Site Investigation Report

Amberg Oil Tank Farm
511 1st Avenue W
Menomonie, Wisconsin

August 14, 2018
By METCO
WDNR BRRTS #: 02-17-152462
PECFA Claim #: 54751-9999-11-A

METCO
Excellence through experience™

This document was prepared by:

Jason T. Powell
Staff Scientist

Ronald J. Anderson, P.G.
Senior Hydrogeologist/Project Manager

Excellence through experience™
709 Gillette St., Ste 3, La Crosse, WI 54603 ♦ 1-800-552-2932 ♦ Fax (608) 781-8893 ♦ Email: rona@metcohq.com ♦ www.metcohq.com

August 14, 2018

BRRTS #: 02-17-152462
PECFA Claim #: 54751-9999-11-A

Jessica Amberg
Estate of Steve Amberg
300 Ford Road #7
St. Louis Park, MN 55426

Dear Ms. Amberg,

Enclosed is our "Site Investigation Report" concerning the former Amberg Oil Tank Farm site at 511 1st Avenue W in Menomonie, Wisconsin. This report presents the complete data from all investigation activities.

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

It is the recommendation of METCO that this site be reviewed for the possibility of closure for the following reasons: 1) The extent and degree of petroleum contamination in soil and groundwater has been adequately defined. 2) Soil contamination exceeding the NR720 Non-Industrial Direct Contact RCLs values does not appear to be present at this site. 3) Free product had never been encountered at this site. 4) Only three groundwater samples (G-1-W, G-7-W, & G-9-W) showed NR140 Enforcement Standard exceedances, for Naphthalene and/or Trimethylbenzenes only and only one groundwater sample (G-1-W) showed a detect for Benzene. 5) Based on the receptor survey, groundwater contamination does not appear to pose a risk to any municipal or private wells, surface waters, or risk of contaminant migration along utility corridors. 6) Vapor intrusion does not appear to pose a risk to the on-site structures.

The Case Closure – GIS Registry Packet (NR4400-202) is also being submitted along with this 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

C: Patrick Collins – WDNR

EXECUTIVE SUMMARY

A bulk petroleum storage facility operated on the property from at least the 1930s until the1980s. The property has been vacant since the 1980s. In 1985, five above ground storage tanks (ASTs) were removed from the subject property. The ASTs consisted of two 6,000-gallon leaded gasoline, two 6,000-gallon fuel oil, and one 6,000-gallon diesel.

On April 13, 1995, Cedar Corporation conducted a Phase 1 Investigation for Hunt-Wesson Foods. During the Phase 1 Investigation, three soil borings (B-1, B-2, and B-3) were completed on the Amberg Oil property. Two soil samples were collected from each soil boring for laboratory analysis (DRO, GRO, VOC, Lead, and Cadmium). Petroleum compounds were detected in four of the soil samples and subsequently reported to the WDNR, who then required that a site investigation be conducted.

The site investigation consisted of a Geoprobe project. The results of the investigation clearly show that released petroleum products have impacted the local soil and groundwater. Results of the investigation are as follows:

- Geologic material in the area of investigation generally consists of
  - A very fine to coarse grained sand with varying amounts of gravel was encountered from ground surface to depths ranging from 7 to 10 feet bgs.
  - Weathered sandstone was encountered at depths ranging from 7 to 9.5 feet bgs and extending to 9 to 10 feet bgs.
- Competent sandstone bedrock appears to exist at depths ranging from 9 to 10 feet bgs based on the Geoprobe boring refusal depths.
- According to data collected from the Geoprobe project, the depth to groundwater appears to range from approximately 7.5 to 8 feet bgs depending on boring location. Based on data, for monitoring wells near the subject property, from the GIS Registry for the nearby closed Hunt Wesson MGP Coal Gas Plant Menomonie ERP site (BRRTS# 02-17-000328), the depth to groundwater appears to range from 6.75 to 15.73 feet bgs depending on well location and time of year.
- Monitoring wells were not installed as art of this site investigation. Based on data from the GIS Registry for the nearby closed Hunt Wesson MGP Coal Gas Plant Menomonie ERP site (BRRTS# 02-17-000328), the regional groundwater flow appears to be towards the west to slightly southwest.
- An area of unsaturated soil contamination, which exceeds the NR720 Groundwater RCL values exists in the area of the former bulk oil tanks, oil warehouse, and former loading area. This irregularly shaped area appears to measure up to 142 feet long, 56 feet wide, and up to 8 feet thick.
- Soil contamination exceeding the NR720 Non-Industrial Direct Contact RCL values does not appear to be present at this site.
- Dissolved phase contaminant plumes exceeding the NR140 ES and PAL have formed at the watertable in the area of the former loading area (G-1 & G-7) and in the area of the former bulk oil tanks (G-9) and have migrated toward the west. The plume in the area of the former loading

area is approximately 40 feet long and 32 feet wide and the plume in the area of the former bulk oil tanks is approximately 22 feet long and 22 feet wide.

- Based on the Geoprobe project groundwater analytical results, three groundwater samples (G-1-W, G-7-W, and G-9-W) currently show NR140 ES exceedances for petroleum compounds (PVOC's or Naphthalene). The other twelve groundwater samples currently either show no exceedances of the NR140 ES or PAL (G-2-W, G-3-W, G-4-W, G-6-W, & G-8-W) or show no detects (G-5-W, G-10-W through G-13-W, G-16-W, & G-18-W) for PVOC's or Naphthalene.

- Based on the receptor survey, groundwater contamination does not appear to pose a risk to any municipal or private wells. Vapor intrusion does not appear to pose a risk to the on-site structures. There does not appear to be any risk to any surface waters or risk of contaminant migration along utility corridors.

- 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.

It is the recommendation of METCO that this site be reviewed for the possibility of closure for the following reasons: 1) The extent and degree of petroleum contamination in soil and groundwater has been adequately defined. 2) Soil contamination exceeding the NR720 Non-Industrial Direct Contact RCLs values does not appear to be present at this site. 3) Free product had never been encountered at this site. 4) Only three groundwater samples (G-1-W, G-7-W, & G-9-W) showed NR140 Enforcement Standard exceedances, for Naphthalene and/or Trimethylbenzenes only and only one groundwater sample (G-1-W) showed a detect for Benzene. 5) Based on the receptor survey, groundwater contamination does not appear to pose a risk to any municipal or private wells, surface waters, or risk of contaminant migration along utility corridors. 6) Vapor intrusion does not appear to pose a risk to the on-site structures.

The Case Closure – GIS Registry Packet (NR4400-202) is also being submitted along with this report.

LIST OF ACRONYMS

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

TABLE OF CONTENTS

Table of Contents

1.0 INTRODUCTION AND BACKGROUND....1
2.0 GEOLOGY AND RECEPTORS....2
3.0 SITE INVESTIGATION RESULTS AND RISK CRITERIA....4
4.0 CONCLUSION....7
5.0 REFERENCES....9
6.0 FIGURES....10
7.0 DATA TABLES, GRAPHS, AND STATISTICAL ANALYSIS....11
8.0 PHOTOS....12
APPENDIX A/ METHODS OF INVESTIGATION....13
APPENDIX B/ ANALYTICAL METHODS & LABORATORY DATA REPORTS....14
APPENDIX C/ WELL AND BOREHOLE DOCUMENTATION....15
APPENDIX D/ APPENDIX D/ WASTE DISPOSAL DOCUMENTATION....16
APPENDIX E/ OTHER DOCUMENTATION....17
APPENDIX F/ QUALIFICATIONS OF METCO PERSONNEL....18
APPENDIX G/ STANDARD OF CARE....19

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

Jessica Amberg
Estate of Steve Amberg
300 Ford Road #7
St. Louis Park, MN 55426
(612) 306-0377

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

Geiss Soil & Samples, LLC
E4490 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:
511 1st Avenue W
Menomonie, Wisconsin

Please note, The WDNR BRRTS site incorrectly lists the address for the site as 503 1st Avenue W, which is the address for the adjacent property to the east. The address above is the correct site address.

Latitude and Longitude:
44° 52' 55" N and 91° 56' 6" W

WTM Coordinates:
367160, 491674

Please note, the WDNR RR Sites Map currently shows the location of this site on the neighboring property to the east.

Township/Range:
SE ¼, NE ¼, Section 27, Township 28 North, Range 13 West, Dunn County

1.4 Site History

A bulk petroleum storage facility operated on the property from at least the 1930s until the1980s. The property has been vacant since the 1980s. In 1985, five above ground storage tanks (ASTs) were removed from the subject property. The ASTs consisted of two 6,000-gallon leaded gasoline, two 6,000-gallon fuel oil, and one 6,000-gallon diesel.

On April 13, 1995, Cedar Corporation conducted a Phase 1 Investigation for Hunt-Wesson Foods. During the Phase 1 Investigation, three soil borings (B-1, B-2, and B-3) were completed on the Amberg Oil property. Two soil samples were collected from each soil boring for laboratory analysis (DRO, GRO, VOC, Lead, and Cadmium). Petroleum compounds were detected in four of the soil samples and subsequently reported to the WDNR, who then required that a site investigation be conducted.

Numerous other LUST, ERP, and Spill sites exist within the City of Menomonie, the closest being the Hunt-Wesson MGP Coal Gas Plant – Menomonie site which is located immediately to the south across 1st Avenue W. The Hunt-Wesson MGP site was closed by the WDNR on April 29, 2008 with residual soil and groundwater contamination. Remaining contaminants at the Hunt-Wesson site include VOCs, PAHs, and Metals.

2.0 GEOLOGY AND RECEPTORS

2.1 Regional and Local Geology and Hydrogeology

Topography and Regional Setting

According to the USGS Hydrologic Atlas, Menomonie is located in the southwestern portion of the Chippewa River Basin. This area is characterized by flat topped and steep sided hills and deeply entrenched stream valleys with thick alluvial fill. Glacial drift is very thin except in valleys.

The elevation of the site is approximately 800 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.

Unconsolidated materials in the area of the investigation generally consist of the following in downward stratigraphic order:

- A tan to gray very fine to coarse grained sand with varying amounts of gravel was encountered from ground surface to depths ranging from 7 to 10 feet bgs.
- A tan to gray to red weathered sandstone was encountered at depths ranging from 7 to 9.5 feet bgs and extending to 9 to 10 feet bgs.

Competent sandstone bedrock appears to exist at depths ranging from 9 to 10 feet bgs based on the Geoprobe boring refusal depths.

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 Geoprobe project, the depth to groundwater appears to range from approximately 7.5 to 8 feet bgs depending on boring location. Based on data, for monitoring wells near the subject property, from the GIS Registry for the nearby closed Hunt Wesson MGP Coal Gas Plant Menomonie ERP site (BRRTS# 02-17-000328), the depth to groundwater appears to range from 6.75 to 15.73 feet bgs depending on well location and time of year.

Monitoring wells were not installed as art of this site investigation. Based on data from the GIS Registry for the nearby closed Hunt Wesson MGP Coal Gas Plant Menomonie ERP site (BRRTS# 02-17-000328), the regional groundwater flow appears to be towards the west to slightly southwest.

A Groundwater Flow Direction Map from the closed Hunt Wesson MGP Coal Gas Plant Menomonie ERP site GIS Registry is presented in Section 6.

2.2 Receptors

Buildings, Basements, Sumps, and Utility Corridors

The extent of unsaturated soil contamination exceeding the NR720 Groundwater RCL values and groundwater contamination exceeding the NR140 Enforcement Standards and Preventive Action Limits extends beneath the on-site building. However, this structure is unoccupied and is elevated approximately 1-1.5 feet above the ground surface with a crawl space below the floor of the structure the area where the soil and groundwater contamination exists. Soil contamination in the area of the on-site structure exists at approximately 8 feet bgs and Benzene concentrations in groundwater in the area of the

building are below the NR140 Preventive Action Limit. Therefore, vapor intrusion into the on-site structure does not appear to be a risk at this site.

No utility lines are known to exist in the area of unsaturated soil contamination exceeding the NR720 RCL values or groundwater contamination exceeding the NR140 Enforcement Standards. One utility corridor (natural gas) appears to exist in the area of groundwater contamination exceeding the NR140 Preventive Action Limits. The exact depth of this utility line is not known; however, utility lines of this type are usually installed at depth less than 30 inches below ground surface. Based on this, it appears that this utility corridor is likely above the watertable and does not appear to be a preferential contaminant mitigation pathway.

Municipal and Private Water Supply Wells

The City of Menomonie has three active municipal wells which provide potable water throughout the city. The nearest municipal well is located 2,350 feet to the southeast of the subject property. There are seven permitted private wells within the city limits which are all used for non-potable purposes. The nearest private well is located approximately 3,600 feet to the west of the subject property.

Surface Waters

The nearest surface water is the Red Cedar River, which bounds the subject property to the northwest and is located between 40 and 100 feet west to northwest of the former bulk petroleum storage facility.

3.0 SITE INVESTIGATION RESULTS AND RISK CRITERIA

3.1 Methods of Investigation

Workscope

The workscope performed for the LUST Investigation included the following:

1) Collect site background information.

2) On February 6, 2017, METCO prepared a LUST Investigation Field Procedures Workplan.

3) On May 15, 2017, METCO supervised the completion of eighteen Geoprobe borings. Fifty-two soil and fifteen groundwater samples were collected for field and/or laboratory analysis.

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 April 13, 1995, as part of a Phase 1 Environmental Site Assessment, three soil borings (B-1, B-2, & B-3) were completed with six soil samples collected for laboratory analysis (DRO, GRO, VOC, Cadmium, and Lead).

On May 15, 2017, during the Geoprobe project, eighteen Geoprobe borings (G-1 through G-18) with fifty-two soil samples collected for field and/or laboratory analysis (PID, VOC, PVOC, and/or Lead). One of the soil samples was also submitted for DRO, GRO, TCLP Benzene, and TCLP Lead analysis.

Soil analytical results are summarized in the Soil Analytical Results Tables with exceedances of the NR720 Groundwater RCL's, Non-Industrial 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 May 15, 2017, as part of the Geoprobe project, groundwater samples were collected from fifteen Geoprobe borings (G-1 through G-13, G-16, & G-18) for laboratory analysis (PVOC and Naphthalene).

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

The Geoprobe boring 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 Conductivity

Monitoring wells were not installed as part of this site investigation, however based on the soil boring logs, it appears that the watertable is located within a very fine to coarse grained sand with varying amounts of gravel. Book values for the hydraulic conductivity of sand range from $1X10^{-3}$ cm/sec to $1X10^{-1}$ cm/sec. Based on April 9, 2003 Groundwater Flow Map for the nearby closed Hunt Wesson MGP Coal Gas Plant Menomonie ERP site (BRRTS# 02-17-000328), the hydraulic gradient for this site is approximately $8.57X10^{-2}$. Using the

above values and assuming 30% porosity the groundwater flow velocity for this site appear to range from 90 to 9010 m/year for the unconsolidated materials.

3.4 Discussion of Results

Geologic material in the area of investigation generally consists of

- A very fine to coarse grained sand with varying amounts of gravel was encountered from ground surface to depths ranging from 7 to 9.5 feet bgs.
- Weathered sandstone was encountered at depths ranging from 7 to 9.5 feet bgs and extending to 9 to 10 feet bgs.

Competent sandstone bedrock appears to exist at depths ranging from 9 to 10 feet bgs based on the Geoprobe boring refusal depths.

According to data collected from the Geoprobe project, the depth to groundwater appears to range from approximately 7.5 to 8 feet bgs depending on boring location. Based on data for monitoring wells near the subject property from the GIS Registry for the nearby closed Hunt Wesson MGP Coal Gas Plant Menomonie ERP site (BRRTS# 02-17-000328), the depth to groundwater appears to range from 6.75 to 15.73 feet bgs depending on well location and time of year.

Monitoring wells were not installed as art of this site investigation. Based on data from the GIS Registry for the nearby closed Hunt Wesson MGP Coal Gas Plant Menomonie ERP site (BRRTS# 02-17-000328), the regional groundwater flow appears to be towards the west to slightly southwest.

An area of unsaturated soil contamination, which exceeds the NR720 Groundwater RCL values, exists in the area of the former bulk oil tanks, oil warehouse, and former loading area. This irregularly shaped area appears to measure up to 142 feet long, 56 feet wide, and up to 8 feet thick.

Soil contamination exceeding the NR720 Non-Industrial Direct Contact RCL values does not appear to be present at this site.

Dissolved phase contaminant plumes exceeding the NR140 ES and PAL have formed at the watertable in the area of the former loading area (G-1 & G-7) and in the area of the former bulk oil tanks (G-9) and have migrated toward the west. The plume in the area of the former loading area is approximately 40 feet long and 32 feet wide and the plume in the area of the former bulk oil tanks is approximately 22 feet long and 22 feet wide.

Based on the Geoprobe project groundwater analytical results, three groundwater samples (G-1-W, G-7-W, and G-9-W) currently show NR140 ES exceedances for petroleum compounds (PVOC's or Naphthalene). The other twelve groundwater samples currently either show no exceedances of the NR140 ES or PAL (G-2-W, G-3-W, G-4-W, G-6-W, & G-8-W) or show no detects (G-5-W, G-10-W through G-13-W, G-16-W, & G-18-W) for PVOC's or Naphthalene.

Based on the receptor survey, groundwater contamination does not appear to pose a risk to any municipal or private wells. Vapor intrusion does not appear to pose a risk to the on-site structures. There does not appear to be any risk to any surface waters or risk of contaminant migration along utility corridors.

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

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

3.5 Risk Assessment

Per the NR746.03 definitions a release from petroleum tanks is considered "high risk" if any of the four following 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 Amberg Oil Tank Farm site is currently a "high risk" site, because of the NR140 Enforcement Standard exceedances in bedrock.

4.0 CONCLUSION

4.1 Investigation Summary

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

4.2 Recommendations

It is the recommendation of METCO that this site be reviewed for the possibility of closure for the following reasons: 1) The extent and degree of petroleum contamination in soil and groundwater has been adequately defined. 2) Soil contamination exceeding the NR720 Non-Industrial Direct Contact RCLs values does not appear to be present at this site. 3) Free product had never been encountered at this site. 4) Only three groundwater samples (G-1-W, G-7-W, & G-9-W) showed NR140 Enforcement Standard exceedances, for Naphthalene and/or Trimethylbenzenes only and only one groundwater sample (G-1-W) showed a detect for Benzene. 5) Based on the receptor survey, groundwater contamination

does not appear to pose a risk to any municipal or private wells, surface waters, or risk of contaminant migration along utility corridors. 6) Vapor intrusion does not appear to pose a risk to the on-site structures.

The Case Closure – GIS Registry Packet (NR4400-202) is also being submitted along with this 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.

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

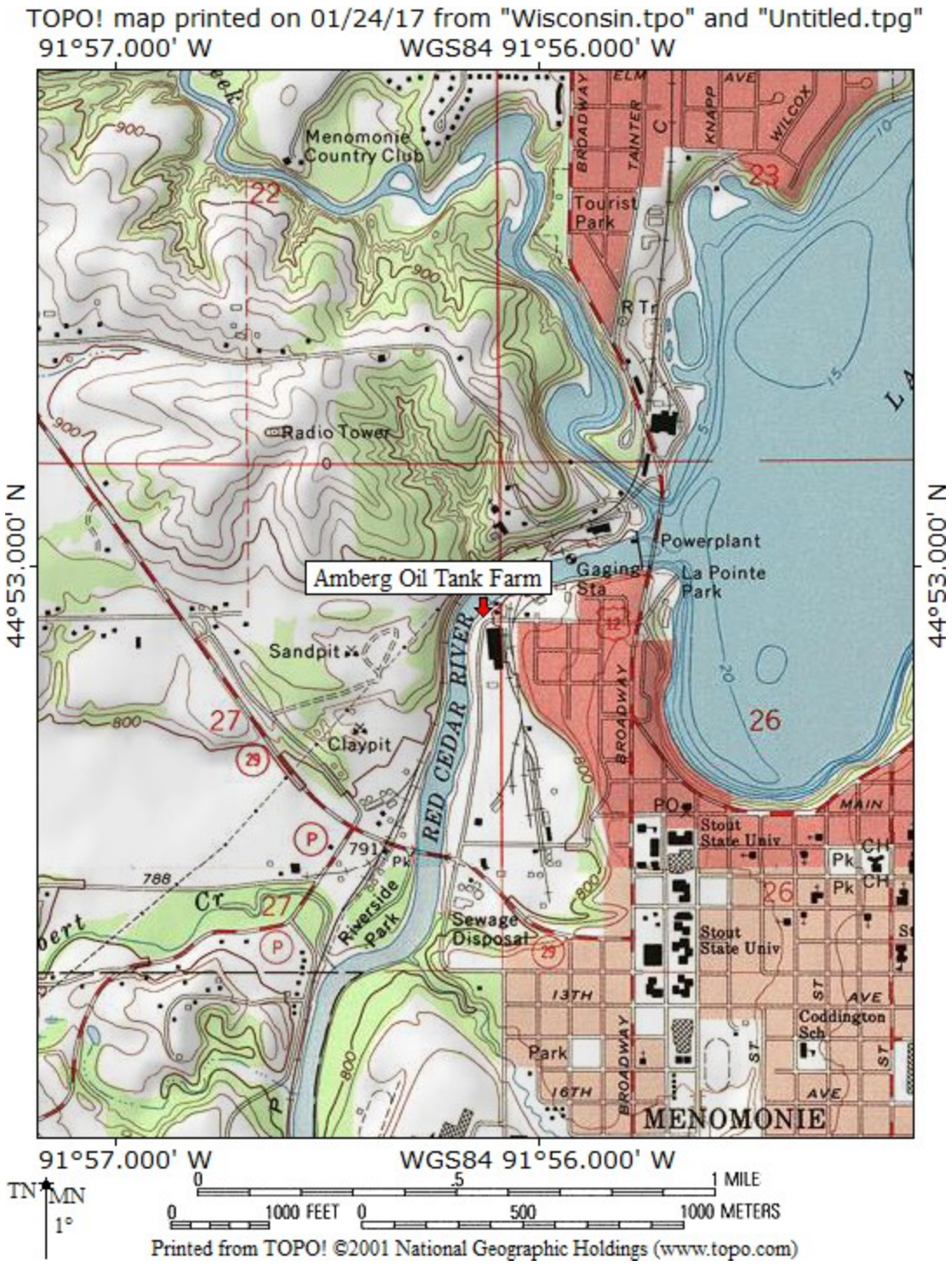
Walton, W.C., 1989, Groundwater Pumping Tests, Chelsea, Michigan.

