



April 20, 1998

Michael Farley, BRR Program Assistant
Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

Site Investigation - Work Plan
Waubeka Mill, Inc., W4132 Mill Street, Town of Fredonia, Wisconsin
BRRTS #: 03-46-183691
Facility ID #: 246147110

Dear Mr. Farley:

Please find enclosed a copy of the Work Plan and schedule for the above-mentioned project.

If you have any questions or need additional information, please give me a call.

Sincerely,

A handwritten signature in cursive script that reads "Aaron Krier".

Aaron Krier
Engineer

enclosure

cc: Ms. Jacquelyn M. Voeks
6002 Valley Heights Road
Fredonia, WI 53021



Work Plan
for the
Site Investigation

at

Waubeka Mill, Inc
W4132 Mill Street
Fredonia, WI 53021-9716

BRRTS #: 03-46-183691
FID #: 246147110

April 20, 1998

EXECUTIVE SUMMARY

Agenda International Inc. is conducting a Site Investigation to determine the extent and magnitude of petroleum contamination at the Waubeka Mill Inc. property, located at W4132 Mill Street, in the Town of Fredonia, Wisconsin. The petroleum contamination was identified during closure of a 300-gallon underground storage tank formerly used for storing leaded gasoline and diesel fuel.

This Work Plan describes the scope of work necessary to comply with the detailed requirements set forth by the Wisconsin Department of Natural Resources for release investigations. These tasks will include:

- *Field Investigation* including soil sampling and, if necessary, the installation of groundwater monitoring wells
- *Laboratory Analysis* of soil and groundwater samples
- *Evaluating Results and Developing Recommendations*
- Completing and submitting the *Site Investigation Report*

The activities defined in this Work Plan will be conducted according to Wisconsin Department of Natural Resources policies and regulations, including Wisconsin Administrative Code NR 700 and NR 140, and Wisconsin Department of Commerce requirements for the PECFA program since this site is eligible for reimbursement of investigation and clean up costs.

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I INTRODUCTION

During the Site Assessment (SA) conducted at the Waubeka Mill, Inc. property associated with the in-place closure of a 300-gallon underground storage tank (UST), petroleum contamination of the soil was identified. The site's responsible party, Waubeka Mill Inc., is required by the Wisconsin Department of Natural Resources (WDNR) to conduct a Site Investigation (SI) to identify and quantify the petroleum contamination.

The SA was conducted on January 2, 1998 by Cardinal Environmental of Sheboygan, Wisconsin (Cardinal). During tank closure obvious soil staining and strong odors were observed. Laboratory analysis of a soil sample collected from beneath the tank location identified Gasoline Range Organics (GRO) concentration of 350 mg/kg and Diesel Range Organics (DRO) concentration of 17 mg/kg. See Site Assessment Report, Appendix A, for laboratory analysis.

The activities described in this Work Plan (WP) are intended to provide definition of the extent and magnitude of contamination. The tasks include completion of four soil borings, and if necessary, the installation of three groundwater monitoring wells. Soil and groundwater samples will be collected for laboratory analysis of petroleum hydrocarbons. This WP also provides site data and a brief description of the Site Investigation Report that will be submitted.

A Site Data

Facility: Waubeka Mill Inc.
W4132 Mill Street
Fredonia, WI 53021-9716

Responsible Party: Waubeka Mill Inc.

Representative: Jacquelyn M. Voeks
6002 Valley Heights Road
Fredonia, WI 53021-9716

Consultant: Agenda International Inc.
2130 South 17th Street, Sheboygan, WI 53081

Representative: Per Reimann, P.G., Principal Hydrogeologist
Phone: (920) 451-9141

Site Description: SE $\frac{1}{4}$, SW $\frac{1}{4}$, of Section 28, Township 12N, Range 21E
Port Washington West, Wis. 15' Quadrangle

BRRTS ID #: 03-46-183691
FID #: 246147110

CERTIFICATION

Hydrogeologist Certification

I, Per Reimann, P.G. hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1) Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct, and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

P. Reimann

Signature

Title: Principal Hydrogeologist
P.G. #: G-233



II SITE SETTING AND BACKGROUND INFORMATION

The Waubeka Mill Inc. property is located in the Town of Fredonia, Ozaukee County, Wisconsin. See Figure 1 for site location. The property is presently used as a feed mill and the UST was used to store both leaded gasoline and diesel fuel for fueling vehicles.

The UST is closed in place and is located adjacent to the building. See the Site Map, Figure 2, for tank location.

The UST is located on top of a wooded hill. The hill drops approximately 15 feet at a 1:1 slope. See the Site Map, Figure 2, for hill location. Soil borings and groundwater monitoring well installation will be hindered by the hill's location.

A Geology and Hydrogeology

The local geology of northwestern Ozaukee County, Wisconsin, is characterized by ground moraine (i.e. till, unstratified clay, silt, sand, gravel and boulders) in thicknesses up to 110 feet overlying the Silurian dolomite bedrock. Underlying the Silurian dolomite are strata of Maquoketa Shale, Ordovician sandstone, and Cambrian sandstone {*The Wisconsin Geological & Natural History Survey maps: "Water Resources of Wisconsin; Lake Michigan Basin" (Skinner-Borman, 1973)*}.

Groundwater in this part of the Lake Michigan Basin moves within three aquifer systems. The first is the shallow aquifer system located in the ground moraine. The second is the Niagra Aquifer located in the Silurian dolomite below the ground moraine. The third

Groundwater in this part of the Lake Michigan Basin moves within three aquifer systems. The first is the shallow aquifer system located in the ground moraine. The second is the Niagra Aquifer located in the Silurian dolomite below the ground moraine. The third aquifer system is the sandstone aquifer confined within the Maquoketa Shale. Locally, groundwater is expected to flow towards the Milwaukee River, located 60 feet north of the closed site.

With a ground surface elevation of approximately 785 feet AMSL above the hill, and 770 feet AMSL below the hill, the shallow groundwater table at the site is estimated to be located between 5 feet bls and 20 feet bls. The Milwaukee River is located 60 feet north of the closed UST. There is no potable water supply or sewer service to the property.

III SCOPE OF SITE INVESTIGATION

The objective of this investigation is to determine the vertical and horizontal extent and magnitude of the petroleum contamination present at the site. Four soil borings will be completed to define the limits of soil contamination. If necessary, three groundwater monitoring wells will be installed to determine the extent and magnitude of groundwater contamination, groundwater flow direction and the site specific hydraulic gradient (*K*).

The exact number and position of soil borings and groundwater monitoring wells are estimated and may be adjusted according to field observations. This will allow flexibility in defining the extent of soil contamination with a minimum number of borings. The proposed locations for the borings are shown in Figure 2. If additional investigation is needed to complete definition of site conditions, it will be completed in a phased approach. The results of the investigation will be documented and discussed in a Site Investigation Report which will be submitted to the WDNR.

All field work will be conducted in accordance with the WP and the Site Health and Safety Plan (Appendix B). All on site personnel will be trained in accordance with OSHA requirements.

A Soil Borings

The investigation will include completion of four soil borings. Two soil borings will be completed using hollow-stem auger techniques with soil samples being collected with a split-spoon sampler driven ahead of auger flights. Due to inaccessibility on the hill, two soil borings will be completed using a beaver type auger with solid-stem augers. Soil samples recovered from solid-stem augered borings are to be collected from the tailings. Samples will be collected at 2.5 foot intervals beginning near the surface and continuing to the termination of the boring. Upon retrieval each soil sample from the borings will be field screened for volatile compounds. Soil samples will be field screened using the head

space method utilizing an OVM Model 580B Photo Ionization Detector (PID) with a 10.6 eV lamp, and calibrated against an Isobutylene standard of 100 parts per million (ppm). During PID testing the samples will be placed in a plastic bag filled approximately half way with soil, and the sample will be agitated to break up clods and release vapors. The maximum PID reading will be recorded. PID readings are reported as instrument units (ppm), calibrated as Isobutylene equivalents.

At least four representative subsamples, one from each soil boring, will be collected for laboratory analyses. Soil samples to be submitted for laboratory analysis will be determined based on the PID results and WDNR guidelines. Twenty-five mg of each sample will be placed in a laboratory supplied two-oz. glass sample jar using a stainless steel EN CHEM, INC. scooper and stored on ice.

The lithology of the soil samples will be determined and recorded using the Unified Soil Classification System (USCS) for all soil borings.

All of the soil borings will be drilled to depths necessary to determine the vertical extent of contamination. The two hollow-stem auger soil borings will be completed to an estimated 15 feet bls. The two solid-stem auger soil borings will be completed approximately to 10 feet bls. If field screening results indicate that the soils are clean at that depth, a sample will be collected for laboratory confirmation of the field results and the boring will be terminated. If the soils are contaminated, a sample with the highest field screening results, and a sample collected at the water table will be sent to the laboratory for analysis.

To reduce the potential for cross-contamination, decontamination of sample collection equipment will be conducted between each sample. The equipment will be washed with a soap solution and rinsed with tap water and distilled water. The augers will be steam cleaned between each boring location. Excess soils from borings will be contained in 55-gallon drums for off-site disposal once soil sample results are available. Soil borings not converted into groundwater monitoring wells will be abandoned according WAC NR 141.25(d). See Figure 2 for proposed soil boring locations

B Groundwater Monitoring Wells

If necessary, groundwater monitoring wells will be constructed in accordance with WAC NR 141, "Groundwater Monitoring Well Requirements," in three of the four soil borings. Soil borings will be drilled to sufficient depths for the groundwater monitoring wells to be screened in accordance with WAC NR 141 requirements.

Once the borings have been completed to adequately intersect the groundwater surface, a monitoring well will be constructed of 2" PVC material and will be provided with a flush-mounted protective steel cover and locking cap in the roadway or shoulder. Groundwater

monitoring wells not installed in the roadway or shoulder will be provided with an above-ground locking protective pipe.

The groundwater monitoring wells will be surveyed to determine exact elevation, developed by bailing or slow pumping, and sampled. Water levels will be measured prior to groundwater monitoring well purging and sampling. After the groundwater monitoring wells have been properly purged, samples will be collected for laboratory analysis of petroleum contaminants. The timing of well development and sampling will be in accordance with WAC NR 141.

C Laboratory Analysis of Samples

Up to eight soil subsamples will be collected and shipped off-site for laboratory analysis. These subsamples will be collected and shipped in accordance with WDNR recommended practices and in compliance with the method descriptions. This will include keeping the subsamples adequately cooled and shipped within acceptable holding times. Trip blanks will be included with the samples as necessary. Chain-of-custody forms will be used throughout subsample collection, handling, transportation, and analysis to document subsample integrity.

Soil subsamples will be laboratory analyzed for:

- GRO,
- DRO,
- Volatile Organic Compounds (VOC), and
- Lead

If groundwater monitoring wells are installed, at least one water sample will be collected and shipped off-site for laboratory analysis from each groundwater monitoring well. These samples will be collected and shipped in accordance with WDNR recommended practices and in compliance with the method descriptions. This will include keeping the samples adequately cooled and shipped within acceptable holding times. Trip blanks will be included with the samples as necessary. Chain-of-custody forms will be used throughout sample collection, handling, transportation, and analysis to document sample integrity.

The groundwater samples will be laboratory analyzed for:

- GRO,
- DRO,
- VOC, and
- Dissolved Lead

Sample results, along with quality assurance documentation, will be reviewed for accuracy and quality. Any problems with quality control will be identified and addressed with the laboratory.

D Slug Test

The site specific K will be determined by performing slug tests on each of the site's groundwater monitoring wells. The slug tests will be conducted using a three foot long slug. Changes in the groundwater level will be recorded using a vented vibrating wire pressure transducer (*Geokon, Inc.*: Model 4500 AL/ALV) and a data logger (*Geokon, Inc.*: Model 8001). The slug tests will be conducted as falling head tests and rising head tests. K will be calculated using the BOUWER-RICE method (*Waterloo Hydrogeologic Software: Aquifer Test*). Results and test data plots will be included with the SI report along with evaluation of the results and calculations of the site specific Residual Contamination Limits.

E Evaluate Results

Once sample results are received and verified they will be reviewed along with the field data and observations to assess the status of the site. Analytical results will be compared to the applicable standards as defined in WAC NR 720.09 and WAC NR 140, field measurements will be reviewed for anomalies, and soils data will be evaluated.

If the results indicate that there is no significant contamination at the sampling locations, the results will be presented in the Site Investigation Report and a Remedial Action Plan (RAP) will be developed based on the limited extent of contamination defined by the sampling. Passive bio-remediation, which is essentially allowing natural forces to clean up the site, will be one of the alternatives evaluated as a remedial action.

