 1986, Groundwater and Wells, St. Paul, Minnesota.

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

Geologic Logs and Well Constructor Reports, Wisconsin Geological and Natural History Survey, Madison, Wisconsin.

Matsch, C.L. and Ojakangas, R.W., 1982, Minnesota's Geology, Minneapolis, Minnesota.

Nielson, D.M., 1991, Practical Handbook of Groundwater Monitoring, Chelsea, Michigan.

Cotter, R.D., Hutchinson, R.D., Skinner, E.L., and Wentz, D.A., 1969, Water Resources of Wisconsin – Rock- Fox River Basin, Hydrologic Investigations, Atlas HA-360, U.S. Geological Survey, Washington D.C.

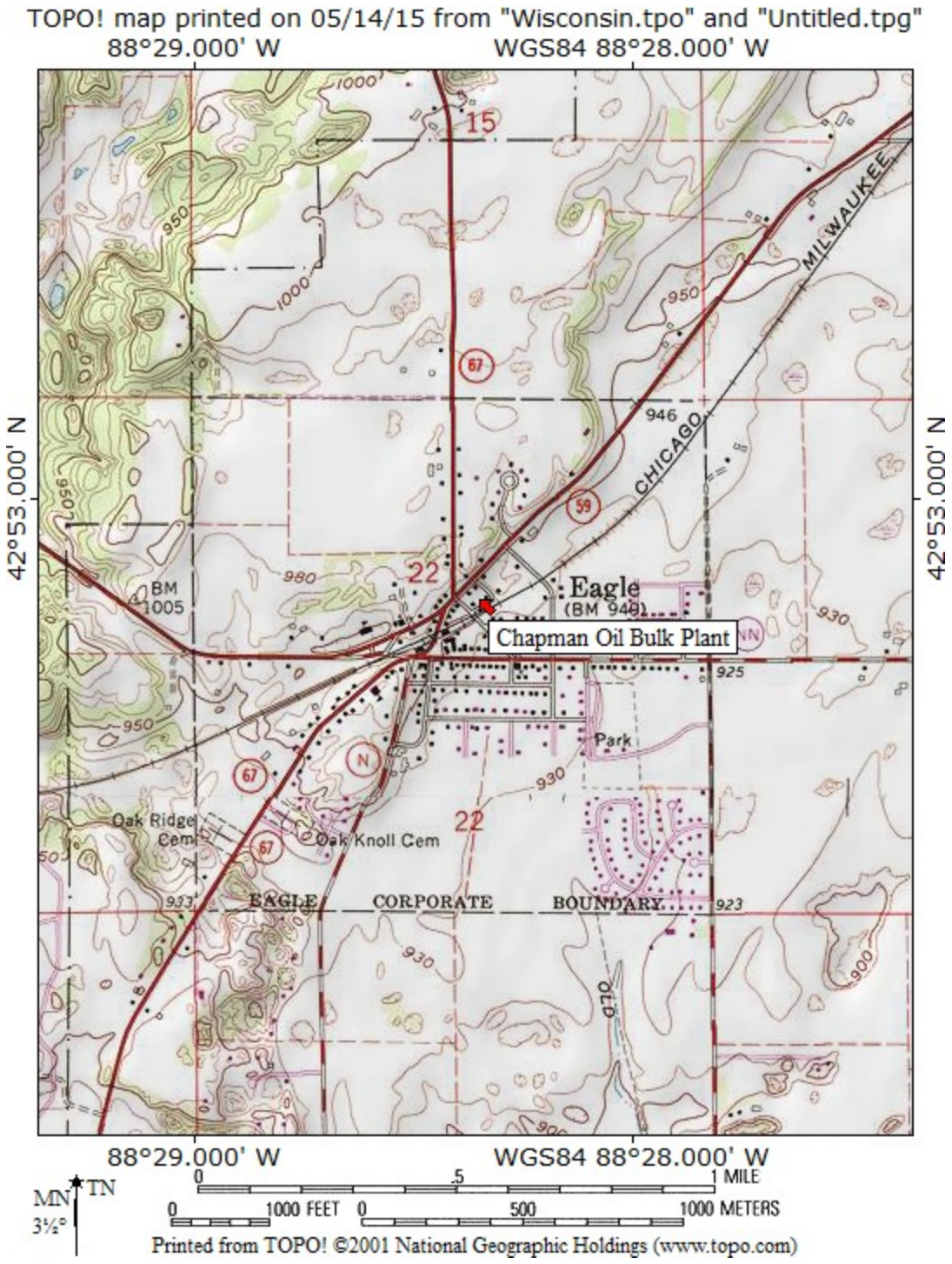
Seamless USGS Topographic Maps on CD-ROM, 2001, National Geographic Holdings, Inc., San Francisco, California.

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

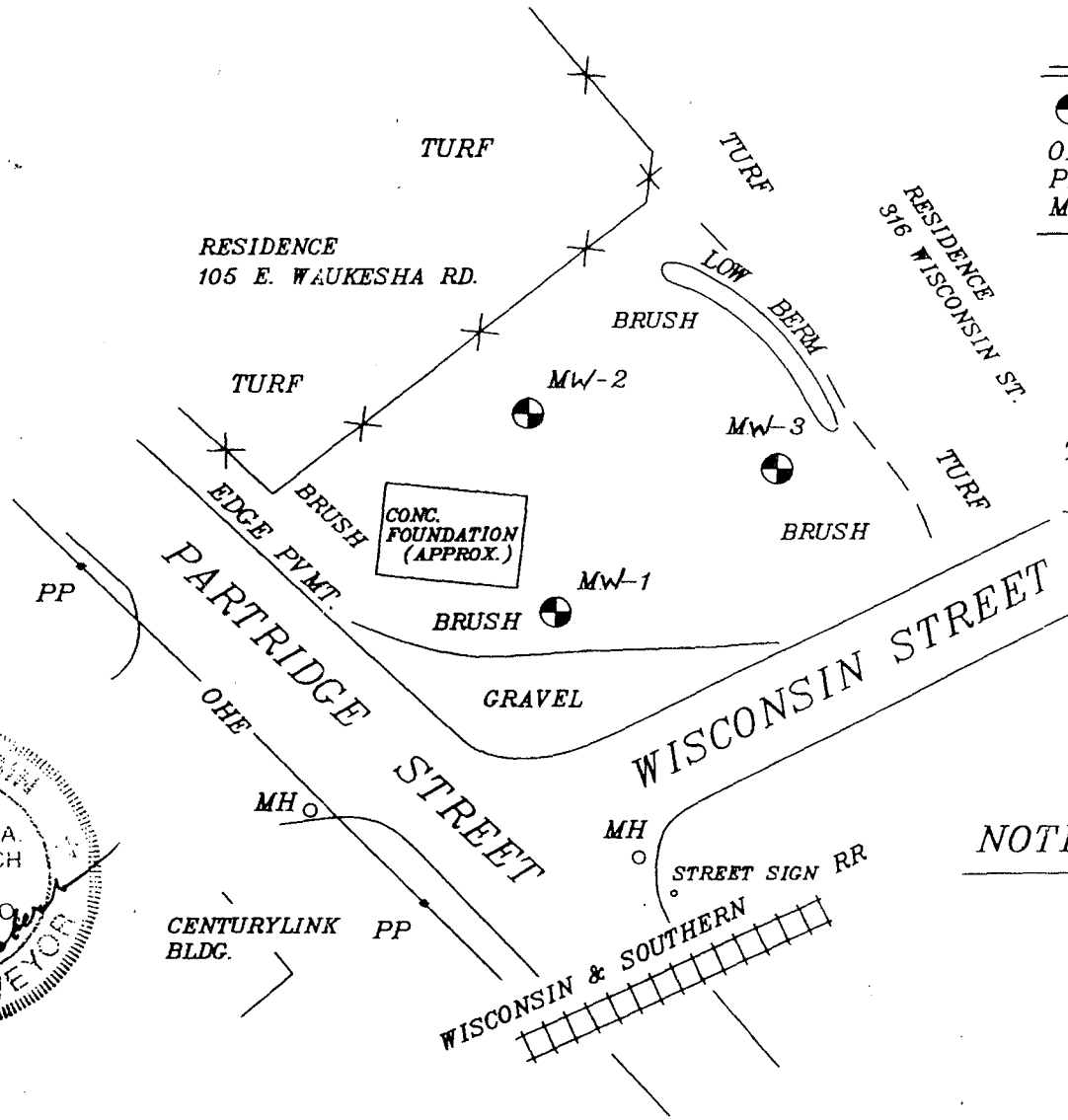
Weston, R.F., 1987, Remedial Technologies for Leaking Underground Storage Tanks.

Other information and data was collected from Rob Chapman, Diggers Hotline, Geiss Soil Samples L.L.C., 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
CHAPMAN OIL BULK PLANT – EAGLE, WI
SEAMLESS USGS TOPOGRAPHIC MAPS ON CD-ROM



KEY

- MONITORING WELL
- OHE OVERHEAD ELECTRIC
- PP POWER POLE
- MH MANHOLE
- FENCE

N

SCALE 1" = 40'

0' 40' 80'

MONITORING WELLS
TOP OF WELL & TOP OF CASING ELEVATIONS (NAVD88)

MW-1	TW	= 944.90'
	TC	= 944.50'
MW-2	TW	= 944.9' @ GR.
	TC	= 947.73'
MW-3	TW	= 943.0' @ GR.
	TC	= 946.14'

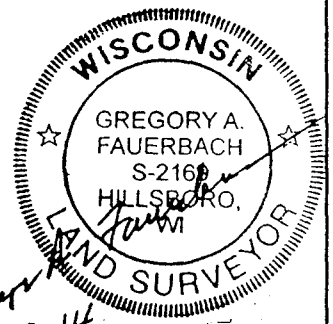
NOTE: MW-2 & MW-3 ARE RISER TYPE.

WISCONSIN
GREGORY A. FAUERBACH
S-2159
HILLSBORO
WI
LAND SURVEYOR

9-28-14

DRAWN BY: G.FAUERBACH DATE: 9-22-14 FIELD DWG. NO.: 54114	REVISIONS	PROJECT: CHAPMAN OIL BULK PLANT 314 WISCONSIN ST. EAGLE, WI 53119	SHEET NAME LOCATION MAP	PAGE 1 OF 1
	FAUERBACH SURVEYING & ENG. PO BOX 140, HILLSBORO, WI 54634 PH/FAX 608-489-3363			

WELL	WAUKESHA COUNTY COORD. SYSTEM NAD83(2011) NORTH	EAST	TOP OF WELL ELEVATION (NAVD 88)	TOP OF PVC CASING ELEVATION (NAVD 88)
MW-1	113418.71	618563.23	944.90'	944.50'
MW-2	113461.92	618557.34	944.9' GR. @ RISER	947.73'
MW-3	113449.68	618610.59	943.0' GR. @ RISER	946.14'



9-28-14

DRAWN BY: C.FAUERBACH DATE: 9-22-14 FIELD DWG. NO.: 54114	REVISIONS FAUERBACH SURVEYING & ENG. PO BOX 140, HILLSBORO, WI 54634 PH/FAX 608-489-3363	PROJECT: CHAPMAN OIL BULK PLANT 314 WISCONSIN ST. EAGLE, WI 53119	SHEET NAME DATA SHEET	PAGE 1 OF 1

B.1.b DETAILED SITE MAP

CHAPMAN OIL BULK PLANT

EAGLE, WISCONSIN

METCO
709 GILLETTE ST, STE 3
LA CROSSE, WI 54603
Tel (608) 781-8879
Fax (608) 781-8893

DRAWN BY: ED
DATE: 03/08/2013

NOTE: INFORMATION BASED ON AVAILABLE DATA. ACTUAL CONDITIONS MAY DIFFER

SCALE: 1 INCH = 25 FEET
0 25

- = GEOPROBE BORING LOCATION
- X = HAND AUGER BORING LOCATION
- = SOIL BORING LOCATION
- = MONITORING WELL LOCATION
- PROPERTY BOUNDARY
- WATER LINE
- STORM SEWER
- BURIED PHONE/FIBER OPTIC
- OVERHEAD ELECTRIC

RESIDENTIAL
111 E WAUKESHA ROAD

RESIDENTIAL
105 E WAUKESHA ROAD

RESIDENTIAL
316 WISCONSIN STREET

CHAPMAN OIL
314 WISCONSIN STREET
BRRTS # 03-68-215749

FENCE
EARTHERN BERM
EARTHERN BERM
EARTHERN BERM
TREES & BRUSH
TREES & BRUSH
TREES & BRUSH
TREES & BRUSH
FORMER AST SYSTEMS
AREA OF LARGE (~4 FT DIAMETER) LOGS
BUILDING FOUNDATION
FORMER SHED
FORMER LOADING RACK
GRASS
GRASS
GRASS
GRASS
GRAVEL
ASPHALT DRIVEWAY
CENTURY LINK

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

PARTRIDGE STREET
WISCONSIN STREET
WISCONSIN & SOUTHERN RAILROAD

B.3.c GROUNDWATER FLOW DIRECTION (SEPTEMBER 22. 2014)

CHAPMAN OIL
BULK PLANT

METCO
709 GILLETTE ST. STE 3
LA CROSSE WI 54603
Tel (608) 781-8879
Fax (608) 781-8893
Excellence through experience

EAGLE.
WISCONSIN

DRAWN BY: ED
DATE: 03/08/2013
REVISED BY: JZ
DATE: 02/02/2015

NOTE: INFORMATION BASED ON AVAILABLE DATA. ACTUAL CONDITIONS MAY DIFFER

B.3.c GROUNDWATER FLOW DIRECTION (DECEMBER 16, 2014)

CHAPMAN OIL BULK PLANT

METCO
Excellence through experience
709 GILLETTE ST. STE 3
LA CROSSE, WI 54603
Tel: (608) 781-8670
Fax: (608) 781-8893

EAGLE, WISCONSIN

DRAWN BY: ED
DATE: 03/08/2013

REVISED BY: JZ
DATE: 02/03/2015

NOTE: INFORMATION BASED ON AVAILABLE DATA. ACTUAL CONDITIONS MAY DIFFER

SCALE:
1 INCH = 25 FEET
0 25

- ● = GEOPROBE BORING LOCATION
- ✕ = HAND AUGER BORING LOCATION
- ◑ = SOIL BORING LOCATION
- ◓ = MONITORING WELL LOCATION
- PROPERTY BOUNDARY
- WATER LINE
- STORM SEWER
- BURIED PHONE/FIBER OPTIC
- OVERHEAD ELECTRIC

RESIDENTIAL
111 E WAUKESHA ROAD

RESIDENTIAL
105 E WAUKESHA ROAD

RESIDENTIAL
316 WISCONSIN STREET

CHAPMAN OIL
314 WISCONSIN STREET
BRRTS # 03-68-215749

EARTHERN BERM

TREES & BRUSH

FENCE

GRASS

PARTRIDGE STREET

BUILDING FOUNDATION

FORMER SHED

FORMER LOADING RACK

CONCRETE PAD

AREA OF LARGE (~4 FT DIAMETER) LOGS

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

HA-1 HA-2 HA-3 HA-4 HA-5

MW-1 913.15' MSL

MW-2 912.80' MSL

MW-3 913.01' MSL

B-1 913.10' MSL

B-3 913.00' MSL

912.77' MSL

912.90' MSL

GRAVEL

WISCONSIN STREET

ASPHALT DRIVEWAY

CENTURY LINK

WISCONSIN & SOUTHERN RAILROAD

B.3.b GROUNDWATER ISOCONCENTRATION (DECEMBER 16, 2014)

CHAPMAN OIL BULK PLANT

METCO
709 GILLETTE ST, STE 3
LA CROSSE, WI 54603
Tel (608) 781-8879
Fax (608) 781-8893

EAGLE, WISCONSIN

DRAWN BY: ED
DATE: 03/08/2013
REVISED BY: JZ
DATE: 02/02/2015

NOTE: INFORMATION BASED ON AVAILABLE DATA. ACTUAL CONDITIONS MAY DIFFER

SCALE:
1 INCH = 25 FEET
0 25

ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING THE NR140 PAL VALUES

RESIDENTIAL
111 E WAUKESHA ROAD

RESIDENTIAL
105 E WAUKESHA ROAD

RESIDENTIAL
316 WISCONSIN STREET

CHAPMAN OIL
314 WISCONSIN STREET
BRRTS # 03-68-215749

FORMER AST SYSTEMS

FORMER SHED

FORMER LOADING RACK

BUILDING FOUNDATION

AREA OF LARGE (~4 FT DIAMETER) LOGS

EARTHERN BERM

TREES & BRUSH

FENCE

GRASS

GRAVEL

ASPHALT DRIVEWAY

CENTURY LINK

PARTRIDGE STREET

WISCONSIN STREET

WISCONSIN & SOUTHERN RAILROAD

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

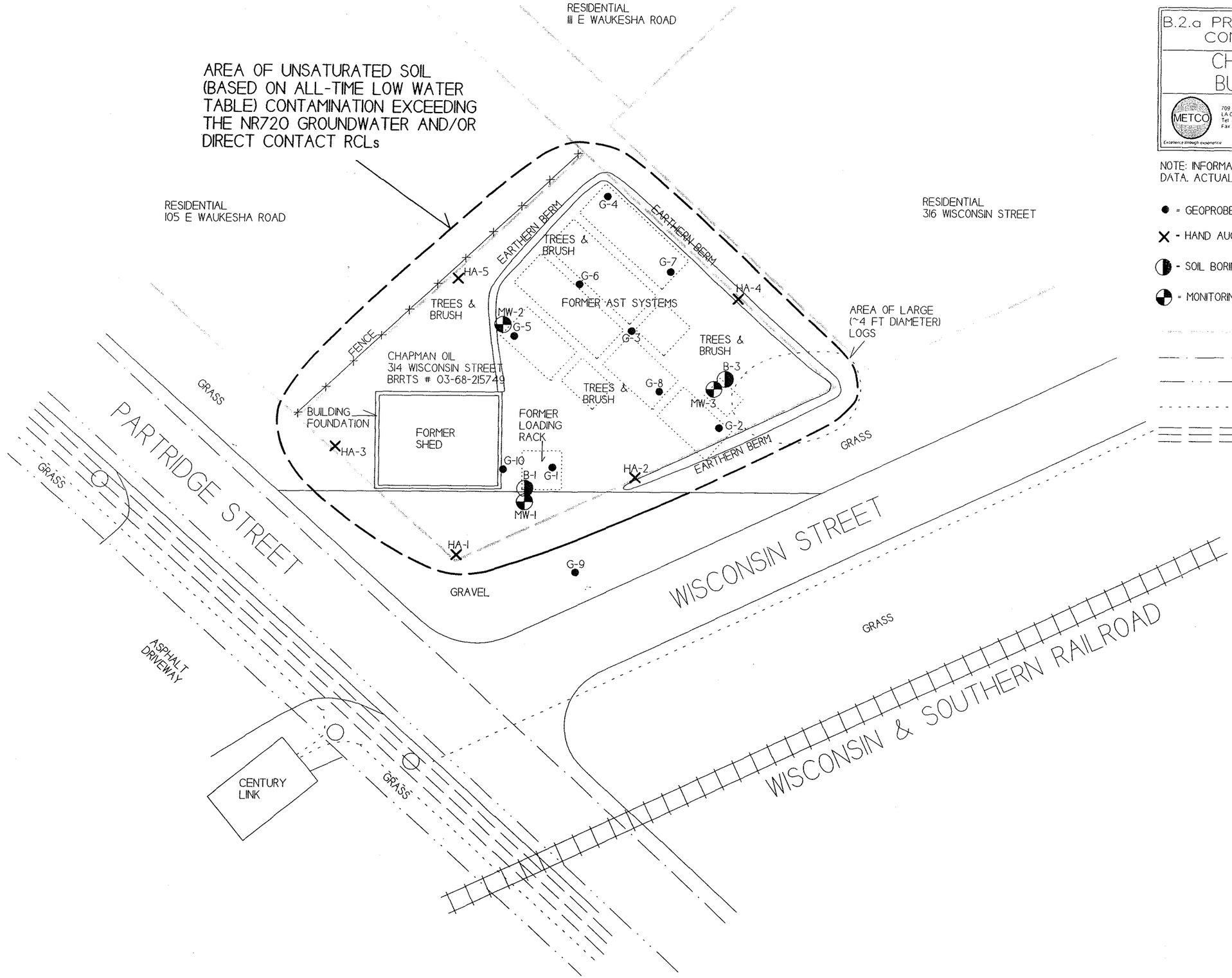
● = GEOPROBE BORING LOCATION

✕ = HAND AUGER BORING LOCATION

◑ = SOIL BORING LOCATION

◓ = MONITORING WELL LOCATION

- PROPERTY BOUNDARY
- WATER LINE
- STORM SEWER
- BURIED PHONE/FIBER OPTIC
- OVERHEAD ELECTRIC



B.2.a PRE-REMEDIAL SOIL CONTAMINATION

CHAPMAN OIL BULK PLANT

METCO
709 GILLETTE ST, STE 3
LA CROSSE, WI 54603
Tel (608) 781-6879
Fax (608) 781-8893
Excellence through experience

EAGLE, WISCONSIN

DRAWN BY: ED
DATE: 03/08/2013

REVISED BY: JZ
DATE: 02/03/2015

NOTE: INFORMATION BASED ON AVAILABLE DATA. ACTUAL CONDITIONS MAY DIFFER

SCALE:
1 INCH = 25 FEET
0 25

- = GEOPROBE BORING LOCATION
- X - HAND AUGER BORING LOCATION
- = SOIL BORING LOCATION
- = MONITORING WELL LOCATION

- PROPERTY BOUNDARY
- WATER LINE
- STORM SEWER
- BURIED PHONE/FIBER OPTIC
- OVERHEAD ELECTRIC

B.3.a CROSS SECTION MAP

CHAPMAN OIL BULK PLANT

METCO
709 GILLETTE ST. STE 3
LA CROSSE WI 54603
Tel (608) 781-8879
Fax (608) 781-8893

EAGLE, WISCONSIN

DRAWN BY: ED
DATE: 03/08/2013

REVISED BY: JZ
DATE: 02/04/2015

NOTE: INFORMATION BASED ON AVAILABLE DATA, ACTUAL CONDITIONS MAY DIFFER

SCALE:
1 INCH = 25 FEET
0 25

- = GEOPROBE BORING LOCATION
- X = HAND AUGER BORING LOCATION
- = SOIL BORING LOCATION
- = MONITORING WELL LOCATION

- PROPERTY BOUNDARY
- WATER LINE
- STORM SEWER
- BURIED PHONE/FIBER OPTIC
- OVERHEAD ELECTRIC

ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING THE NR140 PAL VALUES

RESIDENTIAL
111 E WAUKESHA ROAD

RESIDENTIAL
105 E WAUKESHA ROAD

RESIDENTIAL
316 WISCONSIN STREET

A'

A

EARTHERN BERM

TREES & BRUSH

FENCE

HA-5

HA-4

G-4

G-7

G-6

FORMER AST SYSTEMS

MW-2

G-5

G-3

G-8

MW-3

B-3

G-2

AREA OF LARGE (~4 FT DIAMETER) LOGS

CHAPMAN OIL
314 WISCONSIN STREET
BRRTS # 03-68-215749

BUILDING FOUNDATION

HA-3

FORMER SHED

FORMER LOADING RACK

G-10

B-1

G-1

W-1

HA-2

HA-1

G-9

GRAVEL

GRASS

PARTRIDGE STREET

WISCONSIN STREET

ASPHALT DRIVEWAY

CENTURY LINK

WISCONSIN & SOUTHERN RAILROAD

AREA OF UNSATURATED SOIL (BASED ON ALL-TIME LOW WATER TABLE) CONTAMINATION EXCEEDING THE NR720 GROUNDWATER AND/OR DIRECT CONTACT RCLs

B.3.a GEOLOGIC CROSS SECTION MAP

CHAPMAN OIL BULK PLANT

METCO
709 GILLETTE ST. STE 3
LA CROSSE WI 54603
Tel (608) 781-8879
Fax (608) 781-8893

EAGLE, WISCONSIN

DRAWN BY: ED
DATE: 03/08/2013
REVISED BY:JZ
DATE: 02/04/2015

N

NOTE: INFORMATION BASED ON AVAILABLE DATA. ACTUAL CONDITIONS MAY DIFFER

SCALE:
1 INCH = 15 FEET
0 15

- ● - GEOPROBE BORING LOCATION
- ✕ - HAND AUGER BORING LOCATION
- ◐ - SOIL BORING LOCATION
- ⊕ = MONITORING WELL LOCATION
- PROPERTY BOUNDARY
- WATER LINE
- STORM SEWER
- BURIED PHONE/FIBER OPTIC
- OVERHEAD ELECTRIC

AREA OF UNSATURATED SOIL (BASED ON ALL-TIME LOW WATER TABLE) CONTAMINATION EXCEEDING THE NR720 GROUNDWATER AND/OR DIRECT CONTACT RCLs

B.3.a.3 GEOLOGIC CROSS SECTION

CHAPMAN OIL BULK PLANT

METCO
709 GILLETTE ST STE 3
LA CROSSE WI 54603
TEL (608) 781-8879
FAX (608) 781-8893
Excellence through experience

EAGLE, WISCONSIN

DRAWN BY: JZ
DATE: 02/04/2015

HORIZONTAL SCALE:
1 INCH = 15 FEET
0 15

VERTICAL SCALE:
1 INCH = 7.5 FEET
0 7.5

INFORMATION BASED ON AVAILABLE DATA.
ACTUAL CONDITIONS MAY DIFFER.

SOIL SAMPLE RESULTS ARE PRESENTED IN PARTS PER MILLION (PPM)

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

NOTE ONLY SOIL EXCEEDANCES HAVE BEEN DOCUMENTED ON THE MAP. SEE DATA TABLES AND/OR LABORATORY REPORTS FOR ALL RESULTS

NOTE: SOIL AND GROUNDWATER SAMPLE DATA IS BASED ON LABORATORY RESULTS FROM SAMPLES COLLECTED DURING THE:
GEOPROBE PROJECT - (08/12-13/2013)
DRILLING PROJECT - (08/12-13/2014)
ROUND 1 GROUNDWATER SAMPLING - (09/22/2014)
ROUND 2 GROUNDWATER SAMPLING - (12/16/2014)

PID - PHOTO IONIZATION DETECTOR
PVOC - PETROLEUM VOLATILE ORGANIC COMPOUNDS
B - BENZENE
E - ETHYLBENZENE
N - NAPHTHALENE
T - TOLUENE
TMB - TRIMETHYLBENZENE
X - XYLENE

▲ - GEOPROBE BORING LOCATION
◓ - MONITORING WELL LOCATION
▲ - GEOPROBE BORING SAMPLING LOCATION
◓ - MONITORING WELL SAMPLING LOCATION
▼ - WATERTABLE

BROWN TO GRAY FINE TO COARSE GRAINED SAND TO SILTY SAND WITH SOME GRAVEL AND COBBLES (TILL)

TAN FINE TO COARSE GRAINED SAND WITH GRAVEL AND COBBLES (TILL)

945' MSL
940' MSL
935' MSL
930' MSL
925' MSL
920' MSL
915' MSL
910' MSL
905' MSL
900' MSL

A SOUTH — A' NORTH

GRAVEL

MW-1 B-1 FORMER LOADING RACK G-1 TREES & BRUSH FORMER AST SYSTEMS G-3 TREES & BRUSH G-6 FORMER AST SYSTEMS TREES & BRUSH G-4

MW-1-1 3.5 FEET 0 PID
B-1-1 3.5 FEET 0 PID
G-1-1 3.5 FEET 0 PID 1.56 TOLUENE
G-3-1 3.5 FEET 0 PID 31.6 LEAD
G-6-1 3.5 FEET 0 PID 145 LEAD 0.050 BENZENE 0.130 BENZO(A)PYRENE 0.225 BENZO(B)FLUORANTHENE
G-4-1 3.5 FEET 0 PID 88.2 LEAD

MW-1-2 8.0 FEET 0 PID
B-1-2 8.0 FEET 8 PID
G-1-2 8.0 FEET 0 PID
G-3-2 8.0 FEET 0 PID
G-6-2 8.0 FEET 0 PID
G-4-2 8.0 FEET 0 PID

MW-1-3 12.0 FEET 0 PID
B-1-3 12.0 FEET 0 PID
G-1-3 12.0 FEET 0 PID
G-3-3 12.0 FEET 0 PID
G-6-3 12.0 FEET 0 PID
G-4-3 12.0 FEET 0 PID

MW-1-4 16.0 FEET 0 PID
B-1-4 16.0 FEET NO RECOVERY
G-1-4 16.0 FEET 0 PID
G-3-4 16.0 FEET 0 PID
G-6-4 16.0 FEET 0 PID
G-4-4 16.0 FEET 0 PID

G-1-5 20.0 FEET 0 PID
G-3-5 20.0 FEET 0 PID
G-6-5 20.0 FEET 0 PID
G-4-5 20.0 FEET 0 PID

G-1-6 24.0 FEET 0 PID
G-3-6 24.0 FEET 0 PID
G-4-6 24.0 FEET 0 PID

G-1-7 28.0 FEET 0 PID
G-3-7 28.0 FEET 0 PID
G-4-7 28.0 FEET 0 PID

G-1-8 32.0 FEET 0 PID

ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN SOIL AND GROUNDWATER EXCEEDING NR720 GROUNDWATER RCL's AND/OR NR140 PAL

MW-1
11 LEAD
<0.27 BENZENE
<0.82 ETHYLBENZENE
<0.37 MTBE
<0.8 TOLUENE
<1.69 TRIMETHYLBENZENES
<2.41 XYLENE
0.045 CHRYSENE