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

Young, H.L. and Hindall, S.M., 1972, Water Resources of Wisconsin – Chippewa River Basin, Hydrologic Investigations, Atlas HA-386, U.S. Geological Survey, Washington D.C.

Other information and data was collected from Dunn County, City of Menomonie, Diggers Hotline, Geiss Soil & Samples, LLC, Synergy Environmental Lab, Wisconsin Department of Natural Resources, and local people.

6.0 FIGURES



B.1.a LOCATION MAP CONTOUR INTERVAL 20 FEET
AMBERG OIL TANK FARM – MENOMONIE, WI
SEAMLESS USGS TOPOGRAPHIC MAPS ON CD-ROM

B.I.b DETAILED SITE MAP

AMBERG OIL TANK FARM

METCO
709 Gillette Street, Ste 3
La Crosse, WI 54603
Tel. (608) 781-8879
Fax: (608) 781-8893
Excellence through experience

MENOMONIE, WISCONSIN
DRAWN BY: ED
DATE: 01/24/2017

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

KEY TO FORMER TANK SYSTEM
A - OIL PUMP HOUSE - 1951 SANBORN MAP
B - BULK OIL TANK - 1951 SANBORN MAP
C - OIL WHAREHOUSE - 1951 SANBORN MAP
D - BULK OIL TANK - 1972 AERIAL PHOTO

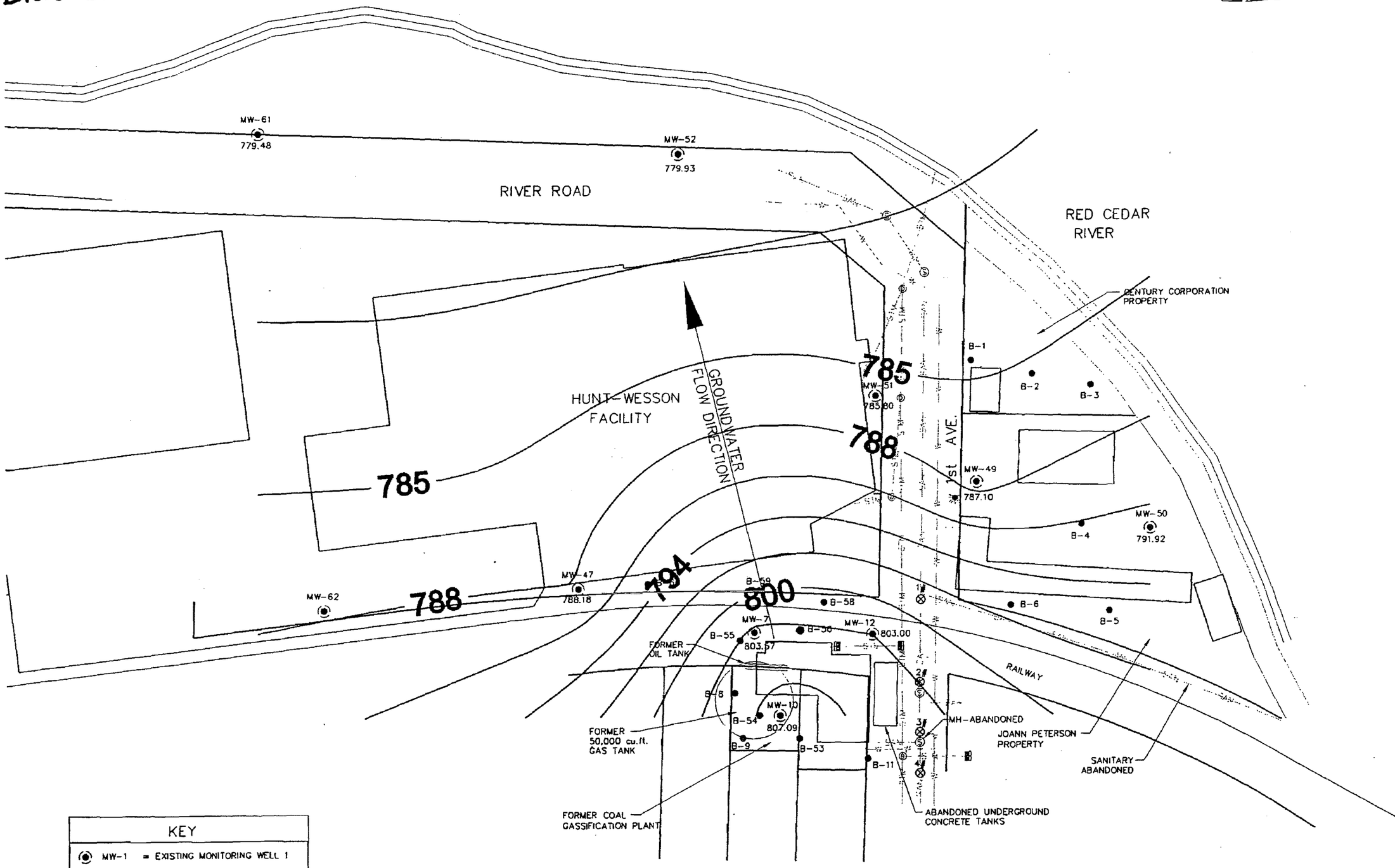
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- NATURAL GAS LINE
- BURIED ELECTRIC LINE
- TELEPHONE/FIBER OPTIC LINE
- PROPERTY BOUNDARY
- PIESA SOIL SAMPLE LOCATION (1995)
- ABANDONED MONITORING WELL LOCATION - HUNT WESSON
- MONITORING WELL LOCATION
- SOIL BORING LOCATION

SCALE:
1 INCH = 30 FEET
0 15 30

RED CEDAR RIVER
FLOW
RIVER ROAD
CITY OF MENOMONIE
NO ADDRESS
CONAGRA FOODS
IST AVENUE W
STORAGE BUILDING
503 IST AVENUE W
FORMER COAL STORAGE AREA
EARTHEN BERM
EARTHEN BERM
EARTHEN BERM
VAN
SHED
LOADING AREA
OVERHANG
GRAVEL
GRAVEL
GRASS
GRASS
CONCRETE
MW-50
MW-49
MW-51
A
B
C
D
G-1
G-2
G-3
G-4
G-5
G-6
G-7
G-8
G-9
G-10
G-11
G-12
G-13
G-14
G-15
G-16
G-17
G-18
B-1
B-2
B-3

HUNT WESSON MGP COAL GAS PLANT - MENOMONIE
BRRTS# 02-17-000328

B.3.c. Groundwater Flow Direction



KEY	
MW-1	= EXISTING MONITORING WELL 1
B-1	= EXISTING BOREHOLE 1
1#	= SAMPLE NO. 1

JOB NO	425-0027
BOOK NO	
DRAWN BY	TDD
CHECKED BY	
DATE	
REVISIONS	
REFERENCE FILE	
DRAWING FILE	HWGWF040903.DWG

Cedar corporation
engineers • architects • planners • environmental specialists
land surveyors • landscape architects • interior designers
604 Wilson Avenue
Menomonie, Wisconsin 54751
715-235-9081
800-472-7372
FAX 715-235-2727
www.cedarcorp.com

GROUNDWATER FLOW DIRECTION
CONAGRA/HUNT-WESSON,INC.
04-09-03
MENOMONIE, WI

SHEET NO.
Figure 4

B.2.a. SOIL CONTAMINATION

AMBERG OIL TANK FARM

METCO
709 Gillette Street, Ste 3
La Crosse, WI 54603
Tel: (608) 781-8879
Fax: (608) 781-8893
Excellence through experience

MENOMONIE, WISCONSIN

DRAWN BY: ED

DATE: 01/24/2007

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

SCALE:
1 INCH = 30 FEET
0 15 30

● - PIESA SOIL SAMPLE LOCATION (1995)

- ABANDONED MONITORING WELL LOCATION - HUNT WESSON

- MONITORING WELL LOCATION

✕ - SOIL BORING LOCATION

WATER LINE

SANITARY SEWER LINE

STORM SEWER LINE

NATURAL GAS LINE

BURIED ELECTRICAL LINE

TELEPHONE/FIBER OPTIC LINE

PROPERTY BOUNDARIES (APPROXIMATE)

OVERHEAD UTILITIES

KEY TO FORMER TANK SYSTEM
A - OIL PUMP HOUSE - 1951 SANBORN MAP
B - BULK OIL TANK - 1951 SANBORN MAP
C - OIL WHAREHOUSE - 1951 SANBORN MAP
D - BULK OIL TANK - 1972 AERIAL PHOTO

RED CEDAR RIVER

FLOW

RIVER ROAD

CITY OF MENOMONIE
NO ADDRESS

CONAGRA FOODS

IST AVENUE W

EARTHEN BERM

EARTHEN BERM

EARTHEN BERM

STORAGE BUILDING
503 IST AVENUE W

FORMER COAL STORAGE AREA

GRAVEL

SHED

LOADING AREA

OVERHANG

GRASS

CONCRETE

GRAVEL

GRASS

MW-50

MW-49

MW-51

B-1

B-2

B-3

G-1 G-2 G-3 G-4 G-5 G-6 G-7 G-8 G-9 G-10 G-12 G-13 G-14 G-15 G-16 G-17 G-18

ESTIMATED EXTENT OF UNSATURATED SOIL CONTAMINATION EXCEEDING THE NR720 GROUNDWATER RCL VALUES

HUNT WESSON MGP COAL GAS PLANT - MENOMONIE
BRRTS# 02-17-000328

B.3.b. GROUNDWATER ISOCONCENTRATION

AMBERG OIL TANK FARM

METCO
709 Gillette Street, Ste 3
La Crosse, WI 54603
Tel: (608) 781-8879
Fax: (608) 781-8893
excellence through experience

MENOMONIE, WISCONSIN

DRAWN BY: ED

DATE: 01/24/2007

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

SCALE: 1 INCH = 30 FEET

0 15 30

● - PIESA SOIL SAMPLE LOCATION (1995)

- ABANDONED MONITORING WELL LOCATION - HUNT WESSON

- MONITORING WELL LOCATION

× - SOIL BORING LOCATION

WATER LINE

SANITARY SEWER LINE

STORM SEWER LINE

NATURAL GAS LINE

BURIED ELECTRICAL LINE

TELEPHONE/FIBER OPTIC LINE

PROPERTY BOUNDARIES (APPROXIMATE)

OVERHEAD UTILITIES

KEY TO FORMER TANK SYSTEM
A - OIL PUMP HOUSE - 1951 SANBORN MAP
B - BULK OIL TANK - 1951 SANBORN MAP
C - OIL WHAREHOUSE - 1951 SANBORN MAP
D - BULK OIL TANK - 1972 AERIAL PHOTO

RED CEDAR RIVER

FLOW

RIVER ROAD

CITY OF MENOMONIE
NO ADDRESS

CONAGRA FOODS

IST AVENUE W

STORAGE BUILDING
503 IST AVENUE W

FORMER COAL STORAGE AREA

EARTHEN BERM

EARTHEN BERM

EARTHEN BERM

D VAN

GRAVEL

SHED

LOADING AREA

OVERHANG

GRAVEL

GRASS

GRASS

CONCRETE

PAL

ES

ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING THE NR140 ENFORCEMENT STANDARD (ES) AND/OR PREVENTIVE ACTION LIMIT (PAL)

MW-50

MW-49

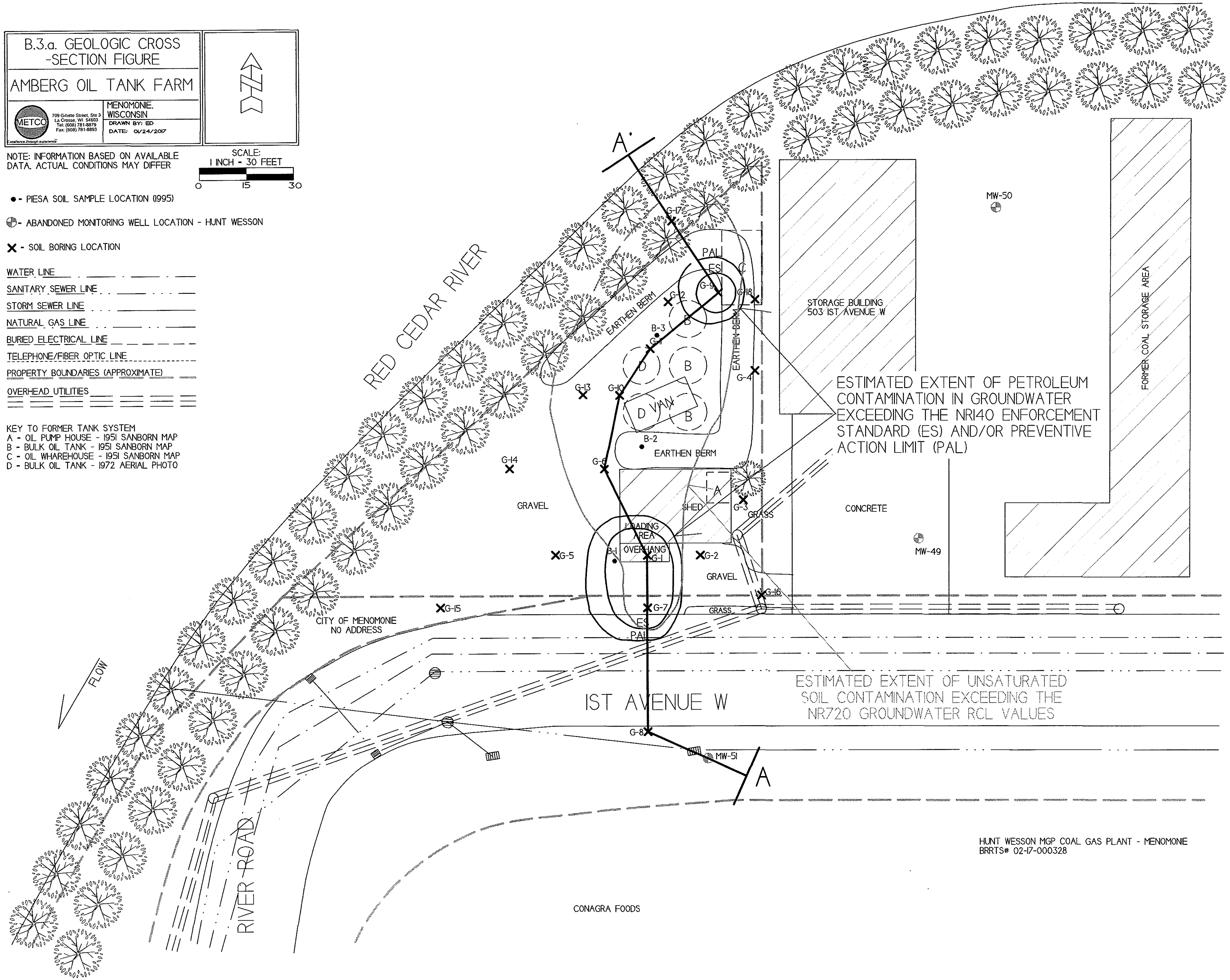
MW-51

G-1 G-2 G-3 G-4 G-5 G-6 G-7 G-8 G-9 G-10 G-11 G-13 G-14 G-15 G-16 G-17 G-18

B-1 B-2 B-3

A B C D

HUNT WESSON MGP COAL GAS PLANT - MENOMONIE
BRRTS# 02-17-000328


B.3.a. GEOLOGIC CROSS -SECTION FIGURE
AMBERG OIL TANK FARM
METCO
709 Gillette Street, Ste 3 La Crosse, WI 54603 Tel: (608) 781-8879 Fax: (608) 781-8893
MENOMONIE, WISCONSIN
DRAWN BY: ED
DATE: 01/24/2017
NOTE: INFORMATION BASED ON AVAILABLE DATA. ACTUAL CONDITIONS MAY DIFFER
SCALE: 1 INCH = 30 FEET
0 15 30
● - PIESA SOIL SAMPLE LOCATION (1995)
ABANDONED MONITORING WELL LOCATION - HUNT WESSON
✕ - SOIL BORING LOCATION
WATER LINE
SANITARY SEWER LINE
STORM SEWER LINE
NATURAL GAS LINE
BURIED ELECTRICAL LINE
TELEPHONE/FIBER OPTIC LINE
PROPERTY BOUNDARIES (APPROXIMATE)
OVERHEAD UTILITIES
KEY TO FORMER TANK SYSTEM
A - OIL PUMP HOUSE - 1951 SANBORN MAP
B - BULK OIL TANK - 1951 SANBORN MAP
C - OIL WHAREHOUSE - 1951 SANBORN MAP
D - BULK OIL TANK - 1972 AERIAL PHOTO
RED CEDAR RIVER
FLOW
A'
A
EARTHEN BERM
STORAGE BUILDING 503 1ST AVENUE W
FORMER COAL STORAGE AREA
MW-50
MW-49
MW-51
ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING THE NR140 ENFORCEMENT STANDARD (ES) AND/OR PREVENTIVE ACTION LIMIT (PAL)
ESTIMATED EXTENT OF UNSATURATED SOIL CONTAMINATION EXCEEDING THE NR720 GROUNDWATER RCL VALUES
PAL
ES
G-17
G-9
G-18
G-12
B-3
G-11
G-4
G-13
G-10
D VAN
B
B-2
G-14
G-6
SHED
G-3
GRASS
GRAVEL
CONCRETE
LOADING AREA
OVERHANG
B-1
G-1
G-5
G-2
G-16
G-15
G-7
CITY OF MENOMONIE NO ADDRESS
1ST AVENUE W
G-8
RIVER ROAD
CONAGRA FOODS
HUNT WESSON MGP COAL GAS PLANT - MENOMONIE
BRRTS# 02-17-000328

B.3.a. GEOLOGIC CROSS -SECTION FIGURE

AMBERG OIL TANK FARM

METCO
709 Gillette Street, Ste 3
La Crosse, WI 54603
Tel: (608) 781-8879
Fax: (608) 781-8893
"Excellence through experience"

MENOMONIE, WISCONSIN

DRAWN BY: ED

DATE: 01/24/2017

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

SCALE: 1 INCH = 20 FEET

0 20

KEY TO FORMER TANK SYSTEM
A = OIL PUMP HOUSE - 1951 SANBORN MAP
B = BULK OIL TANK - 1951 SANBORN MAP
C = OIL WHAREHOUSE - 1951 SANBORN MAP
D = BULK OIL TANK - 1972 AERIAL PHOTO

● = PIESA SOIL SAMPLE LOCATION (1995)

= ABANDONED MONITORING WELL LOCATION - HUNT WESSON

X = SOIL BORING LOCATION

WATER LINE

SANITARY SEWER LINE

STORM SEWER LINE

NATURAL GAS LINE

BURIED ELECTRICAL LINE

TELEPHONE/FIBER OPTIC LINE

PROPERTY BOUNDARIES (APPROXIMATE)

OVERHEAD UTILITIES

FLOW RED CEDAR RIVER

EARTHEN BERM

EARTHEN BERM

EARTHEN BERM

STORAGE BUILDING
503 1ST AVENUE W

ESTIMATED EXTENT OF PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING THE NR140 ENFORCEMENT STANDARD (ES) AND/OR PREVENTIVE ACTION LIMIT (PAL)

ESTIMATED EXTENT OF UNSATURATED SOIL CONTAMINATION EXCEEDING THE NR720 GROUNDWATER RCL VALUES

A'

A

A

B

B

B

B

C

D

D VAN

SHED

LOADING AREA

OVERHANG

PAL

ES

ES

PAL

G-1 G-2 G-3 G-4 G-5 G-6 G-7 G-8 G-9 G-10 G-11 G-12 G-13 G-14 G-15 G-16 G-17 G-18

B-1 B-2 B-3

MW-49

MW-51

GRAVEL

GRAVEL

GRASS

GRASS

CONCRETE

IST AVENUE W

HUNT WESSON MGP COAL GAS PLANT - MENOMONIE
BRRTS# 02-17-000328

CONAGRA FOODS

B.3.a. GEOLOGIC CROSS -SECTION FIGURE(S) (A-A')

AMBERG OIL TANK FARM

METCO
709 Gillette Street, Suite 3
La Crosse, WI 54603
Tel: (608) 781-8879
Fax: (608) 781-8893
Excellence through experience

MENOMONIE, WISCONSIN

DRAWN BY: MH
DATE: 8/21/2017

- ABANDONED MONITORING WELL LOCATION - HUNT WESSON
- SOIL BORING LOCATION
- GEOPROBE SOIL SAMPLING INTERVAL
- WATERTABLE (GEOPROBE PROJECT)
- WATERTABLE (HUNT WESSON ERP SITE)

- TAN TO GRAY VERY FINE TO COARSE GRAINED SAND WITH VARYING AMOUNTS OF GRAVEL
- GRAY TO TAN TO RED WEATHERED SANDSTONE
- SANDSTONE

NOTES:
- 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).
- ONLY ANALYTICAL RSULTS EXCEEDING THE LIMIT OF DETECTION HAVE BEEN DOCUMENTED ON THIS MAP. PLEASE SEE THE DATA TABLES AND/OR LABORATORY REPORTS FOR COMPLETE RESULTS.
- SOIL AND GROUNDWATER SAMPLE DATA IS BASED ON LABORATORY RESULTS FROM SAMPLES COLLECTED DURING THE GEOPROBE PROJECT - (5/15/2017)

PID=PHOTOIONIZATION DETECTOR
PVOC=PETROLEUM VOLATILE ORGANIC COMPOUNDS
PAH=POLYAROMATIC HYDROCARBONS
B=BENZENE
E=ETHYLBENZENE
N=NAPHTHALENE
T=TOLUENE
124-TMB=1,2,4-TRIMETHYLBENZENE
135-TMB=1,3,5-TRIMETHYLBENZENE
TMB=TRIMETHYLBENZENES
X=XYLENE
sec-B=sec-BUTYLBENZENE
n-B=n-BUTHYLBENZENE
I=ISOPROPYLTOUENE
p-I=p-ISOPROPYLTOUENE
n-P=n-PROPYLBENZENE

AY=ACENAPHTHYLENE
A=ANTHRACENE
B(a)A=BENZO(a)ANTHRACENE
B(a)P=BENZO(a)PYRENE
B(b)F=BENZO(b)FLUORANTHENE
B(g,h,I)p=BENZO(g,h,I)PERLENE
B(k)F=BENZO(k)FLUORANTHENE
C=CHRYSENE
D(a,h)A=DIBENZO(a,h)ANTHRACENE
F=FLUORANTHENE
I(1,2,3-cd)P=INDENO(1,2,3-cd)PYRENE
1-M=1-METHYLNAPHTHALENE
2-M=2-METHYLNAPHTHALENE
P=PHENANTHRENE
PY=PYRENE
2-M=2-METHYLNAPHTHALENE