If the results indicate a significant level of impact or if the groundwater is contaminated, the data will be evaluated to determine if potential remedial actions can be defined, or if additional investigation is needed.

F Site Investigation Report

The investigation results will be presented in the Site Investigation Report which will be submitted to the WDNR. The report will include descriptions of the completed activities, observations made during the field efforts, analytical results, discussion of the evaluation, and the recommended actions. The report will include all necessary documentation.

If the results indicate that there is no significant contamination or impact on the environment, the results will be summarized and the rationale and recommendation for no further action will be presented in the SI Report.

If the results indicate some level of impact, the implication of those findings will be evaluated to determine if the data is sufficient, or if additional investigation is needed. After completion of the investigation, the SI Report will present the rationale for this determination, and if additional investigation is needed, the objectives and extent of those efforts will be defined. To the extent that the data will allow, corrective action options and a recommendation will be presented.

G Remedial Action Plan

Based on the findings of the SI, including contaminant levels and soil conditions, a RAP will be prepared to identify potential technologies which can be utilized to remediate the site to meet the applicable regulations. In addition to defining technologies, the RAP will include a comprehensive evaluation of three feasible alternatives and will provide a recommendation for the lowest cost option. A summary of the cost analysis will be submitted to WDNR and WDCOMM in accordance with PECFA requirements.

In compliance with another PECFA requirements passive bio-remediation will be included as an alternative. If contaminant levels are low enough, it may be approved by the WDNR; but if not, other approaches will be necessary. The final selection of a remedial action, if one is necessary, will ultimately depend on the specific findings of the SI.

H Remedial Design and Remedial Actions

If the findings of the SI necessitate implementation of a remedial action, the RAP defined alternative will be designed using, whenever possible, available data from the SI and known performance data of the selected alternative. The design work will be presented in engineering plans and specifications for use in implementing the system. In addition to the design activities, all necessary permits will be obtained from the WDNR.

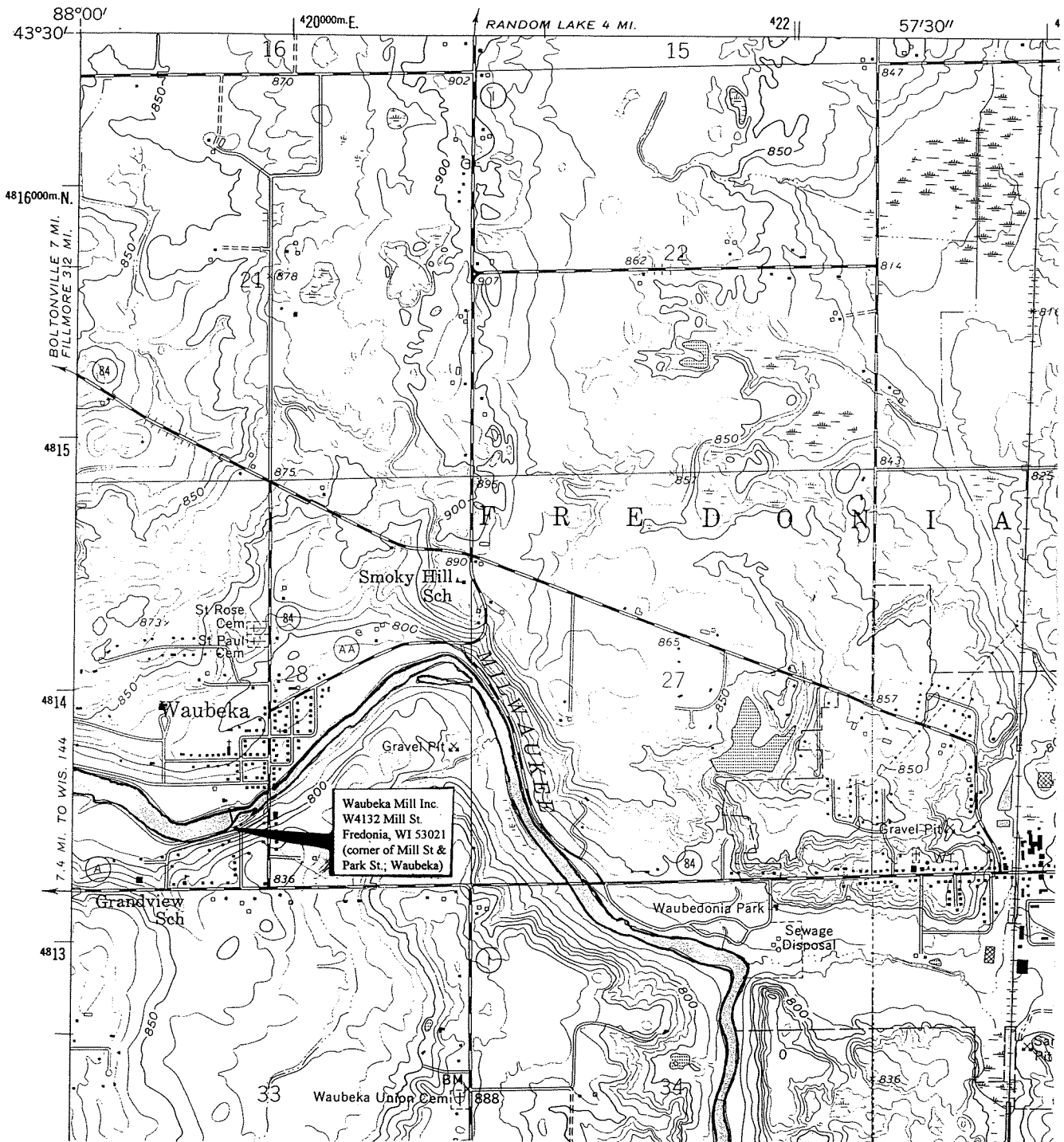
IV SCHEDULE

The following is the proposed schedule for the Site Investigation:

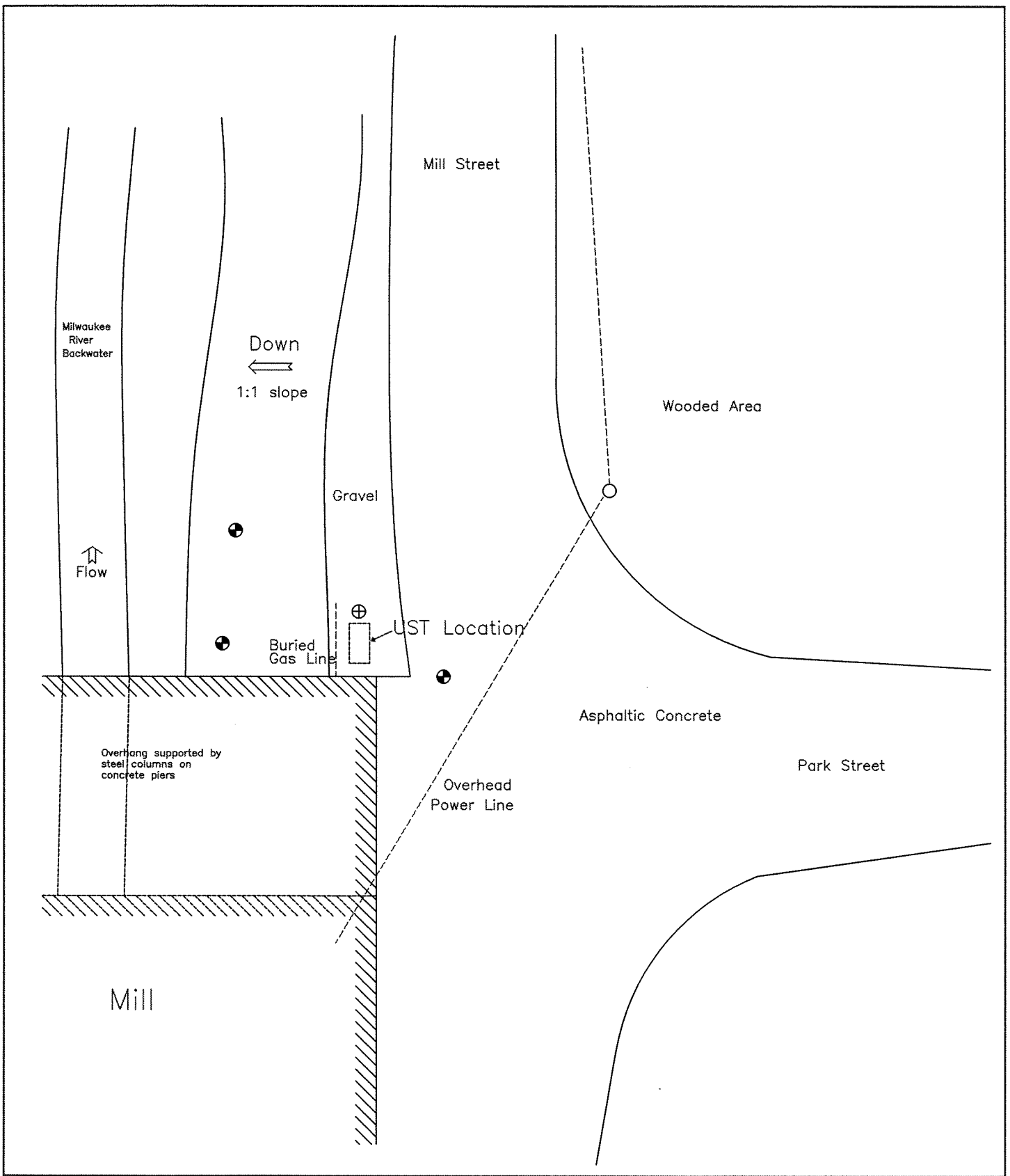
Work Plan Submitted to the WDNR April 20, 1998
Complete Field Work and Sampling June 1, 1998
Laboratory Results Complete June 15, 1998
Site Investigation Report Completed July 15, 1998

Figures

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

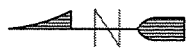


Map Source		Waubeka Mill, Inc		agenda	
USGS 7.5 Minute Series (Topographic) NW/4 Port Washington, Ozaukee County, Wis. 15' Quadrangle		Site Location		International Inc.	
Rev	Date	Description	By	Date: 03/28/97	File: Figure 1
				By: Aaron Krier	Scale: 1:24,000
				Figure 1	



LEGEND

- Proposed Monitoring Well Location
- ⊕ Proposed Soil Boring Location



Waubeka Mill, Inc
Proposed Soil Borings
& Monitoring Wells

Rev	Date	Description	By

agenda
International Inc.

Date: 03/28/97 File: Figure 3
By: Aaron Krier Scale: 1"=20'

Figure 2

Appendix A

Site Assessment Report

CARDINAL



ENVIRONMENTAL

COPY

300 Gallon Diesel Fuel
Underground Storage Tank
Closure Assessment

Waubeka Mill Inc.
W4132 Mill Street
Waubeka, Wisconsin

prepared for:

Ms. Jacquelyn M. Voeks
Waubeka Mill Inc.
W4132 Mill Street
Waubeka, Wisconsin 53021

prepared by:

Signature: _____

Date: _____

1/14/98

Bruce Ten Haken, CHMM
Senior Project Manager
DILHR Certification Number 41751

CARDINAL



ENVIRONMENTAL

COPY

**300 GALLON DIESEL FUEL
UNDERGROUND STORAGE TANK CLOSURE ASSESSMENT**

PREPARED FOR:

**WAUBEKA MILL INCORPORATED
W4132 MILL STREET
WAUBEKA, WI**

A. SITE BACKGROUND INFORMATION

A 300 gallon diesel fuel Underground Storage Tank (UST) was closed in place on January 02, 1998, from Waubeka Mill Inc., W4132 Mill Street, Waubeka, Wisconsin ("the site"). The UST's ID # is 450900076, and is registered as storing leaded gasoline for industrial purposes. According to Jacquelyn Voeks, the owner of the Mill, the UST was last used for storing diesel fuel for industrial purposes (fueling the Mill's vehicles). The UST has not been used for a number of years.

The UST is located 2' from the east side of the Mill, next to a steep slope. The section of the Mill that the UST is next to is supported by steel beams attached to concrete piling/footings. Part of the Milwaukee River passes underneath this section. Over the years, the slope has been eroding, mainly from water running down Park Avenue. Removing the UST may increase the erosion and undermine the footings on the southeast side of the mill. Approval for the closure in place was obtained from Independent Inspections, Ltd. (IIL), the DILHR local program operator for this area.

Cardinal Environmental Inc. (Cardinal) was hired by the owner to close the UST. Mr. Roman Nespodzany from IIL was the on site inspector, Inspector Cert. #35245.

