

LUST Investigation Field Procedures Workplan

Pilsner Ford (Former)
207 West Street
Juneau, Wisconsin

January 17, 2017
by METCO
WDNR File Reference #: 03-14-530057
PECFA Claim #: 53039-9999-07



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This document was prepared by:

A handwritten signature in black ink, appearing to read "Jason T. Powell", written over a horizontal line.

Jason T. Powell
Staff Scientist

A handwritten signature in black ink, appearing to read "Ronald J. Anderson", written over a horizontal line.

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



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January 17, 2017

WDNR BRRTS#: 03-14-530057
PECFA Claim #: 53039-9999-07

Dianna Williams
207 West Street
Juneau, WI 53039

Dear Ms. Williams,

Enclosed is our "LUST Investigation Field Procedures Workplan" concerning the Pilsner Ford (Former) site in Juneau, Wisconsin. This document outlines the procedures and the methods used to conduct such an investigation.

A copy of this workplan will be sent to the Wisconsin Department of Natural Resources for review.

We appreciate the opportunity to be of service to you on this project. Should you have any questions or require additional information, do not hesitate to contact our La Crosse office.

Sincerely,

Jason T. Powell
Staff Scientist

C: Patrick Dowd – WDNR

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OBJECTIVES

Requirements of the WDNR

A Site Investigation is required by the Wisconsin Department of Natural Resources (WDNR) by authority of Section 292.11 of the Wisconsin Statutes. According to the WDNR, any soil that tests over 10 ppm Gasoline Range Organics (GRO) or Diesel Range Organics (DRO) requires an investigation. Any soil that tests over the Chapter NR720 Groundwater RCLs, Direct Contact RCLs, or Soil Saturation Values an investigation and possible remediation. Any groundwater that tests over the Preventive Action Limits (PAL) or Enforcement Standards (ES) for compounds listed in Chapter NR140 of the Wisconsin Statutes requires an investigation and possible remediation. For a further explanation of WDNR rules and regulations, see Appendix D.

Requirements of the PECFA Program

According to rules adopted in May 2006, the maximum allowable cost for an initial Site Investigation shall be no more than \$20,000 unless pre-approved by PECFA. All consultant and commodity service costs must not exceed the PECFA Usual and Customary Charges.

Purpose of Document

This document briefly outlines all methods and procedures used by METCO personnel concerning "Site Investigations". These guidelines are strictly followed unless changed by managing personnel, site conditions, or project situations. All changes will be clearly noted.

All work conducted by METCO is undertaken in accordance with approved methods and regulations of the WDNR Bureau for Remediation and Redevelopment.

This document is site specific and will always be on-site during the project.

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INTRODUCTION

Site Name

Pilsner Ford

Site Address

207 West Street
Juneau, Wisconsin

Legal Description

SE ¼, NE ¼, Section 21, Township 11 North, Range 15 East, Dodge County

Contact or Client

Dianna Williams
207 West Street
Juneau, WI 53039
(920) 210-1490

WDNR Project Manager

Patrick Dowd
WDNR South Central Region
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(608) 275-3339

Consultant

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SITE BACKGROUND

Facility

An automobile dealership operated on the subject property from at least the 1930s until the late 1970s. After the Pilsner Ford dealership closed in the late 1970s, the property sat vacant for approximately 10-15 years. Dianna Williams purchased the property in 1991 and currently operates a used car dealership and repair shop at this location.

A 1,000-gallon gasoline underground storage tank (UST) formerly existed on the subject property and was used for retail fuel sales. The Wisconsin tank database indicates that this tank was removed on December 15, 1988. Currently a 180-gallon waste oil above ground storage tank (AST) and a 1,000-gallon waste oil AST exist on the subject property. A waste oil burning furnace exists in the building and is used to heat the shop.

On April 25, 2004, Engel & Associates conducted a Phase 2 Environmental Site Assessment (P2ESA) at the subject property. During the P2ESA, two soil borings were completed in the area of the removed gasoline UST with one soil sample from each boring submitted for laboratory analysis (PVOC and Naphthalene). Petroleum contamination was detected in both soil samples and was subsequently reported to the WDNR, who then required that a site investigation be conducted.

Two closed LUST cases (03-14-001606 and 03-14-002216) exist on the Dodge County Sheriffs Department property, which is located approximately 100 feet to the southeast of the subject property.

Potential Risks and Impacts

The subject property and surrounding properties are all served by the Village of Juneau municipal water supply. The Village of Juneau has three municipal water supply wells. Municipal well #1 is located 700 feet to the south-southeast of the subject property. Municipal well #2 is located 1,500 feet to the southeast of the subject property. Municipal well #3 is located 2,250 feet to the southwest of the subject property. There are no private water supply wells in the Village of Juneau.

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

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SITE CONDITIONS

Topography

According to the USGS Hydrologic Atlas, the Juneau is located in the northern portion of the Rock-Fox River Basin. This area is characterized by a rolling landscape shaped by the underlying bedrock surface and glacial deposits of varying thickness.

The elevation of the site is approximately 915 feet above Mean Sea Level (MSL). See Appendix A for site location.

Geology

Native unconsolidated materials in this area generally consist of silt/clay (till). The unconsolidated materials are underlain by dolomite bedrock at approximately 10-15 feet below ground surface.

Hydrology

The nearest surface water is a small unnamed pond, which is located approximately 2,600 feet to the northwest of the subject property.

Hydrogeology

Based on nearby LUST sites, groundwater is expected to exist at approximately 15 to 20 feet below ground surface. Local groundwater flow is expected to be toward the west to northwest.

SCOPE OF WORK

LUST Investigation

An investigation consists of collecting samples of soil and groundwater for analysis by a laboratory for compounds related to petroleum products. The WDNR requires that the investigation determine the degree and extent of contaminants in these mediums, which is commonly referred to as "defining the contaminant plume". Further background information will also be collected to assist in the investigation.

Drilling Project

METCO has proposed 8 to 10 boreholes to be completed on/off site. METCO has also proposed 4 to 5 monitoring wells to be installed on/off site.

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The goal of the Drilling Project is to complete the following:

1. Determine general subsurface geotechnical characteristics.
2. Verify, through sampling, the horizontal and vertical extent of soil and groundwater contamination.
3. Install monitoring wells in an arrangement that fully defines the horizontal and vertical extent of groundwater contamination.
4. Develop the monitoring wells.
5. Collect at least two rounds of groundwater samples from the monitoring wells.
6. If conditions warrant, perform slug tests on at least one monitoring well.

Report Preparation

The final report, prepared by METCO, will include background information, observations, procedures, methods, field data, laboratory analysis, site maps, data analysis, risk assessment, conclusions, and recommendations concerning all activities conducted for this project. This report will be submitted to the client and the WDNR for review and discussion.

METCO PROCEDURES AND METHODS

Drilling

Drilling is conducted with a truck mounted auger drill rig. To penetrate any unconsolidated materials, work is conducted in accordance with ASTM D-1452 "Soil Investigation and Sampling by Auger Boring". If bedrock is encountered and cannot be penetrated with auger boring, an accepted air-rotary drilling procedure will be used.

Sampling unconsolidated materials is done in accordance with ASTM D-1586 "Penetration Tests and Split-Barrel Sampling of Soils" using a 2-inch outside diameter (O.D.), 2.5 foot split spoon sampler. Using this procedure, a split spoon sampler is driven into the soil by a 140-pound weight falling 30-inches, and a soil sample collected.

All borings are properly abandoned to ground level using bentonite clay.

PID Screening

Each of the samples, for headspace analysis, are placed in a clean, clear, plastic Ziploc bag. These containers are to be filled $\frac{1}{4}$ full. All containers are the same size and filled to the same volume. The containers are then sealed.

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Once collected and sealed, samples are shaken for 30 seconds to break apart soil clods. They are then allowed to establish headspace. The following table is used to determine headspace equilibration time.

Outside temperature / Time to establish headspace

- <40 deg. F 40 minutes
- 41-55 deg. F 20 minutes
- 56-69 deg. F 10 minutes
- >70 deg. F 5 minutes

To take readings, the PID probe is inserted into the plastic bag halfway between the sample and the highest meter response recorded. The samples are screened with a Rae Systems, Mini Rae Lite, Model PGM-7300 meter equipped with a 10.6 eV lamp. Metered calibration is done at the beginning of each workday. Other notes taken are as follows:

1. Temperature and weather conditions.
2. Date of last factory calibration.
3. Field calibration gas used and concentration.
4. Date and time of last calibration.
5. Instrument gain setting.
6. Erratic instrument readings.
7. Cleaning or repairs performed in the field.
8. Sample moisture (saturated, wet, moist, damp, dry).
9. Petroleum odors or staining of samples.
10. Any instrument quenching.
11. Other relevant information.

Monitoring Wells

Groundwater monitoring well installations are completed under the direction of a METCO hydrogeologist and in accordance with Wisconsin Department of Natural Resources Chapter NR141, "Groundwater Monitoring Well Requirements." The monitoring wells are constructed of flush-threaded, two-inch inside diameter schedule 40 or 80 polyvinyl chloride (PVC) piping. Ten-foot well screens with 0.010-inch slots are installed approximately 5 to 6 feet into the watertable. A uniform washed sand is installed around the well screens to serve as a filter pack. Granular bentonite is used above the filter pack to

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provide a surface seal. Steel, locking protective well casings are cemented in at each well. Any variances from NR141 will be reported to the WDNR.

Each well is developed by alternately surging and purging with a clean polyethylene bailer for 20 to 30 minutes to remove fines from the well screen, after which ten well volumes are removed using a submersible pump.

Groundwater level measurements are obtained using an electronic water level indicator. All measurements are recorded to the nearest 0.01-foot. The probe is thoroughly washed between measurements.

At least two rounds of samples are collected using a bottom loading, disposable, polyethylene bailer and disposable polyethylene cord. Approximately four well volumes are purged from each well before collecting samples.

Depending on site conditions and groundwater sampling results, slug tests may be conducted on at least one of the monitoring wells to determine hydrogeologic parameters (hydraulic conductivity, transmissivity, and flow velocity). During the slug test, groundwater in a monitoring well is displaced using a solid plastic slug, while water levels are recorded using a transducer and data logger. Water levels are recorded until the water level in the well returns to equilibrium. Slug test data is evaluated using the Bouwer and Rice method.

Well Elevation Survey

All wells are surveyed to the nearest 0.01-foot MSL by a qualified surveying company.

Sample Analysis

Environmental samples are collected to minimize both soil disturbance and exposure of the sample to the air.

Field observations such as soil characteristics, petroleum odors, product sheens, and staining associated with the samples are continuously noted throughout sampling.

The amount of sample taken, the size of the container used, and the type of sample preservation used, will depend on the laboratory contracted and for which parameters the soil samples are analyzed. See Appendix C for LUST Sample Guidelines.

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All collected samples are stored in a cooler that maintains a temperature of, at most, 4 degrees Celsius. The coolers are accompanied by a complete chain of custody and are delivered to the laboratory within two days of sampling.

The WDNR document, "LUST Analytical and Quality Assurance Guidance, July 1993" is referenced in determining what parameters in which the soil and water samples will be analyzed, and the amount of duplicates/blanks required.

Quality Assurance/Quality Control/Waste Management

All drilling and sampling equipment advanced into the subsurface is cleaned between sampling locations. This consists of washing with a biodegradable Alconox solution and rinsing with potable water. Wash and rinse water are disposed of atop an isolated area of asphalt for evaporation or discharged into a local storm sewer.

Drill cuttings, field screened as being contaminated, are contained in 55-gallon DOT barrels, characterized, and properly disposed of by METCO and/or client.

Development and purge waters are contained in 55 gallon DOT barrels, characterized, and properly disposed of by METCO and/or the client. Disposal options will depend on the amount of water, type of contaminants, and concentration of contaminants. All wastewater contaminants and disposal activities are recorded with complete documentation submitted to the WDNR.