HORIZONTAL SCALE: 1 INCH = 20 FEET
0 20

VERTICAL SCALE: 1 INCH = 5 FEET
0 5

A

A'

ESTIMATED EXTENT ON UNSATURATED SOIL CONTAMINATION (BASED ON THE ALL-TIME LOW WATERTABLE) EXCEEDING THE NR720 GROUNDWATER RCL VALUES FOR LEAD ONLY

~802 FEET MSL
~800 FEET MSL
~798 FEET MSL
~796 FEET MSL
~794 FEET MSL
~792 FEET MSL
~790 FEET MSL
~788 FEET MSL
~786 FEET MSL
~784 FEET MSL
~782 FEET MSL
~780 FEET MSL
~778 FEET MSL
~776 FEET MSL

GRASS | MW-51 | GRASS | G-8 | 1ST AVENUE W | G-7 | GRAVEL | OVERHANG | G-1 | ON-SITE BUILDING | GRAVEL | G-6 | TALL GRASS & BRUSH | G-10 | BRUSH & TREES | G-11 | BRUSH & TREES | G-9 | BRUSH & TREES | EARTHEN BERM | G-17 | BRUSH & TREES

FORMER BULK OIL TANK
FORMER BULK OIL TANK

G-8-1 (3.5 FEET)
PID=8.2
NOT SAMPLED

G-8-2 (8 FEET)
PID=3.6
NOT SAMPLED

G-8-3 (10 FEET)
PID=4.8
NOT SAMPLED

5/15/2017

6/29/2001
ALL-TIME HIGH WATERTABLE

4/1/2003
ALL-TIME LOW WATERTABLE

G-7-1 (3.5 FEET)
PID=5.4
LEAD= 2.93
NO DETECT PVOC OR PAH

G-7-2 (8 FEET)
PID=4.7
NOT SAMPLED

G-7-3 (8.5 FEET)
PID=330
B= 0.48
E= 0.82
N= 4.6
124-TMB= 81
135-TMB= 14
X= 4.38

G-1-1 (3.5 FEET)
PID=2.9
LEAD= 2.9
A= 0.14
B(a)A= 0.0164
B(g,h,I)P= 0.0159
2-M= 0.0164

G-1-2 (8 FEET)
PID=3.69
LEAD= 10.7
sec-B= 1.78
n-B= 10
E= 4
T= 1.03
I= 0.81
N= 12.6
n-P= 7
124-TMB= 72
135-TMB= 24
X= 38.2

G-1-3 (10 FEET)
PID=65
NOT SAMPLED

G-6-1 (3.5 FEET)
PID=9.5
LEAD= 3.52
N= 0.094
T= 0.032
124-TMB= 0.0254
X= 0.102
AY= 0.072
A=0.0203
B(a)A= 0.038
B(a)P= 0.032
B(b)F= 0.049
B(g,h,I)P= 0.053
C= 0.053
D(a,h)A= 0.0137
F= 0.087
I(1,2,3-cd)P= 0.0298
1-M= 0.53
2-M= 0.203
P= 0.203
PY= 0.06

G-6-2 (8 FEET)
PID=5.7
NOT SAMPLED

G-6-3 (8.5 FEET)
PID=21
E= 0.067
N= 7.7
124-TMB= 0.43
135-TMB= 0.91
X= 0.250

G-10-1 (3.5 FEET)
PID=3.3
LEAD= 20.4
ND PVOC OR PAH

G-10-2 (8 FEET)
PID=6.20
NO DETECT PVOC OR N

G-10-3 (10 FEET)
PID=5
NOT SAMPLED

G-11-1
NO RECOVERY

G-11-2
NO RECOVERY

G-11-3 (10 FEET)
PID=14
T= 6
E= 0.16
124-TMB= 0.52
135-TMB= 0.71
X= 0.56

G-9-1 (3.5 FEET)
PID=5.9
LEAD= 4.77
E= 0.0254
N= 0.06
AY= 0.029
A= 0.0164
B(a)A= 0.034
B(a)P= 0.038
B(b)F= 0.058
B(g,h,I)P= 0.094
B(k)F= 0.0191
C= 0.04
D(a,h)A= 0.0163
F= 0.0293
I(1,2,3-cd)P= 0.047
1-M= 0.197
2-M= 0.206
P= 0.078
PY= 0.048

G-9-2 (8 FEET)
PID=5.3
NOT SAMPLED

G-9-3 (8.5 FEET)
PID=29
N= 3.2
T= 0.131
124-TMB= 2.15
135-TMB= 1.61
X= 0.665

G-17-1 (3.5 FEET)
PID=1.5
NOT SAMPLED

G-17-2 (8 FEET)
PID=1.8
NOT SAMPLED

G-17-3 (8.5 FEET)
PID=1.99
E= 0.037
N= 1.37
T= 0.047
124-TMB= 0.54
135-TMB= 0.33
X= 0.232

ESTIMATED EXTENT ON UNSATURATED SOIL CONTAMINATION (BASED ON THE ALL-TIME LOW WATERTABLE) EXCEEDING THE NR720 GROUNDWATER RCL VALUES

ESTIMATED EXTENT ON PETROLEUM CONTAMINATION IN GROUNDWATER EXCEEDING THE NR140 ENFOCEMENT STANDARDS AND/OR PREVENTIVE ACTION LIMITS

RED CEDAR RIVER

G-8-W
TMB= 1.92-2.83

G-7-W
E= 48
N= 40
TMB= 113
X= 324

G-1-W
B= 0.31
E= 141
N= 450
T= 39
TMB= 1313
X= 1290

G-6-W
T= 2.96

G-10-W
NO DETECTS PVOC OR N

G-11-W
NO DETECT PVOC OR N

G-9-W
E= 216
N= 156
TMB= 191
X= 18.57

NOT SAMPLED

7.0 DATA TABLES, GRAPHS, AND STATISTICAL ANALYSIS

A.2 Soil Analytical Results Table
Amberg Oil Tank Farm BRRTS #02-17-152462

																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 (ppb)	Exeedance Count	Hazard Index	Cumulative Cancer Risk
B1	5-7	U	04/19/95	NM	12.5	<10	<10	<0.025	<0.025	NS	<0.050	<0.025	NS	NS	<0.025	SEE VOC SHEET			
B1	7.5-9.5	U	04/19/95	NM	8.8	<10	<10	<0.025	<0.025	NS	0.099	<0.025	NS	NS	<0.025	SEE VOC SHEET			
B2	5-7	U	04/19/95	NM	5.3	220	<10	<0.025	<0.025	NS	<0.050	<0.025	NS	NS	<0.025	SEE VOC SHEET			
B2	7.5-9.5	U	04/19/95	NM	7.1	860	110	<0.025	<0.025	NS	**0.22**	<0.025	NS	NS	<0.025	SEE VOC SHEET			
B3	5-7	U	04/19/95	NM	6.2	54	<10	<0.025	<0.025	NS	<0.050	<0.025	NS	NS	<0.025	SEE VOC SHEET			
B3	7.5-9.5	U	04/19/95	NM	4.6	3200	46	<0.025	<0.025	NS	<0.050	<0.025	NS	NS	<0.025	SEE VOC SHEET			
G-1-1	3.5	U	05/15/17	2.90	2.46	NS	NS	<0.025	<0.025	<0.025	<0.0153	<0.025	<0.025	<0.025	<0.075	NS	0	0.0001	1.4E-08
G-1-2	8.0	U	05/15/17	369.00	10.7	364	960	<0.030	**4.0**	<0.5	**12.6**	<0.32	**72**	**24**	**38.2**	TCLP LEAD <0.1 TCLP BENZENE <0.05 SEE VOC SHEET			
G-1-3	10.0	U	05/15/17	165.00	NOT SAMPLED											NS			
G-2-1	3.5	U	05/15/17	1.10	2.31	NS	NS	<0.025	<0.025	<0.025	<0.0153	<0.025	<0.025	<0.025	<0.075	NS	0		
G-2-2	8.0	U	05/15/17	1.80	NOT SAMPLED											NS			
G-2-3	8.5	U	05/15/17	27.00	NS	NS	NS	<0.025	<0.025	<0.025	0.050	<0.025	0.050	0.032	<0.075	NS			
G-3-1	3.5	U	05/15/17	5.60	2.87	NS	NS	<0.025	<0.025	<0.025	<0.0153	<0.025	<0.025	<0.025	<0.075	NS	0		
G-3-2	7.0	U	05/15/17	8.20	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-3-3	9.0	U	05/15/17	10.40	NOT SAMPLED											NS			
G-4-1	3.5	U	05/15/17	12.30	2.74	NS	NS	<0.025	<0.025	<0.025	<0.0153	<0.025	<0.025	<0.025	<0.075	NS	0		
G-4-2	7.5	U	05/15/17	5.70	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-4-3	10.0	U	05/15/17	6.40	NOT SAMPLED											NS			
G-5-1	3.5	U	05/15/17	5.30	11.1	NS	NS	<0.025	<0.025	<0.025	<0.0153	<0.025	<0.025	<0.025	<0.075	NS	0	0.0008	1.4E-07
G-5-2	8.0	U	05/15/17	4.10	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-5-3	10.0	U	05/15/17	5.10	NOT SAMPLED											NS			
G-6-1	3.5	U	05/15/17	9.50	3.52	NS	NS	<0.025	<0.025	<0.025	0.094	0.032	0.0254	<0.025	0.102	NS	0	0.0035	5.3E-07
G-6-2	8.0	U	05/15/17	5.70	NOT SAMPLED											NS			
G-6-3	8.5	U	05/15/17	21.00	NS	NS	NS	<0.025	0.067	<0.025	**7.7**	<0.025	0.43	0.91	0.250	NS			
G-7-1	3.5	U	05/15/17	5.40	2.93	NS	NS	<0.025	<0.025	<0.025	<0.0153	<0.025	<0.025	<0.025	<0.075	NS	0		
G-7-2	8.0	U	05/15/17	4.70	NOT SAMPLED											NS			
G-7-3	8.5	U	05/15/17	330.00	NS	NS	NS	**0.48**	0.82	<0.25	**4.6**	<0.25	**31**	**14**	**4.38**	NS			
G-8-1	3.5	U	05/15/17	8.20	NOT SAMPLED											NS	0		
G-8-2	8.0	U	05/15/17	3.60	NOT SAMPLED											NS			
G-8-3	10.0	U	05/15/17	4.80	NOT SAMPLED											NS			
G-9-1	3.5	U	05/15/17	5.90	4.77	NS	NS	<0.025	0.0254	<0.025	0.06	<0.025	<0.025	<0.025	<0.075	NS	0	0.0034	6.2E-07
G-9-2	8.0	U	05/15/17	5.30	NOT SAMPLED											NS			
G-9-3	8.5	U	05/15/17	129.00	NS	NS	NS	<0.125	<0.125	<0.125	**3.2**	0.131	**2.15**	**1.61**	0.665	NS			
G-10-1	3.5	U	05/15/17	3.30	**204**	NS	NS	<0.025	<0.025	<0.025	<0.0153	<0.025	<0.025	<0.025	<0.075	NS	0	0.5100	
G-10-2	8.0	U	05/15/17	6.20	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-10-3	10.0	U	05/15/17	5.00	NOT SAMPLED											NS			
G-11-1	NO RECOVERY															NS			
G-11-2	NO RECOVERY															NS			
G-11-3	10.0	U	05/15/17	114.00	NS	NS	NS	<0.125	<0.125	<0.125	**6.0**	0.16	0.52	0.71	0.561	NS			
G-12-1	3.5	U	05/15/17	2.00	**66.7**	NS	NS	<0.025	<0.025	<0.025	0.094	<0.025	<0.025	<0.025	<0.075	NS	0	0.1720	9.1E-07
G-12-2	8.0	U	05/15/17	5.00	NOT SAMPLED											NS			
G-12-3	8.5	U	05/15/17	19.00	NS	NS	NS	<0.025	<0.025	<0.025	**0.93**	<0.025	<0.025	<0.025	<0.075	NS			
G-13-1	3.5	U	05/15/17	1.40	**90.2**	NS	NS	<0.025	<0.025	<0.025	<0.0153	<0.025	<0.025	<0.025	<0.075	NS	0	0.2255	1.2E-08
G-13-2	8.0	U	05/15/17	1.80	NOT SAMPLED											NS			
G-13-3	8.5	U	05/15/17	1.30	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-14-1	3.5	U	05/15/17	2.10	NOT SAMPLED											NS	0		
G-14-2	8.0	U	05/15/17	1.60	NOT SAMPLED											NS			
G-14-3	10.0	U	05/15/17	1.10	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-15-1	3.5	U	05/15/17	3.00	NOT SAMPLED											NS	0		
G-15-2	8.0	U	05/15/17	3.60	NOT SAMPLED											NS			
G-15-3	9.0	U	05/15/17	2.30	NS	NS	NS	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.075	NS			
G-16-1	3.5	U	05/15/17	1.60	NOT SAMPLED											NS	0		
G-16-2	8.0	U	05/15/17	1.10	NOT SAMPLED											NS			
G-16-3	10.0	U	05/15/17	1.20	NOT SAMPLED											NS			
G-17-1	3.5	U	05/15/17	1.50	NOT SAMPLED											NS	0		
G-17-2	8.0	U	05/15/17	1.80	NOT SAMPLED											NS			
G-17-3	8.5	U	05/15/17	495.00	NS	NS	NS	<0.025	0.037	<0.025	**3.3**	0.047	0.54	0.33	0.232	NS			
G-18-1	3.5	U	05/15/17	2.60	NOT SAMPLED											NS	0		
G-18-2	8.0	U	05/15/17	3.00	NOT SAMPLED											NS			
G-18-3	9.0	U	05/15/17	2.40	NOT SAMPLED											NS			
Groundwater RCL					**27**	-	-	**0.00512**	**1.57**	**0.027**	**0.6582**	**1.11**	**1.38**		**3.96**	-			
Non-Industrial Direct Contact RCL					**400**	-	-	**1.6**	**8.02**	**63.8**	**5.52**	**818**	**219**	**182**	**260**	-		1.00E+00	1.00E-05
Industrial Direct Contact RCL					**(800)**	-		**(7.07)**	**(35.4)**	**(282)**	**(24.1)**	**(818)**	**(219)**	**(182)**	**(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 = Non Industrial Direct Contact RCL Exceedance
(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance
Bold & Asteric * = C-sat Exceedance
Italics = Industrial Direct Contact RCL
NS = Not Sampled
NM = Not Measured
(ppm) = parts per million
ND = No Detects
DRO = Diesel Range Organics
GRO = Gasoline Range Organics
PID = Photoionization Detector
PVOC's = Petroleum Volatile Organic Compounds
VOC's = Volatile Organic Compounds
Note: Non-Industrial RCLs apply to this site.

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

A.2 Soil Analytical Results Table
(PAH)
Amberg Oil Tank Farm BRRTS #02-17-152462

																					DIRECT CONTACT PVOC & PAH COMBINED		
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)	Exeedance Count	Hazard Index	Cumulative Cancer Risk
G-1-1	3.5	U	05/15/17	<0.0151	<0.0159	0.141	0.0164	<0.0113	<0.013	0.0159	<0.0147	<0.0121	<0.0078	<0.0147	<0.0179	<0.0114	<0.0203	0.0164	<0.0153	0.0125	<0.0153	0	0.0001	1.4E-08
G-2-1	3.5	U	05/15/17	<0.0151	<0.0159	<0.0109	<0.0116	<0.0113	<0.013	<0.0114	<0.0147	<0.0121	<0.0078	<0.0147	<0.0179	<0.0114	<0.0203	<0.0113	<0.0153	<0.0111	<0.0153	0		
G-3-1	3.5	U	05/15/17	<0.0151	<0.0159	<0.0109	<0.0116	<0.0113	<0.013	<0.0114	<0.0147	<0.0121	<0.0078	<0.0147	<0.0179	<0.0114	<0.0203	<0.0113	<0.0153	<0.0111	<0.0153	0		
G-4-1	3.5	U	05/15/17	<0.0151	<0.0159	<0.0109	<0.0116	<0.0113	<0.013	<0.0114	<0.0147	<0.0121	<0.0078	<0.0147	<0.0179	<0.0114	<0.0203	<0.0113	<0.0153	<0.0111	<0.0153	0		
G-5-1	3.5	U	05/15/17	<0.0151	<0.0159	<0.0109	0.0176	0.0119	0.0189	0.0216	<0.0147	0.0207	<0.0078	<0.0147	<0.0179	<0.0114	<0.0203	0.0191	<0.0153	0.0307	0.0241	0	0.0008	1.4E-07
G-6-1	3.5	U	05/15/17	<0.0151	0.0172	0.0203	0.038	0.032	0.049	0.053	<0.0147	0.053	0.0137	0.037	<0.0179	0.0298	0.153	0.203	0.094	0.133	0.06	0	0.0035	5.3E-07
G-7-1	3.5	U	05/15/17	<0.0151	<0.0159	<0.0109	<0.0116	<0.0113	<0.013	<0.0114	<0.0147	<0.0121	<0.0078	<0.0147	<0.0179	<0.0114	<0.0203	<0.0113	<0.0153	<0.0111	<0.0153	0		
G-9-1	3.5	U	05/15/17	<0.0151	0.0291	0.0164	0.034	0.038	0.058	0.094	0.0191	0.04	0.0163	0.0293	<0.0179	0.047	0.197	0.206	0.06	0.078	0.048	0	0.0034	6.2E-07
G-10-1	3.5	U	05/15/17	<0.0151	<0.0159	<0.0109	<0.0116	<0.0113	<0.013	<0.0114	<0.0147	<0.0121	<0.0078	<0.0147	<0.0179	<0.0114	<0.0203	<0.0113	<0.0153	<0.0111	<0.0153	0	0.5100	
G-12-1	3.5	U	05/15/17	<0.0151	0.03	0.0219	0.046	0.064	0.074	0.128	0.0182	0.062	0.0192	0.045	<0.0179	0.064	0.159	0.24	0.094	0.113	0.079	0	0.1720	9.1E-07
G-13-1	3.5	U	05/15/17	<0.0151	<0.0159	<0.0109	0.0139	<0.0113	<0.013	<0.0114	<0.0147	<0.0121	<0.0078	<0.0147	<0.0179	<0.0114	<0.0203	<0.0113	<0.0153	<0.0111	<0.0153	0	0.2255	1.2E-08
Groundwater RCL				---	---	**197**	---	**0.47**	**0.4793**	---	---	**0.145**	---	**88.8**	**14.8**	---	---	---	**0.6582**	---	**54.5**			
Non-Industrial Direct Contact RCL				**3590**	---	**17900**	**1.140**	**0.1150**	**1.150**	---	**11.50**	**115**	**0.1150**	**2390**	**2390**	**1.150**	**17.6**	**239**	**5.52**	---	**1790**		**1.00E+00**	**1.00E-05**
Industrial Direct Contact RCL				**(45200)**	---	**(100000)**	**(20.8)**	**(2.11)**	**(21.1)**	---	**(211)**	**(2110)**	**(2.11)**	**(30100)**	**(30100)**	**(21.1)**	**(72.7)**	**(3010)**	**(24.1)**	---	**(22600)**			
Soil Saturation Concentration (C-sat)*				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			

Bold = Groundwater RCL Exceedance
Bold & Underline = Non Industrial Direct Contact RCL Exceedance
(Bold & Parentheses) = Industrial Direct Contact RCL Exceedance
Bold &Asteric * = C-sat Exceedance
Italics = Industrial Direct Contact RCL
NS = Not Sampled
(ppm) = parts per million
PAH = Polynuclear Aromatic Hydrocarbons
PID = Photoionization Detector
VOC's = Volatile Organic Compounds