B. TANK ACTIVITIES AND EXCAVATION

Bruce Ten Haken (DILHR Cert. #41751) from Cardinal Environmental Inc., Sheboygan, Wisconsin, was the acting Cleaner/Remover and Site Assessor. Attachment III contains a diagram of the UST system. The UST was 3' D x 6'L (300 gal.). The fill and vent pipes were still in place. The pump had been removed prior to Cardinal's arrival. An excavator was used to expose the top portion of the UST so the top could be cut off.

C. TANK CLEANING AND DISPOSAL

A hole was cut in the top portion of the UST which was exposed by the excavator. There was 2" (5 gallons) of diesel fuel in the UST. The diesel fuel was transferred to a 5 gallon metal can. A small amount of sludge was also removed. The diesel fuel and sludge were taken back to Cardinal's Sheboygan location, and transferred to a 55 gallon drum of waste fuels. The drum was picked up on January 5, 1998, by Laidlaw Environmental Services, Inc., Pecatonica, IL. for proper disposal (fuels blending).

D. SURPLUS PRODUCT AND TANK SLUDGE MANAGEMENT

The diesel fuel and sludge removed from the UST were taken back to Cardinal and placed in a 55 gallon drum of waste fuels. The drum was picked up on January 5, 1998, by Laidlaw Environmental Services, Inc., for disposal. A copy of the manifest is in Attachment I.

E. SITE LOCATION AND LAYOUT MAP.

The property is located at W4132 Mill Street in the village of Waubeka, Wisconsin. The property is located in Ozaukee County, and is between Mill Street and the Milwaukee River. The property is located on the north side of the Mill Street and Park Avenue intersection. The mailing address for the site is Fredonia, WI. Site maps are located in Attachment III.

F. VISUAL INSPECTION

The weather conditions the day of the closure were as follows: temperature of 34°F; partly cloudy; wind from the west - southwest at 10 mph. The UST was located under gravel. Native soil was never encountered.

While uncovering the UST, it was observed that the soil under and around the dispenser location was stained and had a petroleum odor. After cleaning, the UST was inspected. There did not appear to be any holes in the UST. A hole was cut in the bottom for the collection of soil samples. The soil under the UST was stained and had a petroleum odor.

G. SOIL SAMPLING AND ANALYSIS

The soil 1 foot below the bottom of the UST was sampled for Diesel Range Organics (DRO) and Gasoline Range Organics (GRO). The sample location was given a Field ID# of WM-1. An En Chem "Encore" sampling tool was used to collect the DRO. The GRO sample was collected using a 2 ounce glass jar with a teflon lined lid. About 20 grams of soil was placed in the jar and preserved with methanol. The samples were placed on ice.

The samples were transported to En Chem Inc. of Green Bay, WI., WDNR Lab Certification #405132750, on January 5, 1998. En Chem analyzed the samples by the Wisconsin Modified DRO and GRO Methods. WM-1 had a DRO of 17 mg/kg, and a GRO of 350 mg/kg. The chain of custody and lab results can be found in Attachment IV.

H. SUPPORTING DOCUMENTATION

Copies of the tank inventory form, closure checklist, and other supporting documentation are provided in Attachment I. Site photographs are in Attachment II.

I. CONCLUSIONS AND RECOMMENDATIONS

While uncovering the UST, it was observed that the soil under and around the dispenser location was stained and had a petroleum odor. After cleaning, the UST was inspected. There did not appear to be any holes in the UST. A hole was cut in the bottom for the collection of soil samples. Since the UST was used to store gasoline before being used to store diesel fuel, the soil was analyzed for both DRO and GRO.

The soil under the UST was also stained and had a petroleum odor. The results of the DRO and GRO analyses were received on January 14, 1998. The DRO was 17 mg/kg, and the GRO was 350 mg/kg. The laboratory report states that the "Sample exhibits hydrocarbon pattern resembling gasoline". The Wisconsin Department of Natural Resources (WDNR) requires that UST sites with DRO/GRO results greater than 10 mg/kg be reported as suspected releases. Mr. Mike Farley from the WDNR was notified by Cardinal via fax of the suspected release on January 14, 1998. A copy of the release notification is in Attachment I. The WDNR will be notifying you in the form of a letter with the actions you will be required to take.

COPY

ATTACHMENT I



COPY

Independent Inspections, Ltd.

Certified Construction Inspectors

S30 W24670 Sunset Drive

Waukesha, WI 53186

December 23, 1997

Mr. Bruce Ten Haken, CHMM
3303 Paine Avenue
Sheboygan, WI 53081

Re: Closure-in-Place for Waubeka Mill Inc., W4132 Mill Street, Waubeka, WI

Dear Mr. Haken:

I do agree with you that a closure-in-place may be the most practical method in which to close the underground storage tank the above referenced address because of the following cited reason:

"The UST is located next to the Mill in steep slope and removing may cause the slope to erode faster and undermine the footings on the southeast side of the Mill."

Therefore, I am granting a "conditional" approval; however, the inspector will make the final decision at the time of the closure inspection.

The State certified remover/cleaner will need to mail or FAX (414-544-8291) an ILHR 10 Notification Record showing the date and time for the inspector to be on site to verify and sign the necessary paperwork. If you have any questions, please feel free to call the office at (800)422-5220.

Sincerely,

Ronald C. Habermann, Vice President
Co-Director Fire and Tank Services
INDEPENDENT INSPECTIONS, LTD.

c: File

RH/tls

F:\WPDATA\TANKS\CLOSURE\HAKEN.LET

UNDERGROUND PETROLEUM PRODUCT TANK INVENTORY

Send Completed Form To:
Department of Commerce
ERS Division
Bureau of Storage Tank Regulation
P.O. Box 7969, Madison, WI 53707

WI Tank ID#: 450900076

Information Required By Section 101.142, Wis. Stats

COPY

Underground tanks in Wisconsin that have stored or currently store petroleum or regulated substances must be registered. Please see the reverse side for additional information on this program. An underground storage tank is defined as any tank with at least 10 percent of its total volume (including piping) located below ground level. A separate form is needed for each tank. Send each completed form to the agency designated in the top right corner. Have you previously registered this tank by submitting a form? Yes No If yes, are you correcting/updating information only? Yes No

Personal information you provide may be used for secondary purposes. [Privacy Law, s. 15.04 (1)(m)]

This registration applies to a tank that is (check one):			Fire Department providing fire coverage where tank is located:
1A. <input type="checkbox"/> In Use or	4. <input type="checkbox"/> Closed - Tank Removed	8. <input type="checkbox"/> Ownership Change (Indicate new owner name in block 2)	<input type="checkbox"/> City <input checked="" type="checkbox"/> Village <u>Waubeka 45C</u>
1B. <input type="checkbox"/> Newly Installed	6. <input checked="" type="checkbox"/> Closed - Filled with Inert Materials		<input type="checkbox"/> Town of _____
2. <input type="checkbox"/> Abandoned with Product	7. <input type="checkbox"/> Out of Service - Provide Date: _____		
3. <input type="checkbox"/> Abandoned No Product (empty) or with Water			

A. IDENTIFICATION (Please Print)

1. Tank Site Name <u>Waubeka Mill Inc</u>	Site Address <u>W4132 Mill Street</u>	Site Telephone Number <u>(414) 692-9414</u>
<input type="checkbox"/> City <input checked="" type="checkbox"/> Village <input type="checkbox"/> Town of: <u>Waubeka</u>	State <u>WI</u> Zip Code <u>53021</u>	County <u>Ozaukee</u>
2. Tank Owner Name <u>Jacquelyn M. Voeks</u>	Mailing Address <u>N6002 Valley Heights</u>	Telephone Number <u>414-692-9414</u>
<input type="checkbox"/> City <input checked="" type="checkbox"/> Village <input type="checkbox"/> Town of: <u>Fredonia</u>	State <u>WI</u> Zip Code <u>53021</u>	County <u>Ozaukee</u>
3. Previous Name	Previous site address if different than #1	
4. Tank Age (date installed, if known or years old)	5. Tank Capacity (gallons) <u>300 Gallon</u>	6. If more than one tank is located at facility, please provide tank

B. TYPE OF USER (check one)

1. <input type="checkbox"/> Gas/Retail Sales	2. <input type="checkbox"/> Bulk Storage	3. <input type="checkbox"/> Utility	4. <input checked="" type="checkbox"/> Mercantile/Commercial	5. <input type="checkbox"/> Industrial
6. <input type="checkbox"/> Government	7. <input type="checkbox"/> School	8. <input type="checkbox"/> Residential	9. <input type="checkbox"/> Agricultural	10. <input type="checkbox"/> Other (specify):
11. <input type="checkbox"/> Tribal Nation	12. <input type="checkbox"/> Federal Property	13. <input type="checkbox"/> Backup Generator		

C. TANK CONSTRUCTION (check one)

1. <input type="checkbox"/> Bare Steel	2. <input type="checkbox"/> Cathodically Protected & Coated Steel (Check one: A. <input type="checkbox"/> Sacrificial Anodes or B. <input type="checkbox"/> Impressed Current)	3. <input type="checkbox"/> Other (specify): _____
3. <input checked="" type="checkbox"/> Coated Steel	4. <input type="checkbox"/> Fiberglass	7. <input type="checkbox"/> Steel - Fiberglass Reinforced Plastic Composite
6. <input type="checkbox"/> Lined - Date: _____		9. <input type="checkbox"/> Unknown

Approval: 1. <input type="checkbox"/> Nat'l Std. 2. <input type="checkbox"/> UL 3. <input type="checkbox"/> Other:	Is tank double walled? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Overfill Protection Provided? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, identify type:	Spill Containment? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Tank leak detection method:	
1. <input type="checkbox"/> Automatic tank gauging	2. <input type="checkbox"/> Vapor monitoring
4. <input type="checkbox"/> Inventory control and tightness testing	5. <input type="checkbox"/> Interstitial monitoring
7. <input type="checkbox"/> Manual tank gauging (only for tanks of 1,000 gallons or less)	8. <input type="checkbox"/> Statistical Inventory Reconciliation (SIR)

D. PIPING CONSTRUCTION

1. <input checked="" type="checkbox"/> Bare Steel	2. <input type="checkbox"/> Cathodically Protected & Coated Steel (Check one: A. <input type="checkbox"/> Sacrificial Anodes or B. <input type="checkbox"/> Impressed Current)
3. <input type="checkbox"/> Coated Steel	4. <input type="checkbox"/> Fiberglass
	5. <input type="checkbox"/> Other (Specify): _____
	9. <input type="checkbox"/> Unknown

Vapor Recovery/Stage II

4. <input type="checkbox"/> Fiberglass	6. <input type="checkbox"/> Flexible	5. <input type="checkbox"/> Other (specify): _____	CARB #: _____
			Operational - Provide Date (mo/day/yr): _____
Piping System Type:	1. <input type="checkbox"/> Pressurized piping with A. <input type="checkbox"/> auto shutoff; B. <input type="checkbox"/> alarm or C. <input type="checkbox"/> flow restrictor		
2. <input type="checkbox"/> Suction piping with check valve at tank	3. <input type="checkbox"/> Suction piping with check valve at pump and inspectable	4. <input type="checkbox"/> Not needed if waste oil	
Piping leak detection method: used if pressurized or check valve at tank:	1. <input type="checkbox"/> Vapor monitoring	2. <input type="checkbox"/> Interstitial monitoring	
3. <input type="checkbox"/> Groundwater monitoring	4. <input type="checkbox"/> Tightness testing	5. <input type="checkbox"/> Line leak detector	6. <input type="checkbox"/> Not required
		8. <input type="checkbox"/> SIR	
Approval: 1. <input type="checkbox"/> Nat'l Std. 2. <input type="checkbox"/> UL 3. <input type="checkbox"/> Other:	Is pipe double walled? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

E. TANK CONTENTS

1. <input checked="" type="checkbox"/> Diesel	2. <input type="checkbox"/> Leaded	3. <input type="checkbox"/> Unleaded	4. <input type="checkbox"/> Fuel Oil	5. <input type="checkbox"/> Gasohol
6. <input type="checkbox"/> Other (Specify): _____	7. <input type="checkbox"/> Empty*	8. <input type="checkbox"/> Sand/Gravel/Slurry*	9. <input type="checkbox"/> Unknown*	10. <input type="checkbox"/> Premix
11. <input type="checkbox"/> Waste/Used Motor Oil	13. <input type="checkbox"/> Chemical _____	14. <input type="checkbox"/> Kerosene	15. <input type="checkbox"/> Aviation	

(Indicate chemical name and number)

* If 7, 8, 9, or 13 is chosen, this tank is NOT PECFA eligible.

