REI
CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

May 20, 2016

Wisconsin Department of Natural Resources
Attn: Chris Saari
2501 Golf Course Road
Ashland, WI 54806

Subject:

Current Conditions Report
Tower Standard
14267 State Highway 70 West
Lac du Flambeau, WI
BRRTS #03-64-127899
PECFA #54538-9517-67

Dear Chris,

Enclosed is the Current Conditions Report for the above referenced site. REI Engineering, Inc. (REI) has compiled this report utilizing data mainly from the re-opened investigation, but have referenced some of the historical investigation data as well as data compiled by the Environmental Protection Agency (EPA) contractors.

If you have any questions or concerns over the data presented in this report, please contact me at your earliest convenience at (715) 675-9784.

Sincerely,
REI Engineering, Inc.

David N. Larsen P.G.
Hydrogeologist/Project Manager

Enclosure

CC: Mr. William Kozak, 8760 W Squaw Lake Road, Lac du Flambeau, WI 54538

REI

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CURRENT CONDITIONS REPORT

TOWER STANDARD
14267 STATE HIGHWAY 70 WEST
LAC DU FLAMBEAU, WI

BRRTS #03-64-127899
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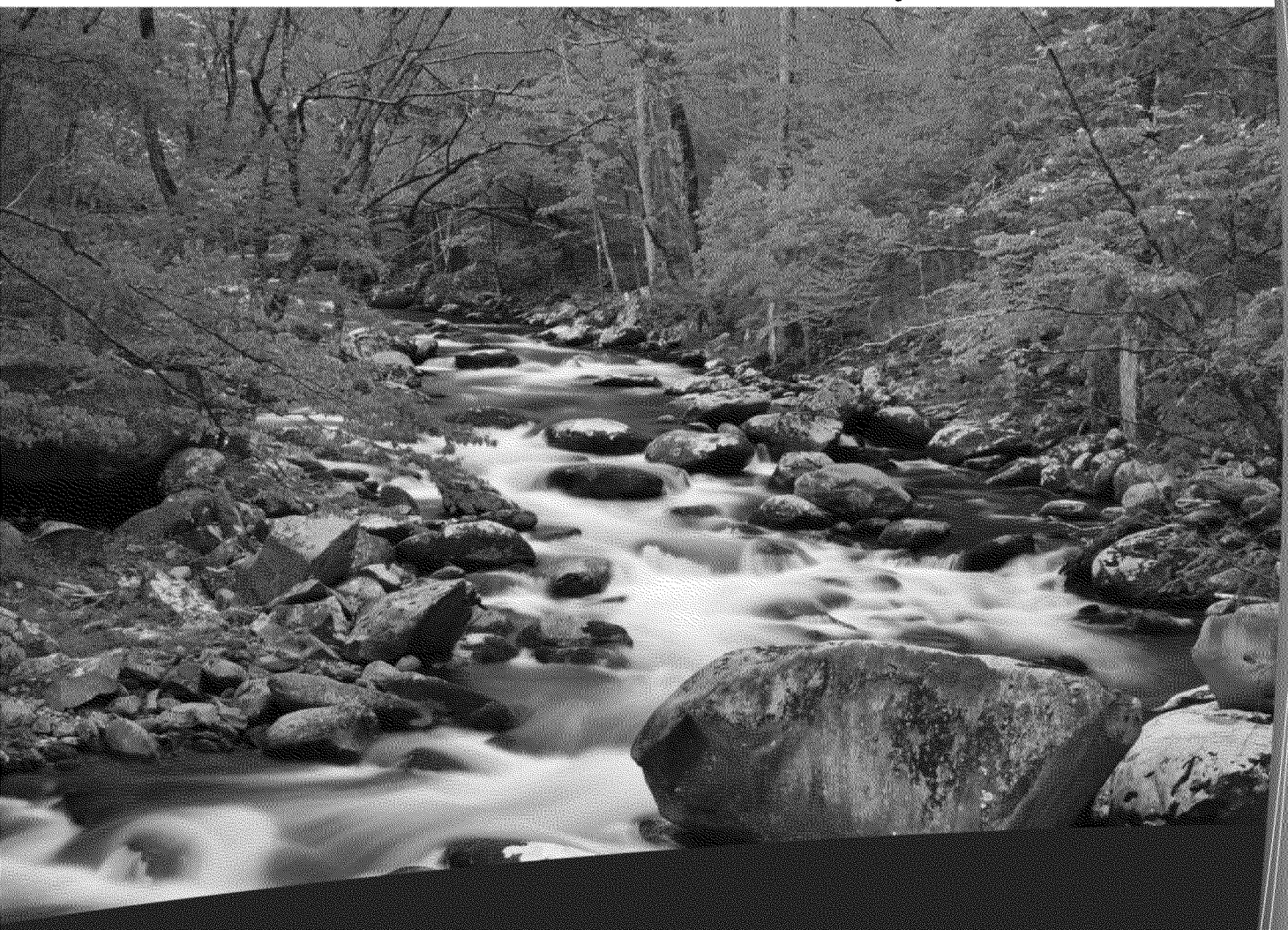
REI PROJECT #903



COMPREHENSIVE SERVICES WITH PRACTICAL SOLUTIONS

CURRENT CONDITIONS REPORT

TOWER STANDARD
14267 STATE HIGHWAY 70 WEST
LAC DU FLAMBEAU, WI 54538
BRRTS #03-64-127899

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REI PROJECT #903

PREPARED FOR:

Mr. William Kozak
8760 W Squaw Lake Road
Lac du Flambeau, WI 54538

MAY 2016

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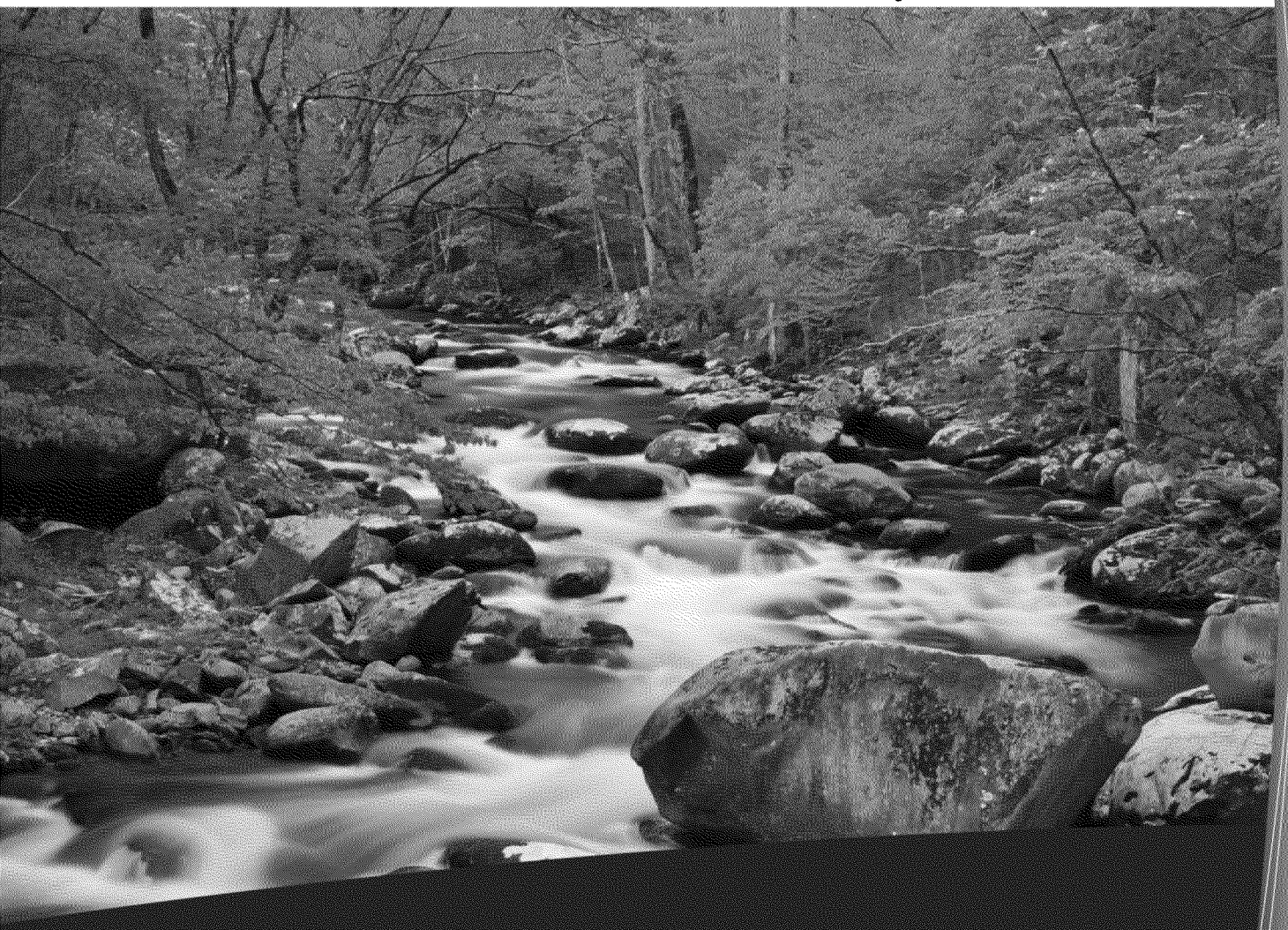

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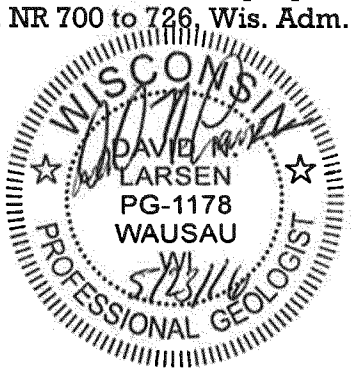
The recommendations contained in this report are based on the information obtained from our study of the site and were arrived at in accordance with accepted hydrogeologic and engineering practices at this time and location.

"I, David N. Larsen, hereby certify that I am a registered Professional Geologist in the state of Wisconsin as defined in Wisconsin Statues Chapter 470.01. I also 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."



"I, Mathew W, Rahn, 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."

Matthew W. Rahn — 5/23/16

Matthew W. Rahn — Date

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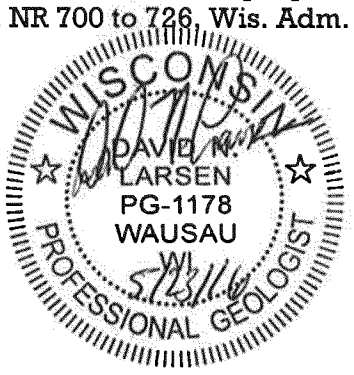

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1.0 INTRODUCTION

1.1 Purpose of Report

This report presents the preliminary results of an Environmental Site Inv estigation that is being performed at the Tower Standard site in Lac du Flambeau , Wisconsin. This site had previously been investigated and officially closed by the Wisconsin Department of Natural Resources (WDNR) in October 2006 following a hotspot soil excavation and operation of a groundwater extraction and treatment system.

The investigation was reopened in 2015 following an October 2006 fire , and subsequent investigation, at the former fireworks store located immediately north of the Tower Standard property at 14258 State Highway 70 West. The investigation was prompted by concern over potential soil and groundwater contamination associated with the fireworks as well as previous use of the property. The 14258 State Highway 70 West property formerly was used as a commercial automotive repair facility and before that a retail petroleum sales and repair shop.

The investigation at 14258 State Highway 70 West was conducted under the Targeted Brownfields Assessments (TBA) program for the United States Environmental Protection Agency (EPA) in response to a request from the Lac du Flambeau Tribe of Lake Superior Chippewa Indians (Tribe). Through the completion of the TBA investigation it was determined that a petroleum impacted groundwater source remained under the 14257 State Highway 70 West property which appeared to discharge towards Haskell Lake. The assumed source of the petroleum impacted groundwater was the neighboring Tower Standard site located at 14267 State Highway 70 West.

The Wisconsin De partment of Natural Resources (WDNR) was notified of the TBA findings on February 6, 2014 and the Tower Standard investigation was re-opened on March 17, 2015. A Site Investigation Workplan for Tower Standard was submitted to the WDNR on June 25, 2015.

The reopening, and subsequent additional investigation efforts, of the Tower Standard project will be conducted concurrent with the EPA/Tribe investigation of the area. Bristol Environmental Remediation Services, LLC., Anchorage, AK (Bristol) is the curren t EPA contractor overseeing the EPA/Tribe approved scopes of service. All data reported by the EPA contractor(s) will be presented under separate cover and exclusive of REI reports unless specifically addressed in the REI report.

1.2 Site Background

1.2.1 Site Description

The Tower Standard site is located in the SE ¼ of the S W ¼ of Section 30, Township 40 North, Range 05 East, in the Town of Lac du Flambeau , Vilas County, Wisconsin (Figure 1). The site address is 14267 State Highway 70 West, Lac du F lambeau, Wisconsin 54538. Wisconsin Transverse Mercator (WTM) coordinates are 526,731/604,470.

The neighboring properties are shown on Figure 2 and are as follows:

North:	State Highway 70 with the former fireworks store beyond
East:	Former Timberland Tower Restaurant
South:	Haskell Lake Lodge and Haskell Lake
West:	Haskell Lake Lodge

1.2.2 Site History

The site is currently a bait and tackle shop. The property had previously been a gas station and automotive repair shop.

1.2.3 Previous Investigations

REI completed the initial investigation at the Tower Standard site . The initial investigation was opened in 1997 and closed in 2006.

The investigation into the potential soil and groundwater contamination resulting from the fire at the former fireworks stand (14258 State Highway 70 West) was expanded to include an investigation i nto the Tower Standard property. Investigative activities included the collection and analysis of soil and groundwater samples from the 14257 and 14277 State Highway 70 Wes t properties. Additionally, numerous potable water supply well samples were collected from neighboring wells for analysis under this investigation.

1.3 Potable Water Survey

The Tower Standard Service building and all neighboring buildings are serviced by private potable water supply wells.

1.4 Other Sources of Contamination

A review of the Wisconsin Department of Natural Resources (WDNR) Spills and Leaking Underground Storage Tank (LUST) list was performed for the surrounding area. According to the Bureau of Remediation and Redevelopment Tracking System (BRRTS) database , three (3) releases have been reported within a quarter mile of Tower Standard.

03-64-000821 – Tower Motel, 14277 State Highway 70 West

Opened: August 12, 1992

Closed: December 12, 2005

The former Tower Motel, currently operated as the Haskell Lake Lodge, is located directly southwest of the Tower Standard site (Figure 2). The investigation at the former Tower Motel was initiated when gasoline contamination was identified in the wa ter supply well. Response efforts included the installation of a replacement potable well. T he replacement potable well was drilled to 31 feet at the southeast corner of the motel , which also became impacted with gasoline . A third potable well was

drilled to a depth of 75 feet bls, which corresponded to encounter of bedrock, near the location of the second well (Figure 2). Petroleum compounds subsequently impacted the third well shortly after it was installed. A final replacement well was drilled near State Highway 70, northeast of the Haskell Lake Lodge, to the encounter of bedrock at approximately 43 feet bls. This is the potable well that currently services the Haskell Lake Lodge.

REI conducted a Wisconsin Department of Agriculture and Consumer Protection (DATCP) database search for known underground storage tanks and determined that a fuel oil underground storage tank (UST) was previously in use on the property. The UST was listed as a 6,117-gallon fuel oil UST and is listed as closed and removed as of May 14, 1997. A copy of the database search is included in Appendix A.

It was later determined that the contamination that triggered the investigation at the 14277 State Highway 70 West property was caused by the Tower Standard release and no investigation into the 03-64-000821 release was warranted.

The database also shows a 500-gallon fuel oil UST and a 1,000-gallon fuel oil UST listed to the 14277 State Highway 70 West property. REI has no evidence of these tanks actually being located on the property, but rather the address listing is likely wrong and the tanks were associated with the 14257 State Highway 70 West property (Appendix A).

03-64-001172 – Timberland Tower, 14257 State Highway 70 West

Opened: September 19, 1994

Closed: January 2, 1997

The Former Yeschek/Timberland Tower Restaurant is located directly east of the Tower Standard site (Figure 2). Drake Environmental was retained to conduct an environmental site investigation. Based on the records from the Soil Remediation and Groundwater Monitoring Documentation Report (Drake, 1996), significant petroleum odors in the basement of the

restaurant following a heavy rain episode in June of 1994, prompted the investigation. Subsequently, it has been determined that the odors detected in the basement of the former Timberline Tower Restaurant were fuel oil and not gasoline related. The restaurant had a 1,000-gallon fuel oil tank located in the basement and a 550-gallon fuel oil tank located at the southeast corner of the building. Contamination associated with the fuel oil tanks was mainly restricted to the soil, with trace contamination observed in the groundwater.

REI conducted a database search for known underground storage tanks and documented that two (2) fuel oil UST's were removed from the property. The database listed the tanks as assigned to Tower Supper Club 63 on State Highway 70. The tanks were listed as closed/removed as of July 29, 1993, which corresponds to the tank removal date in the Drake report. A copy of the database search is included in Appendix A.

The database also shows a 500-gallon fuel oil UST and a 1,000-gallon fuel oil UST listed to the 14277 State Highway 70 West property (current Haskell Lake Lodge location). REI has low confidence these tanks actually were located on the property, but rather the address listing is likely wrong and the tanks were associated with the 14257 State Highway 70 West property (Appendix A). If this were the case, there are multiple tank UST closure documentations submitted for the former Timberland Tower Restaurant location.

03-64-000754 – Grizzly Bill's 1420 State Highway 70 West

Opened: April 30, 1992

Closed: June 15, 1995

Grizzly Bill's is located approximately 700 feet northeast of the Tower Standard site. Based on DATCP registration records (Appendix A), four (4) UST's were located on the site, one (1) 10,000-gallon leaded gasoline, one (1) 550-gallon leaded gasoline, one (1) 10,000-gallon unleaded gasoline and a 550-gallon premix tank. Soil contamination was reported to the DNR in 1992. Grizzly Bill's retained Fluid Management, as the

Environmental Consultant for the investigation into the fuel related release. According to Fluid Management's closure petition all petroleum related contamination was confined to the soil, and approximately 400 cubic yards of petroleum impacted soil was excavated in 1994. The site investigation was officially closed in 1995. Grizzly Bill's continued to dispense petroleum products commercially until October 1997, when all UST's were removed. No petroleum contamination was reported during the tank removal procedure.

The DATCP database (Appendix A) also turned up retail petroleum UST's at the 14465 State Highway 70 West property. This is the current location of Crickets and a 2,000-gallon gasoline UST and a 3,000-gallon gasoline UST were listed as Closed/Removed as of August 19, 2003 by the Wisconsin Department of Transportation. Additionally, two (2) other UST's (contents listed as unknown and size listed a 1,111 gallons) were listed as Administratively Closed as of January 14, 2008. It is not known if these tanks have ever been removed.