G-1-W
0.68 BENZENE
1.02 ETHYLBENZENE
<0.37 MTBE
<1.2 NAPHTHALENE
2.17 TOLUENE
1.12-1.98 TRIMETHYLBENZENES
<2.41 XYLENE

G-3-W
0.58 BENZENE
<0.82 ETHYLBENZENE
<0.37 MTBE
<1.2 NAPHTHALENE
1.69 TOLUENE
0.93-3.77 TRIMETHYLBENZENES
<2.41 XYLENE

G-4-W
0.49 BENZENE
<0.82 ETHYLBENZENE
<0.37 MTBE
<1.2 NAPHTHALENE
1.27 TOLUENE
<1.69 TRIMETHYLBENZENES
<2.41 XYLENE

7.0 DATA TABLES, GRAPHS, AND STATISTICAL ANALYSIS

A.2. Soil Analytical Results Table
Chapman Oil BRRTS# 02-68-215749

																	DIRECT CONTACT PVOC & PAH COMBINED		
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 (ppm)	Exeedance Count	Hazard Index	Cumulative Cancer Risk
G-1-1	3.5	U	08/12/13	0	<1.5	<10	<10	<0.025	<0.025	<0.025	<0.0221	1.56	0.060	<0.025	0.17	NS	0	3.93E-03	
G-1-2	8.0	U	08/12/13	0	NOT SAMPLED											NS			
G-1-3	12.0	U	08/12/13	0	NOT SAMPLED											NS			
G-1-4	16.0	U	08/12/13	0	<1.5	339	<10	<0.092	<0.010	<0.030	<0.114	<0.020	<0.026	<0.026	<0.099	SEE VOC SPREAD- SHEET			
G-1-5	20.0	U	08/12/13	0	NOT SAMPLED											NS			
G-1-6	24.0	U	08/12/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-1-7	28.0	U	08/12/13	0	NOT SAMPLED											NS			
G-1-8	32.0	S	08/12/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-2-1	3.5	U	08/12/13	0	11.3	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS	1	2.83E-002	2.90E-006
G-2-2	8.0	U	08/12/13	0	NOT SAMPLED											NS			
G-2-3	12.0	U	08/12/13	0	NOT SAMPLED											NS			
G-2-4	16.0	U	08/12/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-2-5	20.0	U	08/12/13	0	NOT SAMPLED											NS			
G-2-6	24.0	U	08/12/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-3-1	3.5	U	08/12/13	0	31.6	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS	0	7.90E-002	
G-3-2	8.0	U	08/12/13	0	NOT SAMPLED											NS			
G-3-3	12.0	U	08/12/13	0	NOT SAMPLED											NS			
G-3-4	16.0	U	08/12/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-3-5	20.0	U	08/12/13	0	NOT SAMPLED											NS			
G-3-6	24.0	U	08/12/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-3-7	28.0	U	08/12/13	0	NOT SAMPLED											NS			
G-4-1	3.5	U	08/12/13	0	88.2	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS	0	2.21E-01	
G-4-2	8.0	U	08/12/13	0	NOT SAMPLED											NS			
G-4-3	12.0	U	08/12/13	0	NOT SAMPLED											NS			
G-4-4	16.0	U	08/12/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-4-5	20.0	U	08/12/13	0	NOT SAMPLED											NS			
G-4-6	24.0	U	08/12/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-4-7	28.0	U	08/12/13	0	NOT SAMPLED											NS			
G-5-1	3.5	U	08/13/13	0	32.2	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS	1	8.05E-002	1.50E-006
G-5-2	8.0	U	08/13/13	0	NOT SAMPLED											NS			
G-5-3	12.0	U	08/13/13	0	NOT SAMPLED											NS			
G-5-4	16.0	U	08/13/13	0	NS	11	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-5-5	20.0	U	08/13/13	0	NOT SAMPLED											NS			
G-5-6	24.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-5-7	28.0	U	08/13/13	0	NOT SAMPLED											NS			
G-6-1	3.5	U	08/13/13	0	145	<10	<10	0.050	0.115	<0.025	<22.1	0.370	0.760	0.400	1.44	NS	2	3.88E-01	1.2E-05
G-6-2	8.0	U	08/13/13	0	NOT SAMPLED											NS			
G-6-3	12.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-6-4	16.0	U	08/13/13	0	NOT SAMPLED											NS			
G-6-5	20.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-7-1	3.5	U	08/13/13	0	196	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS	1	4.90E-001	1.80E-006
G-7-2	8.0	U	08/13/13	0	NOT SAMPLED											NS			
G-7-3	12.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-7-4	16.0	U	08/13/13	0	NOT SAMPLED											NS			
G-7-5	20.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-8-1	3.5	U	08/13/13	0	66.2	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS	0	1.66E-001	
G-8-2	8.0	U	08/13/13	0	NOT SAMPLED											NS			
G-8-3	12.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-8-4	16.0	U	08/13/13	0	NOT SAMPLED											NS			
G-8-5	20.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-9-1	3.5	U	08/13/13	0	2.9	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS	0	7.25E-003	0.00E+000
G-9-2	8.0	U	08/13/13	0	NOT SAMPLED											NS			
G-9-3	12.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-9-4	16.0	U	08/13/13	0	NOT SAMPLED											NS			
G-9-5	20.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-10-1	3.5	U	08/13/13	0	26.0	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS	1	6.51E-002	2.50E-006
G-10-2	8.0	U	08/13/13	0	NOT SAMPLED											NS			
G-10-3	12.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-10-4	16.0	U	08/13/13	0	NOT SAMPLED											NS			
G-10-5	20.0	U	08/13/13	0	NS	<10	<10	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
Groundwater RCL					**27**	-	-	**0.00512**	**1.57**	**0.027**	**0.659**	**1.11**		**1.38**	**3.94**	-			
Direct Contact RCL					**400**	-	-	**1.49**	**7.47**	**59.4**	**5.15**	**818**	**89.8**	**182**	**258**	-		**1.00E+00**	**1.00E-05**
Soil Saturation Concentration (C-sat) *					-	-	-	**1820***	**480***	**8870***	-	**818***	**219***	**182***	**258***	-			

Bold = Groundwater RCL Exceedance
Bold & Underline =Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
NS = Not Sampled
(ppm) = parts per million
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
VOC's = Volatile Organic Compounds

U = unsaturated (based on all time low water table per WDNR)
S = saturated (based on all time low water table per WDNR)

A.2. Pre-remedial Soil Analytical Table
Chapman Oil BRRTS# 02-68-215749

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 (ppm)	Individual Exceedance Count	Hazard Index	Cumulative Cancer Risk
B-1-1	3.5	U	08/12/14	0	NOT SAMPLED											NS			
B-1-2	8.0	U	08/12/14	8	NOT SAMPLED											TCLP LEAD <0.45 TCLP BENZENE <0.05			
B-1-3	12.0	U	08/12/14	0	NOT SAMPLED											NS			
B-1-4	16.0	U	08/12/14	NO RECOVERY															
B-3-1	3.5	U	08/12/14	4	NOT SAMPLED											NS			
B-3-2	8.0	U	08/12/14	8	NOT SAMPLED											NS			
B-3-3	12.0	U	08/12/14	12	NOT SAMPLED											NS			
B-3-4	16.0	U	08/12/14	16	NOT SAMPLED											NS			
B-3-5	18.0	U	08/12/14	NO RECOVERY															
MW-1-1	3.5	U	08/12/14	0	NOT SAMPLED											NS			
MW-1-2	8.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-1-3	12.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-1-4	16.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-2-1	3.5	U	08/12/14	0	NOT SAMPLED											NS			
MW-2-2	8.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-2-3	12.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-2-4	16.0	U	08/12/14	NO RECOVERY															
MW-2-5	18.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-2-6	24.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-3-1	3.5	U	08/12/14	0	NOT SAMPLED											NS			
MW-3-2	8.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-3-3	12.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-3-4	16.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-3-5	18.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-3-6	24.0	U	08/12/14	0	NOT SAMPLED											NS			
MW-3-7	28.0	U	08/12/14	NO RECOVERY															
MW-3-8	32.0	S	08/12/14	0	NOT SAMPLED											NS			
MW-3-9	37.0	U	08/12/14	0	NOT SAMPLED											NS			
HA-1	1.5	U	08/12/14	0	NOT SAMPLED											NS	1	7.55E-05	4.5E-06
HA-2	1.5	U	08/12/14	0	NOT SAMPLED											NS	5	8.84E-04	4.0E-05
HA-3	1.5	U	08/12/14	0	NOT SAMPLED											NS	5	1.29E-03	1.0E-04
HA-4	1.5	U	08/12/14	0	NOT SAMPLED											NS	1	1.08ER-03	6.8E-06
HA-5	1.5	U	08/12/14	0	NOT SAMPLED											NS	2	2.75E-04	1.0E-05
Groundwater RCL					27	-	-	0.00512	1.57	0.027	0.659	1.11	1.38		3.94	-			
Direct Contact RCL					400	-	-	1.49	7.47	59.4	5.15	818	89.8	182	258	-		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat) *					-	-	-	1820*	480*	8870*	-	818*	219*	182*	258*	-			

Bold = Groundwater RCL Exceedance
Bold & Underline =Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
NS = Not Sampled
(ppm) = parts per million
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
VOC's = Volatile Organic Compounds

U = unsaturated (based on all time low water table per WDNR)
S = saturated (based on all time low water table per WDNR)

A.2. Pre-remedial Soil Analytical Table
(PAH)
Chapman Oil BRRTS# 02-68-215749

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)	PVOC & PAH COMBINED Individual Exceedance Count	PVOC & PAH COMBINED Hazard Index	PVOC & PAH COMBINED Cumulative Cancer Risk
G-1-1	3.5	U	08/12/13	<0.0218	<0.0192	<0.0195	<0.0229	<0.0174	<0.0196	<0.0227	<0.0216	<0.0181	<0.0223	<0.0211	<0.0222	<0.0239	<0.0207	0.0296	<0.0221	<0.0224	<0.0231	0	3.93E-03	
G-1-2	8.0	U	08/12/13	NOT SAMPLED																				
G-1-3	12.0	U	08/12/13	NOT SAMPLED																				
G-1-4	16.0	U	08/12/13	NOT SAMPLED																				
G-1-5	20.0	U	08/12/13	NOT SAMPLED																				
G-1-6	24.0	U	08/12/13	NOT SAMPLED																				
G-1-7	28.0	U	08/12/13	NOT SAMPLED																				
G-1-8	32.0	U	08/12/13	NOT SAMPLED																				
G-2-1	3.5	U	08/12/13	<0.0218	<0.0192	<0.0195	0.032	0.0311	0.057	0.0298	<0.0216	0.041	<0.0223	0.038	<0.0222	0.0245	<0.0207	<0.0206	<0.0221	<0.0224	0.047	1	2.83E-002	2.90E-006
G-2-2	8.0	U	08/12/13	NOT SAMPLED																				
G-2-3	12.0	U	08/12/13	NOT SAMPLED																				
G-2-4	16.0	U	08/12/13	NOT SAMPLED																				
G-2-5	20.0	U	08/12/13	NOT SAMPLED																				
G-2-6	24.0	U	08/12/13	NOT SAMPLED																				
G-3-1	3.5	U	08/12/13	<21.8	<19.2	0.0294	<0.0229	<0.0174	<0.0196	<0.0227	<0.0216	<0.0181	<0.0223	<0.0211	<0.0222	<0.0239	<0.0207	<0.0206	<0.0221	<0.0224	<0.0231	0	7.90E-002	
G-3-2	8.0	U	08/12/13	NOT SAMPLED																				
G-3-3	12.0	U	08/12/13	NOT SAMPLED																				
G-3-4	16.0	U	08/12/13	NOT SAMPLED																				
G-3-5	20.0	U	08/12/13	NOT SAMPLED																				
G-3-6	24.0	U	08/12/13	NOT SAMPLED																				
G-3-7	28.0	U	08/12/13	NOT SAMPLED																				
G-4-1	3.5	U	08/12/13	<0.0218	<0.0192	<0.0195	<0.0229	<0.0174	<0.0196	<0.0227	<0.0216	<0.0181	<0.0223	<0.0211	<0.0222	<0.0239	<0.0207	<0.0206	<0.0221	<0.0224	<0.0231	0	2.21E-01	
G-4-2	8.0	U	08/12/13	NOT SAMPLED																				
G-4-3	12.0	U	08/12/13	NOT SAMPLED																				
G-4-4	16.0	U	08/12/13	NOT SAMPLED																				
G-4-5	20.0	U	08/12/13	NOT SAMPLED																				
G-4-6	24.0	U	08/12/13	NOT SAMPLED																				
G-4-7	28.0	U	08/12/13	NOT SAMPLED																				
G-5-1	3.5	U	08/13/13	<0.0218	<0.0192	<0.0195	<0.0229	0.0188	0.033	0.0284	<0.0216	0.0242	<0.0223	0.0293	<0.0222	<0.0239	<0.0207	<0.0206	<0.0221	<0.0224	0.0282	1	8.05E-002	1.50E-006
G-5-2	8.0	U	08/13/13	NOT SAMPLED																				
G-5-3	12.0	U	08/13/13	NOT SAMPLED																				
G-5-4	16.0	U	08/13/13	NOT SAMPLED																				
G-5-5	20.0	U	08/13/13	NOT SAMPLED																				
G-5-6	24.0	U	08/13/13	NOT SAMPLED																				
G-5-7	28.0	U	08/13/13	NOT SAMPLED																				
G-6-1	3.5	U	08/13/13	<0.0218	<0.0192	<0.0195	0.105	0.138	0.225	0.086	0.079	0.129	<0.0223	0.129	<0.0222	0.073	<0.0207	0.0289	<0.0221	0.047	0.131	2	3.88E-01	1.2E-05
G-6-2	8.0	U	08/13/13	NOT SAMPLED																				
G-6-3	12.0	U	08/13/13	NOT SAMPLED																				
G-6-4	16.0	U	08/13/13	NOT SAMPLED																				
G-6-5	20.0	U	08/13/13	NOT SAMPLED																				
G-7-1	3.5	U	08/13/13	<0.0218	<0.0192	<0.0195	<0.0229	0.0237	0.0247	0.033	<0.0216	0.0205	<0.0223	<0.0211	<0.0222	<0.0239	<0.0207	<0.0206	<0.0221	<0.0224	<0.0231	1	4.90E-001	1.80E-006
G-7-2	8.0	U	08/13/13	NOT SAMPLED																				
G-7-3	12.0	U	08/13/13	NOT SAMPLED																				
G-7-4	16.0	U	08/13/13	NOT SAMPLED																				
G-7-5	20.0	U	08/13/13	NOT SAMPLED																				
G-8-1	3.5	U	08/13/13	<0.0218	<0.0192	<0.0195	<0.0229	<0.0174	<0.0196	<0.0227	<0.0216	<0.0181	<0.0223	<0.0211	<0.0222	<0.0239	<0.0207	<0.0206	<0.0221	<0.0224	<0.0231	0	1.66E-001	
G-8-2	8.0	U	08/13/13	NOT SAMPLED																				
G-8-3	12.0	U	08/13/13	NOT SAMPLED																				
G-8-4	16.0	U	08/13/13	NOT SAMPLED																				
G-8-5	20.0	U	08/13/13	NOT SAMPLED																				
G-9-1	3.5	U	08/13/13	<0.0218	<0.0192	<0.0195	<0.0229	<0.0174	<0.0196	<0.0227	<0.0216	<0.0181	<0.0223	<0.0211	<0.0222	<0.0239	<0.0207	<0.0206	<0.0221	<0.0224	<0.0231	0	7.25E-003	
G-9-2	8.0	U	08/13/13	NOT SAMPLED																				
G-9-3	12.0	U	08/13/13	NOT SAMPLED																				
G-9-4	16.0	U	08/13/13	NOT SAMPLED																				
G-9-5	20.0	U	08/13/13	NOT SAMPLED																				
G-10-1	3.5	U	08/13/13	<0.0218	<0.0192	<0.0195	0.0284	0.0285	0.049	0.0269	0.0248	0.036	<0.0223	0.056	<0.0222	<0.0239	<0.0207	<0.0206	<0.0221	<0.0224	0.049	1	6.51E-002	2.50E-006
G-10-2	8.0	U	08/13/13	NOT SAMPLED																				
G-10-3	12.0	U	08/13/13	NOT SAMPLED																				
G-10-4	16.0	U	08/13/13	NOT SAMPLED																				
G-10-5	20.0	U	08/13/13	NOT SAMPLED																				
Groundwater RCL				---	---	**197**	---	**0.47**	**0.48**	---	---	**0.145**	---	**88.8**	**14.8**	---	---	---	**0.659**	---	**54.5**			
Direct Contact RCL				**3440**	---	**17200**	**0.15**	**0.01**	**0.15**	---	**1.48**	**14.8**	**0.01**	**2290**	**2290**	**0.15**	**15.6**	**229**	**5.15**	---	**1720**		**1.00E+00**	**1.00E-05**
Soil Saturation Concentration (C-sat)*						---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			

Bold = Groundwater RCL Exceedance
Bold & Underline =Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
NS = Not Sampled
(ppm) = parts per million
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
VOC's = Volatile Organic Compounds

U = unsaturated (based on all time low water table per WDNR)
S = saturated (based on all time low water table per WDNR)

A.2. Pre-remedial Soil Analytical Table
(PAH)
Chapman Oil BRRTS# 02-68-215749

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)	PVOC & PAH COMBINED: Individual Exceedance Count	PVOC & PAH COMBINED: Hazard Index	PVOC & PAH COMBINED: Cumulative Cancer Risk
B-1-1	3.5	U	08/12/14	NOT SAMPLED																				
B-1-2	8.0	U	08/12/14	NOT SAMPLED																				
B-1-3	12.0	U	08/12/14	NOT SAMPLED																				
B-1-4	16.0	U	08/12/14	NO RECOVERY																				
B-3-1	3.5	U	08/12/14	NOT SAMPLED																				
B-3-2	8.0	U	08/12/14	NOT SAMPLED																				
B-3-3	12.0	U	08/12/14	NOT SAMPLED																				
B-3-4	16.0	U	08/12/14	NOT SAMPLED																				
B-3-5	18.0	U	08/12/14	NO RECOVERY																				
MW-1-1	3.5	U	08/12/14	NOT SAMPLED																				
MW-1-2	8.0	U	08/12/14	NOT SAMPLED																				
MW-1-3	12.0	U	08/12/14	NOT SAMPLED																				
MW-1-4	16.0	U	08/12/14	NOT SAMPLED																				
MW-2-1	3.5	U	08/12/14	NOT SAMPLED																				
MW-2-2	8.0	U	08/12/14	NOT SAMPLED																				
MW-2-3	12.0	U	08/12/14	NOT SAMPLED																				
MW-2-4	16.0	U	08/12/14	NO RECOVERY																				
MW-2-5	20.0	U	08/12/14	NOT SAMPLED																				
MW-2-6	24.0	U	08/12/14	NOT SAMPLED																				
MW-3-1	3.5	U	08/12/14	NOT SAMPLED																				
MW-3-2	8.0	U	08/12/14	NOT SAMPLED																				
MW-3-3	12.0	U	08/12/14	NOT SAMPLED																				
MW-3-4	16.0	U	08/12/14	NOT SAMPLED																				
MW-3-5	18.0	U	08/12/14	NOT SAMPLED																				
MW-3-6	24.0	U	08/12/14	NOT SAMPLED																				
MW-3-7	28.0	U	08/12/14	NO RECOVERY																				
MW-3-8	32.0	S	08/12/14	NOT SAMPLED																				
MW-3-9	37.0	S	08/12/14	NOT SAMPLED																				
HA-1	1.5	U	08/12/14	<0.0211	<0.0195	<0.0185	0.038	0.050	0.082	0.067	0.037	0.051	<0.0224	0.081	<0.020	0.049	<0.0195	<0.0204	<0.0211	<0.0247	0.069	1	7.55E-05	4.5E-06
HA-2	1.5	U	08/12/14	0.032	0.037	0.089	0.330	0.400	0.620	0.350	0.252	0.450	0.068	0.960	0.033	0.288	<0.0195	<0.0204	<0.0211	0.500	0.750	5	8.84E-04	4.0E-05
HA-3	1.5	U	08/12/14	<0.0211	0.201	0.147	0.720	0.980	1.53	0.850	0.450	0.900	0.196	1.37	0.027	0.690	<0.0195	<0.0204	<0.0211	0.440	1.16	5	1.29E-03	1.0E-04
HA-4	1.5	U	08/12/14	<0.0211	0.0223	0.019	0.069	0.075	0.129	0.072	0.039	0.093	<0.0224	0.147	<0.020	0.056	<0.0195	0.0215	<0.0211	0.075	0.133	1	1.08ER-03	6.8E-06
HA-5	1.5	U	08/12/14	<0.0211	<0.0195	0.045	0.119	0.112	0.176	0.084	0.071	0.150	<0.0224	0.289	<0.020	0.070	<0.0195	<0.0204	<0.0211	0.150	0.252	2	2.75E-04	1.0E-05
Groundwater RCL				---	---	197	---	0.47	0.48	---	---	0.145	---	88.8	14.8	---	---	---	0.659	---	54.5			
Direct Contact RCL				3440	---	17200	0.15	0.01	0.15	---	1.48	14.8	0.01	2290	2290	0.15	15.6	229	5.15	---	1720		1.00E+00	1.00E-05
Soil Saturation Concentration (C-sat)*						---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			

Bold = Groundwater RCL Exceedance
Bold & Underline =Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
NS = Not Sampled
(ppm) = parts per million
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
VOC's = Volatile Organic Compounds

U = unsaturated (based on all time low water table per WDNR)
S = saturated (based on all time low water table per WDNR)

A.2. Pre-remedial Soil Analytical Table
Chapman Oil BRRTS# 02-68-215749

Sampling Conducted on August 12, 2013

VOC's		Bold = Groundwater RCL	Underline & Bold = Direct Contact RCL	Asteric * & Bold =Soil Saturation (C-sat) RCL
Sample ID#	G-1-4			
Sample Depth/ft.	16			
Solids Percent	83.8			
Lead/ppm	<1.5	27	400	= =
Diesel Range Organics/ppm	339	= =	= =	= =
Gasoline Range Organics/ppm	<10	= =	= =	= =
Benzene/ppm	<0.0092	0.00512	1.49	1820
Bromobenzene/ppm	<0.013	= =	354	= =
Bromodichloromethane/ppm	<0.027	0.000326	0.39	= =
Bromoform/ppm	<0.030	0.00233	61.6	= =
tert-Butylbenzene/ppm	<0.020	= =	183	183
sec-Butylbenzene/ppm	<0.041	= =	145	145
n-Butylbenzene/ppm	<0.026	= =	108	108
Carbon Tetrachloride/ppm	<0.025	0.00388	0.85	= =
Chlorobenzene/ppm	<0.016	= =	392	= =
Chloroethane/ppm	<0.042	0.227	= =	= =
Chloroform/ppm	<0.049	0.0033	0.42	= =
Chloromethane/ppm	<0.181	0.0155	171	= =
2-Chlorotoluene/ppm	<0.016	= =	= =	= =
4-Chlorotoluene/ppm	<0.014	= =	= =	= =
1,2-Dibromo-3-chloropropane/ppm	<0.048	0.000173	0.01	= =
Dibromochloromethane/ppm	<0.014	0.032	0.93	= =
1,4-Dichlorobenzene/ppm	<0.033	0.144	3.48	= =
1,3-Dichlorobenzene/ppm	<0.030	1.15	297	297
1,2-Dichlorobenzene/ppm	<0.038	1.17	376	376
Dichlorodifluoromethane/ppm	<0.057	3.08	135	= =
1,2-Dichloroethane/ppm	<0.036	0.00284	0.61	540
1,1-Dichloroethane/ppm	<0.019	0.484	4.72	= =
1,1-Dichloroethene/ppm	<0.021	0.00502	342	= =
cis-1,2-Dichloroethene/ppm	<0.024	0.0412	156	= =
trans-1,2-Dichloroethene/ppm	<0.029	0.0588	211	= =
1,2-Dichloropropane/ppm	<0.0095	0.00332	1.33	= =
2,2-Dichloropropane/ppm	<0.046	= =	527	527
1,3-Dichloropropane/ppm	<0.021	= =	1490	1490
Di-isopropyl ether/ppm	<0.011	= =	2260	2260
EDB (1,2-Dibromoethane)/ppm	<0.020	0.0000282	0.05	= =
Ethylbenzene/ppm	<0.010	1.57	7.47	480
Hexachlorobutadiene/ppm	<0.095	= =	6.23	= =
Isopropylbenzene/ppm	<0.025	= =	= =	= =
p-Isopropyltoluene/ppm	<0.031	= =	162	162
Methylene chloride/ppm	<0.057	0.00256	60.7	= =
Methyl tert-butyl ether (MTBE)/ppm	<0.030	0.027	59.4	8870
Naphthalene/ppm	<0.114	0.659	5.15	= =
n-Propylbenzene/ppm	<0.024	= =	= =	= =
1,1,2,2-Tetrachloroethane/ppm	<0.012	0.000156	0.75	= =
1,1,1,2-Tetrachloroethane/ppm	<0.023	0.0533	2.59	= =
Tetrachloroethene (PCE)/ppm	<0.049	0.00454	30.7	= =
Toluene/ppm	<0.020	1.11	818	818
1,2,4-Trichlorobenzene/ppm	<0.079	0.408	22.1	= =
1,2,3-Trichlorobenzene/ppm	<0.129	= =	48.9	= =
1,1,1-Trichloroethane/ppm	<0.038	0.14	= =	= =
1,1,2-Trichloroethane/ppm	<0.023	0.00324	1.48	= =
Trichloroethene (TCE)/ppm	<0.028	0.00358	0.64	= =
Trichlorofluoromethane/ppm	<0.086	= =	1120	= =
1,2,4-Trimethylbenzene/ppm	<0.026	1.38	89.8	219
1,3,5-Trimethylbenzene/ppm	<0.026		182	182
Vinyl Chloride/ppm	<0.021	0.000138	0.07	= =
m&p-Xylene/ppm	<0.068	3.94	258	258
o-Xylene/ppm	<0.031			

NS = not sampled
(ppm) = parts per billion
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
= = No Exceedences

NM = Not Measured
(ppm) = parts per million

A.1 Groundwater Analytical Table
(Geoprobe)
Chapman Oil BRRTS# 02-68-215749

Sample ID	Date	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
G-1-W	08/12/13	*0.68*	1.02	<0.37	<1.2	2.17	1.12-1.98	<2.41
G-2-W	08/12/13	0.43	<0.82	<0.37	<1.2	1.39	<1.69	<2.41
G-3-W	08/12/13	*0.58*	<0.82	<0.37	<1.2	1.69	0.93-3.77	<2.41
G-4-W	08/12/13	*0.71*	<0.82	<0.37	<1.2	1.78	<1.69	<2.41
G-5-W	08/13/13	0.49	<0.82	<0.37	<1.2	1.27	<1.69	<2.41
Bold		**5**	**700**	**60**	**100**	**800**	**480**	**2000**
Italics		*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

NS = Not Sampled

(ppb) = parts per billion (ppm) = parts per million

DRO = Diesel Range Organics

GRO = Gasoline Range Organics

A.1 Groundwater Analytical Table
Chapman Oil BRRTS# 02-68-215749

Well MW-1
PVC Elevation = 944.50 (MSL)

Date	Water Elevation (in msl)	Depth to Water (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
09/22/14	914.54	29.96	<0.7	<0.24	<0.55	<0.23	<1.7	<0.69	<3.6	<1.32
12/16/14	913.15	31.35	1.1	<0.27	<0.82	<0.37	NS	<0.8	<1.69	<2.41
ENFORCE MENT 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 = 947.73 (MSL)

Date	Water Elevation (in msl)	Depth to Water (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
09/22/14	914.26	33.47	<0.7	<0.24	<0.55	<0.23	<1.7	<0.69	<3.6	<1.32
12/16/14	912.77	34.96	<0.7	<0.27	<0.82	<0.37	NS	<0.8	<1.69	<2.41
ENFORCE MENT 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 = 946.14 (MSL)

Date	Water Elevation (in msl)	Depth to Water (in feet)	Lead (ppb)	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
09/22/14	914.38	31.76	<0.7	<0.24	<0.55	<0.23	<1.7	<0.69	<3.6	<1.32
12/16/14	913.01	33.13	<0.7	<0.27	<0.82	<0.37	<0.023	<0.8	<1.69	<2.41
ENFORCE MENT 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)
Chapman Oil BRRTS# 02-68-215749

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)
09/22/14	0.208	0.108	0.83	0.026	<0.02	<0.019	<0.024	<0.027	*0.045*	<0.028	0.148	0.67	<0.027	0.41	0.044	0.149	1	0.61
12/16/14	SAMPLE BOTTLE RECEIVED BROKEN																	
ENFORCE MENT 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)
09/22/14	<0.018	<0.02	<0.018	<0.023	<0.02	<0.019	<0.024	<0.027	<0.018	<0.028	<0.022	<0.022	<0.027	<0.021	<0.024	0.025	<0.018	<0.022
12/16/14	SAMPLE BOTTLE RECEIVED BROKEN																	
ENFORCE MENT 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)
09/22/14	<0.018	<0.02	<0.018	<0.023	<0.02	<0.019	<0.024	<0.027	<0.018	<0.028	<0.022	<0.022	<0.027	<0.021	<0.024	<0.023	<0.018	<0.022
12/16/14	<0.018	<0.02	<0.018	<0.023	<0.02	<0.019	<0.024	<0.027	<0.018	<0.028	<0.022	<0.022	<0.027	<0.021	<0.024	<0.023	<0.018	<0.022
ENFORCE MENT 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
Chapman Oil BRRTS# 02-68-215749

Well Sampling Conducted on:	09/22/14	09/22/14	09/22/14		
				ENFORCE MENT STANDARD = ES – Bold	*PREVENTIVE ACTION LIMIT = PAL - Italics*
VOC's					
Well Name	MW-1	MW-2	MW-3		
Lead, dissolved/ppb	< 0.7	< 0.7	< 0.7	**15**	*1.5*
Benzene/ppb	< 0.24	< 0.24	< 0.24	**5**	*0.5*
Bromobenzene/ppb	< 0.32	< 0.32	< 0.32	==	==
Bromodichloromethane/ppb	< 0.37	< 0.37	< 0.37	**0.6**	*0.06*
Bromoform/ppb	< 0.35	< 0.35	< 0.35	**4.4**	*0.44*
tert-Butylbenzene/ppb	< 0.36	< 0.36	< 0.36	==	==
sec-Butylbenzene/ppb	0.64 "J"	< 0.33	< 0.33	==	==
n-Butylbenzene/ppb	< 0.35	< 0.35	< 0.35	==	==
Carbon Tetrachloride/ppb	< 0.33	< 0.33	< 0.33	**5**	*0.5*
Chlorobenzene/ppb	< 0.24	< 0.24	< 0.24	==	==
Chloroethane/ppb	< 0.63	< 0.63	< 0.63	**400**	*80*
Chloroform/ppb	< 0.28	< 0.28	< 0.28	**6**	*0.6*
Chloromethane/ppb	< 0.81	< 0.81	< 0.81	**30**	*3*
2-Chlorotoluene/ppb	< 0.21	< 0.21	< 0.21	==	==
4-Chlorotoluene/ppb	< 0.21	< 0.21	< 0.21	==	==
1,2-Dibromo-3-chloropropane/ppb	< 0.88	< 0.88	< 0.88	**0.2**	*0.02*
Dibromochloromethane/ppb	< 0.22	< 0.22	< 0.22	**60**	*6*
1,4-Dichlorobenzene/ppb	< 0.3	< 0.3	< 0.3	**75**	*15*
1,3-Dichlorobenzene/ppb	< 0.28	< 0.28	< 0.28	**600**	*120*
1,2-Dichlorobenzene/ppb	< 0.36	< 0.36	< 0.36	**600**	*60*
Dichlorodifluoromethane/ppb	< 0.44	< 0.44	< 0.44	**1000**	*200*
1,2-Dichloroethane/ppb	< 0.41	< 0.41	< 0.41	**5**	*0.5*
1,1-Dichloroethane/ppb	< 0.3	< 0.3	< 0.3	**850**	*85*
1,1-Dichloroethene/ppb	< 0.4	< 0.4	< 0.4	**7**	*0.7*
cis-1,2-Dichloroethene/ppb	< 0.38	< 0.38	< 0.38	**70**	*7*
trans-1,2-Dichloroethene/ppb	< 0.35	< 0.35	< 0.35	**100**	*20*
1,2-Dichloropropane/ppb	< 0.32	< 0.32	< 0.32	**5**	*0.5*
2,2-Dichloropropane/ppb	< 0.36	< 0.36	< 0.36	==	==
1,3-Dichloropropane/ppb	< 0.33	< 0.33	< 0.33	==	==
Di-isopropyl ether/ppb	< 0.23	< 0.23	< 0.23	==	==
EDB (1,2-Dibromoethane)/ppb	< 0.44	< 0.44	< 0.44	**0.05**	*0.005*
Ethylbenzene/ppb	< 0.55	< 0.55	< 0.55	**700**	*140*
Hexachlorobutadiene/ppb	< 1.5	< 1.5	< 1.5	==	==
Isopropylbenzene/ppb	< 0.3	< 0.3	< 0.3	==	==
p-Isopropyltoluene/ppb	< 0.31	< 0.31	< 0.31	==	==
Methylene chloride/ppb	< 0.5	< 0.5	< 0.5	**5**	*0.5*
Methyl tert-butyl ether (MTBE)/ppb	< 0.23	< 0.23	< 0.23	**60**	*12*
Naphthalene/ppb	< 1.7	< 1.7	< 1.7	**100**	*10*
n-Propylbenzene/ppb	< 0.25	< 0.25	< 0.25	==	==
1,1,2,2-Tetrachloroethane/ppb	< 0.45	< 0.45	< 0.45	**0.2**	*0.02*
1,1,1,2-Tetrachloroethane/ppb	< 0.33	< 0.33	< 0.33	**70**	*7*
Tetrachloroethene (PCE)/ppb	< 0.33	< 0.33	< 0.33	**5**	*0.5*
Toluene/ppb	< 0.69	< 0.69	< 0.69	**800**	*160*
1,2,4-Trichlorobenzene/ppb	< 0.98	< 0.98	< 0.98	**70**	*14*
1,2,3-Trichlorobenzene/ppb	< 1.8	< 1.8	< 1.8	==	==
1,1,1-Trichloroethane/ppb	< 0.33	< 0.33	< 0.33	**200**	*40*
1,1,2-Trichloroethane/ppb	< 0.34	< 0.34	< 0.34	**5**	*0.5*
Trichloroethene (TCE)/ppb	< 0.33	< 0.33	< 0.33	**5**	*0.5*
Trichlorofluoromethane/ppb	< 0.71	< 0.71	< 0.71	==	==
1,2,4-Trimethylbenzene/ppb	< 2.2	< 2.2	< 2.2		
1,3,5-Trimethylbenzene/ppb	< 1.4	< 1.4	< 1.4	**Total TMB's 480**	*Total TMB's 96*
Vinyl Chloride/ppb	< 0.18	< 0.18	< 0.18	**0.2**	*0.02*
m&p-Xylene/ppb	< 0.69	< 0.69	< 0.69		
o-Xylene/ppb	< 0.63	< 0.63	< 0.63	**Total Xylenes 2000**	*Total Xylenes 400*

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
(ppm) = parts per million
"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

A.7 Water Level Elevations
Chapman Oil BRRTS# 02-68-215749
Eagle, Wisconsin

	MW-1	MW-2	MW-3
Ground Surface (feet msl)	944.90	944.90	943.00
PVC top (feet msl)	944.50	947.73	946.14
Well Depth (feet)	35	35	37
Top of screen (feet msl)	919.90	919.90	916.00
Bottom of screen (feet msl)	909.90	909.90	906.00
Depth to Water From Top of PVC (feet)			
09/22/14	29.96	33.47	31.76
12/16/14	31.35	34.96	33.13
Depth to Water From Ground Surface (feet)			
09/22/14	30.36	30.64	28.62
12/16/14	31.75	32.13	29.99
Groundwater Elevation (feet msl)			
09/22/14	914.54	914.26	914.38
12/16/14	913.15	912.77	913.01

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

A.8 Other
Groundwater NA Indicator Results
Chapman Oil BRRTS# 02-68-215749

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)
09/22/14	2.24	6.82	24	13.2	1366	0.18	22.6	0.4	**1210**
12/16/14	1.96	6.48	93	9.8	1017	NS	NS	NS	NS
ENFORCE MENT 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
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)
09/22/14	5.93	7.3	250	12.3	1357	*7.89*	38.6	<0.06	37.7
12/16/14	3.42	6.41	255	10.1	912	NS	NS	NS	NS
ENFORCE MENT 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
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)
09/22/14	3.91	6.64	202	13.4	701	*5.04*	34	0.07	51.6
12/16/14	4.39	4.35	304	9.7	844	NS	NS	NS	NS
ENFORCE MENT 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
Note: Elevations are presented in feet mean sea level (msl).