If Tank Closed, Abandoned or Out of Service, give date (mo/day/yr): <u>1/2/98</u>	Has a site assessment been completed (see reverse side for details) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	--

Owner or Operator Name (please print): <u>Jacquelyn M. Voeks</u>	Indicate whether: <input checked="" type="checkbox"/> Owner or <input type="checkbox"/> Operator
Owner or Operator Signature: <u>Jacquelyn M. Voeks (B.M. - Cardinal)</u>	Date Signed: <u>1/2/98</u>

IMPORTANT: Failure to provide sufficient information may cause you to fall under additional regulations, and may delay PECFA eligibility determination. It is necessary to complete ALL shaded areas and as many other items as possible.

CHECKLIST FOR UNDERGROUND TANK CLOSURE

RETURN COMPLETED CHECKLIST TO:
Safety & Buildings Division
Fire Prevention & Underground
Storage Tank Section
P. O. Box 7969, Madison, WI 53707

**Complete one form for
each site closure.**

The information you provide may be used by other
government agency programs (Privacy Law, s. 15.04(1)(m)).

COPY

A. IDENTIFICATION: (Please Print) Indicate whether closure is for: Tank System Tank Only Piping Only

1. Site Name <i>Waubesa Mill Inc.</i>		2. Owner Name <i>Jacquelyn M. Voeks</i>	
Site Street Address (not P.O. Box) <i>W4132 Mill Street</i>		Owner Street Address <i>N6002 Valley Heights</i>	
<input type="checkbox"/> City	<input checked="" type="checkbox"/> Village	<input type="checkbox"/> City	<input checked="" type="checkbox"/> Village
<i>Waubesa</i>		<i>Fredonia</i>	
State <i>WI</i>	Zip Code <i>53021</i>	State <i>WI</i>	Zip Code <i>53021</i>
County <i>Ozaukee</i>	County <i>Ozaukee</i>	Telephone No. (include area code) <i>(414) 692-7414</i>	
3. Closure Company Name (Print) <i>Cardinal Environmental Inc.</i>		Closure Company Street Address <i>3303 Paine Avenue</i>	
Closure Company Telephone No. (include area code) <i>(920) 459-2500</i>		Closure Company City, State, Zip Code <i>Sheboygan WI 53081</i>	
4. Name of Company Performing Closure Assessment <i>Cardinal Environmental</i>		Assessment Company Street Address, City, State, Zip Code <i>3303 Paine Ave. Sheboygan WI 53081</i>	
Telephone # (include area code) <i>(920) 459-2500</i>	Certified Assessor Name (Print) <i>Kruse Tom Hakon</i>	Assessor Signature <i>[Signature]</i>	Assessor Certification No. <i>71751</i>

Tank ID #	Closure	Temp. Closure	Closure in Place	Tank Capacity	Contents *	Closure Assessment
1. <i>450900076</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>300</i>	<i>1</i>	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y <input type="checkbox"/> N
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y <input type="checkbox"/> N
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y <input type="checkbox"/> N
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y <input type="checkbox"/> N
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/> Y <input type="checkbox"/> N

* Indicate which product by numeric code: 01-Diesel; 02-Leaded; 03-Unleaded; 04-Fuel Oil; 05-Gasohol; 06-Other; 09-Unknown; 10-Premix; 11-Waste oil; 13-Chemical (indicate the chemical name(s) or number(s) _____); 14-Kerosene; 15-Aviation.

Written notification was provided to the local agent 15 days in advance of closure date. Y N NA
All local permits were obtained before beginning closure. Y N NA

Check applicable box at right in response to all statements in Sections B - E.

B. TEMPORARILY OUT OF SERVICE	Remover Verified	Inspector Verified	NA
Written inspector approval of temporary closure obtained, which is effective until (provide date) _____	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
1. Product Removed			
a. Product lines drained into tank (or other container) and resulting liquid removed, AND	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
b. All product removed to bottom of suction line, OR	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
c. All product removed to within 1" of bottom.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
2. Fill pipe, gauge pipe, tank truck vapor recovery fittings, and vapor return lines capped.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
3. All product lines at the islands or pumps located elsewhere are removed and capped, OR	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
4. Dispensers/pumps left in place but locked and power disconnected.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
5. Vent lines left open.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
6. Inventory form filed indicating temporary closure.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>

C. CLOSURE BY REMOVAL

1. Product from piping drained into tank (or other container).	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
2. Piping disconnected from tank and removed.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
3. All liquid and residue removed from tank using explosion proof pumps or hand pumps.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
4. All pump motors and suction hoses bonded to tank or otherwise grounded.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR.			
6. Vent lines left connected until tanks purged.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
7. Tank openings temporarily plugged so vapors exit through vent.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section F.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
9. Tank removed from excavation after PURGING/INERTING ; placed on level ground and blocked to prevent movement.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>
10. Tank cleaned before being removed from site.	<input type="checkbox"/> Y <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>

C. CLOSURE BY REMOVAL (continued)

- | | | | | |
|--|----------------------------|----------------------------|--------------------------|-------------------------------------|
| 11. Tank labeled in 2" high letters after removal but before being moved from site. | <input type="checkbox"/> Y | <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| NOTE: COMPLETE TANK LABELING SHOULD INCLUDE WARNING AGAINST REUSE; FORMER CONTENTS; VAPOR STATE; VAPOR FREEING-TREATMENT; DATE. | | | | |
| 12. Tank vent hole (1/8 th " in uppermost part of tank) installed prior to moving the tank from site. | <input type="checkbox"/> Y | <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. Inventory form filed by owner with Safety and Buildings Division indicating closure by removal. | <input type="checkbox"/> Y | <input type="checkbox"/> N | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14. Site security is provided while the excavation is open. | <input type="checkbox"/> Y | <input type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |

D. CLOSURE IN PLACE

NOTE: CLOSURES IN PLACE ARE ONLY ALLOWED WITH THE PRIOR WRITTEN APPROVAL OF THE DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS OR LOCAL AGENT.

- | | | | | |
|--|---------------------------------------|----------------------------|-------------------------------------|--------------------------|
| 1. Product from piping drained into tank (or other container). | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Piping disconnected from tank and removed. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. All liquid and residue removed from tank using explosion proof pumps or hand pumps. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. All pump motors and suction hoses bonded to tank or otherwise grounded. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Fill pipes, gauge pipes, vapor recovery connections, submersible pumps and other fixtures removed. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| NOTE: DROP TUBE SHOULD NOT BE REMOVED IF THE TANK IS TO BE PURGED THROUGH THE USE OF AN EDUCTOR - EDUCTOR OUTPUT 12 FT ABOVE GRADE. | | | | |
| 6. Vent lines left connected until tanks purged. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 7. Tank openings temporarily plugged so vapors exit through vent. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 8. Tank atmosphere reduced to 10% of the lower flammable range (LEL) - see Section F. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9. Tank properly cleaned to remove all sludge and residue. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 10. Solid inert material (sand, cyclone boiler slag, pea gravel recommended) introduced and tank filled. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11. Vent line disconnected or removed. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 12. Inventory form filed by owner with Safety and Buildings Division indicating closure in place. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

E. CLOSURE ASSESSMENTS

NOTE: DETERMINE IF A CLOSURE ASSESSMENT IS REQUIRED BY REFERRING TO ILHR 10.

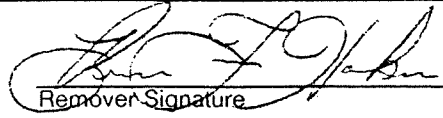
- | | | | | |
|--|---------------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| 1. Individual conducting the assessment has a closure assessment plan (written) which is used as the basis for their work on the site. | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Do points of obvious contamination exist? | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Are there strong odors in the soils? | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Was a field screening instrument used to pre-screen soil sample locations? | <input type="checkbox"/> Y | <input checked="" type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Was a closure assessment omitted because of obvious contamination? | <input type="checkbox"/> Y | <input checked="" type="checkbox"/> N | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Was the DNR notified of suspected or obvious contamination? | <input checked="" type="checkbox"/> Y | <input type="checkbox"/> N | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Agency, office and person contacted: <u>W.D. 12 - S.E. District</u> | | | | |
| 7. Contamination suspected because of: <input type="checkbox"/> Odor <input type="checkbox"/> Soil Staining <input type="checkbox"/> Free Product <input type="checkbox"/> Sheen On Groundwater <input type="checkbox"/> Field Instrument Test | | | | |

F. METHOD OF ACHIEVING 10% LEVEL DESCRIPTION

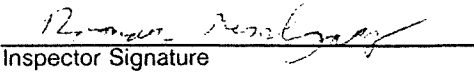
- Educator Or Diffused Air Blower
Eductor driven by compressed air, bonded and drop tube left in place; vapors discharged minimum of 12 feet above ground. Diffused air blower bonded and drop tube removed. Air pressure not exceeding 5 psig.
- Dry Ice
Dry ice introduced at 1.5 pounds per 100 gallons of tank capacity. Dry ice crushed and distributed over the greatest possible tank area. Dry ice evaporated before proceeding.
- Inert Gas (CO/2 or N/2) **NOTE: INERT GASSES PRODUCE AN OXYGEN DEFICIENT ATMOSPHERE. THE TANK MAY NOT BE ENTERED IN THIS STATE WITHOUT SPECIAL EQUIPMENT**
Gas introduced through a single opening at a point near the bottom of the tank at the end of the tank opposite the vent.
Gas introduced under low pressure not to exceed 5 psig to reduce static electricity. Gas introducing device grounded.
- Tank atmosphere monitored for flammable or combustible vapor levels.
Calibrate combustible gas indicator. Drop tube removed prior to checking atmosphere. Tank space monitored at bottom, middle and upper portion of tank. Readings of 10% or less of the lower flammable range (LEL) obtained before removing tank from ground.

G. NOTE SPECIFIC PROBLEMS OR NONCOMPLIANCE ISSUES BELOW

H. REMOVER/CLEANER INFORMATION

<u>Bruce TenHaken</u> Remover Name (print)	 Remover Signature	<u>41751</u> Remover Certification No.	<u>1/2/98</u> Date Signed
---	---	---	------------------------------

I. INSPECTOR INFORMATION

<u>Norman ...</u> Inspector Name (print)	 Inspector Signature	<u>31245</u> Inspector Certification No.	<u>1/2/99</u> Date Signed
<u>41509 000 70</u> FDID # For Location Where Inspection Performed	<u>800-422-220</u> Inspector Telephone Number		

OWNER



PLEASE TYPE

(Form designed for use on elite (12-pitch) typewriter.)

COPY

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No. 1057	2. Page 1 of 1	Information in the shaded areas is not required by Federal law, but is required by Illinois law.	
3. Generator's Name and Mailing Address CARBONAL ENVIRONMENTAL 1193 PAINE AVENUE, SHERBOURNE, WI 53081				Location If Different		A. Illinois Manifest Document Number IL 7702593 FEE PAID IF APPLICABLE	
4. *24 HOUR EMERGENCY AND SPILL ASSISTANCE NUMBERS*				6. US EPA ID Number		B. Illinois Generator's ID 9 4 5 8 4 1 9 9 9	
5. Transporter 1 Company Name				7. Transporter 2 Company Name		C. Illinois Transporter's ID #775	
9. Designated Facility Name and Site Address LANSAM ENVIRONMENTAL SERVICES OF ILL., INC. 4125 N. PROCTER ROAD				10. US EPA ID Number		D. (815) 334-7377 Transporter's Phone	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)				12. Containers		13. Total Quantity	
a. CONCENTRATED LIQUID, AQUEOUS, CORROSIVE, LIQ				No. Type		14. Unit Wt/Vol	
b.						I. Waste No.	
c.						EPA HW Number XX	
d.						Authorization Number	
J. Additional Description for Materials Listed Above				K. Handling Codes for Wastes Listed Above In Item #14			
15. Special Handling Instructions and Additional Information							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name Lois Ten Haken				Signature <i>[Signature]</i>		Date 11/9/97	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature <i>[Signature]</i>		Date 11/9/97	
Printed/Typed Name Jeffrey Burr				Signature <i>[Signature]</i>		Date 11/9/97	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		Date	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.				Signature		Date	
Printed/Typed Name				Signature		Date	

GENERATOR

TRANSPORTER

FACILITY

This Agency is authorized to require, pursuant to Illinois Revised Statute, 1989, Chapter 111 1/2, Section 1004 and 1021, that this information be submitted to the Agency. Failure to provide this information may result in a civil penalty against the owner or operator not to exceed \$25,000 per day of violation. Falsification of this information may result in a fine up to \$50,000 per day of violation and imprisonment up to 5 years. This form has been approved by the Forms Management Center.

Notification of Petroleum Contamination from Underground Storage Tank System

Please complete this form and FAX it to Giselle Red, LUST Program Assistant, Southeast District, Milwaukee, immediately upon discovery of a release from an UST system.