It has also been confirmed that retail petroleum UST's were in use at the 14258 State Highway 70 West property (Former Timberland Tower location). This property was the location of the former fireworks stand and the focus of the TBA investigation. Fuel oil UST's were also likely in use at this property. No reported tank registration or removal documentation was available on the DATCP database for this property.

2.0 METHOD OF INVESTIGATION

2.1 Soil

Delineation of the extent of soil contamination was conducted via either truck mounted hydraulic push or rotary equipped drill rigs. The borings were placed to aid in the determination of the lateral and vertical extents of the petroleum contamination. A total of forty-six (46) Geoprobe soil borings were advanced between September 14 -16, 2015 . A total of eight (8) borings were converted to temporary monitoring wells and groundwater samples were collected. REI subcontracted Giles Engineering & Associates, Waukesha, WI to completed the soil boring scope of services.

Additionally, seventeen (17) soil borings were advanced between November 2-5, 2015. Seven (7) borings were converted to monitoring wells and seven (7) borings were converted into piezometers, the remaining three (3) borings encountered auger refusal and were abandoned. The well network for the re-opened investigation began at MW16, as the 1997 investigation included 15 monitoring wells/well nests. REI contracted with PSI, Chippewa Falls, WI to install the water table monitoring wells. Gestra Engineering, Waukesha, WI (Gestra) was contracted to install the piezometers nested with the water table wells. Previous site work had documented the difficulty in advancing the piezometers. Gestra mobilized to the site with a high torque drill rig equipped with new heavy-duty augers to complete the required drilling. All augers and tooling were pressure washed in a decontamination pad with all wash water recovered and properly disposed with the other investigative waste generated during the approved scopes of service.

Soil borings and well placement locations, along with property boundaries, are shown on Figure 2. Soil samples were screened using a Photo-Ionization Detector (PID) with a 10.6 eV lamp. Additional information regarding site specific soil characteristics and contaminant concentrations will be detailed in later sections of this report.

All soil cuttings were placed in 55-gallon WDOT approved drums and transported to the Lincoln County Landfill commercial biopile in Merrill, Wisconsin for final disposal. Disposal documentation is included in Appendix B.

Soil Boring Logs (WDNR Form 4400-122) are included in Appendix C. Monitoring Well Construction Forms (WDNR Form 4400-133A) are included in Appendix D. Monitoring Well Development Forms (WDNR Form 4400-133B) are included in Appendix E. Borehole Abandonment Forms (WDNR Form 3300-5) are included in Appendix F. Methods and Procedures are presented in Appendix G. Photographs of the site are included in Appendix H.

2.2 Groundwater

A total of eight (8) temporary monitoring wells, seven (7) monitoring wells and seven (7) piezometers were installed to determine if the observed petroleum related soil contamination had impacted the groundwater at this site. Additionally, three (3) monitoring wells associated with the TBA perchlorate investigation (MW1-LDF to MW3-LDF) have been included in the groundwater sampling network of the Tower Standard investigation. Construction details for these wells was not provided.

The average depth to groundwater ranges from approximately two (2) feet to ten (10) feet bls (Table 1). Depths to groundwater and groundwater elevation measurements were collected on a maximum of two (2) occasions.

Groundwater samples were collected from each monitoring well/piezometer using low flow sampling methodologies. Groundwater was extracted using a peristaltic pump and all field measurements were collected via a flow-through cell. The samples were placed in laboratory provided containers, packed on ice and submitted to a State Certified Laboratory for analysis. Additional information regarding site-specific groundwater characteristics is presented in later sections of this report.

3.0 SUMMARY OF FIELD INVESTIGATION RESULTS

3.1 Regional Geology and Hydrogeology

The site is located in the Upper Wisconsin River Basin. The topography in the immediate area is rolling and slopes towards Lake Haskell. Topography in the surrounding area consists of rolling hills and pitted outwash deposits of sand or gravel, with many glacially derived lakes and streams.

According to the Soil Survey of Vilas County, the soils immediately beneath the Tower Standard property consist of Sayner-Rubicon complex soils. These soils consist of highly permeable sands and gravels. Surrounding the Sayner-Rubicon soils are the Seelyeville and Markey mucks. These soils are poorly drained and subject to ponding. These soils are highly organic and may contain wood fragments with depth. Subsurface soils are usually loamy sands.
The depth to bedrock is between 50 and 100 feet of land surface based on published geological information (Trotta & Cotter, 1973). Sediments near the land surface

consist of pitted and unpitted outwash along with other ice contact deposits, consisting mainly of sand and gravel with trace areas of ground moraine deposits. Surface soil permeability is estimated by Oakes and Cotter (1975) to be 5.0 -10.0 in/hr. The aver age annual precipitation in the area is about 31.3 inches. The typical evapotranspiration rate is about 18.9 inches per year, leaving approximately 12.4 inches per year for both overland flow and groundwater recharge. The groundwater recharge rate will b e assumed to be the NR 720.09(3) default rate of 10.0 inches per year.

Land surface elevations in the area are about 1565 $\pm$ 10 feet above Mean Sea Level (MSL) according to the Lac du Flambeau 7 ½ minute quadrangle map. The natural discharge for the shall ow groundwater beneath the Tower Standard site and the surrounding area appears to be Lake Haskell, located directly behind the Tower Standard property.

3.2 Site Specific Geology and Hydrogeology

The soil borings performed during the investigation indica te the site geology mainly consists of sands and gravels. Bedrock was not encountered during the investigation. Figures 3a-b present the geologic cross section s of the soils identified at the site.

The average depth to groundwater ranges from approximately two (2) feet to ten (10) feet bls (Table 1). Depths to groundwater and groundwater elevation measurements were collected on a maximum of two (2) occasions. A water level hydro graph is presented in Figure 4 . Hydraulic gradients were calculated from t he site data collected on April 26, 2016. Horizontal gradients in the shallow water table were calculated at 0.006 ft./ft. between wells MW19 and MW16 . Vertical gradients were also calculated across each well nest. Groundwater contaminant concentrations in the piezometers documents a downward vertical component, with the exception of the MW20 wells nest. Calculated g radients are depicted in Table 2 for the April 26, 2016 sample data.

Site specific hydraulic conductivity has not been conducted at this site. Data from the previous investigation regarding site specific data relative to conductivity values was previously presented. A soil sample was collected from MW2 (associated with the

1997 investigation) from a depth of 10-12 feet bls and submitted for mechanical grain size analysis. Particle size analysis by the Hydrometer Method and soil classification using the Unified Soil Classification System (USCS) was performed. Published estimates of typical values for the soils classified as SP-SM in the USCS system indicates the hydraulic conductivity are approximately 1.5 ft./day to 28 ft./day.

Hydraulic conductivities were also interpreted using the Hazen Method. An estimated hydraulic conductivity value of 16.3 ft./day was calculated for the soil sample collected from MW2 at 10-12 feet bls (Table 3). This value corroborates the assumed hydraulic conductivity determined through the published estimates.

The hydraulic conductivity of the surficial soils at the Tower Standard site is estimated at being 16.3 feet/day and can be used for estimating clean up time estimates under natural conditions. Contaminant velocities will be less than groundwater velocities, and will depend on the retardation factors for each contaminant.

The natural rate of lateral groundwater movement is estimated to be approximately 90 feet per year. The estimate is based on the estimated horizontal hydraulic conductivity and the horizontal gradients observed at the site. Contaminant velocities are less than groundwater velocities, and depend on the retardation factor of each contaminant.

The average depth to groundwater ranges from approximately two (2) feet to ten (10) feet bls (Table 1). Therefore, the physical and hydraulic properties of the sands and gravel are probably most representative of the material below the water table through which most contaminant travel occurs.

Figure 2 shows the locations of the ten (10) monitoring wells and seven (7) piezometers installed during the site investigation. Depths to groundwater were measured in the monitoring wells as part of each sampling event. Figure 5 is a water table contour map constructed from water level data collected on April 26, 2015. This figure shows groundwater flowing south/southeast with Haskell Lake as the likely local discharge point for the shallow groundwater.

Figure 6 is a groundwater contour map constructed from water level data collected from the 35 -40-foot-deep piezometers on April 26, 2015. This figure shows groundwater flowing northwest towards the potabl e wells servicing both 14267 and 14277 State Highway 70 West.

3.3 Nature and Extent of Soil Contamination

The average depth to groundwater ranges from approximately two (2) feet to ten (10) feet bls (Table 1). A total of sixty-five (65) soil samples were collected for analysis at the site during the re-opened REI site investigation. Tables 4a-c presents a summary of the results from the samples collected for analysis. Copies of the soil laboratory analytical reports are included in Appendix I.

Soil sa mples were obtained to describe the lateral and vertical extent of gasoline contamination in the subsurface. Analytical results were directly compared against the State of Wisconsin's cleanup criteria listed in the Chapter NR720. The so il samples collect ed from BH -12@8.5-9.5 feet bls, BH -22@6.5-7.5 feet bls and BH -32B@6-7 feet bls document the presence of petroleum compounds exceeding the NR 720.09(04) Non-Industrial Not-to-Exceed Residual Contaminant Level (RCL) values.

Analytical results were also inpu t into the WDNR Direct -Contact Exceedance - Cumulative Hazard Risk Calculator. This is used to determine the number of individual soil contaminant exceedances along with a cumulative hazard risk and cumulative cancer risk. This analysis is based on non-industrial soil limits and is typically enforceable only on the top four (4) feet. Resu lts are included in Appendix J.

Soil sample BH -22 from 1 -2 feet bls documents significant shallow residual soil contamination. BH-22 is located on the former restaurant property and beneath what appears to be original asphalt. Depth to groundwater is expect to be approximately seven (7) feet bls. The source for the residual contamination is not known, but the shallow soil data from samples BH -12 and BH-32 suggest the so urce may not be from activities at Tower Standard.

Based on field screening and analytical results, the estimated extent of residual soil contamination associated with the petroleum contamination encompasses an area of approximately 2,675 square feet (Figure 7). The reported soil contaminant concentrations are less than the "Not to Exceed Direct Contact Residual Contamination Level" (NTEDC-RCL), but greater than the groundwater protection pathway thresholds. The direct contact RCL's are only enforceable in the top four (4) feet of the soil profile.

3.4 Groundwater Quality

Two (2) groundwater-sampling events have been conducted during the site investigation. The first was completed between November 10 and November 17 2015. The second was completed on April 26, 2016. Well specific field data sheets are included in Appendix K for each well during each sampling event.

Analysis of the groundwater samples from the two (2) sampling events indicate contaminant concentrations above the NR 140.10 Groundwater Quality Enforcement Standards (ES) and Preventive Action Limits (PAL) for petroleum compounds in monitoring wells MW 16, MW16@37-42, MW19@35-40, MW20, MW20@20-25, MW21and MW21@35-40. Additional groundwater samples were collected from temporary wells installed in Geoprobe borings BH-17, BH-22A, BH-26@27', BH-35B and BH-36@39'. A summary of groundwater analytical results is presented in Tables 5a-r. Copies of the laboratory analytical reports are included in Appendix I. All purge water was disposed of at the City of Wausau Waste Water Treatment Facility in Wausau, Wisconsin. Disposal documentation is included in Appendix L.

The estimated extent of petroleum related groundwater contamination is shown in Figure 8. The eastern extent and the vertical extent of the petroleum related groundwater contamination plume is not adequately defined and additional monitoring wells and piezometers are warranted.

3.5 Vapor Intrusion Screening Analysis

Vapor intrusion screening is used to determine the potential for vapor migration from a contaminated property. Vapor intrusion of petroleum compounds most often

occurs when free phase petroleum compounds are located near building foundations, where petroleum impacted groundwater has entered a building, or when petroleum contaminated groundwater is in contact with a building foundation.

Vapor intrusion from petroleum releases tend to occur near the source of the petroleum release and are often detected by smelling petroleum odors in the building. When petroleum odo rs are not detected, vapor intrusion concerns can be dismissed if there is more than five (5) feet of clean unsaturated and aerated (greater than 5 % oxygen content) soil separating the residual contamination from the building.

An investigation into the potential for vapor migration should be completed in situations when there is not more than five (5) feet of clean unsaturated and aerated (greater than 5% oxygen content) soil separating the residual contamination from the building or any of the following conditions:

- Free phase product that has the potential for off gassing vapors underlies a building or is within 30 feet, horizontally or vertically of a building foundation.
- Petroleum contaminated soils with the potential for off gassing vapors are within 5 feet or less of a building foundation.
- Benzene concentrations in groundwater underlying a building is >1,000 ppb and there is less than 20 feet of unsaturated soil between the groundwater and the building.
- Groundwater contaminated with petroleum product above Wisconsin's groundwater preventive action limit (PAL) is entering a building or in contact with a buildings foundation or is in water intercepted by the buildings foundation drainage system, including sumps.
- Petroleum vapors are present that may m igrate from the petroleum source and move through preferential pathways (utility lines, fractured bedrock, etc.) into a building.

3.5.1 Vapor Intrusion Assessment and Vapor Screening Results

A vapor intrusion assessment was completed for the existing str ucture (14267 State Highway 70 West).

3.5.1.1 Tower Standard Service (14267 State Hwy 70 West)

In discussions with the property owner, no petroleum vapors have been reported in the building. The soil in the immediate vicinity of the former service station is mainly sands and gravels. Since the oxygen content in the soil is not known the additional bulleted items will need to be addressed.

- **Free phase product that has the potential for off gassing vapors underlies a building or is within 30 feet, horizontally or vertically of a building foundation.**

  Free product has not been observed in any of the wells installed and sampled as part of the re-opened investigation.

- **Petroleum contaminated soils with the potential for off gassing vapors are within 5 feet or less of a building foundation.**

  No documented soil contamination was reported within five (5) feet of the building foundation. Soil samples BH-1, BH-17, BH-18 and BH-19 were all advanced within five (5) feet of the building foundation.

- **Benzene concentrations in groundwater underlying a building is >1,000 ppb and there is less than 20 feet of unsaturated soil between the groundwater and the building.**

  The only wells with benzene concentrations exceeding 1,000 ppb are: MW16@37-42, MW20, MW20@20-25, and MW21@35-40 (11-11-15 only). While there is less than twenty (20) feet of unsaturated soil between the groundwater and the building, none of the impacted groundwater underlies any of the buildings on the Tower Standard property or the neighboring properties.

- **Groundwater contaminated with petroleum product above Wisconsin's groundwater preventive action limit (PAL) is entering a building or in contact with a buildings foundation or is in water intercepted by the buildings foundation drainage system, including sumps.**

  The Tower Standard building is constructed as a slab on grade structure without any foundation drainage system.

- **Petroleum vapors are present that may migrate from the petroleum source and move through preferential pathways (utility lines, fractur ed bedrock, etc.) into a building.**
  No known petroleum vapors are present. There are no known preferential pathways that exist that may be a conduit for vapor intrusion that have not been investigated.

3.5.2 Sub-Slab Vapor Probe Installation and Sampling

Bristol was contracted with the collection of vapor samples from the former Tower Standard Service building. Bristol personnel were on site on April 1, 2016 and installed a sub -slab vapor point through the concrete floor of the building and collected a sub-slab air sample. Bristol personnel also collected both ambient indoor and outdoor air samples.

3.5.3 Sub-Slab Vapor Probe and Ambient Air Sample Results

The three (3) vapor samples collected by Bristol personnel were submitted to Pace Analytical, Minneapolis, Minnesota, for TO -15 analysis. The vapor analytical results and field screening data are summarized in Table s 6a-b. The complete laboratory analytical reports are included as Appendix M. Analytical results document that there are no elevat ed petroleum concentrations present beneath the concrete slab or in the indoor air of the Tower Standard building.

4.0 EVALUATION OF ENVIRONMENTAL FACTORS

The five (5) environmental factors as outlined in NR 747.337 (3) were evaluated during the site investigation. These factors include:

a. Documented expansion of plume margin,
b. Verified contaminant concentrations in a private or potable well exceeding the PAL,
c. Contamination within bedrock or within 1 meter of bedrock,
d. Free phase petroleum product present with a thickness of 0.01 feet or more, verified by more than one sampling event, or
e. Documented contamination discharges to a surface water or wetland.

The initial investigation completed at the Tower Standard Service site exhibited many of the environmental factors. Additional investigative work will be required to determine if the re-opened investigation exhibits the presence of any of the environmental factors.

4.1 Regulatory Site Classification

Administrative authority over regulatory management of the site is determined by a classification system. According to NR 746.04(a) DNR shall have authority over sites that have been classified as "high-risk", sites that have not been classified and sites with soil and groundwater contamination that are contaminated by one or more substances other than petroleum compounds.

According to NR 746.03(6) a "high-risk" site is defined in SS 101.144(aq) as a release from a petroleum storage tank if one or more of the following applies:

1) Repeated tests determined the release has impacted a potable well used for human consumptive use.
2) Petroleum product that is not in a dissolved phase and present in a thickness of greater than 0.01 feet or more in repeated measurements.
3) An enforcement standard exceedance in groundwater within 1,000 feet of a municipal well or within 100 feet of any other well used for human consumptive use.
4) An enforcement standard exceedance in fractured bedrock.

According to NR 746.03(6) a "medium-risk" site is defined as a discharge of petroleum product from a petroleum storage tank 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.

According to NR 746.03(6) a "low-risk" site is defined as a discharge of petroleum product from a petroleum storage tank where contaminants are contained only within the soil of the source property and there is no confirmed contamination in the groundwater.

The Tower Standard Service investigation is currently viewed as a medium risk site, due to groundwater impacts and potential migration of impacted groundwater beyond the property boundaries. None of the high -risk factors have been observed during the re-opened investigation.

5.0 CONCLUSIONS AND RECOMMENDATIONS

REI has concluded that the extent of the soil release has been adequately defined and no further investigation is necessary. Additionally, none of the reported soil contaminant concentrations are greater than the Not to Exceed Direct Contact Residual Contamination Level" (NTEDC -RCL) for each specific identified analyte within the top four (4) feet of the soil column. The area of residual soil contamination is covered with an asphalt parking lot creating a barrier between the surface and the residual soil contamination.

Based on the sub -slab and ambient air vapor sample results collected by Bristol, vapor intrusion is not a concern at the Tower Standard building. REI is not recommending any further vapor analysis be conducted unless there is a changed condition.