Variations

We are not aware of any variations needed at this time.

SCHEDULE FOR INVESTIGATION PROJECT

The following is a checklist of activities that have been, or will be completed, concerning the LUST Investigation, along with an estimated time frame. A typical LUST Investigation takes approximately 2 to 6 months. The investigation may take up to 12 months if bedrock or groundwater is contaminated.

- 1) METCO submits a LUST Investigation Project proposal to client (done).
- 2) Proposal acceptance by client. METCO notifies the WDNR that a consultant has been contracted (done).
- 3) Client obtains PECFA Packet and Site Eligibility Letter from PECFA (done).
- 4) METCO submits a LUST Investigation Field Procedures Workplan to client and WDNR for review and approval (1/17/17).
- 5) METCO conducts Drilling Project and develops the monitoring wells (1

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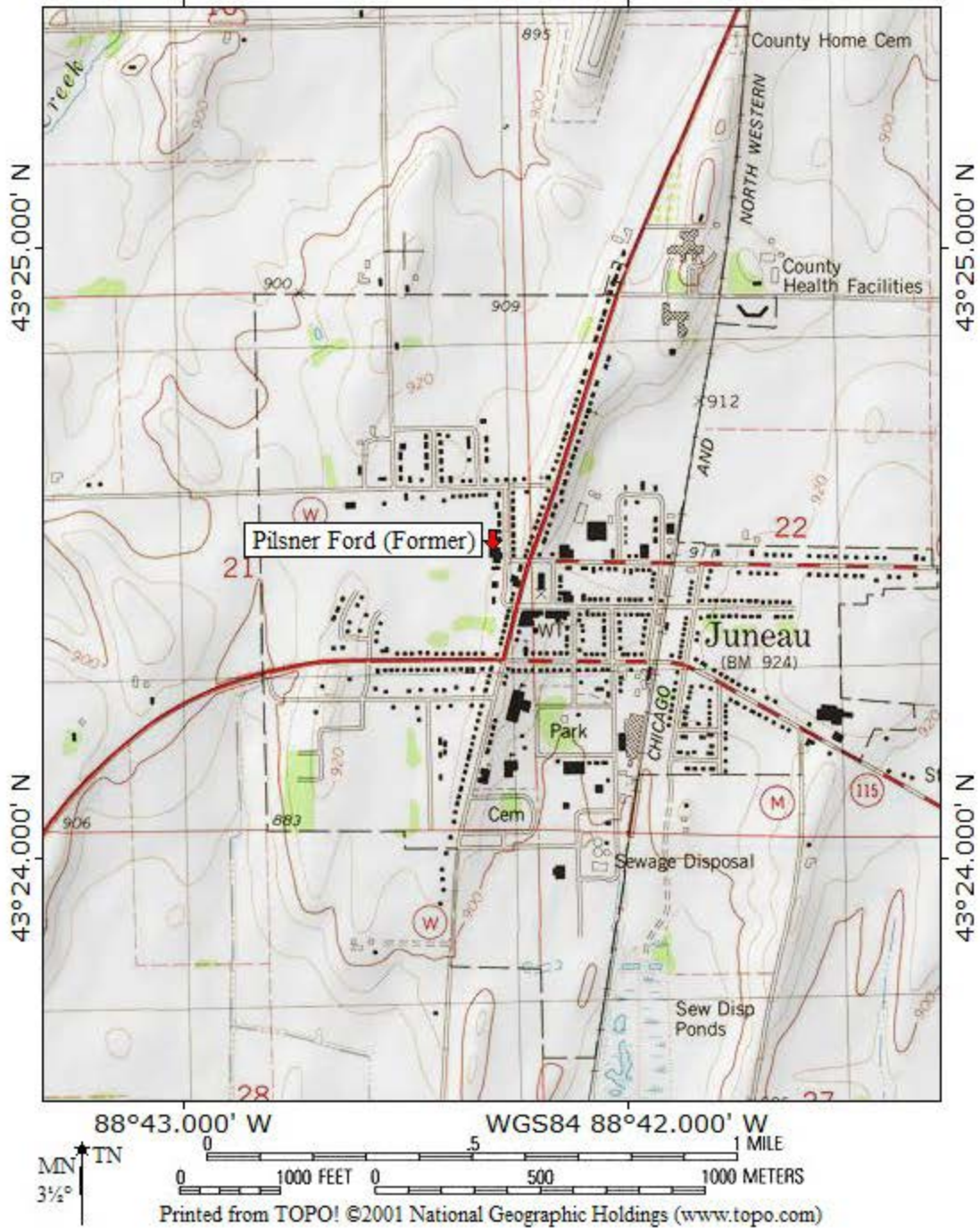
month). More than one field mobilization may be needed to complete project depending on complexity of the site and project (1 month to receive lab results).

- 6) METCO surveys the installed monitoring wells and collects Round 1 groundwater samples for laboratory analysis (1 month to receive lab results).
- 7) METCO collects Round 2 groundwater samples for laboratory analysis (1 month to receive lab results).
- 8) METCO completes any additional work that is needed, such as slug tests (1 month).
- 9) METCO prepares a LUST Investigation report that contains all collected data and submits to the client and WDNR (3-6 months).
- 10) If no further investigation work is required, METCO will apply for "site closure" with the WDNR. Upon closure, METCO will complete the PECFA Application and submit for reimbursement (reimbursement takes 3 to 6 months).
- 11) If further investigation and/or remediation is required METCO will provide further assistance.

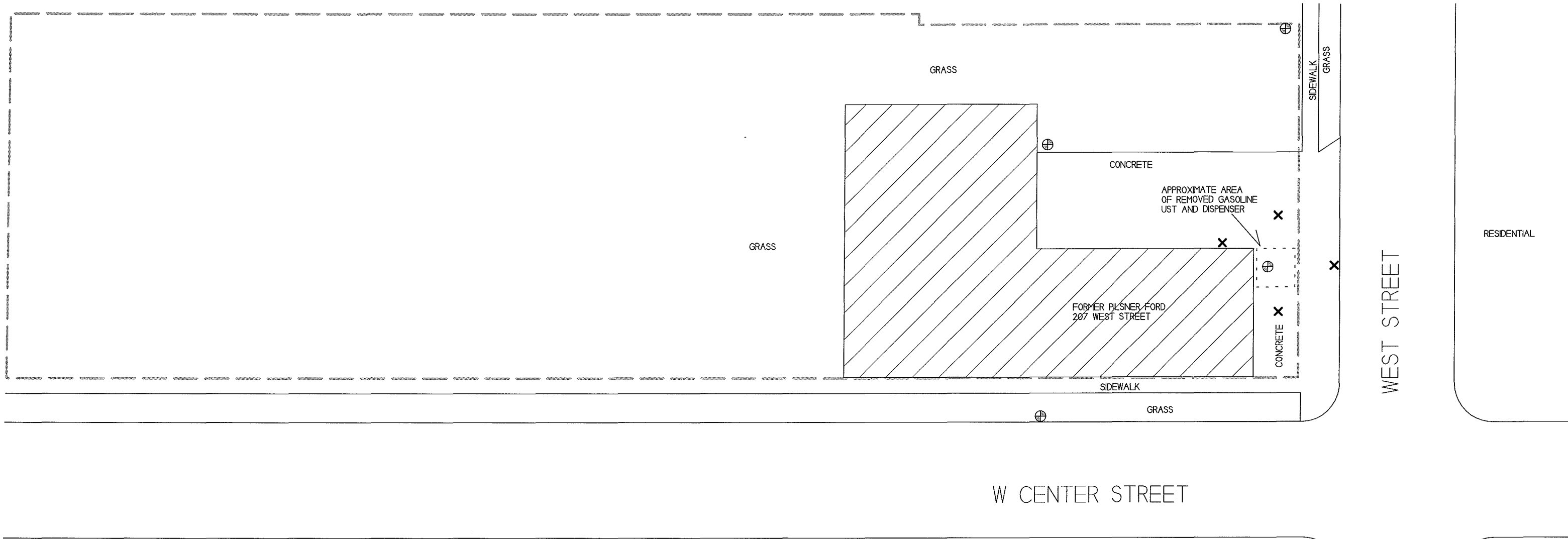
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APPENDIX A/SITE MAPS

TOPO! map printed on 12/28/16 from "Wisconsin.tpo" and "Untitled.tpg"
88°43.000' W WGS84 88°42.000' W



B.1.a LOCATION MAP
CONTOUR INTERVAL 10 FEET
PILSNER FORD (FORMER) – JUNEAU, WI
SEAMLESS USGS TOPOGRAPHIC MAPS ON CD-ROM

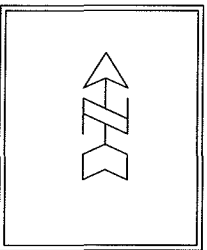


B.1.b DETAILED SITE MAP

PILSNER FORD

METCO
709 Gillette St., Suite 3
La Crosse, WI 54603
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Excellence through experience

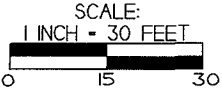
JUNEAU, WISCONSIN
DRAWN BY: ED
DATE: 12/28/16



NOTE: INFORMATION BASED ON AVAILABLE DATA ACTUAL CONDITIONS MAY DIFFER

✕ - PROPOSED SOIL BORING LOCATION

⊕ - PROPOSED MONITORING WELL LOCATION



----- PROPERTY BOUNDARY

PARKING LOT

DODGE COUNTY
SHERIFFS DEPT
CLOSED LUST SITES
BRRTS# 03-14-001606
BRRTS# 03-14-002216

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APPENDIX B/INVESTIGATION CHECKLIST

SITE INVESTIGATION CHECKLIST
Revised February 1992 PUBL-SW-115

This checklist was prepared by the Department of Natural Resources. It lists the necessary information to include in a site investigation report, for investigations conducted in accordance with guidelines prepared by the Emergency and Remedial Response Section, of the Bureau of Solid and Hazardous Waste Management, Wisconsin DNR. Sites include those where actions are conducted under the LUST, Spills and Environmental Repair programs. If some of this information is not submitted the report should clearly state why it is omitted. More complete information regarding site investigations is available in the Department's "Guidance on Conducting Environmental Response Actions".

The purpose of the site investigation is to 1) define the extent and degree of contamination and 2) to provide a basis for choosing a remedial action alternative. The narrative portion of the investigation report should clearly address these goals.

The Department strongly recommends that the site investigation report follow the sequence of information listed here. This will allow for a quick completeness check and more timely review of submittals. Incomplete reports will not be reviewed until all the necessary information has been received. The following information should be included in the site investigation, (as appropriate to each case):

I. INTRODUCTION/COVER LETTER

- ___ 1. Project title
- ___ 2. Purpose of report and desired department action
- ___ 3. Client(s)
- ___ 4. Author(s), with signatures
- ___ 5. Scope of Services
- ___ 6. Dates the work was performed
- ___ 7. Date of report
- ___ 8. Subcontractors employed by the consultant

II. GENERAL and BACKGROUND INFORMATION

1. General Information

A. Identify the owner/operator and/or person(s) responsible: (include all applicable)

- ___ 1. name
- ___ 2. address
- ___ 3. day phone number
- ___ 4. contact person (name)
- ___ 5. address
- ___ 6. phone number
- ___ 7. verification of ownership: photocopy of deed or exact legal description of property

B. Specify the site of contamination:

- ___ 1. name
- ___ 2. phone number
- ___ 3. specific location (street corner, miles from an intersection, etc)
 - ___ a. legal address (street address if applicable, do not supply just a P.O. Box #)
 - ___ b. location of impacted properties by latitude and longitude, to an accuracy of seconds, at a minimum (preferred method) or State Plane coordinate system
 - ___ c. location of impacted properties by quarter, quarter, section, township, range, civil township, county, or other locational criteria if site(s) are not within the Public Land Survey system
- ___ 4. type of operation: gas station, tank farm, private residence, manufacturer, etc.

