~~**DRAFT**~~ FINAL LR

PRELIIMINARY ASSESSMENT

QUIC FREZ SITE

City of Fond du Lac, Fond du Lac County, Wisconsin DNR

EPA ID #WIN 000508296

November 10, 2003

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

NORTHEAST REGION

Prepared by	Reviewed by	Approved by
Mike Netzer, Site Assess. Coordinator (Report repared for Jenny Pelczar, Project Manager)	John Burnett, Waste Mgmt. Specialist	Laura Ripley, EPA Early Action Project Manager 12/3/2003

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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November 18, 2003

Laura Ripley, Early Action Proj. Mgr, SE J4
U.S. Environmental Protection Agency
77 W. Jackson Blvd.
Chicago, IL 60604

Subject: QuicFrez Preliminary Assessment Report, City of Fond du Lac, Fond du Lac County, WI., EPA ID# 000508296

Dear Ms. Ripley:

This letter serves as a transmittal letter for, a) the Transmittal Memorandum, b) the Summary Scoresheet and, 3) the Preliminary Assessment report. Two copies of the signature page has been included. Upon completion of your review and our incorporation of any comments you might have, please sign both pages and return one directly to me. As always, if you have any questions about the report, please feel free to contact me at (608) 264 - 6008.

Sincerely,

Mike Netzer, P.G., Hydrogeologist
Waste Management Specialist
Remediation & Redevelopment Program

CC: Jennifer Pelczar-NER, Oshkosh
Bruce Urben - NER, Green Bay
Mark Gordon - CO

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TABLES

REFERENCES

NOTE: The reports listed in this reference section are numerous and in most instances they are large reports so they are not included herein. The cover page for each reference accompanies this report. A complete copy of the reports can be found at the Wisconsin Department of Natural Resources (WDNR) Northeast Region offices in Oshkosh and Green Bay (Lombardi Street office) or at the Central Office in Madison, Wisconsin.

1. "Phase I and II Environmental Site Assessment, *Quickfrez Complex"*, Miller Engineers Scientists, February 4, 1997.
2. Census 2000 TIGER/Line files, U.S. Census Bureau, October 2001.
3. WDNR Notification of Contamination Letter, February 28, 1997.
4. "Remedial Investigation/Remedial Action Plan Report", Miller Engineers Scientists, September 30, 1999.
5. "A Resolution Of Necessity Relating To The Condemnation Of The Quick Freeze Property", City of Fond du Lac Resolution No.7201, September 28, 2000.
6. "Workplan - Emergency Action/Site Investigation, *Quicfrez Complex*", Miller Engineers Scientists, December 11, 2001.
7. FAX Transmittal of Soil Testing Results From Miller Engineers Scientists to WDNR and Request for Meeting, December 19, 2001.
8. "Revised Workplan and Schedule - Site Investigation/Emergency Action, *Quicfrez Complex*", Miller Engineers Scientists, February 22, 2002.
9. U.S. Environmental Protection Agency Pollution Report #1, March 5, 2002.
10. WDNR to U.S. EPA "Request for Removal Assistance" Letter, March 6, 2002
11. U.S. Environmental Protection Agency Pollution Report #2, March 25, 2002.
12. U.S. Environmental Protection Agency Pollution Report #3 (Final), May 22, 2002.
13. "Removal Actions Summary Report", TN & Associates, Inc., July 8 2002
14. "Remedial Action Options Report - Former Quickfrez Site", Miller Engineers Scientists, December 13, 2002.
15. "Exploration for Tank - Southwest Petroleum Area, Former Quickfrez Complex", Miller Engineers Scientists, January 31, 2003.
16. "Site Investigation Report - Former Quicfrez Site, Miller Engineers Scientists, July 23, 2003.

FIGURES

APPENDICES

1.0 INTRODUCTION

Note: The formal spelling of the site that is the subject of this report is Quic Frez which is as it is listed in CERCLIS. The way the site name is spelled in different reports or documents through time could be Quick Freeze or Quicfrez or other minor variations. The titles of reports referenced herein are as they were prepared-they were not altered to reflect the CERCLIS name for the site (Quic Frez).

Under authority of the Comprehensive Environmental Response Compensation Liability Act of 1980 (CERCLA), and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the Wisconsin Department of Natural Resources (WDNR) was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a Preliminary Assessment (PA) at the Quic Frez Site (Quic Frez) as part of the FY '03 Cooperative Agreement. The purpose of this assessment was to collect information concerning the conditions at Quick Frez sufficient to assess the threat posed to human health and the environment and to determine the need for additional CERCLA/SARA or other appropriate action. The scope of the assessment included a review of available file information including a comprehensive target survey and the results of on and of - site reconnaissance efforts.

2.0 SITE DESCRIPTION AND SITE CHARACTERISTICS

2.1 Site Location

Quic Frez is part of a 4.1 acre parcel of land located in part of section 15, T15N, R17E, City of Fond du Lac in Fond du Lac County, Wisconsin. The regional location of the site is shown on Figure 1. A more specific site location is shown on Figure 2. The site address 105 Oak Place in the City of Fond du Lac and includes lots 6 through 18, Darlings Subdivision Block R, Original Plat of the City of Fond du Lac (Reference 1, Figure 3). The site is physically bounded on the north, west and southwest by the East Branch of the Fond du Lac River and on the east and southeast sides by Oak Street and South Street respectively.

A report entitled *"Remedial Investigation/Remedial Action Plan Report,* Former Quicfrez Complex" also prepared by Miller and dated September 30, 1999 further describes the site as "...part of the SE 1/4 of the NW 1/4 of Section 15, T 15 N, R 17 E in Fond du Lac County" (Reference 3). As described in a "Removal Action Summary Report, Quck Frez Site" document prepared by TN & Associates, Inc., for the U.S. Environmental Protection Agency (EPA) and dated July 8, 2002, the Coordinates for the site are 43° 46' 18.0" North latitude and 88° 27' 08.0" West longitude (Reference 14).

To reach the site from the southwest side of Fond du Lac at the intersection of U.S. Hwy 151 and U.S. Hwy 41, proceed in a northeasterly direction on U.S. Hwy 151 (also called Military Avenue) for about 1 3/4 miles. At the intersection of Military Avenue and Western Avenue, Turn right (east) and proceed about 250 feet to Oak Street. Turn right (south) on Oak Street and turn right again on Oak Place.

Private residences are located on the east and south sides of the site. Based on the latest population estimates, approximately 49,879 individuals live within a four-mile radius of the site. Up to 12,896 individuals live within one mile of the site and up to 5,232 individuals live within 1/2 mile of the site (Reference 2).

2.2 Site Description

As of February 4, 1997 Miller Engineers Scientists described the site as "...lots 6 through 18, Darling's Subdivision Block R, Original Plat of the City of Fond du Lac, with the following exclusion: the railroad right of way of CM and STP & P Railroad Company that crosses lots 6 through 12/ the southern 24 feet of lot 18; and the southern 84 feet of lot 20. Included in the subject property are the following parcels: the vacated portion of Oak Place that is adjacent to the north side of lot 16 and the northwest sides of lots 12 through 15; that portion of vacated Oak Place adjacent to the south of lot 10; a parcel extending southwest of lot 12 to the river; and a parcel of land extending from lots 9, 10 and 11 to the river..." (Reference 1).

The site was zoned commercial and is located in the City of Fond du Lac on the very south end of Lake Winnebago. The east Branch of the Fond du Lac River flows along the north and west sides of the property. Residential and commercial properties are located to the north, a sewerage pump house and residential properties are located to the south and commercial properties are located to the east (with residential properties located beyond).

In 1997, the site consisted of a three story main production building on the north side of the property, a two level metal sided warehouse on the southwest side of the property and a two-story concrete block building on the southeast side of the property (Reference 1, Figure 4). As of the date of the author's reconnaissance of the site on October 9, 2003 the entire property has been cleared of all buildings (Photos 1 through 8, App. A).

2.3 Operational History

Note: the following history of the site is contained in Reference 1.

1884 through 1892: During this time residential dwellings existed on the property.

1809 through 1908: During this time properties south of Oak Place were occupied by residential dwellings and property north of Oak Place was operated by Bowen Manufacturing Company (furniture manufacturer). An outside lumber storage area, dry kilns, woodworking shops, power house, furniture set room machine shop, tin shop and glue room were located on the north side of the river. The warehouse was located on the south side of the river. The company was non-operational in 1908.

1915: A Sanborn Map for this timeframe indicates the site was operated by the Fond du Lac Furniture Company which was located on the north side of the railroad and Oak Place. The plant was similar in layout to the Bowen Company except there were no buildings across the river.

1927 through 1950: Sanborn Maps indicate the property was operated by the Sanitary Refrigerator Company. At this time an additional finished product warehouse was constructed south of the railroad, along the river. Surrounding properties as of 1921 were residential. Two paint booths were added in 1950.

1955: Sanitary Refrigerator became Quicfrez Incorporated which made refrigeration units. Operations included painting and use of solvents.

1965: The property is listed as vacant in City directories.

1969: The property was operated by Kiekhaefer Mercury Sign as a factory and warehouse.

1971: A portion of the warehouse was used as a paint booth.

1976: The buildings were occupied by Mercury Marine Corporation, Hayward Tires, and a paint and body shop.

1997: The buildings were used for storage by First & Portland Corporation.

2.4 Regulatory History

February 4, 1997: Miller Engineers Scientists prepares a "Phase I and II-Environmental Assessment *Quicfrez Complex*" report for the City of Fond du Lac which was considering taking the property through condemnation procedures. Five areas of concern were noted in the report:

- pipes in the building are likely to contain asbestos so testing and proper removal was recommended,

- a railroad crossing on the property was a concern because of the likely potential for spills and leaks,

- ash in the chimney of the north production building was likely hazardous material,

- soil and groundwater samples from the northeast corner of the production building indicated that contamination exists in that area and,

- contamination might exist in the northwest area of the production building as well.

(Reference 1)

February 28, 1997: The Wisconsin Department of Natural Resources (WDNR) sent the responsible party (RP), First & Portland Corporation, a notification letter indicating that the WDNR had been notified about contamination on the property. The letter identified the RP's legal responsibilities and what steps to take to investigate and clean up the site (Reference 4).

September 30, 1999: Miller Engineers Scientists prepared a report for the City of Fond du Lac entitled "*Remedial Investigation/Remedial Action Plan Report* Former Quickfrez Complex". The report notes that eight soil borings were performed and four of the borings were turned into water table observation wells. Sampling activities noted the presence of petroleum compounds, chlorinated solvents and metals. There was a low risk to potential receptors so shallow excavation of contaminated areas then backfilling with clay was proposed. Two more wells were proposed (upgradient and down gradient) and natural attenuation was proposed as a cleanup remedy (Reference 3).

September 28, 2000: The City of Fond du Lac acquires the property by condemnation during a City Council meeting (Reference 4)

October, 2000: Fire breaks out at the main facility. Massive amounts of water used in fighting the fire was suspected of causing a river retaining wall to collapse (Reference 9).

December 11, 2001: Miller Engineer Scientists prepares "Emergency Action/Site Investigation" report and proposes (to WDNR) to install eight soil borings along the river and install temporary well in each boring and to collect samples from monitoring wells MW-1, MW-1A and MW-2. Also proposed is to excavate shallow (contaminated) soils and backfill with two feet of clean clay fill (Reference 6).

December 12, 2001: Miller Engineers Scientists meets with WDNR to Discuss sampling results (see December 11, 2001 Reference), riverbank stabilization approaches, plus additional site investigations (Reference 7).

February 22, 2002: Miller Engineers Scientists proposes (to WDNR) to Install 18 additional borings (15 well nests [six water table wells, five

piezometers to 30 feet below ground surface, four piezometers to 45 feet below ground surface, plus three water table wells to be located on the east side of the facility (Reference 8).

March 5, 2002: EPA Pollution Report. WDNR notified EPA about a petroleum spill on the East Branch of the Fond du Lac River. EPA and a Superfund Technical Assessment and Response Team (START) mobilized to the site on February 28, 2002. On March 1, 2002 EPA obligated funds for removal work (Reference 9).

March 6, 2002: WDNR formally requested EPA removal assistance for the Site (Reference 10).

March 25, 2002: EPA Pollution Report. Site soils were removed and replaced on March 14th and 15th, 2002 (Reference 11).

May 22, 2002: Final EPA Pollution Report. Seven hundred fifty tons of contaminated soil removed from the riverbank area and disposed of at the Hickory Meadows Landfill in Hillbert, WI. Two hundred twenty tons of contaminated soils were removed from the northeast side of the property and disposed of at the Hickory Meadows Landfill (Reference 12).

July 8, 2002: TN & Associates submits "Removal Actions Summary Report" to EPA. Reiterates and formally presents what was indicated in the May 22, 2002 Pollution Report (Reference 13).

December 13, 2002: Miller Engineers Scientists submits (to WDNR) a "Remedial Action Options Report". Evaluated; a) Source Area Excavations, b) Groundwater Recovery Trenching, c) Dual Phase High Vacuum Extraction, d) Electro-Thermal Dynamic Stripping Process (ET-DSP™), and e) Electroosmosis with Permeable Reactive Barriers (LASAGNA™) techniques. Final recommendation was to implement the LASAGNA™ technique. This remedial action has not yet been implemented by the WDNR (Reference 14).

January 31, 2003: Miller Engineers Scientists presents (to WDNR) "Exploration for Tank - Southwest Petroleum Area" report. Test pits were performed around borings B-27, B-33 and B-37 to look for a buried tank. None was found. One hundred ninety four tons of contaminated soil was removed and taken to Hickory Meadows Landfill for disposal (Reference 15).

July 23, 2003: Miller Engineers Scientists presents (to WDNR) "Site Investigation Report, **Former Quicfrez Complex**" report. This report summarizes all previous investigative activities at the site and notes that there are three general areas of soil contamination (from west to east) on the Quic Frez property adjacent to the river on the side of the site; a) mixed generally shallow

petroleum (fuel oil) and moderate levels of TCE contamination, b) very high levels of TCE at depth and, c) high levels of TCE within four feet of the surface and decreasing with depth (Reference 16).

2.5 Waste Characteristics

Based on the results of an investigation performed in December 2001 by Miller Engineers & Scientists, borings indicated that some or all of the former owners and/or operators of the various operations that existed through the years used and discarded solvents including trichloroethene (TCE), petroleum products, Polynuclear Aromatic Hydrocarbons (PAHs), other semi-volatile organic compounds and heavy metals. Various breakdown products of TCE have been found at elevated levels throughout the site area. TCE was found in soil and groundwater beneath the site for 0 to 4 feet below ground surface (BGS) and as deep as 18 feet BGS in some areas. EPA contractors have removed 1,164 tons of contaminated soils from the site which were taken to a secure landfill (References 6, 12 and 15). Bedrock was suspected to be impacted as well (Reference 6).

2.6 Analytical Results

Groundwater

The site is currently being monitored by sampling eighteen on-site groundwater monitoring wells (MW-1R, MW-1A, MW-2, MW-4, MW-4A, MW-5, MW-5A, MW-6, MW-6A, MW-6B, MW-7, MW-7A, MW-7B, MW-8, MW-8A, MW-8B, MW-9 and MW-10B) and one sump. The location of the monitoring wells and sump are shown on Figure 5 (Reference 16). The boring logs and well construction logs are contained in Appendix B.

Historical groundwater analytical data from March and June 2002, the most recent sampling events, analytical data indicate the presence of volatile organic compounds, semi-volatile organic compounds and metals at levels that are above the DNR Ch. NR 140 Wis. Adm. Code Enforcement Standards (ES). These standards are similar, if not exactly equivalent to the Federal Drinking Water Standards for most compounds. The following is a summary of contaminants that have exceeded the ES in one or more monitoring wells at the site during the March and/or June 2002 sampling periods (Reference 16):

VOCs

Benzene	Chloroform
Carbon Tetrachloride	1,1-Dichloroethene
cis-1,2-Dichloroethene	trans-1,2-Dichloroethene
Tetrachloroethene	1,1,2-Trichloroethane
Trichloroethene	Vinyl Chloride
Methylene Chloride	Trichloroethane

SVOCs

Benzo(a)Pyrene
Benzo(b)Flouranthene
Chrysene
Naphthalene

Metals

Lead
Mercury
Arsenic
Chromium

A groundwater analytical sample profile for the site during the March and June sampling period is shown in Tables 1 and 2 (Reference 16). An historical summary of groundwater monitoring results is shown in Table 3 (Reference 16).

Soils

Trichloroethene concentrations at the site ranged from 280,000 to 850,000 µg/kg at depths between 10 and 20 feet BGS - primarily at B11, B12, B15, B16 and MW-4A. The breakdown products cis, 1,2-dichloroethene and vinyl chloride were highest in these borings as well. Reports by Miller indicate that these levels are indicative of residual trichlorethene free product.

Petroleum contamination is commingled with the TCE near B11 and the petroleum contamination increases to the west of B11. The highest petroleum contamination (benzene at 870 µg/kg) was found in the area of a former underground storage tank. Metals (arsenic, cadmium, chromium and lead) were detected in shallow samples at B11, B14 and B17 through B20 at levels that exceed Wisconsin's non-industrial Residual Contaminant Level (RCL) as defined in s. NR 720.07, Wis. Admin. Code.

Samples tested for PAH's include samples B18-2, B19-1, B20-2, S1-tank and S3-tank. Naphthalene was found at 10,000 µg/kg, 1 and 2-methylnaphthalene at 54,000 and 68,000 µg/kg and phenanthrene was found at 22,000 µg/kg. Each of these compounds were at levels that are above the RCL for the groundwater pathway and phenanthrene was also above the guidance RCL for direct contact.

The following is a summary of contaminants that have exceeded the RCL's in one or more borings at the site from January 1997 through March 2002 (Reference 16):

VOCs

Benzene
Toluene
Naphthalene
Ethylbenzene
Xylene

SVOCs

Benzo(a)pyrene

Metals

Arsenic
Cadmium
Chromium
Lead

A soil sample analytical profile for the site from January 1997 through March 2002 is shown in Tables 4 and 5 (Reference 16).

3.0 GROUNDWATER PATHWAY AND ENVIRONMENTAL HAZARD ASSESSMENT

3.1 Geology and Groundwater Conditions

The site is located near the south end of Lake Winnebago (within two miles) and adjacent to the East Branch of the Fond du Lac River. Glacial drift as much as 100 feet thick or more exists in the area. The Quic Frez site lies near the western margin of the pre-glacial Fox River Valley. Bedrock likely lies between 50 and 100 feet deep at the site. Bedrock in the area typically is overlain by 40 to 60 feet of brown to blue-grey clay and silt with much gravel and cobbles (Horicon Formation). A red-brown clay and silt of the Kewaunee Formation (Kirby Lake Member) overlies the Horicon Formation and varies from 20 to 50 feet thick. Groundwater in the area is generally obtained from the Cambrian-Ordovician sandstone and dolomite units that are hydraulically connected and are called the sandstone aquifer found below the glacial undifferentiated soils above.

Shallow groundwater within the glacial drift is found between 4 to 6 feet below groundsurface and probably flows to the north towards the East Branch of the Fond du Lac River. Shallow groundwater in the entire area is locally influenced by natural and man-made structures (rivers and sewers). Horizontal groundwater gradients are flat. Vertical groundwater gradients are large measuring from 60 to 120% in a negative direction (downward) (Reference 14).

3.2 Hazardous Substance Releases

Significant levels of chlorinated solvents were detected in all borings performed at the site – as high as 850,000 µg/kg TCE in soil. Solvent and petroleum contamination were detected in soil and groundwater samples throughout the site area. Polynuclear Aromatic Hydrocarbons (PAHs) plus other semi-volatiles and metals were detected in shallow fill materials such as cinders that covered much

of the site. Groundwater samples indicated high levels of dissolved TCE, cis-1,2-dichloroethene (cis-DCE), and vinyl chloride in several monitoring wells.

Contamination of private or municipal wells is not expected since the city and local residents rely on deeper sandstone aquifers for water supplies. Figure 6 shows the location of all local municipal water supplies.

Based on the latest population estimates, approximately 49,879 individuals live within a four-mile radius of the site (Appendix C). Up to 12, 896 individuals live within one mile of the site and up to 5, 232 individuals live within 1/2 mile of the site (Reference 2). The municipal wells are sampled under a state required monitoring program. While some municipal well test results indicate that minor amounts of VOCs have been detected in the water, none of the detections can be directly attributed to the Quic Frez site.

4.3 Groundwater Conclusions

Analytical results from samples collected from groundwater monitoring wells indicate hazardous substances appear to have leaked from the site. No other sources for the identified hazardous substances have been identified. Public wells located in the area have not been adversely affected by any of the contaminants associated with the site and therefore are not believed to be at risk.

4.0 SURFACE WATER PATHWAY AND ENVIRONMENTAL HAZARD ASSESSMENT

4.1 Hydrologic Setting

Based on a visual inspection of the site on October 9, 2003 (post-building removal) the overall site topography is relatively flat. However, a geologic cross section prepared for a "Remedial Action Options Report" by Miller Engineers & Scientists indicates that the property has a slight slope toward the East Branch of the Fond du Lac River as shown on Figure 7(Reference 14). The north, northwest, west and southwest edges of the property slopes steeply toward the East Branch of the Fond du Lac River.

In February 2002 an oil discharge on the Fond du Lac River was reported by the City of Fond du Lac (to the DNR). An on-site UST was determined to be the source of the discharge. The U.S. EPA and START assembled at the site for the purpose of containing the petroleum discharge and removing the source (Reference 9).

4.2 Surface Water Conclusions.

Although none of the surface water bodies have been sampled, there is little or no indication of a continuing release to them so they are not considered to be at risk. An observed release from the site to surface water was contained so surface water targets or sensitive environments are not believed to be at risk.

5.0 SOIL EXPOSURE AND AIR PATHWAY ASSESSMENT

5.1 Soil Exposure

Most of the soils found in this area consist of sand, silty sand and gravel derived from glacial end moraines and unpitted outwash deposits. The majority of highly contaminated surface soils have been removed from the site and properly disposed so there is no longer a direct threat to human health or the environment from surface soils. Deeper soils are still contaminated by VOCs, SVOCs, and metals. Methods to remediate the remaining contamination and a monitoring program are being discussed at the moment and will be funded by the WDNR.

The site is accessible to vehicular traffic from the end of Oak Place and there are no fences around the property. Foot traffic along a former railway spur/now bike or walking path is discouraged by the posting of placards at both ends of the walking path stating, "WARNING Possible Chemical Hazard". Since severely contaminated soils have been removed, direct contact problems are not a concern at this time.

5.2 Air Pathway

Ambient air sampling has not been conducted at the site. Air sampling during excavation of soils by START was performed during the excavation of soils for safety purposes. START used a flame ionization detector (FID) to conduct air monitoring around while test pits were dug and to monitoring head spaces during soil sampling. Air monitoring readings only ranged from 13 to 17 parts per million above background.

5.3 Soil Exposure and Air Pathway Conclusions

Severely contaminated soils have been removed and replaced by low permeability clay soils. Contaminated soils were taken to an approved landfill for disposal. Ambient air samples taken during numerous excavations at the site and during soil sampling exceeded background by 13 to 17 parts per million. No post remediation air sampling has been performed at the site but given the fact that excavated soils have been replaced by clean clay soils, direct soil exposure and air pathways are not consider to be at risk.

6.0 SUMMARY AND CONCLUSIONS

The Quick Frez site has been remediated according to federal guidelines for contaminated surface soils by excavation and replacement. On-site soils at depth and groundwater still exceed WDNR Administrative Code levels. Remediation of the remaining contamination and long term monitoring are being addressed through WDNR Remediation & Redevelopment funding programs.

APPENDIX A

Site Photographs 1 Through 8

Photo #1 - Facing Approximately West

Shows area of former retaining wall and newly placed riprap.

Photo #2 - Facing Approximately Southwest

Shows cleared area after all buildings were razed.

Photo #3 - Facing Approximately Northeast

Shows former rail spur, Western Avenue Bridge north of the property, north end of (closed) bike path/walking path and monitoring well nest MW-6.

Photo #4 - Facing Approximately Southeast

Shows approximately 18 - 55 gallon barrels of drill cuttings from underground storage tank investigation and park bench that was removed when bike path/walking path was closed.

Photo #5 - Facing Approximately Southeast

Looking southeast from the north side of the East Branch of the Fond du Lac River where former collapsed retaining wall was replace by riprap.

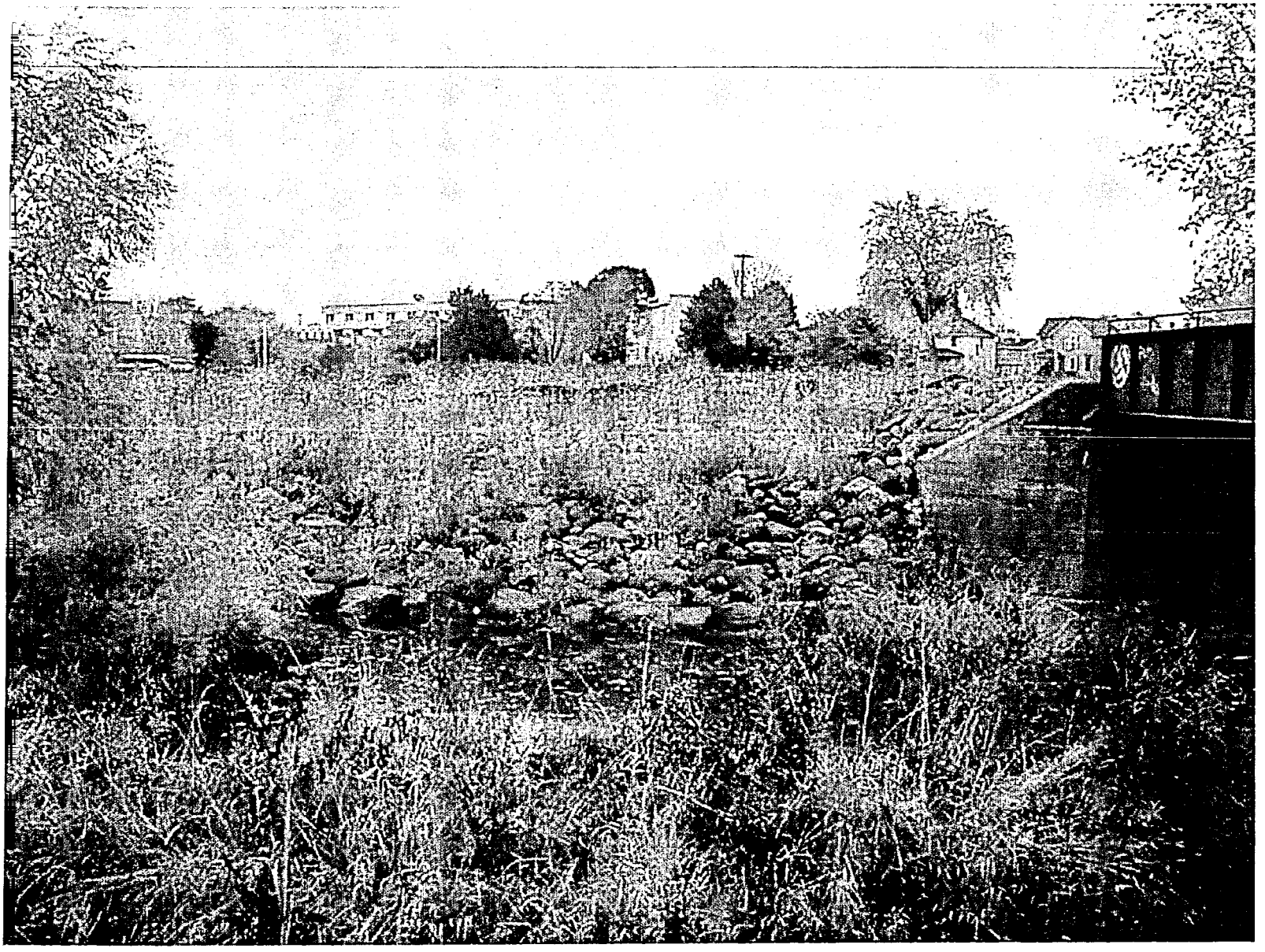


Photo #6 - Facing Approximately East

Looking east at the former rail spur bridge (now part of the closed bike/walking path) on the southwest side of the property. Also shows entire cleared property area in background.

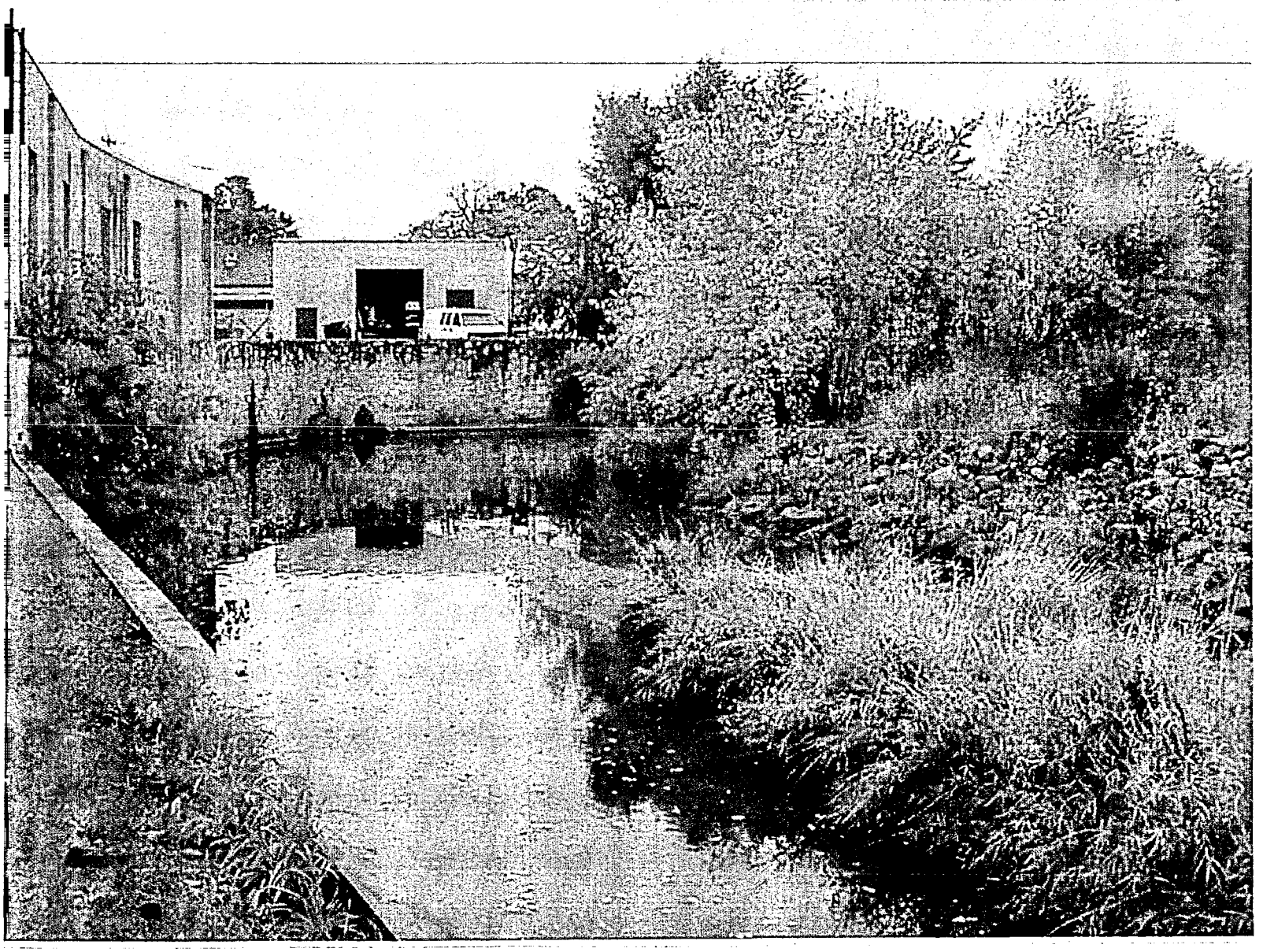


Photo #7 - Facing Approximately Northwest

Looking northwest from the southwest side of the East Branch of the Fond du Lac River showing existing retaining wall on one side and start of riprapped area on the west side of the property.

Photo #8 - Facing Approximately East

Looking from the west side of the East Branch of the Fond du Lac River showing the entire cleared area of the property and riprap area.