The eastern and northern extent of the groundwater contamination plume is not well defined and additional monitoring wells and piezometers are warranted. Additionally, the vertical extent of the contaminant plume is not defined and piezometers nested with the existing wells MW16, MW19, MW20 and MW22 are warranted. REI recommends the piezometers be advanced to encounter with bedrock. Figure 9 presents the locations of the proposed additional wells and piezometers. The groundwater from the new wells should be analyzed for VOC parameters for the first round. Subsequent groundwater sample events should be limited to analysis for PVOC and naphthalene compounds, unless site conditions dictate additional analyte sampling is warranted. Hydraulic conductivity analysis should also be delayed to allow for potential inclusion of any additional wells and piezometers recommended to be installed for this investigation.

6.0 REFERENCES

Trotta, L.C., and C otter, R.D., 1973, Depth to Bedrock in Wisconsin, University of Wisconsin - Extension Geological and Natural History Survey, Madison, Wisconsin.

Oakes, E.L. and Cotter, R.D., 1975, Water Resources of Wisconsin, Upper Wisconsin River Basin, U.S. Geologic S urvey Hydrologic Investigations Atlas HA -536, Washington, D.C.

Table 1
Depth to Water and Water Level Elevations
Tower Standard
Lac du Flambeau, WI

Depth to Water (feet) below Reference Elevation

Date	MW1 (LDF)	MW2 (LDF)	MW3 (LDF)	MW16	MW16@37-42	MW17	MW17@31-36	MW18	MW18@35-40	MW19	MW19@35-40	MW20	MW20@20-25	MW21	MW21@35-40	MW22	MW22@35-40
11/10/2015	6.58	9.10	6.87														
11/11/2015										8.97	9.26	7.63	7.85	7.42	7.81		
11/17/2015				2.02	1.91	8.01	8.44	9.48	9.90							7.19	8.06
4/26/2016	5.58	8.60	5.84	2.10	2.05	8.00	8.64	9.50	11.52	8.45	8.79	7.18	7.39	6.95	7.33	6.99	8.07

Measuring Point Elevations (top of well casing)

Elevations referenced to a U.S.G.S. Benchmark (feet MSL) - provided by others

Top of Casing	1575.57	1577.84	1575.50	1569.20	1569.14	1575.98	1575.99	1577.53	1577.55	1576.61	1576.92	1575.31	1575.53	1575.11	1575.47	1575.98	1576.18
Top of Screen				1574.17	1537.84	1570.94	1537.70	1561.73	1541.98	1569.45	1542.53	1573.01	1556.61	1572.37	1540.31	1571.07	1540.61
Bottom of Screen				1564.17	1532.84	1560.94	1532.70	1551.73	1536.98	1559.45	1537.53	1563.01	1551.61	1562.37	1535.31	1561.07	1535.61
Screen Length				10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00

Ground Surface Elevation

Initial Survey	1572.66	1578.15	1575.63	1569.60	1569.50	1576.44	1576.26	1575.00	1575.15	1574.15	1574.31	1575.89	1575.87	1575.65	1575.72	1576.60	1576.61

Depth to Water (feet) below Top of Casing

Average	6.58	9.10	6.87	2.02	1.91	8.01	8.44	9.48	9.90	8.97	9.26	7.63	7.85	7.42	7.81	7.19	8.06
Maximum	6.58	9.10	6.87	2.10	2.05	8.01	8.64	9.50	11.52	8.97	9.26	7.63	7.85	7.42	7.81	7.19	8.07
Minimum	5.58	8.60	5.84	2.02	1.91	8.00	8.44	9.48	9.90	8.45	8.79	7.18	7.39	6.95	7.33	6.99	8.06
Range	1.00	0.50	1.03	0.08	0.14	0.01	0.20	0.02	1.62	0.52	0.47	0.45	0.46	0.47	0.48	0.20	0.01

Water Level Elevation (feet MSL)

Date	MW1 (LDF)	MW2 (LDF)	MW3 (LDF)	MW16	MW16@37-42	MW17	MW17@31-36	MW18	MW18@35-40	MW19	MW19@35-40	MW20	MW20@20-25	MW21	MW21@35-40	MW22	MW22@35-40
11/10/2015	1568.99	1568.74	1568.63														
11/11/2015										1567.64	1567.66	1567.68	1567.68	1567.69	1567.66		
11/17/2015				1567.18	1567.23	1567.97	1567.55	1568.05	1567.65							1568.79	1568.12
4/26/2016	1569.99	1569.24	1569.66	1567.10	1567.09	1567.98	1567.35	1568.03	1566.03	1568.16	1568.13	1568.13	1568.14	1568.16	1568.14	1568.99	1568.11

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Table 2
Vertical Gradient Documentation
Tower Standard
Lac du Flambeau, WI

	Piezometer Depth	Water Level Elevation	Elevation Difference	Vertical Difference	Vertical Gradient ft/ft (+/-)
April 26, 2016					
MW16		1,567.10	0.01	31.76	-0.0003
MW16@37-42	42'	1567.09			
MW17		1567.98	0.63	32.78	-0.0192
MW17@31-36	36'	1567.35			
MW18		1568.03	2.00	28.55	-0.0701
MW18@35-40	40'	1566.03			
MW19		1568.16	0.03	28.13	-0.0011
MW19@35-40	40'	1568.13			
MW20		1568.13	-0.01	14.03	0.0007
MW20@20-25	25'	1568.14			
MW21		1568.16	0.02	30.33	-0.0007
MW21@35-40	40'	1568.14			
MW22		1568.99	0.88	30.88	-0.0285
MW22@35-40	40'	1568.11			

Piezometer midpoint calculated from center of well screen

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Table 3
Hydraulic Conductivity Calculations
Tower Standard
Lac Du Flambeau, WI

Soil Source: MW2 @ 10-12 feet bls

Hazen Method for Calculating Hydraulic Conductivity
(Fetter, 1994)

K = C(d10)^2

K is hydraulic conductivity (cm/s)
d10 is the effective grain size (cm)
C is a coefficient based on the following table

C ---->	90			
	0.008	cm		
d10 ---->	0.08	mm <------	From mechanical analysis graph.	
	1 cm/s =	2834.645669	ft/day	
K ---->	0.00576	cm/s		
K ----->	**16.33**	**ft/day**		

Very fine sand, poorly sorted	40-80
Fine sand with appreciable fines	40-80
Medium sand, well sorted	80-120
Coarse sand, poorly sorted	80-120
Coarse sand, well sorted, clean	120-150

Note:
This method is applicable to sands where the effective grain size (d10) is between approximately 0.1 and 3.0 mm.

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Table 4a
Summary of Soil Analytical Results
Tower Standard
Lac du Flambeau, Wisconsin

		Date -->	9/14/2015		9/14/2015		9/14/2015		9/14/2015		9/14/2015		9/14/2015		9/14/2015		9/14/2015		9/14/2015	
		Sample ID -->	BH-1		BH-2		BH-3		BH-4		BH-5		BH-6		BH-7		BH-7		BH-8	
		Sample Depth (Feet) -->	2-4	7-8	2-4	7-8	2-4	7-8	1-2	6-7	1-2	6-7	1-2	6-7	1.5-2.5	6-7	1-2	5.5-6.5	1.5-2.6	5.5-6.7
		PID Detection Result -->																		
		Percent Moisture -->	9.0%	8.2%	7.4%	9.9%	6.8%	8.3%	7.7%	9.2%	4.2%	6.0%	5.7%	5.0%	8.0%	5.7%	7.7%	7.3%	5.7%	7.4%
Petroleum VOC's (µg/kg)	Non-Industrial Not To-Exceed DC RCL	NR 140 Groundwater Pathway Protection (DF=2)																		
Benzene	1,490	5.1	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene	7,470	1,570	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Toluene	818,000	1,107	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Xylenes (Total)	258,000	3,940	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Methly tert Butyl Ether	59,400	27	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
1,2,4-Trimethylbenzene	89,800	NS	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
1,3,5-Trimethylbenzene	182,000	NS	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Trimethylbenzenes (Total)	NS	1,379	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Naphthalene	5,150	658.7	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Number of Individual Exceedances (DC)-->			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Hazard Index (DC)-->			0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Cumulative Cancer Risk (DC)-->			2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08

		Date -->	9/14/2015	9/14/2015		9/14/2015		9/14/2015		9/14/2015	9/14/2015	9/15/2015		9/15/2015		9/15/2015		9/15/2015	9/15/2015	
		Sample ID -->	BH-10	BH-11		BH-12		BH-13		BH-15	BH-16	BH-17		BH-18		BH-19		BH-20	BH-21	
		Sample Depth (Feet) -->	9-9.5	1-2	8.5-9.0	0.5-1.5	8.5-9.5	1-2	8-9	0.0-1.5	5-6	1.5-2.5	7-8	1-2	5.5-6.5	5-7	7-9	5.7	1-2	6.5-7.5
		PID Detection Result -->																		
		Percent Moisture -->	6.7%	6.7%	8.5%	7.8%	4.0%	4.6%	7.8%	8.1%	6.9%	6.7%	11.3%	6.5%	5.6%	8.2%	8.4%	10.3%	3.8%	4.9%
Petroleum VOC's (µg/kg)	Non-Industrial Not To-Exceed DC RCL	NR 140 Groundwater Pathway Protection (DF=2)																		
Benzene	1,490	5.1	< 25	< 25	< 25	*45.1*[J]	*< 125*	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene	7,470	1,570	< 25	< 25	< 25	30.9[J]	1,380	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	665
Toluene	818,000	1,107	< 25	< 25	< 25	132	130[J]	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	165
Xylenes (Total)	258,000	3,940	< 50	< 50	< 50	216.3	*9,670*	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	80.0[J]	3,283
Methly tert Butyl Ether	59,400	27	< 25	< 25	< 25	< 25	< 125	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
1,2,4-Trimethylbenzene	89,800	NS	< 25	< 25	< 25	35.9[J]	26,100	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	49.8[J]	2,810
1,3,5-Trimethylbenzene	182,000	NS	< 25	< 25	< 25	33.9[J]	8,300	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	919
Trimethylbenzenes (Total)	NS	1,379	< 50	< 50	< 50	< 50	*34,400*	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	49.8[J]	*3,729*
Naphthalene	5,150	658.7	< 25	< 25	< 25	< 25	***6,760***	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	527
Number of Individual Exceedances (DC)-->			0	0	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Hazard Index (DC)-->			0.0007	0.0007	0.0007	0.0013	0.3496	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0010	0.0394
Cumulative Cancer Risk (DC)-->			2.5E-08	2.5E-08	2.5E-08	4.0E-08	1.6E-06	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.1E-07

Notes:
NR720 Standards Obtained From WDNR Online Excel Database
RCL - NR 720 Proposed Soil Residual Contaminant Level
DC - Direct Contact
Exceeds Non-Industrial Not-To-Exceed DC RCL — **Bold**
Exceeds NR 140 Groundwater Pathway Protection — *Italic*
NS - No Standard
[J] - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
< - Concentration below listed laboratory detection limi
NA - Not Analyzed

P:\0900-0999\0903-Tower\Reports\Current Conditions\[903CCt4.xls]Soil - Geoprobe (1)

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Table 4b
Summary of Soil Analytical Results
Tower Standard
Lac du Flambeau, Wisconsin

		Date -->	9/15/2015		9/15/2015	9/15/2015	9/15/2015		9/15/2015	9/15/2015		9/15/2015		9/15/2015		9/16/2015		9/16/2015	9/16/2015	
		Sample ID -->	BH-22		BH-23A	BH-23C	BH-24		BH-25	BH-26		BH-27		BH-28		BH-29		BH-30	BH-31	
		Sample Depth (Feet) -->	1-2	6.5-7.5	4.5-5.5	6-7	1.5-2.5	6.5-7.5	1-2	1-2	6-7	1.5-2.5	6.5-7.5	1.5-2.5	7-8	1-2	7-8	0.5-1.5	1-2	6.5-7.5
		PID Detection Result -->																		
		Percent Moisture -->	7.1%	5.3%	4.6%	8.3%	5.1%	8.4%	6.7%	3.0%	3.5%	4.0%	37.6%	3.4%	4.9%	5.5%	5.8%	3.9%	4.7%	5.0%
Petroleum VOC's (µg/kg)	Non-Industrial Not To-Exceed DC RCL	NR 140 Groundwater Pathway Protection (DF=2)																		
Benzene	1,490	5.1	594	***3,720*** [J]	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene	7,470	1,570	3,290	***87,000***	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Toluene	818,000	1,107	3,750	*114,000*	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Xylenes (Total)	258,000	3,940	18,720	***443,000***	< 50	< 50	< 50	< 50	< 50	56.6[J]	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Methly tert Butyl Ether	59,400	27	< 25	< 2,000	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
1,2,4-Trimethylbenzene	89,800	NS	5,030	***206,000***	< 25	< 25	< 25	< 25	< 25	68.3	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
1,3,5-Trimethylbenzene	182,000	NS	1,340	67,600	< 25	< 25	< 25	< 25	< 25	35.8[J]	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Trimethylbenzenes (Total)	NS	1,379	6,370	*273,600*	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Naphthalene	5,150	658.7	538	***35,300***	< 25	< 25	< 25	< 25	< 25	27.3[J]	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Number of Individual Exceedances (DC)-->			0	**5**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Hazard Index (DC)-->			0.0885	3.1417	0.0007	0.0007	0.0007	0.0007	0.0007	0.0188	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Cumulative Cancer Risk (DC)-->			9.4E-07	2.1E-05	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	1.6E-07	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08

		Date -->	9/16/2015		9/16/2015	9/16/2015		9/16/2015		9/16/2015	9/16/2015		9/16/2015
		Sample ID -->	BH-32B		BH-33	BH-34		BH-35B		BH-36B	BH-37B		Trip Blank
		Sample Depth (Feet) -->	0.5-1.0	6-7	8-9	1-2	8-9	1-2	8-9	0.5-1.0	1-2	5.5-6.5	
		PID Detection Result -->											
		Percent Moisture -->	5.6%	7.2%	9.1%	2.8%	3.4%	7.1%	17.9%	7.9%	5.2%	8.4%	
Petroleum VOC's (µg/kg)	Non-Industrial Not To-Exceed DC RCL	NR 140 Groundwater Pathway Protection (DF=2)											
Benzene	1,490	5.1	56.8	*< 1,000*	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
Ethylbenzene	7,470	1,570	877	**38,500**	< 25	< 25	< 25	< 25	45.4J	< 25	< 25	< 25	< 25
Toluene	818,000	1,107	142	*24,900*	< 25	< 25	< 25	< 25	49.3J	< 25	< 25	< 25	< 25
Xylenes (Total)	258,000	3,940	3,751	*226,100*	< 50	< 50	< 50	56.6[J]	413	< 50	< 50	< 50	< 50
Methly tert Butyl Ether	59,400	27	< 25	< 1,000	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25	< 25
1,2,4-Trimethylbenzene	89,800	NS	1,160	***147,000***	< 25	< 25	< 25	68.3	182	< 25	< 25	< 25	< 25
1,3,5-Trimethylbenzene	182,000	NS	652	44,200	< 25	< 25	< 25	35.8[J]	128	< 25	< 25	< 25	< 25
Trimethylbenzenes (Total)	NS	1,379	1,812	*191,200*	< 50	< 50	< 50	< 50	310	< 50	< 50	< 50	< 50
Naphthalene	5,150	658.7	< 25	***31,900***	< 25	< 25	< 25	27.3[J]	177	< 25	< 25	< 25	< 25
Number of Individual Exceedances (DC)-->			0	3	0	0	0	0	0	0	0	0	0
Cumulative Hazard Index (DC)-->			0.0188	2.1401	0.0007	0.0007	0.0007	0.0013	0.0038	0.0007	0.0007	0.0007	0.0007
Cumulative Cancer Risk (DC)-->			1.6E-07	1.2E-05	2.5E-08	2.5E-08	2.5E-08	2.6E-08	5.8E-08	2.5E-08	2.5E-08	2.5E-08	2.5E-08

Notes:
NR720 Standards Obtained From WDNR Online Excel Database
RCL - NR 720 Proposed Soil Residual Contaminant Level
DC - Direct Contact
Exceeds Non-Industrial Not-To-Exceed DC RCL **Bold**
Exceeds NR 140 Groundwater Pathway Protection *Italic*
NS - No Standard
[J] - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
< - Concentration below listed laboratory detection limi
NA - Not Analyzed

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Table 4c
Summary of Soil Analytical Results
Tower Standard
Lac du Flambeau, Wisconsin

		Date -->	9/15/2015
		Sample ID -->	BH-23A
		Sample Depth (Inches) -->	4.0-4.5
		PID Detection Result -->	
PAH Compounds (µg/kg)	Non-Industrial Not-To-Exceed DC RCL	NR 140 Groundwater Pathway Protection (DF=2)	
Acenaphthene	3,440,000	NS	< 8.7
Acenaphthylene	NS	NS	< 7.8
Anthracene	17,200,000	197,744.2	< 9.1
Benzo(a)Anthracene	148	NS	< 6.1
Benzo(a)Pyrene	15	470	< 6.2
Benzo(b)Fluoranthene	148	480	< 8.7
Benzo(ghi)Perylene	NS	NS	< 6.7
Benzo(k)Fluoranthene	1,480	NS	< 9.7
Chrysene	14,800	145.1	< 8.1
Dibenzo(a,h)anthracene	15	NS	< 6.4
Fluoranthene	2,290,000	88,817.9	< 8.7
Fluorene	2,290,000	14,814.8	< 8.7
Indeno(1,2,3-cd)Pyrene	148	NS	< 6.6
1-Methyl Naphthalene	15,600	NS	< 8.7
2-Methyl Naphthalene	229,000	NS	< 8.7
Naphthalene	5,150	658.7	< 8.7
Phenanthrene	NS	NS	< 8.7
Pyrene	1,720,000	54,472.5	< 8.7
		Number of Individual Exceedances (DC)-->	0
		Cumulative Hazard Index (DC)-->	0.000
		Cumulative Cancer Risk (DC)-->	5.9E-07

DC - Direct Contact
Exceeds Non-Industrial Not-To-Exceed DC RCL — **Bold**
Exceeds NR 140 Groundwater Pathway Protection — *Italic*
NS - No Standard
J - Estimated concentration above themethod detection limit and below the rep
< - Concentration below listed laboratory detection limit
NA - Not Analyzed

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Table 5a
Summary of Groundwater Analytical Results
Geoprobe Event
Tower Standard
Lac du Flambeau, Wisconsin