C. Site Location Maps

- ___ 1. General Location Map
 - ___ locate on a USGS topographic base map (include quadrangle name, series and scale)
 - ___ locate on a plat map, if applicable
- ___ 2. Local Base Map: the map must be drawn to scale and include the following items. Other features may also be needed:
 - ___ a. bar scale
 - ___ b. North arrow
 - ___ c. legend
 - ___ d. location of benchmark used
 - ___ e. origin of horizontal grid system

3. Including Site Specific Features: more than one map may be appropriate, use the local map for the base map (These maps may be used for several purposes.)

- a. location of discharge on site or facility, for example, the location of (former) tank and pump islands and piping
- b. location of all buildings on site
- c. locations of public utilities, appropriately marked
- d. property boundaries
- e. location of all soil borings and wells (monitoring wells and potable wells)
- f. location of soil vapor points
- g. locations of where field screenings and lab confirmation samples were taken
- h. nearby/neighbor structures and private wells (within 1200 feet)
- i. any nearby surface waters (within map scale)
- j. roads and paved areas, and other access areas
- k. known and potential sources of contamination
- l. known and potential receptors
- m. limits of excavation

2. Site Background

A. General Site Information

- 1. site description, including features like:
 - number of tanks/containers
 - volume/size of tanks/containers
 - tank/container contents, past and present
 - tank/container age, installation dates
 - tank/container construction materials
 - presence and type of leak detection
 - presence and type of secondary containment
- 2. general site construction history
- 3. any past reports of spills, or other incidents
- 4. periods of nonoperation
- 5. proximity of sensitive sites such as schools, homes, private or public wells, etc.

B. Description of Discharge Incident

- 1. type of hazardous substances discharged, known or suspected (released, spilled, lost, etc.)
- 2. approximate amounts discharged
- 3. location of impact
- 4. dates of discharge
- 5. local problems associated with discharge, e.g. vapors in homes, well contamination, etc.
- 6. known receptors

C. Impacts

- 1. existing impacts to human health, safety, welfare and the environment
- 2. any impacts to adjacent or nearby buildings, wells or other structures
- 3. names and addresses of owners of adjacent properties, if those properties have been adversely impacted by the hazardous substance discharge

D. Past Activities, Monitoring and Testing

- 1. dates of site activities, duration and type and potential amounts of discharges
- 2. description of emergency actions taken and of interim actions taken, including dates
- 3. record of activities conducted at the site which had potential to cause contamination
- 4. inventory record system data
- 5. summary of monitoring results, including:
 - product monitoring records according to ILHR 10
 - groundwater monitoring
 - surface water monitoring
 - soil monitoring
 - sediment monitoring
 - atmospheric monitoring
- 6. records of testing, repair, removal or replacement, including dates
- 7. tank/container/line integrity testing
 - method
 - testing firm
 - dates
 - results

E. Hazardous Waste Generation

- 1. hazardous waste manifest
- 2. was hazardous waste ever generated or stored on site?

- F. Description of Tank/Container and Soil Removal Activities
- 1. description of soil conditions in the area of the tank/container excavation or in area of discharge
 - 2. volume of (contaminated) soils removed from the excavation
 - 3. location of stockpiled contaminated soils
 - 4. type of impermeable base for stockpiled soils
 - 5. type of impermeable cover for stockpiled soils
 - 6. if excavation was backfilled, what was used as fill?
 - 7. final deposition of soil excavated, where and how were they used? (daily cover, backfill on/off site, roasted, buried, etc.)
 - 8. condition of tanks, lines, pumps (corrosion, visible leaks, etc?)
 - 9. product (other than petroleum) or waste delivery or storage systems

- G. Land Use Information
- 1. current and past land uses of site and neighboring properties
 - 2. description of zoning of property and adjacent properties

3. Environmental Analysis

- A. Site Historical Significance
- 1. impacts or potential impacts to significant historical or archeological features due to any response activities or the discharge itself
 - 2. presence of buildings greater than 50 years old on or next to discharge site

- B. Presence of "Sensitive" Environmental Receptors
- 1. wildlife habitat
 - 2. state or federal threatened or endangered species
 - 3. sensitive or unique ecosystems or species
 - 4. areas of special natural resource interest
 - 5. other surface waters and wetlands, as appropriate

- C. Geology (use maps as appropriate)
- 1. geologic origin, nature and distribution of bedrock
 - 2. geologic origin, nature and distribution of overlying soils
 - 3. thicknesses of various strata (consolidated and unconsolidated)
 - 4. depth to bedrock
 - 5. geophysical characteristics
 - 6. soil types and texture
 - 7. soil descriptions to include:
 - structure
 - mottling
 - voids
 - layering
 - lenses
 - geologic origin
 - Unified Soil System Classification
 - grain size distribution, if applicable
 - evidence of secondary permeability
 - odor, if evident
 - staining, if evident
 - 8. bedrock descriptions, if impacted:
 - rock type
 - grain size
 - bedding thickness
 - presence of fractures
 - orientation of fractures
 - sedimentary structures
 - secondary porosity/solutional features
 - other
 - 9. topography
 - 10. site hydrology, including
 - intermittent and ephemeral streams,
 - drain tile systems,
 - surface waters
 - wetlands
 - location of floodway and floodplain (this may be best located on a site map)

- D. Hydrogeology
- 1. depth to water table
 - 2. flow directions, seasonal variations

- 3. horizontal and vertical gradients
- 4. hydraulic characteristics: (define as field test results or non-field estimates)
 - hydraulic conductivity, variation
 - transmissivity
 - storativity
- 5. aquifer definition:
 - size
 - use
 - presence of aquitards
- 6. local and regional recharge or discharge area(s)
- 7. potentiometric surface
- 8. location, seasonal variation of groundwater divides
- 9. location and extent of perched groundwater
- 10. local and regional groundwater quality
- 11. hydraulic connection between aquifers
- 12. saturated thickness of aquifer
- 13. estimates of flow volume passing below the discharge site/facility (include calculations in the appendices)
- 14. drillers logs which indicated any abnormal drilling difficulties
- 15. isoconcentration maps
- 16. other

III. RESULTS

1. Contaminant Migration Pathway and Receptor Assessment

A. Potential Vapor and Product Migration Pathways (include depth of burial and construction material)

- 1. sewer lines
- 2. storm sewers
- 3. buried power cables
- 4. buried telephone lines
- 5. tile lines
- 6. more permeable soil lenses
- 7. water lines
- 8. road beds
- 9. foundations
- 10. other

B. Potential Receptors of Contamination (description of impacts or potential impacts, if applicable)

- 1. buildings on site
- 2. neighboring basements/buildings
- 3. nearby wells (locations must be provided on a map)
- 4. nearby surface waters, including wetlands
- 5. critical habitats
- 6. endangered species
- 7. outstanding resource waters
- 8. exceptional resource waters
- 9. sensitive or unique ecosystems
- 10. other

C. Potential Health Impacts

- 1. danger of explosion
- 2. contaminated private wells
- 3. contaminated public water supply wells
- 4. exposure to vapors
- 5. dermal exposure
- 6. other

2. Sampling and Analysis Results (figures and tables should be used, but general trends and the overall evaluation should be in narrative form) Provide units of measurement for all results. Describe or provide the following information for each media impacted:

A. soil chemistry results, per parameter, per location

- 1. field screening results with locations identified
- 2. laboratory (confirmation) sample results with locations identified
- 3. any indication of contamination of soils encountered (staining, odor, etc.)

B. groundwater sample results, per parameter, per well, over time

- 1. laboratory results
- 2. trends analysis

- ___ 3. compliance evaluation with NR 140 groundwater standards, if applicable
- C. soil vapor results (define type of survey used)
 - ___ 1. by parameter
 - ___ 2. per location
- D. sampling results from other media impacted by the discharge
 - ___ 1. parameters
 - ___ 2. locations
- 3. Sampling Methods Used (for each media impacted, lists provided for soil and groundwater only)
 - A. Soils:
 - ___ 1. description of sample collection method
 - ___ 2. field screening or analytical instrument type used
 - ___ lamp strength
 - ___ calibration
 - ___ operating procedure
 - ___ 3. sample container
 - ___ 4. temperature at which the sample was collected
 - ___ 5. time allowed for PID or FID samples to achieve at least 70° F, and location
 - B. Groundwater
 - ___ 1. method and instruments used to obtain sample
 - ___ 2. any indication of contamination noticed in field
 - ___ 3. whether the well was purged or not, why and how, and amount removed
 - ___ 4. drilling method used
 - ___ 5. monitoring well construction features
 - ___ 6. abandonment methods
 - ___ a. boreholes
 - ___ b. monitoring wells
 - ___ c. excavations
 - ___ 7. survey methods
 - ___ 8. sample container size
 - ___ 9. sample description
 - ___ - turbid
 - ___ - clear
 - ___ - sheen
 - ___ - free product
 - ___ 10. other
 - C. Vapors/Ambient Air
 - ___ 1. description of sample collection method
 - ___ 2. field screening, if conducted
 - ___ 3. sample container
- 4. Quality Control and Quality Assurance
 - A. General QA/QC (for all media impacted)
 - ___ 1. name and address of laboratory
 - ___ 2. laboratory certification number
 - ___ 3. number of blanks, with results:
 - ___ - field blanks
 - ___ - trip blanks
 - ___ - lab spikes
 - ___ - split samples
 - ___ - replicate spikes
 - ___ 4. name and training of person collecting the samples (including certification, if applicable)
 - B. Field Instrument Quality Control (for all media impacted)
 - ___ 1. instrument make, model and lamp energy
 - ___ 2. limitations of field screening instruments
 - ___ - temperature changes
 - ___ - humidity changes
 - ___ - other
 - ___ 3. any repairs to the instrument
 - ___ 4. field instrument calibration measures conducted
 - ___ 5. time and frequency or schedule of field instrument calibration
 - ___ 6. composition of the calibration gas used (calibration product ?)
 - ___ 7. calibration curves used
 - ___ 8. correction factor if one was used

- ___ 9. results of any calibration checks
- ___ 10. time of day and ambient temperature when calibrations, calibration curves or calibration checks were completed
- ___ 11. time and temperature that samples were equilibrated if the outside temperature is below 60°F at the time of field analysis

C. Field Sampling and Transportation Quality Control and Assurance (for all media impacted)

- ___ 1. sample type
- ___ 2. sample location and associated field and laboratory identification
- ___ 3. sampling technique used
- ___ 4. sampling techniques used to minimize exposure of samples to the atmosphere
- ___ 5. date and time of sampling
- ___ 6. field preservation performed
- ___ 7. date and time of preservation or extraction
- ___ 8. decontamination procedures used during the site investigation
- ___ 9. deviations from standard operating procedures
- ___ 10. shipping time and technique

D. Laboratory Receipt and Analysis (for all media impacted)

- ___ 1. chain of custody forms (4400-151)
- ___ 2. time and date of receipt of samples by the laboratory
- ___ 3. sample condition on receipt by the laboratory including
 - the temperature of the samples and
 - whether the samples were properly sealed
- ___ 4. time and date of analysis
- ___ 5. method of analysis
- ___ 6. laboratory detection limit
- ___ 7. sample results with units of measurement
- ___ 8. accuracy and precision of replicate spikes
- ___ 9. results or percent recovery of matrix spikes with every batch of samples not to exceed eight hours

5. Investigative Wastes (for all media impacted, to include but which is not limited to contaminated water from excavations, borings, purge water, rinse waters from decontamination procedures, extra sample)

- ___ A. analytical results (hazardous determination, if listed?)
- ___ B. ultimate disposal
- ___ C. other