NM = Not Measured
ND = No Detects

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

A.2 Soil Analytical Results Table
Amberg Oil Tank Farm BRRTS #02-17-152462

VOC's								Bold = Groundwater RCL	Underline & Bold = Non-Industrial Direct Contact RCL	(Parenthesis & Bold) = Industrial Direct Contact RCL	Asteric * & Bold =Soil Saturation (C-sat) RCL
Sample ID#	**B1**	**B1**	**B2**	**B2**	**B3**	**B3**	**G-1-2**				
Sample Depth/ft.	**5-7**	**7.5-9.5**	**5-7**	**7.5-9.5**	**5-7**	**7.5-9.5**	**8**				
Sampling Date	04/19/95	04/19/95	04/19/95	04/19/95	04/19/95	04/19/95	05/15/17				
Solids Percent	NR	NR	NR	NR	NR	NR	84.3				
Lead/ppm	12.5	8.8	5.2	7.1	5.2	4.6	10.7	**27**	400	(800)	= =
Cadmium/ppm	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NS	**0.752**	71.1	(985)	= =
Benzene/ppm	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	< 0.30	**0.00512**	1.6	(7.07)	1820*
Bromobenzene/ppm	NR	NR	NR	NR	NR	NR	< 0.25	= =	342	(679)	= =
Bromodichloromethane/ppm	NR	NR	NR	NR	NR	NR	< 0.74	**0.000326**	0.418	(1.83)	= =
Bromoform/ppm	NR	NR	NR	NR	NR	NR	< 0.29	**0.00233**	25.4	(113)	= =
tert-Butylbenzene/ppm	NR	NR	NR	NR	NR	NR	< 0.26	= =	183	(183)	183*
sec-Butylbenzene/ppm	<0.025	<0.025	<0.025	0.15	<0.025	<0.025	1.78	= =	145	(145)	145*
n-Butylbenzene/ppm	<0.025	<0.025	<0.025	0.23	<0.025	<0.025	10	= =	108	(108)	108*
Carbon Tetrachloride/ppm	NR	NR	NR	NR	NR	NR	< 0.16	**0.00388**	0.916	(4.03)	= =
Chlorobenzene/ppm	NR	NR	NR	NR	NR	NR	< 0.13	= =	370	(761)	761*
Chloroethane/ppm	NR	NR	NR	NR	NR	NR	< 0.91	**0.227**	= =	= =	= =
Chloroform/ppm	NR	NR	NR	NR	NR	NR	< 0.35	**0.0033**	0.454	(1.98)	= =
Chloromethane/ppm	NR	NR	NR	NR	NR	NR	< 0.76	**0.0155**	159	(669)	= =
2-Chlorotoluene/ppm	NR	NR	NR	NR	NR	NR	< 0.15	= =	= =	= =	= =
4-Chlorotoluene/ppm	NR	NR	NR	NR	NR	NR	< 0.18	= =	= =	= =	= =
1,2-Dibromo-3-chloropropane/ppm	NR	NR	NR	NR	NR	NR	< 0.58	**0.000173**	0.008	(0.092)	= =
Dibromochloromethane/ppm	NR	NR	NR	NR	NR	NR	< 0.25	**0.032**	8.28	(38.9)	= =
1,4-Dichlorobenzene/ppm	NR	NR	NR	NR	NR	NR	< 0.37	**0.144**	3.74	(16.4)	= =
1,3-Dichlorobenzene/ppm	NR	NR	NR	NR	NR	NR	< 0.37	**1.1528**	297	(193)	297*
1,2-Dichlorobenzene/ppm	NR	NR	NR	NR	NR	NR	< 0.28	**1.168**	376	(376)	376*
Dichlorodifluoromethane/ppm	NR	NR	NR	NR	NR	NR	< 0.48	**3.0863**	126	(530)	= =
1,2-Dichloroethane/ppm	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	< 0.38	**0.00284**	0.652	(2.87)	540*
1,1-Dichloroethane/ppm	NR	NR	NR	NR	NR	NR	< 0.34	**0.4834**	5.06	(22.2)	= =
1,1-Dichloroethene/ppm	NR	NR	NR	NR	NR	NR	< 0.22	**0.00502**	320	(1190)	1190*
cis-1,2-Dichloroethene/ppm	NR	NR	NR	NR	NR	NR	< 0.32	**0.0412**	156	(2340)	= =
trans-1,2-Dichloroethene/ppm	NR	NR	NR	NR	NR	NR	< 0.28	**0.626**	1560	(1850)	= =
1,2-Dichloropropane/ppm	NR	NR	NR	NR	NR	NR	< 0.35	**0.00332**	0.406	(1.78)	= =
1,3-Dichloropropane/ppm	NR	NR	NR	NR	NR	NR	< 0.25	= =	1490	(1490)	1490*
trans-1,3-Dichloropropene/ppm	NR	NR	NR	NR	NR	NR	< 0.22		1510	(1510)	= =
cis-1,3-Dichloropropene/ppm	NR	NR	NR	NR	NR	NR	< 0.39	0.001	1210	(1210)	= =
Di-isopropyl ether/ppm	NR	NR	NR	NR	NR	NR	< 0.1	= =	2260	(2260)	2260*
EDB (1,2-Dibromoethane)/ppm	NR	NR	NR	NR	NR	NR	< 0.23	**0.0000282**	0.05	(0.221)	= =
Ethylbenzene/ppm	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	**4**	**1.57**	8.02	(35.4)	480*
Hexachlorobutadiene/ppm	NR	NR	NR	NR	NR	NR	< 0.85	= =	1.63	(7.19)	= =
Isopropylbenzene/ppm	NR	NR	NR	NR	NR	NR	1.03 "J"	= =	= =	= =	= =
p-Isopropyltoluene/ppm	<0.025	<0.025	<0.025	0.78	<0.025	<0.025	0.81 "J"	= =	162	(162)	162*
Methylene chloride/ppm	NR	NR	NR	NR	NR	NR	< 1.5	**0.00256**	61.8	(1150)	= =
Methyl tert-butyl ether (MTBE)/ppm	NR	NR	NR	NR	NR	NR	< 0.5	**0.027**	63.8	(282)	8870*
Naphthalene/ppm	<0.050	0.099	<0.050	**0.22**	<0.050	<0.050	**12.6**	**0.6582**	5.52	(24.1)	= =
n-Propylbenzene/ppm	<0.025	<0.025	<0.025	0.053	<0.025	<0.025	7	= =	= =	= =	= =
1,1,2,2-Tetrachloroethane/ppm	<0.025	<0.025	<0.025	**0.49**	<0.025	<0.025	< 0.28	**0.000156**	0.81	(3.6)	= =
1,1,1,2-Tetrachloroethane/ppm	NR	NR	NR	NR	NR	NR	< 0.28	**0.0534**	2.78	(12.3)	= =
Tetrachloroethene (PCE)/ppm	NR	NR	NR	NR	NR	NR	< 0.32	**0.00454**	33	(145)	= =
Toluene/ppm	NR	NR	NR	NR	NR	NR	< 0.32	**1.11**	818	(818)	818*
1,2,4-Trichlorobenzene/ppm	NR	NR	NR	NR	NR	NR	< 0.64	**0.408**	24	(113)	= =
1,2,3-Trichlorobenzene/ppm	NR	NR	NR	NR	NR	NR	< 0.66	= =	62.6	(934)	= =
1,1,1-Trichloroethane/ppm	NR	NR	NR	NR	NR	NR	< 0.3	**0.1402**	= =	= =	= =
1,1,2-Trichloroethane/ppm	<0.025	<0.025	<0.025	**0.035**	<0.025	<0.025	< 0.33	**0.00324**	1.59	(7.01)	= =
Trichloroethene (TCE)/ppm	NR	NR	NR	NR	NR	NR	< 0.41	**0.00358**	1.3	(8.41)	= =
Trichlorofluoromethane/ppm	NR	NR	NR	NR	NR	NR	< 0.41	**2.2387**	1230	(1230)	1230*
1,2,4-Trimethylbenzene/ppm	<0.025	<0.025	<0.025	0.17	<0.025	<0.025	**72**	**1.38**	219	(219)	219*
1,3,5-Trimethylbenzene/ppm	<0.025	<0.025	<0.025	0.49	<0.025	<0.025	**24**		182	(182)	182*
Vinyl Chloride/ppm	NR	NR	NR	NR	NR	NR	< 0.19	**0.000138**	0.07	(2.08)	= =
m&p-Xylene/ppm	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	**27.5**	**3.96**	260	(260)	258*
o-Xylene/ppm							**10.7**				

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

A.1 Groundwater Analytical Table
(Geoprobe)
Amberg Oil Tank Farm BRRTS #02-17-152462

Sample ID	Date	Benzene (ppb)	Ethyl Benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	Trimethyl-benzenes (ppb)	Xylene (Total) (ppb)
G-1-W	05/15/17	0.31	*141*	<0.82	**450**	39	**1313**	*1290*
G-2-W	05/15/17	<0.17	<0.2	<0.82	<2.17	5.0	<2.05	<1.95
G-3-W	05/15/17	<0.85	<1	<4.1	<10.85	4.8	<10.25	<9.75
G-4-W	05/15/17	<0.17	<0.2	<0.82	<2.17	3.4	<2.05	<1.95
G-5-W	05/15/17	<0.85	<1	<4.1	<10.85	<3.35	<10.25	<9.75
G-6-W	05/15/17	<0.17	<0.2	<0.82	<2.17	2.96	<2.05	<1.95
G-7-W	05/15/17	<1.7	48	<8.2	*40*	<6.7	**1113**	324
G-8-W	05/15/17	<0.17	<0.2	<0.82	<2.17	<0.67	1.92-2.83	<1.95
G-9-W	05/15/17	<0.17	21.6	<0.82	**156**	<0.67	*191*	18.57
G-10-W	05/15/17	<0.17	<0.2	<0.82	<2.17	<0.67	<2.05	<1.95
G-11-W	05/15/17	<0.17	<0.2	<0.82	<2.17	<0.67	<2.05	<1.95
G-12-W	05/15/17	<0.17	<0.2	<0.82	<2.17	<0.67	<2.05	<1.95
G-13-W	05/15/17	<0.17	<0.2	<0.82	<2.17	<0.67	<2.05	<1.95
G-14-W	05/15/17	NO RECOVERY						
G-15-W	05/15/17	NO RECOVERY						
G-16-W	05/15/17	<0.17	<0.2	<0.82	<2.17	<0.67	<2.05	<1.95
G-17-W	05/15/17	NO RECOVERY						
G-18-W	05/15/17	<0.17	<0.2	<0.82	<2.17	<0.67	<2.05	<1.95
ENFORCE MENT STANDARD ES = Bold		**5**	**700**	**60**	**100**	**800**	**480**	**2000**
PREVENTIVE ACTION LIMIT PAL = Italics		*0.5*	*140*	*12*	*10*	*160*	*96*	*400*

NS = Not Sampled
(ppb) = parts per billion (ppm) = parts per million
DRO = Diesel Range Organics
GRO = Gasoline Range Organics

A.7 Other
Horizontal Flow Velocity Calculations - Unconsolidated
Amberg Oil Tank Farm
BRRTS# 02-17-152462

High

	ft/s	ft/year	cm/s	m/yr
K	1.97E-02	6.21E+05	6.00E-01	1.89E+05

Low

	ft/s	ft/year	cm/s	m/yr
K	6.56E-07	2.07E+01	2.00E-05	6.31

Date	Elv. (High)	Elv. (Low)	Distance (ft)	Hyd Grad (I)
04/09/2003	800.00	785.00	205	7.32E-02
			Min	7.32E-02
			Max	7.32E-02
			Average	7.32E-02

	K (m/yr)	Average Hyd Grad (I)	Porosity (n)	Flow Velocity (m/yr)
High	1.89E+05	7.32E-02	0.3	4.62E+04
Low	6.31E+00	7.32E-02	0.3	1.54E+00
			Min	1.54E+00
			Max	4.62E+04
			Average	2.31E+04

A.7 Other

Amberg Oil Tank Farm

Hydraulic Conductivity Calculations

Book Values for Sand

	cm/s	m/yr
K (low)	1.0E-03	315.36
K (high)	1.0E-01	31536.00

Date	Elv. (High)	Elv. (Low)	Distance (ft)	Hyd Grad (I)
04/09/2003	806.00	782.00	280	8.57E-02

	K (m/yr)	I	n	Flow Velocity (m/yr)
K (low)	315.36	0.0857142	0.3	90
K (high)	31536	0.0857142	0.3	9010

8.0 PHOTOS

Site Investigation Report - METCO
Amberg Oil Tank Farm

Photo #1: Former loading rack, looking east.

Photo #2: Former loading rack, looking north.

Photo #3: Berm on eastern side of the property, looking north.

Photo #4: Area of former ASTs, looking west-northwest.

Photo #5: Area of former ASTs, looking west-southwest.

Photo #6: Area of former ASTs, looking southwest.

APPENDIX A/ METHODS OF INVESTIGATION

Geoprobe Project

Geoprobe sampling was completed by Geiss Soil & 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.

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.

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

No investigative waste was generated as part of this site investigation.

APPENDIX B/ ANALYTICAL METHODS & LABORATORY DATA REPORTS

Synergy Environmental Lab,

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

JESSICA AMBERG
ESTATE OF STEVEN AMBERG
300 FORD RD, #7
ST LOUIS PARK, MN 55426

Report Date *30-May-17*

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925A
Sample ID METH BLANK
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	I
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	I
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	I
Naphthalene	< 0.025	mg/kg	0.022	0.07	1	GRO95/8021		5/22/2017	TCC	I
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	I
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	I
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	I
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	I
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	I

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925B
Sample ID G-1-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	97.0	%			1	5021		5/18/2017	NJC	1
Inorganic										
Metals										
Lead, Total	2.46	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/25/2017	NJC	1
Acenaphthylene	< 0.0159	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/25/2017	NJC	1
Anthracene	0.141	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)anthracene	0.0164 "J"	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)pyrene	< 0.0113	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(b)fluoranthene	< 0.013	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(g,h,i)perylene	0.0159 "J"	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Chrysene	< 0.0121	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/25/2017	NJC	1
Dibenzo(a,h)anthracene	< 0.0078	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/25/2017	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0114	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/25/2017	NJC	1
1-Methyl naphthalene	< 0.0203	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/25/2017	NJC	1
2-Methyl naphthalene	0.0164 "J"	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/25/2017	NJC	1
Naphthalene	< 0.0153	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/25/2017	NJC	1
Phenanthrene	0.0125 "J"	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/25/2017	NJC	1
Pyrene	< 0.0153	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/25/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	1

Project Name AMBERG OIL
Project #

Invoice # E32925

Lab Code 5032925C
Sample ID G-1-2
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.3	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	10.7	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
TCLP Lead	< 0.1	mg/l		0.1	1	6010B		5/29/2017	ESC	1
Organic										
General										
Diesel Range Organics	364	mg/kg	1.16	3.7	1	DRO95		5/23/2017	NJC	1
Gasoline Range Organics	960	mg/kg	10.7	34.1	10	GRO95/8021		5/23/2017	TCC	1
TCLP										
TCLP Benzene	< 0.05	mg/l	0.05		1	8260B		5/28/2017	ESC	1
VOC's										
Benzene	< 0.30	ug/kg	0.3	0.96	10	8260B		5/25/2017	CJR	1
Bromobenzene	< 0.25	mg/kg	0.25	0.81	10	8260B		5/25/2017	CJR	1
Bromodichloromethane	< 0.74	mg/kg	0.74	2.4	10	8260B		5/25/2017	CJR	1
Bromoform	< 0.29	mg/kg	0.29	0.92	10	8260B		5/25/2017	CJR	1
tert-Butylbenzene	< 0.26	mg/kg	0.26	0.84	10	8260B		5/25/2017	CJR	1
sec-Butylbenzene	1.78	mg/kg	0.33	1	10	8260B		5/25/2017	CJR	1
n-Butylbenzene	10	mg/kg	0.4	1.3	10	8260B		5/25/2017	CJR	1
Carbon Tetrachloride	< 0.16	mg/kg	0.16	0.53	10	8260B		5/25/2017	CJR	1
Chlorobenzene	< 0.13	mg/kg	0.13	0.4	10	8260B		5/25/2017	CJR	1
Chloroethane	< 0.91	mg/kg	0.91	2.9	10	8260B		5/25/2017	CJR	1
Chloroform	< 0.35	mg/kg	0.35	1.1	10	8260B		5/25/2017	CJR	1
Chloromethane	< 0.76	mg/kg	0.76	2.4	10	8260B		5/25/2017	CJR	1
2-Chlorotoluene	< 0.15	mg/kg	0.15	0.47	10	8260B		5/25/2017	CJR	1
4-Chlorotoluene	< 0.18	mg/kg	0.18	0.57	10	8260B		5/25/2017	CJR	1
1,2-Dibromo-3-chloropropane	< 0.58	mg/kg	0.58	1.8	10	8260B		5/25/2017	CJR	1
Dibromochloromethane	< 0.25	mg/kg	0.25	0.79	10	8260B		5/25/2017	CJR	1
1,4-Dichlorobenzene	< 0.37	mg/kg	0.37	1.2	10	8260B		5/25/2017	CJR	1
1,3-Dichlorobenzene	< 0.37	mg/kg	0.37	1.2	10	8260B		5/25/2017	CJR	1
1,2-Dichlorobenzene	< 0.28	mg/kg	0.28	0.88	10	8260B		5/25/2017	CJR	1
Dichlorodifluoromethane	< 0.48	mg/kg	0.48	1.5	10	8260B		5/25/2017	CJR	1
1,2-Dichloroethane	< 0.38	mg/kg	0.38	1.2	10	8260B		5/25/2017	CJR	1
1,1-Dichloroethane	< 0.34	mg/kg	0.34	1.1	10	8260B		5/25/2017	CJR	1
1,1-Dichloroethene	< 0.22	mg/kg	0.22	0.69	10	8260B		5/25/2017	CJR	1
cis-1,2-Dichloroethene	< 0.32	mg/kg	0.32	1	10	8260B		5/25/2017	CJR	1
trans-1,2-Dichloroethene	< 0.28	mg/kg	0.28	0.9	10	8260B		5/25/2017	CJR	1
1,2-Dichloropropane	< 0.35	mg/kg	0.35	1.1	10	8260B		5/25/2017	CJR	1
1,3-Dichloropropane	< 0.25	mg/kg	0.25	0.79	10	8260B		5/25/2017	CJR	1
trans-1,3-Dichloropropene	< 0.22	mg/kg	0.22	0.68	10	8260B		5/25/2017	CJR	1
cis-1,3-Dichloropropene	< 0.39	mg/kg	0.39	1.2	10	8260B		5/25/2017	CJR	1
Di-isopropyl ether	< 0.1	mg/kg	0.1	0.32	10	8260B		5/25/2017	CJR	1
EDB (1,2-Dibromoethane)	< 0.23	mg/kg	0.23	0.72	10	8260B		5/25/2017	CJR	1
Ethylbenzene	4.0	mg/kg	0.35	1.1	10	8260B		5/25/2017	CJR	1
Hexachlorobutadiene	< 0.85	mg/kg	0.85	2.7	10	8260B		5/25/2017	CJR	1
Isopropylbenzene	1.03 "J"	mg/kg	0.34	1.1	10	8260B		5/25/2017	CJR	1
p-Isopropyltoluene	0.81 "J"	mg/kg	0.29	0.93	10	8260B		5/25/2017	CJR	1
Methylene chloride	< 1.5	mg/kg	1.5	4.6	10	8260B		5/25/2017	CJR	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925C
Sample ID G-1-2
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Methyl tert-butyl ether (MTBE)	< 0.5	mg/kg	0.5	1.6	10	8260B		5/25/2017	CJR	1
Naphthalene	12.6	mg/kg	0.94	3	10	8260B		5/25/2017	CJR	1
n-Propylbenzene	7.0	mg/kg	0.33	1	10	8260B		5/25/2017	CJR	1
1,1,2,2-Tetrachloroethane	< 0.28	mg/kg	0.28	8.8	10	8260B		5/25/2017	CJR	1
1,1,1,2-Tetrachloroethane	< 0.28	mg/kg	0.28	0.9	10	8260B		5/25/2017	CJR	1
Tetrachloroethene	< 0.32	mg/kg	0.32	1	10	8260B		5/25/2017	CJR	1
Toluene	< 0.32	mg/kg	0.32	1	10	8260B		5/25/2017	CJR	1
1,2,4-Trichlorobenzene	< 0.64	mg/kg	0.64	2	10	8260B		5/25/2017	CJR	1
1,2,3-Trichlorobenzene	< 0.66	mg/kg	0.66	2.1	10	8260B		5/25/2017	CJR	1
1,1,1-Trichloroethane	< 0.3	mg/kg	0.3	9.6	10	8260B		5/25/2017	CJR	1
1,1,2-Trichloroethane	< 0.33	mg/kg	0.33	1.1	10	8260B		5/25/2017	CJR	1
Trichloroethene (TCE)	< 0.41	mg/kg	0.41	1.3	10	8260B		5/25/2017	CJR	1
Trichlorofluoromethane	< 0.41	mg/kg	0.41	1.3	10	8260B		5/25/2017	CJR	1
1,2,4-Trimethylbenzene	72	mg/kg	0.25	0.8	10	8260B		5/25/2017	CJR	1
1,3,5-Trimethylbenzene	24	mg/kg	0.32	1	10	8260B		5/25/2017	CJR	1
Vinyl Chloride	< 0.19	mg/kg	0.19	0.62	10	8260B		5/25/2017	CJR	1
m&p-Xylene	27.5	mg/kg	0.72	2.3	10	8260B		5/25/2017	CJR	1
o-Xylene	10.7	mg/kg	0.44	1.4	10	8260B		5/25/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	103	Rec %			10	8260B		5/25/2017	CJR	1
SUR - Dibromofluoromethane	100	Rec %			10	8260B		5/25/2017	CJR	1
SUR - Toluene-d8	105	Rec %			10	8260B		5/25/2017	CJR	1
SUR - 4-Bromofluorobenzene	104	Rec %			10	8260B		5/25/2017	CJR	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925D
Sample ID G-2-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	93.2	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	2.31	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/25/2017	NJC	1
Acenaphthylene	< 0.0159	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/25/2017	NJC	1
Anthracene	< 0.0109	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)anthracene	< 0.0116	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)pyrene	< 0.0113	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(b)fluoranthene	< 0.013	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(g,h,i)perylene	< 0.0114	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Chrysene	< 0.0121	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/25/2017	NJC	1
Dibenzo(a,h)anthracene	< 0.0078	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/25/2017	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0114	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/25/2017	NJC	1
1-Methyl naphthalene	< 0.0203	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/25/2017	NJC	1
2-Methyl naphthalene	< 0.0113	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/25/2017	NJC	1
Naphthalene	< 0.0153	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/25/2017	NJC	1
Phenanthrene	< 0.0111	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/25/2017	NJC	1
Pyrene	< 0.0153	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/25/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925E
Sample ID G-2-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.6	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	1
Naphthalene	0.050 "J"	mg/kg	0.022	0.07	1	GRO95/8021		5/22/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	1
1,2,4-Trimethylbenzene	0.050	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
1,3,5-Trimethylbenzene	0.032 "J"	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925F
Sample ID G-3-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	90.7	%			1	5021		5/19/2017	NJC	I
Inorganic										
Metals										
Lead, Total	2.87	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	I
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/25/2017	NJC	I
Acenaphthylene	< 0.0159	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/25/2017	NJC	I
Anthracene	< 0.0109	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/25/2017	NJC	I
Benzo(a)anthracene	< 0.0116	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/25/2017	NJC	I
Benzo(a)pyrene	< 0.0113	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/25/2017	NJC	I
Benzo(b)fluoranthene	< 0.013	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/25/2017	NJC	I
Benzo(g,h,i)perylene	< 0.0114	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/25/2017	NJC	I
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	I
Chrysene	< 0.0121	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/25/2017	NJC	I
Dibenzo(a,h)anthracene	< 0.0078	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/25/2017	NJC	I
Fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	I
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/25/2017	NJC	I
Indeno(1,2,3-cd)pyrene	< 0.0114	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/25/2017	NJC	I
1-Methyl naphthalene	< 0.0203	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/25/2017	NJC	I
2-Methyl naphthalene	< 0.0113	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/25/2017	NJC	I
Naphthalene	< 0.0153	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/25/2017	NJC	I
Phenanthrene	< 0.0111	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/25/2017	NJC	I
Pyrene	< 0.0153	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/25/2017	NJC	I
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	I
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	I
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	I
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	I
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	I
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	I
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	I
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	I