	Sample Location-->			BH-17	BH-22A	BH-25 @ 27'	BH-26 @ 27'	BH-30 @25'	BH-35B	BH-36 @ 39'	BH-37B @ 40'
			Date ->								
VOC Parameters											
Benzene	5	0.5	µg/l	**115**	**10,500**	< 0.40	**133**	< 0.40	< 0.40	*1.6*	< 0.40
Toluene	800	160	µg/l	**9,650**	**47,500**	< 0.39	*451*	< 0.39	< 0.39	< 0.39	< 0.39
Ethylbenzene	700	140	µg/l	**2,150**	**4,080**	< 0.39	*301*	18.4	6.1	< 0.39	< 0.39
Xylenes (mixed isomers)	2,000	400	µg/l	**9,520**	**21,360**	< 0.80	*1,156*	14.0	16.4	4.2	< 0.80
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 24.2	< 121	< 0.48	2.9[J]	< 0.48	< 0.48	2.0	< 0.48
Trimethylbenzenes (mixed isomers)	480	96	µg/l	**2,900**	**4,163**	< 0.42	*473*	21.9	*120.2*	2.9	< 0.42
Naphthalene	100	10	µg/l	**532**	**927**	< 0.42	*76.4*	5.6	6.5	1.5	< 0.42
PAH Parameters			µg/l								
Acenaphthene			µg/l	NA	NA	NA	NA	NA	0.045[J]	NA	NA
Acenaphthylene			µg/l	NA	NA	NA	NA	NA	0.021[J]	NA	NA
Anthracene	3,000	600	µg/l	NA	NA	NA	NA	NA	< 0.0073	NA	NA
Benzo(a)Anthracene			µg/l	NA	NA	NA	NA	NA	< 0.0092	NA	NA
Benzo(a)Pyrene	0.2	0.02	µg/l	NA	NA	NA	NA	NA	< 0.0080	NA	NA
Benzo(b)Fluoranthene	0.2	0.02	µg/l	NA	NA	NA	NA	NA	< 0.0096	NA	NA
Benzo(ghi)Perylene			µg/l	NA	NA	NA	NA	NA	< 0.0063	NA	NA
Benzo(k)Fluoranthene			µg/l	NA	NA	NA	NA	NA	< 0.010	NA	NA
Chrysene	0.2	0.02	µg/l	NA	NA	NA	NA	NA	< 0.0076	NA	NA
Dibenzo(a,h)anthracene			µg/l	NA	NA	NA	NA	NA	< 0.010	NA	NA
Fluoranthene	400	80	µg/l	NA	NA	NA	NA	NA	< 0.017	NA	NA
Fluorene	400	80	µg/l	NA	NA	NA	NA	NA	0.024[J]	NA	NA
Indeno(1,2,3-cd)Pyrene			µg/l	NA	NA	NA	NA	NA	< 0.0065	NA	NA
1-Methyl Naphthalene			µg/l	NA	NA	NA	NA	NA	11.7	NA	NA
2-Methyl Naphthalene			µg/l	NA	NA	NA	NA	NA	18.5	NA	NA
Naphthalene	100	10	µg/l	NA	NA	NA	NA	NA	0.9	NA	NA
Phenanthrene			µg/l	NA	NA	NA	NA	NA	0.020[J]	NA	NA
Pyrene	250	50	µg/l	NA	NA	NA	NA	NA	< 0.014	NA	NA

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
[J] = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5b
Summary of Groundwater Analytical Results
MW1-LDF
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/10/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.0	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.50	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 0.17	< 0.17
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.18	< 0.18
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	*1.2**	< 0.60
Dissolved Iron	300	150	µg/l	*204*	*25.6**
Nitrate (as N)	10	2	mg/l	< 0.095	5.7
Sulfate	250	125	mg/l	21.2	14.5
Field Measurements					
Temperature			°F	50.55	42.33
Conductivity			µS/cm	547	1310
pH				6.37	6.12
Dissolved Oxygen			mg/l	0.31	1.24
ORP			mV	181.3	239.6

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded — **BOLD**
Preventive Action Limit exceeded — *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5c
Summary of Groundwater Analytical Results
MW2-LDF
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/10/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.0	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.50	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 0.17	< 0.17
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.18	< 0.18
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	3.2*	< 3.0
Dissolved Cadmium	5	0.5	µg/l	*1.2**	< 0.60
Dissolved Iron	300	150	µg/l	16.3*	< 12.9
Nitrate (as N)	10	2	mg/l	0.48	0.56
Sulfate	250	125	mg/l	22.8	16.9
Field Measurements					
Temperature			°F	53.11	44.35
Conductivity			µS/cm	2,035	1,395
pH				7.24	7.22
Dissolved Oxygen			mg/l	2.13	2.94
ORP			mV	270.2	200.6

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Table 5d
Summary of Groundwater Analytical Results
MW3-LDF
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/10/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.0	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.50	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 0.17	< 0.17
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.18	< 0.18
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	*1.4**	< 0.60
Dissolved Iron	300	150	µg/l	< 12.9	< 12.9
Nitrate (as N)	10	2	mg/l	0.35	0.87
Sulfate	250	125	mg/l	2.8*	2.6*
Field Measurements					
Temperature			°F	52.43	41.73
Conductivity			µS/cm	139	41
pH				6.72	6.93
Dissolved Oxygen			mg/l	7.78	11.17
ORP			mV	278.1	248.1

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5e
Summary of Groundwater Analytical Results
MW16
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/17/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	**6.3**	*0.84**
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	2.7	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	1.1	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 0.50	< 0.50
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.18	< 0.18
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	< 0.60	< 0.60
Dissolved Iron	300	150	µg/l	**15,400**	**29,400**
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	< 10.0	10.9*
Field Measurements					
Temperature			°F	52.03	43.9
Conductivity			µS/cm	472	237
pH				6.63	6.68
Dissolved Oxygen			mg/l	0.15	0.13
ORP			mV	1.5	5.2

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5f
Summary of Groundwater Analytical Results
MW16@37-42
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/17/2016	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	**1,340**	**1,030**
Toluene	800	160	µg/l	22.1	15.2
Ethylbenzene	700	140	µg/l	60.3	32.3
Xylenes (mixed isomers)	2,000	400	µg/l	*1,520.2*	*1,322.1*
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 1.7	< 1.7
Trimethylbenzenes (mixed isomers)	480	96	µg/l	*371.1*	*287.0*
Naphthalene	100	10	µg/l	*84.7*	*52.6*
1,2-Dichloroethane	5	0.5	µg/l	< 1.7	< 1.7
1,2-Dibromoethane	0.05	0.005	µg/l	< 1.8	< 1.8
Isopropylbenzene			µg/l	17.0	9.3*
n-Butylbenzene			µg/l	< 5.0	< 5.0
n-Propylbenzene			µg/l	45.5	26.7
Inorganics					
Dissolved Lead	15	1.5	µg/l	*4.5**	< 3.0
Dissolved Cadmium	5	0.5	µg/l	< 0.60	< 0.60
Dissolved Iron	300	150	µg/l	**5,920**	**9,020**
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	< 2.0	2.3*
Field Measurements					
Temperature			°F	50.45	48.13
Conductivity			µS/cm	843	745
pH				7.31	7.45
Dissolved Oxygen			mg/l	0.21	0.06
ORP			mV	-378	-81.3

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5g
Summary of Groundwater Analytical Results
MW17
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/17/2016	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	*1.0*	< 0.50
Toluene	800	160	µg/l	2.3	< 0.50
Ethylbenzene	700	140	µg/l	0.51*	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	2.3	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	0.60*	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 1.7	< 0.17
1,2-Dibromoethane	0.05	0.005	µg/l	< 1.8	< 0.18
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	< 0.60	< 0.60
Dissolved Iron	300	150	µg/l	**1,060**	**1,390**
Nitrate (as N)	10	2	mg/l	< 0.095	1.9
Sulfate	250	125	mg/l	6.1	24.2
Field Measurements					
Temperature			°F	53.06	42.94
Conductivity			µS/cm	508	667
pH				6.26	6.44
Dissolved Oxygen			mg/l	1.55	3.62
ORP			mV	83.0	182.8

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5h
Summary of Groundwater Analytical Results
MW17@31-36
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/17/2016	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.0	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.50	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 1.7	< 1.7
1,2-Dibromoethane	0.05	0.005	µg/l	< 1.8	< 1.8
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	< 0.60	< 0.60
Dissolved Iron	300	150	µg/l	**4,980**	**448**
Nitrate (as N)	10	2	mg/l	0.68	< 0.095
Sulfate	250	125	mg/l	20.9	4.2
Field Measurements					
Temperature			°F	50.78	46.26
Conductivity			µS/cm	590	563
pH				7.08	7.07
Dissolved Oxygen			mg/l	3.00	1.10
ORP			mV	-282.4	200.7

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5i
Summary of Groundwater Analytical Results
MW18
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/17/2016	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.0	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.50	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 1.7	< 1.7
1,2-Dibromoethane	0.05	0.005	µg/l	< 1.8	< 1.8
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	< 0.60	< 0.60
Dissolved Iron	300	150	µg/l	< 12.9	< 12.9
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	13.5	22.2
Field Measurements					
Temperature			°F	51.8	41.54
Conductivity			µS/cm	509	337
pH				6.46	6.69
Dissolved Oxygen			mg/l	3.73	2.5
ORP			mV	229.6	261.9

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5j
Summary of Groundwater Analytical Results
MW18@35-40
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/17/2016	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.0	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.50	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 1.7	< 1.7
1,2-Dibromoethane	0.05	0.005	µg/l	< 1.8	< 1.8
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 0.30
Dissolved Cadmium	5	0.5	µg/l	*0.63**	< 0.60
Dissolved Iron	300	150	µg/l	*247*	< 12.9
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	9.1	10.0
Field Measurements					
Temperature			°F	52.36	46.04
Conductivity			µS/cm	439	377
pH				7.13	6.78
Dissolved Oxygen			mg/l	5.98	2.18
ORP			mV	93.1	249.1

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5k
Summary of Groundwater Analytical Results
MW19
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/11/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	< 1.0	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.50	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 0.17	< 0.17
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.18	< 0.18
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	*3.4**	< 3.0
Dissolved Cadmium	5	0.5	µg/l	*0.90**	< 0.60
Dissolved Iron	300	150	µg/l	**704**	**139**
Nitrate (as N)	10	2	mg/l	< 0.095	0.42
Sulfate	250	125	mg/l	7.0	7.1
Field Measurements					
Temperature			°F	52.96	44.86
Conductivity			µS/cm	470	232
pH				6.32	6.67
Dissolved Oxygen			mg/l	0.52	1.46
ORP			mV	117.9	149.0

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 51
Summary of Groundwater Analytical Results
MW19@35-40
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/11/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	**117**	**298**
Toluene	800	160	µg/l	39.1	189
Ethylbenzene	700	140	µg/l	*395*	**1,260**
Xylenes (mixed isomers)	2,000	400	µg/l	*898.1*	**3,514**
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.87	< 1.7
Trimethylbenzenes (mixed isomers)	480	96	µg/l	*165.8*	**918**
Naphthalene	100	10	µg/l	*75.1*	**207**
1,2-Dichloroethane	5	0.5	µg/l	< 0.84	< 1.7
1,2-Dibromoethane	0.05	0.005	µg/l	< 0.89	< 1.8
Isopropylbenzene			µg/l	< 0.14	29.8
n-Butylbenzene			µg/l	3.7*	< 5.0
n-Propylbenzene			µg/l	35.8	99.3
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	*1.1**	< 0.60
Dissolved Iron	300	150	µg/l	**3,820**	**19,500**
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	10.8*	< 10.0
Field Measurements					
Temperature			°F	52.4	48.75
Conductivity			µS/cm	326	341
pH				7.41	6.77
Dissolved Oxygen			mg/l	5.58	0.1
ORP			mV	-15.3	-5.0

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5m
Summary of Groundwater Analytical Results
MW20
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/11/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	**10,100**	**5,320**
Toluene	800	160	µg/l	**35,800**	**27,500**
Ethylbenzene	700	140	µg/l	**3,180**	**4,040**
Xylenes (mixed isomers)	2,000	400	µg/l	**19,230**	**22,080**
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 34.8	< 17.4
Trimethylbenzenes (mixed isomers)	480	96	µg/l	**1,939**	**2,792**
Naphthalene	100	10	µg/l	**654***	**573**
1,2-Dichloroethane	5	0.5	µg/l	< 100	< 16.8
1,2-Dibromoethane	0.05	0.005	µg/l	< 35.6	< 17.8
Isopropylbenzene			µg/l	64.3*	65.1*
n-Butylbenzene			µg/l	< 100	< 50
n-Propylbenzene			µg/l	192*	223
Inorganics					
Dissolved Lead	15	1.5	µg/l	***20.7***	***8.6****
Dissolved Cadmium	5	0.5	µg/l	*1.7**	< 0.60
Dissolved Iron	300	150	µg/l	**1,440**	**12,500**
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	< 10.0	< 10.0
Field Measurements					
Temperature			°F	58.83	48.49
Conductivity			µS/cm	1,091	870
pH				6.42	6.67
Dissolved Oxygen			mg/l	4.33	0.39
ORP			mV	103.1	29.2

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5n
Summary of Groundwater Analytical Results
MW20@20-25
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/11/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	**17,600**	**17,700**
Toluene	800	160	µg/l	**21,600**	**41,800**
Ethylbenzene	700	140	µg/l	**2,640**	**2,950**
Xylenes (mixed isomers)	2,000	400	µg/l	**14,060**	**17,690**
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 21.8	< 69.7
Trimethylbenzenes (mixed isomers)	480	96	µg/l	**1,793**	**1,910**
Naphthalene	100	10	µg/l	**381***	**< 1,000**
1,2-Dichloroethane	5	0.5	µg/l	< 21.0	< 62.7
1,2-Dibromoethane	0.05	0.005	µg/l	**64.0***	**< 71.1**
Isopropylbenzene			µg/l	54.4*	< 57.3
n-Butylbenzene			µg/l	< 62.5	< 200
n-Propylbenzene			µg/l	168	< 200
Inorganics					
Dissolved Lead	15	1.5	µg/l	**31.5**	**37.1**
Dissolved Cadmium	5	0.5	µg/l	*0.86**	< 0.60
Dissolved Iron	300	150	µg/l	**6,130**	**5,520**
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	< 10.0	< 10.0
Field Measurements					
Temperature			°F	55.64	49.87
Conductivity			µS/cm	1,010	845
pH				6.25	6.43
Dissolved Oxygen			mg/l	3.83	0.1
ORP			mV	88.2	75.9

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

Table 5o
Summary of Groundwater Analytical Results
MW21
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/11/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	**632**	**457**
Toluene	800	160	µg/l	**2,510**	**4,120**
Ethylbenzene	700	140	µg/l	**2,600**	**1,600**
Xylenes (mixed isomers)	2,000	400	µg/l	**8,570**	**9,570**
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 4.4	< 8.7
Trimethylbenzenes (mixed isomers)	480	96	µg/l	**2,435**	**3,379**
Naphthalene	100	10	µg/l	**640**	**630**
1,2-Dichloroethane	5	0.5	µg/l	< 4.2	< 8.4
1,2-Dibromoethane	0.05	0.005	µg/l	< 4.4	< 8.9
Isopropylbenzene			µg/l	66.1	52.5
n-Butylbenzene			µg/l	46.3	< 25
n-Propylbenzene			µg/l	228	181
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	*7.7**
Dissolved Cadmium	5	0.5	µg/l	*0.69**	< 0.60
Dissolved Iron	300	150	µg/l	**27,900**	**16,900**
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	< 10.0	11.0*
Field Measurements					
Temperature			°F	57.29	46.73
Conductivity			µS/cm	470	470
pH				6.61	6.56
Dissolved Oxygen			mg/l	1.76	0.48
ORP			mV	-1.7	28.6

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5p
Summary of Groundwater Analytical Results
MW21@35-40
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/11/2015	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	**1,110**	**35.5**
Toluene	800	160	µg/l	*686*	2.2
Ethylbenzene	700	140	µg/l	*274*	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	*1,406*	27.9
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 1.7	0.20*
Trimethylbenzenes (mixed isomers)	480	96	µg/l	*339.5*	8.3
Naphthalene	100	10	µg/l	*63.1*	2.9*
1,2-Dichloroethane	5	0.5	µg/l	< 1.7	< 0.24
1,2-Dibromoethane	0.05	0.005	µg/l	< 1.8	< 0.18
Isopropylbenzene			µg/l	9.0*	0.27*
n-Butylbenzene			µg/l	14.6	< 0.50
n-Propylbenzene			µg/l	31.4	1.3
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	< 0.60	< 0.60
Dissolved Iron	300	150	µg/l	**44,600**	**66,600**
Nitrate (as N)	10	2	mg/l	< 0.095	< 0.095
Sulfate	250	125	mg/l	< 2.0	< 10.0
Field Measurements					
Temperature			°F	53.15	51.16
Conductivity			µS/cm	1,615	1,999
pH				6.5	6.6
Dissolved Oxygen			mg/l	3.82	0.24
ORP			mV	29.2	-5.8

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5q
Summary of Groundwater Analytical Results
MW22
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/17/2016	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	2.5	1.1
Ethylbenzene	700	140	µg/l	11.9	8.8
Xylenes (mixed isomers)	2,000	400	µg/l	55.1	42.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	80.2	67.9
Naphthalene	100	10	µg/l	5.2	5.8
1,2-Dichloroethane	5	0.5	µg/l	< 1.7	< 1.7
1,2-Dibromoethane	0.05	0.005	µg/l	< 1.8	< 1.8
Isopropylbenzene			µg/l	1.0	0.98*
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	2.3	2.6
Inorganics					
Dissolved Lead	15	1.5	µg/l	< 3.0	< 3.0
Dissolved Cadmium	5	0.5	µg/l	< 0.60	< 0.60
Dissolved Iron	300	150	µg/l	63.4*	*183*
Nitrate (as N)	10	2	mg/l	*3.9*	**23.8**
Sulfate	250	125	mg/l	9.5	10.1
Field Measurements					
Temperature			°F	54.12	43.71
Conductivity			µS/cm	204	450
pH				6.46	6.45
Dissolved Oxygen			mg/l	1.02	6.28
ORP			mV	229.4	221.7

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 5r
Summary of Groundwater Analytical Results
MW22@35-40
Tower Standard
Lac du Flambeau, Wisconsin