IV. SUMMARY AND EVALUATION OF RESULTS (Analysis of Degree and Extent of Contamination)

- ___ 1. degree and extent of soil contamination
- ___ 2. degree and extent of groundwater contamination
- ___ 3. degree and extent of contamination of other media impacted
- ___ 4. known or potential impacts to receptors, such as water supply wells
- ___ 4. vapor migration potential
- ___ 5. impacts from seepage into basements, utility lines, surface waters
- ___ 6. difficulties experienced during the investigation
- ___ 7. unanticipated or questionable results
- ___ 8. details needing emphasis

V. CONCLUSIONS

- ___ source and type of release defined
- ___ soil and groundwater contamination adequately defined?
- ___ further study needed
- ___ further remediation needed
- ___ known or potential impacts from the release defined?
- ___ clean site, ready for case closure
- ___ other

VI. RECOMMENDATIONS

- ___ 1. Investigation Incomplete
 - ___ continued monitoring
 - ___ additional investigation
- ___ 2. Remedial Action Alternatives (provide description of alternatives) e.g.:
 - ___ remediation method (to be) used for contaminated soil

soil removal, treatment and disposal
soil venting
product recovery
groundwater extraction and treatment
insitu biological treatment
other actions (define)

3. Other

work plans for further action
construction proposals for further action
pilot study, other treatability studies
schedules for further actions
required permits
 air quality
 wastewater discharge

VII. FIGURES

1. Site Maps
 - location maps (regional and local)
 - water table and/or potentiometric surface maps
 - isoconcentration maps
 - surface water depth maps
 - bedrock and soil type and distribution maps
2. Flow Cross Sections
3. Extent of Contamination in Soil
4. Extent of Contamination in Groundwater (Isoconcentration)
5. Locations of Potential Receptors
6. Geologic Cross-Sections
 - a. geologic setting
 - b. boring location
 - c. soil classification
 - d. analytical sampling
 - e. monitoring well locations
 - f. water table
 - g. extent of contaminant plume
 - h. concentrations at referenced date and point
 - i. sampling intervals (for soil and groundwater)
 - j. of excavation walls showing location of field screening and/or analytical results, as appropriate
7. Photographs (NO black and white photocopies)

VIII. TABLES

1. Groundwater Chemistry Results
2. Soil Chemistry Results
3. Analytical Methods Used
4. Standards for Comparison and Compliance Determinations (Tables with compliance standards should be combined with analytical results for comparison)
5. Geologic and Hydrogeologic Results
6. Groundwater Elevations
7. Screening Results
8. Other

IX. APPENDICES (up to the author)

1. Table giving data for compounds found, such as:
Chemical formula, Molecular weight, Ionic potential, Solubility,
Vapor pressure, Henry's Law Constant, Kow
2. References used to support methods or provide standards methods, including previous reports
3. All raw data
4. All documentation on forms: (DNR form number)
 - a. soil boring logs (4400-122)
 - b. monitoring well construction logs (4400-113A)
 - c. soil boring/well abandonment forms (3300-58)
 - d. chain of custody forms
 - e. lab/chemistry results
 - f. groundwater monitoring well information form (4400-89)
 - g. monitoring well development form (4400-113B)
5. Variances (for well construction, hazardous waste storage requirements, etc.)

- 6. Well logs of all impacted wells and potentially impacted wells within 1200' of the discharge site (locate wells on a map)
- 7. All calculations and assumptions
- 8. Landfill receipts for disposed soil
- 9. Regional hydrogeological information references used

Other information that may be needed includes:

- access
- public information plan
- health and safety plan

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

APPENDIX C/LUST SAMPLING GUIDELINES

LUST and Petroleum Analytical and QA Guidance
July 1993 Revision

Petroleum Substance Discharged	Analysis of Samples Collected for UST Tank Closure Assessments	Solid Waste Program Requirements for Soils to be landfilled ⁵	Site Investigation, Pretreatment and Posttreatment Sample Analysis ¹¹
Regular Gasoline	GRO ²	Free Liquids ⁶ GRO Benzene ⁷ Pb ⁷ Haz. Waste Deter. ⁸	GRO VOC/PVOC ¹⁵ Pb ¹²
Unleaded Gasoline; Grades 80 100, and 100 LL (Low Lead) Aviation Fuel	GRO ²	Free Liquids ⁶ GRO Benzene ⁷ Pb ⁷ Haz. Waste Deter. ⁸	GRO PVOC
Diesel; Jet Fuels; and No's 1, 2, and 4 Fuel Oil	DRO ³	Free Liquids ⁶ DRO Benzene ⁷ Haz. Waste Deter. ⁸	DRO ³ PVOC PAH ^{13 14}
Crude Oil; Lubricating Oils; No. 6 Fuel Oil	DRO ³	Free Liquids ⁶ DRO Haz. Waste Deter. ⁸	DRO ³ PAH ^{13 14}
Unknown Petroleum	GRO ⁷ and DRO ^{3 4}	Free Liquids ⁶ GRO and DRO Pb, Cd ⁷ Haz. Waste Deter. ⁸ CN ¹⁹ S ^{2 10}	GRO and DRO ^{3 4} VOC/PVOC ¹⁵ PAH ^{13 14} Pb, Cd ¹²
Waste Oil	DRO ³	Free Liquids ⁶ DRO Pb, Cd ⁷ Haz. Waste Deter. ⁸ CN ¹⁹ S ^{2 10}	DRO ³ VOC/PVOC ¹⁵ PAH ^{13 14} PCBs ¹⁶ Pb, Cd ¹²

Abbreviations:

GRO - Gasoline Range Organics, Determined by the Wisconsin Modified GRO Method

DRO - Diesel Range Organics, Determined by the Wisconsin Modified DRO Method

VOC - Volatile Organic Compounds (See Section 11.1 for a list of VOC compounds)

PVOC - Petroleum Organic Compounds (See Section 11.2 for a list of PVOC compounds)

PAH - Polynuclear Aromatic Hydrocarbons (See Section 11.3 for a list of the PAH compounds)

PCBs - Polychlorinated Biphenyls

Pb - Lead

SYNERGY ENVIRONMENTAL LAB – Sample Bottle Requirements

**TABLE 1
SAMPLE & PRESERVATION REQUIREMENTS FOR WATER and
DRINKING WATER SAMPLES**

Test	Original Sample Container	Preserved	Holding Time to Analysis
WET CHEMISTRY			
Alkalinity SM2320B/EPA 310.2	250 mL HDPE	4°C	14 days
Ammonia EPA 350.1	250 mL HDPE	4°C, pH<2 with H ₂ SO ₄	28 days
BOD, cBOD SM5210B	500 ml HDPE	4°C	48 hrs.
COD EPA 410.4	500 ml HDPE	4°C, pH<2 with H ₂ SO ₄	28 days
Chloride EPA 300.0/EPA 325.2	250 mL HDPE	4°C	28 days
Cyanide SW846 9012A/SM4500-CN-C	1000 mL HDPE	4°C, pH>12 with NaOH	14 days
Flashpoint SW846 1010	250 mL HDPE	4°C	28 days
Fluoride EPA 300.0	250 mL HDPE	4°C	28 days
Hardness SW846 6010B	250 mL HDPE	4°C, pH<2 with HNO ₃	180 days
TKN EPA 351.2	1 Liter HDPE	4°C, pH<2 with H ₂ SO ₄	28 days
Nitrate EPA 300.0	250 mL HDPE	4°C	48 hours
Nitrate+Nitrite EPA 300.0	250 mL HDPE	4°C, pH<2 with H ₂ SO ₄	28 days
Nitrite EPA 300.0	250 mL HDPE	4°C	48 hours
Oil & Grease EPA 1664	1 Liter Glass	4°C, pH<2 with H ₂ SO ₄	28 days
Organic Carbon SW846 9060/ EPA 415.1	40 ml Glass	4°C, pH<2 with H ₂ SO ₄ or HCL	28 days
Phenol, Total EPA 420.1	1 Liter Glass	4°C, pH<2 with H ₂ SO ₄	28 days
Phosphorus, Total EPA 365.3	250 mL HDPE	4°C, pH<2 with H ₂ SO ₄	28 days
Sulfate EPA 300.0	250 mL HDPE	4°C	28 days
Total Dissolved Solids EPA 160.1	250 ml HDPE	4°C	7 days
Total Solids EPA 160.3	250 ml HDPE	4°C	7 days
Total Suspended Solids EPA 160.2	250 mL HDPE	4°C	7 days
METALS			
Metals	250 mL HDPE	4°C, pH<2 with HNO ₃	6 months
Mercury SW8467470/EPA 245.1	250 mL HDPE	4°C, pH<2 with HNO ₃	28 days
ORGANICS			
Semivolatiles SW846 8270C	1 Liter amber glass, collect 2 for one of the samples submitted .	4°C	7 days extr. 40 days following extr
PAH SW846 8270C	1 Liter amber glass, collect 2 for one of the samples submitted	4°C	7 days extr. 40 days following extr
PCB SW846 8082	1 Liter amber glass, collect 2 for one of the samples submitted.	4°C	7 days extr. 40 days following extr
DRO, Modified DNR Sep 95	1 Liter amber glass with Teflon lined cap	4°C, 5 mL 50% HCl	7 days extr. 40 days following extr
VOC'S SW846 8260B/EPA524.2	(3) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl, No Headspace	14 days
GRO/VOC	(4) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl prior to adding sample to jar	14 days
GRO, Modified DNR Sep 95	(2) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl prior to adding sample to jar	14 days
GRO/PVOC	(2) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl prior to adding sample to jar	14 days
PVOC	(2) 40 mL glass vials with Teflon lined septum caps	4°C, 0.5 mL 50% HCl prior to adding sample to jar	14 days

**All samples are to be cooled to 4°C until tested.
HDPE = High Density Polyethylene.**

SYNERGY ENVIRONMENTAL LAB – Sample Bottle Requirements

**TABLE 2
SAMPLE & PRESERVATION REQUIREMENTS FOR SOIL SAMPLES**

Test	Original Sample Container	Preserved	Holding Times from Date and Time of Collection			
			Solvent Addition	Shipping	Extraction	Analysis
METALS						
Metals	2 oz glass or soil cup	4°C	NA	NA	NA	180 days
Mercury SW846 7471	2 oz glass or soil cup	4°C	NA	NA	NA	28 days
Chromium Hexavalent SM3500-Cr	2 oz glass or soil cup	4°C	NA	NA	NA	24 hours
ORGANICS						
Any combinations of GRO, VOC, PVOC	1- tared VOC vial with 10 mls methanol, 13 grams of soil collected with syringe	4°C, 1:1 with methanol	Immediately	4 days	21 days	21 days
DRO, Modified	1- tared VOC vial, 13 grams of soil collected with syringe jar	4°C, Hexane	10 days	4 days	47 days	47 days
PAH, SW846 8270C	2 oz glass untared	4°C	NA	NA	14 days	40 days
Semivolatile SW846 8270C	2 oz glass untared	4°C	NA	NA	14 days	40 days
PCB SW846 8082	2 oz glass untared	4°C	NA	NA	14 days	40 days

All samples are to be cooled to 4°C until tested.