APPENDIX B

Boring Logs and Well Construction Logs

Post-it® Fax Note 7671	Date 11-14-03	# of pages ▶ 1
To Mike Netzer	From Jennie P	
Co./Dept.	Co.	
Phone #	Phone #	
Fax #	Fax #	

SUBJECT

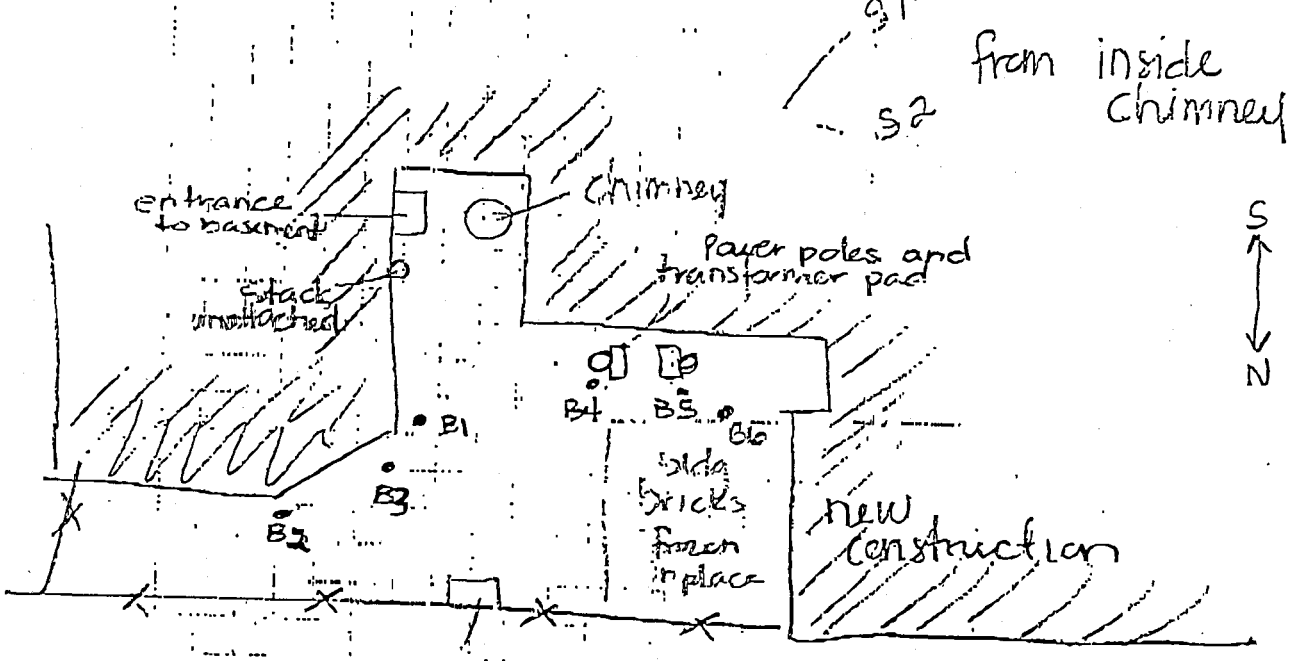
CLIENT

PROJECT Quicfrez

PAGE

BY

CHECKED BY



	feet	Descr.
B1-1	2-4	clay 18"
B1-2	4-6	clay 6"
B1-3	6-8	clay 20" wet
B1-4	8-10	clay 12" wet, sandy gravel top

B1 bail water

	feet		
B2-1	2-4	topsoil	6"
B2-2	4-6	clay	12"
B2-3	6-8	clay/fill	2"
B2-4	8-10	clay/fill	4" odor

B3-1	2-4	top/clay	15"
B3-2	4-6	clay	12" odor
B3-3	6-8	clay/gravel	10" odor wet
B3-4	8-10	clay	10" wet

B3 bail water

B4-1	2-4	topsoil 4", clay 12"	> 16"
B5-1	2-4	topsoil 4", clay 16"	> 20"

B6-1	2-4	topsoil 2", clay 18")	
B6-2	4-6	clay	18
B6-3	6-8	clay, sandy clay	11" 3"
B6-4	8-10		

GW B6 liquid water

* Note: these are the only existing boring logs for B-1 through B-6.

MJN 11/15/03

MILLER

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former QuicFrez		B7

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike McArdle M&K Env. Drilling	7/7/1999	7/7/1999	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5											
1 SS	24 15	13	3.0	LEAN CLAY - moist, stiff, reddish brown.	CL			0						
			4.5											
2 SS	24 20	22	6.0	...very stiff.				0						
			7.5	NOTES: 1) End of sampling at 8 feet. 2) Boring backfilled with bentonite upon completion.										

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

Signature	Firm	Tel: 1-800-969-7013
Kristi K. Gallagher	Miller Engineers & Scientists 5308 South Twelfth Sheboygan, WI 53081	Fax: 1-920-458-0369

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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former QuicFrez		B8

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike McArdle M&K Env. Drilling	7/7/1999	7/7/1999	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 12	6	1.5 – 3.0	LEAN CLAY WITH SAND - moist, soft, brown.	CL			2						
2 SS	24 7	7	4.5 – 6.0	...stiff.										
			7.5	NOTES: 1) End of sampling at 8 feet. 2) Boring backfilled with bentonite upon completion.										

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

Signature: Kristi K Gallagher
Firm: Miller Engineers & Scientists
5308 South Twelfth Sheboygan, WI 53081
Tel: 1-800-969-7013
Fax: 1-920-458-0369

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former QuicFrez		B9

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike McArdle M&K Env. Drilling	7/7/1999	7/7/1999	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 8	9	1.5 3.0	LEAN CLAY - moist, stiff, reddish brown.				5						
2 SS	24 15	7	4.5 6.0	...wet, brown.	CL			30						
3 SS	24 6	31	7.5 9.0	...pounded on rock, solvent odor.				500						
				NOTES: 1) End of sampling at 9.5 feet. 2) Boring backfilled with bentonite upon completion.										

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

Signature	Firm	Tel:
Kristi Kellogg	Miller Engineers & Scientists 5308 South Twelfth Sheboygan, WI 53081	1-800-969-7013 Fax: 1-920-458-0369

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Former QuicFrez		B10

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike McArdle M&K Env. Drilling	7/7/1999	7/7/1999	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5											
1 SS	24 14	12	3.0	FILL:LEAN CLAY - moist, soft, dark brown.	CL			0						
			4.5	FILL:SILTY GRAVEL WITH SAND - moist, dark brown.	GM									
2 SS	24 15	6	6.0	FILL:LEAN CLAY - wet, soft, dark brown.	CL			120						
			7.5											
3 SS	24 20	7		LEAN CLAY - wet, stiff, reddish brown.	CL			2						
			9.0											
				NOTES: 1) End of sampling at 9.5 feet. 2) Boring backfilled with bentonite upon completion.										

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

Signature	Firm	Tel:
Kristy K Gallagher	Miller Engineers & Scientists 5308 South Twelfth Sheboygan, WI 53081	1-800-969-70 Fax: 1-920-458-03

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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B11

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mc Ardle M&K Environmental Drilling	12/12/2001	12/12/2001	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	755.9 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 18	19		POORLY GRADED GRAVEL - damp.	GP			5		19.1				
			2	FILL: BLACK ASH AND CINDERS - damp, black, petroleum odor.										
2 SS	24 12	8		TOPSOIL - sandy, damp, dark brown.				5		26.1				
			4	FILL: SANDY LEAN CLAY - moist, reddish brown.	CL									
3 SS	24 12	8		LEAN CLAY - moist, red.	GP			5		26.8				
			6	POORLY GRADED GRAVEL - moist.										
4 SS	24 8	9		LEAN CLAY - moist, red.				700		32.5				
				...brown.										
5 SS	24 21	9	8	...strong odor.				1,000		29.5				
				...red, with roots and gray silt filled fissures, moderate odor.										
6 SS	24 24	28	10		CL			2,000		24.1				
			12											
7 SS	24 24	29		...brown, slight odor.				1,500		20.3	45	26.3		
			14											
8 SS	24	27	16					1,500		25.5				
			18	NOTES: 1) End of sampling at 18 feet. 2) Temporary well installed. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B12

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mc Ardle M&K Environmental Drilling	12/12/2001	12/12/2001	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	756.3 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 18	16	1.5	POORLY GRADED GRAVEL - damp. FILL: CINDERS - damp, black.				0		20.5				
2 SS	24 12	7	3.0	FILL: SANDY LEAN CLAY - damp.				10		23				
3 SS	24 0	10	4.5	NO RECOVERY						33.9				
4 SS	24 6	5	6.0 7.5	FILL: LOOSE FINE GRAVEL - wet. ...strong odor.				10		25.5				
5 SS	24 21	12	9.0	LEAN CLAY - moist, red, slight odor.				800						
6 SS	24 24	23	10.5 12.0		CL			4,100		26.5				
7 SS	24 24	25	13.5					2,500		25.3				
			15.0	NOTES: 1) End of sampling at 15 feet. 2) Temporary well installed. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	Tel: 920-954-9100
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Fax: 920-954-8720

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B13

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mc Ardle M&K Environmental Drilling	12/12/2001	12/12/2001	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	755.6 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 8	3	1.5	FILL: CLAY - damp, red. FILL: SAND, CINDERS, GRAVEL FILL - damp.				25		30.1				
2 SS	24 12	2	3.0	...wet.				5		47.1				
3 SS	24 12	2	4.5					5		34.5				
4 SS	24 15	2	6.0					10		38.3				
5 SS	24 18	12	7.5	SANDY LEAN CLAY - wet, brown, slight odor.	CL			20		31.6				
6 SS	24	24	9.0	LEAN CLAY - wet, red, no odor.				35		26.5				
7 SS	24	24	10.5		CL			10		24.6				
			12.0											
			13.5											
			15.0	NOTES: 1) End of sampling at 15 feet. 2) Temporary well installed. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-910 Fax: 920-954-872

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B14

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike Mc Ardle M&K Environmental Drilling	12/12/2001	12/12/2001	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	N/A Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 18	11	1.5	FILL: CINDERS - black.				5		19.2				
2 SS	24 12	13	3.0	LEAN CLAY ...dark reddish brown clay with roots.	CL			5		22.8				
3 SS	24 2	35/2"	4.5	FILL: CINDERS, SAND.				5		21.9				
			6.0	...encountered metal object.										
				NOTES: 1) Auger refusal and end of sampling at 6 feet. 2) Boring backfilled with bentonite upon completion. 3) Second boring attempted 5' to the east; refusal again encountered at 6 feet: boring backfilled with bentonite.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-910(Fax: 920-954-872(

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B15

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tim M&K Env. Drilling	12/27/2001	12/27/2001	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	N/A Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				Surface composed of 8" concrete followed by 14" of gravel.										
1 SS	24 12	10	2.5	FILL: POORLY GRADED SAND - dry, tan.				2,000						
2 SS	24 18	23	5.0	FILL: CINDERS - wet, black.				600						
3 SS	24 24	38	7.5	LEAN CLAY - red.	CL			400						
4 SS	24 24	33						1,800						
5 SS	24 24	35	10.0					4,000						
6 SS	24 24	36	12.5	FAT CLAY - red.	CH			5,000						
7 SS	24 24	25	15.0		CH			10,000			51.7	31		
8 SS	24 24	27	17.5		CH			1,000						
9 SS	24 24	35	20.0	LEAN CLAY - red.	CL			500			46	28.8		
10 SS	24	50/0"	22.5	SILTY CLAY - brown. NO RECOVERY	CL-ML									
			25.0	NOTES: 1) Auger refusal and end of sampling at 25 feet. 2) Set 1" temporary well at 25 feet. 3) Concrete surface lies approximately 3 feet below grade.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-910 Fax: 920-954-872

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B16

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tim M&K Env. Drilling	12/27/2001	12/27/2001	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	N/A Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 15	20	0	Surface composed of 8" concrete followed by 4" coarse fill.				10						
			2.5	FILL: POORLY GRADED SAND	CL									
2 SS	24 15	24		LEAN CLAY - red.	CL			20						
			5.0	...1" seam of sand.	SP									
3 SS	24 24	31		SANDY LEAN CLAY	GP			100						
				POORLY GRADED SAND	CL									
			7.5	POORLY GRADED GRAVEL										
4 SS	24 20	27		LEAN CLAY - red.	CL			600						
5 SS	24 24	30	10.0	...wet, silt pockets, slight odor.	CL			600						
			12.5	FAT CLAY - red, moderate odor.	CH									
6 SS	24 24	39			CH			100						
7 SS	24 24	34	15.0	LEAN CLAY - wet, red.	CL			15						
8 SS	24 24	38	17.5	FAT CLAY - wet, brown.	CH			12			50.5	29.6		
9 SS	24 24	31	20.0		CH			10						
			22.5		CH									
10 SS	24 24	44		SANDY LEAN CLAY - wet, gray.	CL			5						
				POORLY GRADED SAND WITH	SP									
11 SS	24 24	31	25.0	GRAVEL - wet, tan.				15						
				SILTY CLAY WITH GRAVEL - wet, gray.	CL-ML									
			27.5	NO RECOVERY										
12 SS	2 2	50/2"	30.0	NOTES: 1) Auger refusal and end of sampling at 30.2 feet. 2) 1" temporary well set at 30 feet. 3) Concrete surface lies approximately 3 feet below grade.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B17

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tim M&K Env. Drilling	12/27/2001	12/27/2001	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				Surface composed of grass.										
1 SS	24 12	28		FILL: LEAN CLAY - red, slight odor.				5						
			2.5	FILL: CINDERS - black, slight odor.										
2 SS	24 15	21						10						
3 SS	24 12	50	5.0	FILL: GRAVEL AND SAND - slight odor.				15						
4 SS	24 12	21	7.5	LEAN CLAY WITH SAND - red, slight odor.	CL			10						
5 SS	24 24	37	10.0	LEAN CLAY - moist, red.	CL			10						
6 SS	24 18	35	12.5	FAT CLAY - wet, red.	CH			5						
7 SS	24 24	31	15.0		CH			5						
8 SS	24 24	29	17.5		CH			15						
9 SS	24 12	27	20.0	...brown.	CH			15						
10 SS	24 24	29	22.5		CH			30			53.3	32.4		
11 SS	24 24	21	25.0		CH			50						
12 SS	24 0	31	27.5	...dark brown. NO RECOVERY										
				NOTES: 1) End of sampling at 29.5 feet. 2) 1" temporary well set at 29 feet.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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State of Wisconsin
Department of Natural Resources

Form 4400-122 Rev. 7-98

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B18

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/21/2002	2/21/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	758.6 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 6	11		TOPSOIL				40		31.12				
2 SS	24 12	6	3					25		25.29				
3 SS	24 12	7		FILL: WOOD				30		30.93				
4 SS	24 18	7	6	TOPSOIL LEAN CLAY - damp, red.	CL CL			15		25.3				
5 SS	24 12	7	9	SANDY LEAN CLAY - moist.	CL			10		23.99				
6 SS	24 18	6		...wet, with gravel.	CL			15		23.05				
7 SS	24 18	17	12	FAT CLAY- wet, red.	CH			12		23.57				
8 SS	24 24	18	15		CH			8		20.02				
9 SS	24 18	20			CH			12		21.45				
10 SS	24 24	15	18		CH			12		22.1				
11 SS	24 24	12	21		CH			12		25.37				
12 SS	24 3	15			CH			12		25.13				
13 SS	24 15	17	24	...brown, with gravel.	CH			30		28.03				
14 SS	24 3	16	27		CH			20		22.27				
15 SS	24	18		SILTY CLAY WITH GRAVEL - wet, gray.	CL-ML			25		27.93				
16 SS	24 21	10	30		CL-ML			20		24.81				
				NOTES: 1) End of sampling at 32 feet. 2) Boring backfilled with bentonite upon completion.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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State of Wisconsin
Department of Natural Resources

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B19

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/25/2002	2/25/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	757.4 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 15	12		FILL: CLAY - damp, brown.				0		40.36				
				FILL: CINDERS - damp.										
2 SS	24 12	9	2.5	FILL: CLAY - damp, brown.				0		32.99				
				FILL: CINDERS - damp.										
3 SS	24 8	6	5.0	FILL: SAND, GRAVEL, AND CINDERS - moist.				3		21.85				
4 SS	24 6	12	7.5	FILL: CINDERS - moist.				1		23.62				
				LEAN CLAY - moist, red.	CL									
5 SS	24 6	15	10.0	SANDY LEAN CLAY - wet, brown.	CL			0		25.45				
6 SS	24 14	16	12.5	LEAN CLAY - moist.	CL			0		22.01				
7 SS	24 5	14	15.0		CL			0		22.42				
8 SS	24 18	13	17.5		CL			10		23.49				
9 SS	24 24	10	20.0	FAT CLAY - moist, brown.	CH			50		24.99				
10 SS	24 24	12	22.5		CH			100		27.8				
11 SS	24 24	14	25.0		CH			70		27.27				
12 SS	24 22	17	27.5	LEAN CLAY - moist, red.	CL			90		9.7				
				...with gravel, gray.	CL									
				NOTES: 1) End of sampling at 29.5 feet. 2) Boring backfilled with bentonite upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-910 Fax: 920-954-872

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State of Wisconsin
Department of Natural Resources

Form 4400-122 Rev. 7-98

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B20

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/1/2002	3/1/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	758.4 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 4	12	0.5 1.0 1.5 2.0	FILL: TOPSOIL				2						
2 SS	24 12	N/A	2.5 3.0 3.5 4.0	FILL: CINDERS				3						
3 SS	24 15	21	4.5 5.0 5.5 6.0	...strong odor.				20						
				NOTES: 1) End of sampling at 6 feet. 2) Boring backfilled with bentonite upon completion.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-910(Fax: 920-954-872(

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State of Wisconsin
Department of Natural Resources

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B21

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/1/2002	3/1/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 12	15	0.5 1.0 1.5	FILL: TOPSOIL				1						
			2.0	FILL: GRAVEL										
2 SS	24 8	13	2.5 3.0 3.5	LEAN CLAY - red.	CL			2						
3 SS	24 9	13	4.0 4.5 5.0 5.5		CL			2						
			6.0	NOTES: 1) End of sampling at 6 feet. 2) Boring backfilled with bentonite upon completion.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B22

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/4/2002	3/4/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	757.5 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 8	13		FILL: GRAVEL				2						
2 SS	24 4	12	2.5	FILL: LEAN CLAY - red.				0						
3 SS	24 10	19	5.0	FILL: GRAVEL				0						
4 SS	24 2	18	7.5	FILL: BURIED TOPSOIL LEAN CLAY - red.	CL CL			0						
5 SS	24 2	23	10.0		CL			0						
6 SS	24 24	16	12.5	FAT CLAY - red.	CH			0						
7 SS	24 15	19	15.0		CH			0						
8 SS	24 18	17	17.5		CH			0						
9 SS	24 18	16	20.0	...brown.	CH			0						
10 SS	24 4	23	22.5		CH			0						
11 SS	24 18	16	25.0		CH			0						
12 SS	24 18	13	27.5		CH			0						
				SILT - gray.	ML									
				NOTES: 1) End of sampling at 29.5 feet. 2) Set 1" temporary well at 30 feet. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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State of Wisconsin
Department of Natural Resources

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B23

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/4/2002	3/4/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	756.6 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 10	6	2	FILL: GRAVEL, TOPSOIL, SAND - damp.				2						
2 SS	24 3	5	4	LEAN CLAY - moist, red.	CL			1						
3 SS	24 15	4	6	...wet.	CL			5						
4 SS	24 18	9	8	...moist, mottled.	CL			3						
5 SS	24 14	10	10		CL			3						
6 SS	24 15	13	12	...sand pocket at 13'.	CL			3						
7 SS	24 18	17	14		CL			3						
8 SS	24 24	10	16		CL			3						
			18											
			20	NOTES: 1) End of sampling at 20 feet. 2) Set 1" temporary well at 20 feet. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

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Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B24

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/4/2002	3/4/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	754.2 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 9	3	1.5	FILL: BROWN CLAY WITH SAND - damp.				0						
2 SS	24 15	9	3.0	FILL: SAND AND GRAVEL - wet.										
3 SS	24 6	10	4.5	FILL: CLAY - wet.				0						
			6.0	FILL: GRAVEL - wet.										
4 SS	24 12	14	7.5	LEAN CLAY - wet, red.	CL			0						
			9.0											
5 SS	24 12	11	10.5	FAT CLAY - wet, layered red and brown.	CH			1						
			12.0		CH									
6 SS	24 12	12	13.5		CH			0						
			15.0	NOTES: 1) End of sampling at 15 feet. 2) Set 1" temporary well at 15 feet. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

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Department of Natural Resources

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B25

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/4/2002	3/4/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	754.3 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 18	7		LEAN CLAY - damp, red. ...3" layer of buried topsoil at 1'.	CL			0						
2 SS	24 6	8	2.5	...moist.	CL			0						
3 SS	24 18	7	5.0	...mottled.	CL			0						
4 SS	24 4	13	7.5	...with gravel.	CL			0						
5 SS	24 15	17	10.0	...brown.	CL			0						
6 SS	24 18	10	12.5	FAT CLAY WITH GRAVEL - wet, brown.	CH			0						
7 SS	24 15	12	15.0	...layered red and brown fat clay.	CH			0						
8 SS	24	15	17.5	...brown.	CH			0						
9 SS	24 18	14	20.0	...with gravel.	CH			0						
10 SS	24 24	12	22.5		CH			0						
11 SS	24 24	7	25.0	...red.	CH			0						
				...gray.	CH									
				NOTES: 1) End of sampling at 27 feet. 2) Set 1" temporary well at 27 feet. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B26

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/5/2002	3/5/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	758.7 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 18	12	2	FILL: GRAVEL, ORGANICS, CINDERS.				5						
2 SS	24 NR	10	4	NO RECOVERY										
3 SS	24 NR	6	6											
4 SS	24 8	10	8	SANDY LEAN CLAY	CL			10						
5 SS	24 8	10	10	...3" poorly graded sand and gravel seam at 11 feet.	CL			10						
6 SS	24 21	18	12 14	FAT CLAY - red.	CH			10						
7 SS	24 15	16	16	...brown.	CH			10						
8 SS	24 24	26	18 20		CH			10						
				NOTES: 1) End of sampling at 20 feet. 2) Set 1" temporary well at 20 feet. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-910(Fax: 920-954-872(

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Remediation/Redevelopment ☒ Other ☐

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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B27

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/5/2002	3/5/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	758.9 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 8	19		FILL: GRAVEL AND CINDERS - moist.				0						
2 SS	24 6	6	2.5	FILL: SAND AND CINDERS - moist.				5						
3 SS	24 3	50/4"	5.0	FILL: GRAVEL AND WOOD CHUNKS - moist.				5						
4 SS	24 NR	15	7.5	NO RECOVERY										
5 SS	24 4	6	10.0	FILL: SAND AND GRAVEL - wet, moderate odor.				20						
6 SS	24 18	11	12.5	FILL: CLAY WITH GRAVEL - wet, strong odor.				250						
7 SS	24 12	15	15.0	FILL: LAYERS OF WOOD - wet, strong odor.	CH			150						
8 SS	24 20	16	17.5	FAT CLAY - wet, red, moderate odor.	CH			20						
9 SS	24 24	11	20.0	layered red and brown fat clay.	CH			70						
10 SS	24 24	13	22.5		CH			70						
11 SS	24 24	8	25.0		CH			40						
12 SS	24 24	12	27.5		CH			40						
			30.0	NOTES: 1) End of sampling at 30 feet. 2) Set 1" temporary well at 30 feet. 3)Boring backfilled with bentonite after sampling.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

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State of Wisconsin
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Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B28

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/5/2002	3/5/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	754.4 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 15	16		FILL: GRAVEL, CLAY, BLACK SAND AND CINDERS				0						
2 SS	24 15	14	2.5	FILL: SANDY CLAY AND BURIED TOPSOIL				1						
3 SS	24 5	7	5.0	FILL: SANDY CLAY				15						
4 SS	24 10	17	7.5	FILL: BLACK SAND, LEAN CLAY, GRAVEL - wet.				10						
5 SS	24 15	11	10.0	LEAN CLAY - red.	CL			80						
6 SS	24 12	12	12.5	FAT CLAY - gravelly, wet, red.	CH			60						
7 SS	24 18	12	15.0	...brown.	CH			30						
8 SS	24 24	8	17.5		CH			20						
9 SS	24 24	10	20.0		CH			15						
10 SS	24 8	10	22.5	LEAN CLAY - gray.	CL CL			20						
			25.0	NOTES: 1) End of sampling at 24.5 feet. 2) Set 1" temporary well at 24.5 feet. 3) Boring backfilled with bentonite after sampling.										
			27.5											
			30.0											

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-910 Fax: 920-954-872

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State of Wisconsin
Department of Natural Resources

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B29

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/6/2002	3/6/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	757.3 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E

Lat ° ' "
Long ° ' "

Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 12	6		FILL: GRAVEL, TOPSOIL, CINDERS, SAND AND GRAVEL - moist.				0						
2 SS	24 1	10	2.5	FILL: GRAVEL - damp.				10						
3 SS	24 1	6	5.0	FILL: CLAY - damp, brown.				15						
4 SS	24 8	9	7.5	FILL: SANDY CLAY AND CLAY WITH SAND AND GRAVEL POCKETS - moist.				15						
5 SS	24 12	5	10.0	...cinders.				15						
6 SS	24 8	13	12.5	LEAN CLAY - moist, red.	CL			5						
7 SS	24 15	12	15.0	FAT CLAY - moist, red.	CH			5						
8 SS	24 15	10	17.5		CH			15						
9 SS	24 18	10	20.0	...damp.	CH			15						
10 SS	24 18	12	22.5		CH			15						
				POORLY GRADED SAND - gray.	SP									
				POORLY GRADED GRAVEL - gray.	GP									
11 SS	24 15	15	25.0	SILT - gray.	ML			15						
				SILTY CLAY - gray.	CL-ML									
				NOTES: 1) End of sampling at 24.5 feet. 2) Set temporary well at 24.5 feet. 3) Boring backfilled with bentonite after sampling.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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SOIL BORING LOG INFORMATION
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Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		B30

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/6/2002	3/6/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	757.1 Feet MSL	5.3 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 12	9		FILL: GRAVEL, TOPSOIL AND CINDERS - moist.				0						
2 SS	24 8	5	2.5	FILL: GRAVEL, CLAY AND SAND - moist.				0						
3 SS	24 6	3	5.0	FILL: SANDY CLAY AND TOPSOIL - wet.				2						
4 SS	24 15	3	7.5	SANDY LEAN CLAY - wet.	CL			150						
5 SS	24 15	4	10.0	LEAN CLAY - wet, red.	CL			50						
6 SS	24 6	15	12.5		CL			15						
7 SS	24 15	14	15.0	FAT CLAY - wet, brown. ...gravelly.	CH			15						
8 SS	24 24	13	17.5	...brown.	CH			15						
9 SS	24 12	14	20.0		CH			25						
10 SS	24 21	16	22.5		CH			30						
11 SS	24 12	25	25.0	LEAN CLAY - gray. SILTY LEAN CLAY - gray.	CL CL-ML			15						
				NOTES: 1) End of sampling at 27 feet. 2) Set temporary well at 27 feet. 3) Boring backfilled with bentonite after sampling.										

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

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	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-910 Fax: 920-954-872

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Department of Natural Resources

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike McArdle M&K Env. Drilling	7/7/1999	7/7/1999	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	JZ752	MW1	Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐ — Local Grid Location

State Plane N, E S/C/N — Lat ° ' " — ☐ N ☐ E

SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E — Long ° ' " — Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5	BLIND DRILLED TO 13.5 FEET										
			3.0											
			4.5											
			6.0											
			7.5											
			9.0											
			10.5											
			12.0											
			13.5	NOTES: 1) End of boring at 13.5 feet. 2) Monitoring Well MW1 constructed at completion.										

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

Signature	Firm		
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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

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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW1A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike McArdle M&K Env. Drilling	7/7/1999	7/7/1999	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	JZ751	MW1A	Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 10	9	2–4	FILL:LEAN CLAY - damp, stiff, reddish brown.	CL			2						
2 SS	24 14	35	6	LEAN CLAY - moist, stiff, reddish brown.				2						
3 SS	24 5	4	8	...wet, brown, solvent odor.	CL			150						
4 SS	24 0	9	10–12	...dark reddish brown.				150						
5 SS	24 20	34	14	FAT CLAY - wet, very stiff, reddish brown.				400						
6 SS	24 24	26	16	...slight solvent odor.				60						
7 SS	24 24	22	18	...dark brown, trace gravel.	CH			35						
8 SS	24 24	19	20–22					15						

NOTES: 1) End of boring at 23.5 feet. 2) Monitoring Well MW1A constructed at completion.

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-910(Fax: 920-954-872(

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

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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike McArdle M&K Env. Drilling	7/7/1999	7/7/1999	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	JZ754	MW2	Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5											
1 SS	24 10	7	3.0	FILL:SANDY LEAN CLAY - moist, stiff, dark brown.				0						
2 SS	24 10	3	4.5	...wet, soft, brown.	CL			2						
3 SS	24 20	4	6.0	SANDY LEAN CLAY - wet, soft, brown, with sand seams.	CL			60						
4 NR	24 0		7.5	NO RECOVERY										
5 SS	24 15	45	9.0	FAT CLAY - wet, hard, brown.	CH			15						
			10.5											
			12.0											
			13.5	NOTES: 1) End of boring at 14 feet. 2) Monitoring Well MW2 constructed at completion.										

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

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Mike McArdle M&K Env. Drilling	7/7/1999	7/7/1999	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
	JZ753	MW3	Feet MSL	Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5											
1 SS	24 12	6	3.0	FILL:SANDY LEAN CLAY - wet, soft, brown.				0						
2 SS	24 4	4	4.5	...strong waste oil or fuel odor.	CL			400						
3 SS	24 12	22	6.0 7.5	LEAN CLAY - wet, very stiff, reddish brown, trace gravel.				8						
4 SS	24 20	26	9.0 10.5	...brown.	CL			25						
			12.0											

NOTES: 1) End of boring at 13.5 feet. 2) Monitoring Well MW3 constructed at completion.

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Craig Environmental Drilling Service	2/22/2002	2/22/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW4	Feet MSL	756.3 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ___° ___' ___"
Long ___° ___' ___"
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5	Blind drilled MW4 to a depth of 15 feet near MW4A.										
			3.0											
			4.5											
			6.0											
			7.5											
			9.0											
			10.5											
			12.0											
			13.5											
			15.0	NOTES: 1) End of boring at 15 feet. 2) Monitoring Well MW4 constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW4A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/21/2002	2/21/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD825		MW4A	Feet MSL	756.3 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	180		0	Blind drilled to 15 feet.										
			2.5											
			5.0											
			7.5											
			10.0											
			12.5											
2 SS	24 24	12	15.0	FAT CLAY - red.	CH			2000		23.89				
3 SS	24 12	25	17.5		CH			1200		26.6				
4 SS	24 18	10	20.0		CH			900		23.29				
5 SS	24 15	14	22.5	LEAN CLAY -red.	CL			1200		26.38				
6 SS	24 20	13	25.0		CL			850		10.97				
				SILT WITH CLAY - gray.	ML									
7 SS	24 12	28	27.5	LEAN CLAY - red.	ML CL			1000		17.12				
			30.0	NOTES: 1) End of boring at 30 feet. 2) Monitoring Well MW4A constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW6

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/22/2002	2/22/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD829		MW6	Feet MSL	758.0 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5 3.0 4.5 6.0 7.5 9.0 10.5 12.0 13.5 15.0	Blind drilled MW6 to a depth of 15 feet near MW6A. NOTES: 1) End of boring at 15 feet. 2) Monitoring Well MW6 constructed upon completion.										

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

Signature	Firm		
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW5

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Craig Environmental Drilling Service	2/22/2002	2/22/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW5	Feet MSL	756.8 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W.

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5	Blind drilled MW5 to a depth of 15 feet.										
			3.0											
			4.5											
			6.0											
			7.5											
			9.0											
			10.5											
			12.0											
			13.5											
			15.0	NOTES: 1) End of boring at 15 feet. 2) Monitoring Well MW5 constructed upon completion.										

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

Signature	Firm	
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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SOIL BORING LOG INFORMATION
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Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW5A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Craig Environmental Drilling Service	2/22/2002	2/22/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW5A	Feet MSL	756.6 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0	Blind drilled MW5A to a depth of 30 feet. NOTES: 1) End of boring at 30 feet. 2) Monitoring Well MW5A constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

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Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW6A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/26/2002	2/26/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD830		MW6A	Feet MSL	757.9 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 24	9		FILL: TOPSOIL AND CINDERS.				0						
2 SS	24 15	12	3	LEAN CLAY - damp, red.	CL			0						
3 SS	24 14	7	6	SANDY LEAN CLAY - moist, red.	CL			1						
4 SS	24 15	12	9	LEAN CLAY - moist, red. ...sand seam at 8.5 feet.	CL			2						
5 SS	24 14	13	12		CL			1						
6 SS	24 24	23		FAT CLAY - wet, red.	CH			3						
7 SS	24	18	15		CH			30						
8 SS	24 18	18	18		CH			35						
9 SS	24 18	16	21	...brown.	CH			70						
10 SS	24 24	13	24		CH			40						
11 SS	24 24	7	27	...gray seam at 26.5 feet.	CH			30						
12 SS	24 24	18		LEAN CLAY - brown.	CL			20						
				SILTY LEAN CLAY - dark gray.	CL-ML									
13 SS	24	10	30	SILT WITH GRAVEL - gray.	ML			3						
				NOTES: 1) End of boring at 32 feet. 2) Monitoring Well MW6A constructed upon completion.										

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

Signature	Firm		
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

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

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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW6B

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/28/2002	2/28/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD866		MW6B	Feet MSL	758.0 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	360 NR		4, 8, 12, 16, 20, 24, 28	Blind drilled MW6B to a depth of 30 feet near MW6A.										
2 SS	24 6	59	32	LEAN CLAY - damp, gray.	CL			40						
3 SS	24 4	50/5"	36, 40		CL			40						
4 SS	24 6	24	44		CL			5						
				NOTES: 1) End of boring at 45 feet. 2) Monitoring Well MW6B constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-910(Fax: 920-954-872(

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW7

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/25/2002	2/25/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD828		MW7	Feet MSL	759.8 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5 3.0 4.5 6.0 7.5 9.0 10.5 12.0 13.5 15.0	Blind drilled MW7 to a depth of 15 feet near MW7A. NOTES: 1) End of boring at 15 feet. 2) Monitoring Well MW7 constructed at completion.										