			Date ->	11/17/2016	4/26/2016
Detected VOC Parameters	ES	PAL	Units		
Benzene	5	0.5	µg/l	< 0.50	< 0.50
Toluene	800	160	µg/l	< 0.50	< 0.50
Ethylbenzene	700	140	µg/l	< 0.50	< 0.50
Xylenes (mixed isomers)	2,000	400	µg/l	0.75*	< 1.0
Methyl tert-Butyl Ether (MTBE)	60	12	µg/l	< 0.17	< 0.17
Trimethylbenzenes (mixed isomers)	480	96	µg/l	< 0.50	< 0.50
Naphthalene	100	10	µg/l	< 2.5	< 2.5
1,2-Dichloroethane	5	0.5	µg/l	< 1.7	< 1.7
1,2-Dibromoethane	0.05	0.005	µg/l	< 1.8	< 1.8
Isopropylbenzene			µg/l	< 0.14	< 0.14
n-Butylbenzene			µg/l	< 0.50	< 0.50
n-Propylbenzene			µg/l	< 0.50	< 0.50
Inorganics					
Dissolved Lead	15	1.5	µg/l	*3.7**	< 3.0
Dissolved Cadmium	5	0.5	µg/l	< 0.60	< 0.60
Dissolved Iron	300	150	µg/l	< 12.9	< 12.9
Nitrate (as N)	10	2	mg/l	0.38	0.24*
Sulfate	250	125	mg/l	29.3	21.3
Field Measurements					
Temperature			°F	52.9	45.86
Conductivity			µS/cm	388	1,017
pH				7.83	7.51
Dissolved Oxygen			mg/l	3.55	4.66
ORP			mV	249.5	239.1

Notes:
ES = NR140.10 Enforcement Standards
PAL = NR140.10 Preventive Action Limits
Enforcement Standard exceeded **BOLD**
Preventive Action Limit exceeded *Italics*
NA = Not Analyzed
NS = Not Sampled
* = Estimated value, concentration between the Limit of Detection and the Limit of Quantitation

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Table 6a
Summary of Vapor Analytical Results
Tower Standard
14267 State Highway 70 West
Lac du Flambeau, WI

		16TSSV01
Small Commercial Building (Attenuation Factor 0.03)		Sub-Slab
Chemical (ppbV)	SS-VRSL	4/1/2016
Acetone		24.6
Benzene	160	0.49
2-Butanone (MEK)		3.3
Carbon disulfide		0.57
Cyclohexane		2.6
Dichlorodifluoromethane	2,900	1.3
Ethylbenzene	370	1.1
4-Ethyltoluene		1.0
n-Heptane		1.5
n-Hexane		2.2
Propylene		0.4
Methylene Chloride	25,000	< 1.8
Tetrachloroethene	900	2.6
Toluene	190,000	4.2
Trichlorofluoromethane (Halocarbon 11)		< 0.36
1,2,4-Trimethylbenzene	210	1.6
1,3,5-Trimethylbenzene		0.9
Xylene (mix)	3,300	5.6

Notes:
Sub-Slab Vapor Risk Screening Levels Based on December 2015
National Screening Level Summary Table
Exceeds Sub-Slab Vapor Risk Screening Level **Bold**
* - Estimated concentration at or above the Limit of Detection
and below the Limit of Quantification

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Table 6b
Summary of Vapor Analytical Results
Tower Standard
14267 State Highway 70 West
Lac du Flambeau, WI

		16TSAA02
Small Commercial Building (Attenuation Factor 0.03)		Indoor Air
Chemical (ppbV)	Indoor Air VAL	3/31/2016
Acetone		29.2
Benzene	160	0.19
2-Butanone (MEK)		1.9
Carbon disulfide		< 0.34
Cyclohexane		0.6
Dichlorodifluoromethane	2,900	< 1.7
Ethylbenzene	370	< 0.34
4-Ethyltoluene		0.52
n-Heptane		< 0.34
n-Hexane		26.7
Propylene		0.74
Methylene Chloride	25,000	205
Tetrachloroethene	900	< 0.17
Toluene	190,000	3.4
Trichlorofluoromethane (Halocarbon 11)		< 0.34
1,2,4-Trimethylbenzene	210	0.51
1,3,5-Trimethylbenzene		0.52
Xylene (mix)	3,300	0.84

Notes:
Vapor Action Levels Based on December 2015 National Screening Level Summary Table
Exceeds Sub-Slab Vapor Risk Screening Level **Bold**
* - Estimated concentration at the Limit of Detection and below the Limit of Quantification

EPA-R5-2017-010506_0004172

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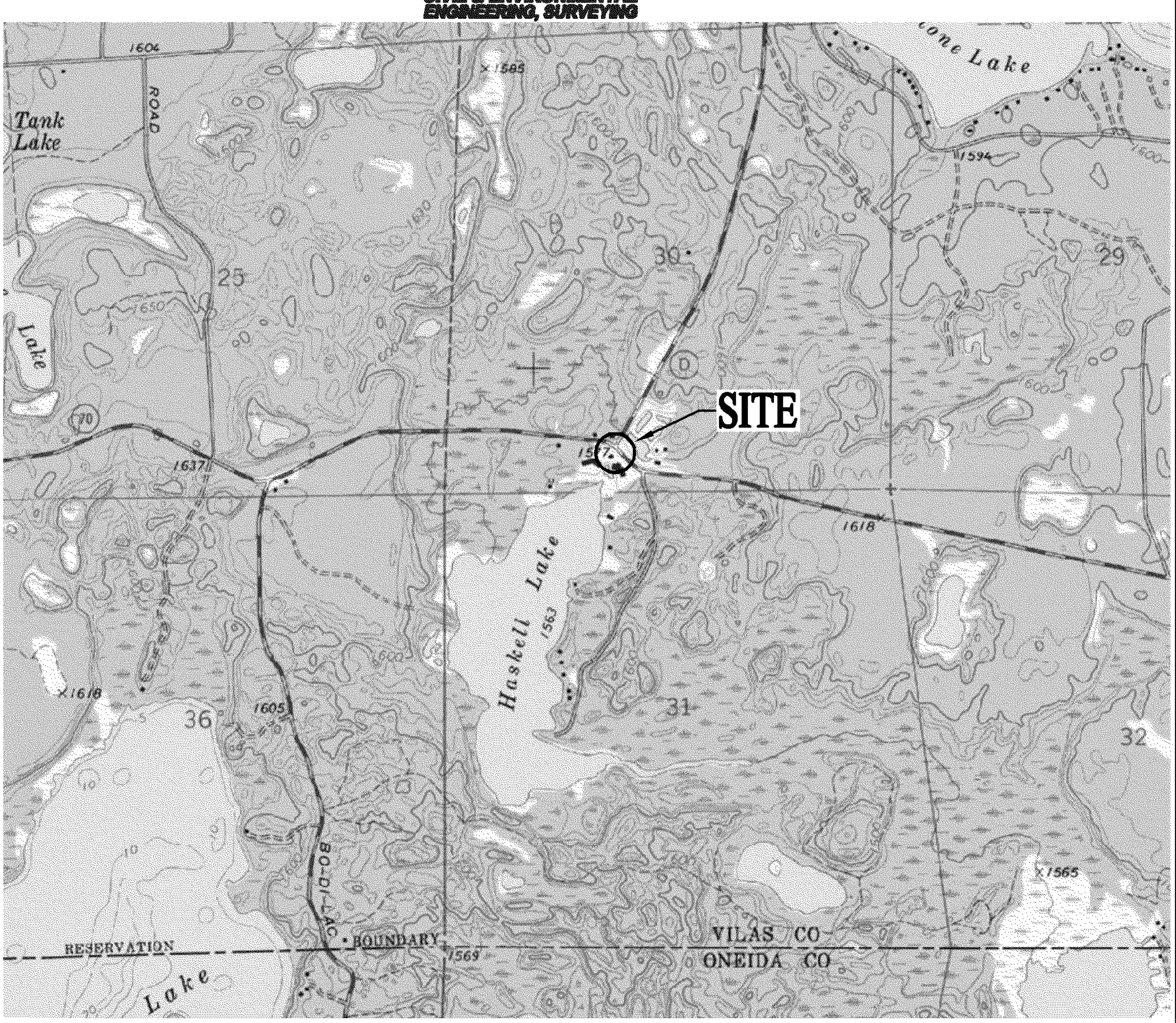


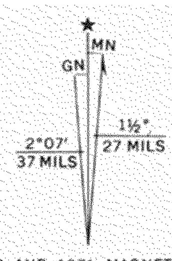
SCALE 1:24 000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



UTM GRID AND 1971 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

LAC DU FLAMBEAU, WIS.

N4552.5—W8952.5/7.5

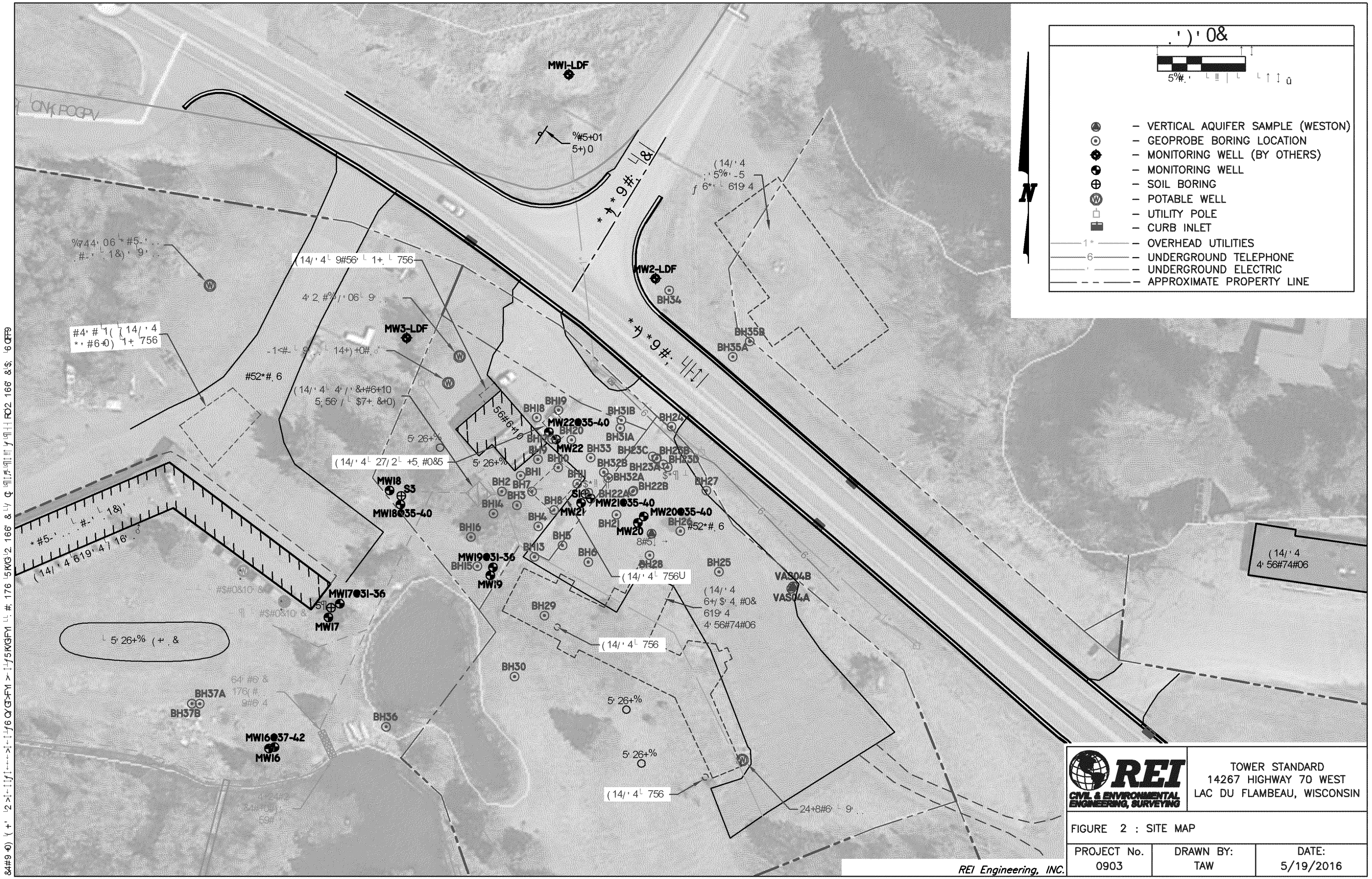
1971

AMS 3075 IV NW—SERIES V861

QUADRANGLE LOCATION

REI Engineering, INC.

TOWER STANDARD 14267 HIGHWAY 70 WEST LAC DU FLAMBEAU, WISCONSIN	FIGURE 1 : SITE VICINITY MAP		
	PROJECT NO. 0903	DRAWN BY: TAW	DATE: 5/18/2016



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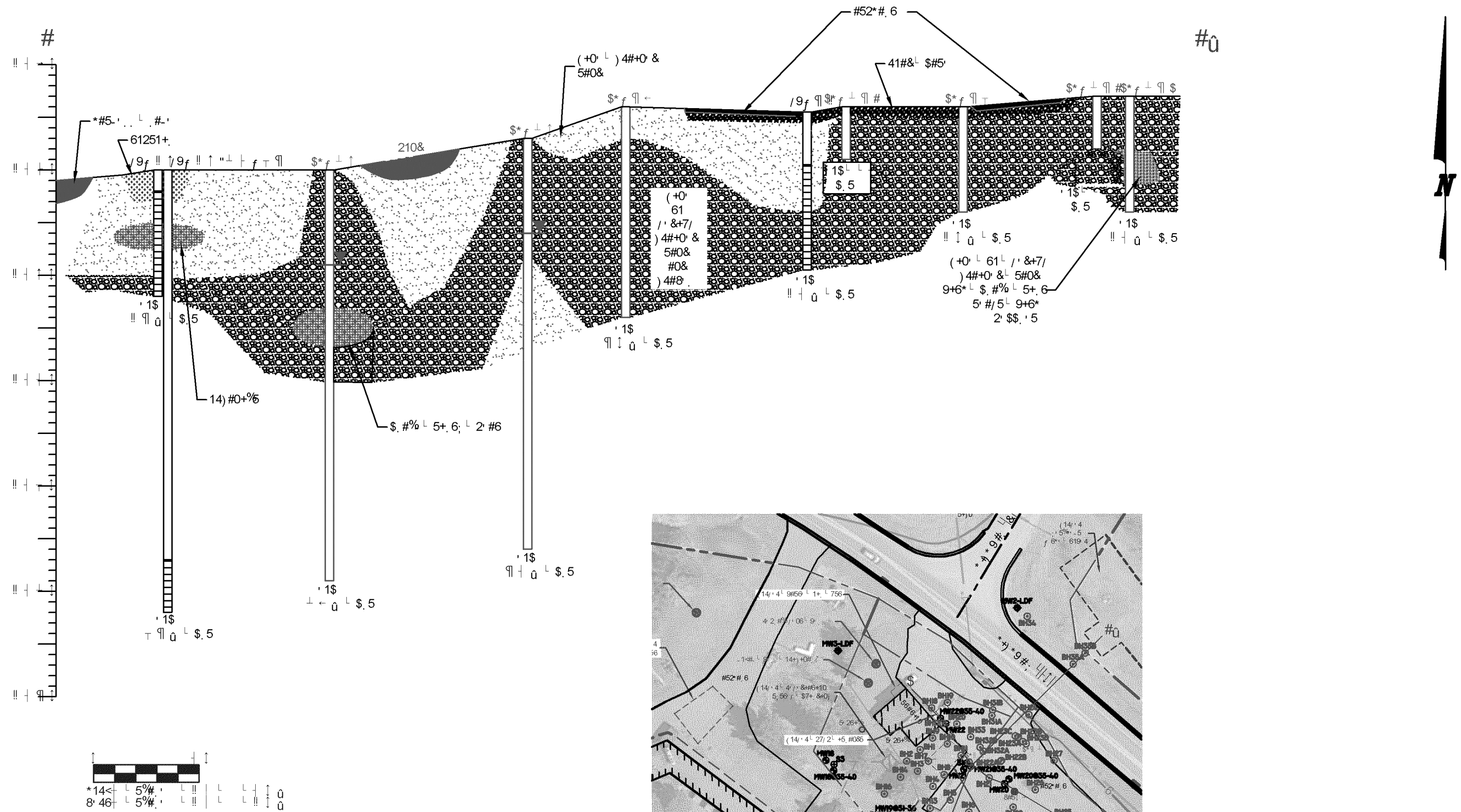
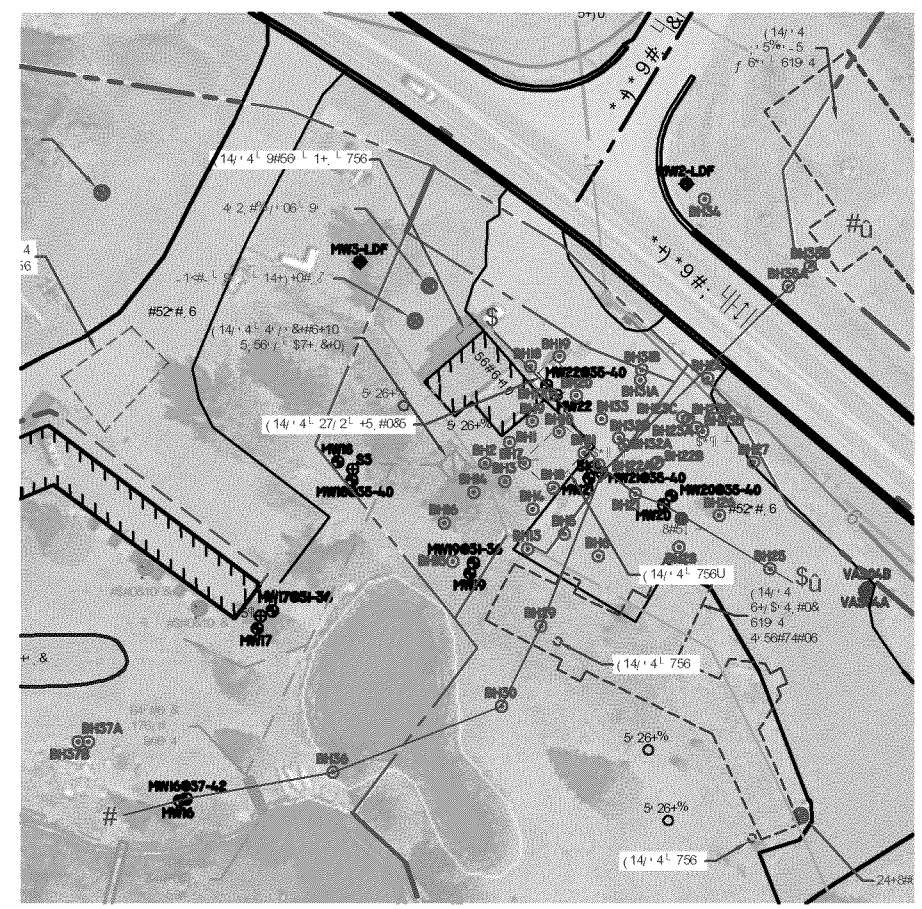
REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