Project Name AMBERG OIL
Project #

Invoice # E32925

Lab Code 5032925G
Sample ID G-3-2
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.4	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/23/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/23/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/23/2017	TCC	1
Naphthalene	< 0.025	mg/kg	0.022	0.07	1	GRO95/8021		5/23/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/23/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/23/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/23/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/23/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/23/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925H
Sample ID G-4-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	92.2	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	2.74	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/25/2017	NJC	1
Acenaphthylene	< 0.0159	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/25/2017	NJC	1
Anthracene	< 0.0109	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)anthracene	< 0.0116	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)pyrene	< 0.0113	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(b)fluoranthene	< 0.013	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(g,h,i)perylene	< 0.0114	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Chrysene	< 0.0121	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/25/2017	NJC	1
Dibenzo(a,h)anthracene	< 0.0078	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/25/2017	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0114	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/25/2017	NJC	1
1-Methyl naphthalene	< 0.0203	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/25/2017	NJC	1
2-Methyl naphthalene	< 0.0113	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/25/2017	NJC	1
Naphthalene	< 0.0153	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/25/2017	NJC	1
Phenanthrene	< 0.0111	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/25/2017	NJC	1
Pyrene	< 0.0153	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/25/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 50329251
Sample ID G-4-2
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.5	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	1
Naphthalene	< 0.025	mg/kg	0.022	0.07	1	GRO95/8021		5/22/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925J
Sample ID G-5-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	93.3	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	11.1	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/25/2017	NJC	1
Acenaphthylene	< 0.0159	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/25/2017	NJC	1
Anthracene	< 0.0109	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)anthracene	0.0176 "J"	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)pyrene	0.0119 "J"	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(b)fluoranthene	0.0189 "J"	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(g,h,i)perylene	0.0216 "J"	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Chrysene	0.0207 "J"	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/25/2017	NJC	1
Dibenzo(a,h)anthracene	< 0.0078	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/25/2017	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0114	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/25/2017	NJC	1
1-Methyl naphthalene	< 0.0203	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/25/2017	NJC	1
2-Methyl naphthalene	0.0191 "J"	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/25/2017	NJC	1
Naphthalene	< 0.0153	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/25/2017	NJC	1
Phenanthrene	0.0307 "J"	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/25/2017	NJC	1
Pyrene	0.0241 "J"	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/25/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925K
Sample ID G-5-2
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.0	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	1
Naphthalene	< 0.025	mg/kg	0.022	0.07	1	GRO95/8021		5/22/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925L
Sample ID G-6-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	91.5	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	3.52	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/25/2017	NJC	1
Acenaphthylene	0.0172 "J"	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/25/2017	NJC	1
Anthracene	0.0203 "J"	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)anthracene	0.038	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)pyrene	0.032 "J"	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(b)fluoranthene	0.049	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(g,h,i)perylene	0.053	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Chrysene	0.053	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/25/2017	NJC	1
Dibenzo(a,h)anthracene	0.0137 "J"	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluoranthene	0.037 "J"	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/25/2017	NJC	1
Indeno(1,2,3-cd)pyrene	0.0298 "J"	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/25/2017	NJC	1
1-Methyl naphthalene	0.153	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/25/2017	NJC	1
2-Methyl naphthalene	0.203	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/25/2017	NJC	1
Naphthalene	0.094	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/25/2017	NJC	1
Phenanthrene	0.133	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/25/2017	NJC	1
Pyrene	0.06	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/25/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/22/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/22/2017	TCC	1
Toluene	0.032 "J"	mg/kg	0.014	0.046	1	GRO95/8021		5/22/2017	TCC	1
1,2,4-Trimethylbenzene	0.0254 "J"	mg/kg	0.01	0.032	1	GRO95/8021		5/22/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/22/2017	TCC	1
m&p-Xylene	0.063	mg/kg	0.012	0.037	1	GRO95/8021		5/22/2017	TCC	1
o-Xylene	0.039 "J"	mg/kg	0.015	0.047	1	GRO95/8021		5/22/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925M
Sample ID G-6-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.9	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/23/2017	TCC	1
Ethylbenzene	0.067	mg/kg	0.01	0.032	1	GRO95/8021		5/23/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/23/2017	TCC	1
Naphthalene	7.7	mg/kg	0.022	0.07	1	GRO95/8021		5/23/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/23/2017	TCC	1
1,2,4-Trimethylbenzene	0.43	mg/kg	0.01	0.032	1	GRO95/8021		5/23/2017	TCC	1
1,3,5-Trimethylbenzene	0.91	mg/kg	0.011	0.036	1	GRO95/8021		5/23/2017	TCC	1
m&p-Xylene	0.138	mg/kg	0.012	0.037	1	GRO95/8021		5/23/2017	TCC	1
o-Xylene	0.112	mg/kg	0.015	0.047	1	GRO95/8021		5/23/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925N
Sample ID G-7-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.9	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	2.93	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/25/2017	NJC	1
Acenaphthylene	< 0.0159	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/25/2017	NJC	1
Anthracene	< 0.0109	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)anthracene	< 0.0116	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(a)pyrene	< 0.0113	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(b)fluoranthene	< 0.013	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(g,h,i)perylene	< 0.0114	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/25/2017	NJC	1
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Chrysene	< 0.0121	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/25/2017	NJC	1
Dibenzo(a,h)anthracene	< 0.0078	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/25/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/25/2017	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0114	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/25/2017	NJC	1
1-Methyl naphthalene	< 0.0203	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/25/2017	NJC	1
2-Methyl naphthalene	< 0.0113	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/25/2017	NJC	1
Naphthalene	< 0.0153	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/25/2017	NJC	1
Phenanthrene	< 0.0111	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/25/2017	NJC	1
Pyrene	< 0.0153	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/25/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/23/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/23/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/23/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/23/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/23/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/23/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/23/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/23/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925O
Sample ID G-7-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	88.0	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	0.48 "J"	mg/kg	0.19	0.6	10	GRO95/8021		5/23/2017	TCC	1
Ethylbenzene	0.82	mg/kg	0.1	0.32	10	GRO95/8021		5/23/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.25	mg/kg	0.079	0.25	10	GRO95/8021		5/23/2017	TCC	1
Naphthalene	4.6	mg/kg	0.22	0.7	10	GRO95/8021		5/23/2017	TCC	1
Toluene	< 0.25	mg/kg	0.14	0.46	10	GRO95/8021		5/23/2017	TCC	1
1,2,4-Trimethylbenzene	31	mg/kg	0.1	0.32	10	GRO95/8021		5/23/2017	TCC	1
1,3,5-Trimethylbenzene	14	mg/kg	0.11	0.36	10	GRO95/8021		5/23/2017	TCC	1
m&p-Xylene	3.5	mg/kg	0.12	0.37	10	GRO95/8021		5/23/2017	TCC	1
o-Xylene	0.88	mg/kg	0.15	0.47	10	GRO95/8021		5/23/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925P
Sample ID G-9-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.9	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	4.77	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/26/2017	NJC	1
Acenaphthylene	0.0291 "J"	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/26/2017	NJC	1
Anthracene	0.0164 "J"	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(a)anthracene	0.034 "J"	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(a)pyrene	0.038	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(b)fluoranthene	0.058	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(g,h,i)perylene	0.094	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(k)fluoranthene	0.0191 "J"	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/26/2017	NJC	1
Chrysene	0.04	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/26/2017	NJC	1
Dibenzo(a,h)anthracene	0.0163 "J"	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/26/2017	NJC	1
Fluoranthene	0.0293 "J"	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/26/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/26/2017	NJC	1
Indeno(1,2,3-cd)pyrene	0.047	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/26/2017	NJC	1
1-Methyl naphthalene	0.197	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/26/2017	NJC	1
2-Methyl naphthalene	0.206	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/26/2017	NJC	1
Naphthalene	0.06	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/26/2017	NJC	1
Phenanthrene	0.078	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/26/2017	NJC	1
Pyrene	0.048 "J"	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/26/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	1
Ethylbenzene	0.0254 "J"	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	1

Project Name AMBERG OIL
Project #

Invoice # E32925

Lab Code 5032925Q
Sample ID G-9-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.9	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.125	mg/kg	0.095	0.3	5	GRO95/8021		5/25/2017	TCC	1
Ethylbenzene	< 0.125	mg/kg	0.05	0.16	5	GRO95/8021		5/25/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.125	mg/kg	0.0395	0.125	5	GRO95/8021		5/25/2017	TCC	1
Naphthalene	3.2	mg/kg	0.11	0.35	5	GRO95/8021		5/25/2017	TCC	1
Toluene	0.131 "J"	mg/kg	0.07	0.23	5	GRO95/8021		5/25/2017	TCC	1
1,2,4-Trimethylbenzene	2.15	mg/kg	0.05	0.16	5	GRO95/8021		5/25/2017	TCC	1
1,3,5-Trimethylbenzene	1.61	mg/kg	0.055	0.18	5	GRO95/8021		5/25/2017	TCC	1
m&p-Xylene	0.49	mg/kg	0.06	0.185	5	GRO95/8021		5/25/2017	TCC	1
o-Xylene	0.175 "J"	mg/kg	0.075	0.235	5	GRO95/8021		5/25/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925R
Sample ID G-10-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	94.0	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	204	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/26/2017	NJC	1
Acenaphthylene	< 0.0159	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/26/2017	NJC	1
Anthracene	< 0.0109	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(a)anthracene	< 0.0116	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(a)pyrene	< 0.0113	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(b)fluoranthene	< 0.013	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(g,h,i)perylene	< 0.0114	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/26/2017	NJC	1
Chrysene	< 0.0121	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/26/2017	NJC	1
Dibenzo(a,h)anthracene	< 0.0078	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/26/2017	NJC	1
Fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/26/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/26/2017	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0114	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/26/2017	NJC	1
1-Methyl naphthalene	< 0.0203	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/26/2017	NJC	1
2-Methyl naphthalene	< 0.0113	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/26/2017	NJC	1
Naphthalene	< 0.0153	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/26/2017	NJC	1
Phenanthrene	< 0.0111	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/26/2017	NJC	1
Pyrene	< 0.0153	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/26/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925S
Sample ID G-10-2
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.1	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	1
Naphthalene	< 0.025	mg/kg	0.022	0.07	1	GRO95/8021		5/24/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	1

Lab Code 5032925T
Sample ID G-11-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	85.9	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.125	mg/kg	0.095	0.3	5	GRO95/8021		5/25/2017	TCC	1
Ethylbenzene	< 0.125	mg/kg	0.05	0.16	5	GRO95/8021		5/25/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.125	mg/kg	0.0395	0.125	5	GRO95/8021		5/25/2017	TCC	1
Naphthalene	6.0	mg/kg	0.11	0.35	5	GRO95/8021		5/25/2017	TCC	1
Toluene	0.16 "J"	mg/kg	0.07	0.23	5	GRO95/8021		5/25/2017	TCC	1
1,2,4-Trimethylbenzene	0.52	mg/kg	0.05	0.16	5	GRO95/8021		5/25/2017	TCC	1
1,3,5-Trimethylbenzene	0.71	mg/kg	0.055	0.18	5	GRO95/8021		5/25/2017	TCC	1
m&p-Xylene	0.40	mg/kg	0.06	0.185	5	GRO95/8021		5/25/2017	TCC	1
o-Xylene	0.161 "J"	mg/kg	0.075	0.235	5	GRO95/8021		5/25/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925U
Sample ID G-12-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	91.2	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	66.7	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/26/2017	NJC	1
Acenaphthylene	0.03 "J"	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/26/2017	NJC	1
Anthracene	0.0219 "J"	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(a)anthracene	0.046	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(a)pyrene	0.064	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(b)fluoranthene	0.074	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(g,h,i)perylene	0.128	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(k)fluoranthene	0.0182 "J"	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/26/2017	NJC	1
Chrysene	0.062	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/26/2017	NJC	1
Dibenzo(a,h)anthracene	0.0192 "J"	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/26/2017	NJC	1
Fluoranthene	0.045 "J"	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/26/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/26/2017	NJC	1
Indeno(1,2,3-cd)pyrene	0.064	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/26/2017	NJC	1
1-Methyl naphthalene	0.159	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/26/2017	NJC	1
2-Methyl naphthalene	0.24	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/26/2017	NJC	1
Naphthalene	0.094	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/26/2017	NJC	1
Phenanthrene	0.113	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/26/2017	NJC	1
Pyrene	0.079	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/26/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	1

Project Name AMBERG OIL
Project #

Invoice # E32925

Lab Code 5032925V
Sample ID G-12-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	87.2	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/26/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/26/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/26/2017	TCC	1
Naphthalene	0.93	mg/kg	0.022	0.07	1	GRO95/8021		5/26/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/26/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/26/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/26/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/26/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/26/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925W
Sample ID G-13-1
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	93.1	%			1	5021		5/19/2017	NJC	1
Inorganic										
Metals										
Lead, Total	90.2	mg/Kg	0.17	0.58	1	6010B		5/25/2017	CWT	1
Organic										
PAH SIM										
Acenaphthene	< 0.0151	mg/kg	0.0151	0.0481	1	M8270C	5/23/2017	5/26/2017	NJC	1
Acenaphthylene	< 0.0159	mg/kg	0.0159	0.0508	1	M8270C	5/23/2017	5/26/2017	NJC	1
Anthracene	< 0.0109	mg/kg	0.0109	0.0345	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(a)anthracene	0.0139 "J"	mg/kg	0.0116	0.037	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(a)pyrene	< 0.0113	mg/kg	0.0113	0.0359	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(b)fluoranthene	< 0.013	mg/kg	0.013	0.041	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(g,h,i)perylene	< 0.0114	mg/kg	0.0114	0.036	1	M8270C	5/23/2017	5/26/2017	NJC	1
Benzo(k)fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/26/2017	NJC	1
Chrysene	< 0.0121	mg/kg	0.0121	0.0383	1	M8270C	5/23/2017	5/26/2017	NJC	1
Dibenzo(a,h)anthracene	< 0.0078	mg/kg	0.0078	0.0251	1	M8270C	5/23/2017	5/26/2017	NJC	1
Fluoranthene	< 0.0147	mg/kg	0.0147	0.0469	1	M8270C	5/23/2017	5/26/2017	NJC	1
Fluorene	< 0.0179	mg/kg	0.0179	0.057	1	M8270C	5/23/2017	5/26/2017	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.0114	mg/kg	0.0114	0.0362	1	M8270C	5/23/2017	5/26/2017	NJC	1
1-Methyl naphthalene	< 0.0203	mg/kg	0.0203	0.0645	1	M8270C	5/23/2017	5/26/2017	NJC	1
2-Methyl naphthalene	< 0.0113	mg/kg	0.0113	0.0358	1	M8270C	5/23/2017	5/26/2017	NJC	1
Naphthalene	< 0.0153	mg/kg	0.0153	0.0486	1	M8270C	5/23/2017	5/26/2017	NJC	1
Phenanthrene	< 0.0111	mg/kg	0.0111	0.0352	1	M8270C	5/23/2017	5/26/2017	NJC	1
Pyrene	< 0.0153	mg/kg	0.0153	0.0487	1	M8270C	5/23/2017	5/26/2017	NJC	1
PVOC										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925X
Sample ID G-13-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	86.3	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	1
Naphthalene	< 0.025	mg/kg	0.022	0.07	1	GRO95/8021		5/24/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	1

Lab Code 5032925Y
Sample ID G-14-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.4	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	1
Naphthalene	< 0.025	mg/kg	0.022	0.07	1	GRO95/8021		5/24/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 5032925Z
Sample ID G-15-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	85.6	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/24/2017	TCC	1
Ethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/24/2017	TCC	1
Naphthalene	< 0.025	mg/kg	0.022	0.07	1	GRO95/8021		5/24/2017	TCC	1
Toluene	< 0.025	mg/kg	0.014	0.046	1	GRO95/8021		5/24/2017	TCC	1
1,2,4-Trimethylbenzene	< 0.025	mg/kg	0.01	0.032	1	GRO95/8021		5/24/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.025	mg/kg	0.011	0.036	1	GRO95/8021		5/24/2017	TCC	1
m&p-Xylene	< 0.05	mg/kg	0.012	0.037	1	GRO95/8021		5/24/2017	TCC	1
o-Xylene	< 0.025	mg/kg	0.015	0.047	1	GRO95/8021		5/24/2017	TCC	1

Lab Code 532925AA
Sample ID G-17-3
Sample Matrix Soil
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
General										
General										
Solids Percent	84.2	%			1	5021		5/19/2017	NJC	1
Organic										
PVOC + Naphthalene										
Benzene	< 0.025	mg/kg	0.019	0.06	1	GRO95/8021		5/26/2017	TCC	1
Ethylbenzene	0.037	mg/kg	0.01	0.032	1	GRO95/8021		5/26/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.025	mg/kg	0.0079	0.025	1	GRO95/8021		5/26/2017	TCC	1
Naphthalene	3.3	mg/kg	0.022	0.07	1	GRO95/8021		5/26/2017	TCC	1
Toluene	0.047	mg/kg	0.014	0.046	1	GRO95/8021		5/26/2017	TCC	1
1,2,4-Trimethylbenzene	0.54	mg/kg	0.01	0.032	1	GRO95/8021		5/26/2017	TCC	1
1,3,5-Trimethylbenzene	0.33	mg/kg	0.011	0.036	1	GRO95/8021		5/26/2017	TCC	1
m&p-Xylene	0.177	mg/kg	0.012	0.037	1	GRO95/8021		5/26/2017	TCC	1
o-Xylene	0.055	mg/kg	0.015	0.047	1	GRO95/8021		5/26/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 532925BB
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/19/2017	TCC	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/19/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/19/2017	TCC	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/19/2017	TCC	1
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/19/2017	TCC	1
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/19/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/19/2017	TCC	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/19/2017	TCC	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/19/2017	TCC	1

Lab Code 532925CC
Sample ID G-1-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	0.31 "J"	ug/l	0.17	0.55	1	8260B		5/19/2017	TCC	1
Ethylbenzene	141	ug/l	2	6.3	10	8260B		5/24/2017	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/19/2017	TCC	1
Naphthalene	450	ug/l	21.7	69	10	8260B		5/24/2017	CJR	1
Toluene	39	ug/l	6.7	21.3	10	8260B		5/24/2017	CJR	1
1,2,4-Trimethylbenzene	1030	ug/l	11.4	36.3	10	8260B		5/24/2017	CJR	1
1,3,5-Trimethylbenzene	283	ug/l	9.1	29	10	8260B		5/24/2017	CJR	1
m&p-Xylene	810	ug/l	15.6	49.5	10	8260B		5/24/2017	CJR	1
o-Xylene	480	ug/l	3.9	12.5	10	8260B		5/24/2017	CJR	1

Lab Code 532925DD
Sample ID G-2-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/23/2017	CJR	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/23/2017	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/23/2017	CJR	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/23/2017	CJR	1
Toluene	5.0	ug/l	0.67	2.13	1	8260B		5/23/2017	CJR	1
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/23/2017	CJR	1
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/23/2017	CJR	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/23/2017	CJR	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/23/2017	CJR	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 532925EE
Sample ID G-3-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.85	ug/l	0.85	2.75	5	8260B		5/19/2017	TCC	I 49
Ethylbenzene	< 1	ug/l	1	3.15	5	8260B		5/19/2017	TCC	I 49
Methyl tert-butyl ether (MTBE)	< 4.1	ug/l	4.1	13	5	8260B		5/19/2017	TCC	I 49
Naphthalene	< 10.85	ug/l	10.85	34.5	5	8260B		5/19/2017	TCC	I 49
Toluene	4.8 "J"	ug/l	3.35	10.65	5	8260B		5/19/2017	TCC	I 49
1,2,4-Trimethylbenzene	< 5.7	ug/l	5.7	18.15	5	8260B		5/19/2017	TCC	I 49
1,3,5-Trimethylbenzene	< 4.55	ug/l	4.55	14.5	5	8260B		5/19/2017	TCC	I 49
m&p-Xylene	< 7.8	ug/l	7.8	24.75	5	8260B		5/19/2017	TCC	I 49
o-Xylene	< 1.95	ug/l	1.95	6.25	5	8260B		5/19/2017	TCC	I 49

Lab Code 532925FF
Sample ID G-4-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/23/2017	CJR	I
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/23/2017	CJR	I
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/23/2017	CJR	I
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/23/2017	CJR	I
Toluene	3.4	ug/l	0.67	2.13	1	8260B		5/23/2017	CJR	I
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/23/2017	CJR	I
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/23/2017	CJR	I
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/23/2017	CJR	I
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/23/2017	CJR	I

Lab Code 532925GG
Sample ID G-5-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.85	ug/l	0.85	2.75	5	8260B		5/19/2017	TCC	I 49
Ethylbenzene	< 1	ug/l	1	3.15	5	8260B		5/19/2017	TCC	I 49
Methyl tert-butyl ether (MTBE)	< 4.1	ug/l	4.1	13	5	8260B		5/19/2017	TCC	I 49
Naphthalene	< 10.85	ug/l	10.85	34.5	5	8260B		5/19/2017	TCC	I 49
Toluene	< 3.35	ug/l	3.35	10.65	5	8260B		5/19/2017	TCC	I 49
1,2,4-Trimethylbenzene	< 5.7	ug/l	5.7	18.15	5	8260B		5/19/2017	TCC	I 49
1,3,5-Trimethylbenzene	< 4.55	ug/l	4.55	14.5	5	8260B		5/19/2017	TCC	I 49
m&p-Xylene	< 7.8	ug/l	7.8	24.75	5	8260B		5/19/2017	TCC	I 49
o-Xylene	< 1.95	ug/l	1.95	6.25	5	8260B		5/19/2017	TCC	I 49

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 532925HH
Sample ID G-6-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/23/2017	CJR	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/23/2017	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/23/2017	CJR	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/23/2017	CJR	1
Toluene	2.96	ug/l	0.67	2.13	1	8260B		5/23/2017	CJR	1
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/23/2017	CJR	1
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/23/2017	CJR	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/23/2017	CJR	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/23/2017	CJR	1

Lab Code 532925II
Sample ID G-7-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 1.7	ug/l	1.7	5.5	10	8260B		5/20/2017	TCC	1
Ethylbenzene	48	ug/l	2	6.3	10	8260B		5/20/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 8.2	ug/l	8.2	26	10	8260B		5/20/2017	TCC	1
Naphthalene	40 "J"	ug/l	21.7	69	10	8260B		5/20/2017	TCC	1
Toluene	< 6.7	ug/l	6.7	21.3	10	8260B		5/20/2017	TCC	1
1,2,4-Trimethylbenzene	850	ug/l	11.4	36.3	10	8260B		5/20/2017	TCC	1
1,3,5-Trimethylbenzene	263	ug/l	9.1	29	10	8260B		5/20/2017	TCC	1
m&p-Xylene	264	ug/l	15.6	49.5	10	8260B		5/20/2017	TCC	1
o-Xylene	60	ug/l	3.9	12.5	10	8260B		5/20/2017	TCC	1