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

Signature	Firm	Tel: 920-954-9100
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Fax: 920-954-8720

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW7A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/25/2002	2/25/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD827		MW7A	Feet MSL	759.8 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 12	15	0	FILL: CLAY, SAND, AND GRAVEL - moist.				5		19.5				
2 SS	24 8	4	2.5					1		27.01				
3 SS	24 8	2	5.0					15		28.97				
4 SS	24 4	2	7.5					1		25.21				
5 SS	24 12	4	10.0	FILL: SAND AND GRAVEL - moist.				1		30.72				
6 SS	24 24	29	12.5	LEAN CLAY - moist.	CL			1		23.63				
				2" gravel seam at 13.7 feet.	CH									
7 SS	24 24	16	15.0	FAT CLAY - damp, brown.	CH			0		27.1				
				...red.										
8 SS	24 24	21	17.5	...brown.	CH			2		21.09				
9 SS	24 24		20.0		CH			3		22.29				
10 SS	24 24		22.5		CH			3		25.18				
11 SS	24 24		25.0		CH			1		29.85				
12 SS	30 22		27.5		CH			10		24.88				
				SILTY CLAY - gray.	CL-ML									
			30.0	NOTES: 1) End of boring at 30 feet. 2) Monitoring Well MW7A constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW7B

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	3/1/2002	3/1/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD		MW7B	Feet MSL	759.8 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E

Lat ° ' "
Long ° ' "

Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			4 8 12 16 20 24 28 32 36 40 44	Blind drilled MW7B to a depth of 45 feet near MW7A. NOTES: 1) End of boring at 45 feet. 2) Monitoring Well MW7B constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW8

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/28/2002	2/28/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD863		MW8	Feet MSL	755.9 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1.5	Blind drilled MW8 to a depth of 15 feet near MW8B.										
			3.0											
			4.5											
			6.0											
			7.5											
			9.0											
			10.5											
			12.0											
			13.5											
			15.0	NOTES: 1) End of boring at 15 feet. 2) Monitoring Well MW8 constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-9100 Fax: 920-954-8720

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW8A

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/28/2002	2/28/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD862		MW8A	Feet MSL	755.6 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			2.5 5.0 7.5 10.0 12.5 15.0 17.5 20.0 22.5 25.0 27.5 30.0	Blind drilled MW8A to a depth of 30 feet near MW8B. NOTES: 1) End of boring at 30 feet. 2) Monitoring Well MW8A constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-910 Fax: 920-954-872

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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW8B

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/27/2002	2/27/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD861		MW8B	Feet MSL	755.6 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 NR	4		NO RECOVERY										
2 SS	24 NR	19	4											
3 SS	24 NR	50/4"												
4 SS	24 12	2	8	FILL: SANDY CLAY				10						
5 SS	24 8	4						10						
6 SS	24 15	16	12	FAT CLAY - moist, red.	CH			5						
7 SS	24 18	14	16		CH			10						
8 SS	24 15	22			CH			5						
9 SS	24 18	17	20	SILT - wet, gray.	ML			3						
10 SS	24 15	14	24	SILTY LEAN CLAY - wet, gray.	ML CL-ML			1						
11 SS	24 NR	16		NO RECOVERY										
12 SS	24 12	22	28	...1" gravel layer at approximately 27 feet. LEAN CLAY - gray.	CL			5						
13 SS	24 NR	50/5"	32	NO RECOVERY										
14 SS	24 10	50/4"	36	LEAN CLAY WITH GRAVEL - gray.	CL									
15 SS	24 NR		40	NO RECOVERY										
			44	NOTES: 1) End of boring at 45 feet. 2) Monitoring Well MW8B constructed upon completion.										

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

Signature | Firm MILLER ENGINEERS & SCIENTISTS
1119 W. KENNEDY AVE. KIMBERLY, WI 54136
Tel: 920-954-910
Fax: 920-954-872

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW9

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/25/2002	2/28/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD826		MW9	Feet MSL	759.2 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 SS	24 12	16	0	FILL: CLAY				10						
			1.5	FILL: BRICK AND WOOD										
2 SS	24 15	27	3.0	FILL: CLAY - piece of pine wood.				4						
				FILL: SAND AND GRAVEL										
			4.5											
3 SS	24 8	9		FILL: CLAY				6						
			6.0	FILL: SAND, GRAVEL, AND WOOD										
4 SS	24 5	11	7.5	LEAN CLAY WITH GRAVEL - red.	CL			4						
			9.0											
5 SS	24 12	12	10.5	...2" gravel seam at 10.2 feet.	CL			15						
			12.0		CL									
6 SS	24 24	13	13.5	...sandy.	CL			30						
				FAT CLAY - wet, red.	CH									
			15.0	NOTES: 1) End of boring at 15 feet. 2) Monitoring Well MW9 constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	Tel: 920-954-91(Fax: 920-954-87

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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Quicfrez		MW10B

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Brian Environmental Drilling Service	2/27/2002	2/27/2002	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
PD791		MW10B	Feet MSL	755.8 Feet MSL	8.0 inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
SE 1/4 of NW 1/4 of Section 15, T 15 N, R 17 E
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Fond du Lac	20	Fond du Lac

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			4 8 12 16 20 24 28 32 36 40 44	Blind drilled MW10B to a depth of 45 feet.										
				NOTES: 1) End of boring at 45 feet. 2) Monitoring Well MW10B constructed upon completion.										

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

Signature	Firm	Tel:
	MILLER ENGINEERS & SCIENTISTS 1119 W. KENNEDY AVE. KIMBERLY, WI 54136	920-954-9100 Fax: 920-954-8720

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: Quik Frez	Local Grid Location of Well: ____ ft. ☐N ☐S ____ ft. ☐E ☐W	Well Name: MW1 JZ752
Facility License, Permit or Monitoring Number:	Grid Origin Location: Lat. ____ Long. ____ or	Wis. Unique Well Number / DNR Well Number:
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	St. Plane ____ ft. N. ____ ft. E.	Date Well Installed: 07/07/99 (m m d d y y)
Distance Well Is From Waste/Source Boundary: unknown ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N. R. 17 ☒E ☐W	Well Installed By: (Person's Name and Firm): Mike McArdle; Mtk Env. Drilling
Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☒ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 100.22 ft. MSL
B. Well casing, top elevation 99.73 ft. MSL
C. Land surface elevation 100.2 ft. MSL
D. Surface seal, bottom 99.2 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ ___
_____

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

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top 99.2 ft. MSL or 1.0 ft.
F. Fine sand, top ____ ft. MSL or ____ ft.
G. Filter pack, top 97.2 ft. MSL or 3.0 ft.
H. Screen joint, top 96.7 ft. MSL or 3.5 ft.
I. Well bottom 86.7 ft. MSL or 13.5 ft.
J. Filter pack, bottom 86.7 ft. MSL or 13.5 ft.
K. Borehole, bottom 86.7 ft. MSL or 13.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.34 in.
N. I.D. well casing 2.00 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 12.0 in.
b. Length: 1.6 ft.
c. Material: Steel ☐ 04; Flush mount cast iron; Other ☒
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐
_____
4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☐; Other ☐
N/A
5. Annular space seal: a. Granular Bentonite ☐ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. N/A
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mining #30
b. Volume added 3.6 ft^3 7½ Bags
9. Well casing: Flush threaded PVC schedule 40 ☐ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
_____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
_____
b. Manufacturer _____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐
_____

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

Signature: Kris Gallagher | Firm: Miller Engineers

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5,000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: Quictrez	Local Grid Location of Well: ____ ft. ☐N ☐S ____ ft. ☐E ☐W	Well Name: MW1A JZ751
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Well/Boring Well Number: [redacted] DNR Well Number: [redacted]
Type of Well: Water Table Observation Well ☐ 11; Piezometer ☒ 12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N. R. 17 ☒E ☐W	Date Well Installed: 07/07/99 (m m d d y y)
Distance Well Is From Waste/Source Boundary: ____ ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☒ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm) Mike McArdle; Mtk Env. Drilling
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		

A. Protective pipe, top elevation 700.36 ft. MSL
B. Well casing, top elevation 99.79 ft. MSL
C. Land surface elevation 700.3 ft. MSL
D. Surface seal, bottom 99.3 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

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

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

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

17. Source of water (attach analysis): _____

E. Bentonite seal, top 99.3 ft. MSL or 1.0 ft.
F. Fine sand, top 85.3 ft. MSL or 15.0 ft.
G. Filter pack, top 84.3 ft. MSL or 16.0 ft.
H. Screen joint, top 81.8 ft. MSL or 18.5 ft.
I. Well bottom 76.8 ft. MSL or 23.5 ft.
J. Filter pack, bottom 76.8 ft. MSL or 23.5 ft.
K. Borehole, bottom 76.8 ft. MSL or 23.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.34 in.
N. I.D. well casing 2.00 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 12.0 in.
b. Length: 1.0 ft.
c. Material: Flush mount cast iron; Steel ☐ 04; Other ☒
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐
4. Material between well casing and protective pipe: N/A; Bentonite ☐ 30; Annular space seal ☐; Other ☐
5. Annular space seal: a. Granular Bentonite ☐ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 03
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining #40-#60
b. Volume added 0.2 ft³ 1/2 Bag
8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mining #30
b. Volume added 2.5 ft³ 2½ Bags
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer _____
c. Slot size: 0.010 in.
d. Slotted length: 5.0 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐

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

Signature: Kris Gallagher Firm: Miller Engineers.

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats. and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each

For use only ... instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: Former Quietz	Local Grid Location of Well: 1037 ft. ☒N ☐S 840 ft. ☒E ☐W	Well Name: MW1R
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N, _____ ft. E.	Wis. Unique Well Number: DNR Well Number: PD795
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N. R. 17 ☒E ☐W	Date Well Installed: 03/15/08 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 0 ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient; d ☐ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm) Craig Plant, Environmental Drilling Services
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		

A. Protective pipe, top elevation 758.48 ft. MSL
B. Well casing, top elevation 758.43 ft. MSL
C. Land surface elevation 755.1 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

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

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

17. Source of water (attach analysis):
NA

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or NA ft.
G. Filter pack, top _____ ft. MSL or 3.0 ft.
H. Screen joint, top _____ ft. MSL or 5.0 ft.
I. Well bottom _____ ft. MSL or 15.0 ft.
J. Filter pack, bottom _____ ft. MSL or 15.5 ft.
K. Borehole, bottom _____ ft. MSL or 15.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.34 in.
N. I.D. well casing 2.00 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. NA
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mines 40/60
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: Sch 40 PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer _____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____

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

Signature: Scott A. Hodgson
Firm: Miller Engineers & Scientists

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: Quicfrez

Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.

Well Name: MW2 J2754

Facility License, Permit or Monitoring Number: ________

Grid Origin Location: Lat. ________ Long. ________ or St. Plane ____ ft. N, ____ ft. E.

Wis. Unique Well Number / DNR Well Number:

Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12

Date Well Installed: 07/07/99 (m m d d y y)

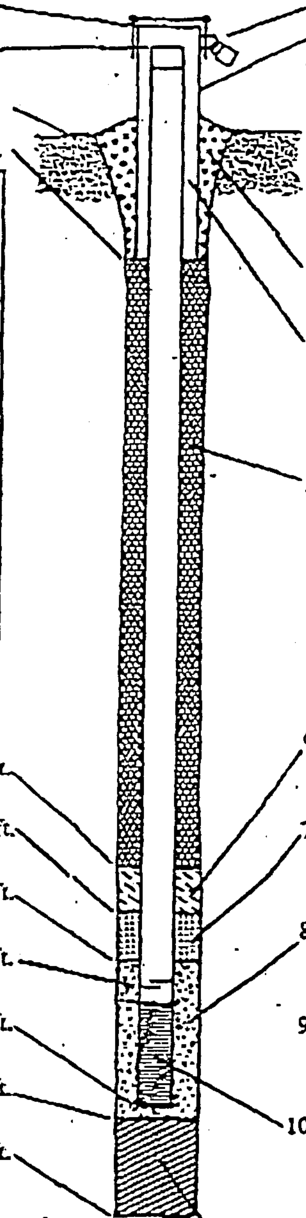
Distance Well Is From Waste/Source Boundary: unk. ft.

Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. 17 ☒ E. ☐ W.

Well Installed By: (Person's Name and Firm) Mike McArdle, MTK Env. Drilling

Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No

Location of Well Relative to Waste/Source: u ☐ Upgradient; s ☐ Sidegradient; d ☒ Downgradient; n ☐ Not Known



A. Protective pipe, top elevation 100.07 ft. MSL
B. Well casing, top elevation 99.61 ft. MSL
C. Land surface elevation 100.1 ft. MSL
D. Surface seal, bottom 99.1 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

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

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

16. Drilling additives used? ☐ Yes ☐ No

Describe ________

17. Source of water (attach analysis): ________

E. Bentonite seal, top 99.1 ft. MSL or 1.0 ft.
F. Fine sand, top — ft. MSL or — ft.
G. Filter pack, top 96.1 ft. MSL or 3.0 ft.
H. Screen joint, top 96.1 ft. MSL or 3.0 ft.
I. Well bottom 85.6 ft. MSL or 13.5 ft.
J. Filter pack, bottom 85.6 ft. MSL or 13.5 ft.
K. Borehole, bottom 86.6 ft. MSL or 13.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.34 in.
N. I.D. well casing 2.00 in.

1. Cap and lock? ☐ Yes ☐ No
2. Protective cover pipe:
 a. Inside diameter: 12.0 in.
 b. Length: 1.0 ft.
 c. Material: Steel ☐ 04; Other ☒ Flush Mount Cast Iron
 d. Additional protection? ☐ Yes ☐ No
 If yes, describe: ________
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☐; Other ☐ N/A
5. Annular space seal: a. Granular Bentonite ☐ 33
 b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
 c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
 d. ____ % Bentonite . . . . . . Bentonite-cement grout ☐ 50
 e. ____ Ft^3 volume added for any of the above
 f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
 b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
 c. ________ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
 a. N/A
 b. Volume added ________ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
 a. Badger Mining #30
 b. Volume added 3.5 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
 a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
 b. Manufacturer ________
 c. Slot size: 0.010 in.
 d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐

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

Signature: Kristi K. Gallagher | Firm: Miller Engineers & Scientists.

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147, and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: Quic Frez	Local Grid Location of Well: ____ ft. ☐N ☐S ____ ft. ☐E ☐W	Well Name: MW3 JZ753
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Wis. Unique Well Number / DNR Well Number: [redacted]
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N. R. 17 ☒E ☐W	Date Well Installed: 07/07/99 (m m d d y y)
Distance Well Is From Waste/Source Boundary: ____ ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient; s ☒ Sidegradient; d ☐ Downgradient; n ☐ Not Known	Well Installed By: (Person's Name and Firm): Mike McArale / MtK Env. Drilling
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		

A. Protective pipe, top elevation 99.84 ft. MSL
B. Well casing, top elevation 99.03 ft. MSL
C. Land surface elevation 99.8 ft. MSL
D. Surface seal, bottom 98.8 ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

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

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

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

17. Source of water (attach analysis): _____

E. Bentonite seal, top 98.8 ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or _____ ft.
G. Filter pack, top 96.8 ft. MSL or 3.0 ft.
H. Screen joint, top 96.3 ft. MSL or 3.5 ft.
I. Well bottom 96.3 ft. MSL or 13.5 ft.
J. Filter pack, bottom 96.3 ft. MSL or 13.5 ft.
K. Borehole, bottom 96.3 ft. MSL or 13.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.34 in.
N. I.D. well casing 2.00 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 12.0 in.
b. Length: 1.0 ft.
c. Material: Steel ☐ 04; Flush Mount Cast Iron; Other ☒
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30; Annular space seal ☐; N/A; Other ☐
5. Annular space seal: a. Granular Bentonite ☐ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. N/A
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. Badger Mining #30
b. Volume added 3.5 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer _____
c. Slot size: 0.010 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐

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

Signature: Kristi K. Gallagher | Firm: Miller Engineers & Scients.

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats. and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: Quick Freeze	Local Grid Location of Well: 1047 ft. ☒N ☐S. 884 ft. ☒E ☐W	Well Name: MW-4
Facility License, Permit or Monitoring Number	Grid Origin Location: Lat. ___ Long. ___ or St. Plane ___ ft. N, ___ ft. E.	Wis. Unique Well Number / DNR Well Number: PD865
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12		Date Well Installed: 02/22/02 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 0 ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. 17 ☒E ☐W	Well Installed By: (Person's Name and Firm) Craig Plant, EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient; s ☐ Sidegradient; d ☒ Downgradient; n ☐ Not Known	

A. Protective pipe, top elevation 759.23 ft. MSL

B. Well casing, top elevation 759.15 ft. MSL

C. Land surface elevation 756.3 ft. MSL

D. Surface seal, bottom ___ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

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

16. Drilling additives used? ☐ Yes ☒ No

Describe ___

17. Source of water (attach analysis):

E. Bentonite seal, top ___ ft. MSL or 1.0 ft.

F. Fine sand, top ___ ft. MSL or 3.0 ft.

G. Filter pack, top ___ ft. MSL or 4.0 ft.

H. Screen joint, top ___ ft. MSL or 5.0 ft.

I. Well bottom ___ ft. MSL or 15.5 ft.

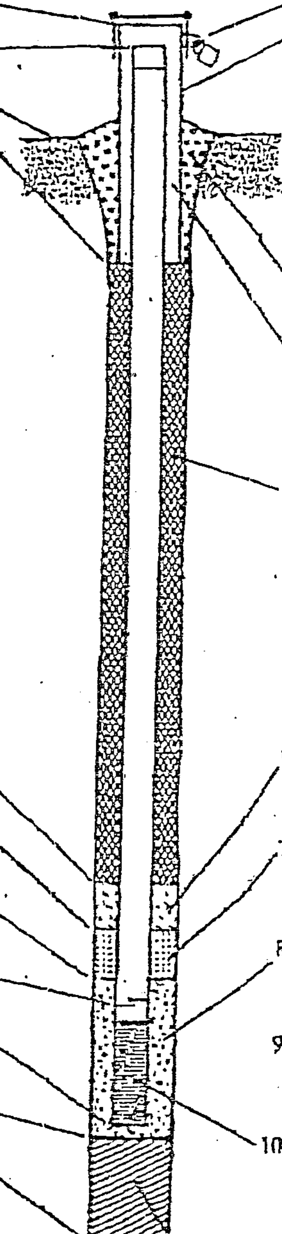
J. Filter pack, bottom ___ ft. MSL or 15.5 ft.

K. Borehole, bottom ___ ft. MSL or 15.5 ft.

L. Borehole, diameter 8.0 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
   a. Inside diameter: 4.0 in.
   b. Length: 7.0 ft.
   c. Material: Steel ☒ 04; Other ☐
   d. Additional protection? ☐ Yes ☒ No
   If yes, describe: ___
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐; Other ☐
5. Annular space seal: a. Granular Bentonite ☒ 33
   b. ___ Lbs/gal mud weight ... Bentonite sand slurry ☐ 35
   c. ___ Lbs/gal mud weight ... Bentonite slurry ☐ 31
   d. ___ % Bentonite ... Bentonite cement grout ☐ 50
   e. ___ Ft³ volume added for any of the above
   f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
   b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
   c. ___ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
   a. BMC 40-60
   b. Volume added ___ ft³
8. Filter pack material: Manufacturer, product name and mesh size
   a. BMC 45-55
   b. Volume added ___ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
   a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
   b. Manufacturer Johnson
   c. Slot size: 0.010 in.
   d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐

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

Signature	Firm
[signature]	EDS

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with ch. 144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 1046 ft. ☒ N. ☐ S. 880 ft. ☒ E. ☐ W.	Well Name: MW-4A
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. ____ Long. ____ or St. Plane ____ ft. N, ____ ft. E.	Wis. Unique Well Number / DNR Well Number: PD 625
Type of Well: Water Table Observation Well ☐ 11; Piezometer ☒ 12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. 7 ☒ E. ☐ W.	Date Well Installed: 02/21/02 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 0 ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☒ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm) BRIAN REPINSKI; EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		

A. Protective pipe, top elevation 758.40 ft. MSL
B. Well casing, top elevation 758.26 ft. MSL
C. Land surface elevation 755.6 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

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

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

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

17. Source of water (attach analysis):

E. Bentonite seal, top _____ ft. MSL or 18.0 ft.
F. Fine sand, top _____ ft. MSL or 23.0 ft.
G. Filter pack, top _____ ft. MSL or 24.0 ft.
H. Screen joint, top _____ ft. MSL or 25.0 ft.
I. Well bottom _____ ft. MSL or 30.0 ft.
J. Filter pack, bottom _____ ft. MSL or 30.5 ft.
K. Borehole, bottom _____ ft. MSL or 30.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.0 ft.
c. Material: Steel ☒ 04; Other ☐ __
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ __
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ __; Other ☐ __
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ __
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added — ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-SS
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ __
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: ___.__ ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ __

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

Signature: Brian Repinski | Firm: EDS

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State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4

Facility/Project Name	Local Grid Location of Well	Well Name
Quik Freeze	1004 ft. ☒ N ☐ S, 878 ft. ☐ E ☐ W	MW-5
Facility License, Permit or Monitoring Number	**Grid Origin Location**	**Wis. Unique Well Number / DNR Well Num**
_____	Lat. _____ Long. _____ or	208269
Type of Well Water Table Observation Well ☒ 11	St. Plane _____ ft. N, _____ ft. E.	**Date Well Installed**
Piezometer ☐ 12	**Section Location of Waste/Source**	m m d d y y: 02 / 22 / 02
Distance Well is From Waste/Source Boundary	SE 1/4 of NW 1/4 of Sec. 15 T. 15 N, R. 7 ☐ E ☐ W	**Well Installed By:** (Person's Name and Firm)
0 ft.	**Location of Well Relative to Waste/Source**	Craig Plant
Is Well A Point of Enforcement Std. Application?	u ☒ Upgradient s ☐ Sidegradient	EDS
☒ Yes ☐ No	d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 759.64 ft. MSL
B. Well casing, top elevation 759.70 ft. MSL
C. Land surface elevation 756.8 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

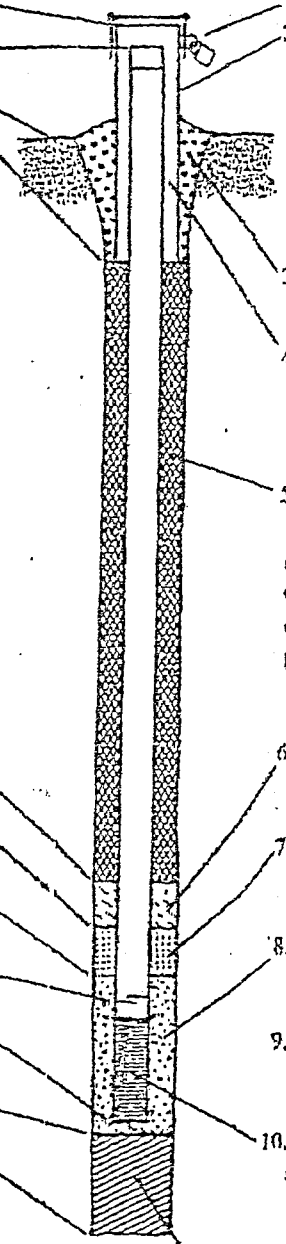
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ _____

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

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 3.0 ft.
G. Filter pack, top _____ ft. MSL or 4.0 ft.
H. Screen joint, top _____ ft. MSL or 5.0 ft.
I. Well bottom _____ ft. MSL or 15.0 ft.
J. Filter pack, bottom _____ ft. MSL or 15.5 ft.
K. Borehole, bottom _____ ft. MSL or 15.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in
b. Length: 7.9 ft.
c. Material: Steel ☒ 04
_____ Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30
Concrete ☐ 01
_____ Other ☐ _____
4. Material between well casing and protective pipe:
Bentonite ☒ 30
Annular space seal ☐ _____
_____ Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite cement grout ☐ 50
e. _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-160
b. Volume added _____ ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-55
b. Volume added _____ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
_____ Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
_____ Other ☐ _____
b. Manufacturer Johnson
c. Slot size: 0.010 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☒ 14
_____ Other ☐ _____

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

Signature _____ Firm EDS

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats. and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a [illegible] violation. NOTE: Shaded areas are for DNR

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name	Local Grid Location of Well	Well Name
Quik Freeze	1007 ft. ☒ N. ☐ S. 879 ft. ☐ E. ☐ W.	MW-5A
Facility License, Permit or Monitoring Number	**Grid Origin Location**	**Wis. Unique Well Number / DNR Well Number**
_____	Lat. _____ Long. _____ or	[illegible]
Type of Well Water Table Observation Well ☐ 11 Piezometer ☒ 12	St. Plane _____ ft. N. _____ ft. E.	**Date Well Installed** 03/22/02 (m m d d y y)
Distance Well is From Waste/Source Boundary 0 ft.	**Section Location of Waste/Source** SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. 17 ☒ E. ☐ W.	**Well Installed By: (Person's Name and Firm)** Craig Plant / EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	**Location of Well Relative to Waste/Source** u ☒ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 759.87 ft. MSL
B. Well casing, top elevation 759.96 ft. MSL
C. Land surface elevation 756.6 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

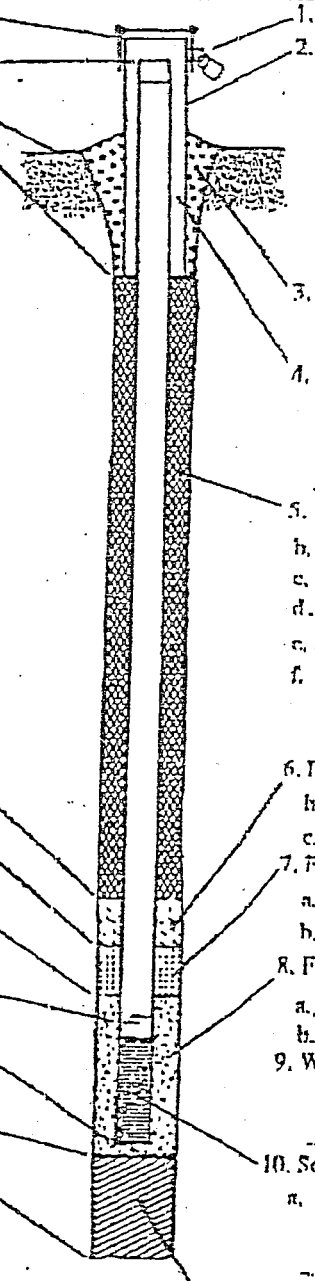
14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ _____

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

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top _____ ft. MSL or 18.0 ft.
F. Fine sand, top _____ ft. MSL or 23.0 ft.
G. Filter pack, top _____ ft. MSL or 24.0 ft.
H. Screen joint, top _____ ft. MSL or 25.0 ft.
Well bottom _____ ft. MSL or 30.0 ft.
Filter pack, bottom _____ ft. MSL or 30.5 ft.
Borehole, bottom _____ ft. MSL or 30.5 ft.
Borehole, diameter 8.0 in.
O.D. well casing 2.37 in.
I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.9 ft.
c. Material: Steel ☒ 04 Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30 Annular space seal ☐ _____ Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite cement grout ☐ 50
e. _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-55
b. Volume added _____ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ _____
b. Manufacturer Johnson
c. Slot size: 0.010 in.
d. Slotted length: 5.0 ft.
11. Backfill material (below filter pack): None ☒ 14 Other ☐ _____

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

Signature _____ Firm EDS

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTIO
Form 4400-113A Rev. 4-9

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 1091 ft. ☒N. ☐S. 1039 ft. ☒E. ☐W.	Well Name: MW-6
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number / DNR Well Numbe: PD829
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	St. Plane _____ ft. N. _____ ft. E.	Date Well Installed: 02/12/02 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 130 ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. 17 ☒E. ☐W.	Well Installed By: (Person's Name and Firm): BRIAN REPINSKI; EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient; d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 760.57 ft. MSL
B. Well casing, top elevation 760.59 ft. MSL
C. Land surface elevation 759.0 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

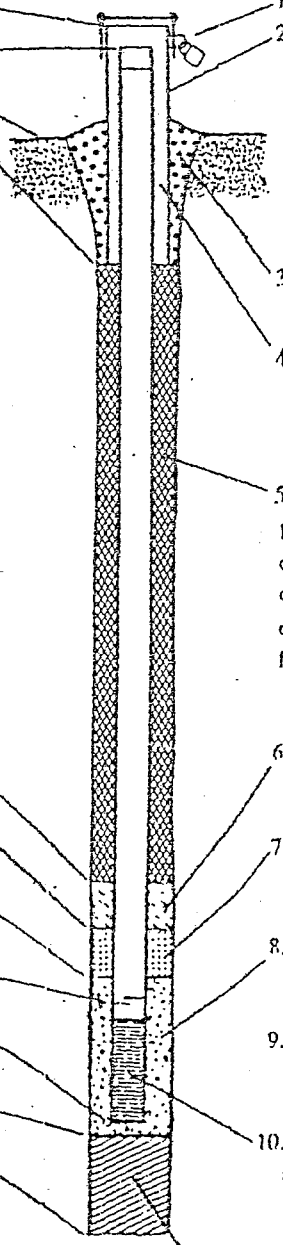
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

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

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

17. Source of water (attach analysis):

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 3.0 ft.
G. Filter pack, top _____ ft. MSL or 4.0 ft.
H. Screen joint, top _____ ft. MSL or 5.0 ft.
I. Well bottom _____ ft. MSL or 15.0 ft.
J. Filter pack, bottom _____ ft. MSL or 15.5 ft.
K. Borehole, bottom _____ ft. MSL or 15.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-85
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____

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

Signature: Brian Repinski Firm: EDS

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats. and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $1,000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed fo should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 1089 ft. ☒N ☐S, 1036 ft. ☒E ☐W	Well Name: MW-6A
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number / DNR Well Number: PD830
Type of Well: Water Table Observation Well ☐ 11; Piezometer ☒ 12	St. Plane _____ ft. N, _____ ft. E.	Date Well Installed: 02/26/02 (m m d d y y)
Distance Well is From Waste/Source Boundary: 130 ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N, R. 7 ☒E ☐W	Well Installed By: (Person's Name and Firm): BRIAN REPINSKI, EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient; d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 760.02 ft. MSL
B. Well casing, top elevation 760.10 ft. MSL
C. Land surface elevation 757.9 ft. MSL
D. Surface seal, bottom _____ ft. MSL or _____ ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

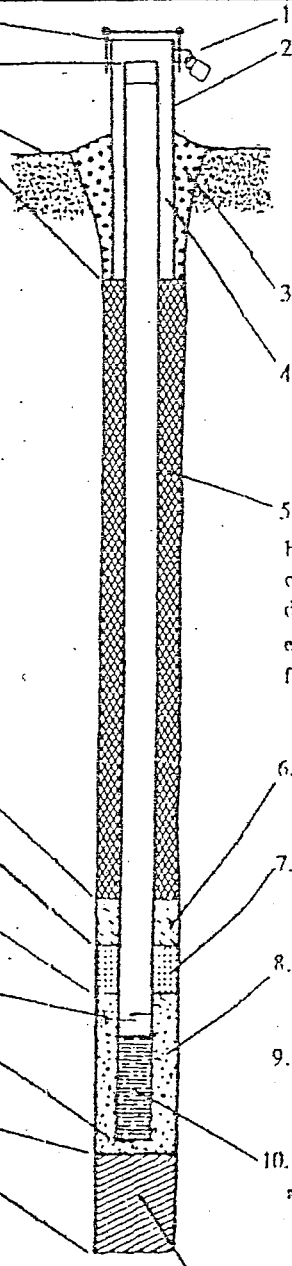
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

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

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

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 18.0 ft.
F. Fine sand, top _____ ft. MSL or 23.0 ft.
G. Filter pack, top _____ ft. MSL or 24.0 ft.
H. Screen joint, top _____ ft. MSL or 25.0 ft.
I. Well bottom _____ ft. MSL or 30.0 ft.
J. Filter pack, bottom _____ ft. MSL or 32.0 ft.
K. Borehole, bottom _____ ft. MSL or 32.0 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite cement grout ☐ 50
e. _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ Ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-85
b. Volume added _____ Ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____

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

Signature: Brian Repinski | Firm: EDS

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the co... ple...