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

APPENDIX D/WDNR DOCUMENTS

Residual Contaminant Levels Protective of Groundwater Quality
(Soil-to-Groundwater Scenario Results from: http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)

NR140 Substance	NR 140 CAS	Fed MCL (ug/l) (If Red, MCL>ES)	NR 140 ES (ug/l)	RCL-gw (mg/kg) DF=1	Use 2, or input the calculated site-specific DF -->	2.00	INPUT NUMERIC Site Data Max (mg/kg)	Flag E = Individual Exceedance!
Acetochlor	34256-82-1	-	7	5.58E-03			1.12E-02	
Acetone	67-64-1	-	9000	1.85E+00			3.69E+00	
Alachlor	15972-60-8	2	2	1.65E-03			3.30E-03	
Aldicarb	116-06-3	3	10	2.49E-03			4.99E-03	
Aluminum	7429-90-5	-	200	3.01E+02			6.01E+02	
Antimony	7440-36-0	6	6	2.71E-01			5.42E-01	
Anthracene	120-12-7	-	3000	9.84E+01			1.97E+02	
Arsenic	7440-38-2	10	10	2.92E-01			5.84E-01	
Atrazine, total chlorinated residues	1912-24-9	3	3	1.95E-03			3.90E-03	
Barium	7440-39-3	2000	2000	8.24E+01			1.65E+02	
Bentazon	25057-89-0	-	300	6.59E-02			1.32E-01	
Benzene	71-43-2	5	5	2.56E-03			5.12E-03	
Benzo(a)pyrene (PAH)	50-32-8	0.2	0.2	2.35E-01			4.70E-01	
Benzo(b)fluoranthene (PAH)	205-99-2	-	0.2	2.40E-01			4.80E-01	
Beryllium	7440-41-7	4	4	3.16E+00			6.32E+00	
Boron	7440-42-8	-	1000	3.20E+00			6.40E+00	
Bromodichloromethane (THM)	75-27-4	80	0.6	1.63E-04			3.26E-04	
Bromoform (THM)	75-25-2	80	4.4	1.17E-03			2.33E-03	
Bromomethane	74-83-9	-	10	2.53E-03			5.06E-03	
Butylate	2008-41-5	-	400	3.88E-01			7.76E-01	
Cadmium	7440-43-9	5	5	3.76E-01			7.52E-01	
Carbaryl	63-25-2	-	40	3.64E-02			7.27E-02	
Carbofuran	1563-66-2	40	40	1.56E-02			3.12E-02	
Carbon disulfide	75-15-0	-	1000	2.97E-01			5.93E-01	
Carbon tetrachloride	56-23-5	5	5	1.94E-03			3.88E-03	
Chloramben	133-90-4	-	150	3.63E-02			7.27E-02	
Chlorodifluoromethane	75-45-6	-	7000	2.89E+00			5.79E+00	
Chloroethane	75-00-3	-	400	1.13E-01			2.27E-01	
Chloroform (THM)	67-66-3	80	6	1.67E-03			3.33E-03	
Chlorpyrifos	2921-88-2	-	2	2.95E-02			5.90E-02	
Chloromethane	74-87-3	-	30	7.76E-03			1.55E-02	
Chromium (total)	7440-47-3	100	100	1.80E+05			3.60E+05	
Chrysene (PAH)	218-01-9	-	0.2	7.25E-02			1.45E-01	
Cobalt	7440-48-4	-	40	1.81E+00			3.62E+00	
Copper	7440-50-8	1300	1300	4.58E+01			9.16E+01	
Cyanazine	21725-46-2	-	1	4.68E-04			9.37E-04	
Cyanide, free	57-12-5	200	200	2.02E+00			4.04E+00	
Dacthal (DCPA)	1861-32-1	-	70	8.56E-02			1.71E-01	
1,2-Dibromoethane	106-93-4	0.05	0.05	1.41E-05			2.82E-05	
Dibromochloromethane (THM)	124-48-1	80	60	1.60E-02			3.20E-02	
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.2	0.2	8.64E-05			1.73E-04	
Dibutyl phthalate	84-74-2	-	1000	2.52E+00			5.04E+00	
Dicamba	1918-00-9	-	300	7.76E-02			1.55E-01	
1,2-Dichlorobenzene	95-50-1	600	600	5.84E-01			1.17E+00	
1,3-Dichlorobenzene	541-73-1	-	600	5.76E-01			1.15E+00	
1,4-Dichlorobenzene	106-46-7	75	75	7.20E-02			1.44E-01	
Dichlorodifluoromethane	75-71-8	-	1000	1.54E+00			3.08E+00	
1,1-Dichloroethane	75-34-3	-	850	2.42E-01			4.84E-01	
1,2-Dichloroethane	107-06-2	5	5	1.42E-03			2.84E-03	
1,1-Dichloroethylene	75-35-4	7	7	2.51E-03			5.02E-03	
1,2-Dichloroethylene (cis)	156-59-2	70	70	2.06E-02			4.12E-02	
1,2-Dichloroethylene (trans)	156-60-5	100	100	2.94E-02			5.88E-02	
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70	70	1.81E-02			3.62E-02	
1,2-Dichloropropane	78-87-5	5	5	1.66E-03			3.32E-03	
1,3-Dichloropropane (cis/trans) (Telone)	542-75-6	-	0.4	1.43E-04			2.85E-04	
Di (2-ethylhexyl) phthalate	117-81-7	6	6	1.44E+00			2.88E+00	
Dimethoate	60-51-5	-	2	4.51E-04			9.02E-04	
2,4-Dinitrotoluene	121-14-2	-	0.05	6.76E-05			1.35E-04	
2,6-Dinitrotoluene	606-20-2	-	0.05	6.88E-05			1.38E-04	
Dinitrotoluene, Total Residues	25321-14-6	-	0.05	6.89E-05			1.38E-04	
Dinoseb	88-85-7	7	7	6.15E-02			1.23E-01	
1,4-Dioxane (p-dioxane)	123-91-1	-	3	6.18E-04			1.24E-03	
Dioxin (2,3,7,8-TCDD)	1746-01-6	0	0	1.50E-05			3.00E-05	
Endrin	72-20-8	2	2	8.08E-02			1.62E-01	
EPTC	759-94-4	-	250	1.32E-01			2.64E-01	
Ethylbenzene	100-41-4	700	700	7.85E-01			1.57E+00	
Ethyl Ether (Diethyl Ether)	60-29-7	-	1000	2.24E-01			4.47E-01	
Ethylene glycol	107-21-1	-	14000	2.82E+00			5.64E+00	
Fluoranthene	206-44-0	-	400	4.44E+01			8.88E+01	
Fluorene (PAH)	86-73-7	-	400	7.41E+00			1.48E+01	

Type BRRTS No.
Here (If Known).
Assess groundwater
levels separately.

Re-assess if Cr-VI present

Residual Contaminant Levels Protective of Groundwater Quality
 (Soil-to-Groundwater Scenario Results from: http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)

NR140 Substance	NR 140 CAS	Fed MCL (ug/l) (if Red, MCL>ES)	NR 140 ES (ug/l)	RCL-gw (mg/kg) DF=1	Use 2, or input the calculated site-specific DF -->	2.00	INPUT NUMERIC Site Data Max (mg/kg)	Flag E = Individual Exceedance!
Fluoride	7782-41-4	4000	4000	6.01E+02			1.20E+03	
Fluorotrichloromethane	75-69-4	-	3490	2.23E+00			4.47E+00	
Formaldehyde	50-00-0	-	1000	2.02E-01			4.04E-01	
Heptachlor	76-44-8	0.4	0.4	3.31E-02			6.62E-02	
Heptachlor epoxide	1024-57-3	0.2	0.2	4.08E-03			8.16E-03	
Hexachlorobenzene	118-74-1	1	1	1.26E-02			2.52E-02	
n-Hexane	110-54-3	-	600	4.22E+00			8.44E+00	
Lead	7439-92-1	15	15	1.35E+01			2.70E+01	
Lindane	58-89-9	0.2	0.2	1.16E-03			2.32E-03	
Manganese	7439-96-5	-	300	1.96E+01			3.91E+01	
Mercury	7439-97-6	2	2	1.04E-01			2.08E-01	
Methanol	67-56-1	-	5000	1.01E+00			2.03E+00	
Methoxychlor	72-43-5	40	40	2.16E+00			4.32E+00	
Methylene chloride	75-09-2	5	5	1.28E-03			2.56E-03	
Methyl ethyl ketone (MEK)	78-93-3	-	4000	8.39E-01			1.68E+00	
Methyl isobutyl ketone (MIBK)	108-10-1	-	500	1.13E-01			2.26E-01	
Methyl tert-butyl ether (MTBE)	1634-04-4	-	60	1.35E-02			2.70E-02	
Metolachlor/s-Metolachlor	51218-45-2	-	100	1.17E-01			2.34E-01	
Metribuzin	21087-64-9	-	70	2.14E-02			4.28E-02	
Molybdenum	7439-98-7	-	40	8.08E-01			1.62E+00	
Monochlorobenzene	108-90-7	100	100	6.79E-02			1.36E-01	
Naphthalene	91-20-3	-	100	3.29E-01			6.59E-01	
Nickel	7440-02-0	-	100	6.50E+00			1.30E+01	
N-Nitrosodiphenylamine (NDPA)	86-30-6	-	7	3.82E-02			7.64E-02	
Pentachlorophenol (PCP)	87-86-5	1	1	1.01E-02			2.02E-02	
Phenol	108-95-2	-	2000	1.15E+00			2.30E+00	
Picloram	1918-02-1	500	500	1.39E-01			2.78E-01	
Polychlorinated biphenyls (PCBs)	1336-36-3	0.5	0.03	4.69E-03			9.38E-03	
Prometon	1610-18-0	-	100	4.75E-02			9.49E-02	
Propazine	139-40-2	-	10	8.86E-03			1.77E-02	
Pyrene (PAH)	129-00-0	-	250	2.72E+01			5.45E+01	
Pyridine	110-86-1	-	10	3.44E-03			6.87E-03	
Selenium	7782-49-2	50	50	2.60E-01			5.20E-01	
Silver	7440-22-4	-	50	4.25E-01			8.50E-01	
Simazine	122-34-9	4	4	1.97E-03			3.94E-03	
Styrene	100-42-5	100	100	1.10E-01			2.20E-01	
Tertiary Butyl Alcohol (TBA)	75-65-0	-	12	2.45E-03			4.90E-03	
1,1,1,2-Tetrachloroethane	630-20-6	-	70	2.67E-02			5.33E-02	
1,1,2,2-Tetrachloroethane	79-34-5	-	0.2	7.80E-05			1.56E-04	
Tetrachloroethylene (PCE)	127-18-4	5	5	2.27E-03			4.54E-03	
Tetrahydrofuran	109-99-9	-	50	1.11E-02			2.22E-02	
Thallium	7440-28-0	2	2	1.42E-01			2.84E-01	
Toluene	108-88-3	1000	800	5.54E-01			1.11E+00	
Toxaphene	8001-35-2	3	3	4.64E-01			9.28E-01	
1,2,4-Trichlorobenzene	120-82-1	70	70	2.04E-01			4.08E-01	
1,1,1-Trichloroethane	71-55-6	200	200	7.01E-02			1.40E-01	
1,1,2-Trichloroethane	79-00-5	5	5	1.62E-03			3.24E-03	
Trichloroethylene (TCE)	79-01-6	5	5	1.79E-03			3.58E-03	
1,1,1,2,2,2-Hexachloroethane (HCHL)	93-72-1	50	50	2.75E-02			5.50E-02	
1,2,3-Trichloropropane	96-18-4	-	60	2.60E-02			5.20E-02	
Trifluralin	1582-09-8	-	7.5	2.48E-01			4.95E-01	
Triethylbenzenes (1,2,4- and 1,3,5- combined)	95-63-6 / 108-67-8	-	480	6.90E-01			1.38E+00	
Vanadium	7440-62-2	-	-	-			-	
Vinyl chloride	75-01-4	2	0.2	6.90E-05			1.38E-04	
Xylenes (m-, o-, p- combined)	1330-20-7	10000	2000	1.97E+00			3.94E+00	

Type BRRS No.
Here (If Known).
Assess groundwater
levels separately.

Residential setting. Not-To-Exceed D-C RCLs from web-calculator at: http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search (Chicago as climatic zone).
 = cancer; nc = non-cancer; Csat = soil saturation concentration; ceiling = 10%.

Basis: ca

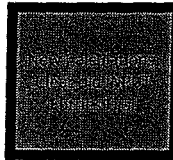
-----> If web-calculator result or Csat exceeds 10% by weight (the ceiling limit concentration defined in RSL Users Guide), Not-to-Exceed D-C RCL defaults to 100,000 ppm.