Lab Code 532925JJ
Sample ID G-8-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/19/2017	TCC	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/19/2017	TCC	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/19/2017	TCC	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/19/2017	TCC	1
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/19/2017	TCC	1
1,2,4-Trimethylbenzene	1.92 "J"	ug/l	1.14	3.63	1	8260B		5/19/2017	TCC	1
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/19/2017	TCC	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/19/2017	TCC	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/19/2017	TCC	1

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 532925KK
Sample ID G-9-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/23/2017	CJR	I
Ethylbenzene	21.6	ug/l	0.2	0.63	1	8260B		5/23/2017	CJR	I
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/23/2017	CJR	I
Naphthalene	156	ug/l	2.17	6.9	1	8260B		5/23/2017	CJR	I
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/23/2017	CJR	I
1,2,4-Trimethylbenzene	118	ug/l	1.14	3.63	1	8260B		5/23/2017	CJR	I
1,3,5-Trimethylbenzene	73	ug/l	0.91	2.9	1	8260B		5/23/2017	CJR	I
m&p-Xylene	17.4	ug/l	1.56	4.95	1	8260B		5/23/2017	CJR	I
o-Xylene	1.17 "J"	ug/l	0.39	1.25	1	8260B		5/23/2017	CJR	I

Lab Code 532925LL
Sample ID G-10-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/19/2017	TCC	I
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/19/2017	TCC	I
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/19/2017	TCC	I
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/19/2017	TCC	I
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/19/2017	TCC	I
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/19/2017	TCC	I
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/19/2017	TCC	I
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/19/2017	TCC	I
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/19/2017	TCC	I

Lab Code 532925MM
Sample ID G-11-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/19/2017	TCC	I
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/19/2017	TCC	I
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/19/2017	TCC	I
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/19/2017	TCC	I
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/19/2017	TCC	I
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/19/2017	TCC	I
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/19/2017	TCC	I
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/19/2017	TCC	I
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/19/2017	TCC	I

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 532925NN
Sample ID G-12-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/19/2017	TCC	I
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/19/2017	TCC	I
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/19/2017	TCC	I
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/19/2017	TCC	I
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/19/2017	TCC	I
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/19/2017	TCC	I
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/19/2017	TCC	I
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/19/2017	TCC	I
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/19/2017	TCC	I

Lab Code 532925OO
Sample ID G-13-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/19/2017	TCC	I
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/19/2017	TCC	I
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/19/2017	TCC	I
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/19/2017	TCC	I
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/19/2017	TCC	I
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/19/2017	TCC	I
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/19/2017	TCC	I
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/19/2017	TCC	I
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/19/2017	TCC	I

Lab Code 532925PP
Sample ID G-16-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/23/2017	CJR	I
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/23/2017	CJR	I
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/23/2017	CJR	I
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/23/2017	CJR	I
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/23/2017	CJR	I
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/23/2017	CJR	I
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/23/2017	CJR	I
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/23/2017	CJR	I
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/23/2017	CJR	I

Project Name AMBERG OIL **Invoice #** E32925
Project #

Lab Code 532925QQ
Sample ID G-18-W
Sample Matrix Water
Sample Date 5/15/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
PVOC + Naphthalene										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		5/23/2017	CJR	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		5/23/2017	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		5/23/2017	CJR	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		5/23/2017	CJR	1
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		5/23/2017	CJR	1
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		5/23/2017	CJR	1
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		5/23/2017	CJR	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		5/23/2017	CJR	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		5/23/2017	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.
49	Sample diluted to compensate for matrix interference.

CWT denotes sub contract lab - Certification #445126660

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 CUSTODY RECORD

Synergy

Environmental Lab, Inc.

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

Chain # No 290

Page 1 of 5

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): Ambers Oil Tank Farm

Reports To: Jessica Ambers	Invoice To: Jessica Ambers
Company Estate of Steven Ambers	Company c/o METCO
Address 300 Ford Rd #7	Address 709 Gillette St, Ste 3
City State Zip St Louis Park, MN 55426	City State Zip La Crosse, WI 54603
Phone (612) 306-0377	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)	LEAD	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	TCLP-Lead	TCLP-Benzene	PID/FID
553293 A	Meth Blank	5/15/17					1		MeOH									X								
B	G-1-1		9:40		X		4		/None			X			X		X									
C	G-1-2		9:05				8		/None	X	X	X										X		X	X	
D	G-2-1		9:25				4		/None			X			X		X									
E	G-2-3		9:30				2											X								
F	G-3-1		9:50				4		/None			X			X		X									
G	G-3-2		9:55				2											X								
H	G-4-1		10:15				4		/None			X			X		X									
I	G-4-2		10:20				2											X								
J	G-5-1		10:30				4		/None			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
U+C Rates
Agent Status

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

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	1:40PM	5/17/17			

Received in Laboratory By: [illegible] Time: [illegible] Date: [illegible]

CHAIN OF JSTODY RECORD

Synergy

Environmental Lab, Inc.

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

Chain # No 290

Page 2 of 5

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. Von
Project (Name / Location): Amberg Oil Tank Farm

Reports To: See Page 1	Invoice To:
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)	LEAD	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
53275 K	G-5-2	5/17/17	10:35		X		2	S	MEOH									X						
L	G-6-1		10:55				4		None			X			X		X							
M	G-6-3		11:00				2											X						
N	G-7-1		11:25				4		None			X			X		X							
O	G-7-3		11:30				2											X						
P	G-9-1		12:55				4		None			X			X		X							
Q	G-9-3		1:00				2											X						
R	G-10-1		1:20				4		None			X			X		X							
S	G-10-2		1:25				2											X						
T	G-11-3		1:45				2											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: Sitemaster
Temp. of Temp. Blank ____ °C On Ice: Y
Cooler seal intact upon receipt: ____ Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
E Von	1:40PM	5/17/17			

Received in Laboratory By: [illegible] Time: [illegible] Date: [illegible]

CHAIN OF CUSTODY RECORD

Synergy

Environmental Lab, Inc.

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

Chain # No 290

Page 3 of 5

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) Amber Oil E. Dow

Project (Name / Location): Amber Oil Tank Farm

Reports To: See Page 1 → Invoice To:

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)	LEAD	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
533282-34	G-12-1	5/16/17	2:10		X		4	S	MeOH/None			X			X		X							
U	G-12-3		2:20				2											X						
V	G-13-1		3:05				4		/None			X			X		X							
W	G-13-3		3:10				2											X						
X	G-14-3		4:00				2											X						
Y	G-15-3		4:05				2											X						
533925 AA	G-17-3		4:35				2											X						
BB	Trip Blank						1		HCl									X						
CC	G-1-W		9:20		X	N	3	GW										X						
DD	G-2-W		9:40		X	N	3	GW										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: STM Mesa
Temp. of Temp. Blank ___ °C On Ice: ☑
Cooler seal intact upon receipt: ☑ Yes ___ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	1:40PM	5/17/17			

Received in Laboratory By: ___ Time: ___

CHAIN OF CUSTODY RECORD

Synergy

Environmental Lab, Inc.

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

Chain # NE 3126

Page 4 of 5

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):	Ambers Oil Tank Farm
Reports To:	See Page 1
Company	
Address	
City State Zip	
Phone	
FAX	

Invoice To:
Company
Address
City State Zip
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	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
33292 EE	G-3-W	5/15/17	10:05		X	N	3	GW	HCl									X						
FF	G-4-W		10:25																					
GG	G-5-W		10:50																					
HH	G-6-W		11:10																					
II	G-7-W		11:40																					
JJ	G-8-W		2:00																					
KK	G-9-W		1:05																					
LL	G-10-W		1:30																					
MM	G-11-W		1:50																					
NN	G-12-W		2:55																					

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: FEDEX GROUND
Temp. of Temp. Blank ____ °C On Ice
Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	1:40PM	5/17/17			

Received in Laboratory By: _____ Time: _____ Date: _____

CHAIN OF JSTODY RECORD

Synergy

Environmental Lab, Inc.

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

Chain # No 3120

Page 5 of 5

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): Amberg Oil Tank Farm
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
539925	G-13-W	5/11/17	3:45		X	N	3	GW	HCl
20	G-16-W	↓	4:15		↓	↓	↓	↓	↓
22	G-18-W	↓	5:00		↓	↓	↓	↓	↓

Analysis Requested / **Other Analysis**

DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS								PID/ FID
								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: Courier
Temp. of Temp. Blank ____ °C On Ice: ☑
Cooler seal intact upon receipt: ☑ Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	1:40 PM	5/12/17			

Received in Laboratory By: Time: 8:00 AM Date: 5/12/17

APPENDIX C/ WELL AND BOREHOLE DOCUMENTATION

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Amberg Oil Tank Farm		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	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792.5 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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
				Concrete										
			2	0-4' Tan very fine to medium grained sand	SP									
G-1-1 (0-4 ft)	48 / 18		4					2.9		Dry				Very slight petro odor
			6	4-8' Tan to gray very fine to medium grained sand	SP									
G-1-2 (4-8 ft)	48 / 24		8					369		M/W				Petro odor and staining From 7-8 feet
				8-10' Gray fine to coarse grained sand with gravel	SP									
G-1-3 (8-10 ft)	24 / 24		10	Refusal @ 10' bgs. Groundwater sample G-1-W collected at 5-10 feet. Borehole abandoned.				165		W				Petro odor and staining
			12											
			14											
			16											

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

Signature: Ryan Kjome 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:

Page 1 of 1

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Amberg Oil Tank Farm		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	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location — Local Grid Location

State Plane N, E — Lat 44° 52' 55.12" — N E

SE ¼ of NE ¼ of Section 27 , T28N, R13W — Long 91° 56' 6.03" — Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-2-1 (0-4 ft)	48 30		4	0-8' Tan very fine to medium grained sand	SP			1.1		M				No petro odor
G-2-2 (4-8 ft)	48 24		8	8-8.5' Gray fine to coarse grained sand with gravel	SP			1.8		M/W				No petro odor
G-2-3 (8-9 ft)	12 12			8.5-9' Weathered sandstone				27		W				Slight petro odor
			10	Refusal @ 9' bgs. Groundwater sample G-2-W collected at 4-9 feet. Borehole abandoned.										

Depth scale: 2, 4, 6, 8, 10, 12, 14, 16

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

Signature: [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
Amberg Oil Tank Farm		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	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			793 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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
G-3-1 (0-4 ft)	48 30		2, 4, 6	0-7' Tan fine to coarse grained sand	SP			5.6		M				No petro odor
G-3-2 (4-8 ft)	48 30		8	7-9' Gray weathered sandstone				8.2		M/W				No petro odor
G-3-3 (8-9 ft)	12 12		10, 12, 14, 16	Refusal @ 9' bgs. Groundwater sample G-3-W collected at 4-9 feet. Borehole abandoned.				10.4		W				No petro odor

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

Signature: Bryan Kyser 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
Amberg Oil Tank Farm		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	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792.5 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

Sample					Soil Properties										
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
			2	0-4' Tan fine to coarse grained sand	SP									
G-4-1 (0-4 ft)	48 30		4					12.3		M				No petro odor
			6	4-8' Tan fine to medium grained sand	SP									
G-4-2 (4-8 ft)	48 30		8					5.7		M/W				No petro odor
				8-10' Gray weathered sandstone										
G-4-3 (8-10 ft)	24 24		10	Refusal @ 10' bgs. Groundwater sample G-4-W collected at 5-10 feet. Borehole abandoned.				6.4		W				No petro odor
			12											
			14											
			16											

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
Amberg Oil Tank Farm		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 Firm: Geiss Soil and Samples, LLC	05/15/2017 MM/ DD/ YYYY	05/15/2017 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			792.5 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location	
State Plane N, E	Lat 44° 52' 55.12"	N	E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S	Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

Sample					Soil Properties									
Number & Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil / Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID / FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD / Comments
			2	0-4' Tan fine to coarse grained sand with gravel	SP									
G-5-1 (0-4 ft)	48 30		4					5.3		M				No petro odor
			6	4-9' Tan fine to coarse grained sand	SP									
G-5-2 (4-8 ft)	48 24		8					4.1		M/W				No petro odor
				9-10' Gray weathered sandstone										
G-5-3 (8-10 ft)	24 24		10	Refusal @ 10' bgs. Groundwater sample G-5-W collected at 5-10 feet. Borehole abandoned.				5.1		W				No petro odor
			12											
			14											
			16											

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

Signature: Bryan Kyan 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
Amberg Oil Tank Farm		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	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792.5 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-6-1 (0-4 ft)	48 30		2, 4, 6	0-8' Tan fine to coarse grained sand	SP			9.5		M				No petro odor
G-6-2 (4-8 ft)	48 24		8					5.7.		M/W				No petro odor
G-6-3 (8-10 ft)	24 24			8-9.5' Tan coarse grained sand with gravel	SP			21		W				Petro odor
			10	9.5-10' Gray weathered sandstone										
				Refusal @ 10' bgs. Groundwater sample G-6-W collected at 5-10 feet. Borehole abandoned.										
			12, 14, 16											

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
Amberg Oil Tank Farm		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 Firm: Geiss Soil and Samples, LLC	05/15/2017 MM/ DD/ YYYY	05/15/2017 MM /DD/ YYYY	Geoprobe

WI Unique Well No. DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		792.5 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-7-1 (0-4 ft)	48 30		2 4 6	0-8' Tan fine to coarse grained sand	SP			5.4		M				No petro odor
G-7-2 (4-8 ft)	48 6		8	8-8.5' Gray fine to coarse grained sand with gravel	SP			4.7		M				No petro odor
G-7-3 (8-10 ft)	24 24		10 12 14 16	8.5-10' Gray weathered sandstone Refusal @ 10' bgs. Groundwater sample G-7-W collected at 5-10 feet. Borehole abandoned.				330		W				Petro odor

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

Signature: Bryce Krumm 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
Amberg Oil Tank Farm		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 Firm: Geiss Soil and Samples, LLC	05/15/2017 MM/ DD/ YYYY	05/15/2017 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			792.5 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-8-1 (0-4 ft)	48 30		2, 4, 6	0-8.5' Tan fine to medium grained sand	SP			8.2		M				No petro odor
G-8-2 (4-8 ft)	48 24		8					3.6		M/W				No petro odor
G-8-3 (8-10 ft)	24							4.8		W				No petro odor
			10	8.5-10' Gray to red weathered sandstone										
			12, 14, 16	Refusal @ 10' bgs. Groundwater sample G-8-W collected at 5-10 feet. Borehole abandoned.										

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
Amberg Oil Tank Farm		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	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location	
State Plane N, E	Lat 44° 52' 55.12"	N	E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S	Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-9-1 (0-4 ft)	48 30		2, 4, 6	0-8.5' Tan fine to medium grained sand	SP			5.9		M				No petro odor
G-9-2 (4-8 ft)	48 24		8					5.3		M				No petro odor
G-9-3 (8-10 ft)	24 24		10	8.5-10' Gray weathered sandstone				129		W				Petro odor
			12, 14, 16	Refusal @ 10' bgs. Groundwater sample G-9-W collected at 5-10 feet. Borehole abandoned.										

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
Amberg Oil Tank Farm		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 Firm: Geiss Soil and Samples, LLC	05/15/2017 MM/ DD/ YYYY	05/15/2017 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			792.5 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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 ft)	48 30		2, 4	0-8.5' Tan fine to coarse grained sand with gravel	SP			3.3		M				No petro odor
G-10-2 (4-8 ft)	48 24		6, 8					6.2		M/W				Slight petro odor
G-10-3 (8-10 ft)	24							5.0		W				No petro odor
			10	8.5-10' Gray weathered sandstone										
			12, 14, 16	Refusal @ 10' bgs. Groundwater sample G-10-W collected at 5-10 feet. Borehole abandoned.										

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
Amberg Oil Tank Farm		G-11

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 and Samples, LLC	05/15/2017 MM/ DD/ YYYY	05/15/2017 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			792 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-11-1 (0-4 ft)	0 0		2 4	0-4' No recovery										
G-11-2 (4-8 ft)	0 0		6	4-8' No recovery										
G-11-3 (8-10 ft)	24 24		8	8-8.5' Tan fine to coarse grained sand with gravel	SP			129		W				Petro odor
			10	8.5-10' Gray weathered sandstone Refusal @ 10' bgs. Groundwater sample G-11-W collected at 5-10 feet. Borehole abandoned.										
			12											
			14											
			16											

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

Signature: Bruce Krause 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
Amberg Oil Tank Farm		G-12

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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
			2	0-4' Tan fine to coarse grained sand with gravel	SP									
G-12-1 (0-4 ft)	48 / 36		4					2.0		M				No petro odor
			6											
				4-9.5' Tan fine to coarse grained sand	SP									
G-12-2 (4-8 ft)	48 / 24		8					5.0		M				No petro odor
G-12-3 (8-10 ft)	24							19		W				Slight petro odor
			10	9.5-10' Gray weathered sandstone										
				Refusal @ 10' bgs. Groundwater sample G-12-W collected at 5-10 feet. Borehole abandoned.										
			12											
			14											
			16											

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
Amberg Oil Tank Farm		G-13

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location	
State Plane N, E	Lat 44° 52' 55.12"	N	E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S	Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-13-1 (0-4 ft)	48 / 36		4	0-8' Tan fine to coarse grained sand	SP			1.4		M				No petro odor
G-13-2 (4-8 ft)	48 / 30		8					1.8		M				No petro odor
G-13-3 (8-10 ft)	24 / 24			8-9.5' Tan fine to coarse grained sand with gravel	SP			1.3		W				No petro odor
			10	9.5-10' Gray weathered sandstone Refusal @ 10' bgs. Groundwater sample G-13-W collected at 5-10 feet. Borehole abandoned.										

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

Signature: Bryce Kyano 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
Amberg Oil Tank Farm		G-14

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
				800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-14-1 (0-4 ft)	48 30		2 4 6	0-8.5' Tan fine to medium grained sand	SP			2.1		M				No petro odor
G-14-2 (4-8 ft)	48 24		8					1.6		M				No petro odor
G-14-3 (8-10 ft)	24 24		10 12 14 16	8.5-10' Gray weathered sandstone Refusal @ 10' bgs. No groundwater recovery for sample. Borehole abandoned.				1.1		W				No petro odor

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

Signature: Ryan Tyson 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
Amberg Oil Tank Farm		G-15

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 and Samples, LLC	05/15/2017 MM/ DD/ YYYY	05/15/2017 MM /DD/ YYYY	Geoprobe

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

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-15-1 (0-4 ft)	48 24		2 4 6	0-8' Tan fine to coarse grained sand	SP			3.0		M				No petro odor
G-15-2 (4-8 ft)	48 24		8	8-9' Gray weathered sandstone				3.6		M				No petro odor
G-15-3 (8-9 ft)	12 18		10 12 14 16	Refusal @ 9' bgs. No groundwater recovery for sample. Borehole abandoned.				2.3		W				No petro odor

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

Signature: Firm: **METCO**

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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Amberg Oil Tank Farm		G-16

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location
State Plane N, E	Lat 44° 52' 55.12"	N E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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
G-16-1 (0-4 ft)	48 30		2, 4, 6	0-8' Tan fine to coarse grained sand with gravel	SP			1.6		M				No petro odor
G-16-2 (4-8 ft)	48 36		8	8-10' Tan weathered sandstone				1.1		M				No petro odor
G-16-3 (8-10 ft)	24 12		10, 12, 14, 16	Refusal @ 10' bgs. Groundwater sample G-16-W collected at 5-10 feet. Borehole abandoned.				1.2		W				No petro odor

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

Signature: Firm: **METCO**

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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility / Project Name	License / Permit / Monitoring Number	Boring Number
Amberg Oil Tank Farm		G-17

Boring Drilled By: Name of crew chief (first, last) and Firm	Drilling Date Started	Drilling Date Completed	Drilling Method
First: Darrin Last: Prentice	05/15/2017	05/15/2017	Geoprobe
Firm: Geiss Soil and 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
			792 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location	
State Plane N, E	Lat 44° 52' 55.12"	N	E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S	Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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-17-1 (0-4 ft)	48 30		2 4 6	0-8' Tan fine to coarse grained sand	SP			1.5		M				No petro odor
G-17-2	48		8					1.8		M				No petro odor
(4-8 ft) G-17-3 (8-9 ft)	24 12 12			8-9' Gray weathered sandstone				495		W				Petro odor and staining
			10 12 14 16	Refusal @ 9' bgs. No groundwater recovery for sample. Borehole abandoned.										

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

Signature: Ryan Krause 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
Amberg Oil Tank Farm		G-18

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 and Samples, LLC	05/15/2017 MM/ DD/ YYYY	05/15/2017 MM /DD/ YYYY	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			792 ft msl	800 ft msl	2"

Local Grid Origin (estimated X) or Boring Location		Local Grid Location	
State Plane N, E	Lat 44° 52' 55.12"	N	E
SE ¼ of NE ¼ of Section 27 , T28N, R13W	Long 91° 56' 6.03"	Feet S	Feet W

Facility ID	County	County Code	Civil Town / City / Village
617062490	Dunn	17	City of Menomonie

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
			2	0-4' Tan fine to medium grained sand	SP									
G-18-1 (0-4 ft)	48 36		4					2.6		M				No petro odor
			6	4-8' Tan fine to coarse grained sand	SP									
G-18-2 (4-8 ft)	48 30		8	8-9' Gray weathered sandstone				3.0		M				No petro odor
G-18-3 (8-9 ft)	12 24		10	Refusal @ 9' bgs. Groundwater sample G-18-W collected at 4-9 feet. Borehole abandoned.				2.4		W				No petro odor
			12											
			14											
			16											

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 Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

44 ° 52.92 ' N

91 ° 56.1 ' W

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town: Menomonie — Well ZIP Code: 54751-

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:

[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-1
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3 — Telephone Number: (608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/1/17

DNR Use Only

Date Received — Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes) 44 ° 52.92 ' N; 91 ° 56.1 ' W — Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name: — Lot #:

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
9	
Lower Drillhole Diameter (in.) 2	Casing Depth (ft.)