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-9(

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 1056 ft. ☒N. ☐S. 1033 ft. ☒E. ☐W.	Well Name: MW-6B
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Wis. Unique Well Number: BD866 DNR Well Numbe
Type of Well: Water Table Observation Well ☐ 11; Piezometer ☒ 12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N. R. 17 ☒E. ☐W.	Date Well Installed: 02/28/02 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 130 ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient; s ☒ Sidegradient; d ☐ Downgradient; n ☐ Not Known	Well Installed By: (Person's Name and Firm) BRIAN REPINSKI EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		

A. Protective pipe, top elevation 760.60 ft. MSL
B. Well casing, top elevation 760.74 ft. MSL
C. Land surface elevation 758.6 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 2.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

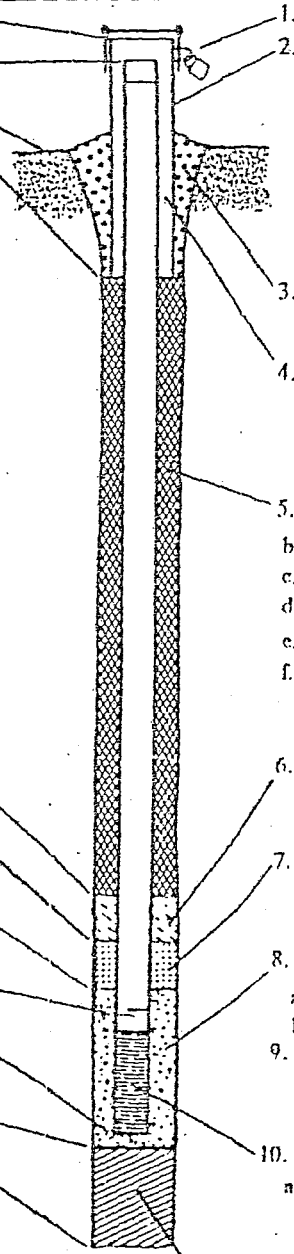
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

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

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

17. Source of water (attach analysis):

E. Bentonite seal, top _____ ft. MSL or 33.0 ft.
F. Fine sand, top _____ ft. MSL or 38.0 ft.
G. Filter pack, top _____ ft. MSL or 39.0 ft.
H. Screen joint, top _____ ft. MSL or 40.0 ft.
I. Well bottom _____ ft. MSL or 45.0 ft.
J. Filter pack, bottom _____ ft. MSL or 45.5 ft.
K. Borehole, bottom _____ ft. MSL or 45.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite cement grout ☐ 50
e. _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ Ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-55
b. Volume added _____ Ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____

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

Signature: Brian Repinski Firm: EDS

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State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 937 ft. ☒ N. ☐ S. 911 ft. ☒ E. ☐ W.	Well Name: MW-7
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N, _____ ft. E.	Wis. Unique Well Number / DNR Well Number: BD826
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. 17 ☒ E. ☐ W.	Date Well Installed: 02/25/02 (m m d d y y)
Distance Well is From Waste/Source Boundary: 30 ft.	Location of Well Relative to Waste/Source: u ☒ Upgradient; s ☐ Sidegradient; d ☐ Downgradient; n ☐ Not Known	Well Installed By: (Person's Name and Firm) BRIAN REPINSKI EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		

A. Protective pipe, top elevation 762.83 ft. MSL
B. Well casing, top elevation 762.78 ft. MSL
C. Land surface elevation 759.8 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

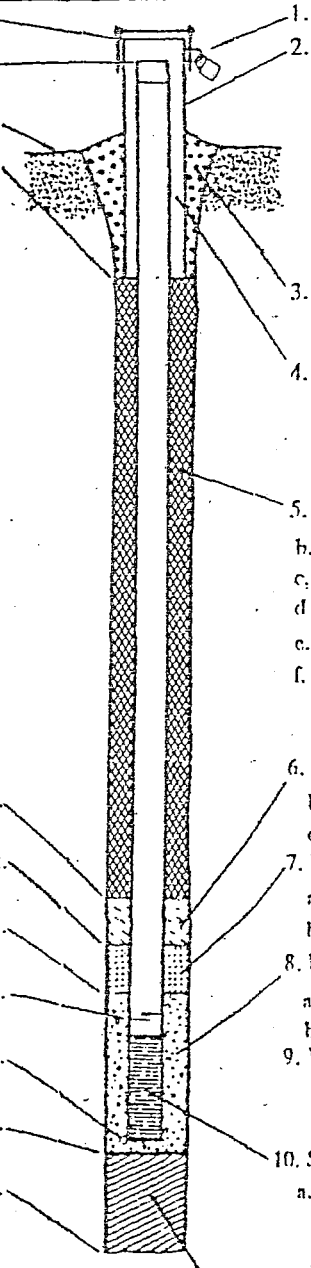
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

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

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

17. Source of water (attach analysis):

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 3.0 ft.
G. Filter pack, top _____ ft. MSL or 4.0 ft.
H. Screen joint, top _____ ft. MSL or 5.0 ft.
I. Well bottom _____ ft. MSL or 15.0 ft.
J. Filter pack, bottom _____ ft. MSL or 15.5 ft.
K. Borehole, bottom _____ ft. MSL or 15.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5. ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite cement grout ☐ 50
e. _____ _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-86
b. Volume added _____ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____

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

Signature: Brian Repinski Firm: EDS

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5,000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed fo... should b... s...

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 935 ft. ☒ N. ☐ S. 908 ft. ☒ E. ☐ W.	Well Name: MW-7A
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number / DNR Well Number: PD827
Type of Well: Water Table Observation Well ☐ 11; Piezometer ☒ 12	St. Plane _____ ft. N, _____ ft. E.	Date Well Installed: 02 / 25 / 02 (m m d d y y)
Distance Well is From Waste/Source Boundary: 60 ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. 12 ☒ E. ☐ W.	Well Installed By: (Person's Name and Firm) BRIAN REPINSKI / EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☒ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 762.06 ft. MSL

B. Well casing, top elevation 762.14 ft. MSL

C. Land surface elevation 759.8 ft. MSL

D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

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

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top _____ ft. MSL or 18.0 ft.

F. Fine sand, top _____ ft. MSL or 23.0 ft.

G. Filter pack, top _____ ft. MSL or 24.0 ft.

H. Screen joint, top _____ ft. MSL or 25.0 ft.

I. Well bottom _____ ft. MSL or 30.0 ft.

J. Filter pack, bottom _____ ft. MSL or 30.5 ft.

K. Borehole, bottom _____ ft. MSL or 30.5 ft.

L. Borehole, diameter 8.0 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.04 in.

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 10 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____

3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____

4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____

5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite cement grout ☐ 50
e. _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____

7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ Ft³

8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-55
b. Volume added _____ Ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____

10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.

11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____

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

Signature: Brian Repinski Firm: EDS

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $1000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 931 ft. ☒ N. ☐ S. 905 ft. ☒ E. ☐ W.	Well Name: MW-7B
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number: EDJ672 DNR Well Number:
Type of Well: Water Table Observation Well ☐ 11; Piezometer ☒ 12	St. Plane _____ ft. N, _____ ft. E.	Date Well Installed: 03/01/02 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 80 ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. 17 ☒ E. ☐ W.	Well Installed By: (Person's Name and Firm) BRIAN REPINSKI EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☒ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 761.68 ft. MSL
B. Well casing, top elevation 761.84 ft. MSL
C. Land surface elevation 759.8 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.6 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

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

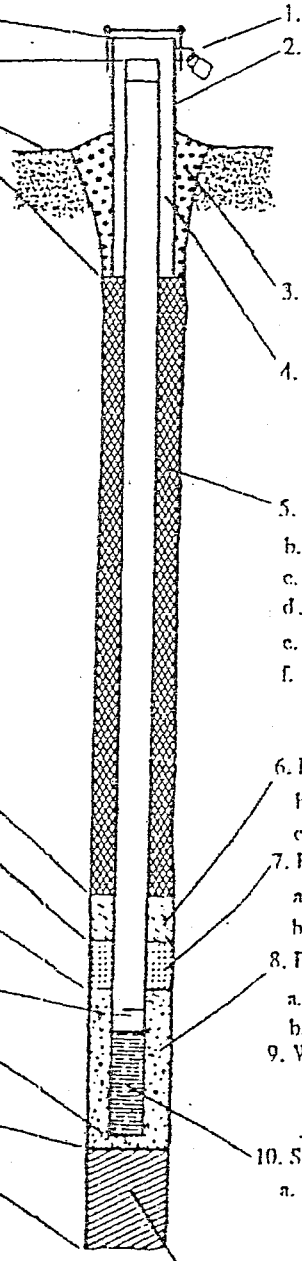
15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

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

17. Source of water (attach analysis):

E. Bentonite seal, top _____ ft. MSL or 33.0 ft.
F. Fine sand, top _____ ft. MSL or 38.0 ft.
G. Filter pack, top _____ ft. MSL or 39.0 ft.
H. Screen joint, top _____ ft. MSL or 40.0 ft.
I. Well bottom _____ ft. MSL or 45.2 ft.
J. Filter pack, bottom _____ ft. MSL or 45.5 ft.
K. Borehole, bottom _____ ft. MSL or 45.6 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33; b. _____ Lbs/gal mud weight ... Bentonite sand slurry ☐ 35; c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31; d. _____ % Bentonite ..... Bentonite cement grout ☐ 50; e. _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33; b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32; c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ Ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-55
b. Volume added _____ Ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____



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

Signature: Brian Repinski Firm: EDS

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State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 1004 ft. ☒ N. ☐ S. 712 ft. ☐ E. ☐ W.	Well Name: MW-8
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number / DNR Well Number: FD863
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	St. Plane _____ ft. N. _____ ft. E.	Date Well Installed: 02/28/02 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 160 ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. ☐ E. ☐ W.	Well Installed By: (Person's Name and Firm): BRIAN REPINSKI EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation 755.16 ft. MSL
B. Well casing, top elevation 755.18 ft. MSL
C. Land surface elevation 755.8 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☒ No

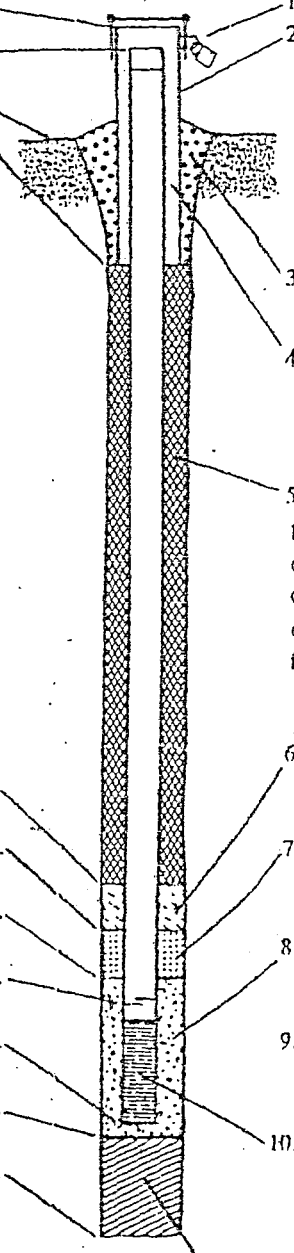
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

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

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

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 3.0 ft.
G. Filter pack, top _____ ft. MSL or 4.0 ft.
H. Screen joint, top _____ ft. MSL or 5.0 ft.
I. Well bottom _____ ft. MSL or 15.0 ft.
J. Filter pack, bottom _____ ft. MSL or 15.5 ft.
K. Borehole, bottom _____ ft. MSL or 15.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-55
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____

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

Signature: Brian Repinski | Firm: EDS

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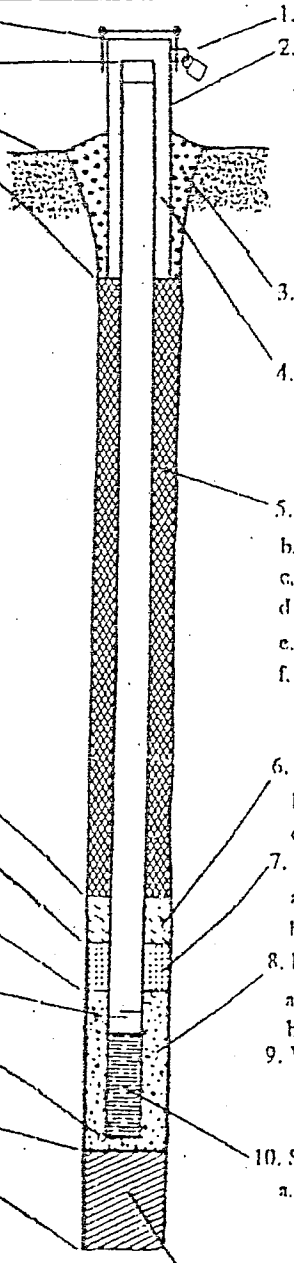
State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4-90

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 1003 ft. ☒ N. ☐ S. 708 ft. ☒ E. ☐ W.	Well Name: MW-8A
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Wis. Unique Well Number / DNR Well Number: PD862
Type of Well: Water Table Observation Well ☐ 11. Piezometer ☒ 12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N, R. 7 ☒ E. ☐ W.	Date Well Installed: 02/28/02 (m m d d y y)
Distance Well is From Waste/Source Boundary: 160 ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm) BRIAN REPINSKI EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		



A. Protective pipe, top elevation 758.17 ft. MSL
B. Well casing, top elevation 758.37 ft. MSL
C. Land surface elevation 755.7 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

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

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

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

17. Source of water (attach analysis):

E. Bentonite seal, top _____ ft. MSL or 180 ft.
F. Fine sand, top _____ ft. MSL or 230 ft.
G. Filter pack, top _____ ft. MSL or 240 ft.
H. Screen joint, top _____ ft. MSL or 250 ft.
I. Well bottom _____ ft. MSL or 300 ft.
J. Filter pack, bottom _____ ft. MSL or 305 ft.
K. Borehole, bottom _____ ft. MSL or 305 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.0 ft.
c. Material: Steel ☒ 04 Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01 Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30 Annular space seal ☐ _____ Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite cement grout ☐ 50
e. _____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ ft^3
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-85
b. Volume added _____ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): None ☒ 14 Other ☐ _____

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

Signature: Brian Repinski Firm: EDS

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State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ ______

MONITORING WELL CONSTRUCTIC
Form 4400-113A Rev. 4.

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 1003 ft. ☒N. ☐S. 702 ft. ☒E. ☐W.	Well Name: MW-8B
Facility License, Permit or Monitoring Number: ______	Grid Origin Location: Lat. ______ Long. ______ or	Wis. Unique Well Number: PDB6[illegible] DNR Well Numl
Type of Well: Water Table Observation Well ☐ 11; Piezometer ☒ 12	St. Plane ______ ft. N, ______ ft. E.	Date Well Installed: 02/27/02 (m m d d y y)
Distance Well Is From Waste/Source Boundary: 160 ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15, T. 15 N, R. ☐ ☒E. ☐W.	Well Installed By: (Person's Name and Firm) BRIAN REPINSKI
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient; s ☒ Sidegradient; d ☐ Downgradient; n ☐ Not Known	EDS

A. Protective pipe, top elevation 758.66 ft. MSL

B. Well casing, top elevation 758.70 ft. MSL

C. Land surface elevation 755.9 ft. MSL

D. Surface seal, bottom ______ ft. MSL or ______ ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

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

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

16. Drilling additives used? ☐ Yes ☒ No

Describe ______

17. Source of water (attach analysis):

E. Bentonite seal, top ______ ft. MSL or 33.0 ft.

F. Fine sand, top ______ ft. MSL or 38.0 ft.

G. Filter pack, top ______ ft. MSL or 39.0 ft.

H. Screen joint, top ______ ft. MSL or 40.0 ft.

I. Well bottom ______ ft. MSL or 45.0 ft.

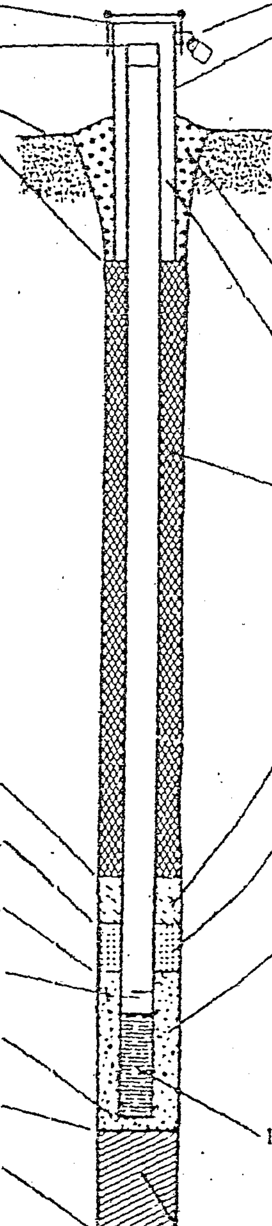
J. Filter pack, bottom ______ ft. MSL or 45.5 ft.

K. Borehole, bottom ______ ft. MSL or 45.5 ft.

L. Borehole, diameter 8.0 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 7.0 ft.
c. Material: Steel ☒ 0. Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ______

3. Surface seal: Bentonite ☒ 30
Concrete ☐ 01
Other ☐

4. Material between well casing and protective pipe:
Bentonite ☒ 30
Annular space seal ☐
Other ☐

5. Annular space seal: a. Granular Bentonite ☒ 33
b. ______ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ______ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ______ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ______ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32
c. ______ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added ______ ft^3

8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-55
b. Volume added ______ ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐

10. Screen material: PVC
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
Other ☐
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: ______ ft.

11. Backfill material (below filter pack): None ☒ 14
Other ☐

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

Signature: Brian Repinski   Firm: EDS

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State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4 90

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 960 ft. ☒N ☐S, 846 ft. ☒E ☐W	Well Name: MW-9
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N, _____ ft. E.	Wis. Unique Well Number / DNR Well Number: PD826
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N. R. 17 ☒E ☐W	Date Well Installed: 02/25/02 (m m d d y y)
Distance Well is From Waste/Source Boundary: 60 ft.	Location of Well Relative to Waste/Source: u ☒ Upgradient; s ☐ Sidegradient; d ☐ Downgradient; n ☐ Not Known	Well Installed By: (Person's Name and Firm) BRIAN REPINSKI, EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No		

A. Protective pipe, top elevation 761.62 ft. MSL
B. Well casing, top elevation 761.70 ft. MSL
C. Land surface elevation 759.2 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

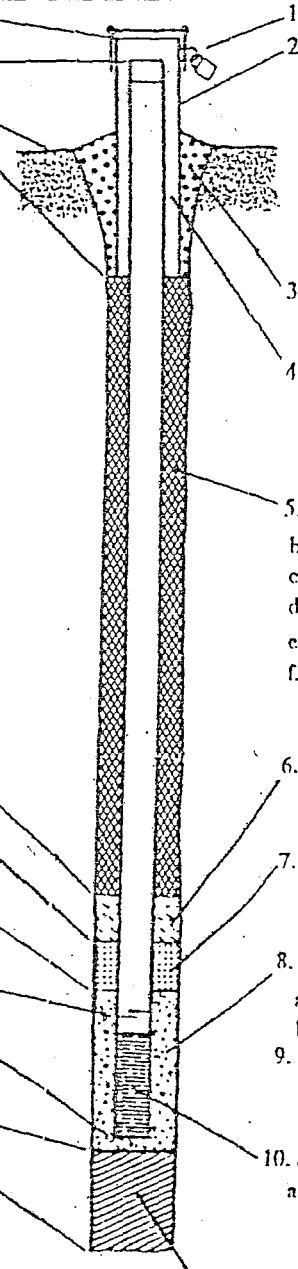
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

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

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

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 3.0 ft.
G. Filter pack, top _____ ft. MSL or 4.0 ft.
H. Screen joint, top _____ ft. MSL or 5.0 ft.
I. Well bottom _____ ft. MSL or 15.0 ft.
J. Filter pack, bottom _____ ft. MSL or 15.5 ft.
K. Borehole, bottom _____ ft. MSL or 15.5 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ☒ 04; Other ☐ _____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33; b. _____ Lbs/gal mud weight ... Bentonite sand slurry ☐ 35; c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31; d. _____ % Bentonite ..... Bentonite cement grout ☐ 50; e. _____ Ft³ volume added for any of the above; f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33; b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☒ 32; c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size: a. BMC 40-60; b. Volume added _____ Ft³
8. Filter pack material: Manufacturer, product name and mesh size: a. BMC 45-55; b. Volume added _____ Ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ _____

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

Signature: Brian Repinski Firm: EDS

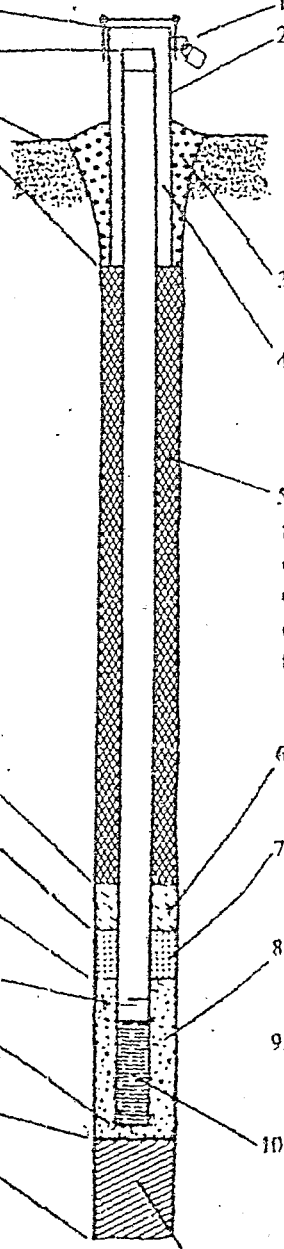
Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUC
Form 4400-113A Rev.

Facility/Project Name: QUICK FREEZE	Local Grid Location of Well: 1776 ft. ☒N ☐S, 864 ft. ☒E ☐W	Well Name: MW-10B
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number / DNR Well Nu: PD791
Type of Well: Water Table Observation Well ☐ 11; Piezometer ☒ 12	St. Plane _____ ft. N, _____ ft. E.	Date Well Installed: 02/27/02 (m m d d y y)
Distance Well is From Waste/Source Boundary: 130 ft.	Section Location of Waste/Source: SE 1/4 of NW 1/4 of Sec. 15 T. 15 N, R. 7 ☒E ☐W	Well Installed By: (Person's Name and Firm): BRIAN REPINSKI, EDS
Is Well A Point of Enforcement Std. Application? ☒ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☒ Downgradient n ☐ Not Known	



A. Protective pipe, top elevation 755.79 ft. MSL
B. Well casing, top elevation 755.08 ft. MSL
C. Land surface elevation 755.3 ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

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

13. Sieve analysis attached? ☐ Yes ☐ No

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

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

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

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 33.0 ft.
F. Fine sand, top _____ ft. MSL or 38.0 ft.
G. Filter pack, top _____ ft. MSL or 39.0 ft.
H. Screen joint, top _____ ft. MSL or 40.0 ft.
I. Well bottom _____ ft. MSL or 45.0 ft.
J. Filter pack, bottom _____ ft. MSL or 45.5 ft.
K. Borehole, bottom _____ ft. MSL or 45.0 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.04 in.

1. Cap and lock? ☒ Yes ☐ N
2. Protective cover pipe:
a. Inside diameter: 4.0
b. Length: 7.0
c. Material: Steel ☒ 6; Other ☐ _____
d. Additional protection? ☐ Yes ☒ N
If yes, describe: _____
3. Surface seal: Bentonite ☒ 3; Concrete ☐ 0; Other ☐ _____
4. Material between well casing and protective pipe: Bentonite ☒ 3; Annular space seal ☐ _____; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite cement grout ☐ 50
e. _____ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite pellets ☒ 32
c. _____ Other ☐ _____
7. Fine sand material: Manufacturer, product name & mesh size
a. BMC 40-60
b. Volume added _____ ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. BMC 45-85
b. Volume added _____ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ _____
b. Manufacturer JOHNSON
c. Slot size: 0.010 in.
d. Slotted length: _____ ft.
11. Backfill material (below filter pack): Native ☒ 14; Other ☐ _____

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

Signature: Brian Repinski Firm: EDS

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

APPENDIX C

4 - Mile Radius Map

TABLE 1

Groundwater Analytical Test Results (March 2002)

TABLE 1

Groundwater Analytic Test Results (March 2002)

Former Quicfrez Site
Fond du Lac, Wisconsin
Project Number: 02-2-15818

Date Sampled:	MW1 03/07/2002	MW1A 03/07/2002	MW2 03/07/2002	MW4 03/07/2002	MW4A 03/07/2002	MW5 03/07/2002	MW5A 03/07/2002	MW6 03/07/2002	MW6A 03/07/2002	MW6B 03/07/2002	NR140 ES	NR140 PAL
Analyte (ug/L)												
Benzene	**37**	<4	**6.3**	**18†**	<40	**52†**	**9†**	<0.08	0.09†	0.16†	**5**	0.5
sec-Butylebenzene	14†	8.5†	8.1	<20	<50	<20	<5	<0.1	<0.1	<0.1	–	–
n-Butylbenzene	6†	<5.5	4.9	<22	<55	<22	<5.5	<0.11	<0.11	<0.11	–	–
Carbon Tetrachloride	<10	<10	<1	<40	<100	<40	<10	**23**	0.63†	<0.2	**5**	0.5
Chloroform	<5	<5	<0.5	<20	<50	<20	<5	**7.7**	0.52	<0.1	**6**	0.6
1,1-Dichloroethene	<5.5	<5.5	<0.55	<22	<55	<22	<5.5	<0.11	<0.11	<0.11	**7**	0.7
cis-1,2-Dichloroethene	**450**	25	12	**1,900**	**670**	**1,400**	**120**	<0.11	<0.11	2	**70**	7
Ethylbenzene	40	<4	43	170	<40	<16	<4	<0.08	<0.08	<0.08	**700**	140
Isopropylbenzene	14	4.5†	14	<14	<35	<14	<3.5	<0.07	<0.07	<0.07	–	–
p-Isopropyltoluene	6.5†	<6	5.1	<24	<60	<24	<6	<0.12	<0.12	<0.12	–	–
Methylene Chloride	<12	<12	<1.2	<48	<120	<48	<12	<0.24	<0.24	<0.24	**5**	0.5
Naphthalene	**190**	**78**	**190**	<20	<50	<20	<5	<0.1	<0.1	<0.1	**40**	8
n-Propylbenzene	18†	<7.5	18	<30	<75	<30	<7.5	<0.15	<0.15	<0.15	–	–
Toluene	150	7.5†	100	<16	<40	<16	<4	<0.08	<0.08	0.19†	**1,000**	200
1,1,2-Trichloroethane	<10	<10	<1	**240**	<100	<38	<10	<0.19	<0.19	<0.19	**5**	0.5
Trichloroethene	**890**	**2,300**	<0.65	**34,000**	**140,000**	**22,000**	**100**	4.3	1	0.22†	**5**	0.5
Trimethylbenzenes	201	87	171	<38	<95	<38	<9.5	<0.19	<0.19	<0.19	**480**	96
Vinyl Chloride	**170**	<8	**16**	**770**	<80	<32	<8	<0.16	<0.16	<0.16	**0.2**	0.02
Xylenes	292	<17.5	249	<68	<175	<68	<17.5	<0.34	<0.34	<0.34	**10,000**	1,000
Total VOC	2,478.5	2,510.5	837.4	37,098	140,670	23,452	229	35	2.24	2.57		
Analyte (ug/L)												
Acenaphthalene	<0.053	–	<0.053	<0.053	–	<0.053	–	<0.053	–	–	–	–
Acenaphthylene	<0.16	–	<0.16	<0.16	–	<0.16	–	<0.16	–	–	–	–
Anthracene	<0.024	–	<0.024	2.4	–	<0.024	–	<0.024	–	–	**3000**	600
Benzo(a)Anthracene	<0.03	–	<0.03	2.8	–	<0.03	–	<0.03	–	–	–	–
Benzo(a)Pyrene	<0.022	–	<0.022	**4.1**	–	<0.022	–	<0.022	–	–	**0.2**	0.02
Benzo(b)Fluoranthene	<0.036	–	<0.036	**3.6**	–	<0.036	–	<0.036	–	–	**0.2**	0.02
Benzo(g,h,i)perylene	<0.087	–	<0.087	2.6	–	<0.087	–	<0.087	–	–	–	–
Benzo(k)Fluoranthene	<0.067	–	<0.067	1.7	–	<0.067	–	<0.067	–	–	–	–
Chrysene	<0.022	–	<0.022	**3.9**	–	<0.022	–	<0.022	–	–	**0.2**	0.02
Fluoranthene	<0.053	–	<0.053	16	–	<0.053	–	<0.053	–	–	**400**	80
Fluorene	34	–	8.3	2.2	–	<0.025	–	<0.025	–	–	**400**	80
Indeno(1,2,3-cd)Pyrene	<0.03	–	<0.03	2.7	–	<0.03	–	<0.03	–	–	–	–
1-Methyl-Naphthalene	340	–	200	2.1	–	5.4	–	<0.095	–	–	–	–
2-Methyl-Naphthalene	530	–	300	3.2	–	9.3	–	<0.096	–	–	–	–
Naphthalene	**120**	–	**130**	3.5	–	1.8	–	<0.067	–	–	**40**	8
Phenanthrene	93	–	8.1	11	–	2.5	–	<0.036	–	–	–	–
Pyrene	<0.13	–	<0.13	13	–	<0.013	–	<0.13	–	–	**250**	50
Total PAH	1,117	–	646	75	–	19	–	ND	–	–		
Analyte (ug/L)												
Arsenic	<1.3	–	<1.3	8.8	–	<1.3	–	<1.3	–	–	**50**	5
Barium (mg/L)	0.081	–	0.12	0.039	–	0.011†	–	0.081	–	–	**2**	0.4
Cadmium	<0.08	–	<0.08	<0.08	–	<0.08	–	<0.08	–	–	**5**	0.5
**Chromium (total)	<0.7	–	<0.7	1.6†	–	1.5†	–	5.7	–	–	**100**	10
Lead	<1.1	–	<1	<1.0	–	<1.0	–	<1	–	–	**15**	1.5
Mercury	0.96	–	0.43†	0.69	–	**2.9**	–	1.7	–	–	**2**	0.2
Selenium	<1.0	–	<1.0	<1.0	–	<1.0	–	3.6	–	–	**50**	10
Silver	1.0	–	0.74†	1.1	–	1.0	–	0.85	–	–	**50**	10

VOC = Volatile Organic Compounds (EPA Method 8260)
Bold Type = Exceeds NR140 Groundwater Quality Enforcement Standard (ES)
Underline Type = Exceeds NR140 Groundwater Quality Preventive Action Limit (PAL)
– No Standards Established for this Contaminant
† = Detected above the Limit of Detection, but below the Limit of Quantitation

Notes:
- Only compounds detected or previously detected in the VOC scan are listed

TABLE 1 (continued)
Groundwater Analytic Test Results (March 2002)

Former Quicfrez Site
Fond du Lac, Wisconsin
Project Number: 02-2-15818

Date Sampled:	MW7 03/07/2002	MW7A 03/07/2002	MW7B 03/07/2002	MW8 03/07/2002	MW8A 03/07/2002	MW8B 03/07/2002	MW9 03/07/2002	MW10B 03/07/2002	NR140 ES	NR140 PAL
Analyte (ug/L)										
Benzene	0.21†	<0.08	0.56	<0.08	<0.08	0.34	1.4	0.21†	5	0.5
tert-Butylebenzene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.2†	<0.08	–	–
sec-Butylebenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.76	<0.1	–	–
n-Butylbenzene	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	0.64	<0.11	–	–
Carbon Tetrachloride	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5	0.5
Chloroform	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0.6
1,1-Dichloroethene	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	–	–
cis-1,2-Dichloroethene	0.28†	<0.11	<0.11	6.5	0.24†	1	1.2	<0.11	70	7
Ethylbenzene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	700	140
Isopropylbenzene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.81	<0.07	–	–
p-Isopropyltoluene	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	–	–
Methylene Chloride	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	5	0.5
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.6	<0.1	40	8
n-Propylbenzene	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	–	–
Toluene	0.37	0.23†	0.54	<0.08	<0.08	0.19†	0.4	0.17†	1,000	200
1,1,2-Trichloroethane	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	5	0.5
Trichloroethene	11	2.6	8.7	0.6	3.1	0.84	1	10	5	0.5
Trimethylbenzenes	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	480	96
Vinyl Chloride	<0.16	<0.16	<0.16	0.51†	<0.16	<0.16	1	<0.16	0.2	0.02
Xylenes	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	10,000	1,000
Total VOC	11.86	2.83	9.80	7.61	3.34	2.37	10.01	10.38		
Analyte (ug/L)										
Acenaphthalene	<0.053	–	–	<0.053	–	–	3.4	–	–	–
Acenaphthylene	<0.16	–	–	<0.16	–	–	<0.16	–	–	–
Anthracene	<0.024	–	–	<0.024	–	–	<0.024	–	3000	600
Benzo(a)Anthracene	<0.03	–	–	<0.03	–	–	<0.03	–	–	–
Benzo(a)Pyrene	<0.022	–	–	<0.022	–	–	<0.022	–	0.2	0.02
Benzo(b)Fluoranthene	<0.036	–	–	<0.036	–	–	<0.036	–	0.2	0.02
Benzo(g,h,i)perylene	<0.087	–	–	<0.087	–	–	<0.087	–	–	–
Benzo(k)Fluoranthene	<0.067	–	–	<0.067	–	–	<0.067	–	–	–
Chrysene	<0.022	–	–	<0.022	–	–	<0.022	–	0.2	0.02
Fluoranthene	<0.053	–	–	<0.053	–	–	<0.053	–	400	80
Fluorene	<0.025	–	–	<0.025	–	–	<0.025	–	400	80
Indeno(1,2,3-cd)Pyrene	<0.03	–	–	<0.03	–	–	<0.03	–	–	–
1-Methyl-Naphthalene	<0.095	–	–	<0.095	–	–	2	–	–	–
2-Methyl-Naphthalene	<0.096	–	–	<0.096	–	–	<0.096	–	–	–
Naphthalene	<0.067	–	–	<0.067	–	–	<0.067	–	40	8
Phenanthrene	<0.036	–	–	<0.036	–	–	<0.036	–	–	–
Pyrene	<0.13	–	–	<0.13	–	–	<0.13	–	250	50
Total PAH	ND	–	–	ND	–	–	5.4	–		
Analyte (ug/L)										
Arsenic	<1.3	–	–	<2.6	–	–	<2.6	–	50	5
Barium (mg/L)	0.18	–	–	0.11	–	–	0.28	–	2	0.4
Cadmium	<0.08	–	–	<0.08	–	–	<0.08	–	5	0.5
**Chromium (total)	1.3†	–	–	<0.7	–	–	3.1	–	100	10
Lead	<1	–	–	<1	–	–	<1	–	15	1.5
Mercury	0.71	–	–	1.4	–	–	2.3	–	2	0.2
Selenium	5.8	–	–	<1.0	–	–	<1.0	–	50	10
Silver	0.99	–	–	0.54†	–	–	1.1	–	50	10

VOC = Volatile Organic Compounds (EPA Method 8260)
Bold Type = Exceeds NR140 Groundwater Quality Enforcement Standard (ES)
Underline Type = Exceeds NR140 Groundwater Quality Preventive Action Limit (PAL)
– No Standards Established for this Contaminant
† = Detected above the Limit of Detection, but below the Limit of Quantitation

Notes:
- Only compounds detected or previously detected in the VOC scan are listed

TABLE 1 (continued)
Groundwater Analytic Test Results (March 2002)