1. Enter data in yellow cells. Numeric only values under "INPUT Site Data." For ND, use detection limit. Do not type '-', 'NA' nor 'space bar.' Leave purple cells "as is."

2. After completing data entry, See Summary in Row 872.

Site Name:

Sample ID:



Comparison / Hazard Index / Cumulative Cancer Risk

Target CR used:
1.00E-06

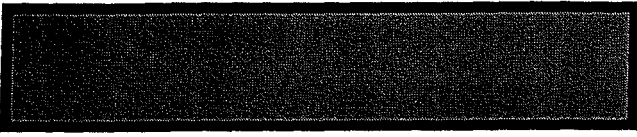
Contaminant	GAS Number	NC RCL (mg/kg)	C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	Basis	INPUT Site Data (mg/kg)	Flag E = Individual Exceedance?	Hazard Quotient (HQ) from Data	Cancer Risk (CR) from Data
Benzene	71-43-2	111	1.49	1.49	ca				
Ethylbenzene	100-41-4	4220	7.47	7.47	ca				
Toluene	108-88-3	5300	-	818	Csat				
Xylenes	1330-20-7	890	-	258	Csat				
Methyl tert-Butyl Ether (MTBE)	1634-04-4	23800	59.4	59.4	ca				
Dichloroethane, 1,2-	107-06-2	46.7	0.61	0.61	ca				
Dibromoethane, 1,2-	106-93-4	107	0.05	0.05	ca				
Trimethylbenzene, 1,2,4-	95-63-6	89.8	-	89.8	nc				
Trimethylbenzene, 1,3,5-	108-67-8	782	-	182	Csat				
Naphthalene	91-20-3	188	5.15	5.15	ca				
Benzo[a]pyrene	50-32-8	-	0.01	0.01	ca				
Acenaphthene	83-32-9	3440	-	3440	nc				
Anthracene	120-12-7	17200	-	17200	nc				
Benz[a]anthracene	56-55-3	-	0.15	0.15	ca				
Benzo[j]fluoranthene	205-82-3	-	0.38	0.38	ca				
Benzo[b]fluoranthene	205-99-2	-	0.15	0.15	ca				
Benzo[k]fluoranthene	207-08-9	-	1.48	1.48	ca				
Chrysene	218-01-9	-	14.8	14.8	ca				
Dibenz[a,h]anthracene	53-70-3	-	0.01	0.01	ca				
Dibenzo[a,e]pyrene	192-65-4	-	0.04	0.04	ca				
Dimethylbenz(a)anthracene, 7,12-	57-97-6	-	0	0	ca				
Fluoranthene	206-44-0	2290	-	2290	nc				
Fluorene	86-73-7	2290	-	2290	nc				
Indeno[1,2,3-cd]pyrene	193-39-5	-	0.15	0.15	ca				
Methylnaphthalene, 1-	90-12-0	4010	15.6	15.6	ca				
Methylnaphthalene, 2-	91-57-6	229	-	229	nc				
Nitropyrene, 4-	57835-92-4	-	0.38	0.38	ca				
Pyrene	129-00-0	1720	-	1720	nc				
Lead and Compounds	7439-92-1	400	-	400	nc				

03-14-563925

Exceedance Count / Hazard Index / Cumulative Cancer Risk: 0 0.00E+00 0.0E+00

To Pass, data must meet all these criteria: Exceedance HI ≤ Cumulative CR
 Count = 0 1.00E+00 ≤ 1e-05

Bottom-Line: Soil Data Entry Needed!



Site-specific

Resident Screening Levels (RSL) for Soil

ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL).

ca** (Where nc SL < 10 x ca SL), max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat,

Smax=Soil SL exceeds ceiling limit and has been substituted with the max value (see User's Guide),

Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF		Inhalation Unit		Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m ³)	Chronic RfC Ref
				(mg/kg-day) ⁻¹	SFO Ref	Risk (ug/m ³) ⁻¹	IUR Ref				
Benzene	71-43-2	No	Yes	5.50E-02	I	7.80E-06	I	4.00E-03	I	3.00E-02	I
Dibromoethane, 1,2-	106-93-4	No	Yes	2.00E+00	I	6.00E-04	I	9.00E-03	I	9.00E-03	I
Dichloroethane, 1,2-	107-06-2	No	Yes	9.10E-02	I	2.60E-05	I	6.00E-03	S	7.00E-03	P
Ethylbenzene	100-41-4	No	Yes	1.10E-02	C	2.50E-06	C	1.00E-01	I	1.00E+00	I
Lead and Compounds	7439-92-1	No	No	-	-	-	-	-	-	-	-
Methyl tert-Butyl Ether (MTBE)	1634-04-4	No	Yes	1.80E-03	C	2.60E-07	C	-	-	3.00E+00	I
Acenaphthene	83-32-9	No	Yes	-	-	-	-	6.00E-02	I	-	-
Anthracene	120-12-7	No	Yes	-	-	-	-	3.00E-01	I	-	-
Benz[a]anthracene	56-55-3	Yes	Yes	7.30E-01	W	1.10E-04	C	-	-	-	-
Benzo(j)fluoranthene	205-82-3	No	No	1.20E+00	C	1.10E-04	C	-	-	-	-
Benzo[a]pyrene	50-32-8	Yes	No	7.30E+00	I	1.10E-03	C	-	-	-	-
Benzo[b]fluoranthene	205-99-2	Yes	No	7.30E-01	W	1.10E-04	C	-	-	-	-
Benzo[k]fluoranthene	207-08-9	Yes	No	7.30E-02	W	1.10E-04	C	-	-	-	-
Chrysene	218-01-9	Yes	No	7.30E-03	W	1.10E-05	C	-	-	-	-
Dibenz[a,h]anthracene	53-70-3	Yes	No	7.30E+00	W	1.20E-03	C	-	-	-	-
Dibenzo(a,e)pyrene	192-65-4	No	No	1.20E+01	C	1.10E-03	C	-	-	-	-
Dimethylbenz(a)anthracene, 7,12-	57-97-6	Yes	No	2.50E+02	C	7.10E-02	C	-	-	-	-
Fluoranthene	206-44-0	No	No	-	-	-	-	4.00E-02	I	-	-
Fluorene	86-73-7	No	Yes	-	-	-	-	4.00E-02	I	-	-
Indeno[1,2,3-cd]pyrene	193-39-5	Yes	No	7.30E-01	W	1.10E-04	C	-	-	-	-
Methylnaphthalene, 1-	90-12-0	No	Yes	2.90E-02	P	-	-	7.00E-02	A	-	-
Methylnaphthalene, 2-	91-57-6	No	Yes	-	-	-	-	4.00E-03	I	-	-
Naphthalene	91-20-3	No	Yes	-	-	3.40E-05	C	2.00E-02	I	3.00E-03	I
Nitropyrene, 4-	57835-92-4	No	No	1.20E+00	C	1.10E-04	C	-	-	-	-
Pyrene	129-00-0	No	Yes	-	-	-	-	3.00E-02	I	-	-
Toluene	108-88-3	No	Yes	-	-	-	-	8.00E-02	I	5.00E+00	I
Trimethylbenzene, 1,2,4-	95-63-6	No	Yes	-	-	-	-	-	-	7.00E-03	P
Trimethylbenzene, 1,3,5-	108-67-8	No	Yes	-	-	-	-	1.00E-02	S	-	-
Xylenes	1330-20-7	No	Yes	-	-	-	-	2.00E-01	I	1.00E-01	I

Site-specific

Resident Screening Levels (RSL) for Soil

ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL).

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Ssat=Soil inhalation SL exceeds csat and has been substituted with the csat

Chemical	GIABS	ABS	RBA	Volatilization	Soil	Particulate	Ingestion	Dermal	Inhalation	Carcinogenic
				Factor	Saturation	Emission	SL	SL	SL	SL
				(m ³ /kg)	(mg/kg)	(m ³ /kg)	TR=1.0E-6	TR=1.0E-6	TR=1.0E-6	TR=1.0E-6
							(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Benzene	1	-	1	5.10E+03	1.82E+03	1.56E+09	1.26E+01	-	1.84E+00	1.60E+00
Dibromoethane, 1,2-	1	-	1	1.25E+04	1.34E+03	1.56E+09	3.48E-01	-	5.84E-02	5.00E-02
Dichloroethane, 1,2-	1	-	1	6.60E+03	2.98E+03	1.56E+09	7.64E+00	-	7.13E-01	6.52E-01
Ethylbenzene	1	-	1	8.18E+03	4.80E+02	1.56E+09	6.32E+01	-	9.19E+00	8.02E+00
Lead and Compounds	1	-	1	-	-	1.56E+09	-	-	-	-
Methyl tert-Butyl Ether (MTBE)	1	-	1	7.08E+03	8.87E+03	1.56E+09	3.86E+02	-	7.64E+01	6.38E+01
Acenaphthene	1	0.13	1	2.03E+05	-	1.56E+09	-	-	-	-
Anthracene	1	0.13	1	7.56E+05	-	1.56E+09	-	-	-	-
Benz[a]anthracene	1	0.13	1	6.37E+06	-	1.56E+09	2.10E-01	6.29E-01	5.85E+01	1.57E-01
Benzo(j)fluoranthene	1	0.13	1	-	-	1.56E+09	5.79E-01	1.58E+00	3.98E+04	4.24E-01
Benzo[a]pyrene	1	0.13	1	-	-	1.56E+09	2.10E-02	6.29E-02	1.44E+03	1.57E-02
Benzo[b]fluoranthene	1	0.13	1	-	-	1.56E+09	2.10E-01	6.29E-01	1.44E+04	1.57E-01
Benzo[k]fluoranthene	1	0.13	1	-	-	1.56E+09	2.10E+00	6.29E+00	1.44E+04	1.57E+00
Chrysene	1	0.13	1	-	-	1.56E+09	2.10E+01	6.29E+01	1.44E+05	1.57E+01
Dibenz[a,h]anthracene	1	0.13	1	-	-	1.56E+09	2.10E-02	6.29E-02	1.32E+03	1.57E-02
Dibenzo(a,e)pyrene	1	0.13	1	-	-	1.56E+09	5.79E-02	1.58E-01	3.98E+03	4.24E-02
Dimethylbenz(a)anthracene, 7,12-	1	0.13	1	-	-	1.56E+09	6.13E-04	1.84E-03	2.23E+01	4.59E-04
Fluoranthene	1	0.13	1	-	-	1.56E+09	-	-	-	-
Fluorene	1	0.13	1	4.06E+05	-	1.56E+09	-	-	-	-
Indeno[1,2,3-cd]pyrene	1	0.13	1	-	-	1.56E+09	2.10E-01	6.29E-01	1.44E+04	1.57E-01
Methylnaphthalene, 1-	1	0.13	1	8.46E+04	3.94E+02	1.56E+09	2.40E+01	6.55E+01	-	1.76E+01
Methylnaphthalene, 2-	1	0.13	1	8.37E+04	-	1.56E+09	-	-	-	-
Naphthalene	1	0.13	1	6.69E+04	-	1.56E+09	-	-	5.52E+00	5.52E+00
Nitropyrene, 4-	1	0.13	1	-	-	1.56E+09	5.79E-01	1.58E+00	3.98E+04	4.24E-01
Pyrene	1	0.13	1	3.43E+06	-	1.56E+09	-	-	-	-
Toluene	1	-	1	6.19E+03	8.18E+02	1.56E+09	-	-	-	-
Trimethylbenzene, 1,2,4-	1	-	1	1.14E+04	2.19E+02	1.56E+09	-	-	-	-
Trimethylbenzene, 1,3,5-	1	-	1	9.54E+03	1.82E+02	1.56E+09	-	-	-	-
Xylenes	1	-	1	8.28E+03	2.60E+02	1.56E+09	-	-	-	-