TO: WDNR, Attn: Mike Farley
FAX #: 414-229-0810

1. Name, company, mailing address and phone number of person reporting the discharge:

Bruce Ten Haken
Cardinal Environmental Inc.
3303 Paine Avenue
Sheboygan, WI 53081 920-459-2500

2. Site Information

Name of site at which discharge occurred (local name of site/business - not responsible party name, unless a residence):

Waubeka Mill Inc.

Location (actual street address, not PO box; if no street address, describe as precisely as possible, i.e., 1/4 mile NW of CTHs 60 & 123 on E side of CTH 60):

W4132 Mill Street, Waubeka, Wisconsin

Municipality (city, village, township in which the site is located - not mailing address):

Waubeka

County:

Ozaukee

Legal Description: ___ 1/4, ___ 1/4, Section ___, Tn ___, Range ___ E / W

3. Responsible Party (RP) and/or RP Representative Information

Company Name: Waubeka Mill Inc.

Contact Person: Jacquelyn M. Voeks

Mailing Address (with zip code):

Telephone Number: W4132 Mill Street, Fredonia, WI, 53021

(414) 692-9414

4. Identify tank size(s) and contents (list all that apply):

____ Unleaded gasoline
____ Leaded gasoline
300 Diesel

____ Fuel oil
____ Waste oil
____ Other _____

5. Impacts to the environment:

- Fire/explosion threat
- Contaminated private wells (#of wells _____)
- Contaminated public wells
- Groundwater contamination
- Soil contamination
- Surface water impacts
- Floating product
- Other _____

6. Contamination was discovered as a result of:

- Tank closure assessment
- Site assessment
- (Other) _____

7. Immediate actions being taken and the name of the contractor or other person performing the actions:

8. Source, speed of movement, and destination or probable destination of the discharged hazardous substance:

9. Local soil type and topography in the area of the discharge, depth to groundwater, and distance to surface water:

Milwaukee River is located about 50 feet away, downhill,

10. Weather conditions existing at the scene, including presence of precipitation, and wind direction and velocity:

11. Soil contaminant concentration of laboratory analytical samples (if known):

DRO - 17 mg/kg
 GRO - 350 mg/kg

Additional Comments:

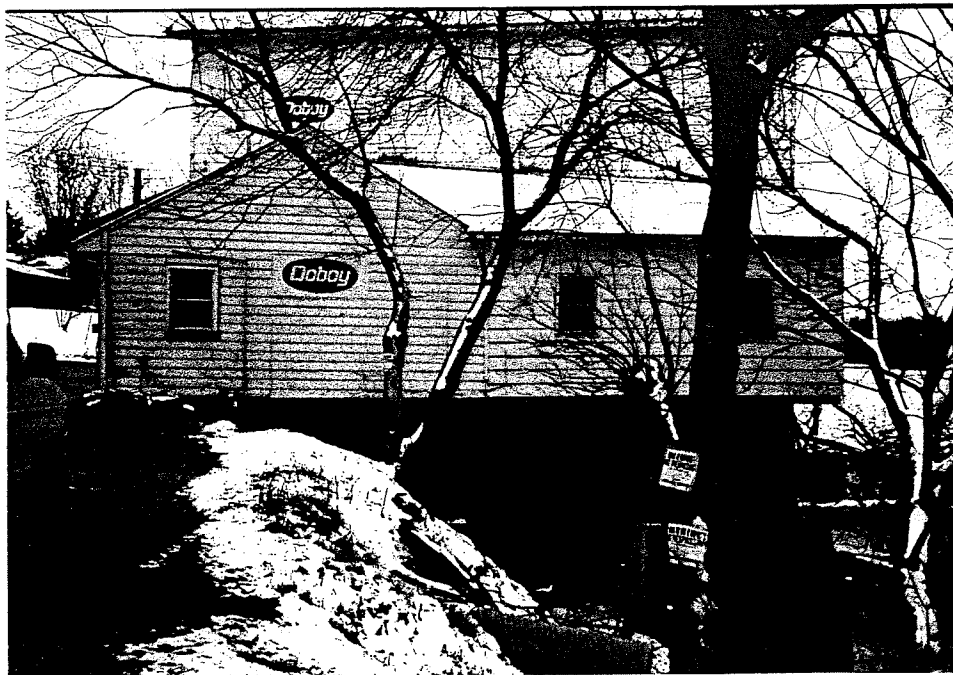
- The UST originally contained gasoline, but was later used for diesel fuel.
- The UST was closed-in-place. Samples were collected through a hole cut in the bottom of the UST.
- UST located on top of a steep slope that drops to the Milwaukee River.

COPY

ATTACHMENT II



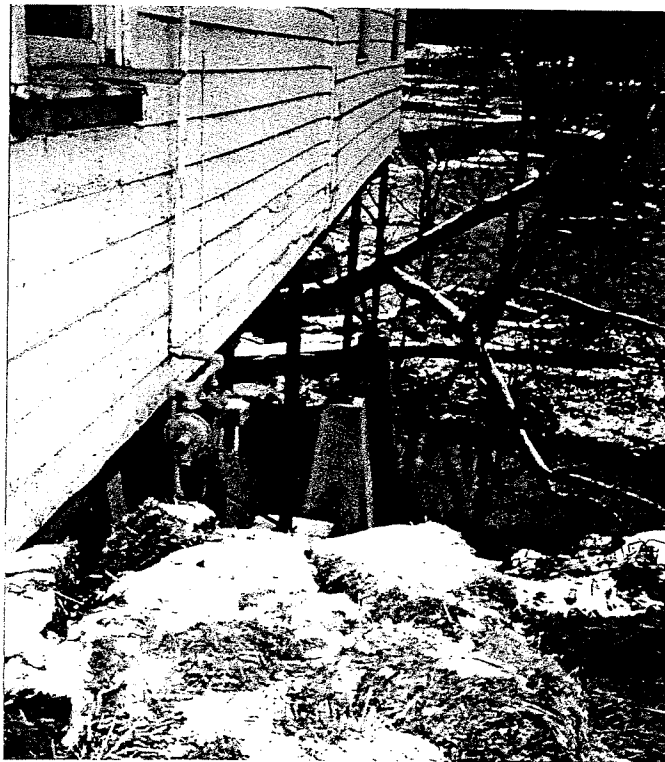
South Side (Front) of Waubeca Mill, looking down from Park Avenue.



East side of Waubeca Mill.



East side of Waubeca Mill. UST under bales. Vent pipe running up the south east corner of building at a slight angle.

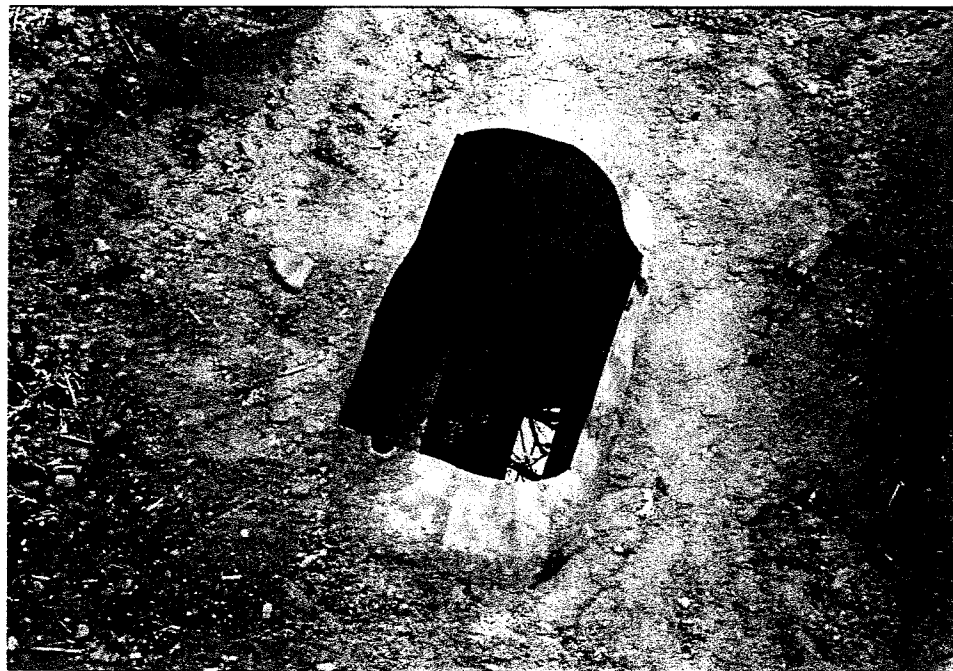


Looking North along east side of mill. The Milwaukee River is visible in the background.

CCNY



Waubeka Mill UST uncovered with top cut off.



Two inches of diesel fuel in UST.

COPY



After UST was cleaned, a hole was cut in the bottom.
Soil removed during soil sampling is on left side of hole.



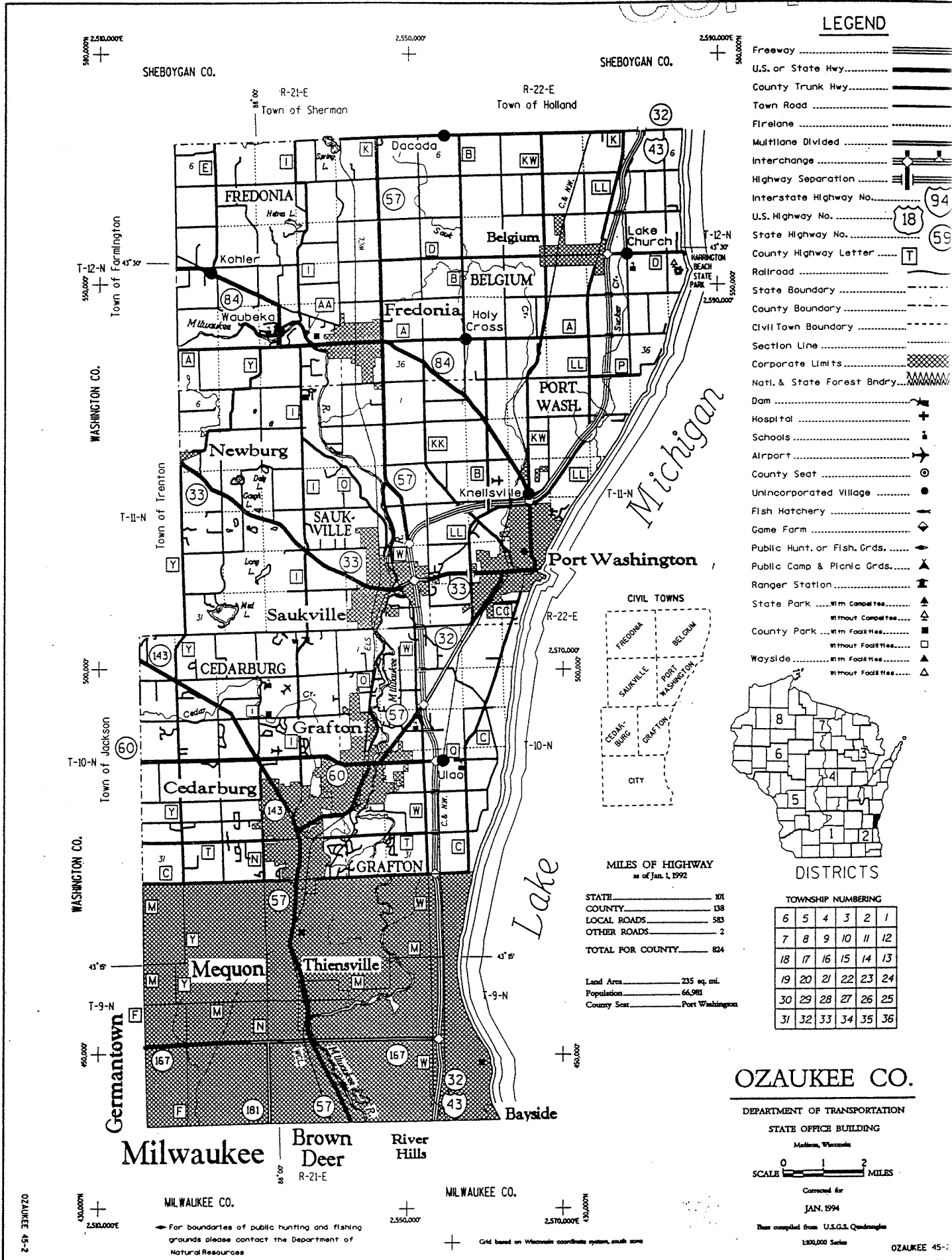
After sampling, the UST was filled in place
with gravel. Excavation brought to grade.