Former Quicfrez Site
Fond du Lac, Wisconsin
Project Number: 02-2-15818

Date Sampled:	B22 03/06/2002	B24 03/06/2002	B25 03/06/2002	B26 03/06/2002	B27 03/06/2002	B28 03/06/2002	B29 03/07/2002	B30 03/07/2002	NR140 ES	NR140 PAL
Analyte (ug/L)										
Benzene	<0.08	<0.08	<0.08	0.18†	<0.08	0.12†	<0.08	<0.08	**5**	0.5
tert-Butylebenzene	<0.08	<0.08	<0.08	<0.08	1.3†	<0.08	<0.08	<0.08	–	–
sec-Butylebenzene	<0.1	<0.1	<0.1	<0.1	7.1	<0.1	<0.1	<0.1	–	–
n-Butylbenzene	<0.11	<0.11	<0.11	<0.11	2.8†	<0.11	<0.11	<0.11	–	–
Carbon Tetrachloride	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.2	**5**	0.5
Chloroform	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	**6**	0.6
Dichlorodifluoromethane	<0.22	0.44†	<0.22	0.49†	<2.2	<0.22	<0.22	<0.22	**1,000**	200
1,1-Dichloroethane	<0.15	<0.15	0.19†	0.32†	<1.5	<0.15	<0.15	<0.15	**850**	85
1,1-Dichloroethene	<0.11	<0.11	<0.11	<0.11	<1.1	<0.11	<0.11	<0.11	–	–
cis-1,2-Dichloroethene	<0.11	<0.11	0.21†	0.61	<1.1	<0.11	<0.11	<0.11	**70**	7
Ethylbenzene	<0.08	<0.08	<0.08	<0.08	2.7†	<0.08	<0.08	<0.08	**700**	140
Isopropylbenzene	<0.07	<0.07	<0.07	<0.07	19	<0.07	<0.07	<0.07	–	–
p-Isopropyltoluene	<0.12	<0.12	<0.12	<0.12	10	<0.12	<0.12	<0.12	–	–
Methylene Chloride	<0.24	<0.24	<0.24	<0.24	<2.4	<0.24	<0.24	<0.24	**5**	0.5
Naphthalene	<0.1	<0.1	<0.1	<0.1	43	<0.1	<0.1	<0.1	**40**	8
n-Propylbenzene	<0.15	<0.15	<0.15	<0.15	16	<0.15	<0.15	<0.15	–	–
Toluene	<0.08	<0.08	<0.08	<0.08	<0.8	<0.08	<0.08	<0.08	**1,000**	200
1,1,1-Trichloroethane	<0.14	<0.14	0.24†	<0.14	<1.4	<0.14	<0.14	<0.14	**200**	40
1,1,2-Trichloroethane	<0.19	<0.19	<0.19	<0.19	<1.9	<0.19	<0.19	<0.19	**5**	0.5
Trichloroethene	<0.13	0.47	0.16†	<0.13	<1.3	<0.13	<0.13	<0.13	**5**	0.5
Trimethylbenzenes	<0.19	<0.19	<0.19	<0.19	248	.41†	<0.19	<0.19	**480**	96
Vinyl Chloride	<0.16	<0.16	<0.16	<0.16	<1.6	<0.16	<0.16	<0.16	**0.2**	0.02
Xylenes	<0.34	<0.34	<0.34	<0.34	370	<0.34	<0.34	<0.34	**10,000**	1,000
Total VOC	ND	0.91	0.80	1.60	720	0.53	ND	ND		

VOC = Volatile Organic Compounds (EPA Method 8260)
Bold Type = Exceeds NR140 Groundwater Quality Enforcement Standard (ES)
Underline Type = Exceeds NR140 Groundwater Quality Preventive Action Limit (PAL)
– No Standards Established for this Contaminant
† = Detected above the Limit of Detection, but below the Limit of Quantitation

Notes:
- Only compounds detected or previously detected in the VOC scan are listed

TABLE 2

Groundwater Analytical Test Results (June 2002)

TABLE 2

Groundwater Analytic Test Results (June 2002)

Former Quicfrez Site
Fond du Lac, Wisconsin
Project No.: 02-2-15818

Date Sampled:	MW1R 06/11/2002	MW1A 06/11/2002	MW2 06/11/2002	MW4 06/11/2002	MW4A 06/11/2002	MW5 06/11/2002	MW5A 06/11/2002	MW6 06/11/2002	MW6A 06/11/2002	MW6B 06/11/2002	NR140 ES	NR140 PAL
Analyte (ug/L)												
Benzene	**100**	<0.08	0.7†	**32†**	<40	**60**	1.5†	<0.08	<0.08	<0.08	**5**	0.5
sec-Butylebenzene	<5	<0.1	2.3	<20	<50	<20	<1	<0.1	<0.1	<0.1	--	--
n-Butylbenzene	<5.5	<0.11	1.3†	<22	<55	<22	<1.1	<0.11	<0.11	<0.11	--	--
Carbon Tetrachloride	<10	<0.2	<1	<40	<100	<40	<2	**16**	<0.2	<0.2	**5**	0.5
Chloroform	<5	<0.1	<0.5	**240**	<50	<20	<1	4.3	.25†	<0.1	**6**	0.6
1,1-Dichloroethene	<5.5	<0.11	<0.55	**460**	<55	<22	<1.1	<0.11	<0.11	<0.11	**7**	0.7
cis-1,2-Dichloroethene	**3,300**	0.87	29	**1,400**	**1,100**	**3,500**	57	<0.11	<0.11	0.76	**70**	7
trans-1,2-Dichloroethene	51	<0.11	<0.55	**100**	<55	28†	<1.1	<0.11	<0.11	<0.11	**100**	20
Ethylbenzene	8.5†	<0.08	2.8	110	<40	<16	2.3†	<0.08	<0.08	<0.08	**700**	140
Isopropylbenzene	<3.5	<0.07	1.8	<14	<35	<14	<0.7	<0.07	<0.07	<0.07	--	--
p-Isopropyltoluene	<6	<0.12	1.7†	<24	<60	<24	<1.2	<0.12	<0.12	<0.12	--	--
Methylene Chloride	<3.5	<0.24	<1.2	<48	<120	<48	<2.4	<0.24	<0.24	<0.24	**5**	0.5
Naphthalene	<5	<0.1	13	<30	<50	<20	<1	<0.1	<0.1	<0.1	**40**	8
n-Propylbenzene	<7.5	<0.15	2.8	<30	<75	<30	<1.5	<0.15	<0.15	<0.15	--	--
Tetrachloroethene	<7.5	<0.15	<0.075	**140**	<75	<30	<1.5	<0.15	<0.15	<0.15	**5**	0.5
Toluene	7.5†	1	3.8	50†	<40	<16	<0.8	<0.08	<0.08	<0.08	**1,000**	200
1,1,2-Trichloroethane	<10	<0.19	<1	**3,200**	<100	**70†**	<1.9	<0.19	<0.19	<0.19	**5**	0.5
Trichloroethene	**510**	**17**	**13**	**370,000**	**140,000**	**49,000**	**3,100**	3.6	0.54	<0.13	**5**	0.5
Trimethylbenzenes	23†	<0.19	22.8	<38	<95	<38	1.2†	<0.19	<0.19	<0.19	**480**	96
Vinyl Chloride	**1,100**	<0.16	**8.6**	**1,200**	**100†**	**170**	**7.6**	<0.16	<0.16	<0.16	**0.2**	0.02
Xylenes	47	<0.34	11.1	46†	<175	<68	3†	<0.34	<0.34	<0.34	**10,000**	1,000
Total VOC	5,147	19	115	376,838	141,200	52,828	3,173	24	1	1		
Analyte (ug/L)												
Acenaphthalene	<0.053	<0.053	2.1	2.5	<0.053	<0.053	-	<0.053	-	-	--	--
Acenaphthylene	<0.16	<0.16	<0.16	1.5	<0.16	<0.16	-	<0.16	-	-	--	--
Anthracene	<0.024	<0.024	<0.024	<0.02	<0.024	<0.024	-	<0.024	-	-	**3000**	600
Benzo(a)Anthracene	<0.03	<0.03	<0.03	5.5	<0.03	<0.03	-	<0.03	-	-	--	--
Benzo(a)Pyrene	<0.022	<0.022	<0.022	**3.7**	<0.022	<0.022	-	<0.022	-	-	**0.2**	0.02
Benzo(b)Fluoranthene	<0.036	<0.036	<0.036	**3.3**	<0.036	<0.036	-	<0.036	-	-	**0.2**	0.02
Benzo(g,h,i)perylene	<0.087	<0.087	<0.087	3	<0.087	<0.087	-	<0.087	-	-	--	--
Benzo(k)Fluoranthene	<0.067	<0.067	<0.067	3.4	<0.067	<0.067	-	<0.067	-	-	--	--
Chrysene	<0.022	<0.022	<0.022	**3.8**	<0.022	<0.022	-	<0.022	-	-	**0.2**	0.02
Fluoranthene	<0.053	<0.053	<0.053	22	<0.053	<0.053	-	<0.053	-	-	**400**	80
Fluorene	<0.025	<0.025	3.1	9.1	<0.025	<0.025	-	<0.025	-	-	**400**	80
Indeno(1,2,3-cd)Pyrene	<0.03	<0.03	<0.03	3.9	<0.03	<0.03	-	<0.03	-	-	--	--
1-Methyl-Naphthalene	5.8	<0.095	30	3.9	<0.095	<0.095	-	<0.095	-	-	--	--
2-Methyl-Naphthalene	3.4	<0.096	2.4	5.8	<0.096	<0.096	-	<0.096	-	-	--	--
Naphthalene	1.7	<0.067	0.71	13	<0.067	<0.067	-	<0.067	-	-	**40**	8
Phenanthrene	<0.036	<0.036	<0.036	47	<0.036	<0.036	-	<0.036	-	-	--	--
Pyrene	<0.13	<0.13	<0.13	21	<0.13	<0.13	-	<0.13	-	-	**250**	50
Total PAH	11	ND	38	152	ND	ND		ND				
Analyte (ug/L)												
Arsenic	2.6†	-	<1.3	8.3	<1.3	2.1†	13	<1.3	-	-	**50**	5
Barium (mg/L)	0.03	-	0.138	0.221	0.004†	0.044	0.232	0.082	-	-	**2**	0.4
Cadmium	<0.08	-	0.29	0.3	<0.08	<0.08	0.25†	<0.08	-	-	**5**	0.5
**Chromium (total)	1†	-	1.6†	88	0.64†	1.9†	44	5.6	-	-	**100**	10
Lead	<0.66	-	<0.66	10	<0.66	<0.66	20	<0.66	-	-	**15**	1.5
Mercury	<0.11	-	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	-	-	**2**	0.2
Selenium	<1.0	-	<1.0	<1.0	<1.0	<1.0	<1.0	2.3†	-	-	**50**	10
Silver	0.9	-	0.78	2.7	0.54†	0.8	0.78	.58†	-	-	**50**	10

VOC = Volatile Organic Compounds (EPA Method 8260)
Bold Type = Exceeds NR140 Groundwater Quality Enforcement Standard (ES)
Underline Type = Exceeds NR140 Groundwater Quality Preventive Action Limit (PAL)
-- No Standards Established for this Contaminant
- Not Sampled
† = Detected above the Limit of Detection, but below the Limit of Quantitation

Notes:
- Only compounds detected or previously detected in the VOC scan are listed

TABLE 2 (continued)

Groundwater Analytic Test Results--June 11, 2002

Former Quicfrez Site
Fond du Lac, Wisconsin
Project No.: 02-2-15818

Date Sampled:	MW7 06/11/2002	MW7A 06/11/2002	MW7B 06/11/2002	MW8 06/11/2002	MW8A 06/11/2002	MW8B 06/11/2002	MW9 06/11/2002	MW10B 06/11/2002	Sump 06/11/2002	NR140 ES	NR140 PAL
Analyte (ug/L)											
Benzene	<0.08	0.18†	0.28	<0.08	<0.08	<0.08	1.5	0.09†	0.24†	5	0.5
tert-Butylebenzene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	0.15†	<0.08	<0.08	–	–
sec-Butylebenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	0.72	–	–
n-Butylbenzene	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	0.51	<0.11	0.54	–	–
Carbon Tetrachloride	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5	0.5
Chloroform	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0.6
1,1-Dichloroethane	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	0.23†	<0.15	<0.15	850	85
cis-1,2-Dichloroethene	1.1†	<0.11	<0.11	4.6	<0.11	0.12†	2.1	<0.11	0.74	70	7
trans-1,2-Dichloroethene	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	100	20
Ethylbenzene	<0.08	<0.08	<0.08	<0	<0.08	<0.08	<0.08	<0.08	0.37	700	140
Isopropylbenzene	<0.07	<0.07	<0.07	0.08	<0.07	<0.07	0.55	<0.07	0.37	–	–
p-Isopropyltoluene	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	0.87	–	–
Methylene Chloride	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24	5	0.5
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.5	<0.1	2	40	8
n-Propylbenzene	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	0.47†	–	–
Tetrachloroethene	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	5	0.5
Toluene	0.13†	2.2†	0.23†	<0.08	0.13†	0.16†	0.28†	<0.08	0.6	1,000	200
1,1,2-Trichloroethane	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	5	0.5
Trichloroethene	1.4	0.31†	0.33†	0.4†	0.28†	<0.13	1.2	3.4	7.8	5	0.5
Trimethylbenzenes	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	7.1	480	96
Vinyl Chloride	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	1.3	<0.16	<0.16	0.2	0.02
Xylenes	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	2.4	10,000	1,000
Total VOC	2.6	2.7	0.8	5.1	0.4	0.3	11.0	3.5	24.2		
Analyte (ug/L)											
Acenaphthalene	<0.053	-	-	<0.053	-	-	2.5	-	3.3	–	–
Acenaphthylene	<0.16	-	-	<0.16	-	-	<0.16	-	<0.16	–	–
Anthracene	<0.024	-	-	<0.024	-	-	<0.024	-	<0.024	3000	600
Benzo(a)Anthracene	<0.03	-	-	<0.03	-	-	<0.03	-	<0.03	–	–
Benzo(a)Pyrene	<0.022	-	-	<0.022	-	-	<0.022	-	2.0	0.2	0.02
Benzo(b)Fluoranthene	<0.036	-	-	<0.036	-	-	<0.036	-	<0.036	0.2	0.02
Benzo(g,h,i)perylene	<0.087	-	-	<0.087	-	-	<0.087	-	1.3	–	–
Benzo(k)Fluoranthene	<0.067	-	-	<0.067	-	-	<0.067	-	<0.067	–	–
Chrysene	<0.022	-	-	<0.022	-	-	<0.022	-	<0.022	0.2	0.02
Dibenzo(a,h)anthracene	<0.036			<0.036			<0.036		0.22	–	–
Fluoranthene	<0.053	-	-	<0.053	-	-	<0.053	-	<0.053	400	80
Fluorene	<0.025	-	-	<0.025	-	-	<0.025	-	4.1	400	80
Indeno(1,2,3-cd)Pyrene	<0.03	-	-	<0.03	-	-	<0.03	-	1.4	–	–
1-Methyl-Naphthalene	<0.095	-	-	<0.095	-	-	1.9	-	7.5	–	–
2-Methyl-Naphthalene	<0.096	-	-	<0.096	-	-	<0.096	-	3.6	–	–
Naphthalene	<0.067	-	-	<0.067	-	-	<0.067	-	0.93	40	8
Phenanthrene	<0.036	-	-	<0.036	-	-	<0.036	-	6.6	–	–
Pyrene	<0.13	-	-	<0.13	-	-	<0.13	-	<0.13	250	50
Total PAH	ND			ND			4.4		30.95		
Analyte (ug/L)											
Arsenic	1.5†	-	-	4.1	-	-	<1.3	-	-	50	5
Barium (mg/L)	0.217	-	-	0.156	-	-	0.119	-	-	2	0.4
Cadmium	<0.08	-	-	<0.08	-	-	<0.08	-	-	5	0.5
**Chromium (total)	2.7	-	-	0.86†	-	-	7.4	-	-	100	10
Lead	<0.66	-	-	<0.66	-	-	0.77†	-	-	15	1.5
Mercury	<0.11	-	-	<0.11	-	-	<0.11	-	-	2	0.2
Selenium	<1.0	-	-	<1.0	-	-	<1	-	-	50	10
Silver	0.84	-	-	0.47†	-	-	1.3	-	-	50	10

VOC = Volatile Organic Compounds (EPA Method 8260)
Bold Type = Exceeds NR140 Groundwater Quality Enforcement Standard (ES)
Underline Type = Exceeds NR140 Groundwater Quality Preventive Action Limit (PAL)
– No Standards Established for this Contaminant
† = Detected above the Limit of Detection, but below the Limit of Quantitation

Notes:
- Only compounds detected or previously detected in the VOC scan are listed

TABLE 3

Historical Groundwater Analytic Test Results

Chlorinated VOCs

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW1/MW1R												
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99	2,120	<15	756	<15	42.4	<15	<14	<15	<15	<39	<14
12/12/01	19,000	<250	8,400	<230	400†	<330	<320	<390	<360	<350	<560
03/07/02	890	<7.5	450	<5.5	170	<10	<5	<6	<5.5	<12	<10
06/10/02	510	<7.5	3,300	51	1,100	<10	<5	<6	<5.5	<3.5	<10

MW1A												
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99	1.36	<0.15	4.33	<0.15	3.4	<0.15	0.181	<0.15	<15	<0.39	<0.14
12/12/01	120	<2.5	15†	<2.3	<2.3	<3.3	<3.2	<3.9	<3.6	<3.5	<5.6
03/07/02	2,300	<7.5	25.0	<5.5	<8	<10	<5	<6	<5.5	<12	<10
06/10/02	17	<0.15	0.87	<0.11	<0.16	<0.2	<0.1	<0.12	<0.11	<0.24	<0.19

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	5	5	70	100	0.2	5	6	5	7	5	5
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW2	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-Chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
07/22/99	4.5	<0.15	19.7	<0.15	7.28	<0.15	<0.14	<0.15	0.352	19.7	4.5
12/12/01	<0.36	<0.25	13	<0.23	21	<0.33	<0.32	<0.39	<0.36	<0.35	<0.56
03/07/02	<0.65	<0.75	12	<0.55	16	<1	<0.5	<0.6	<0.55	<1.2	<1
06/10/02	13	<0.75	29	<0.55	8.6	<1	<0.5	<0.6	<0.55	<1.2	<1

MW3	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-Chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
07/22/99	2.48	<0.15	1.9	<0.15	0.376	<0.15	<0.14	<0.15	<0.15	1.9	2.48
12/12/01											
03/07/02				Well Destroyed During Building Demolition							
06/10/02											

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	5	5	70	100	0.2	5	6	5	7	5	5
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW4 Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99						Prior to Construction					
12/12/01											
03/07/02	34,000	<30	1,900	<22	770	<40	<20	<24	<22	<48	240
06/10/02	370,000	140	1,400	100	1,200	<40	240	<24	460	<48	3,200

MW4A Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99	2.48		1.9		0.376				<0.15	1.9	2.48
12/12/01						Prior to Construction					
03/07/02											
06/10/02	140,000	<75	1,100	<55	100†	<100	<50	<60	<55	<155	<100

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	5	5	70	100	0.2	5	6	5	7	5	5
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW5 Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99						Prior to Construction					
12/12/01											
03/07/02	22,000	<30	1,400	<22	<32	<40	<20	<24	<22	<48	<38
06/10/02	49,000	<30	3,500	28†	<68	<40	<20	<24	<22	<48	70†

MW5A Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99	2.48		1.9		0.376				<0.15	1.9	2.48
12/12/01						Prior to Construction					
03/07/02											
06/10/02	3,100	<1.5	57	<1.1	7.6	<2	<1	<60	<1.1	<2.4	<1.9

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	5	5	70	100	0.2	5	6	5	7	5	5
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW6	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-Chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
07/22/99						Prior to Construction					
12/12/01											
03/07/02	4.3	<0.15	<0.11	<0.11	<0.16	23	7.7	<0.16	<0.11	<0.24	<0.19
06/10/02	3.6	<0.15	<0.11	<0.11	<0.16	16	4.3	<0.12	<0.11	<0.24	<0.19

MW6A	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-Chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
07/22/99	2.48		1.9		0.376				<0.15	1.9	2.48
12/12/01						Prior to Construction					
03/07/02											
06/10/02	0.54	<0.15	<0.11	<0.11	<0.16	<0.2	.25†	<0.12	<0.11	<0.24	<0.19

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	5	5	70	100	0.2	5	6	5	7	5	5
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW6B												
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99						Prior to Construction					
12/12/01											
03/07/02	0.22†	<0.15	2	<0.11	<0.16	<0.2	<0.1	<0.12	<0.11	<0.24	<0.24
06/10/02	<0.13	<0.15	0.76	<0.11	<0.16	<0.2	<0.1	<0.12	<0.11	<0.24	<0.19

MW7												
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99	2.48		1.9		0.376				<0.15	1.9	2.48
12/12/01						Prior to Construction					
03/07/02											
06/10/02	1.4	<0.15	1.1†	<0.11	<0.16	<0.2	<0.1	<0.12	<0.11	<0.24	<0.19

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	**5**	**5**	**70**	**100**	**0.2**	**5**	**6**	**5**	**7**	**5**	**5**
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW7A											
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99						Prior to Construction					
12/12/01											
03/07/02	2.6	<0.15	<0.11	<0.11	<0.11	<0.11	<0.1	<0.12	<0.11	<0.24	<0.19
06/10/02	0.31†	<0.15	<0.11	<0.11	<0.16	<0.2	<0.1	<0.15	<0.11	<0.24	<0.19

MW7B											
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99	2.48		1.9		0.376				<0.15	1.9	2.48
12/12/01						Prior to Construction					
03/07/02											
06/10/02	0.33†	<0.15	<0.11	<0.11	<0.16	<0.2	<0.1	<0.15	<0.11	<0.24	<0.19

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	5	5	70	100	0.2	5	6	5	7	5	5
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW8											
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99						Prior to Construction					
12/12/01											
03/07/02	0.6	<0.15	6.5	<0.11	0.51†	<0.2	<0.1	<0.12	<0.11	<0.24	<0.19
06/10/02	0.4†	<0.15	4.6	<0.11	<0.16	<0.2	<0.1	<0.12	<0.11	<0.24	<0.19

MW8A											
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99	2.48		1.9		0.376				<0.15	1.9	2.48
12/12/01						Prior to Construction					
03/07/02											
06/10/02	0.28†	<0.15	<0.11	<0.11	<0.16	<0.2	<0.1	<0.12	<0.11	<0.24	<0.19

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	5	5	70	100	0.2	5	6	5	7	5	5
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW8B												
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99						Prior to Construction					
12/12/01											
03/07/02	0.84	<0.15	1	<0.11	<0.16	<0.2	<0.1	<0.12	<0.11	<0.24	<0.19
06/10/02	<0.13	<0.15	0.12†	<0.11	<0.16	<0.2	<0.1	<0.15	<0.11	<0.24	<0.19

MW9												
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99	2.48		1.9		0.376				<0.15	1.9	2.48
12/12/01						Prior to Construction					
03/07/02											
06/10/02	1.2	<0.15	2.1	<0.11	1.3	<0.2	<0.1	<0.12	<0.11	<0.24	<0.19

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	**5**	**5**	**70**	**100**	**0.2**	**5**	**6**	**5**	**7**	**5**	**5**
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 3

Historical Groundwater Analytic Test Results--Chlorinated VOC's

Former Quikfrez Site--Fond du Lac, Wisconsin
Project Number: 02-2-15818

MW10B											
Date	Trichloro-ethene (µg/L)	Tetrachloro-ethene (µg/L)	cis-1,2 Dichloro-ethene (µg/L)	trans-1,2 Dichloro-ethene (µg/L)	Vinyl Chloride (µg/L)	Carbon Tetra-Chloride (µg/L)	Chloroform (µg/L)	1,2-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1,2-Trichloro-ethane (µg/L)
07/22/99						Prior to Construction					
12/12/01											
03/07/02	10	<0.15	<0.11	<0.11	<0.16	<0.2	<0.1	<0.15	<0.11	<0.24	<0.19
06/10/02	3.4	<0.15	<0.11	<0.11	<0.16	<0.2	<0.1	<0.15	<0.11	<0.24	<0.19

NR140 Ground Water Standard	Trichloro-ethene	Tetrachloro-ethene	cis-1,2 Dichloro-ethene	trans-1,2 Dichloro-ethene	Vinyl Chloride	Carbon Tetra-chloride	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Methylene Chloride	1,1,2-Trichloro-ethane
Enforcement Standard	5	5	70	100	0.2	5	6	5	7	5	5
Preventive Action Limit	0.5	0.5	7	20	0.02	0.5	0.6	0.5	0.7	0.5	0.5

† = Detected above the Limit of Detection but below the Limit of Quantitation

TABLE 4

Soil Analytical Test Results, VOCs

TABLE 4
Soil Analytic Test Results--VOC

Former Quicfrez Complex
Fond du Lac, Wisconsin

Previous Investigation Data													NR 746	NR 746
Sample Interval	B1-3	B2-4	B3-3	B6-3	B7-1	B8-2	B9-3	B10-2	MW1A-3	M1A-5	MW2-3	MW3-2	NR 720	Table 1	Table 2
Depth (feet)	6-8	8-10	6-8	6-8	3-5	6-8	7.5-9.5	5-7	7.5-9.5	12.5-14.5	7.5-9.5	5-7	RCL's	Values	Values
Sample Date	Jan-97	Jan-97	Jan-97	Jan-97	Jul-99	Jul-99	Jul-99	Jul-99	Jul-99	Jul-99	Jul-99	Jul-99	(µg/kg)	(µg/kg)	(µg/kg)
Analyte (µg/kg)															
Benzene	<32	51	<33	<13	<30	<33	<6,353	<33	1,558	<31	<31	<250	5.5	8,500	1,100
tert-Butylbenzene	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
n-Butylbenzene	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	80	<500	--	--	--
sec-Butylbenzene	<32	171	<33	-	<30	<33	<12,706	<33	<1,339	<31	41	2,265	--	--	--
Carbon Tetrachloride	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
Chloroform	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
1,2-Dichloroethane	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	4.9	600	--
1,1-Dichloroethene	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
cis-1,2-Dichloroethene	<32	<39	<33	-	<30	<33	56,290	96	<1,339	2,156	<31	<500	--	--	--
trans-1,2-Dichloroethene	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
2,2-Dichloropropane	<32	<39	<33	-	<30	<33	56,290	96	<1,339	2,156	<31	<500	--	--	--
Ethylbenzene	<32	73	<33	<32	<30	<33	<12,706	<33	3,989	<31	<31	<500	2,900	4,600	--
Isopropylbenzene	<32	73	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
p-Isopropyltoluene	<32	623	<33	-	<30	<33	<12,706	<33	<1,339	<31	119	<500	--	--	--
Methylene Chloride	<64	<78	<66	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
MTBE	<32	<39	<33	<32	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
Naphthalene	<32	1,870	342	-	<1.4	2.36	-	-	<1,339	<31	38	<500	--	2,700	--
n-Propylbenzene	<32	92	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
Tetrachlorethene	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
Toluene	<32	44	<33	32	<30	<33	<12,706	<33	1,797	<31	<31	<500	1,500	38,000	--
1,1,2-Trichloroethane	<32	<39	<33	-	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	--	--
Trichloroethene	<32	<39	<33	-	<30	<33	309,916	<33	<1,339	34	<31	<500	--	--	--
1,2,4-Trimethylbenzene	<32	1,560	70	<32	<30	<33	<12,706	<33	2,659	<31	47	1,476	--	83,000	--
1,3,5-Trimethylbenzene	<32	592	<33	<32	<30	<33	<12,706	<33	<1,339	<31	<31	<500	--	11,000	--
Vinyl Chloride	<32	<32	<39	-	<30	<33	<12,706	<33	<1,339	607	<31	<500	--	--	--
Xylenes	<45	1,290	263	<95	<30	<33	<12,706	<33	31,019	<31	50	<500	4,100	42,000	--
Total VOC	ND	6,439	675	32	ND	2.36	422,496	192	41,022	4,953	375	3,741	--	--	--

VOC= Volatile Organic Compounds (EPA Method 8260 for samples from 12/01)
RCL = Residual Contaminant Level
-- = No Standards Established
- = Not Sampled

† = Detected above the Limit of Detection but below the Limit of Quantitation
Bold = Exceeds NR 720 Soil RCL
Underline = Exceeds NR746 Table 1 or Table 2 Values

TABLE 4 (CONTINUED)
Soil Analytic Test Results--VOC

Former Quicfrez Complex
Fond du Lac, Wisconsin

Current Investigation Data														NR 746	NR 746
Sample Interval	B11-1	B11-6	B11-8	B12-1	B12-6	B12-7	B13-1	B13-6	B13-7	B14-1	B15-1	B15-7	NR 720	Table 1	Table 2
Depth (feet)	0-2	10.5-12.5	16-18	0-2	10.5-12.5	13-15	0-2	10.5-12.5	13-15	0-2	*2-4	*15-17	RCL's	Values	Values
Sample Date	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/12/01	12/27/01	12/27/01	(µg/kg)	(µg/kg)	(µg/kg)
Analyte (µg/kg)															
Benzene	**770**	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	**100**	<25	<13,000	5.5	8,500	1,100
tert-Butylbenzene	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	29	<13,000	--	--	--
n-Butylbenzene	860	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	340	<13,000	--	--	--
sec-Butylbenzene	770	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	600	<13,000	--	--	--
Carbon Tetrachloride	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
Chloroform	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
1,2-Dichloroethane	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	4.9	600	--
1,1-Dichloroethene	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
cis-1,2-Dichloroethene	420	69,000	100,000	1,000	<5,000	<5,000	1,400	760	260	<25	89	<13,000	--	--	--
trans-1,2-Dichloroethene	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
2,2-Dichloropropane	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
Ethylbenzene	**2,900**	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	42	2,300	<13,000	2,900	4,600	--
Isopropylbenzene	710	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	42	450	<13,000	--	--	--
p-Isopropyltoluene	500	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	180	<13,000	--	--	--
Methylene Chloride	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
MTBE	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
Naphthalene	690	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	150	150	<13,000	--	2,700	--
n-Propylbenzene	1,300	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	920	<13,000	--	--	--
Tetrachlorethene	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
Toluene	**15,000**	**6,300**	<2,500	<250	<5,000	<5,000	370	<250	<25	110	61	<13,000	1,500	38,000	--
1,1,2-Trichloroethane	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
Trichloroethene	5,200	340,000	85,000	27,000	690,000	570,000	38,000	13,000	3,000	1,300	4,200	850,000	--	--	--
1,2,4-Trimethylbenzene	23,000	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	100	3,300	<13,000	--	83,000	--
1,3,5-Trimethylbenzene	13,000	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	41	720	<13,000	--	11,000	--
Vinyl Chloride	<250	<5,000	<2,500	<250	<5,000	<5,000	<250	<250	<25	<25	<25	<13,000	--	--	--
Xylenes	**45,000**	<15,000	<7,500	<750	<15,000	<5,000	<750	<750	<75	310	3,730	<38,000	4,100	42,000	--
Total VOC	109,350	415,300	185,000	28,000	690,000	570,000	39,770	13,760	3,260	2,095	17,069	850,000	--	--	--

VOC= Volatile Organic Compounds (EPA Method 8260 for samples from 12/01)
RCL = Residual Contaminant Level
-- = No Standards Established
- = Not Sampled

† = Detected above the Limit of Detection but below the Limit of Quantitation
Bold = Exceeds NR 720 Soil RCL
Underline = Exceeds NR746 Table 1 or Table 2 Values

*Borings B15 and B16 were performed in the basement area of the former building. The basement floor was approximately 3 feet below grade. Depths shown are below the basement floor elevation.

TABLE 4 (CONTINUED)
Soil Analytic Test Results--VOC

Former Quicfrez Complex
Fond du Lac, Wisconsin

Sample Interval Depth (feet) Sample Date	B15-9 *20-22 12/27/01	B16-5 *10-12 12/27/01	B16-10 *22.5-24.5 12/27/01	B17-(1/2) 1-5 12/27/01	B17-6 12.5-14.5 12/12/01	B17-11 25-27 12/12/01	B18-2 2-4 2/21/02	B18-13 2'4-26 2/21/02	B18-16 30-32 2/21/02	B19-1 0-2 2/25/02	B19-10 22.5-24.5 2/25/02	B19-12 27.5-29.5 2/25/02	NR 720 RCL's (µg/kg)	NR 746 Table 1 Values (µg/kg)	NR 746 Table 2 Values (µg/kg)
Analyte (µg/kg)															
Benzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	5.5	8,500	1,100
tert-Butylbenzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
n-Butylbenzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
sec-Butylbenzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Carbon Tetrachloride	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Chloroform	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
1,2-Dichloroethane	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	4.9	600	--
1,1-Dichloroethene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
cis-1,2-Dichloroethene	83	4,200	<25	<1,300	80	<25	<25	<25	<25	<25	<25	<25	--	--	--
trans-1,2-Dichloroethene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
2,2-Dichloropropane	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Ethylbenzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	2,900	4,600	--
Isopropylbenzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
p-Isopropyltoluene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Methylene Chloride	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
MTBE	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Naphthalene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	28	<25	<25	--	2,700	--
n-Propylbenzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Tetrachlorethene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Toluene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	46	<25	<25	1,500	38,000	--
1,1,2-Trichloroethane	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Trichloroethene	12,000	280,000	330	71,000	2,200	<25	310	150	120	180	<25	<25	--	--	--
1,2,4-Trimethylbenzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	83,000	--
1,3,5-Trimethylbenzene	<50	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	11,000	--
Vinyl Chloride	82	<2,500	<25	<1,300	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Xylenes	<150	<7,500	<75	<3,800	<75	<75	<75	<75	<75	73	<75	<75	4,100	42,000	--
Total VOC	12,165	284,200	330	71,000	2,280	ND	310	150	120	327	ND	ND	--	--	--

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Bold = Exceeds NR 720 Soil RCL
Underline = Exceeds NR746 Table 1 or Table 2 Values
*Borings B15 and B16 were performed in the basement area of the former building. The basement floor was approximately 3 feet below grade. Depths shown are below the basement floor elevation.