TOWER STANDARD
14267 HIGHWAY 70 WEST
LAC DU FLAMBEAU, WISCONSIN

FIGURE 2 : SITE MAP

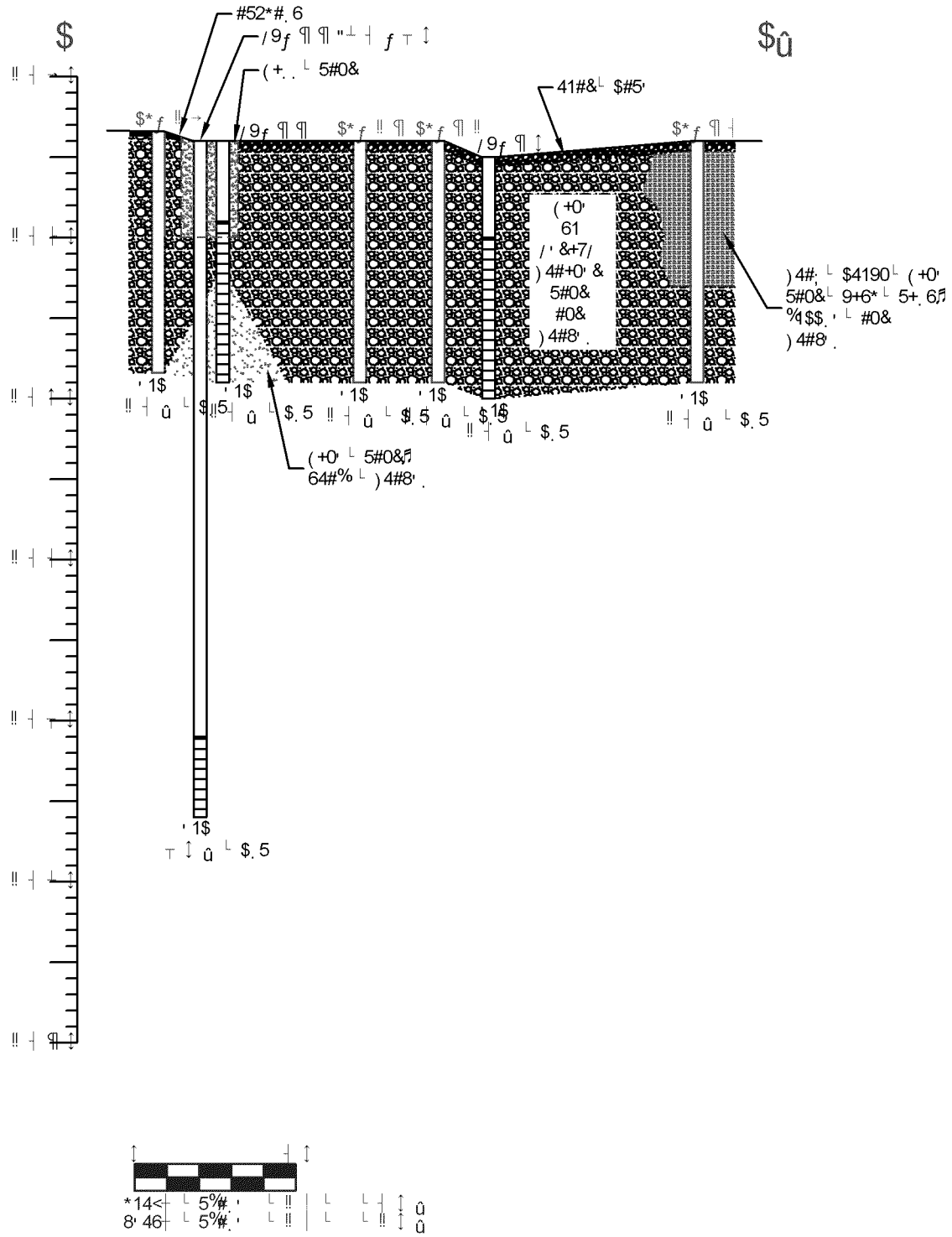
PROJECT No.	DRAWN BY:	DATE:
0903	TAW	5/19/2016

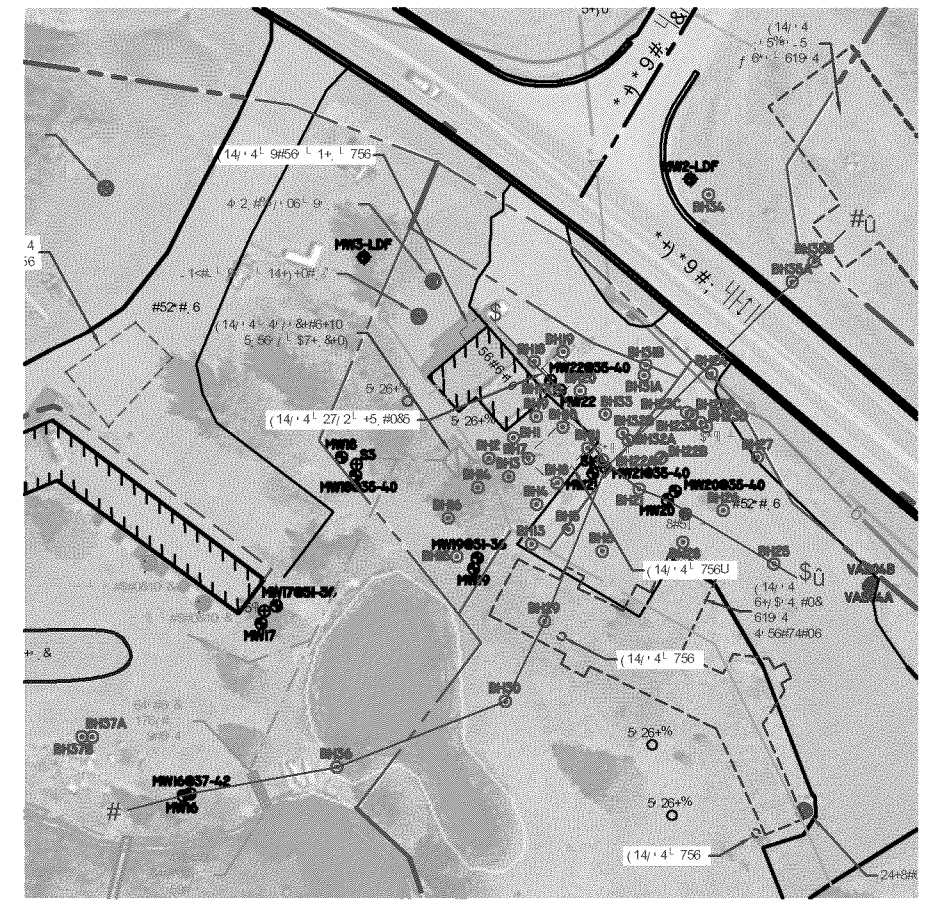




REI Engineering, INC.

REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING	TOWER STANDARD 14267 HIGHWAY 70 WEST LAC DU FLAMBEAU, WISCONSIN	
FIGURE 3A : GEOLOGIC CROSS SECTION A – A'		
PROJECT No. 0903	DRAWN BY: TAW	DATE: 5/20/2016





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TOWER STANDARD
14267 HIGHWAY 70 WEST
LAC DU FLAMBEAU, WISCONSIN

FIGURE 3B : GEOLOGIC CROSS SECTION B – B'

PROJECT No.	DRAWN BY:	DATE:
0903	TAW	5/20/2016

REI Engineering, INC.

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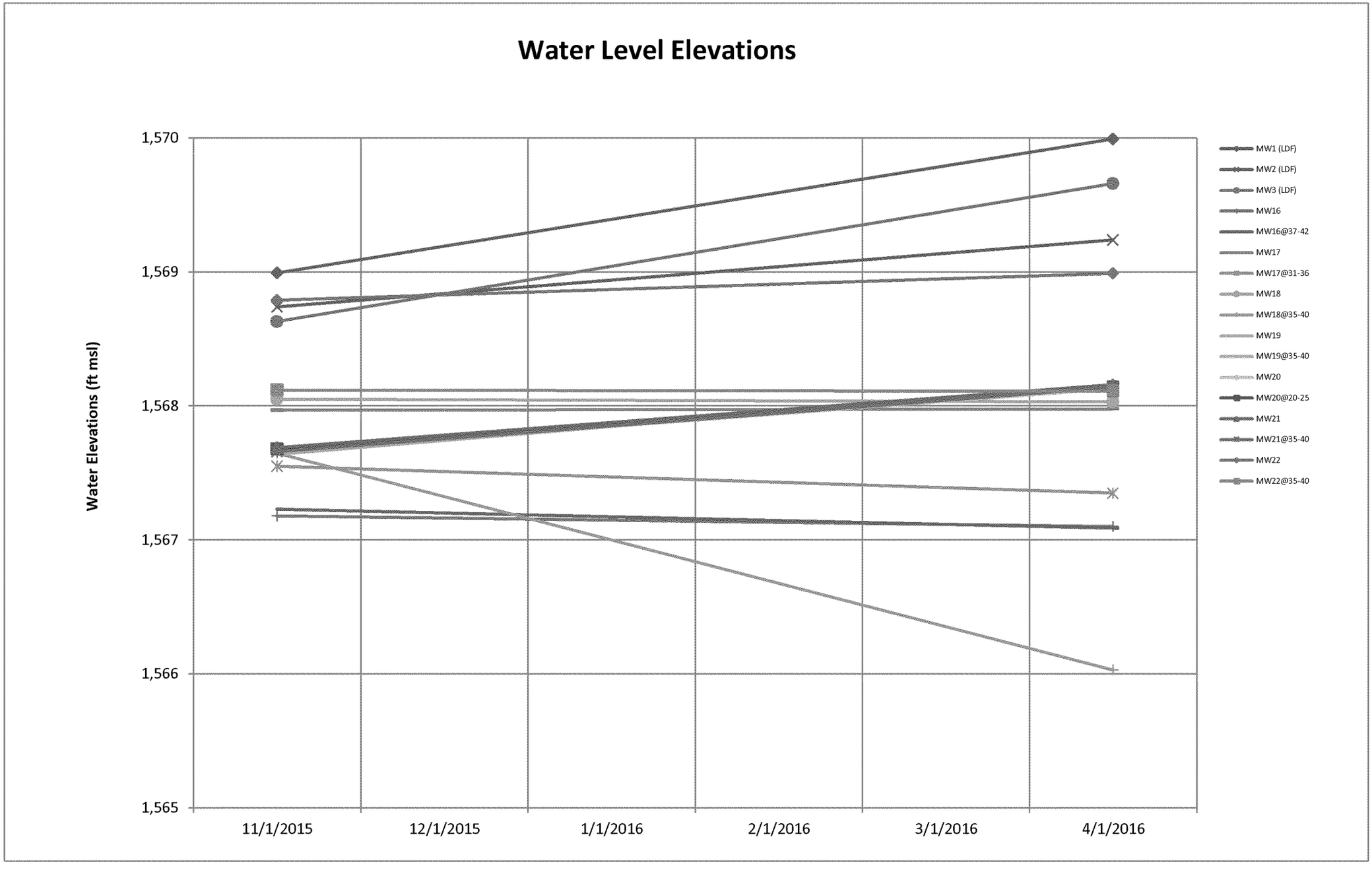
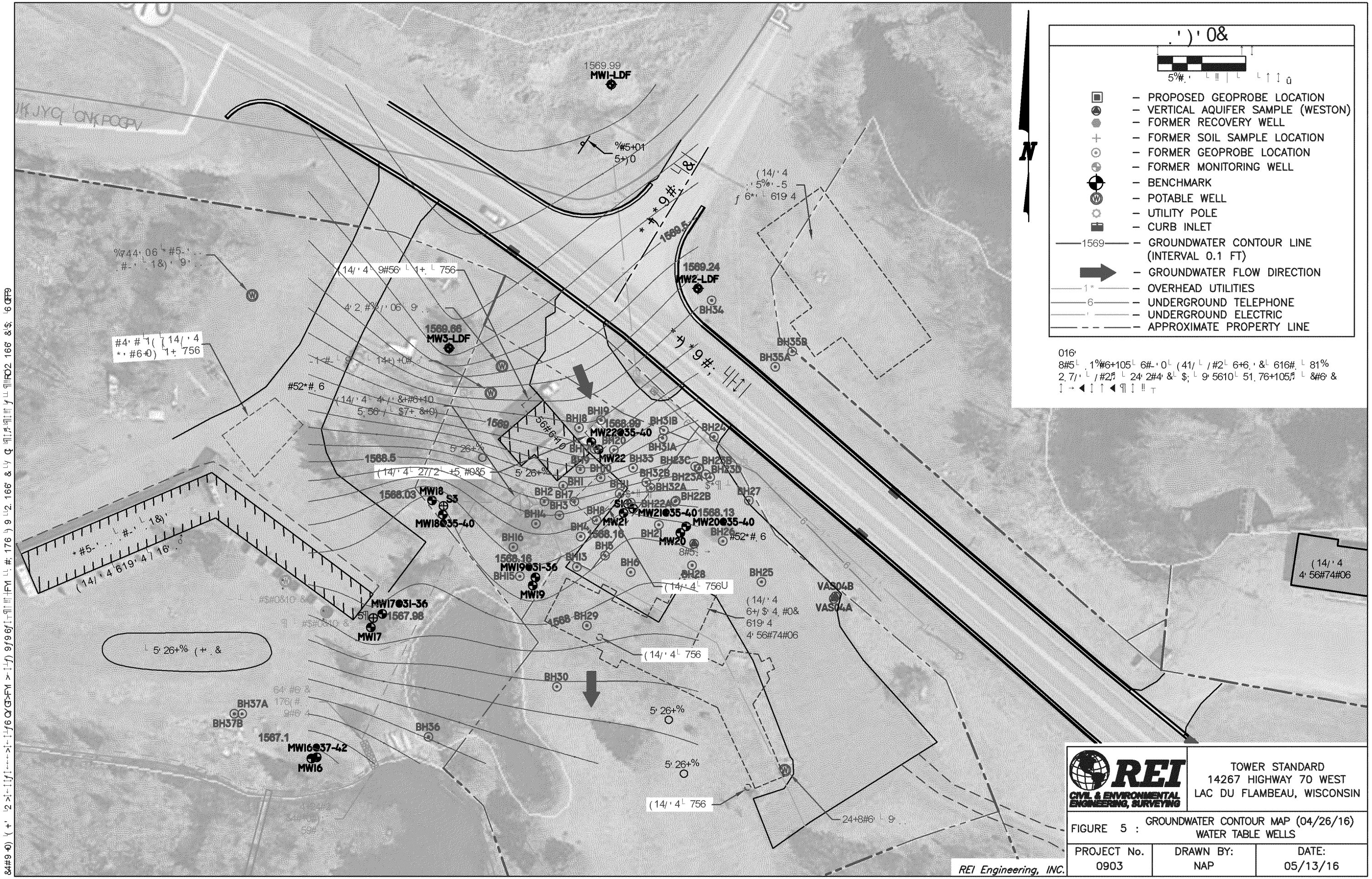


Tower Standard	Figure: 4	Water Level Hydrograph
14267 State Highway 70 West	REI Job Number 903	P:\0900-0999\0903-Tower\Reports\Current Conditions\[903CCt1, t2, Fig 4.xls]Hydrograph

EPA-R5-2017-010506_0004172


PROPOSED GEOPROBE LOCATION
VERTICAL AQUIFER SAMPLE (WESTON)
FORMER RECOVERY WELL
FORMER SOIL SAMPLE LOCATION
FORMER GEOPROBE LOCATION
FORMER MONITORING WELL
BENCHMARK
POTABLE WELL
UTILITY POLE
CURB INLET
1569 GROUNDWATER CONTOUR LINE (INTERVAL 0.1 FT)
GROUNDWATER FLOW DIRECTION
OVERHEAD UTILITIES
UNDERGROUND TELEPHONE
UNDERGROUND ELECTRIC
APPROXIMATE PROPERTY LINE
N
1569.99
MW1-LDF
1569.24
MW2-LDF
1569.66
MW3-LDF
1568.99
MW22@35-40
1568.5
1568.03
MW18
MW18@35-40
1568.13
MW20@35-40
1568.16
MW19@31-36
MW17@31-36
1567.98
MW17
1567.1
MW16@37-42
MW16
BH34
BH35B
BH35A
BH25
VAS04B
VAS04A
BH37A
BH37B
BH36
BH30
BH29
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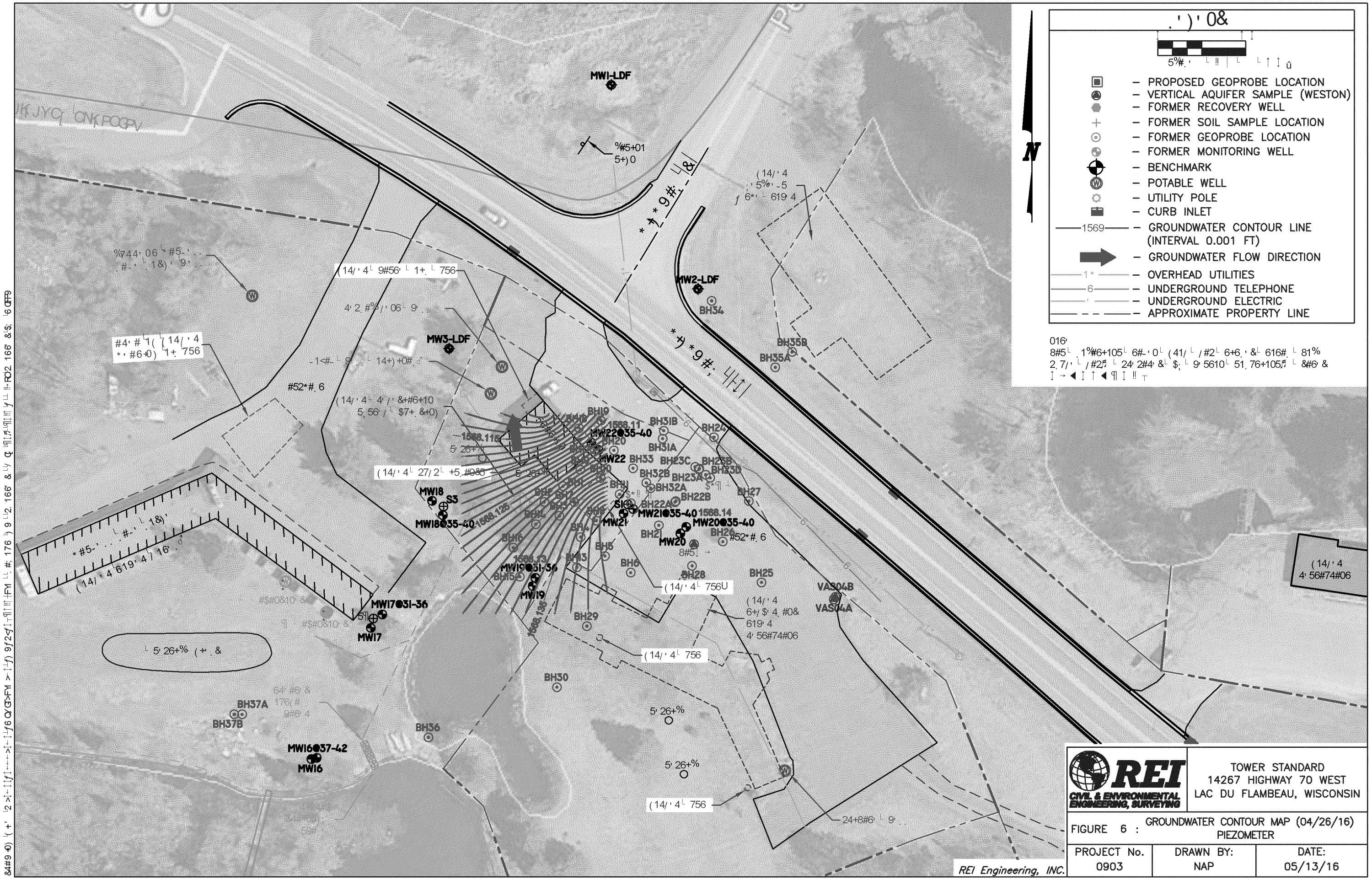
TOWER STANDARD
14267 HIGHWAY 70 WEST
LAC DU FLAMBEAU, WISCONSIN
FIGURE 5 : GROUNDWATER CONTOUR MAP (04/26/16)
WATER TABLE WELLS
PROJECT No. 0903
DRAWN BY: NAP
DATE: 05/13/16