Site-specific

Resident Screening Levels (RSL) for Soil

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Chemical	Ingestion	Dermal	Inhalation	Noncarcinogenic	Ingestion	Dermal	Inhalation	Noncarcinogenic	Screening Level (mg/kg)
	SL	SL	SL	SL	SL	SL	SL	SL	
	Child THQ=1 (mg/kg)	Child THQ=1 (mg/kg)	Child THQ=1 (mg/kg)	Child THI=1 (mg/kg)	Adult THQ=1 (mg/kg)	Adult THQ=1 (mg/kg)	Adult THQ=1 (mg/kg)	Adult THI=1 (mg/kg)	
Benzene	3.13E+02	-	1.60E+02	1.06E+02	3.34E+03	-	1.60E+02	1.52E+02	1.60E+00 ca*
Dibromoethane, 1,2-	7.04E+02	-	1.17E+02	1.00E+02	7.51E+03	-	1.17E+02	1.15E+02	5.00E-02 ca
Dichloroethane, 1,2-	4.69E+02	-	4.82E+01	4.37E+01	5.01E+03	-	4.82E+01	4.77E+01	6.52E-01 ca*
Ethylbenzene	7.82E+03	-	8.53E+03	4.08E+03	8.34E+04	-	8.53E+03	7.74E+03	8.02E+00 ca
Lead and Compounds	-	-	-	-	-	-	-	-	4.00E+02 nc
Methyl tert-Butyl Ether (MTBE)	-	-	2.21E+04	2.21E+04	-	-	2.21E+04	2.21E+04	6.38E+01 ca
Acenaphthene	4.69E+03	1.52E+04	-	3.59E+03	5.01E+04	9.12E+04	-	3.23E+04	3.59E+03 nc
Anthracene	2.35E+04	7.61E+04	-	1.79E+04	2.50E+05	4.56E+05	-	1.62E+05	1.79E+04 nc
Benz[a]anthracene	-	-	-	-	-	-	-	-	1.57E-01 ca
Benzo[j]fluoranthene	-	-	-	-	-	-	-	-	4.24E-01 ca
Benzo[a]pyrene	-	-	-	-	-	-	-	-	1.57E-02 ca
Benzo[b]fluoranthene	-	-	-	-	-	-	-	-	1.57E-01 ca
Benzo[k]fluoranthene	-	-	-	-	-	-	-	-	1.57E+00 ca
Chrysene	-	-	-	-	-	-	-	-	1.57E+01 ca
Dibenz[a,h]anthracene	-	-	-	-	-	-	-	-	1.57E-02 ca
Dibenzo(a,e)pyrene	-	-	-	-	-	-	-	-	4.24E-02 ca
Dimethylbenz(a)anthracene, 7,12-	-	-	-	-	-	-	-	-	4.59E-04 ca
Fluoranthene	3.13E+03	1.01E+04	-	2.39E+03	3.34E+04	6.08E+04	-	2.15E+04	2.39E+03 nc
Fluorene	3.13E+03	1.01E+04	-	2.39E+03	3.34E+04	6.08E+04	-	2.15E+04	2.39E+03 nc
Indeno[1,2,3-cd]pyrene	-	-	-	-	-	-	-	-	1.57E-01 ca
Methylnaphthalene, 1-	5.48E+03	1.77E+04	-	4.18E+03	5.84E+04	1.06E+05	-	3.77E+04	1.76E+01 ca
Methylnaphthalene, 2-	3.13E+02	1.01E+03	-	2.39E+02	3.34E+03	6.08E+03	-	2.15E+03	2.39E+02 nc
Naphthalene	1.56E+03	5.07E+03	2.09E+02	1.78E+02	1.67E+04	3.04E+04	2.09E+02	2.05E+02	5.52E+00 ca*
Nitropyrene, 4-	-	-	-	-	-	-	-	-	4.24E-01 ca
Pyrene	2.35E+03	7.61E+03	-	1.79E+03	2.50E+04	4.56E+04	-	1.62E+04	1.79E+03 nc
Toluene	6.26E+03	-	3.23E+04	5.24E+03	6.67E+04	-	3.23E+04	2.18E+04	5.24E+03 sat
Trimethylbenzene, 1,2,4-	-	-	8.34E+01	8.34E+01	-	-	8.34E+01	8.34E+01	8.34E+01 nc
Trimethylbenzene, 1,3,5-	7.82E+02	-	-	7.82E+02	8.34E+03	-	-	8.34E+03	7.82E+02 sat
Xylenes	1.56E+04	-	8.64E+02	8.18E+02	1.67E+05	-	8.64E+02	8.59E+02	8.18E-02 sat

(22) "Wastewater and sludge storage or treatment lagoon" means a natural or man-made containment structure, constructed primarily of earthen materials for the treatment or storage of wastewater or sludge, which is not a land disposal system.

History: Cr. Register, September, 1985, No. 357, eff. 10-1-85; cr. (1m), am. (7), (17) and (18), Register, October, 1988, No. 394, eff. 11-1-88; am. (6), cr. (20h) and (20m), Register, March, 1994, No. 459, eff. 4-1-94; cr. (1s), (10e), (10s), (20k), r. and recr. (12), (13), Register, August, 1995, No. 476, eff. 9-1-95; cr. (14m), Register, October, 1996, No. 490, eff. 11-1-96; am. (20), Register, December, 1998, No. 516, eff. 1-1-99; correction in (9) made under s. 13.93 (2m) (b) 7., Stats., Register, April, 2001, No. 544; CR 02-134: cr. (1u), (1w), (1y) and (20s) Register June 2003 No. 570, eff. 7-1-03; correction in (20) made under s. 13.92 (4) (b) 6., Stats., Register January 2012 No. 673.

Subchapter II — Groundwater Quality Standards

NR 140.10 Public health related groundwater standards. The groundwater quality standards for substances of public health concern are listed in Table 1.

Note: For all substances that have carcinogenic, mutagenic or teratogenic properties or interactive effects, the preventive action limit is 10% of the enforcement standard. The preventive action limit is 20% of the enforcement standard for all other substances that are of public health concern. Enforcement standards and preventive action limits for additional substances will be added to Table 1 as recommendations are developed pursuant to ss. 160.07, 160.13 and 160.15, Stats.

Table 1
Public Health Groundwater Quality Standards

Substance ¹	Enforcement Standard (micrograms per liter – except as noted)	Preventive Action Limit (micrograms per liter – except as noted)
Acetochlor	7	0.7
Acetochlor ethane sulfonic acid + oxanilic acid (Acetochlor – ESA + OXA)	230	46
Acetone	9 mg/l	1.8 mg/l
Alachlor	2	0.2
Alachlor ethane sulfonic acid (Alachlor – ESA)	20	4
Aldicarb	10	2
Aluminum	200	40
Ammonia (as N)	9.7 mg/l	0.97 mg/l
Antimony	6	1.2
Anthracene	3000	600
Arsenic	10	1
Asbestos	7 million fibers per liter (MFL)	0.7 MFL
Atrazine, total chlorinated residues	3 ²	0.3 ²
Bacteria, Total Coliform	0 ³	0 ³
Barium	2 milligrams/liter (mg/l)	0.4 mg/l
Bentazon	300	60
Benzene	5	0.5
Benzo(b)fluoranthene	0.2	0.02
Benzo(a)pyrene	0.2	0.02
Beryllium	4	0.4
Boron	1000	200
Bromodichloromethane	0.6	0.06
Bromoform	4.4	0.44
Bromomethane	10	1
Butylate	400	80
Cadmium	5	0.5
Carbaryl	40	4
Carbofuran	40	8
Carbon disulfide	1000	200
Carbon tetrachloride	5	0.5
Chloramben	150	30
Chlordane	2	0.2
Chlorodifluoromethane	7 mg/l	0.7 mg/l
Chloroethane	400	80
Chloroform	6	0.6
Chlorpyrifos	2	0.4
Chloromethane	30	3
Chromium (total)	100	10
Chrysene	0.2	0.02

Table 1 – Continued
Public Health Groundwater Quality Standards

Substance ¹	Enforcement Standard (micrograms per liter – except as noted)	Preventive Action Limit (micrograms per liter – except as noted)
Cobalt	40	8
Copper	1300	130
Cyanazine	1	0.1
Cyanide, free ⁴	200	40
Dacthal	70	14
1,2-Dibromoethane (EDB)	0.05	0.005
Dibromochloromethane	60	6
1,2-Dibromo-3-chloropropane (DBCP)	0.2	0.02
Dibutyl phthalate	1000	100
Dicamba	300	60
1,2-Dichlorobenzene	600	60
1,3-Dichlorobenzene	600	120
1,4-Dichlorobenzene	75	15
Dichlorodifluoromethane	1000	200
1,1-Dichloroethane	850	85
1,2-Dichloroethane	5	0.5
1,1-Dichloroethylene	7	0.7
1,2-Dichloroethylene (cis)	70	7
1,2-Dichloroethylene (trans)	100	20
2,4-Dichlorophenoxyacetic Acid (2,4-D)	70	7
1,2-Dichloropropane	5	0.5
1,3-Dichloropropene (cis/trans)	0.4	0.04
Di (2-ethylhexyl) phthalate	6	0.6
Dimethenamid/Dimethenamid-P	50	5
Dimethoate	2	0.4
2,4-Dinitrotoluene	0.05	0.005
2,6-Dinitrotoluene	0.05	0.005
Dinitrotoluene, Total Residues ⁵	0.05	0.005
Dinoseb	7	1.4
1,4-Dioxane	3	0.3
Dioxin (2, 3, 7, 8-TCDD)	0.00003	0.000003
Endrin	2	0.4
EPTC	250	50
Ethylbenzene	700	140
Ethyl ether	1000	100
Ethylene glycol	14 mg/l	2.8 mg/l
Fluoranthene	400	80
Fluorene	400	80
Fluoride	4 mg/l	0.8 mg/l
Fluorotrichloromethane	3490	698
Formaldehyde	1000	100
Heptachlor	0.4	0.04
Heptachlor epoxide	0.2	0.02
Hexachlorobenzene	1	0.1
N-Hexane	600	120
Hydrogen sulfide	30	6
Lead	15	1.5
Lindane	0.2	0.02
Manganese	300	60
Mercury	2	0.2

Table 1 – Continued
Public Health Groundwater Quality Standards

Substance ¹	Enforcement Standard (micrograms per liter – except as noted)	Preventive Action Limit (micrograms per liter – except as noted)
Methanol	5000	1000
Methoxychlor	40	4
Methylene chloride	5	0.5
Methyl ethyl ketone (MEK)	4 mg/l	0.8 mg/l
Methyl isobutyl ketone (MIBK)	500	50
Methyl tert-butyl ether (MTBE)	60	12
Metolachlor/s-Metolachlor	100	10
Metolachlor ethane sulfonic acid + oxanilic acid (Metolachlor – ESA + OXA)	1.3 mg/l	0.26 mg/l
Metribuzin	70	14
Molybdenum	40	8
Monochlorobenzene	100	20
Naphthalene	100	10
Nickel	100	20
Nitrate (as N)	10 mg/l	2 mg/l
Nitrate + Nitrite (as N)	10 mg/l	2 mg/l
Nitrite (as N)	1 mg/l	0.2 mg/l
N-Nitrosodiphenylamine	7	0.7
Pentachlorophenol (PCP)	1	0.1
Perchlorate	1	0.1
Phenol	2 mg/l	0.4 mg/l
Picloram	500	100
Polychlorinated biphenyls (PCBs)	0.03	0.003
Prometon	100	20
Propazine	10	2
Pyrene	250	50
Pyridine	10	2
Selenium	50	10
Silver	50	10
Simazine	4	0.4
Styrene	100	10
Tertiary Butyl Alcohol (TBA)	12	1.2
1,1,1,2-Tetrachloroethane	70	7
1,1,2,2-Tetrachloroethane	0.2	0.02
Tetrachloroethylene	5	0.5
Tetrahydrofuran	50	10
Thallium	2	0.4
Toluene	800	160
Toxaphene	3	0.3
1,2,4-Trichlorobenzene	70	14
1,1,1-Trichloroethane	200	40
1,1,2-Trichloroethane	5	0.5
Trichloroethylene (TCE)	5	0.5
2,4,5-Trichlorophenoxy-propionic acid (2,4,5-TP)	50	5
1,2,3-Trichloropropane	60	12
Trifluralin	7.5	0.75
Trimethylbenzenes (1,2,4- and 1,3,5- combined)	480	96
Vanadium	30	6

Table 1 – Continued
Public Health Groundwater Quality Standards

Substance ¹	Enforcement Standard (micrograms per liter – except as noted)	Preventive Action Limit (micrograms per liter – except as noted)
Vinyl chloride	0.2	0.02
Xylene ⁶	2 mg/l	0.4 mg/l

¹ Appendix I contains Chemical Abstract Service (CAS) registry numbers, common synonyms and trade names for most substances listed in Table 1.