APPENDIX A/ METHODS OF INVESTIGATION

Geoprobe Project

Geoprobe sampling was completed by Geiss Soil and Samples, LLC, of Merrill, 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 and Samples, LLC, of Merrill, Wisconsin under the supervision of METCO personnel. Using a truck or track-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) hollow stem 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 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 Model DL102 HNU Photo-ionization Meter 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 HNU probe was inserted through the Ziploc seal and the highest meter response recorded.

Throughout the field projects the HNU 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 and Samples, LLC, of Merrill, Wisconsin 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 60-100 gallons of groundwater was then removed by hand bailing. 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.

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 December 30, 2014, DKS Transport Services, LLC, of Menomonie, Wisconsin picked-up and disposed of two drums of soil cuttings to 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

ROB CHAPMAN
ROB CHAPMAN
W344 S945 JERICHO DRIVE
EAGLE, WI 53119

Report Date *28-Aug-13*

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604A
Sample ID G-1-1
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	85.8	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	< 1.5	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Toluene	1560	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	60	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	98	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	72	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)pyrene	< 17.4	ug/kg	17.4	55.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(b)fluoranthene	< 19.6	ug/kg	19.6	62.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(g,h,i)perylene	< 22.7	ug/kg	22.7	72.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
Chrysene	< 18.1	ug/kg	18.1	57.7	1	M8270D	8/21/2013	8/26/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluoranthene	< 21.1	ug/kg	21.1	67.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/21/2013	8/26/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604A
Sample ID G-1-1
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	8/21/2013	8/26/2013	MDK	I
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/21/2013	8/26/2013	MDK	I
2-Methyl naphthalene	29.6 "J"	ug/kg	20.6	65.4	1	M8270D	8/21/2013	8/26/2013	MDK	I
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/21/2013	8/26/2013	MDK	I
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/21/2013	8/26/2013	MDK	I
Pyrene	< 23.1	ug/kg	23.1	73.6	1	M8270D	8/21/2013	8/26/2013	MDK	I

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604B
Sample ID G-1-4
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	83.8	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	< 1.5	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	149
Organic										
General										
Diesel Range Organics	339	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
VOC's										
Benzene	< 9.2	ug/kg	9.2	29	1	8260B		8/21/2013	CJR	1
Bromobenzene	< 13	ug/kg	13	40	1	8260B		8/21/2013	CJR	1
Bromodichloromethane	< 27	ug/kg	27	85	1	8260B		8/21/2013	CJR	1
Bromoform	< 30	ug/kg	30	95	1	8260B		8/21/2013	CJR	1
tert-Butylbenzene	< 20	ug/kg	20	64	1	8260B		8/21/2013	CJR	1
sec-Butylbenzene	< 41	ug/kg	41	132	1	8260B		8/21/2013	CJR	1
n-Butylbenzene	< 26	ug/kg	26	82	1	8260B		8/21/2013	CJR	1
Carbon Tetrachloride	< 25	ug/kg	25	79	1	8260B		8/21/2013	CJR	1
Chlorobenzene	< 16	ug/kg	16	52	1	8260B		8/21/2013	CJR	1
Chloroethane	< 42	ug/kg	42	133	1	8260B		8/21/2013	CJR	1
Chloroform	< 49	ug/kg	49	157	1	8260B		8/21/2013	CJR	1
Chloromethane	< 181	ug/kg	181	577	1	8260B		8/21/2013	CJR	1
2-Chlorotoluene	< 16	ug/kg	16	52	1	8260B		8/21/2013	CJR	1
4-Chlorotoluene	< 14	ug/kg	14	43	1	8260B		8/21/2013	CJR	1
1,2-Dibromo-3-chloropropane	< 48	ug/kg	48	154	1	8260B		8/21/2013	CJR	1
Dibromochloromethane	< 14	ug/kg	14	45	1	8260B		8/21/2013	CJR	1
1,4-Dichlorobenzene	< 33	ug/kg	33	103	1	8260B		8/21/2013	CJR	1
1,3-Dichlorobenzene	< 30	ug/kg	30	95	1	8260B		8/21/2013	CJR	1
1,2-Dichlorobenzene	< 38	ug/kg	38	122	1	8260B		8/21/2013	CJR	1
Dichlorodifluoromethane	< 57	ug/kg	57	182	1	8260B		8/21/2013	CJR	1
1,2-Dichloroethane	< 36	ug/kg	36	114	1	8260B		8/21/2013	CJR	1
1,1-Dichloroethane	< 19	ug/kg	19	60	1	8260B		8/21/2013	CJR	1
1,1-Dichloroethene	< 21	ug/kg	21	66	1	8260B		8/21/2013	CJR	1
cis-1,2-Dichloroethene	< 24	ug/kg	24	77	1	8260B		8/21/2013	CJR	1
trans-1,2-Dichloroethene	< 29	ug/kg	29	93	1	8260B		8/21/2013	CJR	1
1,2-Dichloropropane	< 9.5	ug/kg	9.5	30	1	8260B		8/21/2013	CJR	1
2,2-Dichloropropane	< 46	ug/kg	46	148	1	8260B		8/21/2013	CJR	8
1,3-Dichloropropane	< 21	ug/kg	21	68	1	8260B		8/21/2013	CJR	1
Di-isopropyl ether	< 11	ug/kg	11	34	1	8260B		8/21/2013	CJR	7
EDB (1,2-Dibromoethane)	< 20	ug/kg	20	64	1	8260B		8/21/2013	CJR	1
Ethylbenzene	< 10	ug/kg	10	33	1	8260B		8/21/2013	CJR	1
Hexachlorobutadiene	< 95	ug/kg	95	304	1	8260B		8/21/2013	CJR	1
Isopropylbenzene	< 25	ug/kg	25	80	1	8260B		8/21/2013	CJR	1
p-Isopropyltoluene	< 31	ug/kg	31	98	1	8260B		8/21/2013	CJR	1
Methylene chloride	< 57	ug/kg	57	182	1	8260B		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 30	ug/kg	30	96	1	8260B		8/21/2013	CJR	1
Naphthalene	< 114	ug/kg	114	363	1	8260B		8/21/2013	CJR	1
n-Propylbenzene	< 24	ug/kg	24	75	1	8260B		8/21/2013	CJR	1
1,1,2,2-Tetrachloroethane	< 12	ug/kg	12	38	1	8260B		8/21/2013	CJR	1
1,1,1,2-Tetrachloroethane	< 23	ug/kg	23	74	1	8260B		8/21/2013	CJR	1
Tetrachloroethene	< 49	ug/kg	49	157	1	8260B		8/21/2013	CJR	1
Toluene	< 20	ug/kg	20	65	1	8260B		8/21/2013	CJR	1
1,2,4-Trichlorobenzene	< 79	ug/kg	79	251	1	8260B		8/21/2013	CJR	1
1,2,3-Trichlorobenzene	< 129	ug/kg	129	411	1	8260B		8/21/2013	CJR	1
1,1,1-Trichloroethane	< 38	ug/kg	38	120	1	8260B		8/21/2013	CJR	1
1,1,2-Trichloroethane	< 23	ug/kg	23	74	1	8260B		8/21/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604B
Sample ID G-1-4
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Trichloroethene (TCE)	< 28	ug/kg	28	88	1	8260B		8/21/2013	CJR	1
Trichlorofluoromethane	< 86	ug/kg	86	273	1	8260B		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 26	ug/kg	26	81	1	8260B		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 26	ug/kg	26	84	1	8260B		8/21/2013	CJR	1
Vinyl Chloride	< 21	ug/kg	21	66	1	8260B		8/21/2013	CJR	1
m&p-Xylene	< 68	ug/kg	68	216	1	8260B		8/21/2013	CJR	1
o-Xylene	< 31	ug/kg	31	98	1	8260B		8/21/2013	CJR	1
SUR - 1,2-Dichloroethane-d4	111	Rec %			1	8260B		8/21/2013	CJR	1
SUR - 4-Bromofluorobenzene	100	Rec %			1	8260B		8/21/2013	CJR	1
SUR - Dibromofluoromethane	103	Rec %			1	8260B		8/21/2013	CJR	1
SUR - Toluene-d8	101	Rec %			1	8260B		8/21/2013	CJR	1

Lab Code 5025604C
Sample ID G-1-6
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.2	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604D
Sample ID G-1-8
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.7	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Lab Code 5025604E
Sample ID G-1-W
Sample Matrix Water
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	0.68 "J"	ug/l	0.27	0.85	1	GRO95/8021		8/22/2013	CJR	1
Ethylbenzene	1.02 "J"	ug/l	0.82	2.6	1	GRO95/8021		8/22/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		8/22/2013	CJR	1
Naphthalene	< 1.2	ug/l	1.2	3.8	1	GRO95/8021		8/22/2013	CJR	1
Toluene	2.17 "J"	ug/l	0.8	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,2,4-Trimethylbenzene	1.12 "J"	ug/l	0.83	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		8/22/2013	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		8/22/2013	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		8/22/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604F
Sample ID G-2-I
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	81.0	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	11.3	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)anthracene	32 "J"	ug/kg	22.9	72.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)pyrene	31.1 "J"	ug/kg	17.4	55.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(b)fluoranthene	57 "J"	ug/kg	19.6	62.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(g,h,i)perylene	29.8 "J"	ug/kg	22.7	72.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
Chrysene	41 "J"	ug/kg	18.1	57.7	1	M8270D	8/21/2013	8/26/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluoranthene	38 "J"	ug/kg	21.1	67.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/21/2013	8/26/2013	MDK	1
Indeno(1,2,3-cd)pyrene	24.5 "J"	ug/kg	23.9	76.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	8/21/2013	8/26/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Pyrene	47 "J"	ug/kg	23.1	73.6	1	M8270D	8/21/2013	8/26/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604G
Sample ID G-2-4
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	91.7	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Lab Code 5025604H
Sample ID G-2-6
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.2	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604I
Sample ID G-2-W
Sample Matrix Water
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	0.43 "J"	ug/l	0.27	0.85	1	GRO95/8021		8/22/2013	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		8/22/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		8/22/2013	CJR	1
Naphthalene	< 1.2	ug/l	1.2	3.8	1	GRO95/8021		8/22/2013	CJR	1
Toluene	1.39 "J"	ug/l	0.8	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,2,4-Trimethylbenzene	< 0.83	ug/l	0.83	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		8/22/2013	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		8/22/2013	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		8/22/2013	CJR	1

Lab Code 5025604J
Sample ID G-3-1
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.8	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	31.6	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Anthracene	29.4 "J"	ug/kg	19.5	62.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)pyrene	< 17.4	ug/kg	17.4	55.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(b)fluoranthene	< 19.6	ug/kg	19.6	62.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(g,h,i)perylene	< 22.7	ug/kg	22.7	72.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
Chrysene	< 18.1	ug/kg	18.1	57.7	1	M8270D	8/21/2013	8/26/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluoranthene	< 21.1	ug/kg	21.1	67.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/21/2013	8/26/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	8/21/2013	8/26/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Pyrene	< 23.1	ug/kg	23.1	73.6	1	M8270D	8/21/2013	8/26/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604K
Sample ID G-3-4
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.6	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Lab Code 5025604L
Sample ID G-3-6
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.0	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/19/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604M
Sample ID G-3-W
Sample Matrix Water
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	0.58 "J"	ug/l	0.27	0.85	1	GRO95/8021		8/22/2013	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		8/22/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		8/22/2013	CJR	1
Naphthalene	< 1.2	ug/l	1.2	3.8	1	GRO95/8021		8/22/2013	CJR	1
Toluene	1.69 "J"	ug/l	0.8	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,2,4-Trimethylbenzene	0.93 "J"	ug/l	0.83	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		8/22/2013	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		8/22/2013	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		8/22/2013	CJR	1

Lab Code 5025604N
Sample ID G-4-1
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.8	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	88.2	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)pyrene	< 17.4	ug/kg	17.4	55.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(b)fluoranthene	< 19.6	ug/kg	19.6	62.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(g,h,i)perylene	< 22.7	ug/kg	22.7	72.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
Chrysene	< 18.1	ug/kg	18.1	57.7	1	M8270D	8/21/2013	8/26/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluoranthene	< 21.1	ug/kg	21.1	67.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/21/2013	8/26/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	8/21/2013	8/26/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Pyrene	< 23.1	ug/kg	23.1	73.6	1	M8270D	8/21/2013	8/26/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604O
Sample ID G-4-4
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.8	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Lab Code 5025604P
Sample ID G-4-6
Sample Matrix Soil
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.6	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604Q
Sample ID G-4-W
Sample Matrix Water
Sample Date 8/12/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	0.71 "J"	ug/l	0.27	0.85	1	GRO95/8021		8/22/2013	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		8/22/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		8/22/2013	CJR	1
Naphthalene	< 1.2	ug/l	1.2	3.8	1	GRO95/8021		8/22/2013	CJR	1
Toluene	1.78 "J"	ug/l	0.8	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,2,4-Trimethylbenzene	< 0.83	ug/l	0.83	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		8/22/2013	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		8/22/2013	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		8/22/2013	CJR	1

Lab Code 5025604R
Sample ID G-5-1
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.7	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	32.2	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 41
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(a)pyrene	18.8 "J"	ug/kg	17.4	55.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(b)fluoranthene	33 "J"	ug/kg	19.6	62.3	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(g,h,i)perylene	28.4 "J"	ug/kg	22.7	72.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
Chrysene	24.2 "J"	ug/kg	18.1	57.7	1	M8270D	8/21/2013	8/26/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluoranthene	29.3 "J"	ug/kg	21.1	67.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/21/2013	8/26/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/21/2013	8/26/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	8/21/2013	8/26/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/21/2013	8/26/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/21/2013	8/26/2013	MDK	1
Pyrene	28.2 "J"	ug/kg	23.1	73.6	1	M8270D	8/21/2013	8/26/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604S
Sample ID G-5-4
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.3	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	11.2	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Lab Code 5025604T
Sample ID G-5-6
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.6	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	22.1	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604U
Sample ID G-5-W
Sample Matrix Water
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	0.49 "J"	ug/l	0.27	0.85	1	GRO95/8021		8/22/2013	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		8/22/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		8/22/2013	CJR	1
Naphthalene	< 1.2	ug/l	1.2	3.8	1	GRO95/8021		8/22/2013	CJR	1
Toluene	1.27 "J"	ug/l	0.8	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,2,4-Trimethylbenzene	< 0.83	ug/l	0.83	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		8/22/2013	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		8/22/2013	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		8/22/2013	CJR	1

Lab Code 5025604V
Sample ID G-6-1
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.1	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	145	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	50	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	115	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Toluene	370	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	760	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	400	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	940	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	500	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)anthracene	105	ug/kg	22.9	72.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)pyrene	138	ug/kg	17.4	55.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(b)fluoranthene	225	ug/kg	19.6	62.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(g,h,i)perylene	86	ug/kg	22.7	72.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(k)fluoranthene	76	ug/kg	21.6	68.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
Chrysene	129	ug/kg	18.1	57.7	1	M8270D	8/23/2013	8/24/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluoranthene	129	ug/kg	21.1	67.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/23/2013	8/24/2013	MDK	1
Indeno(1,2,3-cd)pyrene	73 "J"	ug/kg	23.9	76.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
2-Methyl naphthalene	28.9 "J"	ug/kg	20.6	65.4	1	M8270D	8/23/2013	8/24/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Phenanthrene	47 "J"	ug/kg	22.4	71.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Pyrene	131	ug/kg	23.1	73.6	1	M8270D	8/23/2013	8/24/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604W
Sample ID G-6-3
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	95.2	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Lab Code 5025604X
Sample ID G-6-5
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.1	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604Y
Sample ID G-7-1
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	95.1	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	196	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)pyrene	23.7 "J"	ug/kg	17.4	55.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(b)fluoranthene	24.7 "J"	ug/kg	19.6	62.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(g,h,i)perylene	33 "J"	ug/kg	22.7	72.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
Chrysene	20.5 "J"	ug/kg	18.1	57.7	1	M8270D	8/23/2013	8/24/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluoranthene	< 21.1	ug/kg	21.1	67.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/23/2013	8/24/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	8/23/2013	8/24/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Pyrene	< 23.1	ug/kg	23.1	73.6	1	M8270D	8/23/2013	8/24/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 5025604Z
Sample ID G-7-3
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.4	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/21/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/21/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/21/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/21/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/21/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/21/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/21/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/21/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/21/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/21/2013	CJR	1

Lab Code 525604AA
Sample ID G-7-5
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.0	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 525604BB
Sample ID G-8-1
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.7	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	66.2	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)pyrene	< 17.4	ug/kg	17.4	55.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(b)fluoranthene	< 19.6	ug/kg	19.6	62.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(g,h,i)perylene	< 22.7	ug/kg	22.7	72.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
Chrysene	< 18.1	ug/kg	18.1	57.7	1	M8270D	8/23/2013	8/24/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluoranthene	< 21.1	ug/kg	21.1	67.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/23/2013	8/24/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	8/23/2013	8/24/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Pyrene	< 23.1	ug/kg	23.1	73.6	1	M8270D	8/23/2013	8/24/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 525604CC
Sample ID G-8-3
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.5	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1

Lab Code 525604DD
Sample ID G-8-5
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.4	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 525604EE
Sample ID G-9-1
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.6	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	2.9 "J"	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)anthracene	< 22.9	ug/kg	22.9	72.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)pyrene	< 17.4	ug/kg	17.4	55.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(b)fluoranthene	< 19.6	ug/kg	19.6	62.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(g,h,i)perylene	< 22.7	ug/kg	22.7	72.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(k)fluoranthene	< 21.6	ug/kg	21.6	68.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
Chrysene	< 18.1	ug/kg	18.1	57.7	1	M8270D	8/23/2013	8/24/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluoranthene	< 21.1	ug/kg	21.1	67.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/23/2013	8/24/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	8/23/2013	8/24/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Pyrene	< 23.1	ug/kg	23.1	73.6	1	M8270D	8/23/2013	8/24/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 525604FF
Sample ID G-9-3
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	95.4	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1

Lab Code 525604GG
Sample ID G-9-5
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	90.9	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/21/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 525604HH
Sample ID G-10-1
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.5	%			1	5021		8/20/2013	MDK	1
Inorganic										
Metals										
Lead, Total	25.1	mg/Kg	1.5	4.8	5	6010B		8/23/2013	CWT	1 49
Organic										
General										
Diesel Range Organics	26.0	mg/kg	0.83	2.63	1	DRO95		8/23/2013	MJR	1 43
GRO/PVOC										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1
PAH SIM										
Acenaphthene	< 21.8	ug/kg	21.8	69.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Acenaphthylene	< 19.2	ug/kg	19.2	60.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Anthracene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)anthracene	28.4 "J"	ug/kg	22.9	72.9	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(a)pyrene	28.5 "J"	ug/kg	17.4	55.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(b)fluoranthene	49 "J"	ug/kg	19.6	62.3	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(g,h,i)perylene	26.9 "J"	ug/kg	22.7	72.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Benzo(k)fluoranthene	24.8 "J"	ug/kg	21.6	68.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
Chrysene	36 "J"	ug/kg	18.1	57.7	1	M8270D	8/23/2013	8/24/2013	MDK	1
Dibenzo(a,h)anthracene	< 22.3	ug/kg	22.3	71	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluoranthene	56 "J"	ug/kg	21.1	67.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Fluorene	< 22.2	ug/kg	22.2	70.6	1	M8270D	8/23/2013	8/24/2013	MDK	1
Indeno(1,2,3-cd)pyrene	< 23.9	ug/kg	23.9	76.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
1-Methyl naphthalene	< 20.7	ug/kg	20.7	65.8	1	M8270D	8/23/2013	8/24/2013	MDK	1
2-Methyl naphthalene	< 20.6	ug/kg	20.6	65.4	1	M8270D	8/23/2013	8/24/2013	MDK	1
Naphthalene	< 22.1	ug/kg	22.1	70.2	1	M8270D	8/23/2013	8/24/2013	MDK	1
Phenanthrene	< 22.4	ug/kg	22.4	71.1	1	M8270D	8/23/2013	8/24/2013	MDK	1
Pyrene	49 "J"	ug/kg	23.1	73.6	1	M8270D	8/23/2013	8/24/2013	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 525604II
Sample ID G-10-3
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.4	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/23/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1

Lab Code 525604JJ
Sample ID G-10-5
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.8	%			1	5021		8/20/2013	MDK	1
Organic										
General										
Diesel Range Organics	< 10	mg/kg	0.83	2.63	1	DRO95		8/23/2013	MJR	1
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E25604
Project #

Lab Code 525604KK
Sample ID MEOH BLANK
Sample Matrix Soil
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
GRO/PVOC + Naphthalene										
Gasoline Range Organics	< 10	mg/kg	2.3	7.3	1	GRO95/8021		8/26/2013	CJR	1
Benzene	< 25	ug/kg	7.9	25	1	GRO95/8021		8/26/2013	CJR	1
Ethylbenzene	< 25	ug/kg	7.7	25	1	GRO95/8021		8/26/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 25	ug/kg	8.1	26	1	GRO95/8021		8/26/2013	CJR	1
Naphthalene	< 25	ug/kg	22	70	1	GRO95/8021		8/26/2013	CJR	1
Toluene	< 25	ug/kg	8.4	27	1	GRO95/8021		8/26/2013	CJR	1
1,2,4-Trimethylbenzene	< 25	ug/kg	10	33	1	GRO95/8021		8/26/2013	CJR	1
1,3,5-Trimethylbenzene	< 25	ug/kg	9.3	30	1	GRO95/8021		8/26/2013	CJR	1
m&p-Xylene	< 50	ug/kg	16	50	1	GRO95/8021		8/26/2013	CJR	1
o-Xylene	< 25	ug/kg	10	32	1	GRO95/8021		8/26/2013	CJR	1

Lab Code 525604LL
Sample ID TB
Sample Matrix Water
Sample Date 8/13/2013

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.27	ug/l	0.27	0.85	1	GRO95/8021		8/22/2013	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		8/22/2013	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		8/22/2013	CJR	1
Naphthalene	< 1.2	ug/l	1.2	3.8	1	GRO95/8021		8/22/2013	CJR	1
Toluene	< 0.8	ug/l	0.8	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,2,4-Trimethylbenzene	< 0.83	ug/l	0.83	2.6	1	GRO95/8021		8/22/2013	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		8/22/2013	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		8/22/2013	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		8/22/2013	CJR	1

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

Code	*Comment*
1	Laboratory QC within limits.
7	The LCS not within established limits.
8	Closing calibration standard not within established limits.
41	Sample digested.
43	Oil contamination indicated outside DRO window.
49	Sample diluted to compensate for matrix interference.

CWT denotes sub contract lab - Certification #445126660

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.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # No 0678

Page 1 of 4

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

Lab I.D. #

Account No. | Quote No.:

Project #

Sampler Signature: E Dun

Project (Name / Location): Chapman Oil Bulk Plant

Reports To: Rob Chapman	Invoice To: Rob Chapman c/o Jason Powell
Company	Company METCO
Address: W344 5945 Jericho Dr	Address: 709 Gillette St, Suite 3
City State Zip: Eagle WI 53119	City State Zip: La Crosse, WI 54603
Phone: (262) 844-0185	Phone: (608) 781-8879
FAX	FAX 8893

Analysis Requested | **Other Analysis**

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	IRON	LEAD	NITRATE / NITRITE	PAH (EPA 8270)	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	VOC DW (EPA 524.2)	VOC (EPA 8260)	8-RCRA METALS	PID/FID
502564 A	G-1-1	8/12	10:10		X		5	S	MEOH/None	X	X		X		X	X						
B	G-1-4		10:30				4	S		X	X		X							X		
C	G-1-6		10:49				3	S		X	X						X					
D	G-1-8		11:25				3	S		X	X						X					
E	G-1-W		11:40			N	3	GW	HCl								X					
F	G-2-1		12:10				5	S	MEOH/None	X	X		X		X	X						
G	G-2-4		12:20				3	S		X	X						X					
H	G-2-6		12:45				3	S		X	X						X					
I	G-2-W		1:05			N	3	GW	HCl								X					
J	G-3-1		1:45				5	S	MEOH/None	X	X		X		X	X						

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

Lab to send copy of report to METCO

UEC Rates, Agent Status

Sample Integrity - To be completed by receiving lab:
Method of Shipment: Driven
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
E Dun	9:00 AM	8/14/13			

Received in Laboratory By: [signature] Time: 8:00 Date: 8/15/13

CHAIN OF CUSTODY RECORD

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # No 3681

Page 2 of 4

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

Lab I.D. #

Account No. : | Quote No.:

Project #:

Sampler: (signature) [signature]

Project (Name / Location): Chapman 0:1 Bulk Plant

Reports To	Invoice To:
See Page 1	
Company	Company
Address	Address
City State Zip	City State Zip
Phone	Phone
FAX	FAX

Analysis Requested | **Other Analysis**

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	IRON	LEAD	NITRATE / NITRITE	PAH (EPA 8270)	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	VOC DW (EPA 524.2)	VOC (EPA 8260)	8-RCRA METALS	PID/ FID
502564 K	G-3-4	8/12	1:55		X		3	S	MeOH/None	X	X						X					
L	G-3-6		2:30				3	S	MeOH/None	X	X						X					
M	G-3-W		3:15			N	3	GW	HCl								X					
N	G-4-1		3:30				5	S	MeOH/None	X	X		X		X	X						
O	G-4-4		3:45				3	S		X	X						X					
P	G-4-6		4:10				3	S		X	X						X					
Q	G-4-W		4:35			N	3	GW	HCl								X					
R	G-5-1	8/13	7:45				5	S	MeOH/None	X	X		X		X	X						
S	G-5-4		8:00				3	S		X	X						X					
T	G-5-6		8:15				3	S		X	X						X					

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: Driver
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
[signature]	9:00AM	8/14/13			

Received in Laboratory By: [signature] Time: 8:00 Date: 8/15/13

CHAIN C CUSTODY RECORD

Synergy
Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # № _ _682
Page 3 of 4

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

Lab I.D. #
Account No.: | Quote No.:
Project #:
Sampler: (signature) [signature]
Project (Name / Location): Chapman Oil Bulk Plant
Reports To: See Page 1 → Invoice To:
Company | Company
Address | Address
City State Zip | City State Zip
Phone | Phone
FAX | FAX

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	IRON	LEAD	NITRATE / NITRITE	PAH (EPA 8270)	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	VOC DW (EPA 524.2)	VOC (EPA 8260)	8-RCRA METALS	PID/FID
5025604U	G-5-W	8/13	8:45		X	N	3	GW	HCl								X					
V	G-6-1		9:00				5	S	MeOH/None	X	X		X		X	X						
W	G-6-3		9:05				3			X	X						X					
X	G-6-5		9:15				3			X	X						X					
Y	G-7-1		9:25				5			X	X		X		X	X						
Z	G-7-3		9:30				3			X	X						X					
5256O4AA	G-7-5		9:40				3			X	X						X					
BB	G-8-1		9:50				5			X	X		X		X	X						
CC	G-8-3		9:55				3			X	X						X					
DD	G-8-5	↓	10:10		↓		3	↓	↓	X	X						X					

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: [signature]
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
[signature]	9:00 AM	8/14/13			

Received in Laboratory By: [signature] Time: 8:00 Date: 8/15/13

CHAIN OF CUSTODY RECORD

Synergy
Environmental Lab, Inc.
1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # No 5684
Page 1 of 1

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

Lab I.D. #
Account No. | Quote No.:
Project #:
Sampler: (signature) E Lee

Project (Name / Location): Chapman Oil Bulk Plant

Reports To: See Page 1 → ~~Invoice To:~~
Company | Company
Address | Address
City State Zip | City State Zip
Phone | Phone
FAX | FAX