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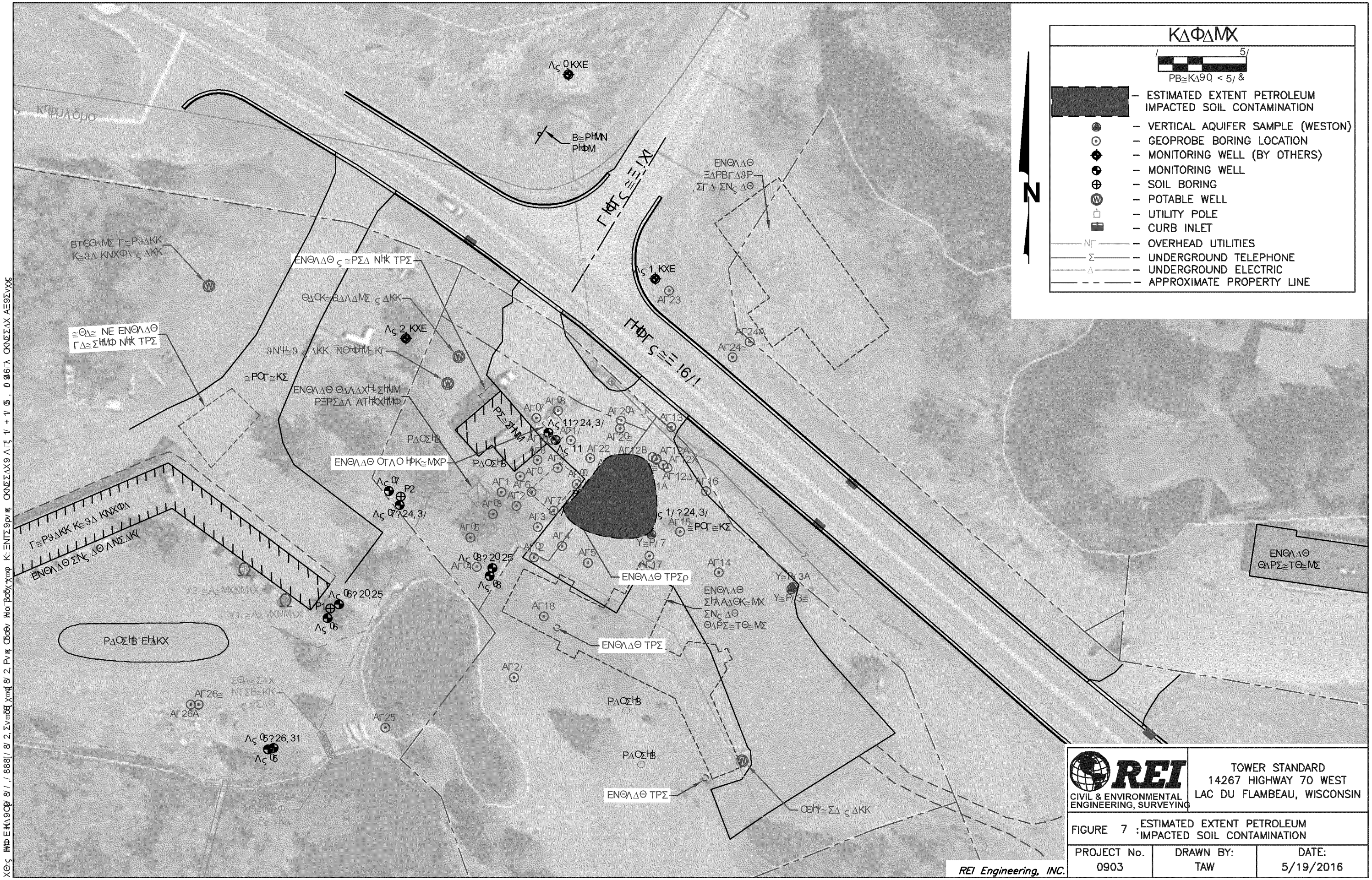
TOWER STANDARD
14267 HIGHWAY 70 WEST
LAC DU FLAMBEAU, WISCONSIN

FIGURE 6 : GROUNDWATER CONTOUR MAP (04/26/16) PIEZOMETER

PROJECT No.	DRAWN BY:	DATE:
0903	NAP	05/13/16

EPA-R5-2017-010506_0004172



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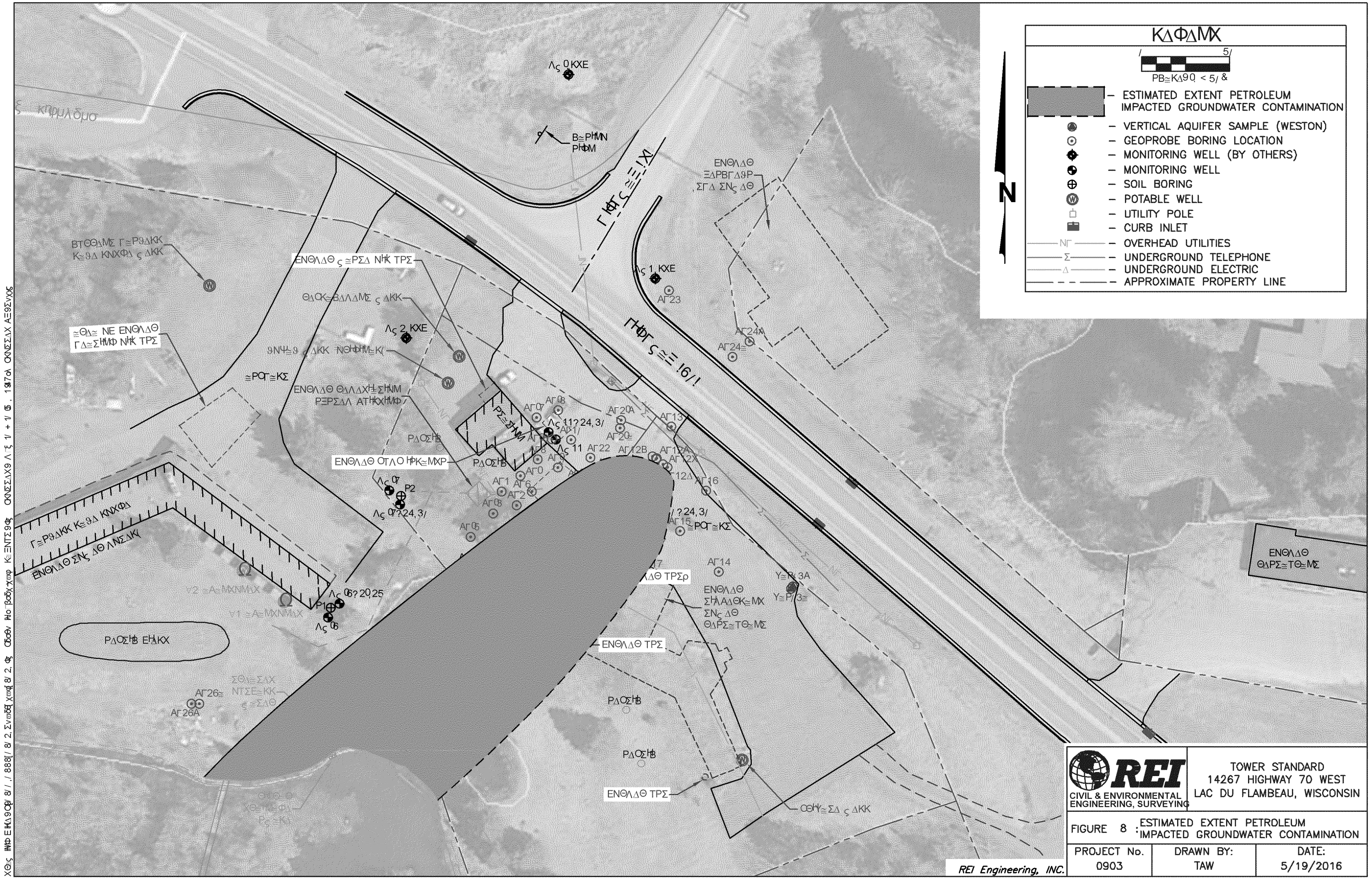
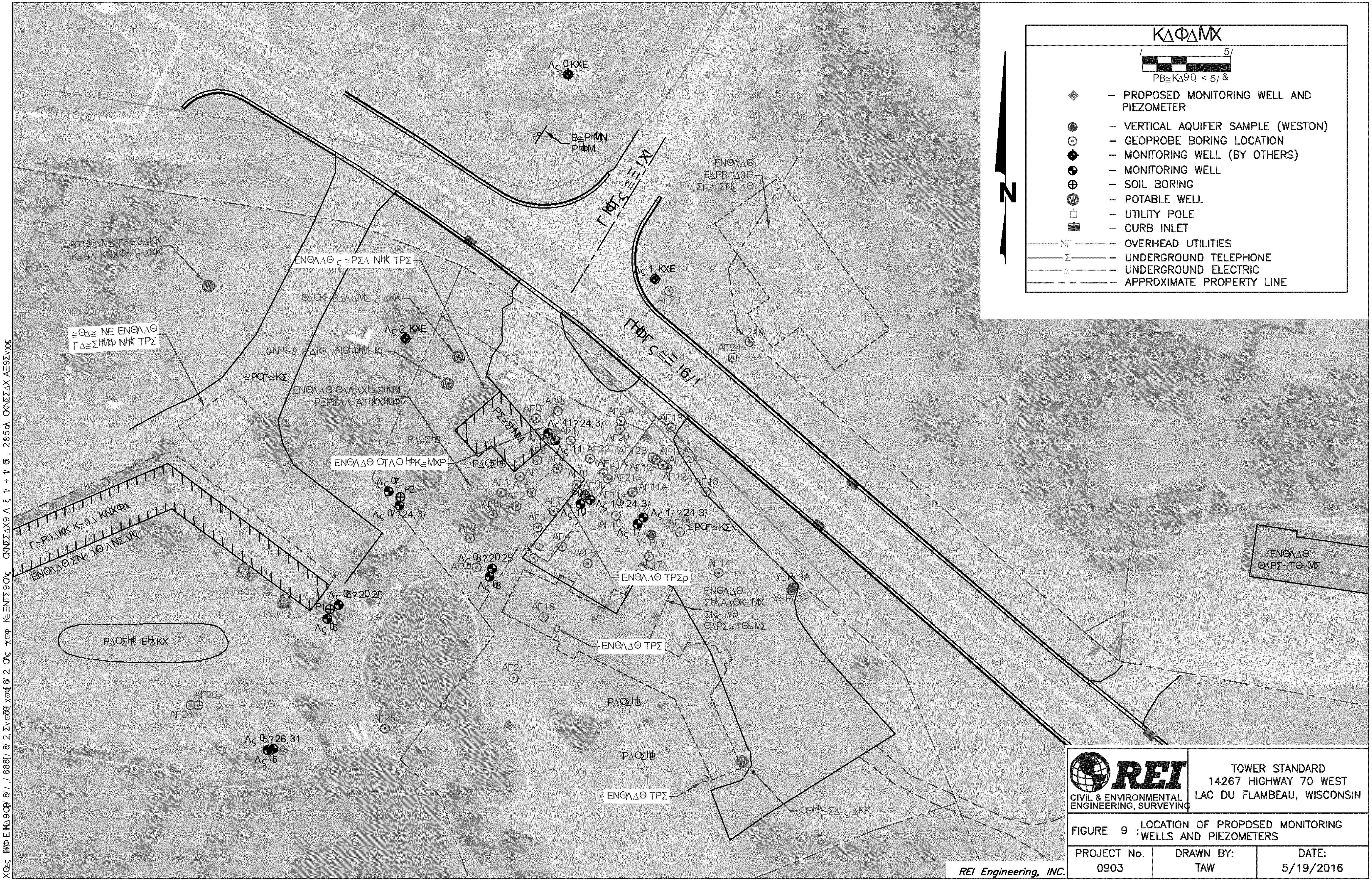
TOWER STANDARD
14267 HIGHWAY 70 WEST
LAC DU FLAMBEAU, WISCONSIN

FIGURE 7 : ESTIMATED EXTENT PETROLEUM IMPACTED SOIL CONTAMINATION

PROJECT No.	DRAWN BY:	DATE:
0903	TAW	5/19/2016



EPA-R5-2017-010506_0004172



N
PROPOSED MONITORING WELL AND PIEZOMETER
VERTICAL AQUIFER SAMPLE (WESTON)
GEOPROBE BORING LOCATION
MONITORING WELL (BY OTHERS)
MONITORING WELL
SOIL BORING
POTABLE WELL
UTILITY POLE
CURB INLET
OVERHEAD UTILITIES
UNDERGROUND TELEPHONE
UNDERGROUND ELECTRIC
APPROXIMATE PROPERTY LINE
P1
P2
TOWER STANDARD
14267 HIGHWAY 70 WEST
LAC DU FLAMBEAU, WISCONSIN
CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING
FIGURE 9 : LOCATION OF PROPOSED MONITORING WELLS AND PIEZOMETERS
PROJECT No. 0903
DRAWN BY: TAW
DATE: 5/19/2016
REI Engineering, INC.

APPENDIX A

DATCP PETROLEUM TANKS DATABASE

Responsive. Efficient. Innovative.

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138087 TOWER STANDARD 14267 HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 374368 TOWER STANDARD SERVICE 8760 W SQUAW LAKE RD LAC DU FLAMBU WI 54538 9517

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355386, Wang ID: 630400132, Closed/Removed as of 10/01/1997

Install Date:		**Capacity in Gallons:**	300	**Contents:**	Waste/Used Motor Oil
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Manual Tank Gauging	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Safe Suction

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138087 TOWER STANDARD 14267 HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 374368 TOWER STANDARD SERVICE 8760 W SQUAW LAKE RD LAC DU FLAMBU WI 54538 9517

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355387, Wang ID: 630400133, Closed/Removed as of 10/01/1997

Install Date:		**Capacity in Gallons:**	300	**Contents:**	Leaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Inventory Control & Tightness Test	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Safe Suction

Inspections Click here for login page

Trans ID	Type	Status	Date	Fiscal Yr
** No inspections for this tank **				

Close this response window

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138087 TOWER STANDARD 14267 HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 374368 TOWER STANDARD SERVICE 8760 W SQUAW LAKE RD LAC DU FLAMBU WI 54538 9517

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355388, Wang ID: 630400134, Closed/Removed as of 10/01/1997

Install Date:		**Capacity in Gallons:**	6000	**Contents:**	Unleaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Manual Tank Gauging	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Safe Suction

Inspections Click here for login page

Trans ID	Type	Status	Date	Fiscal Yr
** No inspections for this tank **				

Close this response window

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138087 TOWER STANDARD 14267 HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 374368 TOWER STANDARD SERVICE 8760 W SQUAW LAKE RD LAC DU FLAMBU WI 54538 9517

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355389, Wang ID: 630400135, Closed/Removed as of 10/01/1997

Install Date:		**Capacity in Gallons:**	1000	**Contents:**	Unleaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Manual Tank Gauging	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Safe Suction

Inspections Click here for login page

Trans ID	Type	Status	Date	Fiscal Yr
** No inspections for this tank **				

Close this response window

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138087 TOWER STANDARD 14267 HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 374368 TOWER STANDARD SERVICE 8760 W SQUAW LAKE RD LAC DU FLAMBU WI 54538 9517

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355390, Wang ID: 630400136, Closed/Removed as of 10/01/1997

Install Date:		**Capacity in Gallons:**	1000	**Contents:**	Unleaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Manual Tank Gauging	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Safe Suction

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138087 TOWER STANDARD	63 - VILAS	ID: 374368
14267 HWY 70	Town of LAC DU FLAMBEAU	TOWER STANDARD SERVICE
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	8760 W SQUAW LAKE RD
Landowner Type: Private		LAC DU FLAMBU WI 54538 9517

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355505, Wang ID: 630400254, Closed/Removed as of 10/01/1997

Install Date:		**Capacity in Gallons:**	500	**Contents:**	Waste/Used Motor Oil
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:	Sacrificial Anode	**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Manual Tank Gauging	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**	Sacrificial Anode	**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Gravity/AST Head Pressure

Inspections Click here for login page

Trans ID	Type	Status	Date	Fiscal Yr
** No inspections for this tank **				

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138080 TOWER INN	63 - VILAS	ID: 849131
14277 STH 70 W	Town of LAC DU FLAMBEAU	U.S. BANK CORPORATE REAL ESTATE
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	777 E WISCONISN AVE STE 3175
Landowner Type: Private		MILWAUKEE WI 53202

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355553, Wang ID: 630400304, Closed/Removed as of 05/14/1997

Install Date:		**Capacity in Gallons:**	6117	**Contents:**	Fuel Oil
Tank Occupancy:	Mercantile/Commercial	**Marketer:**	N	**CAS Number:**	
Federally Regulated:	N	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Unknown	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Bare Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Bare Steel	**Corrosion Protect Type:**		**Leak Detection:**	Unknown
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Safe Suction

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138077 TOWER INN	63 - VILAS	ID: 306097
14277 STH 70 W	Town of LAC DU FLAMBEAU	F & M BANK
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	PO BOX 500
Landowner Type: Private		WOODRUFF WI 54568 0500