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 " " ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only: [X] Bentonite Chips ☐ Granular Bentonite ☐ Bentonite - Cement Grout ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	9	13.5	

6. Comments

Geoprobe Boring G-2
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3 — Telephone Number: (608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/1/17

DNR Use Only

Date Received	Noted By
Comments	

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes): 44 ° 52.92 ' N; 91 ° 56.1 ' W — Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name	Lot #

Reason For Removal From Service: Sampling Complete

WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
9	

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
[X] Bentonite Chips ☐ Bentonite - Cement Grout ☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	9	13.5	

6. Comments

Geoprobe Boring G-3
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route	Telephone Number
709 Gillette Street, Suite 3	(608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/1/17

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

44 ° 52.92 ' N

91 ° 56.1 ' W

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-
Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Sampling Complete	

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7.5

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:

[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-4
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route	Telephone Number
709 Gillette Street, Suite 3	(608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/1/17

DNR Use Only

Date Received	Noted By
Comments	

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08) Page 1 of 2

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

44 ° 52.92 ' N

91 ° 56.1 ' W

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town: Menomonie — Well ZIP Code: 54751-

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:

[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-5
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3 — Telephone Number: (608) 781-8879

City	State	ZIP Code
La Crosse	WI	54603-

Signature of Person Doing Work: Eric Dahl — Date Signed: 6/1/17

DNR Use Only

Date Received: — Noted By: — Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes)	Method Code (see instructions)
44 ° 52.92 ' N	
91 ° 56.1 ' W	

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town: Menomonie

Well ZIP Code: 54751-

Subdivision Name:

Lot #:

Reason For Removal From Service: Sampling Complete

WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner: St Lois Park

State: MN

ZIP Code: 55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:

[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-6
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3

Telephone Number: (608) 781-8879

City: La Crosse

State: WI

ZIP Code: 54603-

Signature of Person Doing Work:

Date Signed: 6/1/17

DNR Use Only

Date Received:

Noted By:

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes) 44 ° 52.92 ' N; 91 ° 56.1 ' W — Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #:

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name: — Lot #:

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	7.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.) ☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " " ☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only: [X] Bentonite Chips ☐ Bentonite - Cement Grout ☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-7
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3 — Telephone Number: (608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/1/17

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	Wi Unique Well # of Removed Well	Hicap #
DUNN	— — — — —	

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

44 ° 52.92 . — — — 'N

91 ° 56.1 . — — — 'W

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town: Menomonie — Well ZIP Code: 54751-

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well: — — — — —

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner: St Lois Park — State: MN — ZIP Code: 55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.): 10 — Casing Diameter (in.)

Lower Drillhole Diameter (in.): 2 — Casing Depth (ft.)

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)? — Depth to Water (feet): 7.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-8
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3 — Telephone Number: (608) 781-8879

City: La Crosse — State: WI — ZIP Code: 54603-

Signature of Person Doing Work: [signature] — Date Signed: 6/1/17

DNR Use Only

Date Received	Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes): 44 ° 52.92 ' N; 91 ° 56.1 ' W — Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E ☒ W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name: — Lot #:

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-9
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route	Telephone Number
709 Gillette Street, Suite 3	(608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/1/17

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN	_ _ _ _ _ _	

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

44 ° 52.92 _ _ _ 'N

91 ° 56.1 _ _ _ 'W

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town: Menomonie — Well ZIP Code: 54751-

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well: _ _ _ _ _ _

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner: St Lois Park — State: MN — ZIP Code: 55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)? — Depth to Water (feet): 7.5

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:

[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-10
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3 — Telephone Number: (608) 781-8879

City: La Crosse — State: WI — ZIP Code: 54603-

Signature of Person Doing Work — Date Signed: 6/1/17

DNR Use Only

Date Received — Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes) | Method Code (see instructions)
44 ° 52.92 ' N
91 ° 56.1 ' W

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name | Lot #

Reason For Removal From Service: Sampling Complete

WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-11
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route	Telephone Number
709 Gillette Street, Suite 3	(608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/1/17

DNR Use Only

Date Received	Noted By
Comments	

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	Wi Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes): 44 ° 52.92 ' N; 91 ° 56.1 ' W — Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name	Lot #

Reason For Removal From Service	Wi Unique Well # of Replacement Well
Sampling Complete	

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:

[X] Bentonite Chips ☐ Bentonite - Cement Grout ☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-12
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route	Telephone Number
709 Gillette Street, Suite 3	(608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/1/17

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes): 44 ° 52.92 ' N; 91 ° 56.1 ' W — Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Sampling Complete	

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-13
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route	Telephone Number
709 Gillette Street, Suite 3	(608) 781-8879

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
La Crosse	WI	54603-		6/7/17

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN	_ _ _ _ _ _	

Latitude / Longitude (Degrees and Minutes) | Method Code (see instructions)

44 ° 52.92 ' N

91 ° 56.1 ' W

¼ / ¼ SE ¼ NE | Section 27 | Township 28 N | Range 13 ☐ E [X] W | or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town: Menomonie | Well ZIP Code: 54751-

Subdivision Name | Lot #

Reason For Removal From Service: Sampling Complete | WI Unique Well # of Replacement Well: _ _ _ _ _ _

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner: St Lois Park | State: MN | ZIP Code: 55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
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 and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:

[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	pounds
Medium Bentonite Chips	Surface	10	15

6. Comments

Geoprobe Boring G-14
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

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

City: La Crosse | State: WI | ZIP Code: 54603-

Signature of Person Doing Work | Date Signed: 6/1/17

DNR Use Only

Date Received | Noted By | Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes) | Method Code (see instructions)

44 ° 52.92 ' N

91 ° 56.1 ' W

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town: Menomonie | Well ZIP Code: 54751-

Subdivision Name | Lot #

Reason For Removal From Service: Sampling Complete | WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner: St Lois Park | State: MN | ZIP Code: 55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
9	
Lower Drillhole Diameter (in.)	Casing Depth (ft.)
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 and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	9	13.5	

6. Comments

Geoprobe Boring G-15
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing: Eric Dahl | License # | Date of Filling & Sealing (mm/dd/yyyy): 5/15/2017

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

City: La Crosse | State: WI | ZIP Code: 54603-

Signature of Person Doing Work | Date Signed: 6/1/17

DNR Use Only

Date Received | Noted By | Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes): 44 ° 52.92 ' N; 91 ° 56.1 ' W — Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name	Lot #

Reason For Removal From Service	WI Unique Well # of Replacement Well
Sampling Complete	

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
10	

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	10	15	

6. Comments

Geoprobe Boring G-16
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route	Telephone Number
709 Gillette Street, Suite 3	(608) 781-8879

City	State	ZIP Code
La Crosse	WI	54603-

Signature of Person Doing Work: [signature] Date Signed: 6/1/17

DNR Use Only

Date Received	Noted By

Comments:

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes) — Method Code (see instructions)

44 ° 52.92 ' N

91 ° 56.1 ' W

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town: Menomonie — Well ZIP Code: 54751-

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner: St Lois Park — State: MN — ZIP Code: 55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
9	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.)
☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " "
☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
[X] Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	9	13.5	

6. Comments

Geoprobe Boring G-17
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3 — Telephone Number: (608) 781-8879

City: La Crosse — State: WI — ZIP Code: 54603-

Signature of Person Doing Work: [signature] — Date Signed: 6/1/17

DNR Use Only

Date Received	Noted By

Comments

State of Wis., Dept. of Natural Resources
dnr.wi.gov

Well / Drillhole / Borehole Filling & Sealing

Form 3300-005 (R 4/08)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, 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. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
DUNN		

Latitude / Longitude (Degrees and Minutes): 44 ° 52.92 ' N; 91 ° 56.1 ' W — Method Code (see instructions):

¼ / ¼	¼	Section	Township	Range	
SE	NE	27	28 N	13	☐ E [X] W

or Gov't Lot #

Well Street Address: 511 1st Ave W

Well City, Village or Town	Well ZIP Code
Menomonie	54751-

Subdivision Name — Lot #

Reason For Removal From Service: Sampling Complete — WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name: Amberg Oil Tank Farm

Facility ID (FID or PWS): 617062490

License/Permit/Monitoring #:

Original Well Owner: Jessica Amberg

Present Well Owner: Jessica Ambeg

Mailing Address of Present Owner: 300 Ford Road #7

City of Present Owner	State	ZIP Code
St Lois Park	MN	55426-

3. Well / Drillhole / Borehole Information

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

Original Construction Date (mm/dd/yyyy): 5/15/2017

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 From Ground Surface (ft.)	Casing Diameter (in.)
9	
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
2	

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	8

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	☐ Yes	☐ No	[X] N/A
Liner(s) removed?	☐ Yes	☐ No	[X] N/A
Screen removed?	☐ Yes	☐ No	[X] N/A
Casing left in place?	☐ Yes	☐ No	[X] N/A
Was casing cut off below surface?	☐ Yes	☐ No	[X] N/A
Did sealing material rise to surface?	[X] Yes	☐ No	☐ N/A
Did material settle after 24 hours?	☐ Yes	[X] No	☐ N/A
If yes, was hole retopped?	☐ Yes	☐ No	[X] N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	[X] Yes	☐ No	☐ N/A

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 ☐ Clay-Sand Slurry (11 lb./gal. wt.) ☐ Sand-Cement (Concrete) Grout ☐ Bentonite-Sand Slurry " " ☐ Concrete ☐ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only: [X] Bentonite Chips ☐ Bentonite - Cement Grout ☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

Material	From (ft.)	To (ft.)	pounds	
Medium Bentonite Chips	Surface	9	13.5	

6. Comments

Geoprobe Boring G-18
Abandoned by Geiss Soil & Samples, LLC under METCO supervision

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)
Eric Dahl		5/15/2017

Street or Route: 709 Gillette Street, Suite 3 — Telephone Number: (608) 781-8879

City	State	ZIP Code
La Crosse	WI	54603-

Signature of Person Doing Work: Eric Dahl — Date Signed: 6/1/17

DNR Use Only

Date Received	Noted By

Comments:

APPENDIX D/ WASTE DISPOSAL DOCUMENTATION

Investigative Wastes

No investigative waste was generated as part of this site investigation.

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).
Not-to-Exceed D-C RCL defaults to 100,000 mg/kg if web-calculator result or Csat exceeds 10% by weight (the ceiling limit concentration defined in EPA RSL Users Guide).
Basis: **ca** = cancer; **nc** = non-cancer; **Csat** = soil saturation concentration; **ceiling** = 10%.
Background threshold values are non-outlier trace element maximum levels in Wisconsin surface soils from the USGS Report at: *http://pubs.usgs.gov/sir/2011/5062*.

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 324.***

A.7 Other

Site Name:

Sample ID:

Contaminant	CAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	Background Threshold Value (mg/kg)	INPUT Site Data (mg/kg)	Comparison / Hazard Index / Cumulative Cancer Risk: Flag E = Individual Exceedance!	Hazard Quotient (HQ) from Data	Target CR used: 1.00E-06 Cancer Risk (CR) from Data
Benzene	71-43-2	,106.000	,1.600	,1.600	ca					
Ethylbenzene	100-41-4	4,080.000	,8.020	,8.020	ca					
Toluene	108-88-3	5,240.000	-	,818.000	Csat					
Xylenes	1330-20-7	,818.000	-	,260.000	Csat					
Methyl tert-Butyl Ether (MTBE)	1634-04-4	22,100.000	,63.800	,63.800	ca					
Dichloroethane, 1,2-	107-06-2	,43.700	,.652	,.652	ca					
Dibromoethane, 1,2-	106-93-4	,100.000	,.050	,.050	ca					
Trichloroethylene	79-01-6	,5.680	,1.300	,1.300	ca					
Tetrachloroethylene	127-18-4	,109.000	,33.000	,33.000	ca					
Vinyl Chloride	75-01-4	,89.200	,.067	,.067	ca					
Dichloroethylene, 1,1-	75-35-4	,320.000	-	,320.000	nc					
Dichloroethylene, 1,2-trans-	156-60-5	1,560.000	-	1,560.000	nc					
Dichloroethylene, 1,2-cis-	156-59-2	,156.000	-	,156.000	nc					
Trichloroethane, 1,1,1-	71-55-6	11,500.000	-	,640.000	Csat					
Carbon Tetrachloride	56-23-5	,131.000	,.916	,.916	ca					
Trimethylbenzene, 1,2,4-	95-63-6	,373.000	-	,219.000	Csat					
Trimethylbenzene, 1,3,5-	108-67-8	,339.000	-	,182.000	Csat					
Naphthalene	91-20-3	,178.000	,5.520	,5.520	ca					
Benzo[a]pyrene	50-32-8	,17.800	,.115	,.115	ca					
Acenaphthene	83-32-9	3,590.000	-	3,590.000	nc					
Acenaphthylene	208-96-8	-	-							
Anthracene	120-12-7	17,900.000	-	17,900.000	nc					
Benz[a]anthracene	56-55-3	-	,1.140	,1.140	ca					
Benzo(j)fluoranthene	205-82-3	-	,.424	,.424	ca					
Benzo[b]fluoranthene	205-99-2	-	,1.150	,1.150	ca					
Benzo[g,h,i]perylene	191-24-2	-	-							
Benzo[k]fluoranthene	207-08-9	-	,11.500	,11.500	ca					
Chrysene	218-01-9	-	,115.000	,115.000	ca					
Dibenz[a,h]anthracene	53-70-3	-	,.115	,.115	ca					
Dibenzo(a,e)pyrene	192-65-4	-	,.042	,.042	ca					
Dimethylbenz(a)anthracene, 7,12-	57-97-6	-	4.59E-04	4.59E-04	ca					
Fluoranthene	206-44-0	2,390.000	-	2,390.000	nc					
Fluorene	86-73-7	2,390.000	-	2,390.000	nc					
Indeno[1,2,3-cd]pyrene	193-39-5	-	,1.150	,1.150	ca					
Methylnaphthalene, 1-	90-12-0	4,180.000	,17.600	,17.600	ca					
Methylnaphthalene, 2-	91-57-6	,239.000	-	,239.000	nc					
Nitropyrene, 4-	57835-92-4	-	,.424	,.424	ca					
Perylene	198-55-0	-	-							
Phenanthrene	85-01-8	-	-							
Pyrene	129-00-0	1,790.000	-	1,790.000	nc					
Lead and Compounds	7439-92-1	,400.000	-	,400.000		,52.				
Bromobenzene	108-86-1	,342.000	-	,342.000	nc					
Bromodichloromethane	75-27-4	1,560.000	,.418	,.418	ca					
Bromoform	75-25-2	1,560.000	,25.400	,25.400	ca					
Butylbenzene, n-	104-51-8	3,910.000	-	,108.000	Csat					
Butylbenzene, sec-	135-98-8	7,820.000	-	,145.000	Csat					
Butylbenzene, tert-	98-06-6	7,820.000	-	,183.000	Csat					
Chlorobenzene	108-90-7	,370.000	-	,370.000	nc					
Chloroform	67-66-3	,259.000	,.454	,.454	ca					
Chloromethane	74-87-3	,159.000	-	,159.000	nc					
Chlorotoluene, o-	95-49-8	1,560.000	-	,907.000	Csat					
Chlorotoluene, p-	106-43-4	1,560.000	-	,253.000	Csat					
Dibromo-3-chloropropane, 1,2-	96-12-8	,5.960	,.008	,.008	ca					
Dibromochloromethane	124-48-1	1,560.000	,8.280	,8.280	ca					
Dichlorobenzene, 1,2-	95-50-1	2,350.000	-	,376.000	Csat					
Dichlorobenzene, 1,3-	541-73-1	-	-	,297.000	Csat					
Dichlorobenzene, 1,4-	106-46-7	3,810.000	,3.740	,3.740	ca					
Dichlorodifluoromethane	75-71-8	,126.000	-	,126.000	nc					
Dichloroethane, 1,1-	75-34-3	15,600.000	,5.060	,5.060	ca					
Dichloropropane, 1,2-	78-87-5	,22.600	,.406	,.406	ca					
Dichloropropane, 1,3-	142-28-9	1,560.000	-	1,490.000	Csat					
Dichloropropane, 2,2-	594-20-7	-	-	,191.000	Csat					
Diisopropyl Ether	108-20-3	3,220.000	-	2,260.000	Csat					
Hexachlorobutadiene	87-68-3	,78.200	,1.630	,1.630	ca					
Isopropyltoluene, p-	99-87-6	-	-	,162.000	Csat					
Methylene Chloride	75-09-2	,379.000	,61.800	,61.800	ca					
Tetrachloroethane, 1,1,1,2-	630-20-6	2,350.000	,2.780	,2.780	ca					
Tetrachloroethane, 1,1,2,2-	79-34-5	1,560.000	,.810	,.810	ca					
Trichlorobenzene, 1,2,3-	87-61-6	,62.600	-	,62.600	nc					
Trichlorobenzene, 1,2,4-	120-82-1	,80.800	,24.000	,24.000	ca					
Trichloroethane, 1,1,2-	79-00-5	,2.160	,1.590	,1.590	ca					
Trichlorofluoromethane	75-69-4	23,500.000	-	1,230.000	Csat					
Test1Chem(DRO)	Wis. DRO									
Test2Chem(GRO)	Wis. GRO									
Test3Chem(TPH)	TPH									

Type BRRTS No. Here (If Known)

Exceedance Count / Hazard Index / Cumulative Cancer Risk: 0 | 0.00E+00 | 0.00E+00

To Pass, data must meet all these criteria: Exceedance Count = 0 | HI ≤ 1.0 | Cumulative CR ≤ 1e-05

Summary

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/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)	Flag E = Individual Exceedance!	*Type BRRTS No. Here (If Known). Assess groundwater levels separately.*
Acetochlor	34256-82-1	-	7	5.58E-03	1.12E-02			
Acetone	67-64-1	-	9000	1.85E+00	3.69E+00			
Alachlor	15972-60-8	2	2	1.65E-03	3.30E-03			
Aldicarb	116-06-3	3	10	2.49E-03	4.99E-03			
Aluminum	7429-90-5	-	200	3.01E+02	6.01E+02			
Antimony	7440-36-0	6	6	2.71E-01	5.42E-01			
Anthracene	120-12-7	-	3000	9.84E+01	1.97E+02			
Arsenic	7440-38-2	10	10	2.92E-01	5.84E-01			
Atrazine, total chlorinated residues	1912-24-9	3	3	1.95E-03	3.90E-03			
Barium	7440-39-3	2000	2000	8.24E+01	1.65E+02			
Bentazon	25057-89-0	-	300	6.59E-02	1.32E-01			
Benzene	71-43-2	5	5	2.56E-03	5.12E-03			
Benzo(a)pyrene (PAH)	50-32-8	0.2	0.2	2.35E-01	4.70E-01			
Benzo(b)fluoranthene (PAH)	205-99-2	-	0.2	2.40E-01	4.80E-01			
Beryllium	7440-41-7	4	4	3.16E+00	6.32E+00			
Boron	7440-42-8	-	1000	3.20E+00	6.40E+00			
Bromodichloromethane (THM)	75-27-4	80	0.6	1.63E-04	3.26E-04			
Bromoform (THM)	75-25-2	80	4.4	1.17E-03	2.33E-03			
Bromomethane	74-83-9	-	10	2.53E-03	5.06E-03			
Butylate	2008-41-5	-	400	3.88E-01	7.76E-01			
Cadmium	7440-43-9	5	5	3.76E-01	7.52E-01			
Carbaryl	63-25-2	-	40	3.64E-02	7.27E-02			
Carbofuran	1563-66-2	40	40	1.56E-02	3.12E-02			
Carbon disulfide	75-15-0	-	1000	2.97E-01	5.93E-01			
Carbon tetrachloride	56-23-5	5	5	1.94E-03	3.88E-03			
Chloramben	133-90-4	-	150	3.63E-02	7.27E-02			
Chlorodifluoromethane	75-45-6	-	7000	2.89E+00	5.79E+00			
Chloroethane	75-00-3	-	400	1.13E-01	2.27E-01			
Chloroform (THM)	67-66-3	80	6	1.67E-03	3.33E-03			
Chlorpyrifos	2921-88-2	-	2	2.95E-02	5.90E-02			
Chloromethane	74-87-3	-	30	7.76E-03	1.55E-02			
Chromium (total)	7440-47-3	100	100	1.80E+05	3.60E+05			Re-assess if Cr-VI present
Chrysene (PAH)	218-01-9	-	0.2	7.25E-02	1.45E-01			
Cobalt	7440-48-4	-	40	1.81E+00	3.62E+00			
Copper	7440-50-8	1300	1300	4.58E+01	9.16E+01			
Cyanazine	21725-46-2	-	1	4.68E-04	9.37E-04			
Cyanide, free	57-12-5	200	200	2.02E+00	4.04E+00			
Dacthal (DCPA)	1861-32-1	-	70	8.56E-02	1.71E-01			
1,2-Dibromoethane	106-93-4	0.05	0.05	1.41E-05	2.82E-05			
Dibromochloromethane (THM)	124-48-1	80	60	1.60E-02	3.20E-02			
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.2	0.2	8.64E-05	1.73E-04			
Dibutyl phthalate	84-74-2	-	1000	2.52E+00	5.04E+00			
Dicamba	1918-00-9	-	300	7.76E-02	1.55E-01			
1,2-Dichlorobenzene	95-50-1	600	600	5.84E-01	1.17E+00			
1,3-Dichlorobenzene	541-73-1	-	600	5.76E-01	1.15E+00			
1,4-Dichlorobenzene	106-46-7	75	75	7.20E-02	1.44E-01			
Dichlorodifluoromethane	75-71-8	-	1000	1.54E+00	3.08E+00			
1,1-Dichloroethane	75-34-3	-	850	2.42E-01	4.84E-01			
1,2-Dichloroethane	107-06-2	5	5	1.42E-03	2.84E-03			
1,1-Dichloroethylene	75-35-4	7	7	2.51E-03	5.02E-03			
1,2-Dichloroethylene (cis)	156-59-2	70	70	2.06E-02	4.12E-02			
1,2-Dichloroethylene (trans)	156-60-5	100	100	2.94E-02	5.88E-02			
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70	70	1.81E-02	3.62E-02			
1,2-Dichloropropane	78-87-5	5	5	1.66E-03	3.32E-03			
1,3-Dichloropropene (cis/trans) (Telone)	542-75-6	-	0.4	1.43E-04	2.85E-04			
Di (2-ethylhexyl) phthalate	117-81-7	6	6	1.44E+00	2.88E+00			
Dimethoate	60-51-5	-	2	4.51E-04	9.02E-04			
2,4-Dinitrotoluene	121-14-2	-	0.05	6.76E-05	1.35E-04			
2,6-Dinitrotoluene	606-20-2	-	0.05	6.88E-05	1.38E-04			
Dinitrotoluene, Total Residues	25321-14-6	-	0.05	6.89E-05	1.38E-04			
Dinoseb	88-85-7	7	7	6.15E-02	1.23E-01			
1,4-Dioxane (p-dioxane)	123-91-1	-	3	6.18E-04	1.24E-03			
Dioxin (2,3,7,8-TCDD)	1746-01-6	0	0	1.50E-05	3.00E-05			
Endrin	72-20-8	2	2	8.08E-02	1.62E-01			
EPTC	759-94-4	-	250	1.32E-01	2.64E-01			
Ethylbenzene	100-41-4	700	700	7.85E-01	1.57E+00			
Ethyl Ether (Diethyl Ether)	60-29-7	-	1000	2.24E-01	4.47E-01			
Ethylene glycol	107-21-1	-	14000	2.82E+00	5.64E+00			
Fluoranthene	206-44-0	-	400	4.44E+01	8.88E+01			
Fluorene (PAH)	86-73-7	-	400	7.41E+00	1.48E+01			

No RSL result for: Asbestos; Bacteria; 1,3-DCB; Hydrogen Sulfide; Nitrate/Nitrite; Tetrahydrofuran; Perchlorate.