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	IRON	LEAD	NITRATE / NITRITE	PAH (EPA 8270)	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	VOC DW (EPA 524.2)	VOC (EPA 8260)	8-RCRA METALS	PID/FID
525604 EE	G-9-1	8/13	10:10		X		5	S	MEOH/Water	X	X		X		X	X						
FF	G-9-3		10:25				3			X	X						X					
GG	G-9-5		10:30				3			X	X						X					
HH	G-10-1		10:40				5			X	X		X		X	X						
II	G-10-3		10:50				3			X	X						X					
JJ	G-10-5		11:05				3			X	X						X					
KK	Meth Blank						1		MEOH		X						X					
LL	Trip Blank						1		HCl		X						X					

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: Driven
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
E Lee	9:00 am	8/14/13			

Received in Laboratory By: [signature] Time: 8:00 Date: 8/15/13

Synergy Environmental Lab,

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

ROB CHAPMAN
ROB CHAPMAN
W344 S945 JERICHO DRIVE
EAGLE, WI 53119

Report Date *27-Aug-14*

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E27505
Project #

Lab Code 5027505A
Sample ID HA-1
Sample Matrix Soil
Sample Date 8/12/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	95.7	%			1	5021		8/20/2014	MDK	1
Organic										
PAH SIM										
Acenaphthene	< 21.1	ug/kg	21.1	67	1	M8270D	8/21/2014	8/26/2014	MDK	1
Acenaphthylene	< 19.5	ug/kg	19.5	61.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Anthracene	< 18.5	ug/kg	18.8	59.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)anthracene	38 "J"	ug/kg	18.4	58.4	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)pyrene	50 "J"	ug/kg	19	60.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(b)fluoranthene	82	ug/kg	18	57.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(g,h,i)perylene	67 "J"	ug/kg	23	73.2	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(k)fluoranthene	37 "J"	ug/kg	20.6	65.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Chrysene	51 "J"	ug/kg	18.5	58.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Dibenzo(a,h)anthracene	< 22.4	ug/kg	22.4	71.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluoranthene	81	ug/kg	18.1	57.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluorene	< 20	ug/kg	20	63.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Indeno(1,2,3-cd)pyrene	49 "J"	ug/kg	24.4	77.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
1-Methyl naphthalene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
2-Methyl naphthalene	< 20.4	ug/kg	20.4	64.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Naphthalene	< 21.1	ug/kg	21.1	67.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
Phenanthrene	< 24.7	ug/kg	24.7	78.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Pyrene	69	ug/kg	20	63.7	1	M8270D	8/21/2014	8/26/2014	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E27505
Project #

Lab Code 5027505B
Sample ID HA-2
Sample Matrix Soil
Sample Date 8/12/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	96.9	%			1	5021		8/20/2014	MDK	1
Organic										
PAH SIM										
Acenaphthene	32 "J"	ug/kg	21.1	67	1	M8270D	8/21/2014	8/26/2014	MDK	1
Acenaphthylene	37 "J"	ug/kg	19.5	61.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Anthracene	89	ug/kg	18.8	59.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)anthracene	330	ug/kg	18.4	58.4	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)pyrene	400	ug/kg	19	60.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(b)fluoranthene	620	ug/kg	18	57.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(g,h,i)perylene	350	ug/kg	23	73.2	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(k)fluoranthene	252	ug/kg	20.6	65.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Chrysene	450	ug/kg	18.5	58.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Dibenzo(a,h)anthracene	68 "J"	ug/kg	22.4	71.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluoranthene	960	ug/kg	18.1	57.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluorene	33 "J"	ug/kg	20	63.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Indeno(1,2,3-cd)pyrene	288	ug/kg	24.4	77.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
1-Methyl naphthalene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
2-Methyl naphthalene	< 20.4	ug/kg	20.4	64.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Naphthalene	< 21.1	ug/kg	21.1	67.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
Phenanthrene	500	ug/kg	24.7	78.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Pyrene	750	ug/kg	20	63.7	1	M8270D	8/21/2014	8/26/2014	MDK	1

Lab Code 5027505C
Sample ID HA-3
Sample Matrix Soil
Sample Date 8/12/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.4	%			1	5021		8/20/2014	MDK	1
Organic										
PAH SIM										
Acenaphthene	< 21.1	ug/kg	21.1	67	1	M8270D	8/21/2014	8/26/2014	MDK	1
Acenaphthylene	201	ug/kg	19.5	61.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Anthracene	147	ug/kg	18.8	59.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)anthracene	720	ug/kg	18.4	58.4	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)pyrene	980	ug/kg	19	60.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(b)fluoranthene	1530	ug/kg	18	57.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(g,h,i)perylene	850	ug/kg	23	73.2	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(k)fluoranthene	450	ug/kg	20.6	65.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Chrysene	900	ug/kg	18.5	58.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Dibenzo(a,h)anthracene	196	ug/kg	22.4	71.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluoranthene	1370	ug/kg	18.1	57.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluorene	27 "J"	ug/kg	20	63.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Indeno(1,2,3-cd)pyrene	690	ug/kg	24.4	77.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
1-Methyl naphthalene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
2-Methyl naphthalene	< 20.4	ug/kg	20.4	64.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Naphthalene	< 21.1	ug/kg	21.1	67.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
Phenanthrene	440	ug/kg	24.7	78.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Pyrene	1160	ug/kg	20	63.7	1	M8270D	8/21/2014	8/26/2014	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E27505
Project #

Lab Code 5027505D
Sample ID HA04
Sample Matrix Soil
Sample Date 8/12/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.9	%			1	5021		8/20/2014	MDK	1
Organic										
PAH SIM										
Acenaphthene	< 21.1	ug/kg	21.1	67	1	M8270D	8/21/2014	8/26/2014	MDK	1
Acenaphthylene	22.3 "J"	ug/kg	19.5	61.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Anthracene	19 "J"	ug/kg	18.8	59.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)anthracene	69	ug/kg	18.4	58.4	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)pyrene	75	ug/kg	19	60.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(b)fluoranthene	129	ug/kg	18	57.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(g,h,i)perylene	72 "J"	ug/kg	23	73.2	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(k)fluoranthene	39 "J"	ug/kg	20.6	65.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Chrysene	93	ug/kg	18.5	58.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Dibenzo(a,h)anthracene	< 22.4	ug/kg	22.4	71.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluoranthene	147	ug/kg	18.1	57.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluorene	< 20	ug/kg	20	63.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Indeno(1,2,3-cd)pyrene	56 "J"	ug/kg	24.4	77.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
1-Methyl naphthalene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
2-Methyl naphthalene	21.5 "J"	ug/kg	20.4	64.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Naphthalene	< 21.1	ug/kg	21.1	67.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
Phenanthrene	75 "J"	ug/kg	24.7	78.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Pyrene	133	ug/kg	20	63.7	1	M8270D	8/21/2014	8/26/2014	MDK	1

Lab Code 5027505E
Sample ID HA-5
Sample Matrix Soil
Sample Date 8/12/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	92.8	%			1	5021		8/20/2014	MDK	1
Organic										
PAH SIM										
Acenaphthene	< 21.1	ug/kg	21.1	67	1	M8270D	8/21/2014	8/26/2014	MDK	1
Acenaphthylene	< 19.5	ug/kg	19.5	61.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Anthracene	45 "J"	ug/kg	18.8	59.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)anthracene	119	ug/kg	18.4	58.4	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(a)pyrene	112	ug/kg	19	60.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(b)fluoranthene	176	ug/kg	18	57.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(g,h,i)perylene	84	ug/kg	23	73.2	1	M8270D	8/21/2014	8/26/2014	MDK	1
Benzo(k)fluoranthene	71	ug/kg	20.6	65.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Chrysene	150	ug/kg	18.5	58.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Dibenzo(a,h)anthracene	< 22.4	ug/kg	22.4	71.3	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluoranthene	289	ug/kg	18.1	57.7	1	M8270D	8/21/2014	8/26/2014	MDK	1
Fluorene	< 20	ug/kg	20	63.6	1	M8270D	8/21/2014	8/26/2014	MDK	1
Indeno(1,2,3-cd)pyrene	70 "J"	ug/kg	24.4	77.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
1-Methyl naphthalene	< 19.5	ug/kg	19.5	62.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
2-Methyl naphthalene	< 20.4	ug/kg	20.4	64.9	1	M8270D	8/21/2014	8/26/2014	MDK	1
Naphthalene	< 21.1	ug/kg	21.1	67.1	1	M8270D	8/21/2014	8/26/2014	MDK	1
Phenanthrene	150	ug/kg	24.7	78.5	1	M8270D	8/21/2014	8/26/2014	MDK	1
Pyrene	252	ug/kg	20	63.7	1	M8270D	8/21/2014	8/26/2014	MDK	1

Project Name CHAPMAN OIL BULK PLANT **Invoice #** E27505
Project #

Lab Code 5027505F
Sample ID B-1-2
Sample Matrix Soil
Sample Date 8/13/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
TCLP Lead	< 0.45	mg/l	0.45		1	6010B		8/20/2014	ESC	1
Organic										
TCLP										
TCLP Benzene	< 0.05	mg/l	0.05		1	8260B		8/21/2014	ESC	1

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

Code	*Comment*
1	Laboratory QC within limits.

ESC denotes sub contract lab - Certification #998093910

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 (STODY RECORD

Synergy
Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # N2 249(

Page 1 of 1

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

Lab I.D. #	
Account No. :	Quote No.:
Project #:	
Sampler: (signature)	
Project (Name / Location):	Chapman Oil Bulk Plant
Reports To:	Rob Chapman
Invoice To:	Rob Chapman
Company	
Company	C/o METCO
Address	V344 S9450 Jericho Dr
Address	709 Gillette St, Ste 3
City State Zip	Eagle, WI 53119
City State Zip	LaCrosse, WI 54603
Phone	262-844-0185
Phone	(606) 781-8879
FAX	
FAX	8893

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation
561505	HA-1	8/12/14			X		1	S	None
B	HA-2	↓			↓		1	↓	↓
C	HA-3						1		
D	HA-4						1		
E	HA-5						1		
F	B-1-2	8/13/14					4		

Analysis Requested

DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	TCLP Lead	TCLP Benzene	PID/ FID
					X										
					X										
					X										
					X										
					X										
												X	X		

Other Analysis

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

Lab to send copy of report to METCO
U+C Rates
Agent Status

Sample Integrity - To be completed by receiving lab.	Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Method of Shipment: Delivered		9:00AM	8/14/14			
Temp. of Temp. Blank ____ °C On Ice: X						
Cooler seal intact upon receipt: X Yes ____ No	Received in Laboratory By:	Time: 8:00		Date: 8/15/14		

Synergy Environmental Lab,

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

ROB CHAPMAN
ROB CHAPMAN
W344 S945 JERICHO DRIVE
EAGLE, WI 53119

Report Date *16-Oct-14*

Project Name CHAPMAN OIL **Invoice #** E27758
Project #

Lab Code 5027758A
Sample ID MW-3
Sample Matrix Water
Sample Date 9/22/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Iron, Dissolved	0.07 "J"	mg/l	0.06	0.21	1	200.7		10/3/2014	CWT	1
Lead, Dissolved	< 0.7	ug/L	0.7	2.5	1	7421		10/1/2014	CWT	1
Manganese, Dissolved	51.6	ug/L	4.8	15.4	1	200.7		10/3/2014	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.018	ug/l	0.018	0.056	1	M8270D	9/29/2014	10/3/2014	MDK	1
Acenaphthylene	< 0.02	ug/l	0.02	0.063	1	M8270D	9/29/2014	10/3/2014	MDK	1
Anthracene	< 0.018	ug/l	0.018	0.057	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(a)anthracene	< 0.023	ug/l	0.023	0.073	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(a)pyrene	< 0.02	ug/l	0.02	0.063	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(b)fluoranthene	< 0.019	ug/l	0.019	0.06	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(g,h,i)perylene	< 0.024	ug/l	0.024	0.076	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(k)fluoranthene	< 0.027	ug/l	0.027	0.087	1	M8270D	9/29/2014	10/3/2014	MDK	1
Chrysene	< 0.018	ug/l	0.018	0.058	1	M8270D	9/29/2014	10/3/2014	MDK	1
Dibenzo(a,h)anthracene	< 0.028	ug/l	0.028	0.092	1	M8270D	9/29/2014	10/3/2014	MDK	1
Fluoranthene	< 0.022	ug/l	0.022	0.069	1	M8270D	9/29/2014	10/3/2014	MDK	1
Fluorene	< 0.022	ug/l	0.022	0.069	1	M8270D	9/29/2014	10/3/2014	MDK	1
Indeno(1,2,3-cd)pyrene	< 0.027	ug/l	0.027	0.086	1	M8270D	9/29/2014	10/3/2014	MDK	1
1-Methyl naphthalene	< 0.021	ug/l	0.021	0.065	1	M8270D	9/29/2014	10/3/2014	MDK	1
2-Methyl naphthalene	< 0.024	ug/l	0.024	0.076	1	M8270D	9/29/2014	10/3/2014	MDK	1
Naphthalene	< 0.023	ug/l	0.023	0.073	1	M8270D	9/29/2014	10/3/2014	MDK	1
Phenanthrene	< 0.018	ug/l	0.018	0.057	1	M8270D	9/29/2014	10/3/2014	MDK	1
Pyrene	< 0.022	ug/l	0.022	0.071	1	M8270D	9/29/2014	10/3/2014	MDK	1
VOC's										
Benzene	< 0.24	ug/l	0.24	0.77	1	8260B		9/30/2014	CJR	1
Bromobenzene	< 0.32	ug/l	0.32	1	1	8260B		9/30/2014	CJR	1
Bromodichloromethane	< 0.37	ug/l	0.37	1.2	1	8260B		9/30/2014	CJR	1
Bromoform	< 0.35	ug/l	0.35	1.1	1	8260B		9/30/2014	CJR	1
tert-Butylbenzene	< 0.36	ug/l	0.36	1.2	1	8260B		9/30/2014	CJR	1
sec-Butylbenzene	< 0.33	ug/l	0.33	1	1	8260B		9/30/2014	CJR	1
n-Butylbenzene	< 0.35	ug/l	0.35	1.1	1	8260B		9/30/2014	CJR	1

Project Name CHAPMAN OIL **Invoice #** E27758
Project #

Lab Code 5027758A
Sample ID MW-3
Sample Matrix Water
Sample Date 9/22/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Carbon Tetrachloride	< 0.33	ug/l	0.33	1.1	1	8260B		9/30/2014	CJR	1
Chlorobenzene	< 0.24	ug/l	0.24	0.77	1	8260B		9/30/2014	CJR	1
Chloroethane	< 0.63	ug/l	0.63	2	1	8260B		9/30/2014	CJR	1
Chloroform	< 0.28	ug/l	0.28	0.88	1	8260B		9/30/2014	CJR	1
Chloromethane	< 0.81	ug/l	0.81	2.6	1	8260B		9/30/2014	CJR	1
2-Chlorotoluene	< 0.21	ug/l	0.21	0.66	1	8260B		9/30/2014	CJR	1
4-Chlorotoluene	< 0.21	ug/l	0.21	0.68	1	8260B		9/30/2014	CJR	1
1,2-Dibromo-3-chloropropane	< 0.88	ug/l	0.88	2.8	1	8260B		9/30/2014	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.7	1	8260B		9/30/2014	CJR	1
1,4-Dichlorobenzene	< 0.3	ug/l	0.3	0.96	1	8260B		9/30/2014	CJR	1
1,3-Dichlorobenzene	< 0.28	ug/l	0.28	0.89	1	8260B		9/30/2014	CJR	1
1,2-Dichlorobenzene	< 0.36	ug/l	0.36	1.2	1	8260B		9/30/2014	CJR	1
Dichlorodifluoromethane	< 0.44	ug/l	0.44	1.4	1	8260B		9/30/2014	CJR	1
1,2-Dichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		9/30/2014	CJR	1
1,1-Dichloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		9/30/2014	CJR	1
1,1-Dichloroethene	< 0.4	ug/l	0.4	1.3	1	8260B		9/30/2014	CJR	1
cis-1,2-Dichloroethene	< 0.38	ug/l	0.38	1.2	1	8260B		9/30/2014	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.1	1	8260B		9/30/2014	CJR	1
1,2-Dichloropropane	< 0.32	ug/l	0.32	1	1	8260B		9/30/2014	CJR	1
2,2-Dichloropropane	< 0.36	ug/l	0.36	1.2	1	8260B		9/30/2014	CJR	1
1,3-Dichloropropane	< 0.33	ug/l	0.33	1	1	8260B		9/30/2014	CJR	1
Di-isopropyl ether	< 0.23	ug/l	0.23	0.73	1	8260B		9/30/2014	CJR	1
EDB (1,2-Dibromoethane)	< 0.44	ug/l	0.44	1.4	1	8260B		9/30/2014	CJR	1
Ethylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		9/30/2014	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.8	1	8260B		9/30/2014	CJR	1
Isopropylbenzene	< 0.3	ug/l	0.3	0.96	1	8260B		9/30/2014	CJR	1
p-Isopropyltoluene	< 0.31	ug/l	0.31	0.98	1	8260B		9/30/2014	CJR	1
Methylene chloride	< 0.5	ug/l	0.5	1.6	1	8260B		9/30/2014	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.23	ug/l	0.23	0.74	1	8260B		9/30/2014	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.5	1	8260B		9/30/2014	CJR	1
n-Propylbenzene	< 0.25	ug/l	0.25	0.81	1	8260B		9/30/2014	CJR	1
1,1,2,2-Tetrachloroethane	< 0.45	ug/l	0.45	1.4	1	8260B		9/30/2014	CJR	1
1,1,1,2-Tetrachloroethane	< 0.33	ug/l	0.33	1.1	1	8260B		9/30/2014	CJR	1
Tetrachloroethene	< 0.33	ug/l	0.33	1.1	1	8260B		9/30/2014	CJR	1
Toluene	< 0.69	ug/l	0.69	2.2	1	8260B		9/30/2014	CJR	1
1,2,4-Trichlorobenzene	< 0.98	ug/l	0.98	3.1	1	8260B		9/30/2014	CJR	1
1,2,3-Trichlorobenzene	< 1.8	ug/l	1.8	5.8	1	8260B		9/30/2014	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1	1	8260B		9/30/2014	CJR	1
1,1,2-Trichloroethane	< 0.34	ug/l	0.34	1.1	1	8260B		9/30/2014	CJR	1
Trichloroethene (TCE)	< 0.33	ug/l	0.33	1	1	8260B		9/30/2014	CJR	1
Trichlorofluoromethane	< 0.71	ug/l	0.71	2.3	1	8260B		9/30/2014	CJR	1
1,2,4-Trimethylbenzene	< 2.2	ug/l	2.2	6.9	1	8260B		9/30/2014	CJR	1
1,3,5-Trimethylbenzene	< 1.4	ug/l	1.4	4.5	1	8260B		9/30/2014	CJR	1
Vinyl Chloride	< 0.18	ug/l	0.18	0.57	1	8260B		9/30/2014	CJR	1
m&p-Xylene	< 0.69	ug/l	0.69	2.2	1	8260B		9/30/2014	CJR	1
o-Xylene	< 0.63	ug/l	0.63	2	1	8260B		9/30/2014	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		9/30/2014	CJR	1
SUR - 1,2-Dichloroethane-d4	109	REC %			1	8260B		9/30/2014	CJR	1
SUR - 4-Bromofluorobenzene	91	REC %			1	8260B		9/30/2014	CJR	1
SUR - Dibromofluoromethane	92	REC %			1	8260B		9/30/2014	CJR	1
Wet Chemistry										
General										
Nitrite Plus Nitrate, Dissolved	5.04	mg/l	0.15	0.48	1	353.2		10/10/2014	MDK	1
Sulfate, Filtered	34.0	mg/l	3.78	12.02	2	ASTM D516-		10/15/2014	MDK	1

Project Name CHAPMAN OIL **Invoice #** E27758
Project #

Lab Code 5027758B
Sample ID MW-2
Sample Matrix Water
Sample Date 9/22/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Iron, Dissolved	< 0.06	mg/l	0.06	0.21	1	200.7		10/3/2014	CWT	1
Lead, Dissolved	< 0.7	ug/L	0.7	2.5	1	7421		10/1/2014	CWT	1
Manganese, Dissolved	37.7	ug/L	4.8	15.4	1	200.7		10/3/2014	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.018	ug/l	0.018	0.056	1	M8270D	9/29/2014	10/3/2014	MDK	1
Acenaphthylene	< 0.02	ug/l	0.02	0.063	1	M8270D	9/29/2014	10/3/2014	MDK	1
Anthracene	< 0.018	ug/l	0.018	0.057	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(a)anthracene	< 0.023	ug/l	0.023	0.073	1	M8270D	9/29/2014	10/3/2014	MDK	6
Benzo(a)pyrene	< 0.02	ug/l	0.02	0.063	1	M8270D	9/29/2014	10/3/2014	MDK	6
Benzo(b)fluoranthene	< 0.019	ug/l	0.019	0.06	1	M8270D	9/29/2014	10/3/2014	MDK	6
Benzo(g,h,i)perylene	< 0.024	ug/l	0.024	0.076	1	M8270D	9/29/2014	10/3/2014	MDK	6
Benzo(k)fluoranthene	< 0.027	ug/l	0.027	0.087	1	M8270D	9/29/2014	10/3/2014	MDK	6
Chrysene	< 0.018	ug/l	0.018	0.058	1	M8270D	9/29/2014	10/3/2014	MDK	6
Dibenzo(a,h)anthracene	< 0.028	ug/l	0.028	0.092	1	M8270D	9/29/2014	10/3/2014	MDK	6
Fluoranthene	< 0.022	ug/l	0.022	0.069	1	M8270D	9/29/2014	10/3/2014	MDK	1
Fluorene	< 0.022	ug/l	0.022	0.069	1	M8270D	9/29/2014	10/3/2014	MDK	1
Indeno(1,2,3-cd)pyrene	< 0.027	ug/l	0.027	0.086	1	M8270D	9/29/2014	10/3/2014	MDK	6
1-Methyl naphthalene	< 0.021	ug/l	0.021	0.065	1	M8270D	9/29/2014	10/3/2014	MDK	1
2-Methyl naphthalene	< 0.024	ug/l	0.024	0.076	1	M8270D	9/29/2014	10/3/2014	MDK	1
Naphthalene	0.025 "J"	ug/l	0.023	0.073	1	M8270D	9/29/2014	10/3/2014	MDK	1
Phenanthrene	< 0.018	ug/l	0.018	0.057	1	M8270D	9/29/2014	10/3/2014	MDK	1
Pyrene	< 0.022	ug/l	0.022	0.071	1	M8270D	9/29/2014	10/3/2014	MDK	1
VOC's										
Benzene	< 0.24	ug/l	0.24	0.77	1	8260B		9/30/2014	CJR	1
Bromobenzene	< 0.32	ug/l	0.32	1	1	8260B		9/30/2014	CJR	1
Bromodichloromethane	< 0.37	ug/l	0.37	1.2	1	8260B		9/30/2014	CJR	1
Bromoform	< 0.35	ug/l	0.35	1.1	1	8260B		9/30/2014	CJR	1
tert-Butylbenzene	< 0.36	ug/l	0.36	1.2	1	8260B		9/30/2014	CJR	1
sec-Butylbenzene	< 0.33	ug/l	0.33	1	1	8260B		9/30/2014	CJR	1
n-Butylbenzene	< 0.35	ug/l	0.35	1.1	1	8260B		9/30/2014	CJR	1
Carbon Tetrachloride	< 0.33	ug/l	0.33	1.1	1	8260B		9/30/2014	CJR	1
Chlorobenzene	< 0.24	ug/l	0.24	0.77	1	8260B		9/30/2014	CJR	1
Chloroethane	< 0.63	ug/l	0.63	2	1	8260B		9/30/2014	CJR	1
Chloroform	< 0.28	ug/l	0.28	0.88	1	8260B		9/30/2014	CJR	1
Chloromethane	< 0.81	ug/l	0.81	2.6	1	8260B		9/30/2014	CJR	1
2-Chlorotoluene	< 0.21	ug/l	0.21	0.66	1	8260B		9/30/2014	CJR	1
4-Chlorotoluene	< 0.21	ug/l	0.21	0.68	1	8260B		9/30/2014	CJR	1
1,2-Dibromo-3-chloropropane	< 0.88	ug/l	0.88	2.8	1	8260B		9/30/2014	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.7	1	8260B		9/30/2014	CJR	1
1,4-Dichlorobenzene	< 0.3	ug/l	0.3	0.96	1	8260B		9/30/2014	CJR	1
1,3-Dichlorobenzene	< 0.28	ug/l	0.28	0.89	1	8260B		9/30/2014	CJR	1
1,2-Dichlorobenzene	< 0.36	ug/l	0.36	1.2	1	8260B		9/30/2014	CJR	1
Dichlorodifluoromethane	< 0.44	ug/l	0.44	1.4	1	8260B		9/30/2014	CJR	1
1,2-Dichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		9/30/2014	CJR	1
1,1-Dichloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		9/30/2014	CJR	1
1,1-Dichloroethene	< 0.4	ug/l	0.4	1.3	1	8260B		9/30/2014	CJR	1
cis-1,2-Dichloroethene	< 0.38	ug/l	0.38	1.2	1	8260B		9/30/2014	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.1	1	8260B		9/30/2014	CJR	1
1,2-Dichloropropane	< 0.32	ug/l	0.32	1	1	8260B		9/30/2014	CJR	1
2,2-Dichloropropane	< 0.36	ug/l	0.36	1.2	1	8260B		9/30/2014	CJR	1
1,3-Dichloropropane	< 0.33	ug/l	0.33	1	1	8260B		9/30/2014	CJR	1
Di-isopropyl ether	< 0.23	ug/l	0.23	0.73	1	8260B		9/30/2014	CJR	1
EDB (1,2-Dibromoethane)	< 0.44	ug/l	0.44	1.4	1	8260B		9/30/2014	CJR	1
Ethylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		9/30/2014	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.8	1	8260B		9/30/2014	CJR	1

Project Name CHAPMAN OIL
Project #

Invoice # E27758

Lab Code 5027758B
Sample ID MW-2
Sample Matrix Water
Sample Date 9/22/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Isopropylbenzene	< 0.3	ug/l	0.3	0.96	1	8260B		9/30/2014	CJR	I
p-Isopropyltoluene	< 0.31	ug/l	0.31	0.98	1	8260B		9/30/2014	CJR	I
Methylene chloride	< 0.5	ug/l	0.5	1.6	1	8260B		9/30/2014	CJR	I
Methyl tert-butyl ether (MTBE)	< 0.23	ug/l	0.23	0.74	1	8260B		9/30/2014	CJR	I
Naphthalene	< 1.7	ug/l	1.7	5.5	1	8260B		9/30/2014	CJR	I
n-Propylbenzene	< 0.25	ug/l	0.25	0.81	1	8260B		9/30/2014	CJR	I
1,1,2,2-Tetrachloroethane	< 0.45	ug/l	0.45	1.4	1	8260B		9/30/2014	CJR	I
1,1,1,2-Tetrachloroethane	< 0.33	ug/l	0.33	1.1	1	8260B		9/30/2014	CJR	I
Tetrachloroethene	< 0.33	ug/l	0.33	1.1	1	8260B		9/30/2014	CJR	I
Toluene	< 0.69	ug/l	0.69	2.2	1	8260B		9/30/2014	CJR	I
1,2,4-Trichlorobenzene	< 0.98	ug/l	0.98	3.1	1	8260B		9/30/2014	CJR	I
1,2,3-Trichlorobenzene	< 1.8	ug/l	1.8	5.8	1	8260B		9/30/2014	CJR	I
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1	1	8260B		9/30/2014	CJR	I
1,1,2-Trichloroethane	< 0.34	ug/l	0.34	1.1	1	8260B		9/30/2014	CJR	I
Trichloroethene (TCE)	< 0.33	ug/l	0.33	1	1	8260B		9/30/2014	CJR	I
Trichlorofluoromethane	< 0.71	ug/l	0.71	2.3	1	8260B		9/30/2014	CJR	I
1,2,4-Trimethylbenzene	< 2.2	ug/l	2.2	6.9	1	8260B		9/30/2014	CJR	I
1,3,5-Trimethylbenzene	< 1.4	ug/l	1.4	4.5	1	8260B		9/30/2014	CJR	I
Vinyl Chloride	< 0.18	ug/l	0.18	0.57	1	8260B		9/30/2014	CJR	I
m&p-Xylene	< 0.69	ug/l	0.69	2.2	1	8260B		9/30/2014	CJR	I
o-Xylene	< 0.63	ug/l	0.63	2	1	8260B		9/30/2014	CJR	I
SUR - Toluene-d8	101	REC %			1	8260B		9/30/2014	CJR	I
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		9/30/2014	CJR	I
SUR - 4-Bromofluorobenzene	92	REC %			1	8260B		9/30/2014	CJR	I
SUR - Dibromofluoromethane	92	REC %			1	8260B		9/30/2014	CJR	I
Wet Chemistry										
General										
Nitrite Plus Nitrate, Dissolved	7.89	mg/l	0.15	0.48	1	353.2		10/10/2014	MDK	I
Sulfate, Filtered	38.6	mg/l	3.78	12.02	2	ASTM D516-		10/15/2014	MDK	I