TABLE 4 (CONTINUED)
Soil Analytic Test Results--VOC

Former Quicfrez Complex
Fond du Lac, Wisconsin

Sample Interval	B20-2	B21-2	MW2	MW4A-1	MW4A-6	MW6A-1	MW6A-6	MW6A-12	MW6B-3	MW7A-9	MW7A-12	NR 720	NR 746 Table 1	NR 746 Table 2
Depth (feet)	2-4	2-4	Surface	15-17	27.5-29.5	0-2	12.5-14.5	28-30	43-45	20-22	27.5-29.5	RCL's	Values	Values
Sample Date	3/1/02	3/1/02	12/12/01	2/21/02	2/21/02	2/28/02	2/28/02	2/28/02	2/28/02	2/25/02	2/25/02	(ug/kg)	(ug/kg)	(ug/kg)
Analyte (ug/kg)														
Benzene	<25	<25	870	<25	<25	83	<25	<25	<25	<25	<25	5.5	8,500	1,100
tert-Butylbenzene	<25	<25	<500	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
n-Butylbenzene	<25	<25	7,300	<25	<25	39	<25	<25	<25	<25	<25	--	--	--
sec-Butylbenzene	<25	<25	730	<25	<25	25	<25	<25	<25	<25	<25	--	--	--
Carbon Tetrachloride	<25	<25	<500	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Chloroform	<25	<25	<500	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
1,2-Dichloroethane	<25	<25	<500	29	<25	<25	<25	<25	<25	<25	<25	4.9	600	--
1,1-Dichloroethene	<25	<25	<500	220	81	<25	<25	<25	<25	<25	<25	--	--	--
cis-1,2-Dichloroethene	<25	<25	<500	130	1,500	<25	<25	<25	<25	<25	<25	--	--	--
trans-1,2-Dichloroethene	<25	<25	<500	<25	34	<25	<25	<25	<25	<25	<25	--	--	--
2,2-Dichloropropane	<25	<25	<500	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Ethylbenzene	<25	<25	10,000	30	1,000	290	<25	<25	<25	<25	<25	2,900	4,600	--
Isopropylbenzene	<25	<25	920	<25	53	75	<25	<25	<25	<25	<25	--	--	--
p-Isopropyltoluene	<25	<25	<500	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Methylene Chloride	<25	<25	<500	37	<25	<25	<25	<25	<25	<25	<25	--	--	--
MTBE	<25	<25	<500	<25	<25	<25	<25	<25	<25	<25	<25	--	--	--
Naphthalene	<25	<25	12,000	<25	<25	280	<25	<25	<25	<25	<25	--	2,700	--
n-Propylbenzene	<25	<25	6,500	<25	100	110	<25	<25	<25	<25	<25	--	--	--
Tetrachlorethene	<25	<25	<500	260	100	<25	<25	<25	<25	<25	<25	--	--	--
Toluene	44	<25	15,000	40	40	<25	<25	<25	<25	<25	<25	1,500	38,000	--
1,1,2-Trichloroethane	<25	<25	<500	<25	78	<25	<25	<25	<25	<25	<25	--	--	--
Trichloroethene	94	<25	<500	500,000	140,000	<25	<25	<25	<25	<25	<25	--	--	--
1,2,4-Trimethylbenzene	<25	<25	71,000	<25	480	56	<25	<25	<25	<25	<25	--	83,000	--
1,3,5-Trimethylbenzene	<25	<25	18,000	<25	70	57	<25	<25	<25	<25	<25	--	11,000	--
Vinyl Chloride	<25	<25	<500	160	170	<25	<25	<25	<25	<25	<25	--	--	--
Xylenes	<75	<75	81,000	107	593	36	<75	<75	<75	<75	<75	4,100	42,000	--
Total VOC	138	ND	223,320	501,013	144,299	1,051	ND	ND	ND	ND	ND	--	--	--

VOC= Volatile Organic Compounds (EPA Method 8260 for samples from 12/01)
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- = Not Sampled

† = Detected above the Limit of Detection but below the Limit of Quantitation
Bold = Exceeds NR 720 Soil RCL
Underline = Exceeds NR746 Table 1 or Table 2 Values

TABLE 4 (CONTINUED)
Soil Analytic Test Results--VOC

Former Quicfrez Complex
Fond du Lac, Wisconsin

Sample Interval	MW8B-5	MW8B-12	MW9-2	MW9-6	NR 720	NR 746	NR 746
Depth (feet)	10-12	27.5-29.5	2.5-4.5	13-15	RCL's	Table 1	Table 2
Sample Date	2/28/02	2/28/02	2/25/02	2/25/02	(µg/kg)	Values (µg/kg)	Values (µg/kg)
Analyte (ug/kg)							
Benzene	<25	<25	<25	<25	5.5	8,500	1,100
tert-Butylbenzene	<25	<25	<25	<25	--	--	--
n-Butylbenzene	<25	<25	<25	<25	--	--	--
sec-Butylbenzene	<25	<25	<25	<25	--	--	--
Carbon Tetrachloride	<25	<25	<25	<25	--	--	--
Chloroform	<25	<25	<25	<25	--	--	--
1,2-Dichloroethane	<25	<25	<25	<25	4.9	600	--
1,1-Dichloroethene	<25	<25	<25	<25	--	--	--
cis-1,2-Dichloroethene	<25	<25	<25	38	--	--	--
trans-1,2-Dichloroethene	<25	<25	<25	<25	--	--	--
2,2-Dichloropropane	<25	<25	<25	<25	--	--	--
Ethylbenzene	<25	<25	<25	<25	2,900	4,600	--
Isopropylbenzene	<25	<25	<25	<25	--	--	--
p-Isopropyltoluene	<25	<25	<25	<25	--	--	--
Methylene Chloride	<25	<25	<25	<25	--	--	--
MTBE	<25	<25	<25	<25	--	--	--
Naphthalene	<25	<25	<25	<25	--	2,700	--
n-Propylbenzene	<25	<25	<25	<25	--	--	--
Tetrachlorethene	<25	<25	<25	<25	--	--	--
Toluene	<25	<25	<25	<25	1,500	38,000	--
1,1,2-Trichloroethane	<25	<25	<25	<25	--	--	--
Trichloroethene	<25	<25	<25	<25	--	--	--
1,2,4-Trimethylbenzene	<25	<25	<25	<25	--	83,000	--
1,3,5-Trimethylbenzene	<25	<25	<25	<25	--	11,000	--
Vinyl Chloride	<25	<25	<25	<25	--	--	--
Xylenes	<75	<75	<75	<75	4,100	42,000	--
Total VOC	ND	ND	ND	38	--	--	--

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Bold = Exceeds NR 720 Soil RCL
Underline = Exceeds NR746 Table 1 or Table 2 Values

TABLE 5

Soil Analytical Test Results, PAH/Metals

TABLE 5

Soil Analytic Test Results--PAH/Metals

Former Quicfrez Site
Fond du Lac, Wisconsin
Project Number: 02-2-15818

Sample Interval:	MW3-2	B7-1	B8-2	B10-2	B11-1	B12-1	B13-1	B14-1	B17-(1/2)	B18-2	B19-1	B20-2	PAH	PAH Guidance
Depth (feet):	5-7	3-5	6-8	5-7	0-2	0-2	0-2	0-2	1-5	2-4	0-2	2-4	Guidance	Non-Industrial
Sample Date:	Jul-99	Jul-99	Jul-99	Jul-99	12/12/01	12/12/01	12/12/01	12/12/01	12/27/01	2/21/02	2/25/02	3/1/02	Groundwater Path	Direct Contact
													(µg/kg)	(µg/kg)
Acenaphthalene	536	<3.5	<3.8	•	•	•	•	•	•	<13	<13	<41	**38,000**	900,000
Acenaphthylene	•	•	•	•	•	•	•	•	•	<42	18†	<42	**700**	18,000
Anthracene	125	<3.8	<4.2	•	•	•	•	•	•	12†	17†	<34	**3,000,000**	5,000,000
Benzo(a)Anthracene	<1.8	3.09	2.53	•	•	•	•	•	•	64	47	<54	**17,000**	88
Benzo(a)Pyrene	7.93	<4.9	<5.4	•	•	•	•	•	•	65	51†	<59	**48,000**	8.8
Benzo(b)Fluoranthene	<3.0	6.83	5.18	•	•	•	•	•	•	62†	62†	<42	**360,000**	88
Benzo(g,h,i)perylene	•	•	•	•	•	•	•	•	•	58	56	<82	**6,800,000**	1,800
Benzo(k)Fluoranthene	<3.0	4.16	3.43	•	•	•	•	•	•	68†	56†	<79	**870,000**	880
Chrysene	•	•	•	•	•	•	•	•	•	62	54	<38	**37,000**	8,800
Dibenzo(a,h)anthrancene	•	•	•	•	•	•	•	•	•	<76	<76	<76	**38,000**	8.8
Fluoranthene	<3.3	15.2	15.9	•	•	•	•	•	•	110	110	61†	**500,000**	600,000
Fluorene	750	<3.2	<3.6	•	•	•	•	•	•	<11	<11	<41	**100,000**	600,000
Indeno(1,2,3-cd)Pyrene	5.16	4.53	4.11	•	•	•	•	•	•	37†	32†	<69	680,000	88
1-Methyl-Naphthalene	4,550	<4.4	<4.9	•	•	•	•	•	•	14†	110	71†	**23,000**	1,100,000
2-Methyl-Naphthalene	266	<5.2	<5.7	•	•	•	•	•	•	20†	120	79†	**20,000**	600,000
Naphthalene	<1.5	<1.4	2.36	•	•	•	•	•	•	11†	73	45†	**400**	20,000
Phenanthrene	1,100	7.58	8.33	•	•	•	•	•	•	62	130	100	**1,800**	18,000
Pyrene	<4.6	9.4	13.0	•	•	•	•	•	•	81	62	<58	**8,700,000**	500,000
Total PAH	7,340	50.79	54.84	•	•	•	•	•	•	726	998	356	--	--
													NR 720 Non-Industrial	NR 720 Industrial
Analyte (mg/kg)													(mg/kg)	(mg/kg)
Arsenic	•	•	•	•	**22**	**4.5**	**7.8**	**14**	**57**	**4**	**3.3**	**9.7**	**0.039**	1.6
Barium	•	•	•	•	765	1,290	4,510	373	87	98	225	260	--	--
Cadmium	•	•	•	•	4.2	<1.2	<1.2	<1.2	**21**	<1.4	<1.6	1.9†	**8**	510
**Chromium	•	•	•	•	**61**	**37**	**142**	**16**	**50**	**34**	**40**	12	**14**	200
Lead	9.79	•	•	4.34	**246**	**340**	**300**	**303**	**68**	21	**276**	27	**50**	500
Mercury	•	•	•	•	0.056†	0.147	0.14	0.062†	•	0.201	0.108	0.02†	--	--
Selenium	•	•	•	•	<25	<2.5	<2.5	<2.5	<12.5	<0.063	0.16†	<0.36	--	--
Silver	•	•	•	•	54	<3	15	<3	<3	<3.7	<3.7	18	--	--
DRO (mg/kg)	3,340	•	•	•	•	•	•	•	•	•	•	•	**250**	--

DRO=Diesel Range Organics (Wisconsin Modified)
PAH= Polynuclear Aromatic Hydrocarbons (EPA Method 8310)
RCL = Residual Contaminant Level
-- = No Standards Established

† = Detected above the Limit of Detection but below the Limit of Quantitation
Bold = Exceeds NR 720 Soil Standards
Underline = Exceeds NR746 Table 1 or Table 2 Values
• = Not tested

**NR 720 Soil Standards for Chromium listed is for hexavalent species. Standards for trivalent species are less restrictive. Additional testing would be necessary to identify species detected.

TABLE 5 (continued)
Soil Analytic Test Results--PAH/Metals

Former Quicfrez Site
Fond du Lac, Wisconsin
Project Number: 02-2-15818

Sample Interval:	B29-1	B30-1	B30-4	PAH Guidance Groundwater Path	PAH Guidance Non-Industrial Direct Contact
Depth (feet):	0-2	0-2	7.5-9.5		
Sample Date:	3/6/02	3/6/02	3/6/02	(µg/kg)	(µg/kg)
Acenaphthalene	<41	<41	<41	**38,000**	900,000
Acenaphthylene	<42	48†	<42	**700**	18,000
Anthracene	<34	47†	<34	**3,000,000**	5,000,000
Benzo(a)Anthracene	56†	180	<54	**17,000**	88
Benzo(a)Pyrene	78†	230	<59	**48,000**	8.8
Benzo(b)Fluoranthene	86†	250	<42	**360,000**	88
Benzo(g,h,i)perylene	<82	240†	<82	**6,800,000**	1,800
Benzo(k)Fluoranthene	<79	160†	<79	**870,000**	880
Chrysene	74†	250	<38	**37,000**	8,800
Dibenzo(a,h)anthrancene	<76	<76	<76	**38,000**	8.8
Fluoranthene	100†	570	<42	**500,000**	600,000
Fluorene	<41	<41	<41	**100,000**	600,000
Indeno(1,2,3-cd)Pyrene	<69	150†	<69	680,000	88
1-Methyl-Naphthalene	120	140	<37	**23,000**	1,100,000
2-Methyl-Naphthalene	180†	170†	<72	**20,000**	600,000
Naphthalene	95†	110†	<40	**400**	20,000
Phenanthrene	94	340	<20	**1,800**	18,000
Pyrene	<58	300	<58	**8,700,000**	500,000
TOTAL PAH	883	3,185	ND	--	--

Analyte (mg/kg)				NR 720 Non-Industrial (mg/kg)	NR 720 Industrial (mg/kg)
Arsenic	**7**	**10**	·	**0.039**	1.6
Barium	624	409	·	--	--
Cadmium	<1.2	5.2	·	**8**	510
**Chromium	**15**	**508**	·	**14**	200
Lead	**285**	**5,280**	·	**50**	500
Mercury	0.092	0.235	·	--	--
Selenium	0.21	0.14†	·	--	--
Silver	3.6†	<3	·	--	--
DRO (mg/kg)	·	·	·	**250**	--

DRO=Diesel Range Organics (Wisconsin Modified)
PAH= Polynuclear Aromatic Hydrocarbons (EPA Method 8310)
RCL = Residual Contaminant Level
-- = No Standards Established

† = Detected above the Limit of Detection but below the Limit of Quantitation
Bold = Exceeds NR 720 Soil Standards
Underline = Exceeds NR746 Table 1 or Table 2 Values
· = Not tested

**NR 720 Soil Standards for Chromium listed is for hexavalent species. Standards for trivalent species are less restrictive. Additional testing would be necessary to identify species detected.

REFERENCES

MILLER
ENGINEERS
SCIENTISTS
An Employee-Owned Company

5308 South Twelfth Street
Sheboygan, WI 53081
Telephone: (414) 458-6164
Fax: (414) 458-0369

February 4, 1997

13635E100/200

Mr. John Angeli, Director of Redevelopment
City of Fond du Lac
150 South Macy Street
P.O. Box 150
Fond du Lac, WI 54936

Subject: **Phase I and II–Environmental Site Assessment**
Quicfrez Complex
105 Oak Place
Fond du Lac, Wisconsin

Dear Mr. Angeli:

The *Phase I and II–Environmental Site Assessment* report for the subject site is enclosed. This report was prepared in accordance with our Phase I proposal, dated September 20, 1996, authorized on September 27, 1996 and our Phase II amendment dated December 19, 1996, authorized on December 20, 1996.

We appreciate this opportunity to provide engineering services to you. If you have any questions concerning this report, please call us at 1-800-969-7013.

Sincerely,

MILLER ENGINEERS & SCIENTISTS

Tammy L Kuehlmann, P.E. *for*
Civil Engineer

Peter G. Pittner, M.S.
Senior Environmental Scientist

TLK/bjj

Enclosures

Distance	Source Id	Name	Status	Well #	Availability	Type	Source	Depth (ft.)
0.60		12 WELL #12	Active	BF798	Permanent	Source	GROUND WATER SOURCE	745
1.00		11 WELL #11	Active	BF797	Permanent	Source	GROUND WATER SOURCE	760
1.22		22 WELL #22	Active	AC339	Permanent	Entry Point and Source	GROUND WATER SOURCE	658
1.27		15 WELL #15	Active	BF801	Permanent	Source	GROUND WATER SOURCE	775
1.30		14 WELL #14	Active	BF800	Permanent	Entry Point and Source	GROUND WATER SOURCE	835
1.40		10 WELL #10	Active	BF796	Permanent	Source	GROUND WATER SOURCE	855
1.60		16 WELL #16	Active	BF802	Permanent	Entry Point and Source	GROUND WATER SOURCE	970
1.62		13 WELL #13	Active	BF799	Permanent	Source	GROUND WATER SOURCE	790
2.25		18 WELL #18	Active	BF804	Permanent	Source	GROUND WATER SOURCE	789
2.25		21 WELL #21	Active	BF807	Permanent	Entry Point and Source	GROUND WATER SOURCE	783
2.44		19 WELL #19	Active	BF805	Permanent	Source	GROUND WATER SOURCE	870
3.18		20 WELL #20	Active	BF806	Permanent	Source	GROUND WATER SOURCE	910
3.25		17 WELL #17	Active	BF803	Permanent	Source	GROUND WATER SOURCE	1025
3.68		23 WELL #23	Active	AY377	Permanent	Source	GROUND WATER SOURCE	965
4.40		24 WELL #24	Active	AY378	Permanent	Source	GROUND WATER SOURCE	1055
5.28		25 WELL #25	Active	AY379	Permanent	Source	GROUND WATER SOURCE	1150
		200	Active		Permanent	Entry Point	PERMANENT GROUND WATER ENTRY POINT	
		300	Active		Permanent	Entry Point	PERMANENT GROUND WATER ENTRY POINT	

	Source Id	Name	Status	Well #	Location	Availability	Type	Source	Depth (ft.)
2.85		2 WELL #2	Active	BF810		Permanent	Entry Point and Source	GROUND WATER SOUR	665
2.90		3 WELL #3	Active	BF811		Permanent	Entry Point and Source	GROUND WATER SOUR	368
3.50		4 WELL #4	Active	BF820	VAN DYNE ROAD	Permanent	Entry Point and Source	GROUND WATER SOUR	750

5526275 Fond du Lac city Fond du Lac **42,203 TOTAL**

Miles	apportioned pop.	3-12	
0-.25	0	0.0	0
.25-.5	2638	1013.0	**2637.69**
.5-1	0	0.0	0
1-2	18464	2939.0	**18463.8**
2-3	7913	2122.0	**10920.7**
3-4	7913	417.0	**9504.9**
		6491.0	
		649.1	

3007.62

1503.81

5558000 North Fond du Lac village Fond du Lac **4,557**

Mary Hill Park **88**

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William R. Selbig, Regional Director

Northeast Regional Headquarters
Solid Waste Office
PO Box 10448, 1125 N. Military Ave.
Green Bay, Wisconsin 54307-0448
TELEPHONE 414-492-5916
FAX 414-492-5859
TDD 414-492-5812

February 28, 1997

First & Portland
ATTN: Leonard Hughes
PO Box 1423
Fond du Lac, WI 54936-1423

SUBJECT: Reported Contamination at QUICFREZ Complex, 105 Oak Place, Fond du Lac, Wisconsin
BRRTS CASE #02-20-118383

Dear Mr. Hughes:

The Wisconsin Department of Natural Resources has been notified of contamination at the above referenced location.

Based on the information received by the Department of Natural Resources, we believe you are responsible for restoring the environment at this site under Section 292.11, Wisconsin Stats., known as the hazardous substances spills law. Your responsibilities include investigating the extent of the contamination and then selecting and implementing the most appropriate remedial action. Enclosed is information to help you understand what you need to do to ensure your compliance with the spills law.

The purpose of this letter is threefold: 1) to describe your legal responsibilities, 2) to explain what you need to do to investigate and clean up the contamination, and 3) to provide you with information about cleanups, environmental consultants, possible financial assistance, and working cooperatively with the Department of Natural Resources.

Legal Responsibilities:
Your legal responsibilities are defined both in statute and in administrative codes. The hazardous substances spill law, Section 292.11 (3) Wisconsin Statutes, states:

* RESPONSIBILITY. A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of the state.

Wisconsin Administrative Codes chapters NR 700 through NR 728 establish requirements for emergency and interim actions, public information, site investigations, design and operation of remedial action systems, and case closure. Chapter NR 708 includes provisions for immediate actions in response to limited contamination. Wisconsin Administrative Code chapter NR 140 establishes groundwater standards for contaminants that reach groundwater.

Steps to Take:
The longer contamination is left in the environment the farther it can spread and the more it may cost to clean up. Quick action may lessen damage to your property and to neighboring properties and reduce your costs in investigating and cleaning up the contamination. To ensure that your cleanup complies with Wisconsin's laws and

administrative codes, you should hire a professional environmental consultant who understands what needs to be done. These are the first four steps to take:

1. By April 1, 1997, please submit written verification (such as a letter from the consultant) that you have hired an environmental consultant. You will need to work quickly to meet this timeline.

2. By May 1, 1997, your consultant must submit a workplan and a schedule for conducting the investigation. The consultant must follow the Department's administrative codes and our technical guidance documents. Please include with your workplan a copy of any previous information that has been completed (such as an underground tank removal report or a preliminary soil excavation report).

3. Please keep us informed of what is being done at your site. You or your consultant must provide us with a brief report at least every 90 days, starting after your workplan is submitted. These quarterly reports should summarize the work completed since the last report. Quarterly reports need only include one or two pages of text, plus any relevant maps and tables. However, please note that should conditions at your site warrant, you may receive a letter requiring more or less frequent contacts with the Department.

4. When the site investigation is complete, your consultant must submit a full report on the extent and degree of soil and groundwater contamination and a proposal for cleaning up the contamination.

Due to the number of contaminated sites and our staffing levels, we will be unable to respond to each report. To maintain your compliance with the spills law and chs. NR 700 through NR 728, do not delay the investigation and cleanup of your site by waiting for DNR responses. We have provided detailed technical guidance to environmental consultants. Your consultant is expected to be familiar with our technical procedures and administrative codes and should be able to answer your questions on meeting Wisconsin's cleanup requirements.

Your correspondence and reports regarding this site should be sent to the Department at the following address:

Wisconsin Department of Natural Resources
Roxanne Nelezen Chronert
1125 North Military Avenue
P.O. Box 10448
Green Bay, WI 54307-0448

If the contamination does not include groundwater contamination, the responsibility for governmental oversight of this site will be transferred to the Department of Commerce in accordance with Wisconsin Act 27.

Unless otherwise requested, please send only one duplexed copy of all plans and reports. Correspondence should be identified with the assigned DNR identification number BRRTS CASE #02-20-118383.

Information for Site Owners:
Enclosed is a list of environmental consultants and some important tips on selecting a consultant. Also enclosed are materials on controlling costs, understanding the cleanup process, and choosing a site cleanup method. This information has been prepared to help you understand your responsibilities and what your environmental consultant needs to do. Please read this information carefully.

If you have any questions about this letter or your responsibilities, please call me at (414) 492-5592.

Thank you for your cooperation.

Sincerely,

Roxanne Nelezen Chronert
Spills Coordinator - Hydrogeologist

Enclosure

cc: City of Fond du Lac, John Angeli; PO Box 150; Fond du Lac, WI 54936-0150

Remedial Investigation/
Remedial Action Plan Report

FORMER QUICFREZ COMPLEX

105 Oak Place
Fond du Lac, Wisconsin

PREPARED FOR:

City of Fond du Lac
160 South Macy
P.O. Box 150
Fond du Lac, WI 54936
Telephone (920) 929-3316
Fax (920) 929-3291

PREPARED BY:

Miller Engineers & Scientists
5308 S. 12th Street
Sheboygan, WI 53081
Telephone (920) 458-6164
Fax (920) 458-0369
Project No. 13635E300

September 30, 1999

CITY OF FOND DU LAC - Memorandum

City Clerk's Office

Date: September 28, 2000

To: John Angeli, Redevelopment Director

From: Tess Hochrein, City Clerk

Re: Resolution No. 7201, A Resolution Of Necessity Relating To The Condemnation Of The Quick Freeze Property

The subject document was adopted at the September 28, 2000 City Council Meeting.

A copy is attached for your records.

JURISDICTIONAL OFFER

To: Owner: 1ST & PORTLAND CORP.
131 S. MAIN STREET
FOND DU LAC WI 54935

Mortgagee: NATIONAL EXCHANGE BANK AND TRUST
346 N. MAIN STREET
FOND DU LAC WI 54935

TELMARK, LLC
P O BOX 4943
SYRACUSE NY 13221
ATTN JOHN DAVIAU

PLEASE TAKE NOTICE that this document is the Jurisdictional Offer of the City of Fond du Lac, Wisconsin, in accordance with subsections 32.06(3) and 32.05(3), Wisconsin Statutes, as follows:

1. That on September 27, 2000, the City Council of the City of Fond du Lac adopted a resolution of necessity thereby deeming it necessary to acquire fee title to the property described in paragraph 2 herein to demolish the structures, remediate the environmental contamination, and redevelop the site for the purpose of eliminating the blight and creating additional open space, and the City of Fond du Lac in good faith intends to use the property sought to be condemned, as referred to in paragraph 2 below, for such a public purpose;

2. That the City of Fond du Lac intends to acquire a fee simple interest in the following described real estate:

See Exhibit A attached hereto

3. That the City of Fond du Lac's proposed date of occupancy of the property described in paragraph 2 above is June 1, 2001;

4. That the City of Fond du Lac hereby offers compensation for the real estate described in paragraph 2 above of $67,900.00.

5. That compensation for additional items of damage as set forth in section 32.19, Wisconsin Statutes, may be claimed under section 32.20, Wisconsin Statutes, and will be paid if shown to exist;

6. That the appraisal of the property on which the City's offer is based is available for inspection and copying by persons having an interest in the lands sought to be acquired, from 7:45 a.m. to 4:30 p.m. weekdays at:

Community Development
City/County Government Center
160 South Macy Street
Fond du Lac WI 54935

7. That the owner has twenty (20) days from February 20, 2001 in which to accept or reject this offer.

8. That if the owner has not accepted this offer within said 20-day period, the owner has forty (40) days from February 20, 2001 to commence a court action to contest the right of condemnation, as provided in subsection 32.06(5) of the Wisconsin Statutes, provided that the acceptance and retention of any compensation resulting from an award made prior to the commencement of such action shall be an actual bar to such action;

9. That, if this offer is not accepted within 20 days, the City of Fond du Lac may petition for a determination of just compensation by the County Condemnation Commissioners of Fond du Lac County and that either party may appeal from the award of said County Condemnation Commissioners to the Fond du Lac County Circuit Court within 60 days as provided in subsection 32.06(10), of the Wisconsin Statutes.

Dated this 20th day of February, 2001.

CITY OF FOND DU LAC, WISCONSIN

Stephen T. Nenonen, City Manager

Theresa C. Hochrein, City Clerk

This Jurisdictional Offer is accepted/rejected this _____ day of _____, 2001.

1ST & PORTLAND CORP.

_____

_____

Return to:

John Angeli
Community Development
City County Government Center
P.O. Box 150
Fond du Lac WI 54935

RESOLUTION NO. 7201

A RESOLUTION OF NECESSITY RELATING
TO THE CONDEMNATION OF THE QUICK FREEZE PROPERTY

WHEREAS, the former Quick Freeze site ("Property"), as described in Exhibit A, contains structures that because of deterioration, age, dilapidation, are in unsafe, unsanitary, and dangerous condition; and

WHEREAS, portions of the property are environmentally contaminated and in need of environmental remediation; and

WHEREAS, these and other factors cause the Property to be blighted and impair the sound growth of the area and create an economic liability to the community; and

WHEREAS, the area of the City where the Property is located is densely developed and in need of open space; and

WHEREAS, the Redevelopment Authority of the City of Fond du Lac has held a public hearing concerning the potential acquisition, remediation and redevelopment of the Property, and received testimony supporting the findings stated above; and

WHEREAS, the Redevelopment Authority has recommended that the Property be acquired, structures demolished and the site remediated and redeveloped in a manner consistent with the City's Comprehensive Plan; and

WHEREAS, the City Council has determined that, because of the foregoing reasons, there is a necessity to acquire the Property pursuant to Section 32.06 of the Wisconsin Statutes.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Fond du Lac, Wisconsin, that:

1. This Resolution is a resolution of necessity, in accordance with subsections 32.06(1) and 32.07(2), of the Wisconsin Statutes, relating to the within-described remediation and redevelopment project; and

2. It is hereby determined that it is necessary for the City of Fond du Lac to demolish the structures, remediate the environmental contamination, and redevelop the site for the purpose of eliminating the blight and creating additional open space and,

further, that such actions are in the best interests of the citizens of Fond du Lac; and

3. It is hereby additionally determined that it is necessary, in furtherance of the above-stated public purpose, for the City to acquire the fee-simple title to the real estate described in Exhibit A, attached hereto and made a part of this Resolution, to complete said public improvement project.

4. The City of Fond du Lac will hereby acquire by condemnation, in accordance with Chapter 32 of the Wisconsin Statutes, the above-mentioned interest in the above-described real estate from the record owners thereof, said owners being the 1st & Portland Corporation, Inc., and from any and all other persons or entities who may have an interest in said real estate.

BE IT FURTHER RESOLVED that the City Council hereby authorizes and directs the proper City officials to take all necessary steps to effectuate the terms of this Resolution and complete said project.

BE IT FURTHER RESOLVED that the City Council hereby authorizes and directs the Redevelopment Authority to administer the disposition of the real estate, including evaluation of the reuse proposals.

ADOPTED: SEP 27 2000

Martin S. Ryan, President
Fond du Lac City Council

Attest:
Theresa Hochrein
Theresa Hochrein, City Clerk

City Attorney:
Reviewed VA

MILLER
ENGINEERS
SCIENTISTS
An Employee-Owned Company

December 11, 2001

Ms. Roxanne Chronert
Wisconsin Department of Natural Resources
1125 North Military Avenue
P.O. Box 10448
Green Bay WI 54307-0448

Subject: **Workplan**
Emergency Action/Site Investigation
***Quicfrez Complex*-Fond du Lac, Wisconsin**
BRRTS No.: 02-20-118383

Dear Roxanne:

This workplan describes the engineering services that Miller Engineers & Scientists recommends for performing emergency action services and coordination, quickturn investigation of contamination along the riverbank, contaminated soil excavation, and additional soil borings and well construction in the future. The purpose of the proposed work is to comply with WDNR requirements for stabilizing the riverbank and removing hotspot soil contamination as stated in correspondence from WDNR dated December 4, 2001 and October 8, 1999, respectively. The additional monitoring wells proposed in Miller's September 1999 *Remedial Investigation/Remedial Action Plan Report* have not yet been constructed.

At this time we understand that the City of Fond du Lac prefers to permanently stabilize the riverbank immediately rather than apply a temporary solution to comply with WDNR requirements. The preferred stabilization option is to cut the bank back and place geotextile fabric overlain by rip-rap. This option would require some excavation in potentially contaminated areas, which necessitates defining the horizontal and vertical extent of contamination prior to construction so that contaminated soil can be properly handled and disposed. Excavation of hotspot soil contamination to depths greater than the proposed bank cut would also have to be performed prior to stabilization.

Scope of Services

To complete the work specified above, we will perform the services outlined in *Attachment 1: Scope of Services*, which provides details of the specific scope of services that we recommend. In general, we propose to advance up to eight soil borings along the river and in the former basement of the North Production building for the purpose of collecting soil samples. Temporary wells will also be installed in each of the borings and groundwater samples collected if the formation yields enough water. Groundwater samples will also be collected from wells MW1, MW1A, and MW2 if they can be found.

The results of the geoprobe soil borings will be used to develop plans for bank stabilization and contaminated soil excavation/disposal in consultation with the City and WDNR. Upon approval of the plan, excavation of contaminated soil will proceed. Miller personnel will be present to observe and document the contaminated soil hotspot excavation and to collect soil samples. A mobile laboratory

FAX TRANSMITTAL

MILLER
ENGINEERS
SCIENTISTS

Sheboygan
5308 S 12th Street
Sheboygan, WI 53081-8099
Telephone (920) 458-6164
Fax (920) 458-0369

☐ Sent from Sheboygan office

Fox Valley
1119 W Kennedy Avenue
Suite A
Kimberly, WI 54136-2207
Telephone (920) 954-9100
Fax (920) 954-8720

☒ Sent from Fox Valley office

To: Roxanne Chronert

Company: WDNR

FAX No. (920) 492-5859 Time: 10:05 AM Date: 12/19/01

Total Number of Pages Including this Page: 12

From: Scott Hodgson

Subject: Quicfirz - Fond du Lac Our Job No.: 13635E

Message:

- Meeting Confirmation: Thursday 12/20 at 1pm. Would like to meet first at John Angeli's Office (4th floor City-County Building) then go over to the site (wear boots!); Need to discuss results and agree to a plan for bank stabilization, excavation & additional.
- Attached is results of soil & gw sampling performed on 12/12 & 12/13; let me know if not legible.
- TCE soil results summary:

B11-1 (0-2ft): 5,200 ug/kg	B13-1 (0-2 ft): 38,000 ug/kg
B11-6 (10.5-12.5'): 340,000 ug/kg	B13-6 (10.5-12.5'): 13,000 ug/kg
B11-8 (16-18'): 85,000 ug/kg	B13-7 (13-15'): 3000 ug/kg
B12-1 (0-2'): 97,000 ug/kg	B14-1 (0-2'): 1300 ug/kg
B12-6 (10.5-12.5'): 690,000 ug/kg	MW2 surface: <500 ug/kg but lots of petroleum cont.
B13-7 (13-15'): 570,000 ug/kg	

ORIGINAL TO FOLLOW BY MAIL: YES/NO

MILLER
ENGINEERS
SCIENTISTS
An Employee-Owned Company

February 22, 2002

13635E150

Ms. Roxanne Chronert
Wisconsin Department of Natural Resources
1298 Lombardi Avenue
Green Bay WI 54307-0448

Subject: **Revised Workplan and Schedule**
Site Investigation/Emergency Action
Quicfrez Complex
105 Oak Place, Fond du Lac, Wisconsin
BRRTS No.: 02-20-118383

Dear Roxanne:

Based on the results of the preliminary investigation conducted in December 2001, it became clear that additional investigation was warranted prior to developing a comprehensive remedial action plan (a summary of the preliminary investigation results is provided below). As such, this workplan describes the scope of services that Miller Engineers & Scientists recommends for performing a comprehensive site investigation prior to stabilizing the riverbank and implementing remedial action measures at the former Quicfrez Complex in Fond du Lac (refer to Figure 1: *Site Location Map*). The purpose of the proposed work is to obtain the data necessary to comply in the most economical way with WDNR requirements for stabilizing the riverbank and removing/remediating soil contamination as stated in correspondence from WDNR dated December 4, 2001 and October 8, 1999, respectively. The proposed investigation will begin Thursday, February 21, 2002.