Only use DAF=2 (or site-specific DAF) RCL after clearly defining gw plume. RCL < 0.0001 ppm is in "E" notation.

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)	Flag E = Individual Exceedance!
Fluoride	7782-41-4	4000	4000	6.01E+02		1.20E+03		
Fluorotrichloromethane	75-69-4	-	3490	2.23E+00		4.47E+00		
Formaldehyde	50-00-0	-	1000	2.02E-01		4.04E-01		
Heptachlor	76-44-8	0.4	0.4	3.31E-02		6.62E-02		
Heptachlor epoxide	1024-57-3	0.2	0.2	4.08E-03		8.16E-03		
Hexachlorobenzene	118-74-1	1	1	1.26E-02		2.52E-02		
n-Hexane	110-54-3	-	600	4.22E+00		8.44E+00		
Lead	7439-92-1	15	15	1.35E+01		2.70E+01		
Lindane	58-89-9	0.2	0.2	1.16E-03		2.32E-03		
Manganese	7439-96-5	-	300	1.96E+01		3.91E+01		
Mercury	7439-97-6	2	2	1.04E-01		2.08E-01		
Methanol	67-56-1	-	5000	1.01E+00		2.03E+00		
Methoxychlor	72-43-5	40	40	2.16E+00		4.32E+00		
Methylene chloride	75-09-2	5	5	1.28E-03		2.56E-03		
Methyl ethyl ketone (MEK)	78-93-3	-	4000	8.39E-01		1.68E+00		
Methyl isobutyl ketone (MIBK)	108-10-1	-	500	1.13E-01		2.26E-01		
Methyl tert-butyl ether (MTBE)	1634-04-4	-	60	1.35E-02		2.70E-02		
Metolachlor/s-Metolachlor	51218-45-2	-	100	1.17E-01		2.34E-01		
Metribuzin	21087-64-9	-	70	2.14E-02		4.28E-02		
Molybdenum	7439-98-7	-	40	8.08E-01		1.62E+00		
Monochlorobenzene	108-90-7	100	100	6.79E-02		1.36E-01		
Naphthalene	91-20-3	-	100	3.29E-01		6.59E-01		
Nickel	7440-02-0	-	100	6.50E+00		1.30E+01		
N-Nitrosodiphenylamine (NDPA)	86-30-6	-	7	3.82E-02		7.64E-02		
Pentachlorophenol (PCP)	87-86-5	1	1	1.01E-02		2.02E-02		
Phenol	108-95-2	-	2000	1.15E+00		2.30E+00		
Picloram	1918-02-1	500	500	1.39E-01		2.78E-01		
Polychlorinated biphenyls (PCBs)	1336-36-3	0.5	0.03	4.69E-03		9.38E-03		
Prometon	1610-18-0	-	100	4.75E-02		9.49E-02		
Propazine	139-40-2	-	10	8.86E-03		1.77E-02		
Pyrene (PAH)	129-00-0	-	250	2.72E+01		5.45E+01		
Pyridine	110-86-1	-	10	3.44E-03		6.87E-03		
Selenium	7782-49-2	50	50	2.60E-01		5.20E-01		
Silver	7440-22-4	-	50	4.25E-01		8.50E-01		
Simazine	122-34-9	4	4	1.97E-03		3.94E-03		
Styrene	100-42-5	100	100	1.10E-01		2.20E-01		
Tertiary Butyl Alcohol (TBA)	75-65-0	-	12	2.45E-03		4.90E-03		
1,1,1,2-Tetrachloroethane	630-20-6	-	70	2.67E-02		5.33E-02		
1,1,2,2-Tetrachloroethane	79-34-5	-	0.2	7.80E-05		1.56E-04		
Tetrachloroethylene (PCE)	127-18-4	5	5	2.27E-03		4.54E-03		
Tetrahydrofuran	109-99-9	-	50	1.11E-02		2.22E-02		
Thallium	7440-28-0	2	2	1.42E-01		2.84E-01		
Toluene	108-88-3	1000	800	5.54E-01		1.11E+00		
Toxaphene	8001-35-2	3	3	4.64E-01		9.28E-01		
1,2,4-Trichlorobenzene	120-82-1	70	70	2.04E-01		4.08E-01		
1,1,1-Trichloroethane	71-55-6	200	200	7.01E-02		1.40E-01		
1,1,2-Trichloroethane	79-00-5	5	5	1.62E-03		3.24E-03		
Trichloroethylene (TCE)	79-01-6	5	5	1.79E-03		3.58E-03		
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP(Silvex))	93-72-1	50	50	2.75E-02		5.50E-02		
1,2,3-Trichloropropane	96-18-4	-	60	2.60E-02		5.20E-02		
Trifluralin	1582-09-8	-	7.5	2.48E-01		4.95E-01		
Trimethylbenzenes (1,2,4- and 1,3,5- combined)	95-63-6 / 108-67-8	-	480	6.90E-01		1.38E+00		
Vanadium	7440-62-2							
Vinyl chloride	75-01-4	2	0.2	6.90E-05		1.38E-04		
Xylenes (m-, o-, p- combined)	1330-20-7	10000	2000	1.97E+00		3.94E+00		

Type BRRTS No. Here (If Known). Assess groundwater levels separately.

No RSL result for: Asbestos; Bacteria; 1,3-DCB; Hydrogen Sulfide; Nitrate/Nitrite; Tetrahydrofuran; Perchlorate.

Only use DAF=2 (or site-specific DAF) RCL after clearly defining gw plume. RCL < 0.0001 ppm is in "E" notation.

Site-specific

Resident Equation Inputs for Soil

Variable	Value
THQ (target hazard quotient) unitless	1
TR (target risk) unitless	1.0E-6
LT (lifetime) year	70
ET_{res} (exposure time) hour	24
ET_{res-c} (child exposure time) hour	24
ET_{res-a} (adult exposure time) hour	24
ET_{0-2} (mutagenic exposure time) hour	24
ET_{2-6} (mutagenic exposure time) hour	24
ET_{6-16} (mutagenic exposure time) hour	24
ET_{16-26} (mutagenic exposure time) hour	24
ED_{res} (exposure duration) year	26
ED_{res-c} (exposure duration - child) year	6
ED_{res-a} (exposure duration - adult) year	20
ED_{0-2} (mutagenic exposure duration) year	2
ED_{2-6} (mutagenic exposure duration) year	4
ED_{6-16} (mutagenic exposure duration) year	10
ED_{16-26} (mutagenic exposure duration) year	10
BW_{res-c} (body weight - child) kg	15
BW_{res-a} (body weight - adult) kg	80
BW_{0-2} (mutagenic body weight) kg	15
BW_{2-6} (mutagenic body weight) kg	15
BW_{6-16} (mutagenic body weight) kg	80
BW_{16-26} (mutagenic body weight) kg	80
SA_{res-c} (skin surface area - child) cm ^{2}/day	2373
SA_{res-a} (skin surface area - adult) cm ^{2}/day	6032
SA_{0-2} (mutagenic skin surface area) cm ^{2}/day	2373
SA_{2-6} (mutagenic skin surface area) cm ^{2}/day	2373
SA_{6-16} (mutagenic skin surface area) cm ^{2}/day	6032
SA_{16-26} (mutagenic skin surface area) cm ^{2}/day	6032
EF_{res} (exposure frequency) day/year	350
EF_{res-c} (exposure frequency - child) day/year	350
EF_{res-a} (exposure frequency - adult) day/year	350
EF_{0-2} (mutagenic exposure frequency) day/year	350

Output generated 15JUN2016:11:20:47

Site-specific

Resident Equation Inputs for Soil

Variable	Value
EF_{2-6} (mutagenic exposure frequency) day/year	350
EF_{6-16} (mutagenic exposure frequency) day/year	350
EF_{16-26} (mutagenic exposure frequency) day/year	350
$IFS_{res-adj}$ (age-adjusted soil ingestion factor) mg/kg	36750
$IFSM_{res-adj}$ (mutagenic age-adjusted soil ingestion factor) mg/kg	166833.33
IRS_{res-c} (soil intake rate - child) mg/day	200
IRS_{res-a} (soil intake rate - adult) mg/day	100
IRS_{0-2} (mutagenic soil intake rate) mg/day	200
IRS_{2-6} (mutagenic soil intake rate) mg/day	200
IRS_{6-16} (mutagenic soil intake rate) mg/day	100
IRS_{16-26} (mutagenic soil intake rate) mg/day	100
AF_{res-a} (skin adherence factor - adult) mg/cm ^{2}	0.07
AF_{res-c} (skin adherence factor - child) mg/cm ^{2}	0.2
AF_{0-2} (mutagenic skin adherence factor) mg/cm ^{2}	0.2
AF_{2-6} (mutagenic skin adherence factor) mg/cm ^{2}	0.2
AF_{6-16} (mutagenic skin adherence factor) mg/cm ^{2}	0.07
AF_{16-26} (mutagenic skin adherence factor) mg/cm ^{2}	0.07
$DFS_{res-adj}$ (age-adjusted soil dermal factor) mg/kg	103390
$DFSM_{res-adj}$ (mutagenic age-adjusted soil dermal factor) mg/kg	428260
City (Climate Zone) PEF Selection	Chicago, IL (7)
A_s (acres)	.5
Q/C_{wp} (g/m^2-s per kg/m^3)	98.430714368855
PEF (particulate emission factor) m ^{3}/kg	1560521176.9649
A (PEF Dispersion Constant)	16.8653
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)	.5
Q/C_{vol} (g/m^2-s per kg/m^3)	98.430714368855

Site-specific

Resident Equation Inputs for Soil

Variable	Value
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
n (total soil porosity) L_{pore}/L_{soil}	0.43396
θ$_a$ (air-filled soil porosity) L_{air}/L_{soil}	0.28396
θ$_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15
T (exposure interval) s	819936000
A (VF Dispersion Constant)	16.8653
B (VF Dispersion Constant)	18.7848
C (VF Dispersion Constant)	215.0624
City (Climate Zone) VF $_{sl}$ Selection	Chicago, IL (7)
VF_s (volitization factor) m ^{3}/kg	.
Q/C_{vol} (g/m^2-s per kg/m^3)	98.430714368855
A_c (acres)	.5
T (exposure interval) yr	26
d_c (depth of source) m	.
ρ$_b$ (dry soil bulk density) g/cm ^{3}	1.5
A (VF Dispersion Constant - Mass Limit)	16.8653
B (VF Dispersion Constant - Mass Limit)	18.7848
C (VF Dispersion Constant - Mass Limit)	215.0624

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	CAS Number	Mutagen?	VOC?	Ingestion SF (mg/kg-day)$^{-1}$	SFO Ref	Inhalation Unit Risk (ug/m^3)$^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref
Benzene	71-43-2	No	Yes	5.50E-02	I	7.80E-06	I	4.00E-03	I	3.00E-02	I
Dibromoethane, 1,2-	106-93-4	No	Yes	2.00E+00	I	6.00E-04	I	9.00E-03	I	9.00E-03	I
Dichloroethane, 1,2-	107-06-2	No	Yes	9.10E-02	I	2.60E-05	I	6.00E-03	S	7.00E-03	P
Ethylbenzene	100-41-4	No	Yes	1.10E-02	C	2.50E-06	C	1.00E-01	I	1.00E+00	I
Lead and Compounds	7439-92-1	No	No	-		-		-		-	
Methyl tert-Butyl Ether (MTBE)	1634-04-4	No	Yes	1.80E-03	C	2.60E-07	C	-		3.00E+00	I
Acenaphthene	83-32-9	No	Yes	-		-		6.00E-02	I	-	
Anthracene	120-12-7	No	Yes	-		-		3.00E-01	I	-	
Benz[a]anthracene	56-55-3	Yes	Yes	7.30E-01	W	1.10E-04	C	-		-	
Benzo(j)fluoranthene	205-82-3	No	No	1.20E+00	C	1.10E-04	C	-		-	
Benzo[a]pyrene	50-32-8	Yes	No	7.30E+00	I	1.10E-03	C	-		-	
Benzo[b]fluoranthene	205-99-2	Yes	No	7.30E-01	W	1.10E-04	C	-		-	
Benzo[k]fluoranthene	207-08-9	Yes	No	7.30E-02	W	1.10E-04	C	-		-	
Chrysene	218-01-9	Yes	No	7.30E-03	W	1.10E-05	C	-		-	
Dibenz[a,h]anthracene	53-70-3	Yes	No	7.30E+00	W	1.20E-03	C	-		-	
Dibenzo(a,e)pyrene	192-65-4	No	No	1.20E+01	C	1.10E-03	C	-		-	
Dimethylbenz(a)anthracene, 7,12-	57-97-6	Yes	No	2.50E+02	C	7.10E-02	C	-		-	
Fluoranthene	206-44-0	No	No	-		-		4.00E-02	I	-	
Fluorene	86-73-7	No	Yes	-		-		4.00E-02	I	-	
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	No	7.30E-01	W	1.10E-04	C	-		-	
Methylnaphthalene, 1-	90-12-0	No	Yes	2.90E-02	P	-		7.00E-02	A	-	
Methylnaphthalene, 2-	91-57-6	No	Yes	-		-		4.00E-03	I	-	
Naphthalene	91-20-3	No	Yes	-		3.40E-05	C	2.00E-02	I	3.00E-03	I
Nitropyrene, 4-	57835-92-4	No	No	1.20E+00	C	1.10E-04	C	-		-	
Pyrene	129-00-0	No	Yes	-		-		3.00E-02	I	-	
Toluene	108-88-3	No	Yes	-		-		8.00E-02	I	5.00E+00	I
Trimethylbenzene, 1,2,4-	95-63-6	No	Yes	-		-		-		7.00E-03	P
Trimethylbenzene, 1,3,5-	108-67-8	No	Yes	-		-		1.00E-02	S	-	
Xylenes	1330-20-7	No	Yes	-		-		2.00E-01	I	1.00E-01	I

Output generated 15JUN2016:11:20:47

Site-specific

Resident Screening Levels (RSL) for Soil

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

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

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	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)	Ingestion SL Adult THQ=1 (mg/kg)	Dermal SL Adult THQ=1 (mg/kg)	Inhalation SL Adult THQ=1 (mg/kg)	Noncarcinogenic SL Adult THI=1 (mg/kg)	Screening Level (mg/kg)
Benzene	3.13E+02	-	1.60E+02	1.06E+02	3.34E+03	-	1.60E+02	1.52E+02	1.60E+00 ca*
Dibromoethane, 1,2-	7.04E+02	-	1.17E+02	1.00E+02	7.51E+03	-	1.17E+02	1.15E+02	5.00E-02 ca
Dichloroethane, 1,2-	4.69E+02	-	4.82E+01	4.37E+01	5.01E+03	-	4.82E+01	4.77E+01	6.52E-01 ca*
Ethylbenzene	7.82E+03	-	8.53E+03	4.08E+03	8.34E+04	-	8.53E+03	7.74E+03	8.02E+00 ca
Lead and Compounds	-	-	-	-	-	-	-	-	4.00E+02 nc
Methyl tert-Butyl Ether (MTBE)	-	-	2.21E+04	2.21E+04	-	-	2.21E+04	2.21E+04	6.38E+01 ca
Acenaphthene	4.69E+03	1.52E+04	-	3.59E+03	5.01E+04	9.12E+04	-	3.23E+04	3.59E+03 nc
Anthracene	2.35E+04	7.61E+04	-	1.79E+04	2.50E+05	4.56E+05	-	1.62E+05	1.79E+04 nc
Benz[a]anthracene	-	-	-	-	-	-	-	-	1.57E-01 ca
Benzo(j)fluoranthene	-	-	-	-	-	-	-	-	4.24E-01 ca
Benzo[a]pyrene	-	-	-	-	-	-	-	-	1.57E-02 ca
Benzo[b]fluoranthene	-	-	-	-	-	-	-	-	1.57E-01 ca
Benzo[k]fluoranthene	-	-	-	-	-	-	-	-	1.57E+00 ca
Chrysene	-	-	-	-	-	-	-	-	1.57E+01 ca
Dibenz[a,h]anthracene	-	-	-	-	-	-	-	-	1.57E-02 ca
Dibenzo(a,e)pyrene	-	-	-	-	-	-	-	-	4.24E-02 ca
Dimethylbenz(a)anthracene, 7,12-	-	-	-	-	-	-	-	-	4.59E-04 ca
Fluoranthene	3.13E+03	1.01E+04	-	2.39E+03	3.34E+04	6.08E+04	-	2.15E+04	2.39E+03 nc
Fluorene	3.13E+03	1.01E+04	-	2.39E+03	3.34E+04	6.08E+04	-	2.15E+04	2.39E+03 nc
Indeno[1,2,3-cd]pyrene	-	-	-	-	-	-	-	-	1.57E-01 ca
Methylnaphthalene, 1-	5.48E+03	1.77E+04	-	4.18E+03	5.84E+04	1.06E+05	-	3.77E+04	1.76E-01 ca
Methylnaphthalene, 2-	3.13E+02	1.01E+03	-	2.39E+02	3.34E+03	6.08E+03	-	2.15E+03	2.39E+02 nc
Naphthalene	1.56E+03	5.07E+03	2.09E+02	1.78E+02	1.67E+04	3.04E+04	2.09E+02	2.05E+02	5.52E+00 ca*
Nitropyrene, 4-	-	-	-	-	-	-	-	-	4.24E-01 ca
Pyrene	2.35E+03	7.61E+03	-	1.79E+03	2.50E+04	4.56E+04	-	1.62E+04	1.79E+03 nc
Toluene	6.26E+03	-	3.23E+04	5.24E+03	6.67E+04	-	3.23E+04	2.18E+04	5.24E+03 sat
Trimethylbenzene, 1,2,4-	-	-	8.34E+01	8.34E+01	-	-	8.34E+01	8.34E+01	8.34E+01 nc
Trimethylbenzene, 1,3,5-	7.82E+02	-	-	7.82E+02	8.34E+03	-	-	8.34E+03	7.82E+02 sat
Xylenes	1.56E+04	-	8.64E+02	8.18E+02	1.67E+05	-	8.64E+02	8.59E+02	8.18E+02 sat

Output generated 15JUN2016:11:20:47

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

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

Subchapter II — Groundwater Quality Standards

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

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

Table 1
Public Health Groundwater Quality Standards

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

Table 1 – Continued
Public Health Groundwater Quality Standards

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

Table 1 – Continued
Public Health Groundwater Quality Standards

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

Table 1 – Continued
Public Health Groundwater Quality Standards

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

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

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

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

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

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

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

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

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

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

Table 2
Public Welfare Groundwater Quality Standards

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

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

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

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

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

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

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

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

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

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

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

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

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 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.

Education

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

Post-Graduate Education

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

Work Experience

Includes nine months with the Wisconsin Department of Natural Resources Leaking Underground Storage Tank Program regulating LUST sites and since June 1990, with METCO as a Hydrogeologist and Project Manager. Duties have included: managing, conducting, and reporting tank closure assessments; property assessment, LUST investigations; spill investigations; agricultural chemical investigations, dry cleaning chemical investigations, general geotechnical/environmental investigations; Geoprobe projects (soil, groundwater, soil gas sampling); drilling projects (soil boring and monitoring wells); and remedial projects. Since 1989, METCO has sampled/consulted over 1,465 environmental sites.

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).

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.

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.

Matthew C. Michalski

Professional Title

- Hydrogeologist

Credentials

- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#1261443).
- Member of the Wisconsin Groundwater Association
- Member of the Minnesota Groundwater Association
- Member of the National Groundwater Association
- Member of the American Institute of Professional Geologist
- Member of the Geological Society of America

Education

Includes B.S. in Geology with an emphasis in Hydrogeology and Water Chemistry from the University of Wisconsin-Eau Claire, completion of Western Michigan University's Hydrogeology Field Camp, and a B.S. In Geography from the University of Wisconsin-La Crosse. Applicable courses successfully completed include Hydrogeology, Contaminant Hydrogeology, Aqueous Geochemistry, Geomorphology and Aerial Photography interpretation, Sedimentology and Stratigraphy, Structural Geology, Mineralogy and Petrology, Hazardous Waste Operation and Emergency Response, Surface Geophysics, Principles and Practices of Groundwater Sampling and Monitoring, Principles and Practices of Aquifer Testing, Principles of Well Drilling and Installation, Remediation Design and Implementation, Water Resources, Environmental Hazards and Land Use, and Advanced Map Design.

Post-Graduate Education

40-hour OSHA Hazardous Materials Safety Training course with 8-hour refresher course.

Work Experience

With METCO since May 2016 as a Hydrogeologist and from August 2012 to August 2014 as a Staff scientist. Duties have included: soil and groundwater sampling, 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), and operation and maintenance of remedial systems, site mapping, data reduction and analysis, and reporting.

Bryce Kujawa

Professional Title

- Staff Scientist

Credentials

- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#17138).
- 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 Hydrogeology, Contaminant Hydrogeology, Field Geology I and II, Mineralogy and Petrology I and II, Sedimentology and Stratigraphy, Petroleum and Economic Geology, Earth History, Physical Geology, Structural Geology, Computers in Geology, Geographic Informational Systems, Global Environmental Change, and General Chemistry.

Work Experience

With METCO since June, 2016 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
Staff Scientist

8/14/18
Date

"I Ronald J. Anderson, hereby certify that I am a hydrogeologist as that term is defined in s.NR 712.03 (1), Wis. Adm. Code, 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
Senior Hydrogeologist/Project Manager

8/14/18
Date