Project Name CHAPMAN OIL **Invoice #** E27758
Project #

Lab Code 5027758C
Sample ID MW-1
Sample Matrix Water
Sample Date 9/22/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Iron, Dissolved	0.4	mg/l	0.06	0.21	1	200.7		10/3/2014	CWT	1
Lead, Dissolved	< 0.7	ug/L	0.7	2.5	1	7421		10/1/2014	CWT	1
Manganese, Dissolved	1210	ug/L	4.8	15.4	1	200.7		10/3/2014	CWT	1
Organic										
PAH SIM										
Acenaphthene	0.208	ug/l	0.018	0.056	1	M8270D	9/29/2014	10/3/2014	MDK	1
Acenaphthylene	0.108	ug/l	0.02	0.063	1	M8270D	9/29/2014	10/3/2014	MDK	1
Anthracene	0.83	ug/l	0.018	0.057	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(a)anthracene	0.026 "J"	ug/l	0.023	0.073	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(a)pyrene	< 0.02	ug/l	0.02	0.063	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(b)fluoranthene	< 0.019	ug/l	0.019	0.06	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(g,h,i)perylene	< 0.024	ug/l	0.024	0.076	1	M8270D	9/29/2014	10/3/2014	MDK	1
Benzo(k)fluoranthene	< 0.027	ug/l	0.027	0.087	1	M8270D	9/29/2014	10/3/2014	MDK	1
Chrysene	0.045 "J"	ug/l	0.018	0.058	1	M8270D	9/29/2014	10/3/2014	MDK	1
Dibenzo(a,h)anthracene	< 0.028	ug/l	0.028	0.092	1	M8270D	9/29/2014	10/3/2014	MDK	1
Fluoranthene	0.148	ug/l	0.022	0.069	1	M8270D	9/29/2014	10/3/2014	MDK	1
Fluorene	0.67	ug/l	0.022	0.069	1	M8270D	9/29/2014	10/3/2014	MDK	1
Indeno(1,2,3-cd)pyrene	< 0.027	ug/l	0.027	0.086	1	M8270D	9/29/2014	10/3/2014	MDK	1
1-Methyl naphthalene	0.41	ug/l	0.021	0.065	1	M8270D	9/29/2014	10/3/2014	MDK	1
2-Methyl naphthalene	0.044 "J"	ug/l	0.024	0.076	1	M8270D	9/29/2014	10/3/2014	MDK	1
Naphthalene	0.149	ug/l	0.023	0.073	1	M8270D	9/29/2014	10/3/2014	MDK	1
Phenanthrene	1.0	ug/l	0.018	0.057	1	M8270D	9/29/2014	10/3/2014	MDK	1
Pyrene	0.61	ug/l	0.022	0.071	1	M8270D	9/29/2014	10/3/2014	MDK	1
VOC's										
Benzene	< 0.24	ug/l	0.24	0.77	1	8260B		10/1/2014	CJR	1
Bromobenzene	< 0.32	ug/l	0.32	1	1	8260B		10/1/2014	CJR	1
Bromodichloromethane	< 0.37	ug/l	0.37	1.2	1	8260B		10/1/2014	CJR	1
Bromoform	< 0.35	ug/l	0.35	1.1	1	8260B		10/1/2014	CJR	1
tert-Butylbenzene	< 0.36	ug/l	0.36	1.2	1	8260B		10/1/2014	CJR	1
sec-Butylbenzene	0.64 "J"	ug/l	0.33	1	1	8260B		10/1/2014	CJR	1
n-Butylbenzene	< 0.35	ug/l	0.35	1.1	1	8260B		10/1/2014	CJR	1
Carbon Tetrachloride	< 0.33	ug/l	0.33	1.1	1	8260B		10/1/2014	CJR	1
Chlorobenzene	< 0.24	ug/l	0.24	0.77	1	8260B		10/1/2014	CJR	1
Chloroethane	< 0.63	ug/l	0.63	2	1	8260B		10/1/2014	CJR	1
Chloroform	< 0.28	ug/l	0.28	0.88	1	8260B		10/1/2014	CJR	1
Chloromethane	< 0.81	ug/l	0.81	2.6	1	8260B		10/1/2014	CJR	1
2-Chlorotoluene	< 0.21	ug/l	0.21	0.66	1	8260B		10/1/2014	CJR	1
4-Chlorotoluene	< 0.21	ug/l	0.21	0.68	1	8260B		10/1/2014	CJR	1
1,2-Dibromo-3-chloropropane	< 0.88	ug/l	0.88	2.8	1	8260B		10/1/2014	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.7	1	8260B		10/1/2014	CJR	1
1,4-Dichlorobenzene	< 0.3	ug/l	0.3	0.96	1	8260B		10/1/2014	CJR	1
1,3-Dichlorobenzene	< 0.28	ug/l	0.28	0.89	1	8260B		10/1/2014	CJR	1
1,2-Dichlorobenzene	< 0.36	ug/l	0.36	1.2	1	8260B		10/1/2014	CJR	1
Dichlorodifluoromethane	< 0.44	ug/l	0.44	1.4	1	8260B		10/1/2014	CJR	1
1,2-Dichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		10/1/2014	CJR	1
1,1-Dichloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		10/1/2014	CJR	8
1,1-Dichloroethene	< 0.4	ug/l	0.4	1.3	1	8260B		10/1/2014	CJR	1
cis-1,2-Dichloroethene	< 0.38	ug/l	0.38	1.2	1	8260B		10/1/2014	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.1	1	8260B		10/1/2014	CJR	1
1,2-Dichloropropane	< 0.32	ug/l	0.32	1	1	8260B		10/1/2014	CJR	1
2,2-Dichloropropane	< 0.36	ug/l	0.36	1.2	1	8260B		10/1/2014	CJR	8
1,3-Dichloropropane	< 0.33	ug/l	0.33	1	1	8260B		10/1/2014	CJR	1
Di-isopropyl ether	< 0.23	ug/l	0.23	0.73	1	8260B		10/1/2014	CJR	1
EDB (1,2-Dibromoethane)	< 0.44	ug/l	0.44	1.4	1	8260B		10/1/2014	CJR	1
Ethylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		10/1/2014	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.8	1	8260B		10/1/2014	CJR	1

Project Name CHAPMAN OIL **Invoice #** E27758
Project #

Lab Code 5027758C
Sample ID MW-1
Sample Matrix Water
Sample Date 9/22/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Isopropylbenzene	< 0.3	ug/l	0.3	0.96	1	8260B		10/1/2014	CJR	1
p-Isopropyltoluene	< 0.31	ug/l	0.31	0.98	1	8260B		10/1/2014	CJR	1
Methylene chloride	< 0.5	ug/l	0.5	1.6	1	8260B		10/1/2014	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.23	ug/l	0.23	0.74	1	8260B		10/1/2014	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.5	1	8260B		10/1/2014	CJR	1
n-Propylbenzene	< 0.25	ug/l	0.25	0.81	1	8260B		10/1/2014	CJR	1
1,1,2,2-Tetrachloroethane	< 0.45	ug/l	0.45	1.4	1	8260B		10/1/2014	CJR	1
1,1,1,2-Tetrachloroethane	< 0.33	ug/l	0.33	1.1	1	8260B		10/1/2014	CJR	1
Tetrachloroethene	< 0.33	ug/l	0.33	1.1	1	8260B		10/1/2014	CJR	1
Toluene	< 0.69	ug/l	0.69	2.2	1	8260B		10/1/2014	CJR	1
1,2,4-Trichlorobenzene	< 0.98	ug/l	0.98	3.1	1	8260B		10/1/2014	CJR	1
1,2,3-Trichlorobenzene	< 1.8	ug/l	1.8	5.8	1	8260B		10/1/2014	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1	1	8260B		10/1/2014	CJR	1
1,1,2-Trichloroethane	< 0.34	ug/l	0.34	1.1	1	8260B		10/1/2014	CJR	1
Trichloroethene (TCE)	< 0.33	ug/l	0.33	1	1	8260B		10/1/2014	CJR	1
Trichlorofluoromethane	< 0.71	ug/l	0.71	2.3	1	8260B		10/1/2014	CJR	1
1,2,4-Trimethylbenzene	< 2.2	ug/l	2.2	6.9	1	8260B		10/1/2014	CJR	1
1,3,5-Trimethylbenzene	< 1.4	ug/l	1.4	4.5	1	8260B		10/1/2014	CJR	1
Vinyl Chloride	< 0.18	ug/l	0.18	0.57	1	8260B		10/1/2014	CJR	1
m&p-Xylene	< 0.69	ug/l	0.69	2.2	1	8260B		10/1/2014	CJR	1
o-Xylene	< 0.63	ug/l	0.63	2	1	8260B		10/1/2014	CJR	1
SUR - Toluene-d8	104	REC %			1	8260B		10/1/2014	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		10/1/2014	CJR	1
SUR - 4-Bromofluorobenzene	89	REC %			1	8260B		10/1/2014	CJR	1
SUR - Dibromofluoromethane	94	REC %			1	8260B		10/1/2014	CJR	1
Wet Chemistry										
General										
Nitrite Plus Nitrate, Dissolved	0.18	mg/l	0.15	0.48	1	353.2		10/14/2014	MDK	1
Sulfate, Filtered	22.6	mg/l	3.78	12.02	2	ASTM D516-		10/15/2014	MDK	1

Project Name CHAPMAN OIL **Invoice #** E27758
Project #

Lab Code 5027758D
Sample ID TB
Sample Matrix Water
Sample Date 9/22/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.24	ug/l	0.24	0.77	1	8260B		9/29/2014	CJR	1
Bromobenzene	< 0.32	ug/l	0.32	1	1	8260B		9/29/2014	CJR	1
Bromodichloromethane	< 0.37	ug/l	0.37	1.2	1	8260B		9/29/2014	CJR	1
Bromoform	< 0.35	ug/l	0.35	1.1	1	8260B		9/29/2014	CJR	1
tert-Butylbenzene	< 0.36	ug/l	0.36	1.2	1	8260B		9/29/2014	CJR	1
sec-Butylbenzene	< 0.33	ug/l	0.33	1	1	8260B		9/29/2014	CJR	1
n-Butylbenzene	< 0.35	ug/l	0.35	1.1	1	8260B		9/29/2014	CJR	1
Carbon Tetrachloride	< 0.33	ug/l	0.33	1.1	1	8260B		9/29/2014	CJR	1
Chlorobenzene	< 0.24	ug/l	0.24	0.77	1	8260B		9/29/2014	CJR	1
Chloroethane	< 0.63	ug/l	0.63	2	1	8260B		9/29/2014	CJR	1
Chloroform	< 0.28	ug/l	0.28	0.88	1	8260B		9/29/2014	CJR	1
Chloromethane	< 0.81	ug/l	0.81	2.6	1	8260B		9/29/2014	CJR	1
2-Chlorotoluene	< 0.21	ug/l	0.21	0.66	1	8260B		9/29/2014	CJR	1
4-Chlorotoluene	< 0.21	ug/l	0.21	0.68	1	8260B		9/29/2014	CJR	1
1,2-Dibromo-3-chloropropane	< 0.88	ug/l	0.88	2.8	1	8260B		9/29/2014	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.7	1	8260B		9/29/2014	CJR	1
1,4-Dichlorobenzene	< 0.3	ug/l	0.3	0.96	1	8260B		9/29/2014	CJR	1
1,3-Dichlorobenzene	< 0.28	ug/l	0.28	0.89	1	8260B		9/29/2014	CJR	1
1,2-Dichlorobenzene	< 0.36	ug/l	0.36	1.2	1	8260B		9/29/2014	CJR	1
Dichlorodifluoromethane	< 0.44	ug/l	0.44	1.4	1	8260B		9/29/2014	CJR	1
1,2-Dichloroethane	< 0.41	ug/l	0.41	1.3	1	8260B		9/29/2014	CJR	1
1,1-Dichloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		9/29/2014	CJR	1
1,1-Dichloroethene	< 0.4	ug/l	0.4	1.3	1	8260B		9/29/2014	CJR	1
cis-1,2-Dichloroethene	< 0.38	ug/l	0.38	1.2	1	8260B		9/29/2014	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.1	1	8260B		9/29/2014	CJR	1
1,2-Dichloropropane	< 0.32	ug/l	0.32	1	1	8260B		9/29/2014	CJR	1
2,2-Dichloropropane	< 0.36	ug/l	0.36	1.2	1	8260B		9/29/2014	CJR	1
1,3-Dichloropropane	< 0.33	ug/l	0.33	1	1	8260B		9/29/2014	CJR	1
Di-isopropyl ether	< 0.23	ug/l	0.23	0.73	1	8260B		9/29/2014	CJR	1
EDB (1,2-Dibromoethane)	< 0.44	ug/l	0.44	1.4	1	8260B		9/29/2014	CJR	1
Ethylbenzene	< 0.55	ug/l	0.55	1.7	1	8260B		9/29/2014	CJR	1
Hexachlorobutadiene	< 1.5	ug/l	1.5	4.8	1	8260B		9/29/2014	CJR	1
Isopropylbenzene	< 0.3	ug/l	0.3	0.96	1	8260B		9/29/2014	CJR	1
p-Isopropyltoluene	< 0.31	ug/l	0.31	0.98	1	8260B		9/29/2014	CJR	1
Methylene chloride	< 0.5	ug/l	0.5	1.6	1	8260B		9/29/2014	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.23	ug/l	0.23	0.74	1	8260B		9/29/2014	CJR	1
Naphthalene	< 1.7	ug/l	1.7	5.5	1	8260B		9/29/2014	CJR	1
n-Propylbenzene	< 0.25	ug/l	0.25	0.81	1	8260B		9/29/2014	CJR	1
1,1,2,2-Tetrachloroethane	< 0.45	ug/l	0.45	1.4	1	8260B		9/29/2014	CJR	1
1,1,1,2-Tetrachloroethane	< 0.33	ug/l	0.33	1.1	1	8260B		9/29/2014	CJR	1
Tetrachloroethene	< 0.33	ug/l	0.33	1.1	1	8260B		9/29/2014	CJR	1
Toluene	< 0.69	ug/l	0.69	2.2	1	8260B		9/29/2014	CJR	1
1,2,4-Trichlorobenzene	< 0.98	ug/l	0.98	3.1	1	8260B		9/29/2014	CJR	1
1,2,3-Trichlorobenzene	< 1.8	ug/l	1.8	5.8	1	8260B		9/29/2014	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1	1	8260B		9/29/2014	CJR	1
1,1,2-Trichloroethane	< 0.34	ug/l	0.34	1.1	1	8260B		9/29/2014	CJR	1
Trichloroethene (TCE)	< 0.33	ug/l	0.33	1	1	8260B		9/29/2014	CJR	1
Trichlorofluoromethane	< 0.71	ug/l	0.71	2.3	1	8260B		9/29/2014	CJR	1
1,2,4-Trimethylbenzene	< 2.2	ug/l	2.2	6.9	1	8260B		9/29/2014	CJR	1
1,3,5-Trimethylbenzene	< 1.4	ug/l	1.4	4.5	1	8260B		9/29/2014	CJR	1
Vinyl Chloride	< 0.18	ug/l	0.18	0.57	1	8260B		9/29/2014	CJR	1
m&p-Xylene	< 0.69	ug/l	0.69	2.2	1	8260B		9/29/2014	CJR	1
o-Xylene	< 0.63	ug/l	0.63	2	1	8260B		9/29/2014	CJR	1
SUR - Toluene-d8	102	REC %			1	8260B		9/29/2014	CJR	1
SUR - 1,2-Dichloroethane-d4	109	REC %			1	8260B		9/29/2014	CJR	1
SUR - 4-Bromofluorobenzene	89	REC %			1	8260B		9/29/2014	CJR	1
SUR - Dibromofluoromethane	96	REC %			1	8260B		9/29/2014	CJR	1

Project Name CHAPMAN OIL **Invoice #** E27758
Project #

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

Code	*Comment*
1	Laboratory QC within limits.
6	The surrogate recovery not within established limits.
8	Closing calibration standard not within established limits.

CWT denotes sub contract lab - Certification #445126660

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 STODY RECORD

Synergy

Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # 275

Page 1 of 1

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

Lab I.D. #

Account No. | Quote No.:

Project #:

Sampler: (signature) Jacob Zahn

Project (Name / Location): Chapman Oil — Eagle, WI

Reports To: Rob Chapman	Invoice To: Rob Chapman c/o METCO
Company	Company METCO
Address W344 S9460 Jericho Dr	Address 709 Gillette St
City State Zip Eagle, WI, 53119	City State Zip La Crosse, WI, 54603 ste3
Phone 262-844-0185	Phone
FAX	FAX

Analysis Requested | **Other Analysis**

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD (dissolved)	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	Iron (dissolved)	Manganese				PID/FID
Se2 T158A	MW-3	9-22	11:40			Y	7	GW	H_2SO_4/HCl/HNO_3			X	X		X				X			X		X	X				
B	MW-2	9-22	12:30			↓	↓	↓	↓			X	X		X				X			X		X	X				
C	MW-1	9-22	1:15									X	X		X				X			X		X	X				
D	TB						1					X	X		X				X			X		X	X				

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

Lab to send copy of results to METCO/Jason P (invoice)

U&C rates apply * Agent Status

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

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Jacob Zahn	9:00am	9-24-11			

Received in Laboratory By: [signature] Time: 8:00 Date: 9/25/11

Synergy Environmental Lab,

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

ROB CHAPMAN
ROB CHAPMAN
W344 S945 JERICHO DRIVE
EAGLE, WI 53119

Report Date *29-Dec-14*

Project Name CHAPMAN OIL **Invoice #** E28264
Project #

Lab Code 5028264A
Sample ID MW-3
Sample Matrix Water
Sample Date 12/16/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	< 0.7	ug/L	0.7	2.5	1	7421		12/23/2014	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.018	ug/l	0.018	0.056	1	M8270D	12/23/2014	12/25/2014	MDK	1
Acenaphthylene	< 0.02	ug/l	0.02	0.063	1	M8270D	12/23/2014	12/25/2014	MDK	1
Anthracene	< 0.018	ug/l	0.018	0.057	1	M8270D	12/23/2014	12/25/2014	MDK	1
Benzo(a)anthracene	< 0.023	ug/l	0.023	0.073	1	M8270D	12/23/2014	12/25/2014	MDK	1
Benzo(a)pyrene	< 0.02	ug/l	0.02	0.063	1	M8270D	12/23/2014	12/25/2014	MDK	1
Benzo(b)fluoranthene	< 0.019	ug/l	0.019	0.06	1	M8270D	12/23/2014	12/25/2014	MDK	1
Benzo(g,h,i)perylene	< 0.024	ug/l	0.024	0.076	1	M8270D	12/23/2014	12/25/2014	MDK	1
Benzo(k)fluoranthene	< 0.027	ug/l	0.027	0.087	1	M8270D	12/23/2014	12/25/2014	MDK	1
Chrysene	< 0.018	ug/l	0.018	0.058	1	M8270D	12/23/2014	12/25/2014	MDK	1
Dibenzo(a,h)anthracene	< 0.028	ug/l	0.028	0.092	1	M8270D	12/23/2014	12/25/2014	MDK	1
Fluoranthene	< 0.022	ug/l	0.022	0.069	1	M8270D	12/23/2014	12/25/2014	MDK	1
Fluorene	< 0.022	ug/l	0.022	0.069	1	M8270D	12/23/2014	12/25/2014	MDK	1
Indeno(1,2,3-cd)pyrene	< 0.027	ug/l	0.027	0.086	1	M8270D	12/23/2014	12/25/2014	MDK	1
1-Methyl naphthalene	< 0.021	ug/l	0.021	0.065	1	M8270D	12/23/2014	12/25/2014	MDK	1
2-Methyl naphthalene	< 0.024	ug/l	0.024	0.076	1	M8270D	12/23/2014	12/25/2014	MDK	1
Naphthalene	< 0.023	ug/l	0.023	0.073	1	M8270D	12/23/2014	12/25/2014	MDK	1
Phenanthrene	< 0.018	ug/l	0.018	0.057	1	M8270D	12/23/2014	12/25/2014	MDK	1
Pyrene	< 0.022	ug/l	0.022	0.071	1	M8270D	12/23/2014	12/25/2014	MDK	1
PVOC										
Benzene	< 0.27	ug/l	0.27	0.85	1	GRO95/8021		12/20/2014	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		12/20/2014	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		12/20/2014	CJR	1
Toluene	< 0.8	ug/l	0.8	2.6	1	GRO95/8021		12/20/2014	CJR	1
1,2,4-Trimethylbenzene	< 0.83	ug/l	0.83	2.6	1	GRO95/8021		12/20/2014	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		12/20/2014	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		12/20/2014	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		12/20/2014	CJR	1

Project Name CHAPMAN OIL **Invoice #** E28264
Project #

Lab Code 5028264B
Sample ID MW-2
Sample Matrix Water
Sample Date 12/16/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	< 0.7	ug/L	0.7	2.5	1	7421		12/23/2014	CWT	1
Organic										
PVOC										
Benzene	< 0.27	ug/l	0.27	0.85	1	GRO95/8021		12/20/2014	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		12/20/2014	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		12/20/2014	CJR	1
Toluene	< 0.8	ug/l	0.8	2.6	1	GRO95/8021		12/20/2014	CJR	1
1,2,4-Trimethylbenzene	< 0.83	ug/l	0.83	2.6	1	GRO95/8021		12/20/2014	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		12/20/2014	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		12/20/2014	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		12/20/2014	CJR	1

Lab Code 5028264C
Sample ID MW-1
Sample Matrix Water
Sample Date 12/16/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Lead, Dissolved	1.1 "J"	ug/L	0.7	2.5	1	7421		12/23/2014	CWT	1
Organic										
PVOC										
Benzene	< 0.27	ug/l	0.27	0.85	1	GRO95/8021		12/20/2014	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		12/20/2014	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		12/20/2014	CJR	1
Toluene	< 0.8	ug/l	0.8	2.6	1	GRO95/8021		12/20/2014	CJR	1
1,2,4-Trimethylbenzene	< 0.83	ug/l	0.83	2.6	1	GRO95/8021		12/20/2014	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		12/20/2014	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		12/20/2014	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		12/20/2014	CJR	1

Lab Code 5028264D
Sample ID TB
Sample Matrix Water
Sample Date 12/16/2014

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC										
Benzene	< 0.27	ug/l	0.27	0.85	1	GRO95/8021		12/20/2014	CJR	1
Ethylbenzene	< 0.82	ug/l	0.82	2.6	1	GRO95/8021		12/20/2014	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.37	ug/l	0.37	1.2	1	GRO95/8021		12/20/2014	CJR	1
Toluene	< 0.8	ug/l	0.8	2.6	1	GRO95/8021		12/20/2014	CJR	1
1,2,4-Trimethylbenzene	< 0.83	ug/l	0.83	2.6	1	GRO95/8021		12/20/2014	CJR	1
1,3,5-Trimethylbenzene	< 0.86	ug/l	0.86	2.7	1	GRO95/8021		12/20/2014	CJR	1
m&p-Xylene	< 1.6	ug/l	1.6	5.2	1	GRO95/8021		12/20/2014	CJR	1
o-Xylene	< 0.81	ug/l	0.81	2.6	1	GRO95/8021		12/20/2014	CJR	1

Project Name CHAPMAN OIL **Invoice #** E28264
Project #

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

Code	*Comment*
1	Laboratory QC within limits.

CWT denotes sub contract lab - Certification #445126660

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.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # No 316

Page 1 of 1

Sample Handling Request

____ Rush Analysis Date Required ____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #

Account No. :

Quote No.:

Project #:

Sampler: (signature) Jacob Zahn

Project (Name / Location): Chapman Oil

Reports To: Rob Chapman

Company

Address W344 S9450 Jericho Dr.

City State Zip Eagle, WI, 53119

Phone

FAX

Invoice To: Rob Chapman c/o METCO

Company METCO

Address 709 Gillette St Ste. 3

City State Zip La Crosse, WI, 54603

Phone

FAX

Analysis Requested / **Other Analysis**

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD (dissolved)	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	PID/FID
5028264 A	MW-3	12/16	10:40				5	GW				X			X		X							
B	MW-2	↓	11:20				↓	↓				X			X		X							
C	MW-1		12:00									X			X		X							
D	TB																X							

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

- Please send copy of results/invoice to METCO/Jason P
- U&C rates apply
- Agent Status site

MW-1 & MW-2 PAH vials rec'd broke -CR 12-19-14

Sample Integrity - To be completed by receiving lab.

Method of Shipment: [signature]

Temp. of Temp. Blank ____ °C On Ice: ✓

Cooler seal intact upon receipt: ✓ Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Jacob Zahn	8:00am	12/18/14			

Received in Laboratory By: [signature] Time: 8:00 Date: 12/19/14

APPENDIX C/ WELL AND BOREHOLE DOCUMENTATION

State of Wisconsin
Department of Natural Resources

GROUNDWATER MONITORING WELL INFORMATION FORM

Chapter 281 and 289, Wis. Stats.
Form 4400-89

Rev. 7-98

Facility Name	Facility ID Number	License, Permit or Monitoring No.	Date	Completed By (Name and Firm)
Chapman Oil Bulk Plant			2/5/2015	Jacob Zahn/METCO

WI Unique Well No.	Well Name	DNR Well ID Number	Well Location	Dir. N/E	Dir. S/W	Date Established	Well Casing Diam.	Well Casing Type	Elevations Top of Well Casing	Elevations Ground Surface	Reference MSL (√)	Reference Site Datum (√)	Depths Screen Top	Depths Initial Groundwater	Depths Well Depth	Screen Length	Well Type	Well Status	Enf. Stds.	Grad-ient	Distance to Waste
			113418.71	X																	
VO546	MW-1		618563.23	X			2	P	944.5	944.9	X		25	29.07	35	10	11/mw	A	X	D	
			113461.92	X																	
VO547	MW-2		618557.34	X			2	P	947.73	944.9	X		25	32.47	35	10	11/mw	A	X	D	
			113449.68	X																	
VO548	MW-3		618610.59	X			2	P	946.14	943	X		27	30.85	37	10	11/mw	A	X	D	

Location Coordinates Are:
☐ State Plane Coordinate ☐ Northern ☐ Central ☐ Southern
☒ Local Grid System

Grid Origin Location: (Check if estimated: ☐)

Lat. 43 ° 13 ' 24.74 " Long. 90 ° 17 ' 30.72 " or

St. Plane _____ ft. N. _____ ft. E. S/C/N Zone

Remarks:

Completion of this form is mandatory under s. NR 507.14 and NR 110.25 Wis. Adm. Code. Failure to file this form may result in forfeiture of not less than $10 nor more than $5,000 for each day of violation. Personally identifiable information provided is intended to be used by the Department for the purposes related to the waste management program.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Chapman Oil Bulk Plant	Local Grid Location of Well: ____ ft. ☐N ☐S, ____ ft. ☐E ☐W	Well Name: MW-1
Facility License, Permit or Monitoring No	Local Grid Origin ☐ (estimated ☐) or Well Location ☐ Lat: 42° 52' 50" Long: 88° 28' 22" or	Wis. Unique Well No.: VO546 DNR Well ID No.:
Facility ID	St. Plane ____ ft. N. ____ ft. E. S/C/N	Date Well Installed: 8, 13, 2014 (m m d d y y y y)
Type of Well: Well Code 11/MW	Section Location of Waste/Source: SW 1/4 of NE 1/4 of Sec. 22, T. 5 N, R. 7 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Darrin Prentice, Geiss Soil & Samples LLC
Distance from Waste/Source ____ ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number:

A. Protective pipe, top elevation ____ ft. MSL
B. Well casing, top elevation ____ ft. MSL
C. Land surface elevation ____ ft. MSL
D. Surface seal, bottom ____ ft. MSL or 0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☐ No

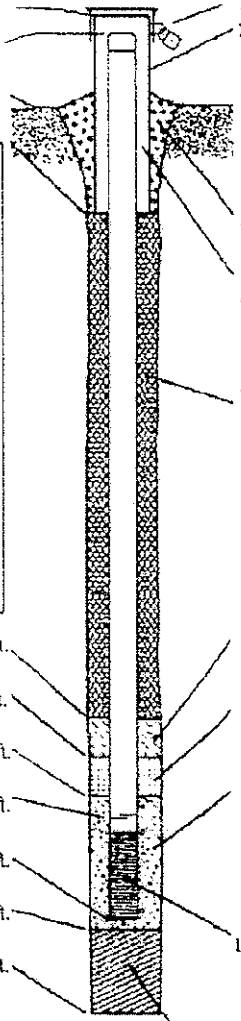
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ __

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top ____ ft. MSL or 0 ft.
F. Fine sand, top ____ ft. MSL or 21 ft.
G. Filter pack, top ____ ft. MSL or 23 ft.
H. Screen joint, top ____ ft. MSL or 25 ft.
I. Well bottom ____ ft. MSL or 35 ft.
J. Filter pack, bottom ____ ft. MSL or 36 ft.
K. Borehole, bottom ____ ft. MSL or 36 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.40 in.
N. I.D. well casing 2.06 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04 Other ☐ __
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐ __
4. Material between well casing and protective pipe: Bentonite ☒ 30 Other ☐ __
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. ____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. ____ ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐ __
7. Fine sand material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added ____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #40 Red Flint
b. Volume added ____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ __
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ __
b. Manufacturer Monotex
c. Slot size: 0.010 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☒ __
_____

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

Signature	Firm
Darrin Prentice	Geiss Soil & Samples LLC

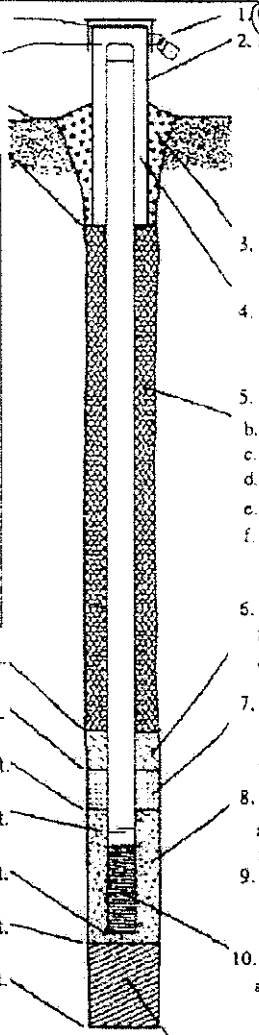
Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev 7-98

Facility/Project Name: Chapman Oil Bulk Plant	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: MW-2
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated ☐) or Well Location ☐ Lat: 42° 52' 50" Long: 88° 28' 22" or	Wis. Unique Well No.: VO547 / DNR Well ID No.:
Facility ID	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed: 08, 13, 2019 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SW 1/4 of NE 1/4 of Sec. 22 T. 5 N. R. 7 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Darrin Prentice / Geiss Soil & Samples LLC
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: _____



A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☐ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 43
Other ☐ __
_____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or 1 ft.
F. Fine sand, top _____ ft. MSL or 21 ft.
G. Filter pack, top _____ ft. MSL or 23 ft.
H. Screen joint, top _____ ft. MSL or 25 ft.
I. Well bottom _____ ft. MSL or 35 ft.
J. Filter pack, bottom _____ ft. MSL or 36 ft.
K. Borehole, bottom _____ ft. MSL or 36 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.40 in.
N. I.D. well casing 2.06 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04
_____ Other ☐ __
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30
Concrete ☒ 01
_____ Other ☐ __
4. Material between well casing and protective pipe:
Bentonite ☒ 30
_____ Other ☐ __
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐ __
7. Fine sand material: Manufacturer, product name & mesh size
a. #15 Red Flint
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #40 Red Flint
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
_____ Other ☐ __
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
_____ Other ☐ __
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14
_____ Other ☒ __

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

Signature: Darrin Prentice | Firm: Geiss Soil & Samples LLC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Chapman Oil Bulk Plant	Local Grid Location of Well: _____ ft. ☐N ☐S _____ ft. ☐E ☐W	Well Name: MW-3
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. 42° 52' 50" Long. 88° 28' 22" or	Wis. Unique Well No.: VO548 / DNR Well ID No.:
Facility ID	St. Plane _____ ft. N. _____ ft. E. S/C/N	Date Well Installed: 08, 13, 2014 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SW 1/4 of NE 1/4 of Sec. 22 T. 5 N, R. 7 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Darrin Prentice, Geiss Soil & Samples LLC
Distance from Waste/Source _____ ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known / Gov. Lot Number	

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☐ No

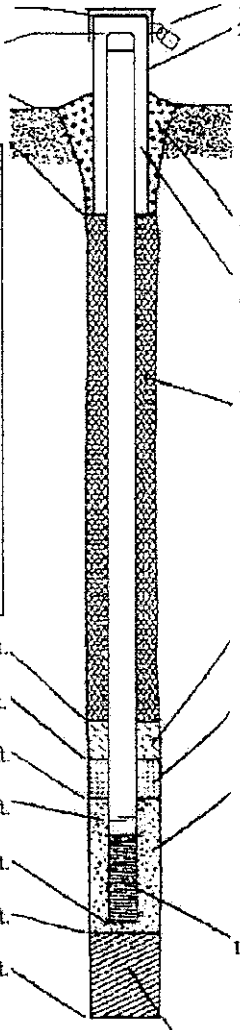
14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐ __

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
_____

E. Bentonite seal, top _____ ft. MSL or 0 ft.
F. Fine sand, top _____ ft. MSL or 23 ft.
G. Filter pack, top _____ ft. MSL or 25 ft.
H. Screen joint, top _____ ft. MSL or 27 ft.
I. Well bottom _____ ft. MSL or 37 ft.
J. Filter pack, bottom _____ ft. MSL or 38 ft.
K. Borehole, bottom _____ ft. MSL or 38 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.40 in.
N. I.D. well casing 2.08 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04 / Other ☐ ___
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ ___
4. Material between well casing and protective pipe: Bentonite ☒ 30 / Other ☐ ___
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐ ___
7. Fine sand material: Manufacturer, product name & mesh size
a. #1.5 Red Flint
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. #40 Red Flint
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ ___
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ ___
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 / Other ☒ ___

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

Signature: Darrin Prentice | Firm: Geiss Soil & Samples LLC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a 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 these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

Facility/Project Name	County Name	Well Name
Chapman Oil Bulk Plant	WAUKESHA	MW-1

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	68	VO546	

1. Can this well be purged dry? ☐ Yes X No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	[X] 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 45 min.