PRELIMINARY INVESTIGATION RESULTS SUMMARY

The December 2001 preliminary investigation consisted of advancing eight borings, collecting soil samples, installing temporary wells in the borings, and collecting groundwater samples from the temporary wells and the existing monitoring wells. Boring locations are shown on Figure 2: *Proposed Boring and Monitoring Well Location Plan.* A *Soil Boring Log* for each of the borings is also attached.

In general, the results indicated that very high levels of trichloroethene (TCE) and its breakdown products were present in the soil and groundwater under the former building (now razed) and between the former building and the river. The results of soil and groundwater testing are provided in Table 1: *Soil Analytic Test Results* and Table 2: *Groundwater Analytic Test Results* (December 2001). Historical groundwater results for the existing monitoring wells are also provided for comparison in Table 3: *Historical Groundwater Analytic Test Results*.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

DATE: March 5, 2002

SUBJECT: Quic Frez

FROM: Verneta Simon, OSC, U.S. EPA, Region 5, ERB, RS2, Chicago, IL

TO:
K. Mould, U.S. EPA, OSWER, Washington, DC ..... (703) 603-9133
R. Karl, Chief, U.S. EPA, ERB, Chicago, IL ..... (312) 353-9176
V. Narsete, U.S. EPA, ERB, Chicago, IL ..... (312) 353-9176
L. Nachowicz, Section Chief, U.S. EPA, RS3, Chicago, IL ..... (312) 353-9176
W. Messenger, Section Chief, U.S. EPA, ESS, Chicago, IL. ..... (312) 353-9176
A. Marouf, U.S. EPA, H&S, Chicago, IL ..... (312) 886-4071
R. Paulson/C. Allen, U.S. EPA, Public Affairs, Chicago, IL ..... (312) 353-1155
A. Walden, Wisconsin DNR, Madison, WI ..... (608) 267-7646
R. Chironert, Wisconsin DNR, Green Bay, WI ..... (920) 492-5913
J. Angeli, Director of Redevelopment, City of Fond du Lac, WI ..... (920) 929-3291
W. Rollin, Community Development Director, City of Fond du Lac, WI (920) 929-3291
USCG, NRC, Washington, DC. ..... (202) 267-2165

POLREP #1 (Initial)

II. BACKGROUND

Site: Quic Frez
Site ID: B52T
Task Order Number: NA
Response Authority: CERCLA
CERLCIS ID: NA

NPL Status: Non-NPL
State Notification: WDNR
Latitude/Longitude: 43°46'27" N / 88°27'08" W
Start Date: March 1, 2002
Completion Date: Pending

III. SITE INFORMATION

A. Incident Category

CERCLA Emergency Response

B. Site Description

1. Site Location

The Quic Frez site is located at 105 Oak Place in Fond du Lac, Fond du Lac County, Wisconsin. The property is currently in redevelopment by the city for future use as a public, recreational area. Prior to the city's acquisition of the property, the site was used as a storage facility. From the 1920s to the 1960s, a refrigerator manufacturing facility operated at this location. The topography is mostly flat and open. The adjacent Fond du Lac River is approximately 10 feet downgrade of the site to the north. The Fond du Lac River flows north,

approximately 2 miles to Lake Winnebago. The area surrounding the site is residential and commercial.

Prior to October 2001, two buildings were located on the site. Demolition of the two buildings began in October. A fire in late-October occurred at the northernmost building, the production building, which was situated near the river's edge. Demolition of the remaining structure of the production building, as well as the southern storage building, was completed shortly thereafter. A 20-foot section of the retaining wall collapsed in November 2001. The large quantity of water used to douse the fire, in addition to several days of constant rains, were factors in the collapse of the retaining wall which separated the river from the site.

2. Description of Threat

An oil discharge to the Fond du Lac River was reported to the City of Fond du Lac on February 19, 2002. The Wisconsin Department of Natural Resources (WDNR) was notified of the release. On February 20, 2002, an underground storage tank (UST) was identified as the potential source of the discharge. The 1,250 gallon UST and its contents were removed. The contents of the UST were sampled and identified as fuel oil. The UST showed signs of deterioration and was compromised at several points. In addition, current and historical investigations by the city's contractor, Miller Engineers and Scientists (Miller), have shown trichloroethylene (TCE) and vinyl chloride contamination in the site soil and groundwater.

The Quic Frez site is a potential threat to the Fond du Lac River. Oil discharging into a waterway poses a threat to wildlife that live in or near the waterway; poses a threat to surrounding ecosystems; and impacts the overall downstream water quality. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP), located in *Code of Federal Regulations* Title 40 Part 300, outlines the federal authority in dealing with oil discharging into any navigable waterway.

IV. RESPONSE INFORMATION

A. Situation

1. Current Situation

The leaking UST has been sampled and removed. Absorbent boom has been placed along the river banks in the vicinity of the discharge points. The absorbent boom was put in place by WDNR and is being monitored.

A site assessment was conducted, including waste characterization sampling for disposal. Analytical results are pending.

2. Site Activities to Date

On February 28, 2002, WDNR contacted U.S. EPA regarding an oil discharge to the Fond du Lac River at the Quic Frez site. U.S. EPA then activated the Superfund Technical Assessment and Response Team (START) and both U.S. EPA and START mobilized to site.

On March 1, 2002, U.S. EPA and START met with officials from the City of Fond du Lac and WDNR to review current and historical information concerning the site. The City of Fond du Lac, the city's consultant (Miller), U.S. EPA, and START conducted a site walk-through. Miller, who has been conducting an environmental investigation at the site, identified three zones of contamination. From west to east the zones are petroleum contamination from the UST breach, a mix of petroleum and TCE contamination, and TCE contamination from historical activities at the site. The past discharge points were identified as well as the area from which the UST was removed. At the time of the site visit, the river was frozen which impaired a direct view of the current discharge. Approximately 200 feet of absorbent boom was in the river. After the site walk-through $30,000 was obligated by U.S. EPA to allow mobilization of ERRS while estimated costs could be prepared.

At 1515, U.S. EPA and START met with the ERRS contractor on site. ERRS excavated two test pits. The first test pit was located immediately west of monitoring well MW-2, approximately 8 feet from the retaining wall. A waste characterization sample was collected from the test pit at approximately 8 to 10 feet below ground surface (bgs). A second test pit was located between monitoring wells MW-1 and MW-4, approximately 18 feet from the retaining wall. A waste characterization sample was collected from this test pit at approximately 6 to 8 feet bgs. START conducted air monitoring around the test pits and took sample headspace readings. Test pits and sample headspace readings were higher at the first test pit than the second. Readings from the first test pit were 17 parts per million (ppm) above background on the flame ionization detector and 13 ppm in the second test pit. Sample headspace readings were approximately half the levels found in the respective test pits. Test pits were backfilled after sample collection. Samples were delivered to the laboratory for Protocol B analysis.

3. Enforcement
N/A

B. Next Steps

After reviewing analytical data, U.S. EPA will arrange for a removal action to excavate and dispose of the contaminated soil found on site under CERCLA. U.S. EPA will excavate soil contaminated with petroleum product and/or TCE along the river, a 20-foot wide section, 170 feet in length, to a depth of 10 feet. U.S. EPA will also excavate the surface soils which pose a direct contact threat due to TCE-contaminated soil in the northeast portion of site, covering approximately 4,800 square feet (ft^2). Approximately 2,200 cubic yards of contaminated soil will be addressed by U.S. EPA. See attached map for areas to be excavated. The area of excavation adjacent to the river will be backfilled with clay by U.S. EPA, and the City of Fond du Lac will install a geotextile liner and rip-rap along the river bank. The 4,800 ft^2 area of excavation in the northeastern portion of site, will be backfilled to grade by U.S. EPA. U.S. EPA will mobilize to the site on March 11, 2002 to begin excavation activities in order to allow the City to begin installation of the geotextile liner and rip-rap during the week of March 17, 2002.

WDNR will dispose of the petroleum-contaminated soil which is currently stockpiled at the Quic Frez site. The stockpile contains soil excavated during the UST removal.

C. Key Issues/Other Information

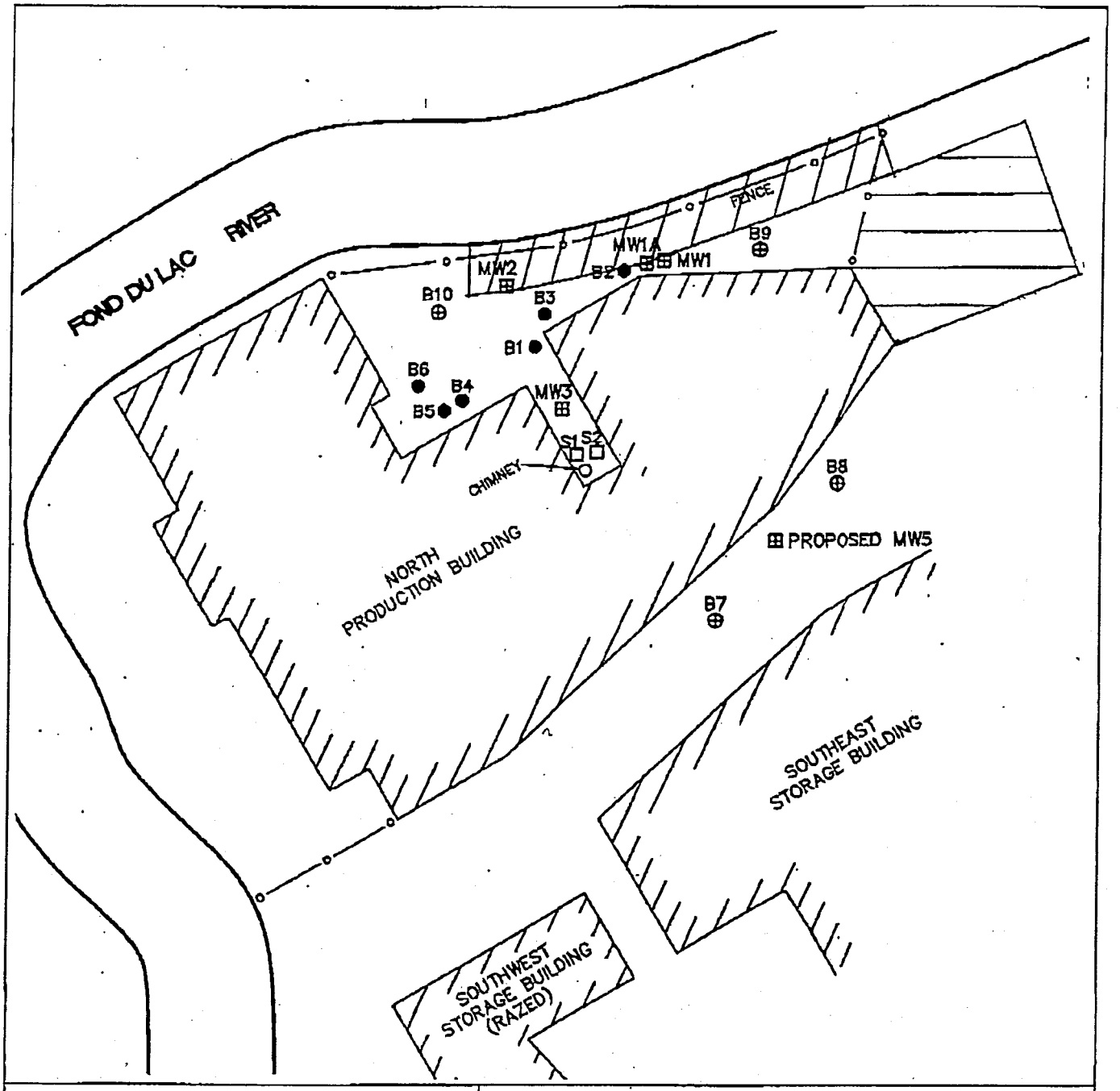
Current and oncoming weather conditions have significantly affected the activities at the site. The forecasted snow storm which deposited 12 inches of snow on March 1 - 2, 2002 in Fond du Lac delayed mobilization for removal activities. The low temperatures caused the river to freeze over and prevented sample collection from the river.

Miller concludes site work (well installation and soil borings) on March 6, 2002.

V. COST INFORMATION

U.S. EPA	$ NA	
START	$ 2,890	
ERRS	$ NA	
Total	$	(Estimated as of March 4, 2002)

The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.



LEGEND

North

Excavation to 10 feet

Excavation to 4 feet

Scale: 1 inch = 60 feet

T N & Associates, Inc.
Engineering and Science
100 West Monroe, Suite #913, Chicago, IL 60603

Title: Area of Excavation Map		Figure No.: 1
Site: Quic Frez Site		Project No.: S05-0202-012
City: Fond du Lac	State: Wisconsin	Date: March, 2002

Adapted from Boring and Monitoring Well Location Plan, Miller Engineers and Scientists, 1999

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

March 6, 2002

Tom Geishecker
US EPA Region 5
77 West Jackson Blvd.
Chicago, IL 60604

Subject: Request for Removal Assistance

Dear Mr. Geishecker:

The Wisconsin Department of Natural Resources (WDNR) requests U.S. EPA Region 5 Emergency Response Branch assistance to help evaluate the threat posed by the release of liquid chemicals from the soils along the Fond du Lac River and contaminated soils in the river and along the shoreline at the former **Quic Frez Property, Fond du Lac, Fond du Lac County** in Wisconsin. The site is located adjacent to the Fond du Lac River. I have included a RISE form with this letter.

Representatives from WDNR and the City of Fond du Lac spoke with OSC Charlie Gebien and OSC Vernita Simon on 02/ 28/02 to assess the need for removal action at this site. As a result of the conversation, Vernita Simon mobilized to the site with START contractors on 03/01/02 to determine whether an emergency or time critical was warranted. As a result of further discussions the following response actions were agreed to by EPA, WDNR and the City of Fond du Lac.

- DNR will continue to provide booms and pads to contain the release from the tank to the river.
  DNR will handle the stock piled soil on site (soils from the tank search).
- EPA will be removing soils to a depth not a clean-up standard.
- EPA is planning on removing the direct contact soils on the East end of the property and refilling the excavation.
- EPA will be removing the soils from the Fond du Lac River.
- EPA will be removing the wall and 170 feet of the shore line, 10 feet down, back ~ 20 feet
- EPA will be putting in a 2 foot clay cap over the cut back. With the 2X1 cut back they will be able to obtain a greater compaction rate then originally thought with the 1X1 cut back.
- EPA collected soil samples for waste characterization 03/01/02.

The City is responsible for putting in a geomembrane and rip/rap on the river cut back, in order to maintain the clay cap to be installed by EPA. After the removal is completed. WDNR will be evaluating the site for long-term remediation of the groundwater. Please contact me (608) 267-5063 if you have any questions or concerns regarding this site. **Thank you for your prompt attention to this site.**

Sincerely,

Amy S. Walden
Federal Removals Coordinator
Bureau for Remediation and Redevelopment

cc: Roxanne Chronert/ Jennifer Pelczar/ Bruce Urben – NER

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

DATE: March 25, 2002

SUBJECT: Quic Frez

FROM: Verneta Simon, OSC, U.S. EPA, Region 5, ERB, RS2, Chicago, IL

TO:
K. Mould, U.S. EPA, OSWER, Washington, DC ..... (703) 603-9133
R. Karl, Chief, U.S. EPA, ERB, Chicago, IL ..... (312) 353-9176
V. Narsete, U.S. EPA, ERB, Chicago, IL ..... (312) 353-9176
L. Nachowicz, Section Chief, U.S. EPA, RS3, Chicago, IL ..... (312) 353-9176
W. Messenger/A. Lilly,U.S. EPA, ESS, Chicago, IL. ..... (312) 353-9176
A. Marouf, U.S. EPA, H&S, Chicago, IL ..... (312) 886-4071
M. Geall, U.S. EPA, Office of Regional Counsel, Chicago, IL. ..... (312) 886-7160
R. Paulson/C. Allen, U.S. EPA, Public Affairs, Chicago, IL ..... (312) 353-1155
A. Walden, Wisconsin DNR, Madison, WI ..... (608) 267-7646
R. Chironert, Wisconsin DNR, Green Bay, WI ..... (920) 492-5913
J. Angeli, Director of Redevelopment, City of Fond du Lac, WI ..... (920) 929-3291
W. Rollin, Community Development Director, City of Fond du Lac, WI (920) 929-3291
USCG, NRC, Washington, DC. ..... (202) 267-2165

POLREP #2

II. BACKGROUND

Site: Quic Frez
Site ID: B52T
Task Order Number: 73
Response Authority: CERCLA
CERLCIS ID: NA

NPL Status: Non-NPL
State Notification: WDNR
Latitude/Longitude: 43°46'27" N / 88°27'08" W
Start Date: March 1, 2002
Completion Date: Pending

III. SITE INFORMATION

A. Incident Category

CERCLA Emergency Response

B. Site Description

1. Site Location
The Quic Frez site is located at 105 Oak Place in Fond du Lac, Fond du Lac County, Wisconsin. See POLREP #1 (initial) for further details.

2. Description of Threat
An oil discharge to the Fond du Lac River was reported to the City of Fond du Lac on February 19, 2002. The Wisconsin Department of Natural Resources

(WDNR) identified an underground storage tank (UST) as the potential source of the discharge, and the UST and its contents of fuel oil were removed. In addition to petroleum contamination, current and historical investigations have shown trichloroethylene (TCE) and vinyl chloride contamination in the site soil and groundwater. See POLREP #1 (initial) for further details.

IV. RESPONSE INFORMATION

A. Situation

1. Current Situation

U.S. EPA has excavated and stockpiled soil contaminated with petroleum product and/or TCE adjacent to the river from a 20-foot wide section, 220 feet in length, to a depth of 10 feet. The City of Fond du Lac is working on the installation of a geotextile liner and rip-rap along the river bank.

A site assessment was conducted of the direct contact area on the northeastern portion of the site to further define the extent of contamination in that area. Analytical results are pending.

2. Site Activities to Date

On March 11, 2002, U.S. EPA, the Superfund Technical Assessment and Response Team (START)contractor, and Emergency and Rapid Response Services (ERRS) contractor mobilized to site. ERRS prepared the site for excavation by relocating drums from the City of Fond du Lac's contractor Miller Engineering & Scientists (Miller) work on site, removing the fence on the northeastern portion of the site, and leveling the area for the stockpile. ERRS started excavation at the east end of the concrete retaining wall along the river. START collected five soil samples S-1 through S-5 in the northeast portion of the site. Soil samples were collected to define the extent of contamination in the area which poses a direct contact threat due to TCE-contamination. Samples were delivered to Great Lakes Analytical Laboratory in Milwaukee, Wisconsin for VOC analysis.

On March 12, 2002, ERRS continued excavation and removal of the retaining wall. START conducted air monitoring in the excavation area and along the perimeter of the site. Readings were within background levels on the photo ionization detector (PID) and dust monitor. ERRS prepared the staging area and placed more absorbent boom on the river because of a visible oily sheen. WDNR visited the site to document site activities. ERRS encountered and removed a drain during excavation along the collapsed part of the wall. The drain did not appear to be connected to any pipes. Monitoring well MW-1, previously installed by Miller, was located within the area of excavation. During excavation, the integrity of MW-1 was compromised.

On March 13, 2002, clay backfill arrived on site. START continued air monitoring in the area of excavation and readings were within the background levels on the PID and dust monitor. Oily sheen continued to be visible on the river beyond the boom. Excavation continued west along the river bank. U.S. EPA and Miller assessed the viability of monitoring well MW-1 and decided to replace the well on March 15, 2002.

On March 14, 2002, ERRS removed the remaining concrete footings at the west end of the excavation and completed excavation along the river bank. START collected four soil samples at the bottom of the excavation area before the clay backfill was placed along the river. Soil samples E-1 through E-4 were collected to identify organic chemical constituents within the soil remaining below the excavation. Samples were shipped to Great Lakes Analytical Laboratory for VOC and SVOC analyses. ERRS added clay to the river bank starting at the east end of the excavation. The clay was then compacted before the second layer of clay was backfilled. Monitoring well MW-2 was damaged during excavation work but not compromised. The silt curtain placed along the river by WDNR was removed because of its absorption of oil and lack of effectiveness and was replaced by ERRS on March 15, 2002.

On March 15, 2002, a second layer of clay was placed on the river bank and clay was further compacted. START performed air monitoring around the perimeter of the excavation and readings were within the background levels. A silt curtain was placed in the river along with new absorbent boom. ERRS began clean up of site and prepared for demobilization of personnel and equipment on March 16, 2002.

3. Enforcement
N/A

B. Next Steps

The City of Fond du Lac is expected to complete the installation of the geotextile liner and rip-rap along the river during the week of March 18, 2002. U.S. EPA will mobilize to the site on March 25, 2002 to begin transportation and disposal of the stockpile of soil excavated from the area adjacent to the river. After reviewing analytical data, U.S. EPA will also determine the extent of contamination of the surface soils in the northeast portion of site and proceed with excavation and disposal of that area. The area of excavation in the northeastern portion of site, will be backfilled to grade by U.S. EPA.

WDNR will dispose of the petroleum-contaminated soil which is currently stockpiled at the Quic Frez site. The stockpile contains soil excavated during the UST removal.

C. Key Issues/Other Information

On March 15, 2002, Miller and Environmental Drilling Services, Inc. (EDS) were on site to replace monitoring well MW-1 and repair monitoring well MW-2. The new monitoring well was drilled 5 feet south of the original location and the original MW-1 was abandoned.

V. COST INFORMATION

The amount obligated for this site has been increased to $100,000.

START	$ 10,000	
ERRS	$ 37,000	(Estimated as of March 15, 2002)

The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

DATE: May 22, 2002

SUBJECT: Quic Frez Site, Fond du Lac, Wisconsin

FROM: Verneta Simon, OSC, U.S. EPA, Region 5, ERB, RS2, Chicago, IL

TO:
K. Mould, U.S. EPA, OSWER, Washington, DC ..... (703) 603-9133
R. Karl, Chief, U.S. EPA, ERB, Chicago, IL ..... (312) 353-9176
V. Narsete, U.S. EPA, ERB, Chicago, IL ..... (312) 353-9176
L. Nachowicz, Section Chief, U.S. EPA, RS3, Chicago, IL ..... (312) 353-9176
W. Messenger/A. Lilly,U.S. EPA, ESS, Chicago, IL. ..... (312) 353-9176
A. Marouf, U.S. EPA, H&S, Chicago, IL ..... (312) 886-4071
M. Geall, U.S. EPA, Office of Regional Counsel, Chicago, IL. ..... (312) 886-7160
R. Paulson/C. Allen, U.S. EPA, Public Affairs, Chicago, IL ..... (312) 353-1155
A. Walden, Wisconsin DNR, Madison, WI ..... (608) 267-7646
R. Chironert, Wisconsin DNR, Green Bay, WI ..... (920) 492-5913
J. Pelczar, Wisconsin DNR, Osh Kosh, WI ..... (920) 424-4404
J. Angeli, Director of Redevelopment, City of Fond du Lac, WI ..... (920) 929-3291
W. Rollin, Community Development Director, City of Fond du Lac, WI (920) 929-3291
USCG, NRC, Washington, DC. ..... (202) 267-2165

POLREP #3 and Final

II. BACKGROUND

Site: Quic Frez
Site ID: B52T
Task Order Number: 73
Response Authority: CERCLA
CERLCIS ID: WIN000508296

NPL Status: Non-NPL
State Notification: WDNR
Latitude/Longitude: 43°46'27" N / 88°27'08" W
Start Date: March 1, 2002
Completion Date: April 25, 2002

III. SITE INFORMATION

Site Description

A. Incident Category

CERCLA Emergency Response

B. Site Description

1. Site Location

The Quic Frez site is a 4.1 acre site located at 105 Oak Place in Fond du Lac, Fond du Lac County, Wisconsin. Refer to POLREP #1 for more detailed site information.

2. Description of Threat
An oil discharge to the Fond du Lac River was reported to the City of Fond du Lac on February 19, 2002. The Wisconsin Department of Natural Resources (WDNR) identified an underground storage tank (UST) as the potential source of the discharge, and the UST and its contents of fuel oil were removed by the City of Fond du Lac. In addition to petroleum contamination, current and historical investigations have shown trichloroethylene (TCE) and vinyl chloride contamination in the site soil and groundwater. Refer to POLREP #1 for more detailed site information.

IV. RESPONSE INFORMATION

A. Situation

1. Current Situation
U.S. EPA has removed and disposed of soil contaminated with petroleum product and/or TCE adjacent to the river along with soil contaminated with TCE, at the northeast portion of the site, which posed a direct contact threat.

2. Site Activities to Date
On March 25, 2002, U.S. EPA, the Superfund Technical Assessment and Response Team (START), and Emergency and Rapid Response Services (ERRS) contractors mobilized to site. ERRS loaded soil excavated from along the river bank into trucks for disposal at Hickory Meadows Landfill in Hilbert, Wisconsin. START performed air monitoring and collected samples of the stockpile for diesel range organic (DRO) and benzene analyses needed for disposal. Air monitoring readings were within background levels on the photo ionization detector (PID) and dust monitor.

On March 26, 2002, ERRS completed disposal of the stockpile of soil and debris excavated from the river bank. Approximately 750 tons of soil and concrete was removed from site and disposed at Hickory Meadows Landfill. START conducted air monitoring and collected a composite soil sample D-1 COMP for waste characterization from the area which posed a direct contact threat due to TCE contamination. START had previously collected five soil samples S-1 through S-5 from this portion of the site to delineate the area that would need to be excavated and needed an additional sample for waste characterization. The composite soil sample was analyzed for toxicity characteristic leaching procedure (TCLP) volatile organic compounds (VOC) and TCLP metals analyses. The sample was sent to Great Lakes Analytical Laboratory in Buffalo Grove, Illinois.

On March 29, 2002, START received laboratory results on the composite soil sample taken for TCLP VOC and TCLP metal analyses. All results were below the TCLP waste characterization limits specified in Title 40 of the *Code of Federal Regulations* Part 261.24, Paragraph (b) and were determined to be non-hazardous.

On April 25, 2002, U.S. EPA, START, and ERRS mobilized to site for excavation of the direct contact threat area in the northeast portion of the site.

U.S. EPA and START delineated an area of approximately 1,400 square feet (ft^2) to be excavated to a depth of 4 feet below ground surface (bgs). The excavation area was based on results of soil samples S-1 through S-5 and historical data. TCE ranged from 0.094 parts per million (ppm) to 71 ppm at the surface of the direct contact threat area. The data was evaluated against an applicable or relevant and appropriate requirement (ARAR) provided by WDNR. This ARAR was 8.5 ppm for TCE in soils. Approximately 222 tons of soil was removed from the northeast portion of the site and taken to Hickory Meadows Landfill for disposal.

START collected soil samples D-1 through D-3 from the bottom of the excavated area for VOC and semivolatile organic compounds analyses to assist WDNR and the City of Fond du Lac in evaluating the need for future remediation activities at the site. Sample D-1 was taken closest to the river and sample D-2 and sample D-3 were taken further south, respectively. Samples were sent to Great Lakes Analytical Laboratory for analyses (See Table 1 and Table 2 for a summary of the soil analytical results at the bottom of the excavation along the river bank and at the bottom of the area which posed a direct contact threat, respectively). Air monitoring was also conducted during sampling and readings were within background levels on the PID. After samples were collected, the ERRS contractor backfilled and compacted the excavation area in the northeastern portion of the site with clay. ERRS marked off the area of excavation, decontaminated the equipment, and secured the gate on site at the end of site activities on April 25, 2002.

3. Enforcement
N/A

B. Next Steps

Completion of the removal summary report is pending.

C. Key Issues/Other Information
WDNR has been granted State Funded Response money for this site for possible groundwater remediation. WDNR is currently evaluating different options for long-term remediation at the site for future redevelopment of the property.

V. COST INFORMATION

The amount obligated for the ERRS contractor on this site has been increased to $100,000.

U.S. EPA	NA	
START	$ 28,000	
ERRS	$ 37,000	(Estimated as of March 15, 2002)

The amount for the cleanup contracting costs has not been determined as of this date because of an accounting error. Costs from the Carlson Residence Mercury site have been erroneously charged to the Quic Frez site and are pending correction. The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

VI. DISPOSITION OF WASTES

Wastestream	Medium	Quantity	Treatment	Disposal
Fuel oil/TCE	Soil/Concrete	750 tons	Landfill	Hickory Meadows Hilbert, WI
TCE	Soil	222 tons	Landfill	Hickory Meadows Hilbert, WI

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS AT BOTTOM OF RIVERBANK EXCAVATION
QUIC FREZ SITE
FOND DU LAC, FOND DU LAC COUNTY, WISCONSIN

Field Sample ID	E-1	E-2	E-3	E-4
Sampth Depth (inches)	60	72	72	72
Volatile Organic Compounds (µg/kg)				
Acetone	226 J	162 J	94.2 J	57.2 J
Benzene	127	17.6	8.03	ND
2-Butanone	25.5 J	23.5 J	ND UJ	ND UJ
cis-1,2-Dichloroethene	23.7	238	21.9	ND
Ethylbenzene	ND	38.7	ND	ND
4-Methyl-2-pentanone	80.5 J	ND UJ	ND UJ	ND UJ
Toluene	144	47.9	9.38	6.66
Trichloroethene	12,500	4,810	87.5	21.1
Vinyl chloride	ND	25.1	ND	ND
Total Xylenes	34.3	307	19.1	13.3
Semivolatile Organic Compounds (µg/kg)				
Benzo(a)anthracene	807 J	10,100	2,070	559
Benzo(a)pyrene	776 J	9,640	2,180	523
Benzo(b)fluoranthene	1,030 J	14,500 J	3,270 J	782 J
Benzo(ghi)perylene	ND	6,840	1,560	384
Benzo(k)fluoranthene	757 J	7,530	1,420	270
Chrysene	1,040 J	13,700	3,020	669
Fluoranthene	2,230 J	33,600	6,370	1,590
Indeno(1,2,3-cd)pyrene	ND	6,730	1,490	373
Phenanthrene	2,160 J	39,700	7,320	1,460
Pyrene	2,650 J	39,300	9,190	2,060

Notes:
µg/kg - Micrograms per kilogram.
ND - Analyte not detected at or above the reporting limit.
UJ - The analyte was not detected in the sample. The reported quantitation limit is considered estimated for QC reasons.
J - The analyte was detected. The reported numerical value is considered estimated for QC reasons.

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS AT BOTTOM OF DIRECT CONTACT THREAT EXCAVATION
QUIC FREZ SITE
FOND DU LAC, FOND DU LAC COUNTY, WISCONSIN

Field Sample ID	D-1	D-2	D-3
Sampth Depth (inches)	48	48	48
Volatile Organic Compounds (µg/kg)			
Acetone	ND	ND	65.1
Methylene chloride	5.74 AB	ND	5.97 AB
Trichloroethene	10.3	ND	31.6
Semivolatile Organic Compounds (µg/kg)			
Anthracene	ND	ND	217
Benzo(a)anthracene	253	ND	490
Benzo(a)pyrene	279	ND	430
Benzo(b)fluoranthene	447	ND	544
Benzo(ghi)perylene	323	ND	456
Benzo(k)fluoranthene	153	ND	167
Chrysene	369	ND	514
Fluoranthene	788	ND	1,190
Indeno(1,2,3-cd)pyrene	202	ND	295
2-Methylnapthalene	ND	ND	119
Phenanthrene	842	ND	1,230
Phenol	ND	ND	3,730
Pyrene	1,100	ND	1,900

Notes:
µg/kg - Micrograms per kilogram.
A - The concentration of the analyte detected in the sample is characteristic of a laboratory artifact.
B - The method blank associated with the sample contains 6.23 µg/kg of this analyte.
ND - Analyte not detected at or above the reporting limit.
Analytical results from this table have been finalized by Great Lakes Analytical Laboratory but are pending complete analytical data validation.

REMOVAL ACTION SUMMARY REPORT
QUIC FREZ SITE
FOND DU LAC, FOND DU LAC COUNTY, WISCONSIN

Prepared for

U.S. Environmental Protection Agency
Region 5 Emergency Response Branch
77 West Jackson Boulevard
Chicago, IL 60604

TDD No.:	S05-0202-012
Date Prepared:	July 8, 2002
Contract No.:	68-W-00-129
Prepared by:	TN & Associates, Inc.
START Project Manager:	Christianne Ottinger
TN&A Telephone No.:	(312) 220-7000
U.S. EPA On-Scene Coordinator:	Verneta Simon
Telephone No.:	(312) 886-3601

T N & Associates, Inc.
Engineering and Science

MILLER
ENGINEERS
SCIENTISTS
An Employee-Owned Company

R + R - OSH
RECEIVED
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TRACKED
REVIEWED

Remedial Action Options Report

Former Quicfrez Site
105 Oak Place
Fond du Lac, Wisconsin 54952

MILLER
ENGINEERS
SCIENTISTS
An Employee-Owned Company

January 31, 2003

02-2-15818

Ms. Jennifer Pelczar
WDNR Project Manager
625 E. County Y, Suite 700
Oshkosh, WI 54901

Subject: **Exploration for Tank—Southwest Petroleum Area**
Former Quicfrez Complex
105 Oak Place
Fond du Lac, Wisconsin
BRRTS ID No. 02-20-118383

Dear Ms.Pelczar :

At the direction of WDNR, Miller Engineers & Scientists proceeded with exploration for a possible unknown underground petroleum storage tank on October 30, 2002. The area targeted for exploration was an area of apparent fuel-oil contamination encountered in the area of borings B27-B33-B37 in the southwest part of the property (refer to the attached Figure 1: *October 2002 Excavation—Southwest Petroleum Area*).