COPY

ATTACHMENT III

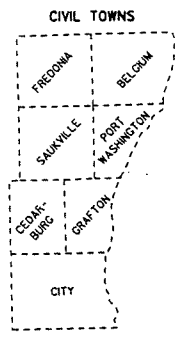
FIGURE 1

COPY



LEGEND

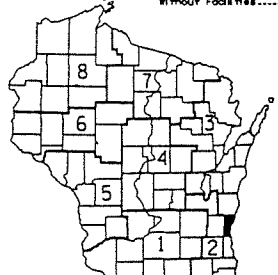
- Freeway
- U.S. or State Hwy
- County Trunk Hwy
- Town Road
- Firelane
- Multilane Divided
- Interchange
- Highway Separation
- Interstate Highway No. 94
- U.S. Highway No. 18
- State Highway No. 59
- County Highway Letter T
- Railroad
- State Boundary
- County Boundary
- Civil Town Boundary
- Section Line
- Corporate Limits
- Natl. & State Forest Bndry
- Dam
- Hospital
- Schools
- Airport
- County Seat
- Unincorporated Village
- Fish Hatchery
- Game Farm
- Public Hunt. or Fish. Grds.
- Public Camp & Picnic Grds.
- Ranger Station
- State Park With Complexes
- State Park Without Complexes
- County Park With Facilities
- County Park Without Facilities
- Wayside With Facilities
- Wayside Without Facilities



MILES OF HIGHWAY as of Jan. 1, 1992

STATE	101
COUNTY	138
LOCAL ROADS	583
OTHER ROADS	2
TOTAL FOR COUNTY	824

Land Area 235 sq. mi.
 Population 66,961
 County Seat Port Washington



DISTRICTS

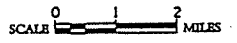
TOWNSHIP NUMBERING

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

OZAUKEE CO.

DEPARTMENT OF TRANSPORTATION

STATE OFFICE BUILDING
 Madison, Wisconsin



Corrected for
 JAN. 1994

Base compiled from U.S.G.S. Quadrangles

1:100,000 Series

For boundaries of public hunting and fishing grounds please contact the Department of Natural Resources

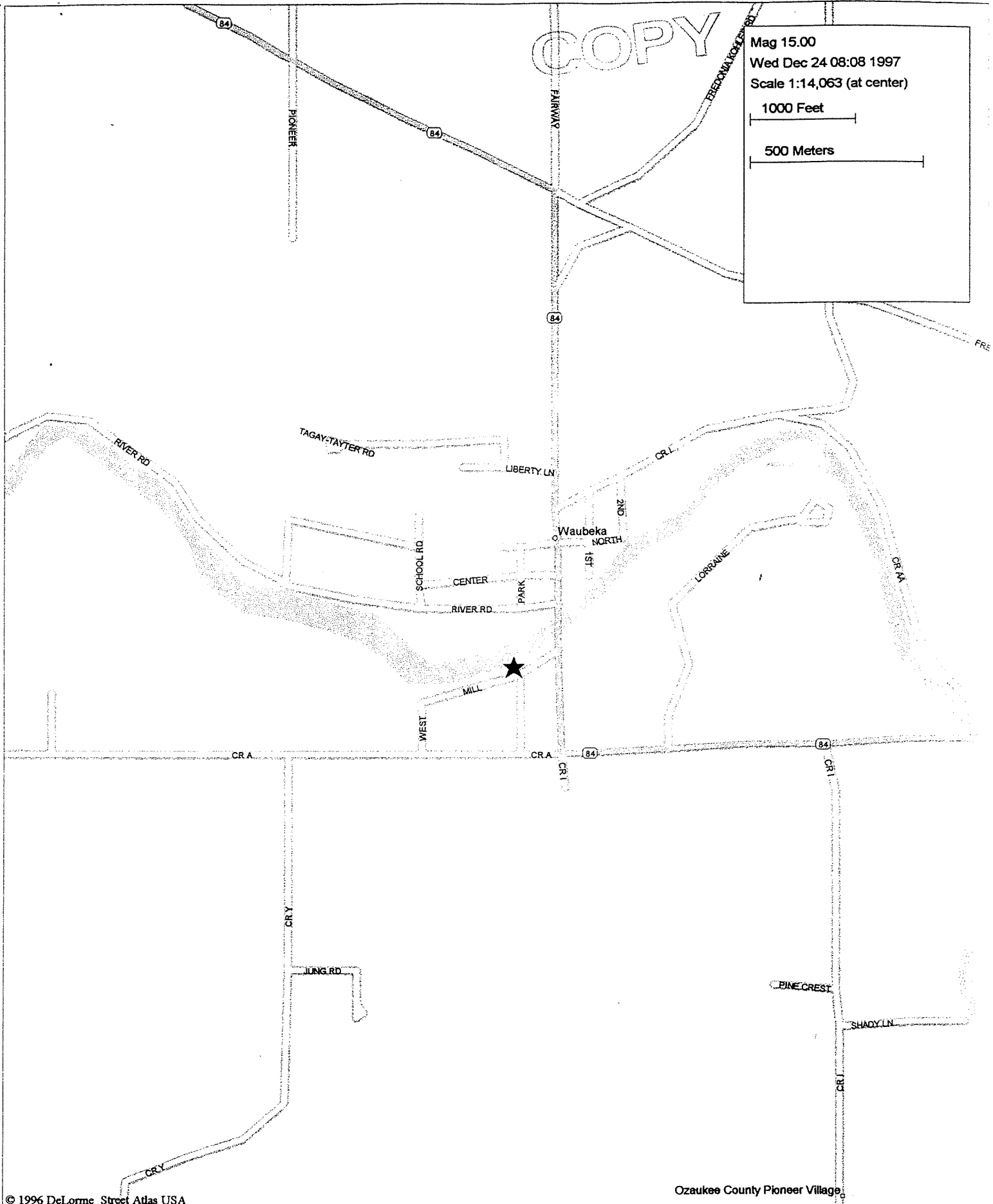
Grid based on Wisconsin coordinate system, south zone

COPY

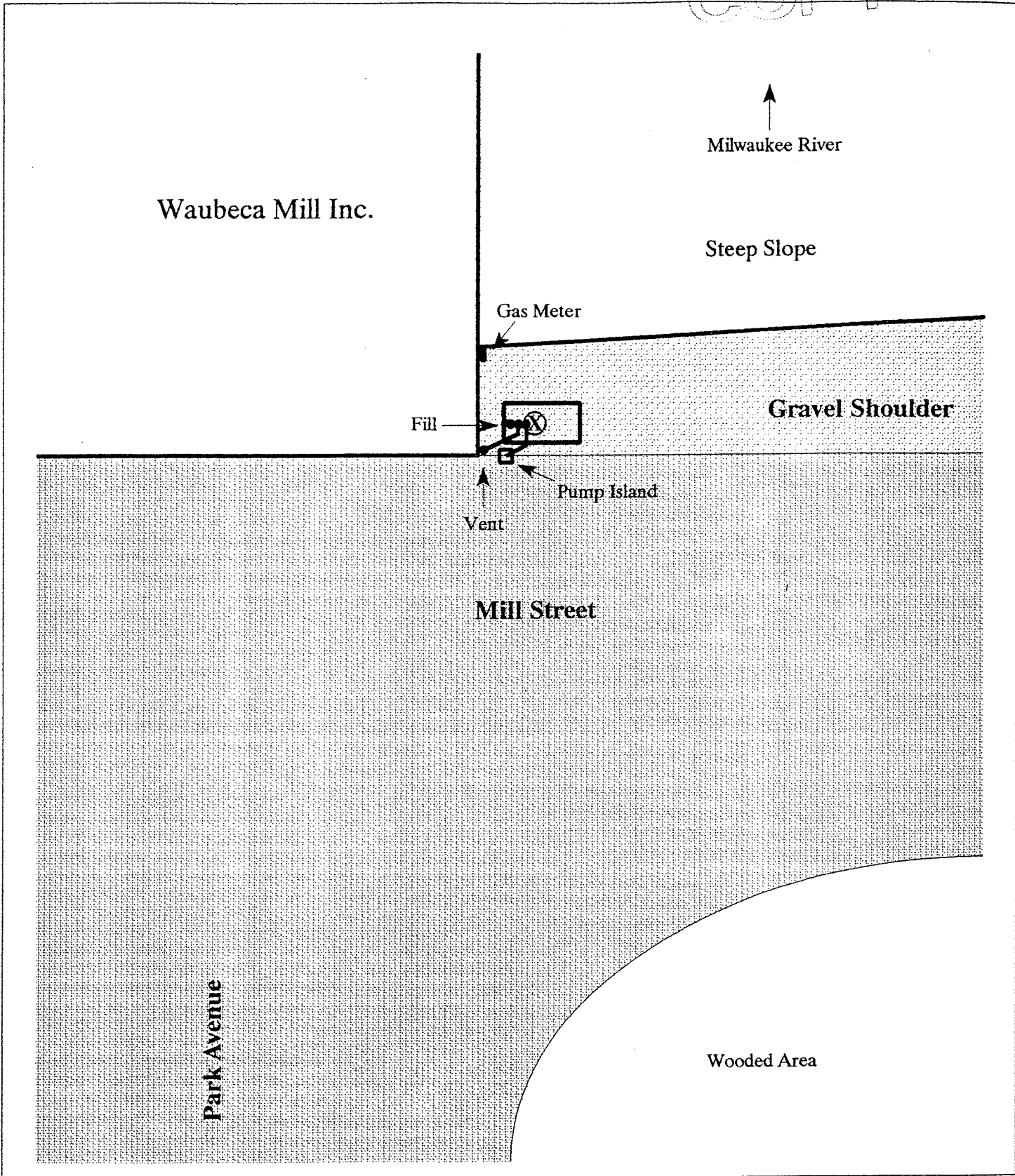
Mag 15.00
Wed Dec 24 08:08 1997
Scale 1:14,063 (at center)

1000 Feet

500 Meters



COPY



LEGEND

Scale 0' 10'

= 300 Gallon Gasoline UST (3'D x 6'L)

= Sampling Location

Site Map

N
 Waubeca Mill Inc.
 W4132 Mill Street
 Waubeca, WI
 300 Gal. UST Closure in Place

Cardinal Environmental Inc.

Date: 1/02/98

By: BTH Scale: 1" = 10'

FIGURE 3

COPY

ATTACHMENT IV



Returned (Eulonia)

07

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s) <u>Bruce Ten Haken</u>	Title/Work Station/Company <u>Project Manager / Cardinal Env.</u>	Telephone Number (include area code) <u>920-459-2500</u>
Property Owner <u>Waubeka Mill Inc.</u>	Property Address <u>W4132 Mill Street, Waubeka, WI 53021</u>	Telephone Number (include area code) <u>414-692-9414</u>

I hereby certify that I received, properly handled and disposed of these samples as noted below:

Relinquished By (Signature) <i>[Signature]</i>	Date/Time <u>1/2/98 3:00p.m.</u>	Received By (Signature) <i>[Signature]</i>
Relinquished By (Signature) <i>[Signature]</i>	Date/Time <u>1/2/98 2:45</u>	Received By (Signature) <i>[Signature]</i>
Relinquished By (Signature)	Date/Time	Received for EN CHEM by (Signature) <i>[Signature]</i> <u>1/5/98 1445</u>

LABORATORY USE ONLY
Temperature of temperature blank ROJ
If samples were received on ice and there was ice remaining, you may report the temperature as 'received on ice'. If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

Field ID Number	Date Collected	Time Collected	Sample		Preserv. Type	Field Screening	Location/Description (see footnote 2)	Analysis Type	Sample Condition								
			Type 1	Device					Lab ID Number	no/Type of Containers	Cracked /broken	Improp. Sealed	Good Cond.	Other Comments			
WM-1	1/2/98	12:00 p.m.	SOIL	Jar with lid	Methanol ICE	ODOR	1 Foot Below UST	GRO 1	001	1-SDZ 1-BZ 1-ENC						2143	
WM-1	1/2/98	12:00 p.m.	SOIL	Encore 2143	ICE	ODOR	1 Foot Below UST	DRO 5	↓							↓	

FOOTNOTES
1. specify groundwater, surface water, soil, leachate, sludge, etc.
2. sample description must clearly correlate the sample ID to the sampling location.