4. Depth of well (from top of well casisng) 35 ft.

5. Inside diameter of well 2 in.

6. Volume of water in filter pack and well casing 6.5 gal.

7. Volume of water removed from well 60 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☐ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 29.07 ft.	29.11 ft.
Date	b. 08 / 13 / 2014 (m m d d y y y y)	8/ /13/ /2014 (m m d d y y y y)
Time	c. 03 : 00 ☐ a.m. X p.m.	03 : 45 ☐ a.m. [X] p.m.
12. Sediment in well bottom	___ inches	___ inches
13. Water clarity	Clear ☐ 10 Turbid [X] 15 (Describe) Tan	Clear [X] 20 Turbid ☐ 25 (Describe) Clear
	High Turbidity	Low Turbidity

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____ mg/l	____ mg/l
15. COD	____ mg/l	____ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Eric Last Name: Dahl
Firm: METCO

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Rob Last Name: Chapman
Facility/Firm: _____
Street: W344 S9450 Jericho Drive
City/State/Zip: Eagle WI 53119-

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: [signature]
Print Name: Eric Dahl
Firm: METCO

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

Facility/Project Name	County Name	Well Name
Chapman Oil Bulk Plant	WAUKESHA	MW-2

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	68	VO547	

1. Can this well be purged dry? ☐ Yes X No

2. Well development method

surged with bailer and bailed	☐	41
surged with bailer and pumped	X	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	

3. Time spent developing well 75 min.

4. Depth of well (from top of well casisng) 35 ft.

5. Inside diameter of well 2 in.

6. Volume of water in filter pack and well casing 6.1 gal.

7. Volume of water removed from well 65 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☐ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 32.47 ft.	32.62 ft.
Date	b. 08 / 13 / 2014 (m m d d y y y y)	8/ /13/ 2014 (m m d d y y y y)
Time	c. 10 : 20 X a.m. ☐ p.m.	11 : 35 X a.m. ☐ p.m.
12. Sediment in well bottom	___ inches	___ inches
13. Water clarity	Clear ☐ 10 Turbid X 15 (Describe) Tan	Clear X 20 Turbid ☐ 25 (Describe) Clear
	High Turbidity	Low Turbidity

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	___ mg/l	___ mg/l
15. COD	___ mg/l	___ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Eric Last Name: Dahl
Firm: METCO

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Rob Last Name: Chapman
Facility/Firm: _____
Street: W344 S9450 Jericho Drive
City/State/Zip: Eagle WI 53119-

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: [signature]
Print Name: Eric Dahl
Firm: METCO

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment [X] Other ☐ _____

Facility/Project Name	County Name	Well Name
Chapman Oil Bulk Plant	WAUKESHA	MW-3

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	68	VO548	

1. Can this well be purged dry? ☐ Yes X No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	[X] 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 95 min.

4. Depth of well (from top of well casisng) 37 ft.

5. Inside diameter of well 2 in.

6. Volume of water in filter pack and well casing 11 gal.

7. Volume of water removed from well 100 gal.

8. Volume of water added (if any) gal.

9. Source of water added _____

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☐ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 30.85 ft.	30.85 ft.
Date	b. 08 / 13 / 2014 (m m d d y y y y)	8/ /13/ /2014 (m m d d y y y y)
Time	c. 08 : 00 [X] a.m. ☐ p.m.	09 : 35 [X] a.m. ☐ p.m.
12. Sediment in well bottom	inches	inches
13. Water clarity	Clear ☐ 10 Turbid [X] 15 (Describe) Tan	Clear [X] 20 Turbid ☐ 25 (Describe) Clear
	High Turbidity	Low Turbidity
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Eric Last Name: Dahl
Firm: METCO

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Rob Last Name: Chapman
Facility/Firm: _____
Street: W344 S9450 Jericho Drive
City/State/Zip: Eagle WI 53119-

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Eric Dahl
Firm: METCO

NOTE: See instructions for more information including a list of county codes and well type codes.

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
Chapman Oil Bulk Plant		G-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	08/12/2013	08/12/2013	Geoprobe
Firm: Geiss Soil & Samples, LLC	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
	Waukesha	68	Eagle

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
G-1-1 (0-4 Feet)	48 6		3	Brown silty sand	SP/SM			0		Dry				No Petro Odor
G-1-2 (4-8 Feet)	48 30		6	Tan fine to coarse grained sand w/gravel	SP			0		Dry				No Petro Odor
G-1-3 (8-12 Feet)	48 36		9 12	Tan fine to coarse grained sand w' gravel	SP			0		Dry				No Petro Odor
G-1-4 (12-16 Feet)	48 48		15	Tan fine to coarse grained sand w/ gravel	SP			0		Dry				Slight Petro Odor From 15-16 Feet
G-1-5 (16-20 Feet)	48 48		18 21	Tan fine to coarse grained sand w/ gravel	SP			0		Dry				Slight Petro Odor From16-19 Feet
G-1-6 20-24 Feet)	48 48		24	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-1-7 24-28 Feet)	48 48		27 30	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-1-8 ,30-32 Feet)	48 48		33	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Moist/ Wet				No Petro Odor
			36	EOB @ 32 Feet. Groundwater Sample G-1-W Collected. Borehole Abandoned.										

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
Chapman Oil Bulk Plant		G-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	08/12/2013	08/12/2013	Geoprobe
Firm: Geiss Soil & Samples, LLC	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No. DNR Well ID No. Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
G-2-1 (0-4 Feet)	48 30		3	Brown to tan fine to coarse grained sand w/ gravel	SP			0		Dry				No Petro Odor
G-2-2 (4-8 Feet)	48 30		6	Tan fine to coarse grained sand w/gravel	SP			0		Dry				No Petro Odor
G-2-3 (8-12 Feet)	48 30		9 12	Tan fine to coarse grained sand w' gravel	SP			0		Dry				No Petro Odor
G-2-4 (12-16 Feet)	48 48		15	Tan fine to coarse grained sand w/ gravel	SP			0		Dry				No Petro Odor
G-2-5 (16-20 Feet)	48 30		18 21	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-2-6 (20-24 Feet)	48 48		24	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
			27 30	Blind drill from 24-32 due to the risk of loosing sampling equipment because of the gravely/cobbley soils										
			33 36	EOB @ 32 Feet. Groundwater Sample G-2-W Collected. 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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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
Chapman Oil Bulk Plant		G-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice Firm: Geiss Soil & Samples, LLC	08/12/2013 MM/ DD/ YYYY	08/12/2013 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No. Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
	Waukesha	68	Eagle

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
G-3-1 (0-4 Feet)	48 18		3	Brown to gray fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				Slight Petro Odor
G-3-2 (4-8 Feet)	48 36		6	Tan fine to coarse grained sand w/gravel and cobbles	SP			0		Dry				No Petro Odor
G-3-3 (8-12 Feet)	48 42		9 12	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-3-4 (12-16 Feet)	48 48		15	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Moist				No Petro Odor
G-3-5 (16-20 Feet)	48 48		18 21	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-3-6 (20-24 Feet)	48 48		24	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-3-7 (24-28 Feet)	48 48		27	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
			30	Blind drill from 28-32 due to the risk of loosing sampling equipment because of the gravely/cobbley soils										
			33 36	EOB @ 32 Feet. Groundwater Sample G-3-W Collected. 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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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
Chapman Oil Bulk Plant		G-4

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	08/12/2013	08/12/2013	Geoprobe
Firm: Geiss Soil & Samples, LLC	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
G-4-1 (0-4 Feet)	48 30		3	Brown silty sand w/ gravel	SP/SM			0		Moist				No Petro Odor
G-4-2 (4-8 Feet)	48 24		6	Tan fine to coarse grained sand w/gravel	SP			0		Dry				No Petro Odor
G-4-3 (8-12 Feet)	48 36		9 12	Tan fine to coarse grained sand w/ gravel	SP			0		Dry				No Petro Odor
G-4-4 (12-16 Feet)	48 42		15	Tan fine to coarse grained sand w/ gravel	SP			0		Dry				No Petro Odor
G-4-5 (16-20 Feet)	48 24		18 21	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-4-6 (20-24 Feet)	48 48		24	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-4-7 (24-28 Feet)	48 48		27 30	Tan fine to coarse grained sand w/ gravel and cobbles Blind drill from 28-31 due to the risk of loosing sampling equipment because of the gravely/cobbley soils	SP			0		Moist/ Wet				No Petro Odor
			33 36	EOB @ 31 Feet. Groundwater Sample G-4-W Collected. 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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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
Chapman Oil Bulk Plant		G-5

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	08/13/2013	08/13/2013	Geoprobe
Firm: Geiss Soil & Samples, LLC	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No. DNR Well ID No. Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
G-5-1 (0-4 Feet)	48 18		3	Brown silty sand w/ gravel	SP/SM			0		Dry				No Petro Odor
G-5-2 (4-8 Feet)	48 36		6	Tan fine to coarse grained sand w/gravel and cobbles	SP			0		Dry				No Petro Odor
G-5-3 (8-12 Feet)	48 36		9 12	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-5-4 (12-16 Feet)	48 42		15	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-5-5 (16-20 Feet)	48 48		18 21	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-5-6 (20-24 Feet)	48 48		24	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-5-7 (24-28 Feet)	48 48		27	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Moist/ Wet				No Petro Odor
			30	Blind drill from 28-31 due to the risk of loosing sampling equipment because of the gravely/cobbley soils										
			33 36	EOB @ 31 Feet. Groundwater Sample G-5-W Collected. 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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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
Chapman Oil Bulk Plant		G-6

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice Firm: Geiss Soil & Samples, LLC	08/13/2013 MM/ DD/ YYYY	08/13/2013 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
	Waukesha	68	Eagle

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-6-1 (0-4 Feet)	48 12		3	Brown silty sand w/ gravel	SP/SM			0		Dry				No Petro Odor
G-6-2 (4-8 Feet)	48 24		6	Tan fine to coarse grained sand w/gravel and cobbles	SP			0		Dry				No Petro Odor
G-6-3 (8-12 Feet)	48 24		9 12	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-6-4 (12-16 Feet)	48 36		15	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-6-5 (16-20 Feet)	48 48		18	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
			21 24 27 30 33 36	EOB @ 20 Feet. Borehole Abandoned.										

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Signature: Firm: METCO

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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
Chapman Oil Bulk Plant		G-7

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	08/13/2013	08/13/2013	Geoprobe
Firm: Geiss Soil & Samples, LLC	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No. DNR Well ID No. Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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: U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
G-7-1 (0-4 Feet)	48 24		3	Brown silty sand w/ gravel	SP/SM			0		Dry				No Petro Odor
G-7-2 (4-8 Feet)	48 24		6	Tan fine to coarse grained sand w/gravel and cobbles	SP			0		Dry				No Petro Odor
G-7-3 (8-12 Feet)	48 30		9 12	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-7-4 (12-16 Feet)	48 42		15	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-7-5 (16-20 Feet)	48 48		18	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
			21	EOB @ 20 Feet. Borehole Abandoned.										
			24 27 30 33 36											

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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
Chapman Oil Bulk Plant		G-8

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	08/13/2013	08/13/2013	Geoprobe
Firm: Geiss Soil & Samples, LLC	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No. DNR Well ID No. Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
	Waukesha	68	Eagle

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: U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
G-8-1 (0-4 Feet)	48 24		3	Brown silty sand w/ gravel	SP/SM			0		Dry				No Petro Odor
G-8-2 (4-8 Feet)	48 24		6	Tan fine to coarse grained sand w/gravel and cobbles	SP			0		Dry				No Petro Odor
G-8-3 (8-12 Feet)	48 42		9 12	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-8-4 (12-16 Feet)	48 48		15	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-8-5 (16-20 Feet)	48 48		18	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
			21 24 27 30 33 36	EOB @ 20 Feet. Borehole Abandoned.										

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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
Chapman Oil Bulk Plant		G-9

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	08/13/2013	08/13/2013	Geoprobe
Firm: Geiss Soil & Samples, LLC	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No. DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
G-9-1 (0-4 Feet)	48 30		3	Orange very fine to fine grained sand	SW			0		Moist				No Petro Odor
G-9-2 (4-8 Feet)	48 30		6	Orange very fine to fine grained sand	SW			0		Moist				No Petro Odor
			9	Orange very fine to fine grained sand (8-10 feet)	SW									
G-9-3 (8-12 Feet)	48 36		12	Tan fine to coarse grained sand w/ gravel and cobbles (10-12 feet)	SP			0		Moist/ Dry				No Petro Odor
G-9-4 (12-16 Feet)	48 42		15	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-9-5 (16-20 Feet)	48 48		18	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry/ Moist				No Petro Odor
			21	EOB @ 20 Feet. Borehole Abandoned.										
			24											
			27											
			30											
			33											
			36											

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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
Chapman Oil Bulk Plant		G-10

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	08/13/2013	08/13/2013	Geoprobe
Firm: Geiss Soil & Samples, LLC	MM/ DD/ YYYY	MM /DD/ YYYY	

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			920 Feet MSL	950 Feet MSL	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
	Waukesha	68	Eagle

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
G-10-1 (0-4 Feet)	48 12		3	Brown fine to medium grained sand	SP			0		Dry				No Petro Odor
G-10-2 (4-8 Feet)	48 24		6	Tan fine to coarse grained sand w/gravel and cobbles	SP			0		Dry				No Petro Odor
G-10-3 (8-12 Feet)	48 36		9 12	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-10-4 (12-16 Feet)	48 48		15	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
G-10-5 (16-20 Feet)	48 48		18	Tan fine to coarse grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
			21	EOB @ 20 Feet. Borehole Abandoned.										
			24 27 30 33 36											

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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
Chapman Oil Bulk Plant		B-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice Firm: Geiss Soil & Samples, LLC	08/13/2014 MM/ DD/ YYYY	08/13/2014 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		Feet MSL	950 Feet MSL	2 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
	Waukesha	68	Eagle

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
B-1-1 0-4 ft	48 30		4	Brown f-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
B-1-2 4-8 ft	48 36		8	Tan f-c grained sand w/ gravel and cobbles	SP			7.5		Dry				Very Slight Petro Odor
B-1-3 8-12 ft	48 36		12	Tan f-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
B-1-4 12-16 ft	48 0		16	No Recovery										
			20	EOB @ 16 Feet. Geoprobe Refusal. Borehole Abandoned.										
			24											
			28											
			32											
			36											
			40											
			44											
			48											

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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
Chapman Oil Bulk Plant		B-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice Firm: Geiss Soil & Samples, LLC	08/12/2014 MM/ DD/ YYYY	08/12/2014 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No. Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	950 Feet MSL	2 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
	Waukesha	68	Eagle

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
B-3-1 0-4 ft	48 24		4	Brown vf-m grained sand	SP			0		Moist				No Petro Odor
B-3-2 4-8 ft	48 30		8	Orange vf-m grained sand	SP			0		Moist				No Petro Odor
B-3-3 8-12 ft	48 24		12	Tan vf-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
B-3-4 12-16 ft	48 24		16	Tan vf-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
B-3-5 16-18 ft	48 0		20	No Recovery										
			24	EOB @ 18 Feet. Geoprobe Refusal. Borehole Abandoned.										
			28											
			32											
			36											
			40											
			44											
			48											

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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
Chapman Oil Bulk Plant		HA-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Eric Last: Dahl Firm: METCO	08/12/2014 MM/ DD/ YYYY	08/12/2014 MM /DD/ YYYY	Hand Auger

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	950 Feet MSL	6 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
HA-1 1.5 ft			1	Tan f-c grained sand w/ gravel	SP			0		Dry				No Petro Odor
				EOB @ 1.5 Feet										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											

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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
Chapman Oil Bulk Plant		HA-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Eric Last: Dahl Firm: METCO	08/12/2014 MM/ DD/ YYYY	08/12/2014 MM /DD/ YYYY	Hand Auger

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	950 Feet MSL	6 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
HA-2 1.5 ft			1	Tan f-c grained sand w/ gravel	SP			0		Dry				No Petro Odor
				EOB @ 1.5 Feet.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											

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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
Chapman Oil Bulk Plant		HA-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Eric Last: Dahl Firm: METCO	08/12/2014 MM/ DD/ YYYY	08/12/2014 MM /DD/ YYYY	Hand Auger

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	950 Feet MSL	6 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
HA-3 1.5 ft			1	Tan f-c grained sand w/ gravel	SP			0		Dry				No Petro Odor
				EOB @ 1.5 Feet.										
			2											
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											

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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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
Chapman Oil Bulk Plant		HA-4

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Eric Last: Dahl Firm: METCO	08/12/2014 MM/ DD/ YYYY	08/12/2014 MM /DD/ YYYY	Hand Auger

Wi Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	950 Feet MSL	6 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
HA-4 1.5 ft			1	Brown vf-m grained sand	SP			0		Dry				No Petro Odor
			2	EOB @ 1.5 Feet										
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											

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
Chapman Oil Bulk Plant		HA-5

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Eric Last: Dahl Firm: METCO	08/12/2014 MM/ DD/ YYYY	08/12/2014 MM /DD/ YYYY	Hand Auger

WI Unique Well No. DNR Well ID No. Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	Feet MSL	950 Feet MSL	6 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
HA-5 1.5 ft			1	Brown vf-m grained sand	SP			0		Dry				No Petro Odor
			2	EOB @ 1.5 Feet.										
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											

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
Chapman Oil Bulk Plant		MW-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice Firm: Geiss Soil & Samples, LLC	08/13/2014 MM/ DD/ YYYY	08/13/2014 MM /DD/ YYYY	Geoprobe/HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
VO546		MW-1	920 Feet MSL	950 Feet MSL	8.25 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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: U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
MW-1-1 0-4 ft	48 30		4	Brown f-c grained sand w/ gravel and cobbles	SP		See Well Construction Form	0		Dry				No Petro Odor
MW-1-2 4-8 ft	48 30		8	Tan f-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
MW-1-3 8-12 ft	48 24		12	Tan f-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
MW-1-4 12-16 ft	48 2		16	Tan f-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
			20	Geoprobe refusal @16 feet.										
			24											
			28											
			32											
			36	EOB @ 36 Feet. Installed MW-1 to 35 feet.										
			40											
			44											
			48											

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
Chapman Oil Bulk Plant		MW-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice Firm: Geiss Soil & Samples, LLC	08/13/2014 MM/ DD/ YYYY	08/13/2014 MM /DD/ YYYY	Geoprobe/HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
VO547		MW-2	920 Feet MSL	950 Feet MSL	8.25 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / **Village**
	Waukesha	68	Eagle

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
MW-2-1 0-4 ft	48 18		4	Tan f-c grained sand w/ gravel and cobbles	SP		See Well Construction Form	0		Dry				No Petro Odor
MW-2-2 4-8 ft	48 18		8	Tan f-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
MW-2-3 8-12 ft	48 12		12	Tan f-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
MW-2-4 12-16 ft	48 0		16	No Recovery										
MW-2-5 16-20 ft	48 6		20	Tan f-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
MW-2-6 20-24 ft	48 0		24	No Recovery										
			28	Geoprobe refusal @24 feet										
			32											
			36	EOB @ 36 Feet. Installed MW-2 to 35 feet.										
			40											
			44											
			48											

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
Chapman Oil Bulk Plant		MW-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice Firm: Geiss Soil & Samples, LLC	08/12/2014 MM/ DD/ YYYY	08/12/2014 MM /DD/ YYYY	Geoprobe/HSA

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
VO548		MW-3	920 Feet MSL	950 Feet MSL	8.25 inches

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 42 ° 52 ' 50 "	N E
SW ¼ of NE ¼ of Section 22, T 5 N, R 7 E	Long 88 ° 28 ' 22 "	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
	Waukesha	68	Eagle

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	USCS	Graphic Log	Well Diagram	Soil Properties: PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
MW-3-1 0-4 ft	48 30		4	Brown vf-m grained sand	SP		See Well Construction Form	0		Moist				No Petro Odor
MW-3-2 4-8 ft	48 36		8	Orange vf-m grained sand	SP			0		Moist				No Petro Odor
MW-3-3 8-12 ft	48 30		12	Tan vf-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
MW-3-4 12-16 ft	48 30		16	Tan vf-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
MW-3-5 16-20 ft	48 30		20	Tan vf-c grained sand w/ gravel and cobbles (16-18ft) White dolomite boulder (18-20 ft)	SP			0		Dry				No Petro Odor
MW-3-6 20-24 ft	48 24		24	Tan vf-c grained sand w/ gravel and cobbles	SP			0		Dry				No Petro Odor
MW-3-7 24-28 ft	48 24		28	No Recovery										
MW-3-8 28-32 ft	48 0		32	Gray sandy silt/clay w/ gravel	ML/CL			0		Wet				No Petro Odor
MW-3-9 32-36 ft)	48 48		36	Gray sandy silt/clay w/ gravel (32-34 ft) Tan vf-c grained sand w/ gravel	ML/CL SP			0		Wet				No Petro Odor
			40	EOB @ 38 Feet. Installed MW-3 to 37 feet.										
			44											
			48											

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

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000

Notice: Please complete Form 3300-5 and return it to the appropiate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a 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 the instructions for more information.

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-1 Gov't Lot (If applicable)

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. ☐ S ☐ C ☐ N Zone

Reason For Abandonment: Sampling Complete

WI Unique Well No. of Replacement Well: _ _ _ _ _ _

(2) FACILITY/ OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/12/2013

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 32 (From groundsurface)
Casing Diameter (in.) _____
Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) 30

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole

Material	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	32	48	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/12/2013

Signature of Person Doing Work: E Dahl | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608)781-8879

City, State, Zip Code: La Crosse WI 54603-

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000 Page 1 of 2

Notice: Please complete Form 3300-5 and return it to the appropiate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a 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 the instructions for more information.

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-2 | Gov't Lot (If applicable):

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 , " Long 88 ° 28 ' 22 , " or

St. Plane _____ ft. N. _____ ft. E. ☐ S ☐ C ☐ N Zone

Reason For Abandonment: Sampling Complete

WI Unique Well No. of Replacement Well _ _ _ _ _ _ _

(2) FACILITY / OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/12/2013

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 32 (From groundsurface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) 30

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	32	48	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO

Date of Abandonment: 8/12/2013

Signature of Person Doing Work: [signature]

Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3

Telephone Number: (608)781-8879

City, State, Zip Code: La Crosse WI 54603-

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000

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Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-3 | Gov't Lot (If applicable): _____

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Sampling Complete | WI Unique Well No. of Replacement Well: _ _ _ _ _ _

(2) FACILITY/OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/12/2013

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 32 (From groundsurface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) 30

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole

Material	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	32	48	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/12/2013

Signature of Person Doing Work: [signature] | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608)781-8879

City, State, Zip Code: La Crosse WI 54603-

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000

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Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-4 | Gov't Lot (If applicable): _____

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. ☐ S ☐ C ☐ N Zone

Reason For Abandonment: Sampling Complete | WI Unique Well No. of Replacement Well: _ _ _ _ _ _

(2) FACILITY/OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/12/2013

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 31 (From groundsurface) | Casing Diameter (in.) _____ | Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) 30

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	31	47	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/12/2013

Signature of Person Doing Work | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608) 781-8879

City, State, Zip Code: La Crosse WI 54603-

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000

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Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-5 | Gov't Lot (If applicable):

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. ☐ S ☐ C ☐ N Zone

Reason For Abandonment: Sampling Complete

WI Unique Well No. of Replacement Well: _ _ _ _ _ _

(2) FACILITY / OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/13/13

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 31 (From groundsurface)

Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) 30

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	31	47	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/13/13

Signature of Person Doing Work | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608) 781-8879

City, State, Zip Code: La Crosse WI 54603-

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Date Received | Noted By

Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000

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Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-6 | Gov't Lot (If applicable):

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. ☐ S ☐ C ☐ N Zone

Reason For Abandonment: Sampling Complete

WI Unique Well No. of Replacement Well: _ _ _ _ _ _

(2) FACILITY / OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/13/13

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 20 (From groundsurface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole

Material	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	20	30	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/13/13

Signature of Person Doing Work | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608) 781-8879

City, State, Zip Code: La Crosse WI 54603-

FOR DNR OR COUNTY USE ONLY

Date Received: | Noted By:

Comments:

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000

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Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-7 | Gov't Lot (If applicable): _____

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Sampling Complete

WI Unique Well No. of Replacement Well: _ _ _ _ _ _

(2) FACILITY/OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/13/13

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 20 (From groundsurface) | Casing Diameter (in.) _____ | Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	20	30	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/13/13

Signature of Person Doing Work | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608)781-8879

City, State, Zip Code: La Crosse WI 54603-

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Comments

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000

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Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-8 Gov't Lot (If applicable)

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Sampling Complete

WI Unique Well No. of Replacement Well: _ _ _ _ _ _

(2) FACILITY / OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/13/13

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 20 (From groundsurface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole

Material	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	20	30	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/13/13

Signature of Person Doing Work: [signature] | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608)781-8879

City, State, Zip Code: La Crosse WI 54603-

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WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000 Page 1 of 2

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Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-9 | Gov't Lot (If applicable): _____

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. S ☐ C ☐ N ☐ Zone

Reason For Abandonment: Sampling Complete

WI Unique Well No. of Replacement Well: _ _ _ _ _ _ _ _

(2) FACILITY/ OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/13/13

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 20 (From groundsurface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole

Material	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	20	30	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/13/13

Signature of Person Doing Work | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608)781-8879

City, State, Zip Code: La Crosse WI 54603-

FOR DNR OR COUNTY USE ONLY

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Comments

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Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5 2/2000 Page 1 of 2

Notice: Please complete Form 3300-5 and return it to the appropiate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a 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 the instructions for more information.

Route to: ☐ Drinking Water ☐ Watershed/Wastewater ☐ Waste Management [X] Remediation/Redevelopment ☐ Other _____

(1) GENERAL INFORMATION

WI Unique Well No. _ _ _ _ _ | DNR Well ID No. | County: WAUKESHA

Common Well Name: G-10 | Gov't Lot (If applicable): _____

Grid Location: SW 1/4 of NE 1/4 of Sec. 22 ; T. 5 N; R. 7 [X] E ☐ W

_____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Local Grid Origin ☐ (estimated: ☐) or Well Location ☐

Lat. 42 ° 52 ' 50 . " Long 88 ° 28 ' 22 . " or

St. Plane _____ ft. N. _____ ft. E. ☐ S ☐ C ☐ N Zone

Reason For Abandonment: Sampling Complete

WI Unique Well No. of Replacement Well: _ _ _ _ _

(2) FACILITY/ OWNER INFORMATION

Facility Name: Chapman Oil Bulk Plant

Facility ID | License/Permit/Monitoring No.

Street Address of Well: 314 Wisconsin Street

City, Village, or Town: Eagle

Present Well Owner: Rob Chapman | Original Owner

Street Address or Route of Owner: W344 S9450 Jericho Drive

City, State, Zip Code: Eagle WI 53119-

(3) WELL/DRILLHOLE/BOREHOLE INFORMATION

Original Construction Date: 8/13/13

☐ Monitoring Well
☐ Water Well
[X] Borehole / Drillhole

If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 20 (From groundsurface) Casing Diameter (in.) _____

Casing Depth (ft.) _____

Lower Drillhole Diameter (in.) 2

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown

If Yes, To What Depth? _____ Feet

Depth to Water (Feet) _____

(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL

Pump & Piping Removed?	☐ Yes	☐ No	[X] Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	[X] Not Applicable
Screen Removed?	☐ Yes	☐ No	[X] Not Applicable
Casing Left in Place?	☐ Yes	☐ No	
Was Casing Cut Off Below Surface?	☐ Yes	☐ No	
Did Sealing Material Rise to Surface?	[X] Yes	☐ No	
Did Material Settle After 24 Hours?	☐ Yes	[X] No	
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Screened & Poured (Bentonite Chips) [X] Other (Explain) Gravity

Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Bentonite-Sand Slurry " "
[X] Bentonite Chips

For monitoring wells and monitoring well boreholes only
☐ Bentonite Chips
☐ Granular Bentonite
☐ Bentonite - Cement Grout
☐ Bentonite - Sand Slurry

(5) Material Used To Fill Well/Drillhole	From (Ft.)	To (Ft.)	Pounds	Mix Ratio or Mud Weight
Bentonite Chips	Surface	20	30	

(6) Comments: Abandoned by Geiss Soil & Samples, Inc. under supervision of METCO personnel

(7) Name of Person or Firm Doing Sealing Work: Eric Dahl/METCO | Date of Abandonment: 8/13/13

Signature of Person Doing Work: Eric Dahl | Date Signed: 9/13/13

Street or Route: 709 Gillette St, Ste 3 | Telephone Number: (608) 781-8879

City, State, Zip Code: La Crosse WI 54603-

FOR DNR OR COUNTY USE ONLY

Date Received | Noted By

Comments

APPENDIX D/ WASTE DISPOSAL DOCUMENTATION

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

INVOICE

12-30 2014

CUSTOMER: Rob Chapman % Metco
709 Gillette St
La Crosse WI 54603

JOB NAME: Chapman Oil Bulk Plant
314 Wisconsin St
Eagle WI

☐ CASH ☐ CHECK # _____ ☒ IN-HOUSE ACCOUNT

QUANTITY DATE	QUANTITY SHIPPED	DESCRIPTION	QTY.	UNIT PRICE	AMOUNT
	1	MOBILIZATION	1	274 —	274 —
	2	Haul soil drums to Advanced Disposal Eau Claire WI	2	103 —	206 —
		Thank You			
				TOTAL	480 —

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

SIGNATURE _____

113

Env. Waste Disposal
Reviewed 1/5/15
SK

APPENDIX E/ OTHER DOCUMENTATION

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	500 ml HDPE	4°C	48 hrs.
COD EPA 410.4	500 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	1000 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	1 Liter 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	40 ml 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	250 ml HDPE	4°C	7 days
Total Solids EPA 160.3	250 ml HDPE	4°C	7 days
Total Suspended Solids EPA 160.2	250 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	1 Liter amber glass, collect 2 for one of the samples submitted	4°C	7 days extr. 40 days following extr
PCB SW846 8082	1 Liter 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	(2) 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	(2) 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	(2) 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.

Residential setting: Not To Exceed D-C RCLs from web calculator at: *http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search* (Chicago as climatic zone.) Basis: ca

= cancer, nc = non cancer, Csat = soil saturation concentration, ceiling = 10%

--> --> If web calculator result or Csat exceeds 10% by weight (the ceiling limit concentration defined in RSL Users Guide), Not-to-Exceed D-C RCL defaults to 100,000 ppm

1. *Enter data in yellow cells.* Numeric only values under "INPUT Site Data." For ND use detection limit. *Do not type "<", "NA" nor "space bar."* Leave purple cells "as is."