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355507, Wang ID: 630400256, Closed/Removed as of 07/29/1993

Install Date:		**Capacity in Gallons:**	500	**Contents:**	Fuel Oil
Tank Occupancy:	Agricultural	**Marketer:**	N	**CAS Number:**	
Federally Regulated:	N	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Not Required	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Bare Steel	**Corrosion Protect Type:**		**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Unknown

Inspections Click here for login page

Trans ID	Type Status	Date Fiscal Yr

**** No inspections for this tank ****

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138077 TOWER INN	63 - VILAS	ID: 306097
14277 STH 70 W	Town of LAC DU FLAMBEAU	F & M BANK
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	PO BOX 500
Landowner Type: Private		WOODRUFF WI 54568 0500

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355508, Wang ID: 630400257, Closed/Removed as of 08/02/1993

Install Date:		**Capacity in Gallons:**	1000	**Contents:**	Fuel Oil
Tank Occupancy:	Agricultural	**Marketer:**	N	**CAS Number:**	
Federally Regulated:	N	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Not Required	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**	**Related Tank ID:**	
Type:		**Aboveground Piping:**	**Aboveground Pipe Construction:**	
Construction Material:	Bare Steel	**Corrosion Protect Type:**	**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**	**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**	**Pipe Wall Size:**	Single
Catastrophic Leak Detection:	Flow Restrictor	**Cat Leak Test Date:**	**Piping System Type:**	Pressurized

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138088 TOWER SUPPER CLUB	63 - VILAS	ID: 306097
STH 70	Town of LAC DU FLAMBEAU	F & M BANK
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	PO BOX 500
Landowner Type: Private		WOODRUFF WI 54568 0500

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355392, Wang ID: 630400138, Closed/Removed as of 08/02/1993

Install Date:		**Capacity in Gallons:**	1000	**Contents:**	Fuel Oil
Tank Occupancy:	Mercantile/Commercial	**Marketer:**	N	**CAS Number:**	
Federally Regulated:	N	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Unknown	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Unknown	**Corrosion Protect Type:**		**Leak Detection:**	Unknown
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Unknown

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 138088 TOWER SUPPER CLUB	63 - VILAS	ID: 306097
STH 70	Town of LAC DU FLAMBEAU	F & M BANK
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	PO BOX 500
Landowner Type: Private		WOODRUFF WI 54568 0500

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355393, Wang ID: 630400139, Closed/Removed as of 07/29/1993

Install Date:		**Capacity in Gallons:**	500	**Contents:**	Fuel Oil
Tank Occupancy:	Mercantile/Commercial	**Marketer:**	N	**CAS Number:**	
Federally Regulated:	N	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Unknown	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Unknown	**Corrosion Protect Type:**		**Leak Detection:**	Unknown
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Unknown

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 84939 GRIZZLY BILLS INC	63 - VILAS	ID: 314840
1420 STH 70	Town of LAC DU FLAMBEAU	GRIZZLY BILLS INC
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	1420 HWY 70
Landowner Type: Private		LAC DU FLAMBEAU WI 54538

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355362, Wang ID: 630400108, Closed/Removed as of 09/03/1997

Install Date:		**Capacity in Gallons:**	550	**Contents:**	Premix
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Inventory Control & Tightness Test	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Safe Suction

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 84939 GRIZZLY BILLS INC	63 - VILAS	ID: 314840
1420 STH 70	Town of LAC DU FLAMBEAU	GRIZZLY BILLS INC
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	1420 HWY 70
Landowner Type: Private		LAC DU FLAMBEAU WI 54538

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355363, Wang ID: 630400109, Closed/Removed as of 09/03/1997

Install Date:		**Capacity in Gallons:**	10000	**Contents:**	Unleaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Inventory Control & Tightness Test	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Tightness Test
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:	Flow Restrictor	**Cat Leak Test Date:**		**Piping System Type:**	Pressurized

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 84939 GRIZZLY BILLS INC	63 - VILAS	ID: 314840
1420 STH 70	Town of LAC DU FLAMBEAU	GRIZZLY BILLS INC
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	1420 HWY 70
Landowner Type: Private		LAC DU FLAMBEAU WI 54538

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355364, Wang ID: 630400110, Closed/Removed as of 09/03/1997

Install Date:		**Capacity in Gallons:**	10000	**Contents:**	Unleaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Inventory Control & Tightness Test	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Tightness Test
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:	Flow Restrictor	**Cat Leak Test Date:**		**Piping System Type:**	Pressurized

Inspections Click here for login page

Trans ID	Type	Status	Date Fiscal Yr
** No inspections for this tank **			

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 84939 GRIZZLY BILLS INC	63 - VILAS	ID: 314840
1420 STH 70	Town of LAC DU FLAMBEAU	GRIZZLY BILLS INC
LAC DU FLAMBEAU	Fire Dept ID: 6304 - Lac Du Flambeau	1420 HWY 70
Landowner Type: Private		LAC DU FLAMBEAU WI 54538

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355504, Wang ID: 630400253, Closed/Removed as of 09/03/1997

Install Date:		**Capacity in Gallons:**	550	**Contents:**	Leaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	Inventory Control & Tightness Test	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Coated Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Coated Steel	**Corrosion Protect Type:**		**Leak Detection:**	Not Required
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	Safe Suction

Inspections Click here for login page

Trans ID	Type	Status	Date	Fiscal Yr
** No inspections for this tank **				

Close this response window

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 136011 WISCONSIN DEPT OF TRANSPORTATION 14465 STATE HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 369441 WISCONSIN DEPARTMENT OF TRANSPORTATION 4802 SHEBOYGAN AVE RM 751 PO Box 7915 MADISON WI 53707 7915

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355273, Wang ID: 630400012, Closed/Removed as of 08/19/2003

Install Date:		**Capacity in Gallons:**	2000	**Contents:**	Unleaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	null	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Bare Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Bare Steel	**Corrosion Protect Type:**		**Leak Detection:**	null
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	

Inspections Click here for login page

Trans ID	Type Status	Date Fiscal Yr
** No inspections for this tank **		

Close this response window

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 136011 WISCONSIN DEPT OF TRANSPORTATION 14465 STATE HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 369441 WISCONSIN DEPARTMENT OF TRANSPORTATION 4802 SHEBOYGAN AVE RM 751 PO Box 7915 MADISON WI 53707 7915

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355274, Wang ID: 630400013, Closed/Removed as of 08/19/2003

Install Date:		**Capacity in Gallons:**	3000	**Contents:**	Unleaded Gasoline
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:	Not Applicable	**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	null	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Bare Steel	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Closed/Removed

Flex Connectors:		**UST mainfolded:**		**Related Tank ID:**	
Type:		**Aboveground Piping:**		**Aboveground Pipe Construction:**	
Construction Material:	Bare Steel	**Corrosion Protect Type:**		**Leak Detection:**	null
Cath Test Date:		**Cath Expire Date:**		**Leak Test Meth:**	
Leak Test Date:		**Leak Expire Date:**		**Pipe Wall Size:**	Single
Catastrophic Leak Detection:		**Cat Leak Test Date:**		**Piping System Type:**	

Inspections Click here for login page

Trans ID	Type	Status	Date	Fiscal Yr

**** No inspections for this tank ****

Close this response window

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 136011 WISCONSIN DEPT OF TRANSPORTATION 14465 STATE HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 371840 THE CRICKET 14465 STATE HIGHWAY 70 W # 1 LAC DU FLAMBU WI 54538 9330

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355275, Wang ID: 630400014, Admin Closure as of 01/14/2008

Install Date:		**Capacity in Gallons:**	1111	**Contents:**	Unknown
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	null	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Unknown	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Admin Closure

Flex Connectors:	**UST mainfolded:**	**Related Tank ID:**	
Type:	**Aboveground Piping:**	**Aboveground Pipe Construction:**	
Construction Material:	**Corrosion Protect Type:**	**Leak Detection:**	null
Cath Test Date:	**Cath Expire Date:**	**Leak Test Meth:**	
Leak Test Date:	**Leak Expire Date:**	**Pipe Wall Size:**	Single
Catastrophic Leak Detection:	**Cat Leak Test Date:**	**Piping System Type:**	

Inspections Click here for login page

Trans ID	Type	Status	Date	Fiscal Yr
915168	AN	CLOS	09/04/2003	2004

Close this response window

Wisconsin Department of Safety and Professional Services

Search Instructions	Search by Site, Owner, or Tank Characteristics	Search by Tank ID

Tank Detail

Site and Owner

Site Info	County & Municipality	Owner
Facility ID: 136011 WISCONSIN DEPT OF TRANSPORTATION 14465 STATE HWY 70 LAC DU FLAMBEAU Landowner Type: Private	63 - VILAS Town of LAC DU FLAMBEAU Fire Dept ID: 6304 - Lac Du Flambeau	ID: 371840 THE CRICKET 14465 STATE HIGHWAY 70 W # 1 LAC DU FLAMBU WI 54538 9330

Site Anniversary Date: Dispensers have Sumps: Unknown

Underground Storage Tank - ID: 355276, Wang ID: 630400015, Admin Closure as of 01/14/2008

Install Date:		**Capacity in Gallons:**	1111	**Contents:**	Unknown
Tank Occupancy:	Retail Fuel Sales	**Marketer:**	Y	**CAS Number:**	
Federally Regulated:	Y	**Spill Protection:**	Required - Not Installed	**Overfill Protection:**	Required - Not Installed
Overfill Prot Type:	null	**Containment Sump Installed:**	Unknown		
Corrosion Protect Type:		**Date of Lining:**		**Lining Inspected Date:**	
Leak Detection:	null	**Cath Test Date:**		**Cath Expire Date:**	
Leak Test Meth:		**Leak Expire Date:**		**Leak Test Date:**	
Construction Material:	Unknown	**Wall Size:**	Single	**Underground Piping:**	Y
Close Order Date:		**Close Order By:**			

Piping - Admin Closure

Flex Connectors:	**UST mainfolded:**	**Related Tank ID:**	
Type:	**Aboveground Piping:**	**Aboveground Pipe Construction:**	
Construction Material:	**Corrosion Protect Type:**	**Leak Detection:**	null
Cath Test Date:	**Cath Expire Date:**	**Leak Test Meth:**	
Leak Test Date:	**Leak Expire Date:**	**Pipe Wall Size:**	Single
Catastrophic Leak Detection:	**Cat Leak Test Date:**	**Piping System Type:**	

Inspections Click here for login page

Trans ID	Type	Status	Date	Fiscal Yr
915168	AN	CLOS	09/04/2003	2004

Close this response window

Wisconsin Department of Safety and Professional Services

APPENDIX B

SOIL DISPOSAL DOCUMENTATION

Responsive. Efficient. Innovative.

LINCOLN COUNTY LANDFILL 715-536-9636
Site: N4750 Landfill Lane, Merrill, WI 54452
Mailing: 801 N Sales St, Ste 201, Merrill, WI 54452
OPERATING HOURS:
Monday-Friday
SUMMER (May 1 - Sept. 30) 7:00 am - 4:00 pm
WINTER (Oct. 1 - Apr. 30) 8:00 am - 4:00 pm
1st and 3rd Sat. 8:00 am - Noon

DATE: 11/13/2015 TICKET #: 206355 Vehicle #: SGS207
Time In: 08:45 AM Time Out: 08:52 AM

BILL TO: SGS Envirnomental Contracting, LLC
HAULER : SGS Envirnomental Contracting, LLC

JOB : 15 - 65 B - REI #903 Tower Standard-Lac Du Flambeau
PO# : REI job #903
$25 ton exempt (CON24) 8.51 tn
Gross: 46980 Tare: 29960 Net Weight: 17020

Scale Notes: Charge Transaction

HAVE A NICE DAY!

Customer Signature _____
Weighed By: Administrator

I certify that the waste in this vehicle complies with the Wisconsin Recycling law and the landfill bans. I also agree to pay 1.5% per month Late payment charge after 30 days.

21 barrels

EPA-R5-2017-010506_0004172

APPENDIX C

SOIL BORING LOGS

Responsive. Efficient. Innovative.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-1

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☒ BH-1 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	SS	24		1–4	Fine grain brown sand	SM			0.0		M				
2	SS	24		5–9	Fine grain brown sand w/ cobbles	SP			0.0						
3	SS	36		10–14	Silty fine grain sand w/ cobbles	SP			0.0		W				
				15	EOB @ 15'										

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

Signature Scott Blade	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

This form is authorized by Chapters 281,283,289,292,293,295, and 299, Wis. Stats. Completion of thes 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

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-2

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☒H-2 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	SS	20		1–4	Dark brown fine to medium sand w/ gray rock and cobbles	SP			0.0		M				
2	SS	24		5–9					0.0		W				
				10	EOB @ 10'										

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

Signature Scott J Blank	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-3

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☒ BH-3 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	SS	20		1–5	Light to dark brown fine sand w/ cobbles	SP			10.2		M				
2	SS	36		5–10	Varying brown fine sand w/ lots of cobble				0.0		W				
				10	Refusal @ 10'										

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

Signature Scott J Blecha	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-4

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ **(estimated)** ☐ **or Boring Location** ☒H-4 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Sample Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	SS	24		1–5	Light to dark brown fine sand w/ cobbles	SP			0.0		M				
2	SS	27		5–10	Fine to medium brown sand w/ some small and large cobble				0.0		W				
				10	EOB @ 10'										

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

Signature Scott J Blade	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-5

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ **(estimated)** ☐ **or Boring Location** ☒ BH-5 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					Asphalt base coarse	GP					M				
1	SS	24		1 2 3 4	Fine to medium brown sand w/ gravel				0.0						
2	SS	24		5 6 7 8 9	Fine to medium brown sand w/ cobble	GP					W				
				10 11 12 13 14 15	EOB @ 10'										

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

Signature Scott J Blade	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-6

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ **(estimated)** ☐ **or Boring Location** BH-6 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				0	**Asphalt base coarse**	GP					M				
1	SS	24		1–5	**Fine to medium brown sand w/ cobble**	SP			0.0 0.0						
2	SS	18		5–10	**Fine to medium dark brown sand w/ cobble**	SP			0.0 1568		W				
3	SS	24		10–15	**Saturated** Fine brown sand w/ cobble and angular gravel - Strong petroleum odor	GM			29.9						
				15	**EOB @ 15'**										

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

Signature [signature]	**Firm** **REI Engineering, Inc.** 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-7

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ **(estimated)** ☐ **or Boring Location** BH-7 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					Gravel base coarse	GP					M				
1	SS	30		1–5	**Fine to medium brown sand w/ varying size cobble**	SP			0.0 0.0						
2	SS	28		7–10	**Lighter brown to gray fine to medium sand w/ larger cobble**				0.0 704		W				
3	SS	36		10–15	**Saturated** Angular gravel w/ red to brown fine sand - Petroleum odor (oil? - not gas)	GM			7.4						
				15	**EOB @ 15'**										

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

Signature	**Firm**
[signature]	**REI Engineering, Inc.** 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-8

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☒ BH-8 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					Gravel base coarse	GP					M				
1	SS	20		1–4	**Fine to medium brown sand w/ small cobble**				2.4						
2	SS	18		5–9	**Brown fine to medium sand**	SP			0.0						
				8–9	**Medium brown sand w/ larger cobble**	GP			5.7						
				9–10	**Petroleum odor in water table**				760		W				
				10	**EOB @ 10'**										

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

Signature Scott J. Blade	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-9

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ **(estimated)** ☐ **or Boring Location** ☒H-9 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	SS	30		1–5	Fine brown sand	SM			0.0 0.0		M				
2	SS	18		5–10	Brown fine to medium sand w/ cobble	GM			0.0 0.0		W				
3	SS	42		10–15	Saturated Angular gravel w/ fine sand and cobbles	GP			0.0 0.0						
				15	EOB @ 15'										

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

Signature Scott J. Bleck	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-10

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☒H-10 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	SS	30		1–4	**Fill Sand**	SP			0.0		M				
				5					0.0						
2	SS	18		6–8					0.0						
				9–10	**Dark brown fine to medium sand** - Petroleum odor in saturated soil				658		W				
3	SS	42		11–12	**Saturated** Gray fine to medium sand w/ small pebbles										
				13	**Fine to medium brown sand w/ cobbles**	GM			0.0		M				
				14–15	**Saturated** Angular gravel and fine sand				22.6		W				
				15	**EOB @ 15'**										
				16–20											

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

Signature Jeff J Blade	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-11

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ **(estimated)** ☐ **or Boring Location** ☒ BH-11 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					Gravel base coarse	GP					M				
1	SS	20		1 2 3 4	**Fine to medium brown sand w/ trace silty clay**	SM			0.0						
2	SS	24		5 6 7 8	**Red brown fine to medium sand (fill)**	SP									
				9	**Saturated** Dark brown and gray fine to medium sand w/ cobble	GP			280		W				
				10 11 12 13 14 15	**EOB @ 10'** - Petroleum odor										

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

Signature	**Firm**
[signature]	**REI Engineering, Inc.** 4080 North 20th Avenue, Wausau, WI

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SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-12

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ **(estimated)** ☐ **or Boring Location** ☒ BH-12 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					Asphalt base coarse	GP					M				
1	SS	18		1–5	Varying brow fine to medium sand w/ cobble	SM			171.5 0.0						
2	SS	28		5–10	Dark brown fine to medium sand w/ large cobbles Finer brown sand w/ pinkish hue and cobbles				1382 1878		W				
3	SS	32		10–15	Saturated Angular gravel and fine sand	GM			8.5						
				15–20	EOB @15'										

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

Signature Scott J Blade	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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SOIL BORING LOG INFORMATION

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☑ Other ☐

Facility/Project Name Tower Standard	**License/Permit/Monitoring Number** BRRTS # 03-64-127899	**Boring Number** BH-13

Boring Drilled By: Name of crew chief (first, last) and Firm	**Date Drilling Started**	**Date Drilling Completed**	**Drilling Method**
Giles Engineering and Associates - Jim Blair	09/14/15	09/14/15	Geoprobe

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name**	**Final Static Water Level**	**Surface Elevation**	**Borehole Diameter**
					2.25"

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☒H-13 **State Plane** WI	**Lat** **Long**	**Local Grid Location** N☐ E☐ S☐ W☐

Facility ID 764158560	**County** Vilas	**County Code** 63	**Civil Town/City/or Village** Lac Du Flambeau

Sample Number	Sample Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
					Asphalt/ organic matter base coarse	GP					M				
1	SS	24		1–5	Brown fine to medium sand w/ cobbles				0.0						
									0.0						
2	SS	18		5–10	Dark brown fine to medium sand w/ cobbles	GM			0.0						
									0.0		W				
				10	EOB @ 10'										

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

Signature Scott J Blode	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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