QTA# _____ En Chem Project# 880022

- ANALYSIS CODES
- | | | | |
|---------|-------------------|------------------|---------------------|
| 1. GRO | 5. DRO | 9. Free Liquids | 13. BETX |
| 2. PVOC | 6. PAH | 10. pH | 14. Protocol D1-GRO |
| 3. Lead | 7. Flashpoint | 11. TCLP-Benzene | 15. Protocol D1-DRO |
| 4. 8021 | 8. Percent Solids | 12. TCLP-Lead | 16. 8260 |

BILLING ADDRESS:
Cardinal Environmental Inc.
3303 Paine Ave.
Sheboygan, WI 53081

Job Name/Number: PR# 772.01 Waubeka Mill
Job Description: 300 Gal. UST Closure in Place



COPY

1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
FAX: 920-469-8827

- Analytical Report -

Project Name : WAUBEKA MILL
 Project Number : 772.01
 Field ID : WM-1
 Lab Sample Number : 880022-001
 WI DNR LAB ID : 405132750

Client : CARDINAL ENVIRONMENTAL
 Report Date : 1/8/98
 Collection Date : 1/2/98
 Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	84.2				%		1/6/98	SM2540G	SM2540G	PHS

Organic Results

Preservation Date : 1/6/98

DIESEL RANGE ORGANICS - SOIL Prep Method: Wi MOD DRO Prep Date: 1/7/98 Analyst: PHS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
DIESEL RANGE ORGANICS	17			3.8	mg/kg		1/7/98	Wi MOD DRO
Blank spike	89			50	%Recov		1/7/98	Wi MOD DRO
Blank spike duplicate	84			50	%Recov		1/7/98	Wi MOD DRO
Blank	< 5.0			5.0	mg/kg		1/7/98	Wi MOD DRO

Organic Results

GASOLINE RANGE ORGANICS - SOIL/METHANOL Prep Method: WI MOD.GRO Prep Date: 1/6/98 Analyst: EGS

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
Gasoline Range Organics	350			15	mg/kg		1/7/98	WDNR MOD GRO
Blank Spike	92			1.0	%Recov		1/7/98	WDNR MOD GRO
Blank Spike Duplicate	105			1.00	%Recov		1/7/98	WDNR MOD GRO
Blank	< 2.5			2.5	mg/kg		1/7/98	WDNR MOD GRO

All soil results are reported on a dry weight basis unless otherwise noted.



- Analytical Report -

Project Name : WAUBEKA MILL
Project Number : 772.01
WI DNR LAB ID : 405132750

Client: CARDINAL ENVIRONMENTAL
Report Date : 1/9/98

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
880022-001	WM-1	1/2/98			

The "Q" flag is present when a parameter has been detected below the LOQ. This indicates the results are qualified due to the uncertainty of the parameter concentration between the LOD and the LOQ.

Soil VOC detects are corrected for the total solids, unless otherwise noted.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

J. Deranceau
Approval Signature

1/9/98
Date



COPY

1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
FAX: 920-469-8827

Lab#:	TestGroupID:	Comment:
880022-001	DRO-S	Early peaks present outside of window of analysis.
	GRO-S-ME	Sample exhibits hydrocarbon pattern resembling gasoline. Early and late peaks were present outside of window.

APPENDIX B

Site Health and Safety Plan

B.1 INTRODUCTION

Agenda International Inc. (Agenda), under contract to Waubeka Mill. is conducting a Site Investigation (SI) at the property located at W4132 Mill Street, Fredonia, Wisconsin. The object of the investigation is to conduct sampling of soils and groundwater. In accordance with the Scope of Work, Agenda has prepared a Work Plan (WP) for the SI, and this Site Health and Safety Plan (SHSP) is provided as a supplement to the WP.

B.1.1 Purpose

The purpose of the SHSP is to describe the hazards that may be present and to establish the safety procedures and requirements to be used for hazard abatement while conducting environmental sampling at Waubeka Mill, Inc. Safety and health procedures outlined in this SHSP are designed to minimize the probability of injury and chemical exposure to personnel during on-site activities conducted by Agenda and subcontractor personnel. The SHSP will be provided to all personnel to work in a safe manner and to ensure compliance with the following regulations and publications:

- FAR Clause, 52.236-13, Accident Prevention
- EM-385-1-1, USACE, Safety and Health Requirements Manual
- 29 CFR 1926, Construction Industry Standards, Occupational Safety and Health Administration (OSHA)
- 29 CFR 1910, General Industry Standards, OSHA
- 29 CFR 1910.120 Hazardous Waste Site Operations and Emergency Response, OSHA
- NIOSH/OSHA/EPA, Occupational Safety and Health Guideline Manual for Hazardous Waste Site Activities
- Washington Industrial Safety Act (WAC 296-62-300-3040)
- Washington Industrial Safety and Health Act (WISHA) WAC 296-62-300

B.1.2 Organization and Responsibilities

The organization and responsibilities for implementing safe SI procedures, and specifically for the requirements contained in this SHSP, are described in this section.

Agenda will be responsible for the health and safety of Agenda employees during on-site activities that are part of this project. The Agenda project manager, Aaron Krier, will act as the Project Health and Safety Officer (PHSO), and will be responsible for implementing this plan.

An Agenda representative will be on-site during all SI activities and will serve as the On-site Health and Safety Officer (OHSO) responsible for safety on-site. In the event that an emergency situation arises, the OHSO has the authority to intercede directly and to stop any unsafe practices. The existence of a situation more hazardous than anticipated will result in the suspension of work until the PHSO and client has been notified and appropriate instructions have been provided to the on-site personnel.

Responsibilities of the OHSO include:

- Assure that all personnel on-site are acquainted with the provisions of the PHSP, particular the toxicologic properties of present or suspected materials
- Review and confirm any changes in Personal Protection Equipment (PPE) with the PHSO
- Supervise the distribution, use, and maintenance of PPE
- Provide overall supervisory control for all project health and safety protocols
- Establish site control areas and to ensure compliance with site control procedures
- Stop work when unacceptable safety risks exist
- Supervise decontamination to ensure complete decontamination of all personnel, tools, and equipment
- Notify the PHSO if conditions or findings potentially impact the health and safety of on-site personnel
- Prepare any accident / incident reports required

All on-site Agenda personnel will accept the responsibility of ensuring compliance with the SHSP and performing work in a safe manner. Specific responsibilities include:

- Reading and understanding this SHSP
- Performing work safely
- Reporting any unsafe conditions to the OHSO
- Being aware of and alert for signs and symptoms of exposure to site contaminants

B.1.2.2 Subcontractor Personnel

The subcontractor(s) performing work on-site during this SI will be responsible for:

- If necessary, developing a site-specific health and safety plan that complies with the requirements set forth by the regulations and publications listed in Section 1.1 of this SHSP
- Ensuring that the subcontractors on-site employees comply with their site-specific safety and health plan
- If necessary, provide the PHSO with documentation showing that all subcontractor on-site personnel have been trained and medically certified in compliance with 29 CFR 1910.120 and WAC 296-62-300-3040
- Subcontractor's SHSP may incorporate Agenda's SHSP. The subcontractor's final SHSP will be at least as stringent as Agenda's SHSP

B.2 HAZARD EVALUATION

This section presents the hazard analysis summary for conditions and hazardous substances suspected to be present at the site and those that may be created by conducted the sampling tasks. The protection of personnel from exposure to these hazardous substances by inhalation, oral ingestion, dermal absorption or eye contact is included as a primary purpose of this SHSP.

B.2.1 Physical Hazards

The physical hazards associated with drilling and sampling include:

- Fire and explosion when introducing drilling equipment into unknown utilities or chemicals
- Snapping cables, slings and ropes on the drilling rig
- Overload drilling rigs
- Unguarded or improperly operated moving equipment
- Slipping and unstable surfaces, steep grades, uneven terrain

- Hazardous substances not properly identified or situated in uncertain locations
- Lifting heavy objects

Most of the physical hazards identified above will be controlled / abated through the use of good construction safety practices and common sense.

B.2.2 Chemical Hazards

The purpose of this section is to determine which of the known contaminants poses the greatest degree of hazard and to determine appropriate air monitoring and personal protective equipment practices.

The potential known chemical hazards are shown in Appendix B.A, Table 1. Also shown in this table are the Permissible Exposure Limit, Immediately Dangerous to Life or Health Level, Lower Explosive Limit, and Upper Explosive Limit, if applicable, for the suspected contaminants. Based on the data in Table 1, an analysis of the chemical hazards are performed regarding inhalation, skin contact and ingestion.

B.2.3 Monitoring Requirements

A Photo Ionization Detector (PID) will be used to monitor ambient air quality at the site during SI activities. Record of these data will be maintained by the OHSO. During drilling operations, air quality will be monitored down-wind at each drilling location, and especially near the top of the borehole as samples are collected.

In addition, field monitoring will be performed when work is initiated at different portions of the site, when a new operation is initiated and / or when potentially leaking drums or containers are going to be handled.

B.3 LEVELS OF PERSONAL PROTECTION EQUIPMENT ENSEMBLE

The level of personal protection to perform work on this investigation is LEVEL D. Only protective equipment deemed suitable by the OHSO for use at the work site will be worn.

The personal protective equipment to be use by on-site personnel is listed below.

B.3.1 Level A Response

Level A response conditions will require specialized procedures to be formulated on a case-by-case basis. Personnel protective equipment will include:

- Fully encapsulating, chemical resistant suit
- Pressure-demand, Self-Contained Breathing Apparatus (SCBA)
- Hard hat
- Chemical-resistant, steel toe shank boots
- Boots chemical resistant covers
- Inner (surgical) and outer (chemical resistant) gloves

B.3.2 Level B Response

Level B response conditions will be considered for PID readings of 100 to 500 ppm above background. In the event that the work space atmosphere contains in exceeds of 100 ppm of total ionizable compounds above background, colorimetric tubes or a portable Gas Chromatograph (GC) will be used to determine the levels of individual chemicals. The use of Level B personal equipment will be based on the specific compounds present and will include discussions with the regulatory authorities and the client representative.

For Level B, personal protective equipment includes:

- Fully encapsulating, chemical resistant suit
- Pressure-demand, Self-Contained Breathing Apparatus (SCBA)
- Hard hat
- Chemical-resistant, steel toe shank boots
- Boots chemical resistant covers
- Inner (surgical) and outer (chemical resistant) gloves

B.3.3 Level C Response

Level C response conditions will be considered for PID readings of 50 to 100 ppm above background. A concentration of 50 ppm was chosen for the upper level because the respirator cartridges will provide at least four (4) hours of protection at that level from the chemicals associated with the site, based on breakthrough times supplied by the protection manufacturer. Respirators will be available with both particulate and organic vapor protection cartridges.

For Level C, personal protective equipment includes:

- One-piece, hooded, chemical resistant splash suit (Tyvek or Saranex)
- Air purifying full-face respirator with organic vapor cartridge and dust / mist filter
- Hard hat
- Chemical-resistant, steel toe shank boots
- Boots chemical resistant covers
- Inner (surgical) and outer (chemical resistant) gloves

B.3.4 Level D Response

At a minimum, protective headgear, including protective hearing devices, eyewear and footwear will be worn at all times by personnel working around the drilling equipment.

When work-site conditions dictate, protective gloves and chemical-resistant boots shall be required for those personnel handling contaminated soils or water.

Should levels of organic vapor greater than 50 ppm above background levels be detected by the PID in the work area, work will stop and all personnel will leave the area. With this level, a large safety margin until the lowest 8-hour exposure limit is reached.

For Level D, personal protective equipment includes:

- Coveralls
- Hard hat
- Chemical-resistant, steel toe shank boots
- Safety glasses or chemical splash goggles
- Chemical resistant gloves

B.4 SAFE WORK PRACTICES

In addition to the use of protective equipment, other procedures will be followed to minimize risk:

- All consumptive activities including eating, drinking or smoking are prohibited during the investigating activities
- Emergency eye washes will be located near the work location along with adequately stocked first-aid kit
- When appropriate, fire extinguishers will be available at the work sites for use on equipment or small fires

B.4.1 Heat Stress

In order to avoid heat stress several preventative measures will be observed:

- Personnel will be encouraged to drink water prior to start of work, and every 20 minutes during days of extreme heat. Potable water will be contained in a cooler, maintained at a temperature below 60°F.
- In extreme hot weather, field activities will be conducted in the early mornings and late afternoons

B.4.2 Cold Stress and Exposure

In order to avoid cold stress several preventative measures will be observed:

- Work will not take place when the temperature falls below -20°F
- Clothing should be worn in layers, so that personnel can adapt to changing conditions and various levels of physical stress
- Breaks will be taken in a heated vehicle
- Extra precautions should be taken around areas subject to ice buildup

B.5 WORK ZONES

Work zones are designed to prevent contamination of employees and visitors during certain aspects of the field work. The work zones will be designed to keep contamination in the smallest possible area and to prevent contamination of equipment, property, and nearby personnel during sampling operations.