2. *After completing data entry. See Summary in Row 832.*

Site Name:

Sample ID

Contaminant	CAS Number	Not-to-Exceed D-C RCL (mg/kg)	Csat (mg/kg)	Not-to-Exceed D-C RCL (mg/kg)	Basis	INPUT Site Data (mg/kg)	Comparison Hazard Index / Cumulative Cancer Risk: Exceedance Count	Hazard Index	Cumulative Cancer Risk
Benzene	71-43-2	111	1.49	1.49	ca				
Ethylbenzene	100-41-4	4220	7.47	7.47	ca				
Toluene	108-88-3	5300	-	616	Csat				
Xylenes	1330-20-7	890	-	258	Csat				
Methyl tert-Butyl Ether (MTBE)	1634-04-4	23600	59.4	59.4	ca				
Dichloroethane, 1,2-	107-06-2	46.7	0.61	0.61	ca				
Dibromoethane, 1,2-	106-93-4	107	0.05	0.05	ca				
Trichloroethylene	79-01-6	6.05	0.64	0.64	ca				
Tetrachloroethylene	127-18-4	115	30.7	30.7	ca				
Vinyl Chloride	75-01-4	93.3	0.07	0.07	ca				
Dichloroethylene, 1,1-	75-35-4	342	-	342	nc				
Dichloroethylene, 1,2-trans-	156-60-5	211	-	211	nc				
Dichloroethylene, 1,2-cis-	156-59-2	156	-	156	nc				
Trichloroethane, 1,1,1-	71-55-6	12300	-	640	Csat				
Carbon Tetrachloride	56-23-5	137	0.85	0.85	ca				
Trimethylbenzene, 1,2,4-	95-63-6	88.6	-	88.6	nc				
Trimethylbenzene, 1,3,5-	108-67-8	782	-	182	Csat				
Naphthalene	91-20-3	188	5.15	5.15	ca				
Benzo(a)pyrene	50-32-8	-	0.01	0.01	ca				
Acenaphthene	83-32-9	3440	-	3440	nc				
Anthracene	120-12-7	17200	-	17200	nc				
Benz[a]anthracene	56-55-3	-	0.15	0.15	ca				
Benzo[j]fluoranthene	205-82-3	-	0.38	0.38	ca				
Benzo[b]fluoranthene	205-99-2	-	0.15	0.15	ca				
Benzo[k]fluoranthene	207-08-9	-	1.48	1.48	ca				
Chrysene	218-01-9	-	14.8	14.8	ca				
Dibenz[a,h]anthracene	53-70-3	-	0.01	0.01	ca				
Dibenzo(a,e)pyrene	192-65-4	-	0.04	0.04	ca				
Dimethylbenz(a)anthracene, 7,12-	57-97-6	-	0	0	ca				
Fluoranthene	206-44-0	2290	-	2290	nc				
Fluorene	86-73-7	2290	-	2290	nc				
Indeno[1,2,3-cd]pyrene	193-39-5	-	0.15	0.15	ca				
Methylnaphthalene, 1-	90-12-0	4010	15.6	15.6	ca				
Methylnaphthalene, 2-	91-57-6	229	-	229	nc				
Nitropyrene, 4-	57835-92-4	-	0.38	0.38	ca				
Pyrene	129-00-0	1720	-	1720	nc				
Cadmium (Diet)	7440-43-9	70.2	2110	70.2	nc				
Lead and Compounds	7439-92-1	400	-	400	nc				
Test1Chem(DRO)	Wis. DRO			100					
Test2Chem(GRO)	Wis. GRO			100					

Type BRRTS No. Here (if Known)

Exceedance Count / Hazard Index / Cumulative Cancer Risk: 0 0.00E+00 0.0E+00

To Pass, data must meet all these criteria: Exceedance Count = 0 | HI ≤ 1.00E+00 | Cumulative CR ≤ 1e-05

Bottom-Line: Soil Data Entry Needed!

DRAFT

Residual Contaminant Levels Protective of Groundwater Quality
(Soil to Groundwater Scenario Results from: *http://epa-prgs.ornl.gov/cgi-bin/chemicals/csf_search*)

NR140 Substance	NR 140 CAS	Fed MCL (ug/l) (If Reg. MCL>GS)	NR 140 ES (ug/l)	RCL-gw (mg/kg) DF=1	Use 2, or input the calculated site-specific DF --> 2.00	INPUT NUMERIC Site Data Max (mg/kg)	Flag if Individual Exceedance	*Type BRRTS No. Here (If Known). Assess groundwater levels separately.*
Acetochlor	34256-82-1		7	5.58E-03				
Acetone	67-64-1	-	9000	1.85E+00				
Alachlor	15972-60-8	2	2	1.65E-03				
Aldicarb	116-06-3	3	10	2.49E-03				
Aluminum	7429-90-5	-	200	3.01E+02				
Antimony	7440-36-0	6	6	2.71E-01				
Anthracene	120-12-7		3000	9.84E+01				
Arsenic	7440-38-2	10	10	2.92E-01				
Atrazine, total chlorinated residues	1912-24-9	3	3	1.95E-03				
Barium	7440-39-3	2000	2000	8.24E+01				
Bentazon	25057-89-0	-	300	6.59E-02				
Benzene	71-43-2	5	5	2.56E-03				
Benzo(a)pyrene (PAH)	50-32-8	0.2	0.2	2.35E-01				
Benzo(b)fluoranthene (PAH)	205-99-2	-	0.2	2.40E-01				
Beryllium	7440-41-7	4	4	3.16E+00				
Boron	7440-42-8		1000	3.20E+00				
Bromodichloromethane (THM)	75-27-4	80	0.6	1.63E-04				
Bromoform (THM)	75-25-2	80	4.4	1.17E-03				
Bromomethane	74-83-9		10	2.53E-03				
Butylate	2008-41-5	-	400	3.88E-01				
Cadmium	7440-43-9	5	5	3.76E-01				
Carbaryl	63-25-2		40	3.64E-02				
Carbofuran	1563-66-2	40	40	1.56E-02				
Carbon disulfide	75-15-0		1000	2.97E-01				
Carbon tetrachloride	56-23-5	5	5	1.94E-03				
Chloramben	133-90-4	-	150	3.63E-02				
Chlorodifluoromethane	75-45-6		7000	2.89E+00				
Chloroethane	75-00-3	-	400	1.13E-01				
Chloroform (THM)	67-66-3	80	6	1.67E-03				
Chlorpyrifos	2921-88-2	-	2	2.95E-02				
Chloromethane	74-87-3		30	7.76E-03				
Chromium (total)	7440-47-3	100	100	1.80E+05				Re-assess if Cr-VI present
Chrysene (PAH)	218-01-9		0.2	7.25E-02				
Cobalt	7440-48-4	-	40	1.81E+00				
Copper	7440-50-8	1300	1300	4.58E+01				
Cyanazine	21725-46-2	-	1	4.68E-04				
Cyanide, free	57-12-5	200	200	2.02E+00				
Dacthal (DCPA)	1861-32-1	-	70	8.56E-02				
1,2-Dibromoethane	106-93-4	0.05	0.05	1.41E-05				
Dibromochloromethane (THM)	124-48-1	80	60	1.60E-02				
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.2	0.2	8.64E-05				
Dibutyl phthalate	84-74-2	-	1000	2.52E+00				
Dicamba	1918-00-9	-	300	7.76E-02				
1,2-Dichlorobenzene	95-50-1	600	600	5.84E-01				
1,3-Dichlorobenzene	541-73-1	-	600	5.76E-01				
1,4-Dichlorobenzene	106-46-7	75	75	7.20E-02				
Dichlorodifluoromethane	75-71-8	-	1000	1.54E+00				
1,1-Dichloroethane	75-34-3	-	850	2.42E-01				
1,2-Dichloroethane	107-06-2	5	5	1.42E-03				
1,1-Dichloroethylene	75-35-4	7	7	2.51E-03				
1,2-Dichloroethylene (cis)	156-59-2	70	70	2.06E-02				
1,2-Dichloroethylene (trans)	156-60-5	100	100	2.94E-02				
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70	70	1.81E-02				
1,2-Dichloropropane	78-87-5	5	5	1.66E-03				
1,3-Dichloropropene (total) (Telone)	542-75-6	-	0.4	1.43E-04				
Di (2-ethylhexyl) phthalate	117-81-7	6	6	1.44E+00				
Dimethoate	60-51-5	-	2	4.51E-04				
2,4-Dinitrotoluene	121-14-2	-	0.05	6.76E-05				
2,6-Dinitrotoluene	606-20-2	-	0.05	6.88E-05				
Dinitrotoluene, Total Residues	25321-14-6	-	0.05	6.89E-05				
Dinoseb	88-85-7	7	7	6.15E-02				
1,4-Dioxane (p-dioxane)	123-91-1	-	3	6.18E-04				
Dioxin (2,3,7,8-TCDD)	1746-01-6	0	0	1.50E-05				
Endrin	72-20-8	2	2	8.08E-02				
EPTC	759-94-4	-	250	1.32E-01				

No RSL result for: Asbestos; Bacteria; 1,3-DCP; Hydrogen Sulfide; Nitrate/Nitrite; Total

DRAFT

Residual Contaminant Levels Protective of Groundwater Quality
Soil to Groundwater Scenario Results from: *http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search*)

NR140 Substance	NR 140 CAS	Fed MCL (ug/l) (If Red. MCL>ES)	NR 140 ES (ug/l)	RCL-gw (mg/kg) DF=1	Use 2, or input the calculated site-specific DF --> 2.00	INPUT NUMERIC Site Data Max (mg/kg)	Type = Individual Exceedance
Ethylbenzene	100-41-4	700	700	7.85E-01			
Ethyl Ether (Diethyl Ether)	60-29-7	-	1000	2.24E-01			
Ethylene glycol	107-21-1	-	14000	2.82E+00			
Fluoranthene	206-44-0	-	400	4.44E+01			
Fluorene (PAH)	86-73-7	-	400	7.41E+00			
Fluoride	7782-41-4	4000	4000	6.01E+02			
Fluorotrichloromethane	75-69-4	-	3490	2.23E+00			
Formaldehyde	50-00-0	-	1000	2.02E-01			
Heptachlor	76-44-8	0.4	0.4	3.31E-02			
Heptachlor epoxide	1024-57-3	0.2	0.2	4.08E-03			
Hexachlorobenzene	118-74-1	1	1	1.26E-02			
n-Hexane	110-54-3	-	600	4.22E+00			
Lead	7439-92-1	15	15	1.35E+01			
Lindane	58-89-9	0.2	0.2	1.16E-03			
Manganese	7439-96-5	-	300	1.96E+01			
Mercury	7439-97-6	2	2	1.04E-01			
Methanol	67-56-1	-	5000	1.01E+00			
Methoxychlor	72-43-5	40	40	2.16E+00			
Methylene chloride	75-09-2	5	5	1.28E-03			
Methyl ethyl ketone (MEK)	78-93-3	-	4000	8.39E-01			
Methyl isobutyl ketone (MIBK)	108-10-1	-	500	1.13E-01			
Methyl tert-butyl ether (MTBE)	1634-04-4	-	60	1.35E-02			
Metolachlor/s-Metolachlor	51218-45-2	-	100	1.17E-01			
Metribuzin	21087-64-9	-	70	2.14E-02			
Molybdenum	7439-98-7	-	40	8.08E-01			
Monochlorobenzene	108-90-7	100	100	6.79E-02			
Naphthalene	91-20-3	-	100	3.29E-01			
Nickel	7440-02-0	-	100	6.50E+00			
N-Nitrosodiphenylamine (NDPA)	86-30-6	-	7	3.82E-02			
Pentachlorophenol (PCP)	87-86-5	1	1	1.01E-02			
Phenol	108-95-2	-	2000	1.15E+00			
Picloram	1918-02-1	500	500	1.39E-01			
Polychlorinated biphenyls (PCBs)	1336-36-3	0.5	0.03	4.69E-03			
Prometon	1610-18-0	-	100	4.75E-02			
Propazine	139-40-2	-	10	6.86E-03			
Pyrene (PAH)	129-00-0	-	250	2.72E+01			
Pyridine	110-86-1	-	10	3.44E-03			
Selenium	7782-49-2	50	50	2.60E-01			
Silver	7440-22-4	-	50	4.25E-01			
Simazine	122-34-9	4	4	1.97E-03			
Styrene	100-42-5	100	100	1.10E-01			
Tertiary Butyl Alcohol (TBA)	75-65-0	-	12	2.45E-03			
1,1,1,2-Tetrachloroethane	630-20-6	-	70	2.67E-02			
1,1,2,2-Tetrachloroethane	79-34-5	-	0.2	7.80E-05			
Tetrachloroethylene (PCE)	127-18-4	5	5	2.27E-03			
Tetrahydrofuran	109-99-9	-	50	1.11E-02			
Thallium	7440-28-0	2	2	1.42E-01			
Toluene	108-88-3	1000	800	5.54E-01			
Toxaphene	8001-35-2	3	3	4.64E-01			
1,2,4-Trichlorobenzene	120-82-1	70	70	2.04E-01			
1,1,1-Trichloroethane	71-55-6	200	200	7.01E-02			
1,1,2-Trichloroethane	79-00-5	5	5	1.62E-03			
Trichloroethylene (TCE)	79-01-6	5	5	1.79E-03			
[illegible]	93-72-1	50	50	2.75E-02			
1,2,3-Trichloropropane	96-18-4	-	60	2.60E-02			
Trifluralin	1582-09-8	-	7.5	2.48E-01			
[illegible]	95-63-6 / 108-67-8	-	480	6.90E-01			
Vanadium	7440-62-2						
Vinyl chloride	75-01-4	2	0.2	6.90E-05			
Xylenes (m-, o-, p- combined)	1330-20-7	10000	2000	1.97E+00			

Type BRRTS No. Here (If Known). Assess groundwater levels separately.

Site-specific

Resident Equation Inputs for Soil

Variable	Value
TR (target cancer risk) unitless	1.0E-6
ED_r (exposure duration - resident) year	30
ET_{rs} (exposure time - resident) hour	24
ED_c (exposure duration - child) year	6
ED_a (exposure duration - adult) year	24
BW_a (body weight - adult) kg	70
BW_c (body weight - child) kg	15
SA_a (skin surface area - adult) cm^2/day	5700
SA_c (skin surface area - child) cm^2/day	2800
THQ (target hazard quotient) unitless	1
LT (lifetime - resident) year	70
EF_r (exposure frequency) day/year	350
IRS_a (soil intake rate - adult) mg/day	100
IRS_c (soil intake rate - child) mg/day	200
AF_a (skin adherence factor - adult) mg/cm^2	0.07
AF_c (skin adherence factor - child) mg/cm^2	0.2
IFS_{adj} (age-adjusted soil ingestion factor) mg-year/kg-day	114
DFS_{adj} (age-adjusted soil dermal factor) mg-year/kg-day	361
$IFSM_{adj}$ (mutagenic age-adjusted soil ingestion factor) mg-year/kg-day	489.5
$DFSM_{adj}$ (mutagenic age-adjusted soil dermal factor) mg-year/kg-day	1445
ED_{0-2} (exposure duration first phase) year	2
ED_{2-6} (exposure duration second phase) year	4
ED_{6-16} (exposure duration third phase) year	10
ED_{16-30} (exposure duration fourth phase) year	14
City (Climate Zone) PEF Selection	Chicago, IL (7)
A_s (acres) PEF Selection	0.5
Q/C_{wp} (g/m^2-s per kg/m^3) PEF Selection	98.43071
PEF (particulate emission factor) m^3/kg	1560521108
A (PEF Dispersion Constant)	16.8653

Site-specific

Resident Equation Inputs for Soil

Variable	Value
B (PEF Dispersion Constant)	18.7848
C (PEF Dispersion Constant)	215.0624
V (fraction of vegetative cover) unitless	0.5
U_m (mean annual wind speed) m/s	4.65
U_t (equivalent threshold value)	11.32
F(x) (function dependant on U_m/U_t) unitless	0.182
City (Climate Zone) VF Selection	Chicago, IL (7)
A_s (acres) VF Selection	0.5
Q/C_{wp} (g/m^2-s per kg/m^3) VF Selection	98.43071
foc (fraction organic carbon in soil) g/g	0.006
ρ$_b$ (dry soil bulk density) g/cm^3	1.5
ρ$_s$ (soil particle density) g/cm^3	2.65
θ$_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15
T (exposure interval) s	9.5e8
A (VF Dispersion Constant)	16.8653
B (VF Dispersion Constant)	18.7848
C (VF Dispersion Constant)	215.0624

Site-specific

Resident Screening Levels (RSL) for Soil

c=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); csat=SL exceeds csat.

cmax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide).

csat=Soil inhalation SL exceeds csat and has been substituted with the csat.

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	RfD Ref	Chronic RfC (mg/m^3)	RfC Ref	GIABS	ABS	RBA
Benzene	71-43-2	No	Yes	5.50E-02	I	7.80E-06	I	4.00E-03	I	3.00E-02	I	1	-	1
Cadmium (Diet)	7440-43-9	No	No	-		1.80E-03	I	1.00E-03	I	1.00E-05	A	0.025	0.001	1
Carbon Tetrachloride	56-23-5	No	Yes	7.00E-02	I	6.00E-06	I	4.00E-03	I	1.00E-01	I	1	-	1
Dibromoethane, 1,2-	106-93-4	No	Yes	2.00E+00	I	6.00E-04	I	9.00E-03	I	9.00E-03	I	1	-	1
Dichloroethane, 1,2-	107-06-2	No	Yes	9.10E-02	I	2.60E-05	I	6.00E-03	X	7.00E-03	P	1	-	1
Dichloroethylene, 1,1-	75-35-4	No	Yes	-		-		5.00E-02	I	2.00E-01	I	1	-	1
Dichloroethylene, 1,2-cis	156-59-2	No	Yes			-		2.00E-03	I	-		1	-	1
Dichloroethylene, 1,2-trans-	156-60-5	No	Yes	-		-		2.00E-02	I	6.00E-02	P	1	-	1
Ethylbenzene	100-41-4	No	Yes	1.10E-02	C	2.50E-06	C	1.00E-01	I	1.00E+00	I	1	-	1
Lead and Compounds	7439-92-1	No	No	-		-		-		-		1	-	1
Methyl tert-Butyl Ether (MTBE)	1634-04-4	No	Yes	1.80E-03	C	2.60E-07	C	-		3.00E+00	I	1	-	1
Acenaphthene	83-32-9	No	Yes	-		-		6.00E-02	I	-		1	0.13	1
Anthracene	120-12-7	No	Yes			-		3.00E-01	I	-		1	0.13	1
Benz[a]anthracene	56-55-3	Yes	No	7.30E-01	W	1.10E-04	C	-		-		1	0.13	1
Benzo(j)fluoranthene	205-82-3	No	No	1.20E+00	C	1.10E-04	C	-		-		1	0.13	1
Benzo[a]pyrene	50-32-8	Yes	No	7.30E+00	I	1.10E-03	C	-		-		1	0.13	1
Benzo[b]fluoranthene	205-99-2	Yes	No	7.30E-01	W	1.10E-04	C	-		-		1	0.13	1
Benzo[k]fluoranthene	207-08-9	Yes	No	7.30E-02	W	1.10E-04	C	-		-		1	0.13	1
Chrysene	218-01-9	Yes	No	7.30E-03	W	1.10E-05	C	-		-		1	0.13	1
Dibenz[a,h]anthracene	53-70-3	Yes	No	7.30E+00	W	1.20E-03	C	-		-		1	0.13	1
Dibenzo(a,e)pyrene	192-65-4	No	No	1.20E+01	C	1.10E-03	C	-		-		1	0.13	1
Dimethylbenz(a)anthracene, 7,12-	57-97-6	Yes	No	2.50E+02	C	7.10E-02	C	-		-		1	0.13	1
Fluoranthene	206-44-0	No	No	-		-		4.00E-02	I	-		1	0.13	1
Fluorene	86-73-7	No	Yes	-		-		4.00E-02	I	-		1	0.13	1
Indeno(1,2,3-cd)pyrene	193-39-5	Yes	No	7.30E-01	W	1.10E-04	C	-		-		1	0.13	1
Methylnaphthalene, 1-	90-12-0	No	Yes	2.90E-02	P	-		7.00E-02	A	-		1	0.13	1
Methylnaphthalene, 2-	91-57-6	No	Yes			-		4.00E-03	I	-		1	0.13	1
Naphthalene	91-20-3	No	Yes	-		3.40E-05	C	2.00E-02	I	3.00E-03	I	1	0.13	1

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	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)	Ingestion SL Child HQ=1 (mg/kg)	Dermal SL Child HQ=1 (mg/kg)	Inhalation SL Child HQ=1 (mg/kg)
Benzene	5.49E+03	1.82E+03	1.56E+09	1.16E+01	-	1.71E+00	1.49E+00	3.13E+02	-	1.72E+02
Cadmium (Diet)	-	-	1.56E+09	-	-	2.11E+03	2.11E+03	7.82E+01	6.98E+02	1.63E+04
Carbon Tetrachloride	2.32E+03	4.58E+02	1.56E+09	9.15E+00	-	9.42E-01	8.54E-01	3.13E+02	-	2.42E+02
Dibromoethane, 1,2-	1.34E+04	1.34E+03	1.56E+09	3.20E-01	-	5.45E-02	4.65E-02	7.04E+02	-	1.26E+02
Dichloroethane, 1,2-	7.11E+03	2.98E+03	1.56E+09	7.04E+00	-	6.65E-01	6.08E-01	4.69E+02	-	5.19E+01
Dichloroethylene, 1,1-	1.80E+03	1.19E+03	1.56E+09	-	-	-	-	3.91E+03	-	3.75E+02
Dichloroethylene, 1,2-cis-	3.88E+03	2.37E+03	1.56E+09	-	-	-	-	1.56E+02	-	-
Dichloroethylene, 1,2-trans-	3.90E+03	1.67E+03	1.56E+09	-	-	-	-	1.56E+03	-	2.44E+02
Ethylbenzene	8.81E+03	4.80E+02	1.56E+09	5.82E+01	-	8.57E+00	7.47E+00	7.82E+03	-	9.18E+03
Lead and Compounds	-	-	1.56E+09	-	-	-	-	-	-	-
Methyl tert-Butyl Ether (MTBE)	7.62E+03	8.87E+03	1.56E+09	3.56E+02	-	7.13E+01	5.94E+01	-	-	2.38E+04
Acenaphthene	2.19E+05	-	1.56E+09	-	-	-	-	4.69E+03	1.29E+04	-
Anthracene	8.13E+05	-	1.56E+09	-	-	-	-	2.35E+04	6.45E+04	-
Benz[a]anthracene	-	-	1.56E+09	2.04E-01	5.32E-01	1.36E+04	1.48E-01	-	-	-
Benzo[j]fluoranthene	-	-	1.56E+09	5.34E-01	1.30E+00	3.45E+04	3.78E-01	-	-	-
Benzo[a]pyrene	-	-	1.56E+09	2.04E-02	5.32E-02	1.36E+03	1.48E-02	-	-	-
Benzo[b]fluoranthene	-	-	1.56E+09	2.04E-01	5.32E-01	1.36E+04	1.48E-01	-	-	-
Benzo[k]fluoranthene	-	-	1.56E+09	2.04E+00	5.32E+00	1.36E+04	1.48E+00	-	-	-
Chrysene	-	-	1.56E+09	2.04E+01	5.32E+01	1.36E+05	1.48E+01	-	-	-
Dibenz[a,h]anthracene	-	-	1.56E+09	2.04E-02	5.32E-02	1.25E+03	1.48E-02	-	-	-
Dibenzo(a,e)pyrene	-	-	1.56E+09	5.34E-02	1.30E-01	3.45E+03	3.78E-02	-	-	-
Dimethylbenz(a)anthracene, 7,12-	-	-	1.56E+09	5.97E-04	1.55E-03	2.11E+01	4.31E-04	-	-	-
Fluoranthene	-	-	1.56E+09	-	-	-	-	3.13E+03	8.59E+03	-
Fluorene	4.37E+05	-	1.56E+09	-	-	-	-	3.13E+03	8.59E+03	-
Indeno[1,2,3-cd]pyrene	-	-	1.56E+09	2.04E-01	5.32E-01	1.36E+04	1.48E-01	-	-	-
Methylnaphthalene, 1-	9.11E+04	-	1.56E+09	2.21E+01	5.36E+01	-	1.56E+01	5.48E+03	1.50E+04	-
Methylnaphthalene, 2-	9.01E+04	-	1.56E+09	-	-	-	-	3.13E+02	8.59E+02	-
Naphthalene	7.20E+04	-	1.56E+09	-	-	5.15E+00	5.15E+00	1.56E+03	4.30E+03	2.25E+02

Site-specific

Resident Screening Levels (RSL) for Soil

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

Chemical	Noncarcinogenic SL Child HI=1 (mg/kg)	Ingestion SL Adult HQ=1 (mg/kg)	Dermal SL Adult HQ=1 (mg/kg)	Inhalation SL Adult HQ=1 (mg/kg)	Noncarcinogenic SL Adult HI=1 (mg/kg)	Screening Level (mg/kg)
Benzene	1.11E+02	2.92E+03	-	1.72E+02	1.62E+02	1.49E+00 ca
Cadmium (Diet)	7.00E+01	7.30E+02	4.57E+03	1.63E+04	6.06E+02	7.00E+01 nc
Carbon Tetrachloride	1.37E+02	2.92E+03	-	2.42E+02	2.24E+02	8.54E+01 ca
Dibromoethane, 1,2-	1.07E+02	6.57E+03	-	1.26E+02	1.24E+02	4.05E+00 ca
Dichloroethane, 1,2-	4.67E+01	4.38E+03	-	5.19E+01	5.13E+01	6.08E+01 ca
Dichloroethylene, 1,1-	3.42E+02	3.65E+04	-	3.75E+02	3.71E+02	1.20E+02 nc
Dichloroethylene, 1,2-cis-	1.56E+02	1.46E+03	-	-	1.46E+03	1.56E+02 nc,s
Dichloroethylene, 1,2-trans-	2.11E+02	1.46E+04	-	2.44E+02	2.40E+02	2.11E+02 nc
Ethylbenzene	4.22E+03	7.30E+04	-	9.18E+03	8.16E+03	7.47E+00 ca
Lead and Compounds	-	-	-	-	-	4.00E+02 nc
Methyl-tert-butyl ether (MTBE)	2.38E+04	-	-	2.38E+04	2.38E+04	5.94E+01 ca
Acenaphthene	3.44E+03	4.38E+04	8.44E+04	-	2.88E+04	3.44E+03 nc
Anthracene	1.72E+04	2.19E+05	4.22E+05	-	1.44E+05	1.72E+04 nc
Benz[a]anthracene	-	-	-	-	-	1.48E+00 ca
Benzo(j)fluoranthene	-	-	-	-	-	5.28E+01 ca
Benzo[a]pyrene	-	-	-	-	-	1.48E+00 ca
Benzo[b]fluoranthene	-	-	-	-	-	1.48E+01 ca
Benzo[k]fluoranthene	-	-	-	-	-	1.48E+02 ca
Chrysene	-	-	-	-	-	1.48E+03 ca
Dibenz[a,h]anthracene	-	-	-	-	-	1.48E+00 ca
Dibenzo(a,e)pyrene	-	-	-	-	-	5.28E+02 ca
Dimethylbenz(a)anthracene, 7,12-	-	-	-	-	-	1.48E+01 ca
Fluoranthene	2.29E+03	2.92E+04	5.63E+04	-	1.92E+04	2.29E+03 nc
Fluorene	2.29E+03	2.92E+04	5.63E+04	-	1.92E+04	2.29E+03 nc
Indeno(1,2,3-cd)pyrene	-	-	-	-	-	1.48E+01 ca
Methylnaphthalene, 1-	4.01E+03	5.11E+04	9.85E+04	-	3.36E+04	4.01E+03 nc
Methylnaphthalene, 2-	2.29E+02	2.92E+03	5.63E+03	-	1.92E+03	2.29E+02 nc
Naphthalene	1.88E+02	1.46E+04	2.81E+04	2.25E+02	2.20E+02	1.88E+02 nc

Output generated: 19DEC2013:11:10:03

Site-specific

Resident Screening Levels (RSL) for Soil

c=Cancer; nc=Noncancer; ca=(where nc/SL < 0.01x ca/SL);
ca*=(where nc/SL < 10x 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	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	RfD Ref	Chronic RfC (mg/m^3)	RfC Ref	GIABS	ABS	RBA
Nitropyrene, 4-	57835-92-4	No	No	1.20E+00	C	1.10E-04	C	-		-		1	0.13	1
Pyrene	129-00-0	No	Yes	-		-		3.00E-02	I	-		1	0.13	1
Tetrachloroethylene	127-18-4	No	Yes	2.10E-03	I	2.60E-07	I	6.00E-03	I	4.00E-02	I	1	-	1
Toluene	108-88-3	No	Yes	-		-		8.00E-02	I	5.00E+00	I	1	-	1
Trichloroethane, 1,1,1-	71-55-6	No	Yes	-		-		2.00E+00	I	5.00E+00	I	1	-	1
Trichloroethylene	79-01-6	Yes	Yes	4.60E-02	I	4.10E-06	I	5.00E-04	I	2.00E-03	I	1	-	1
Trimethylbenzene, 1,2,4-	95-63-6	No	Yes	-		-		-		7.00E-03	P	1	-	1
Trimethylbenzene, 1,3,5-	108-67-8	No	Yes	-		-		1.00E-02	X	-		1	-	1
Vinyl chloride	75-01-4	Yes	Yes	7.20E-01	I	4.40E-06	I	3.00E-03	I	1.00E-01	I	1	-	1
Xylenes	1330-20-7	No	Yes	-		-		2.00E-01	I	1.00E-01	I	1	-	1

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	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)	Ingestion SL Child HQ=1 (mg/kg)	Dermal SL Child HQ=1 (mg/kg)	Inhalation SL Child HQ=1 (mg/kg)
Nitropyrene, 4-	-	-	1.56E+09	5.34E-01	1.30E+00	3.45E+04	3.78E-01	-	-	-
Pyrene	3.70E+06	-	1.56E+09	-	-	-	-	2.35E+03	6.45E+03	-
Tetrachloroethylene	3.65E+03	1.66E+02	1.56E+09	3.05E+02	-	3.41E+01	3.07E+01	4.69E+02	-	1.52E+02
Toluene	6.66E+03	8.18E+02	1.56E+09	-	-	-	-	6.26E+03	-	3.47E+04
Trichloroethane, 1,1,1-	2.56E+03	6.40E+02	1.56E+09	-	-	-	-	1.56E+05	-	1.34E+04
Trichloroethylene	3.43E+03	6.92E+02	1.56E+09	3.24E+00	-	8.04E-01	6.44E-01	3.91E+01	-	7.16E+00
Trimethylbenzene, 1,2,4-	1.25E+04	2.19E+02	1.56E+09	-	-	-	-	-	-	8.98E+01
Trimethylbenzene, 1,3,5-	1.03E+04	1.82E+02	1.56E+09	-	-	-	-	7.82E+02	-	-
Vinyl Chloride	1.49E+03	3.92E+03	1.56E+09	9.32E-02	-	2.39E-01	6.71E-02	2.35E+02	-	1.55E+02
Xylenes	9.05E+03	2.58E+02	1.56E+09	-	-	-	-	1.56E+04	-	9.44E+02

Site-specific

Resident Screening Levels (RSL) for Soil

ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL), or
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	Noncarcinogenic Ingestion SL Child HI=1 (mg/kg)	Ingestion SL Adult HQ=1 (mg/kg)	Dermal SL Adult HQ=1 (mg/kg)	Inhalation SL Adult HQ=1 (mg/kg)	Noncarcinogenic SL Adult HI=1 (mg/kg)	Screening Level (mg/kg)
Nitropyrene, 4-	-	-	-	-	-	3.73E-01 c
Pyrene	1.72E+03	2.19E+04	4.22E+04	-	1.44E+04	1.72E+03 nc
Tetrachloroethylene	1.15E+02	4.38E+03	-	1.52E+02	1.47E+02	5.07E+01 c
Toluene	5.30E+03	5.84E+04	-	3.47E+04	2.18E+04	5.30E+03 nc
Trichloroethane, 1,1,1-	1.23E+04	1.46E+06	-	1.34E+04	1.32E+04	1.23E+04 sat
Trichloroethylene	6.05E+00	3.65E+02	-	7.16E+00	7.02E+00	6.40E+00 c
Trimethylbenzene, 1,2,4-	8.98E+01	-	-	8.98E+01	8.98E+01	8.98E+01 nc
Trimethylbenzene, 1,3,5-	7.82E+02	7.30E+03	-	-	7.30E+03	7.82E+02 nc
Vinyl Chloride	9.33E+01	2.19E+03	-	1.55E+02	1.45E+02	5.71E+02 c
Xylenes	8.90E+02	1.46E+05	-	9.44E+02	9.37E+02	8.90E+02 nc

(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 (20t) Register June 2003 No. 570, eff. 7-1-03.