Exploration began by excavating a test pit near the location of boring B33 and then extending it southwest towards B27 and to the northeast towards B37. Petroleum odors were noted in soils beginning at about 6 feet depth. The strongest odors were noted at depths of 6 to 15 feet in the area between B33 and B27. Samples were collected during the excavation activity and field-screened for organic vapors with a Flame-Ionization Detector (FID). Sample locations, depths and FID readings are shown on the attached *Soil Sample Summary* field data sheet. Eight truckloads of petroleum contaminated soil (193.83 tons), excavated from depths of 6 to 15 feet in the area of B33, were hauled to the Hickory Meadows Landfill in Hilbert for biopile treatment (refer to the attached load tickets).

One soil sample, SWT-7, taken from a depth of 14 feet near B27, was submitted for laboratory analysis of Gasoline Range Organics (GRO), Diesel Range Organics (DRO), Volatile Organic Compounds (VOC), and 8 RCRA metals plus copper, nickel, and zinc. The results are summarized in Table 1: *Soil Analytic Test Results—Tank Exploration*. The laboratory test reports are also attached.

Although strong petroleum odors were noted during excavation, a tank was not found near B33 and B27. Therefore, the test pit was extended toward B37 and then cuts were made every 5 feet extending to the north perpendicular to the main excavation. However, a tank was not found. Soil not hauled to the landfill for treatment was returned to the excavation. It appeared that the most highly contaminated soil was removed during the exploration.

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Additional Offices in Sheboygan and Milwaukee

MILLER
ENGINEERS
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An Employee-Owned Company

Site Investigation Report

Former Quicfrez Complex

105 Oak Street
Fond du Lac, Wisconsin

Job No. 02-2-15818 10-160
BRRTS ID No. 02-20-118383

FIGURE 1

Regional Site Location Map

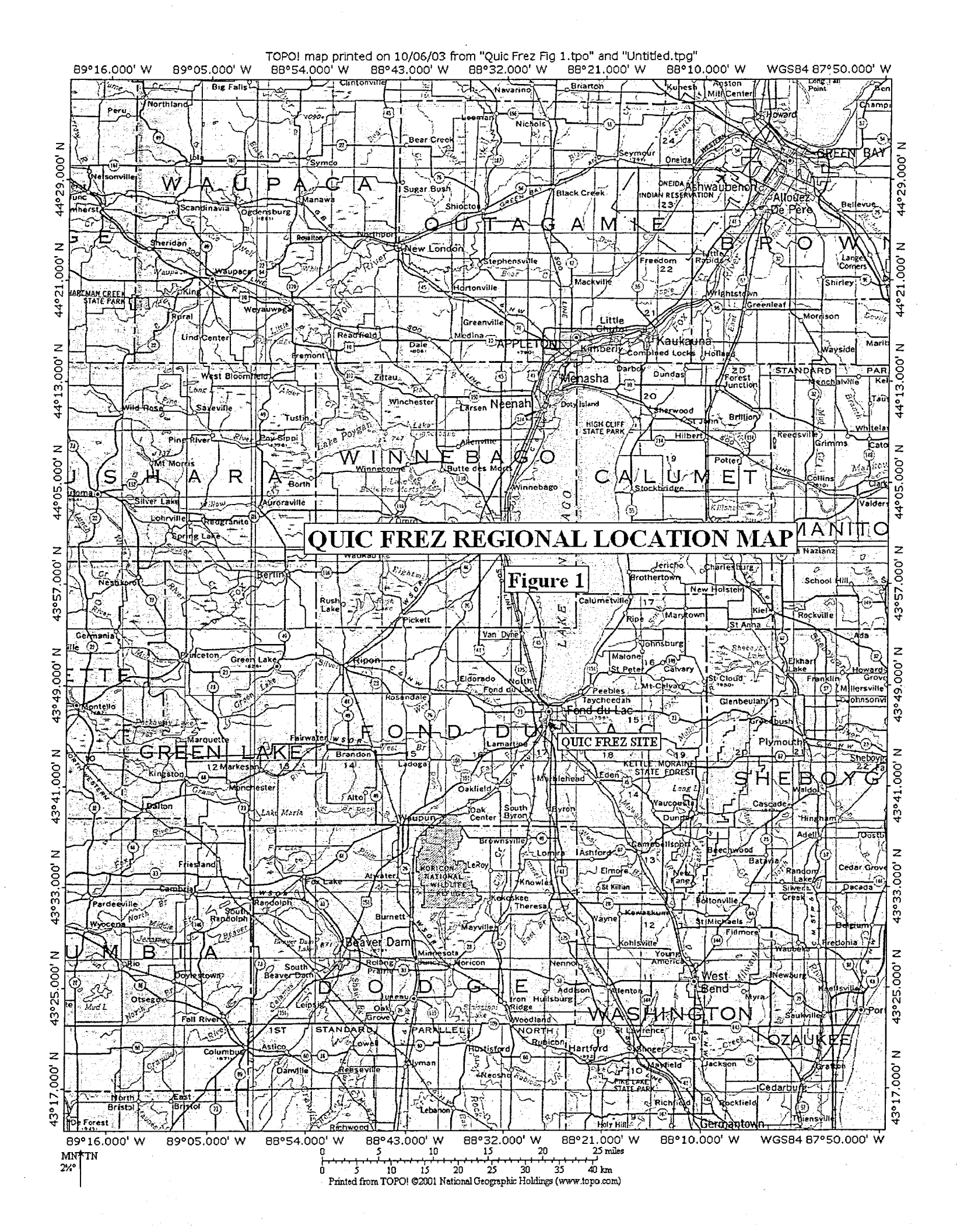
TOPO! map printed on 10/06/03 from "Quic Frez Fig 1.tpo" and "Untitled.tpg"
89°16.000' W
89°05.000' W
88°54.000' W
88°43.000' W
88°32.000' W
88°21.000' W
88°10.000' W
WGS84 87°50.000' W
44°29.000' N
44°21.000' N
44°13.000' N
44°05.000' N
43°57.000' N
43°49.000' N
43°41.000' N
43°33.000' N
43°25.000' N
43°17.000' N
WAUPACA
OUTAGAMIE
BROWN
WINNEBAGO
CALUMET
FOND DU LAC
GREEN LAKE
DODGE
WASHINGTON
OZAUKEE
SHEBOYGAN
MANITOWOC
QUIC FREZ REGIONAL LOCATION MAP
Figure 1
QUIC FREZ SITE
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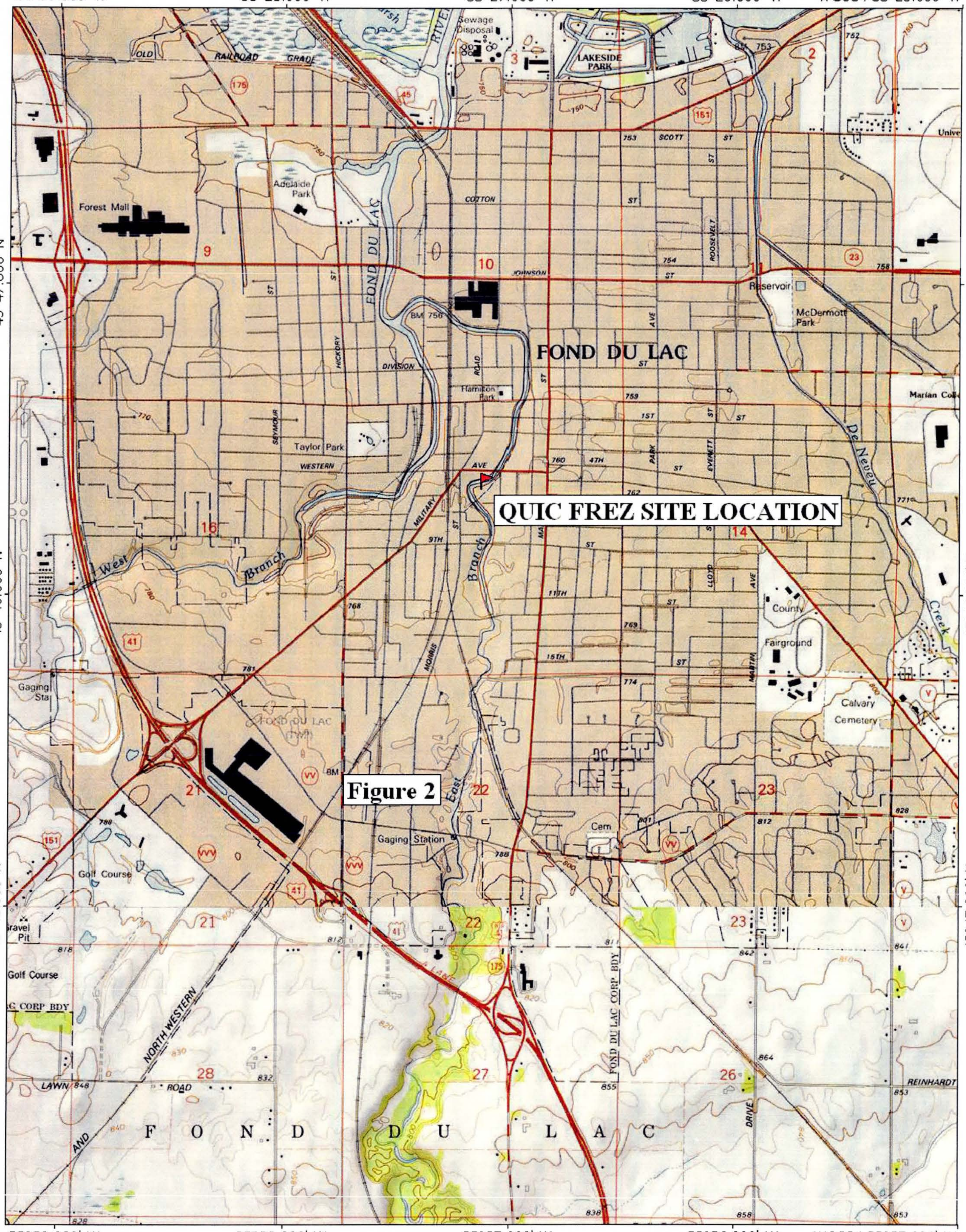
FIGURE 2

Specific Site Location Map

TOPO! map printed on 10/06/03 from "Quic Frez Fig. 2.tpo" and "Untitled.tpg"



88°29.000' W 88°28.000' W 88°27.000' W 88°26.000' W WGS84 88°25.000' W

MN TN 2½°

0 .5 1 MILE
0 1000 FEET 0 500 1000 METERS

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FIGURE 3

Darlings Subdivision Map

FIGURE 3

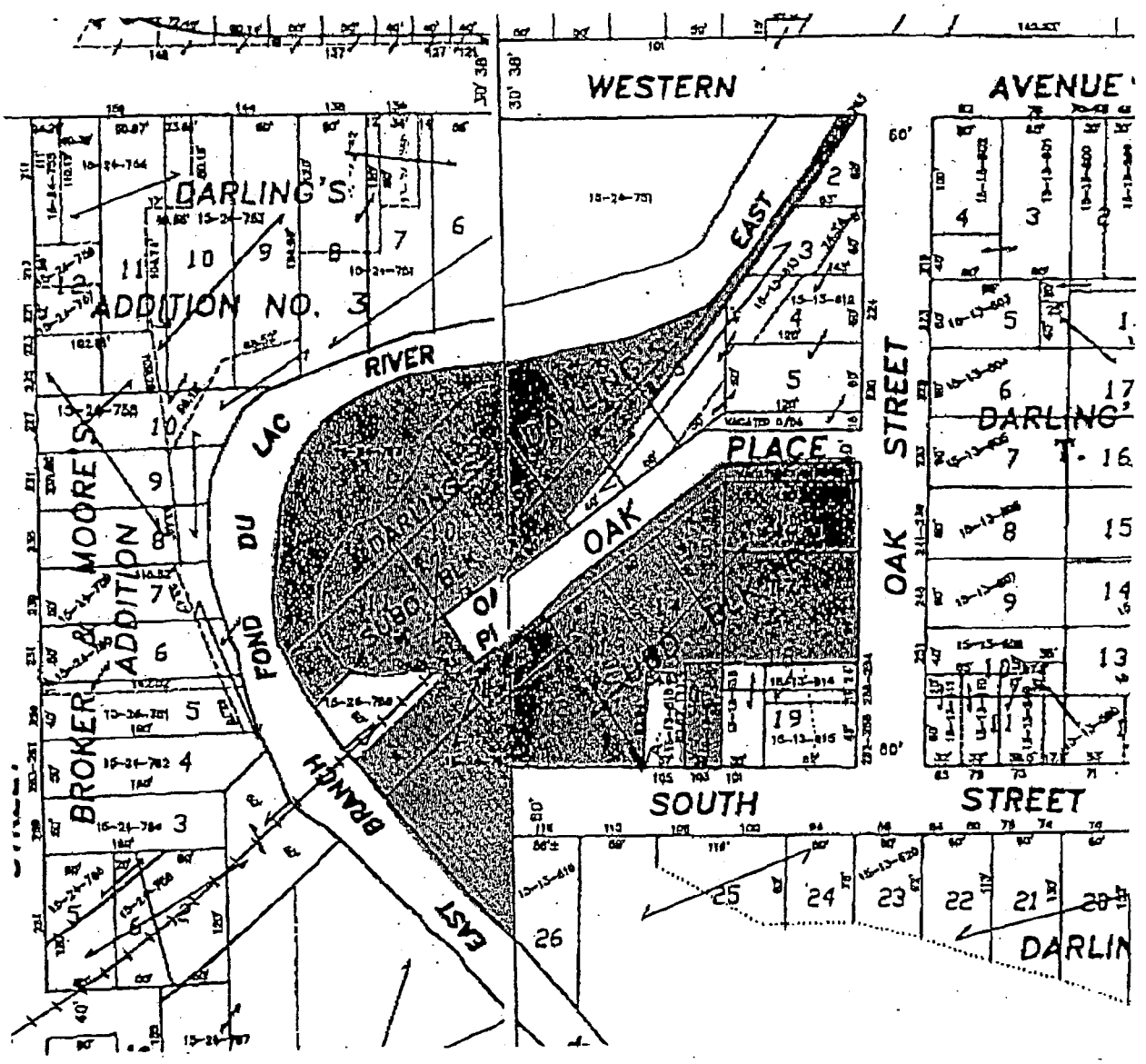

Figure SITE MAP	DATE 10/14/96	BY KKT	CLIENT: CITY OF FOND DU LAC JOB: PHASE I: ESA LOCATION: QUICFREZ COMPLEX
	JOB. NO. 13636E100	CK	

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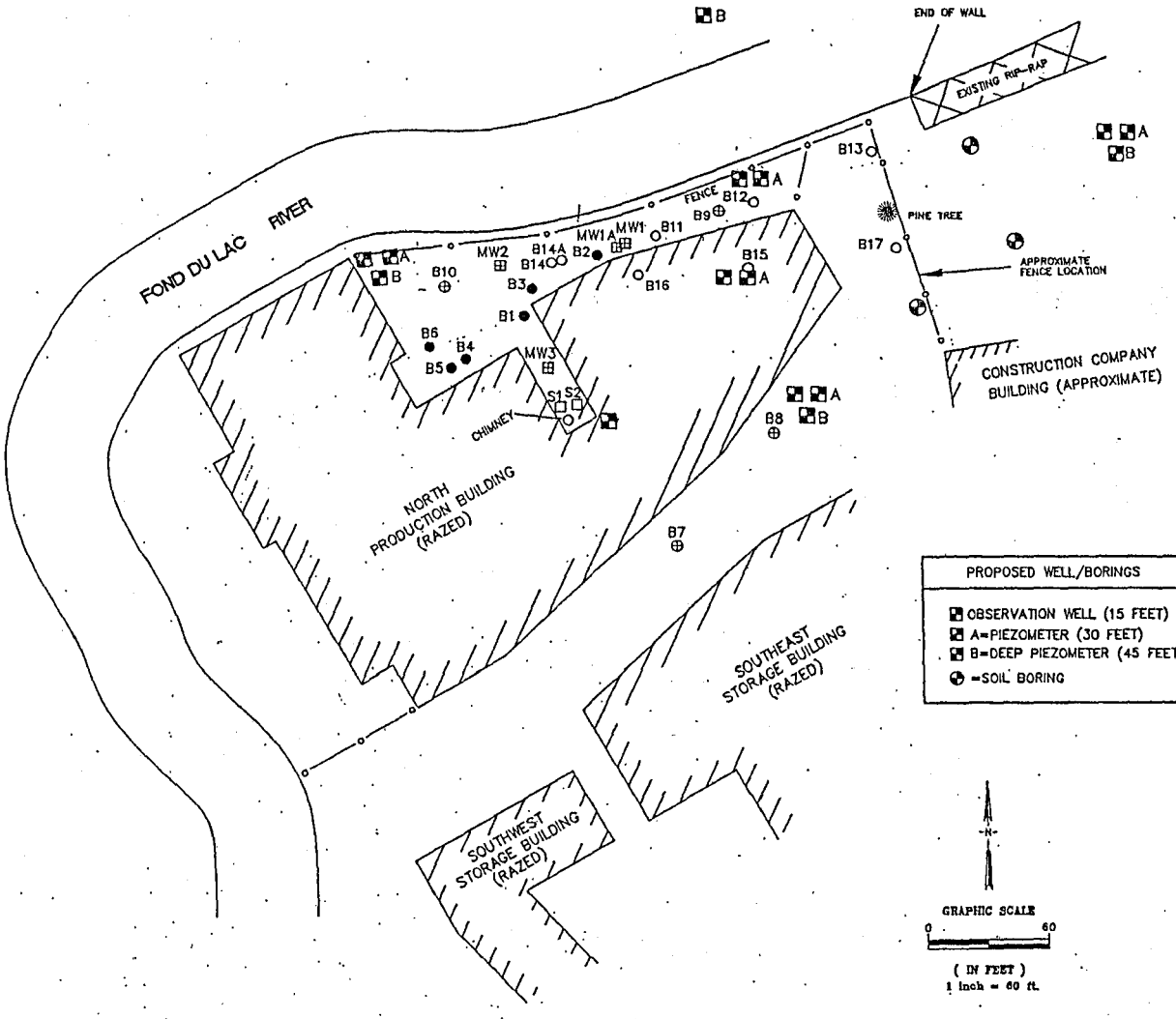
FIGURE 4

Building Location Map

FIGURE 4



PROPOSED WELL/BORINGS

- OBSERVATION WELL (15 FEET)
- A=PIEZOMETER (30 FEET)
- B=DEEP PIEZOMETER (45 FEET)
- =SOIL BORING

GRAPHIC SCALE

0 60

(IN FEET)

1 inch = 60 ft.

LEGEND

EXISTING UTILITIES

- EXISTING SANITARY — SANITARY SEWER
- SANITARY LATERAL
- EXISTING STORM — STORM SEWER
- STORM SEWER LATERAL
- MH MANHOLE
- CB CATCH BASIN
- INL CURB INLET
- CO CLEANOUT
- END SECTION
- EXISTING WATER — WATER MAIN
- WATER SERVICE
- HYDRANT & VALVE
- WV WATER VALVE
- CS CURB STOP
- G GAS MAIN
- GAS SERVICE
- GV GAS VALVE
- GAS METER
- OE OVERHEAD ELECTRIC
- UE UNDERGROUND ELECTRIC
- LIGHT POLE
- POWER POLE
- ELECTRIC PEDESTAL
- ELECTRIC TRANSFORMER
- OT OVERHEAD TELEPHONE
- UT UNDERGROUND TELEPHONE
- TELEPHONE PEDESTAL
- CTV CABLE TV

MISCELLANEOUS

- TREES
- SIGN
- FENCE
- CONTOURS
- EASEMENTS
- ROADWAY CENTERLINE

PROPOSED	EXISTING	ENVIRONMENTAL
MW	MW	MONITORING WELL – JULY 1999
B	B	SOIL BORING – JULY 1999
RW	B	GEOPROBE BORING – JAN. 1997
WP	B	SOIL BORING – DECEMBER 2001
VCP	S	TEST PIT SAMPLE
N		
GP		

FIGURE 4 – PROPOSED BORING AND MONITORING WELL LOCATION PLAN

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Sheboygan, Wisconsin 53081
414-458-8164

CITY OF FOND DU LAC

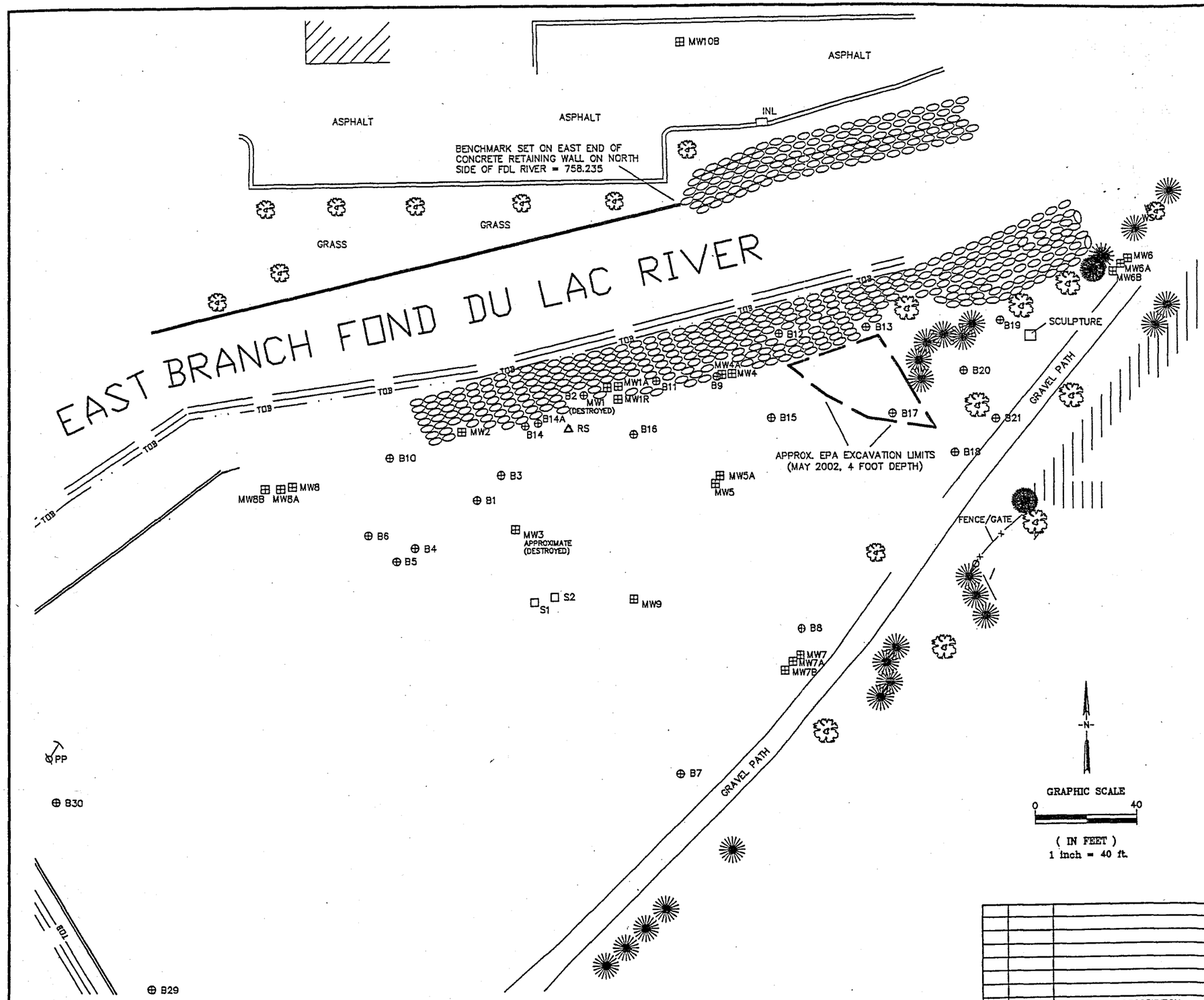
QUICFREZ COMPLEX
FOND DU LAC, WISCONSIN

NO	DATE	DESCRIPTION	BY
1	12/18/01	Additional borings	KAR

SCALE	DATE	BY	SHEET
HOR. 1"=60'	7-12-99	SAB	F-2
VER.	JOB 13835E3A	CK KKG	OF

FIGURE 5

Boring and Monitoring Well Location Map



LEGEND

EXISTING	UTILITIES
MH	SANITARY SEWER W/MANHOLE
S	SANITARY LATERAL
MH	STORM SEWER W/MANHOLE
CB	STORM SEWER W/CATCH BASIN
	STORM SEWER W/END SECTION
ST	STORM SEWER LATERAL
MH	MANHOLE
CB	CATCH BASIN
INL	CURB INLET
CO	CLEANOUT
W	WATER MAIN
WS	WATER SERVICE
	HYDRANT & VALVE
WV	WATER VALVE
CS	CURB STOP
G	GAS MAIN
GS	GAS SERVICE
GV	GAS VALVE
G	GAS METER
OE	OVERHEAD ELECTRIC
UE	UNDERGROUND ELECTRIC
LP	LIGHT POLE
PP	POWER POLE
E	ELECTRIC PEDESTAL
TRANS	ELECTRIC TRANSFORMER
OT	OVERHEAD TELEPHONE
UT	UNDERGROUND TELEPHONE
T	TELEPHONE PEDESTAL
CTV	CABLE TV

MISCELLANEOUS
TREES
SIGN
FENCE
POINT OF CURVATURE
POINT OF INTERSECTION
POINT OF TANGENCY
CENTERLINE
BACK OF CURB
TOP OF CURB
STATION
INVERT
1' CONTOURS
5' CONTOURS
EASEMENTS
ROADWAY CENTERLINE

ENVIRONMENTAL	
MW	GROUND WATER MONITORING WELL
B	SOIL BORING
RW	GROUND WATER RECOVERY WELL
RS	GROUND RECOVERY SUMP
VMP	VAPOR MONITORING POINT
VEP	VAPOR EXTRACTION POINT
H	HYDROPUNCH LOCATION
GP	GEOPROBE
AS	AIR SPARGING POINT

FIGURE 5: SITE PLAN – WELL AND BORING LOCATIONS

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Sheboygan, Wisconsin 53081
414-458-8164

CITY OF FOND DU LAC
QUIC-FREZ COMPLEX
105 OAK PLACE
FOND DU LAC, WISCONSIN

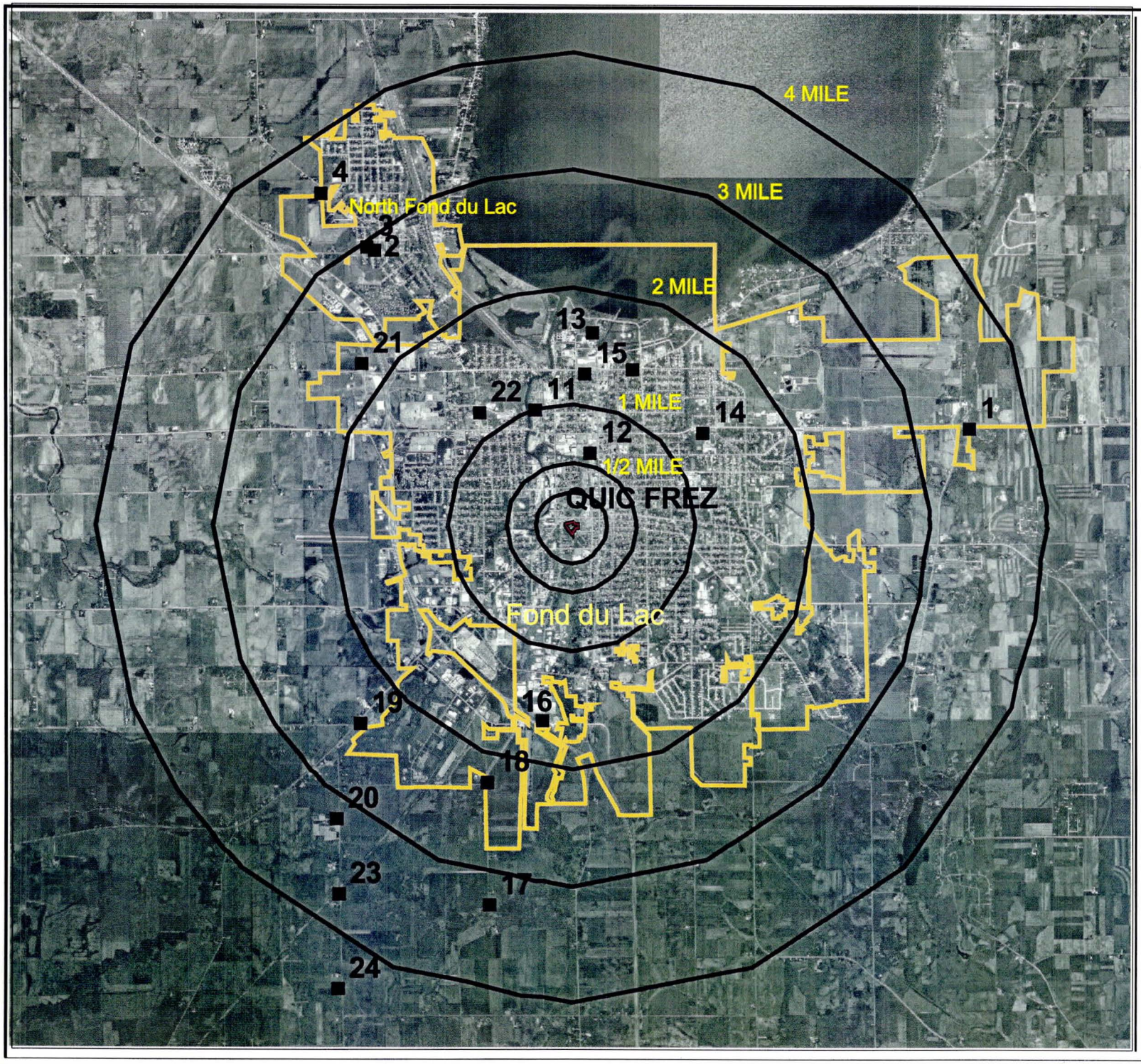
NO.	DATE	DESCRIPTION	BY

SCALE	DATE	BY	SHEET
HOR. 1"=30'	12-6-02	KAR	F-3
VER.	JOB 13635E1	CK SAH	OF

FIGURE 6

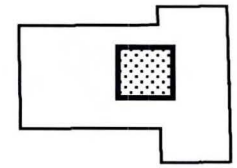
Municipal Water Supply Location Map

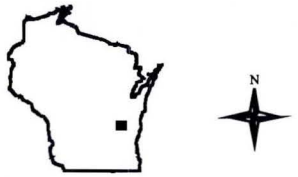
Quic Frez Four Mile Radius



■ Well Number (Municipal Supply)

Municipalities





0.5 0 0.5 1 Miles

1:70000

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not intended to be used for navigation, nor is this map an authoritative source of information about legal land ownership or public access. Users of this map should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map.

Map Creator:
JB

October 8, 2003

FIGURE 7

Geologic Cross Section

N

B

B'

S

760.00

755.00

750.00

745.00

740.00

735.00

730.00

725.00

720.00

715.00

710.00

ELEVATION (MSL)

MW10B

MW4A

B15

MW5A

MW7B

FORMER BASEMENT

EAST BRANCH
FOND DU LAC RIVER

RIP RAP

RIP RAP

FILL

NO SOIL DATA

NO SOIL DATA

ESTIMATED DEPTH

OF KEWAUNEE FORMATION

ESTIMATED EXTENT OF
GROUNDWATER CONTAMINATION
ABOVE NR140 PAL STANDARDS

TCE
4,200

TCE
500,000

TCE
850,000

TCE
12,000

TCE
140,000

KEWAUNEE FORMATION

HORICON FORMATION

POTENTIOMETRIC SURFACE

APPROXIMATE EXTENT
OF SOLVENT (TCE)
CONTAMINATED SOIL

POTENTIOMETRIC SURFACE

ESTIMATED EXTENT OF
GROUNDWATER CONTAMINATION
ABOVE NR140 PAL STANDARDS

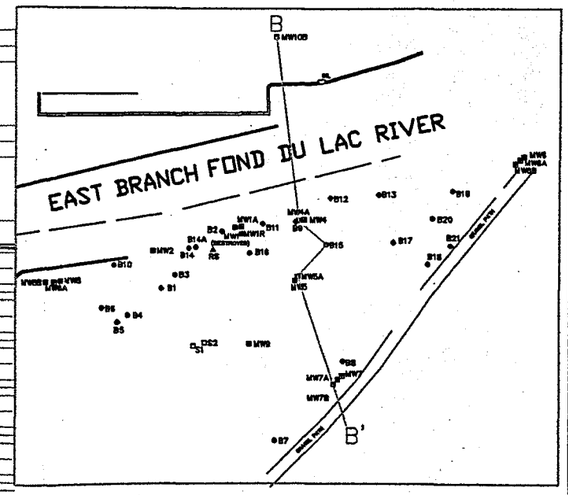
WELL SCREEN, TYPICAL

-N-

GRAPHIC SCALE

0 30

(IN FEET)
1 inch = 30 ft.



NO.	DATE	DESCRIPTION	BY

FIGURE 9: GEOLOGIC SECTION B-B'

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ENGINEERS
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414-458-6164

CITY OF FOND DU LAC
QUIC-FREZ COMPLEX
105 OAK PLACE
FOND DU LAC, WISCONSIN

SCALE	DATE	BY	SHEET
HOR. 1"=30'	07-10-03	KAR	F-9
VER. 1"=6'	JOB 13635E2L	CK SAH	OF