B.5.1 Exclusion Zone (EZ)

Exclusion Zones will encompass areas where sampling activities are to take place. The boundaries of the EZ will depend upon the size of the area required for sampling equipment (i.e., drilling rig). At a minimum, the radius of the circular area marked as the exclusion zone for soil boring will be equal to the height of the drilling rig's mast plus three feet. The minimum personal protective equipment required for work in the EZ is described in Section B.4.3.

B.5.2 Contamination Reduction Zone (CRZ)

The Contamination Reduction Zone will be established as a buffer zone between the EZ and the support area during sampling activities. The CRZ will contain the personnel and equipment decontamination stations described in Section B.7. All personnel and equipment exiting the EZ will go through the CRZ. The personal protective equipment required for use in this zone are identical to that used in the EZ as presented in Section B.4.3.

B.5.3 Support Zone (SZ)

The remaining areas of the investigation area will constitute the Support Zone. No special clothing or protective equipment will be required in the area other than required on a typical job site. No equipment or personnel will be permitted to enter the SZ from the EZ without undergoing decontamination procedures as described in Section B.7. Eating, smoking and drinking at the work site will be limited to the SZ.

B.6 SITE CONTROL

Only personnel identified as "authorized" will be permitted to enter the CRZ or EZ at the time of sampling. A list of authorized personnel will be maintained by the OHSO. The list will only reflect personnel who have received the appropriate training and medical certification as required by this SHSP.

B.6.1 Site Entry and Exit

All persons entering an EZ will be required to wear the personal protective equipment ensembles specified in Section B.4. the following protocols will be followed during exit from the EZ.

- All personnel will exit through the designated exit points
- All personnel will proceed through appropriate decontamination, as specified in Section B.7

B.6.2 Communications

A mechanism will be established by the Project Safety officers for communications between the SZ and the EZ, if needed. Two-way radios may be used throughout the duration of the sampling work.

B.6.3 Buddy System

All field activities will be scheduled so that no employee works alone in the EZ at any time. This "buddy System" will prevent an employee from becoming disabled or chemically intoxicated without a co-worker being aware of the condition. The Buddy System also will enable the pairs of co-workers to watch out for each other while in the proximity of potential physical work hazards, and to one another of the integrity of personal protective equipment.

B.6.4 Dust Control

The activities on-site, in conjunction with dry weather, could create a potential for dust conditions in exceeds of the guidelines established in Section B.8. Control will be exercised by use of clean water spray of the area in questions. The use of personal protective equipment will be secondary to this method of control.

B.7 DECONTAMINATION

Decontamination of personnel and equipment leaving the sampling EZ will be performed to minimize human exposure to hazardous substances and to minimize the spread of contamination to surrounding "clean" areas. Again, the purpose of the CRZ is to provide a location to perform decontamination.

B.7.1 Personnel

Personnel performing sampling will use the following decontamination procedures when exiting the EZ:

- Remove all equipment, sample containers, etc. from the EZ to the CRZ. Decontaminate the equipment by brushing them in a decontamination solution. Set up two basins for this purpose; (1) an appropriate laboratory grade detergent and water solution, and (2) clean water.
- Remove boot covers, then scrub the outer gloves, boots and splash aprons in a basin of soapy water and rinse them in a collection basin with clean water.
- Remove tapes from the boots and gloves
- Remove the boots and outer gloves
- Remove respirator and dispose of cartridge in disposal container
- Wash respirator in mild soap solution, rinse with clean water, wipe with disposable towel, and hang for drying
- Rinse the inner gloves
- Remove the inner gloves and place them in a covered waste container
- Wash your hands, face, neck, and forearms before consuming any foods or liquids, smoking, or using the rest room
- All personnel involved in sampling activities will be instructed to wash their hands, face, neck and forearms at the end of the work day.

B.7.2 Equipment

Sampling equipment (e.g. drilling rig) coming in contact with contaminants is to be cleaned with steam. Personnel performing equipment decontamination are required to wear the PPE specified in Section B.4. All collected wash water generated from equipment cleaning will be drummed, stored, treated on-site, and properly discharged.

B.7.3 Waste Disposal

Waste disposal (e.g., gloves, coveralls, etc.) will be bagged, drummed, labeled on-site until proper disposal is arranged by Agenda.

B.7.4 Shipping

All shipments of samples will conform to EPA RCRA, DOT, WDNR and IATA requirements. Samples collected and shipped for laboratory analysis are exempt from EPA RCRA requirements if shipped in a "closed loop".

B.8 EMPLOYEE EXPOSURE MONITORING

If necessary, the monitoring response criteria presented in Table B.8-1 to B.8-2 will be employed. The criteria are based on the following factors: the total dust concentration, the amount of contaminants in the soils and water, instrument response factors, and generic respiratory protection factors.

Table B.8-1 Response Criteria

Particular Concentration	Response
<10 mg/m ³ (No visible dust)	Readings every 15 min. while sampling
>10 mg/m ³ (Visible dust)	Continuous readings (every 30 sec)
Two consecutive readings >10 mg/m ³	Stop work, reduce dust with water spray

Table B.8-2 Response Criteria

Volatile Organic Concentration	Response
<10 ppm	Discontinue continuous readings for the specific task. Check readings as task or conditions changes or 30 min pass
>10 ppm	Monitor readings every 15 min. Two consecutive readings will initiate wearing equipment as described in Section B.4
>50 ppm	Stop work

B.10 TRAINING

All personnel involved in field sampling activities will be trained in accordance with the Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.120 and the Washington Industrial Safety Act, WAC 296-62-300.3040. On-site supervisors of personnel engaged in hazardous waste operations are required by OSHA to have an additional eight hours of training. Client representative, regulatory personnel shall be made aware of the particular hazardous substances which could be encountered during on-site visits.

B.10.1 Initial Training

All personnel assigned to the project will receive site-specific health and safety protective equipment training. This training will include:

- Basic operational safety emphasizing the hazards expected on-site
- Use of personal protective equipment
- Work practices by which the employee can minimize risks from the hazards
- Site controls
- personnel and equipment decontamination facilities and procedures
- Emergency response

Follow-up training will be provided by the OHSO prior to each significant change in operations. This training will include a review of problems observed during the previous work. Special training may be required if unanticipated problems occur on-site or if change in work scope occurs.

B.11 MEDICAL CONSIDERATIONS

All Agenda field personnel are enrolled in an on-going medical surveillance program per the requirements of OSHA's hazardous waste operations regulations (29 CFR 1910.120). Therefore, all personnel will have a medical examination within 12 months prior to the start of the field activities, and will have another medical examination within 12 months after the end of the field activities.

All Agenda subcontractors engaged in sampling activities are required to have their personnel enrolled in a medical surveillance program that meets the OSHA requirements. All personnel entering the CRZ or EZ must be participants in a on-going medical surveillance program that meets OSHA and WISHA requirements.

A medical examination will be performed if an employee develops signs or symptoms indicating possible over-exposure to hazardous substances and / or heat stress.

B.12 CONTINGENCY PLAN

Emergency conditions that may be anticipated at this site include:

- Medical emergency due to toxic material splashed in a person's eye
- Injury from physical hazards on-site

B.12.1 Authority

The OHSO has the authority to stop work and implement this contingency.

B.12.2 Emergency Equipment Needs

The following equipment must be kept in the CRZ during all sampling activities:

- Portable emergency eye wash
- A sufficient first-aid kit
- Appropriate fire extinguishers

B.12.3 Implementation Procedures

All emergency conditions are to be reported to the Agenda OHSO as soon as they are observed. The OHSO will report the emergency to the appropriate emergency response personnel as described below, at which time an appropriate response will be undertaken.

In emergency situations, where personnel need to leave the EZ immediately, decontamination procedures may be omitted.

All life-threatening injuries or illness are to be cared for at St. Mary's Hospital, Mequon, Wisconsin. If a life-threatening injury or illness occurs, call 911. Prior to initiating sampling activities, OHSO will determine the locations and routes to the above-mentioned hospital.

B.12.4 Emergency Telephone Numbers

St. Agnes Emergency - (414) 243-7373 or via 911
Town of Fredonia Fire Department - 911
Ozaukee County Sheriff Department - 911

B.12.5 Emergency Routes

St. Mary's Hospital is located at 13111 N. Port Washington Road, Mequon, Wisconsin. It can be reached from the site by taking Park Street south to County Highway A. Turn east (left) on County Highway A followed by turning south (right) on State Highway 57. Continue on State Highway 57 until Interstate 43 when they merge near Saukville and continue south. Follow Interstate 43 south until reaching County Highway C (Cedarburg) and turn west (right). Go west on County Highway C for one block and turn south (left) on Port Washington Road at the traffic lights. Follow Port Washington Road until reaching St. Mary's Hospital at 13111 N. Port Washington Road.

B.12.6 Postings

All required postings will be maintained and visibly displayed.

APPENDIX B.A

Characteristics of Hydrocarbon Compounds

Table 1
Characteristics of Compounds Potentially Present at Hydrocarbon Impacted Sites

Compound	PEL	IDLH	LEL (%)	UEL (%)	Exposure Route	Symptoms	Toxic Effects	First Aid
Benzene	1 ppm	3,000 ppm	1.3	7.9	Inhalation Absorption Ingestion Contact	Irritated eyes, nose and respiratory system; giddiness, headache, nausea, staggered gait, fatigue, anorexia, lassitude, dermatitis, bone marrow depression (carcinogenic)	Blood changes including leukemia	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support
Ethyl Benzene	100 ppm	2,000 ppm	1.0	6.7	Inhalation Ingestion Contact	Irritated eyes, mucous membranes, headache, dermatitis, narcosis, coma	Upper respiratory system, eyes, skin, CNS	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support
Toluene	100 ppm	2,000 ppm	1.2	7.1	Inhalation Absorption Ingestion Contact	Fatigue, weakness, confusion, euphoria, dizziness, headache, dilated pupils, lacrimation, nervousness, muscle fatigue, insomnia, paraesthesia, dermatitis	CNS depressant, respiratory effects	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support
Lead	0.1 mg/m ³	700 mg/m ³	NA	NA	Inhalation Absorption Ingestion Contact	Weakness, lassitude, insomnia, facial paler, anorexia, low weight, malnutrition, constipation, abdominal pain, colic, hypotension, irritated eyes, anemia, gingival lead line, nephropathy, paralysis of wrists, angels tremor	Kidney, blood and CNS effects	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support
Methylene Chloride	500 ppm	5,000 ppm	14	22	Inhalation Ingestion Contact	Fatigue, weakness, sleepiness, light-head, limbs numb, tingle, nausea, irritated eyes, skin (carcinogenic)	Skin, CVS, eyes, CNS	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support

Compound	PEL	IDLH	LEL (%)	UEL (%)	Exposure Route	Symptoms	Toxic Effects	First Aid
Naphthalene	10 ppm	500 ppm	0.9	5.9	Inhalation Absorption Ingestion Contact	Irritated eyes, headache, confusion, excitement, malaise, vomit, abdomen, pain, bladder irritation, profuse sweat, jaundice, hematopoietic, hemoglobinuria renal shutdown, dermatitis	Eyes, blood, liver, kidneys, RBC, CNS	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support
Xylenes (total)	100 ppm	1,000 ppm	1.0	7.0	Inhalation Absorption Ingestion Contact	Dizziness, excitement, drowsiness, incoordination, staggering gait, irritated eyes, nose and throat, corneal vacuolization, anorexia, nausea, vomiting, abdominal pain, dermatitis	CNS depressant, respiratory irritation	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support
Trichlor Ethylene (TCE)	50 ppm	1,000 ppm	8	10.5	Inhalation Ingestion Contact	Headache, vertigo, visual disturbance, tremors, somnolence, nausea, vomiting, irritated eyes, dermatitis, cardiac arrhythmias, paresthesia (carcinogenic)	Respiratory system, heart, kidneys, CNS, skin	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support
Tetrachlor Ethylene	25 ppm	500 ppm	NA	NA	Inhalation Ingestion Contact	Irritated eyes, nose, throat, nausea, flu face, neck, vertigo, dizziness, incoordination, headache, skin erythema, liver damage (carcinogenic)	Liver, kidneys, eyes, upper respiratory system, CNS	<i>Eyes:</i> irrigate immediately <i>Skin:</i> soap wash promptly <i>Swallow:</i> medical attention immediately <i>Breath:</i> respiratory support

Notes:

ppm	parts per million
mg/m ³	milligrams per cubic meter
PEL	Permissible Exposure Limit
IDLH	Immediately Dangerous to life and Health Concentration
LEL	Lower Explosive Limit
UEL	Upper Explosive Limit

CNS	Central Nervous System
CVS	Cardiovascular System
NA	Not Applicable

Information obtained from "NIOSH Pocket Guide to Chemical Hazards" by U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health, June 1990