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

A.7 Other
Chapman Oil Bulk Plant
Slug Test Calculations

MW-1

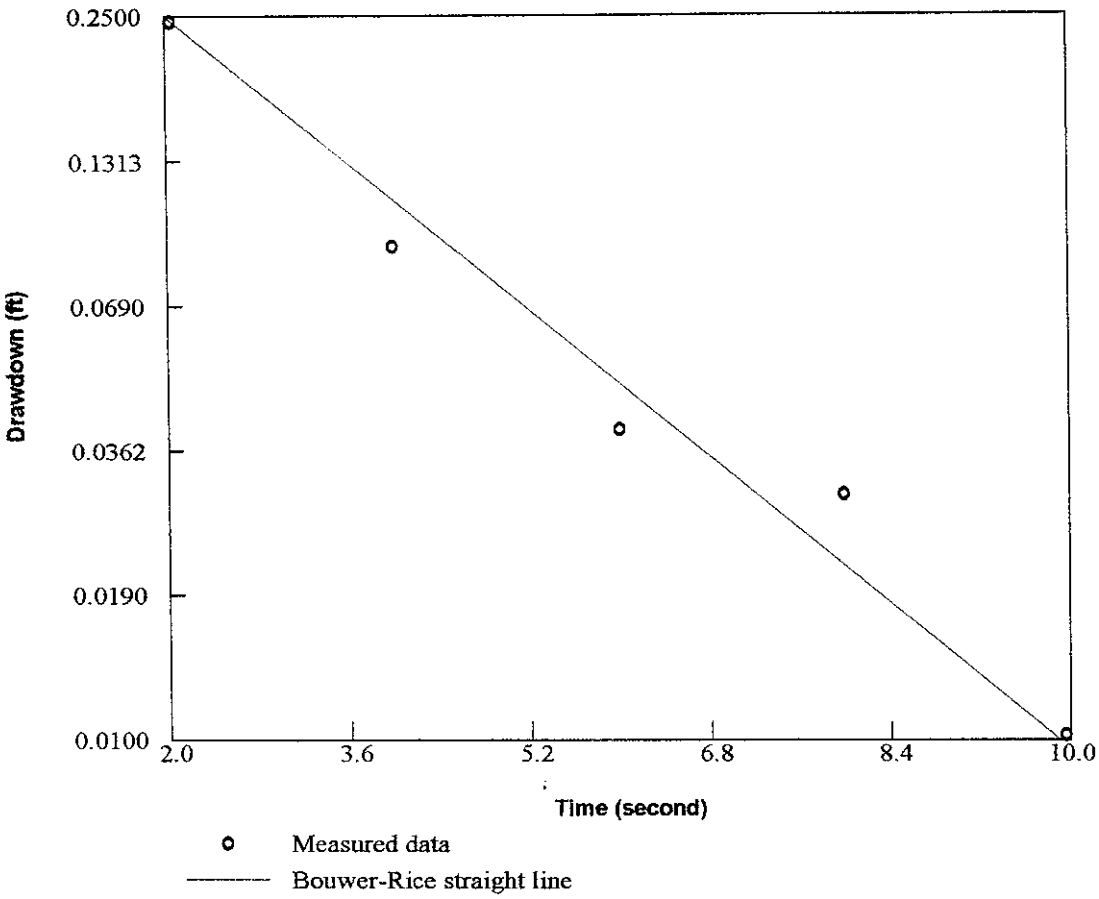
	ft/s	cm/s	m/yr
K	5.85E-04	1.78E-02	5623.12
	sq ft/s	**sq cm/s**	
T	2.71E-03	2.52E+00	

MW-3

	ft/s	cm/s	m/yr
K	1.13E-04	3.44E-03	1086.18
	sq ft/s	**sq cm/s**	
T	9.51E-04	8.83E-01	

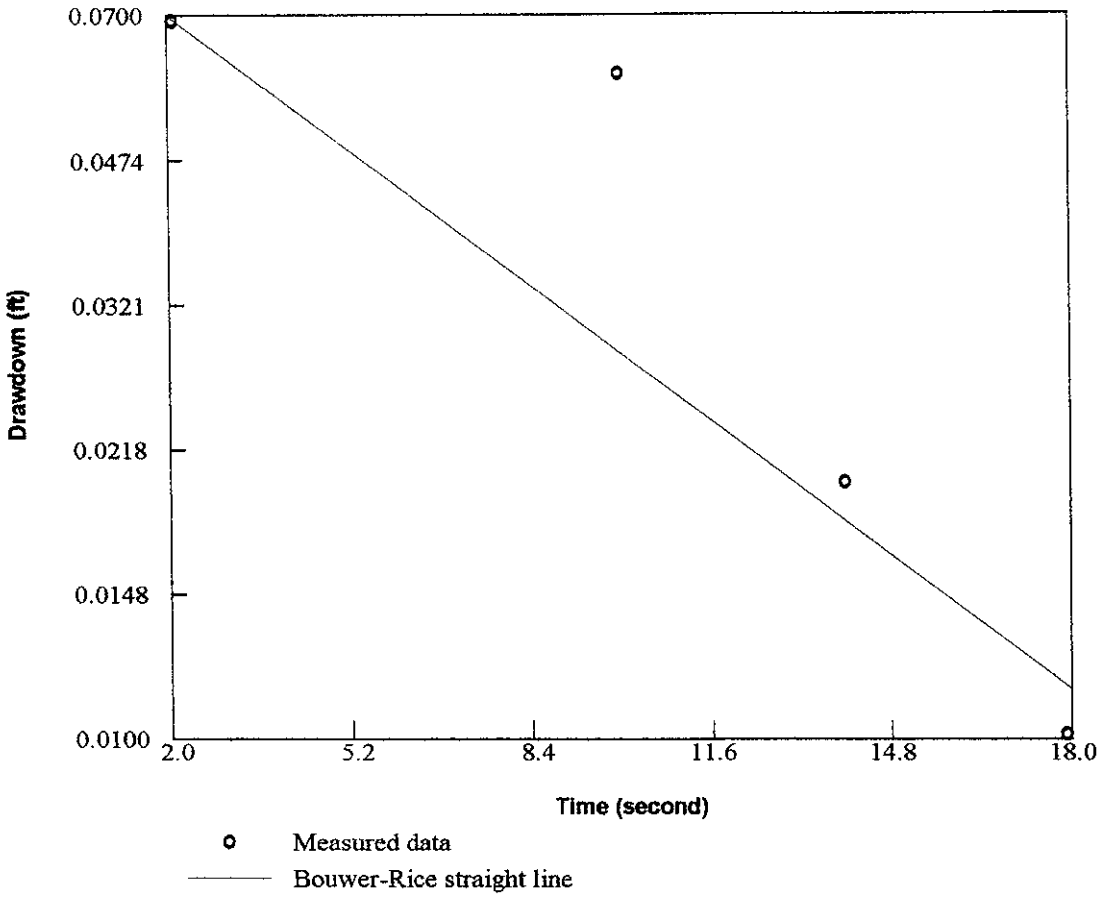
Date	Elv. (High)	Elv. (Low)	Distance (ft)	Hyd Grad (I)
9/22/2014	914.50	914.30	32	0.0062500
12/16/2014	913.10	912.80	35	0.0085714
Average				0.0074107

	K (m/yr)	I	n	Flow Velocity (m/yr)
MW-1	5623.12	0.0074107	0.3	138.90448
MW-3	1086.18	0.0074107	0.3	26.83112



Aquifer Parameters by the Bouwer and Rice Slug Test	
Hydraulic Conductivity (ft/s):	5.85e-004
Transmissivity (sq ft/s):	2.71e-003

Chapman Oil MW-1



Aquifer Parameters by the Bouwer and Rice Slug Test	
Hydraulic Conductivity (ft/s):	1.13e-004
Transmissivity (sq ft/s):	9.51e-004

Chapman Oil MW-3

Chapman Oil Bulk Plant
MW-1 Slug Out

Data file for DataLogger.
Err:510
COMPANY : <Company name>
COMP.STATUS: Do
DATE : 2014-09-22
TIME : 10-48-38
FILENAME : \My Documents\DiverPocket\Chapman Oil\CSV\MW-1B_140922104838_N2156.CSV
CREATED BY : SWS Diver-Pocket 3.0.0.3
Err:510
[Logger settings]
Instrument type =Micro-Diver=15
Status =Gestart =0
Serial number =..00-N2156 215.
Instrument number =
=0
Location =MW-1B
Sample period =S02
Sample method =T
Number of channels =2
[Channel 1]
Identification =LEVEL
Reference level =13.123 ft
Range =57.415 ft
Master level =0
Altitude =0 ft
[Channel 2]
Identification =TEMPERATURE
Reference level =-20.000 °C
Range =100.000 °C

[Series settings]
Serial number =..00-N2156 215.
Instrument number =
Location =MW-1B
Sample period =00 00:00:02 0
Sample method =T
Start date / time =16:45:10 22/09/14
End date / time =30:48:10 22/09/14
[Channel 1 from data header]
Identification =LEVEL
Reference level =13.123 ft
Range =57.415 ft
Master level =0
Altitude =0 ft
[Channel 2 from data header]
Identification =TEMPERATURE
Reference level =-20.000 °C

Chapman Oil Bulk Plant
MW-1 Slug Out

Range =100.000 °C

[Data]

98

Date/time	LEVEL[ft]	TEMPERATURE[°C]	Drawdown (ft)	Time (s)
09/22/14 10:45 AM	34.64	11.12	0	0
09/22/14 10:45 AM	34.39	11.12	-0.25	2
09/22/14 10:45 AM	34.55	11.12	-0.09	4
09/22/14 10:45 AM	34.6	11.12	-0.04	6
09/22/14 10:45 AM	34.61	11.11	-0.03	8
09/22/14 10:45 AM	34.63	11.11	-0.01	10
09/22/14 10:45 AM	34.63	11.11	-0.01	12
09/22/14 10:45 AM	34.65	11.1	0.01	14
09/22/14 10:45 AM	34.64	11.09	0	16
09/22/14 10:45 AM	34.64	11.09	0	18
09/22/14 10:45 AM	34.63	11.09	-0.01	20
09/22/14 10:45 AM	34.64	11.09	0	22
09/22/14 10:45 AM	34.64	11.09	0	24
09/22/14 10:45 AM	34.64	11.09	0	26
09/22/14 10:45 AM	34.65	11.09	0.01	28
09/22/14 10:45 AM	34.65	11.09	0.01	30
09/22/14 10:45 AM	34.64	11.09	0	32
09/22/14 10:45 AM	34.65	11.09	0.01	34
09/22/14 10:45 AM	34.65	11.09	0.01	36
09/22/14 10:45 AM	34.65	11.09	0.01	38
09/22/14 10:45 AM	34.65	11.09	0.01	40
09/22/14 10:45 AM	34.65	11.08	0.01	42
09/22/14 10:46 AM	34.65	11.08	0.01	44
09/22/14 10:46 AM	34.65	11.08	0.01	46
09/22/14 10:46 AM	34.65	11.08	0.01	48
09/22/14 10:46 AM	34.65	11.08	0.01	50
09/22/14 10:46 AM	34.65	11.08	0.01	52
09/22/14 10:46 AM	34.65	11.08	0.01	54
09/22/14 10:46 AM	34.65	11.07	0.01	56
09/22/14 10:46 AM	34.65	11.07	0.01	58
09/22/14 10:46 AM	34.65	11.07	0.01	60
09/22/14 10:46 AM	34.65	11.07	0.01	62
09/22/14 10:46 AM	34.65	11.07	0.01	64
09/22/14 10:46 AM	34.65	11.07	0.01	66
09/22/14 10:46 AM	34.65	11.07	0.01	68
09/22/14 10:46 AM	34.65	11.07	0.01	70
09/22/14 10:46 AM	34.65	11.07	0.01	72
09/22/14 10:46 AM	34.65	11.07	0.01	74
09/22/14 10:46 AM	34.65	11.07	0.01	76
09/22/14 10:46 AM	34.65	11.07	0.01	78
09/22/14 10:46 AM	34.65	11.07	0.01	80
09/22/14 10:46 AM	34.65	11.07	0.01	82

Chapman Oil Bulk Plant
MW-1 Slug Out

09/22/14 10:46 AM	34.65	11.07	0.01	84
09/22/14 10:46 AM	34.65	11.07	0.01	86
09/22/14 10:46 AM	34.65	11.07	0.01	88
09/22/14 10:46 AM	34.65	11.07	0.01	90
09/22/14 10:46 AM	34.65	11.07	0.01	92
09/22/14 10:46 AM	34.65	11.07	0.01	94
09/22/14 10:46 AM	34.65	11.07	0.01	96
09/22/14 10:46 AM	34.65	11.07	0.01	98
09/22/14 10:46 AM	34.65	11.07	0.01	100
09/22/14 10:46 AM	34.65	11.07	0.01	102
09/22/14 10:47 AM	34.65	11.07	0.01	104
09/22/14 10:47 AM	34.65	11.07	0.01	106
09/22/14 10:47 AM	34.65	11.07	0.01	108
09/22/14 10:47 AM	34.65	11.07	0.01	110
09/22/14 10:47 AM	34.65	11.07	0.01	112
09/22/14 10:47 AM	34.65	11.07	0.01	114
09/22/14 10:47 AM	34.65	11.07	0.01	116
09/22/14 10:47 AM	34.65	11.06	0.01	118
09/22/14 10:47 AM	34.65	11.06	0.01	120
09/22/14 10:47 AM	34.65	11.06	0.01	122
09/22/14 10:47 AM	34.65	11.06	0.01	124
09/22/14 10:47 AM	34.65	11.06	0.01	126
09/22/14 10:47 AM	34.65	11.06	0.01	128
09/22/14 10:47 AM	34.65	11.06	0.01	130
09/22/14 10:47 AM	34.65	11.05	0.01	132
09/22/14 10:47 AM	34.65	11.06	0.01	134
09/22/14 10:47 AM	34.65	11.05	0.01	136
09/22/14 10:47 AM	34.65	11.05	0.01	138
09/22/14 10:47 AM	34.65	11.05	0.01	140
09/22/14 10:47 AM	34.65	11.05	0.01	142
09/22/14 10:47 AM	34.65	11.05	0.01	144
09/22/14 10:47 AM	34.65	11.05	0.01	146
09/22/14 10:47 AM	34.65	11.05	0.01	148
09/22/14 10:47 AM	34.65	11.05	0.01	150
09/22/14 10:47 AM	34.65	11.05	0.01	152
09/22/14 10:47 AM	34.65	11.05	0.01	154
09/22/14 10:47 AM	34.65	11.05	0.01	156
09/22/14 10:47 AM	34.65	11.05	0.01	158
09/22/14 10:47 AM	34.65	11.05	0.01	160
09/22/14 10:47 AM	34.65	11.05	0.01	162
09/22/14 10:48 AM	34.65	11.05	0.01	164
09/22/14 10:48 AM	34.65	11.05	0.01	166
09/22/14 10:48 AM	34.65	11.04	0.01	168
09/22/14 10:48 AM	34.65	11.04	0.01	170
09/22/14 10:48 AM	34.65	11.04	0.01	172
09/22/14 10:48 AM	34.65	11.04	0.01	174
09/22/14 10:48 AM	34.65	11.04	0.01	176
09/22/14 10:48 AM	34.65	11.04	0.01	178

Chapman Oil Bulk Plant
MW-1 Slug Out

09/22/14 10:48 AM	34.65	11.04	0.01	180
09/22/14 10:48 AM	34.65	11.04	0.01	182
09/22/14 10:48 AM	34.65	11.04	0.01	184
09/22/14 10:48 AM	34.65	11.04	0.01	186
09/22/14 10:48 AM	34.65	11.03	0.01	188
09/22/14 10:48 AM	34.65	11.03	0.01	190
09/22/14 10:48 AM	34.65	11.03	0.01	192
09/22/14 10:48 AM	34.65	11.03	0.01	194

END OF DATA FILE OF DATALOGGER FOR WINDOWS

Chapman Oil Bulk Plant
MW-3 Slug Out

Data file for DataLogger.
Err:510
COMPANY : <Company name>
COMP.STATUS: Do
DATE : 2014-09-22
TIME : 10-22-11
FILENAME : \My Documents\DiverPocket\Chapman Oil\CSV\MW-3B_140922102211_N2156.CSV
CREATED BY : SWS Diver-Pocket 3.0.0.3
Err:510
[Logger settings]
Instrument type =Micro-Diver=15
Status =Gestart =0
Serial number =..00-N2156 215.
Instrument number =
=0
Location =MW-3B
Sample period =S02
Sample method =T
Number of channels =2
[Channel 1]
Identification =LEVEL
Reference level =13.123 ft
Range =57.415 ft
Master level =0
Altitude =0 ft
[Channel 2]
Identification =TEMPERATURE
Reference level =-20.000 °C
Range =100.000 °C

[Series settings]
Serial number =..00-N2156 215.
Instrument number =
Location =MW-3B
Sample period =00 00:00:02 0
Sample method =T
Start date / time =58:16:10 22/09/14
End date / time =04:22:10 22/09/14
[Channel 1 from data header]
Identification =LEVEL
Reference level =13.123 ft
Range =57.415 ft
Master level =0
Altitude =0 ft
[Channel 2 from data header]
Identification =TEMPERATURE
Reference level =-20.000 °C

Chapman Oil Bulk Plant
MW-3 Slug Out

Range =100.000 °C
[Data] 154

Date/time	LEVEL[ft]	TEMPERATURE[°C]	Drawdown (ft)	Time (s)
09/22/14 10:16 AM	33.37	10.66		
09/22/14 10:17 AM	33.35	10.65	0	0
09/22/14 10:17 AM	33.36	10.66	0	2
09/22/14 10:17 AM	33.36	10.66	0	4
09/22/14 10:17 AM	33.37	10.66	0.01	6
09/22/14 10:17 AM	33.35	10.65	0	8
09/22/14 10:17 AM	33.35	10.65	0	10
09/22/14 10:17 AM	33.35	10.65	0	12
09/22/14 10:17 AM	33.35	10.65	0	14
09/22/14 10:17 AM	33.28	10.65	-0.07	16
09/22/14 10:17 AM	33.28	10.65	-0.07	18
09/22/14 10:17 AM	33.28	10.65	-0.07	20
09/22/14 10:17 AM	33.28	10.65	-0.07	22
09/22/14 10:17 AM	33.29	10.65	-0.06	24
09/22/14 10:17 AM	33.29	10.64	-0.07	26
09/22/14 10:17 AM	33.34	10.64	-0.02	28
09/22/14 10:17 AM	33.35	10.64	0	30
09/22/14 10:17 AM	33.36	10.64	0.01	32
09/22/14 10:17 AM	33.35	10.64	0	34
09/22/14 10:17 AM	33.35	10.64	-0.01	36
09/22/14 10:17 AM	33.35	10.64	0	38
09/22/14 10:17 AM	33.35	10.64	0	40
09/22/14 10:17 AM	33.36	10.64	0	42
09/22/14 10:17 AM	33.35	10.64	0	44
09/22/14 10:17 AM	33.35	10.64	0	46
09/22/14 10:17 AM	33.35	10.64	0	48
09/22/14 10:17 AM	33.36	10.64	0	50
09/22/14 10:17 AM	33.35	10.64	0	52
09/22/14 10:17 AM	33.35	10.64	0	54
09/22/14 10:17 AM	33.35	10.64	0	56
09/22/14 10:17 AM	33.35	10.63	0	58
09/22/14 10:18 AM	33.36	10.64	0	60
09/22/14 10:18 AM	33.35	10.63	-0.01	62
09/22/14 10:18 AM	33.35	10.63	-0.01	64
09/22/14 10:18 AM	33.35	10.63	-0.01	66
09/22/14 10:18 AM	33.35	10.63	-0.01	68
09/22/14 10:18 AM	33.35	10.63	-0.01	70
09/22/14 10:18 AM	33.35	10.63	-0.01	72
09/22/14 10:18 AM	33.35	10.62	-0.01	74
09/22/14 10:18 AM	33.35	10.62	-0.01	76
09/22/14 10:18 AM	33.35	10.62	-0.01	78
09/22/14 10:18 AM	33.35	10.62	-0.01	80

Chapman Oil Bulk Plant
MW-3 Slug Out

09/22/14 10:18 AM	33.35	10.62	-0.01	82
09/22/14 10:18 AM	33.35	10.62	0	84
09/22/14 10:18 AM	33.35	10.62	0	86
09/22/14 10:18 AM	33.35	10.62	-0.01	88
09/22/14 10:18 AM	33.35	10.62	0	90
09/22/14 10:18 AM	33.35	10.62	0	92
09/22/14 10:18 AM	33.35	10.62	0	94
09/22/14 10:18 AM	33.35	10.62	0	96
09/22/14 10:18 AM	33.35	10.61	-0.01	98
09/22/14 10:18 AM	33.35	10.61	0	100
09/22/14 10:18 AM	33.35	10.61	-0.01	102
09/22/14 10:18 AM	33.35	10.61	-0.01	104
09/22/14 10:18 AM	33.35	10.61	-0.01	106
09/22/14 10:18 AM	33.35	10.61	-0.01	108
09/22/14 10:18 AM	33.35	10.61	-0.01	110
09/22/14 10:18 AM	33.35	10.61	0	112
09/22/14 10:18 AM	33.35	10.61	-0.01	114
09/22/14 10:18 AM	33.35	10.61	-0.01	116
09/22/14 10:18 AM	33.35	10.61	0	118
09/22/14 10:19 AM	33.35	10.61	0	120
09/22/14 10:19 AM	33.35	10.61	0	122
09/22/14 10:19 AM	33.35	10.61	0	124
09/22/14 10:19 AM	33.35	10.6	-0.01	126
09/22/14 10:19 AM	33.35	10.6	-0.01	128
09/22/14 10:19 AM	33.35	10.6	-0.01	130
09/22/14 10:19 AM	33.35	10.6	-0.01	132
09/22/14 10:19 AM	33.35	10.6	-0.01	134
09/22/14 10:19 AM	33.35	10.6	-0.01	136
09/22/14 10:19 AM	33.35	10.6	-0.01	138
09/22/14 10:19 AM	33.35	10.6	0	140
09/22/14 10:19 AM	33.35	10.6	0	142
09/22/14 10:19 AM	33.35	10.6	0	144
09/22/14 10:19 AM	33.35	10.6	0	146
09/22/14 10:19 AM	33.36	10.6	0	148
09/22/14 10:19 AM	33.36	10.6	0	150
09/22/14 10:19 AM	33.36	10.6	0	152
09/22/14 10:19 AM	33.36	10.6	0	154
09/22/14 10:19 AM	33.35	10.6	0	156
09/22/14 10:19 AM	33.35	10.6	0	158
09/22/14 10:19 AM	33.35	10.6	0	160
09/22/14 10:19 AM	33.36	10.6	0	162
09/22/14 10:19 AM	33.36	10.6	0	164
09/22/14 10:19 AM	33.36	10.6	0	166
09/22/14 10:19 AM	33.36	10.6	0	168
09/22/14 10:19 AM	33.36	10.6	0	170
09/22/14 10:19 AM	33.36	10.6	0	172
09/22/14 10:19 AM	33.35	10.6	0	174
09/22/14 10:19 AM	33.35	10.6	0	176

Chapman Oil Bulk Plant
MW-3 Slug Out

09/22/14 10:19 AM	33.36	10.6	0	178
09/22/14 10:20 AM	33.35	10.6	0	180
09/22/14 10:20 AM	33.36	10.6	0	182
09/22/14 10:20 AM	33.35	10.6	0	184
09/22/14 10:20 AM	33.35	10.6	0	186
09/22/14 10:20 AM	33.35	10.6	0	188
09/22/14 10:20 AM	33.35	10.6	0	190
09/22/14 10:20 AM	33.35	10.59	0	192
09/22/14 10:20 AM	33.35	10.59	-0.01	194
09/22/14 10:20 AM	33.35	10.59	-0.01	196
09/22/14 10:20 AM	33.35	10.59	-0.01	198
09/22/14 10:20 AM	33.35	10.59	-0.01	200
09/22/14 10:20 AM	33.35	10.59	-0.01	202
09/22/14 10:20 AM	33.35	10.59	-0.01	204
09/22/14 10:20 AM	33.35	10.59	-0.01	206
09/22/14 10:20 AM	33.35	10.58	-0.01	208
09/22/14 10:20 AM	33.35	10.58	0	210
09/22/14 10:20 AM	33.35	10.58	-0.01	212
09/22/14 10:20 AM	33.35	10.58	0	214
09/22/14 10:20 AM	33.35	10.58	-0.01	216
09/22/14 10:20 AM	33.35	10.58	-0.01	218
09/22/14 10:20 AM	33.35	10.58	0	220
09/22/14 10:20 AM	33.35	10.58	0	222
09/22/14 10:20 AM	33.35	10.58	0	224
09/22/14 10:20 AM	33.35	10.58	0	226
09/22/14 10:20 AM	33.35	10.58	0	228
09/22/14 10:20 AM	33.35	10.58	0	230
09/22/14 10:20 AM	33.35	10.58	0	232
09/22/14 10:20 AM	33.35	10.58	0	234
09/22/14 10:20 AM	33.35	10.58	0	236
09/22/14 10:20 AM	33.35	10.58	-0.01	238
09/22/14 10:21 AM	33.35	10.58	0	240
09/22/14 10:21 AM	33.35	10.58	0	242
09/22/14 10:21 AM	33.35	10.58	0	244
09/22/14 10:21 AM	33.35	10.58	0	246
09/22/14 10:21 AM	33.35	10.58	0	248
09/22/14 10:21 AM	33.35	10.58	-0.01	250
09/22/14 10:21 AM	33.35	10.58	0	252
09/22/14 10:21 AM	33.35	10.58	0	254
09/22/14 10:21 AM	33.35	10.58	0	256
09/22/14 10:21 AM	33.35	10.58	0	258
09/22/14 10:21 AM	33.35	10.58	0	260
09/22/14 10:21 AM	33.35	10.58	0	262
09/22/14 10:21 AM	33.35	10.58	0	264
09/22/14 10:21 AM	33.35	10.58	-0.01	266
09/22/14 10:21 AM	33.35	10.58	0	268
09/22/14 10:21 AM	33.35	10.58	0	270
09/22/14 10:21 AM	33.35	10.58	-0.01	272

Chapman Oil Bulk Plant
MW-3 Slug Out

09/22/14 10:21 AM	33.35	10.58	0	274
09/22/14 10:21 AM	33.35	10.58	0	276
09/22/14 10:21 AM	33.35	10.58	0	278
09/22/14 10:21 AM	33.35	10.58	0	280
09/22/14 10:21 AM	33.35	10.58	0	282
09/22/14 10:21 AM	33.35	10.58	0	284
09/22/14 10:21 AM	33.35	10.57	0	286
09/22/14 10:21 AM	33.35	10.57	0	288
09/22/14 10:21 AM	33.35	10.57	0	290
09/22/14 10:21 AM	33.35	10.57	0	292
09/22/14 10:21 AM	33.35	10.57	0	294
09/22/14 10:21 AM	33.35	10.57	0	296
09/22/14 10:21 AM	33.35	10.57	0	298
09/22/14 10:22 AM	33.35	10.57	0	300
09/22/14 10:22 AM	33.35	10.57	0	302
09/22/14 10:22 AM	33.35	10.57	0	304

END OF DATA FILE OF DATALOGGER FOR WINDOWS

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 by State of Wisconsin/DSPS to conduct PECFA-funded LUST projects
- 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.
- Member of the Wisconsin Fabricare Institute

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 700 environmental sites.

Jason T. Powell

Professional Title

- Staff Scientist

Credentials

- Recognized by the State of Wisconsin Department of Natural Resources (Chapter NR712) as a qualified Scientist.

Education

Includes a BS in Groundwater Management from the University of Wisconsin- Stevens Point. Applicable courses successfully completed include Hydrogeology, Applied Hydrogeology, Environmental Geology, Hydrogeology-Groundwater Flow Modeling, Groundwater Management, Structural Geology, Mineralogy, Glacial Geology, Soils, Soil Physics, Hydrology, Geochemistry, Water Chemistry, Organic Chemistry, General Chemistry, Environmental Issues.

Post-Graduate Education

40-hour OSHA Hazardous Materials Safety Training course with 8-hour refresher course.

Work Experience

With METCO since May 1992 as a Geoprobe Assistant and Geoprobe Operator. In June 1995 to July 1996 as a Environmental Technician. In July 1996 as a Staff Scientist. Duties have included: LUST investigations; general geotechnical/environmental investigations; Geoprobe projects (soil, groundwater sampling); drilling projects (soil boring and monitoring wells); remedial projects (sampling, pilot tests, system operation/maintenance) and project management.

Eric J. Dahl

Professional Title

- Hydrogeologist

Credentials

- Recognized by the State of Wisconsin Department of Natural Resources (Chapter NR712) as a qualified Hydrogeologist.
- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#823519).
- Member of the Geological Society of America

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; plus 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.

Site Investigation Report - METCO
Chapman Oil Bulk Plant

Jon Jensen

Professional Title

- Staff Scientist

Credentials

- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#1294924).

Education

Includes B.S. in Geography with and Environmental Science minor from University of Wisconsin – La Crosse: Applicable courses successfully completed include Interpretation of Aerial Photographs, Intro to GIS, Advanced Remote Sensing, Fundamentals of Cartography, Biogeography, and Conservation of Global Environments.

Work Experience

With METCO since July, 2014 as Staff Scientist. 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.

Jacob Zahn

Professional Title

- Staff Scientist

Credentials

- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#1298982).

Education

Includes B.S. in Earth Science with Chemistry minor, University of Minnesota, Twin Cities. Applicable courses successfully completed include Field Geology, Analytical Chemistry, Mineralogy, Fluid Mechanics,Geodynamics, Earth Surface Dynamics, Thermodynamics, Sedimentology/Stratigraphy, Petrology, and Organic Chemistry.

Work Experience

With METCO since September, 2014 as Staff Scientist. 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 Jason T. Powell, hereby certify that I am a scientist as that term is defined in s.NR 712.03 (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."

Jason T. Powell — Date: 10/22/15
Staff Scientist

"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, 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."

Ronald J. Anderson PG — Date: 10/22/15
Senior Hydrogeologist/Project Manager