² Total chlorinated atrazine residues includes parent compound and the following metabolites of health concern: 2-chloro-4-amino-6-isopropylamino-*s*-triazine (formerly deethylatrazine), 2-chloro-4-amino-6-ethylamino-*s*-triazine (formerly deisopropylatrazine) and 2-chloro-4,6-diamino-*s*-triazine (formerly diaminoatrazine).

³ Total coliform bacteria may not be present in any 100 ml sample using either the membrane filter (MF) technique, the presence-absence (P-A) coliform test, the minimal medium ONPG-MUG (MMO-MUG) test or not present in any 10 ml portion of the 10-tube multiple tube fermentation (MTF) technique.

⁴ "Cyanide, free" refers to the simple cyanides (HCN, CN⁻) and/or readily dissociable metal-cyanide complexes. Free cyanide is regulatorily equivalent to cyanide quantified by approved analytical methods for "amenable cyanide" or "available cyanide".

⁵ Dinitrotoluene, Total Residues includes the dinitrotoluene (DNT) isomers: 2,3-DNT, 2,4-DNT, 2,5-DNT, 2,6-DNT, 3,4-DNT and 3,5-DNT.

⁶ Xylene includes meta-, ortho-, and para-xylene combined.

History: Cr. Register, September, 1985, No. 357, eff. 10-1-85; am. table 1, Register, October, 1988, No. 394, eff. 11-1-88; am. table 1, Register, September, 1990, No. 417, eff. 10-1-90; am. Register, January, 1992, No. 433, eff. 2-1-92; am. Table 1, Register, March, 1994, No. 459, eff. 4-1-94; am. Table 1, Register, August, 1995, No. 476, eff. 9-1-95; am. Table 1, Register, December, 1998, No. 516, eff. 1-1-99; am. Table 1, boron, Register, December, 1998, No. 516, eff. 12-31-99; am. Table 1, Register, March, 2000, No. 531, eff. 4-1-00; CR 03-063; am. Table 1, Register February 2004 No. 578, eff. 3-1-04; CR 02-095; am. Table 1, Register November 2006 No. 611, eff. 12-1-06; reprinted to correct errors in Table 1, Register January 2007 No. 613; CR 07-034; am. Table 1 Register January 2008 No. 625, eff. 2-1-08; CR 09-102; am. Table 1 Register December 2010 No. 660, eff. 1-1-11.

NR 140.12 Public welfare related groundwater standards. The groundwater quality standards for substances of public welfare concern are listed in Table 2.

Note: For each substance of public welfare concern, the preventive action limit is 50% of the established enforcement standard.

Table 2
Public Welfare Groundwater Quality Standards

Substance	Enforcement Standard (milligrams per liter – except as noted)	Preventive Action Limit (milligrams per liter – except as noted)
Chloride	250	125
Color	15 color units	7.5 color units
Foaming agents MBAS (Methylene-Blue Active Substances)	0.5	0.25
Iron	0.3	0.15
Manganese	0.05	0.025
Odor	3 (Threshold Odor No.)	1.5 (Threshold Odor No.)
Sulfate	250	125
Zinc	5	2.5

History: Cr. Register, September, 1985, No. 357, eff. 10-1-85; am. table 2, Register, October, 1990, No. 418, eff. 11-1-90; am. Table 2, Register, March, 1994, No. 459, eff. 4-1-94.

NR 140.14 Statistical procedures. (1) If a preventive action limit or an enforcement standard for a substance listed in Table 1 or 2, an alternative concentration limit issued in accordance with s. NR 140.28 or a preventive action limit for an indicator parameter established according to s. NR 140.20 (2) is attained or exceeded at a point of standards application:

(a) The owner or operator of the facility, practice or activity at which a standard is attained or exceeded shall notify the appropriate regulatory agency that a standard has been attained or exceeded; and

(b) The regulatory agency shall require a response in accordance with the rules promulgated under s. 160.21, Stats. No response shall be required if it is demonstrated to the satisfaction of the appropriate regulatory agency that a scientifically valid determination cannot be made that the preventive action limit or enforcement standard for a substance in Table 1 or 2 has been attained or exceeded based on consideration of sampling procedures or laboratory precision and accuracy, at a significance level of 0.05.

(2) The regulatory agency shall use one or more valid statistical procedures to determine if a change in the concentration of a substance has occurred. A significance level of 0.05 shall be used for all tests.

(3) In addition to sub. (2), the following applies when a preventive action limit or enforcement standard is equal to or less than the limit of quantitation:

(a) If a substance is not detected in a sample, the regulatory agency may not consider the preventive action limit or enforcement standard to have been attained or exceeded.

(b) If the preventive action limit or enforcement standard is less than the limit of detection, and the concentration of a substance is reported between the limit of detection and the limit of quantitation, the regulatory agency shall consider the preventive action limit or enforcement standard to be attained or exceeded only if:

1. The substance has been analytically confirmed to be present in the same sample using an equivalently sensitive analytical method or the same analytical method, and

2. The substance has been statistically confirmed to be present above the preventive action limit or enforcement standard, determined by an appropriate statistical test with sufficient samples at a significance level of 0.05.

(c) If the preventive action limit or enforcement standard is between the limit of detection and the limit of quantitation, the regulatory agency shall consider the preventive action limit or

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

APPENDIX E/PROJECT DOCUMENTS



Engel & Associates, Inc.

N4737 Hwy 175 S

Fond du Lac, WI 54937

Phone: 920-929-9279

Fax: 920-929-8754

RECEIVED

MAY 20 2015

DNR R & R
SOUTH CENTRAL REGION

Letter of Transmittal

May 18, 2015

To:

Wendy Meihemuller
Environmental Program Assistant
WDNR
3911 Fish Hatchery Road
Fitchburg, WI 53711

Wendy,

Regarding Pilsner Ford (Former) LUST Site, BRRTS # 03-14-530057, enclosed please find a copy of the Phase II Environmental Site Assessment (ESA) report completed in 2004. Per our discussion, I was not aware the DNR did not receive a copy of the report along with the notification of release. I also enclosed two photos of the sample site, as there is no map of the site in the Phase II ESA report.

Please provide me a copy of the Responsible Party Letter at your earliest convenience. Let me know if you need anything further.

Thank you,
Engel and Associates, Inc.


Ron Engel
Project Manager

Engel & Associates, Inc.

Geological & Environmental Consultants

May 25, 2004

Ms. Dianna Stephens
N5018 Arrowhead Court
Juneau, WI 53039

Re: Limited Phase II Site Assessment Results, Former UST Site
Former Pilsner Ford property, 207 West Street, Juneau, Wisconsin

Dear Ms. Stephens:

Presented herein are the results of a limited Phase II Environmental Site Assessment of a former underground storage tank (UST) system at the Former Pilsner Ford property, 207 West Street, Juneau, Wisconsin, referred to as "Project" and "Project Site", respectively. Per documentation filed with the Juneau Fire Department, a 1,000 gallon gasoline UST and dispenser, had been removed in December of 1988. The former tank and dispenser was located on the east side of the building under concrete surfacing. At the time of removal, a site assessment was not conducted. However, due to the pending sale of the property, a tank site assessment has been requested by you and the results are reported below.

On April 25, 2004, Engel & Associates, Inc. (Engel), mobilized to Project Site to conduct site assessment activities, including soil sample collection for laboratory analysis. Upon arrival to the site, Mr. George W. Pilsner, former owner of the property located the approximate location of the former UST and dispenser. Per Mr. Pilsners information; following the tank removal, the excavation had been backfilled to grade with sand and resurfaced with concrete. The Fire Department document did not indicate that any type of site assessment was conducted. The site was the former Pilsner Ford auto dealership, and remains automotive repair and service facility.

Engel conducted limited Phase II soil sampling to determine the potential for a release of petroleum contaminants from historic operations of the UST system, into the underlying subsurface soil and/or groundwater. Engel employed a trailer mounted auger rig and split spoon sampling procedures to collect soil samples from native soils within the approximate tank and dispenser areas. Soil samples were collected from native sediments for field characterization and headspace analysis. In addition, two (2) soil samples, SS-1 and SS-2, were collected from approximately four (4) feet below ground surface at the tank and dispenser sites, respectively, and prepared for laboratory analysis to confirm the presence or absence of petroleum contaminants.

Several soil samples, collected from each bore hole with a stainless steel soil sampler, were transferred to resealable polyethylene bags for conducting field headspace analyses. The bagged samples were exposed to a heated environment, out of direct sunlight, to promote volatilization of potential petroleum contaminants in the sample. The headspace of the bag was then qualitatively screened for the presence of ionizable organic compounds (IOCs) using a Mine Safety Appliances Company, Passport PID Organic Vapor Monitor photoionization detector (PID). PID readings are recorded in instrument units (IUs) based on an isobutylene gas standard. PID measurements ranged from zero (0) at the surface to 1,500 IUs approximately eight (8) feet below ground level, see attached Bore Logs. In addition, the deeper samples were stained and had moderate to strong petroleum (gasoline) odors. Headspace responses of this magnitude indicate a potential for gasoline contaminants to be present in the native soil sampled below the UST and dispenser.

To verify the field data, one (1) confirmatory soil sample from each bore hole was prepared for laboratory analysis of petroleum volatile organic compounds (PVOC) and naphthalene. A measured sample split taken from the soil sample with the highest PID reading was transferred to a laboratory provided glass container, preserving the sample with methanol and sealing the container. The sample was then clearly labeled, recorded on a chain of custody, and placed on ice for shipment to the laboratory.

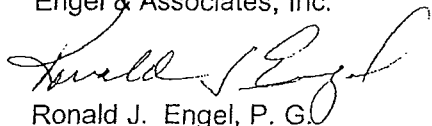
RESULTS AND ANALYSIS OF ASSESSMENT

The potential for gasoline contaminants to have been released from the former UST system was indicated from headspace analyses and physical indications such as petroleum staining, odors, etc., observed during the assessment. Laboratory analysis for PVOC plus naphthalene completed on the confirmatory samples, resulted in elevated concentrations of PVOCs and naphthalene, see attached table for concentrations and the standard limits of these contaminants in soil. A copy of the laboratory analytical report is attached. The WDNR enforcement index for gasoline range organics in soil is any detection above the laboratory method's of detection. Based on visual observations, field headspace analysis and the analytical result being extremely high in the soil around the former UST and dispenser, a release of petroleum contaminants has occurred and further assessment work is warranted at the site.

Based on the results of this assessment, it is required by State of Wisconsin that you and/or the holder of the Land Contract report the release of petroleum contaminants from a UST system to the Wisconsin Department of Natural Resources' Southern Region. The WDNR will require the owner of the property to conduct a site investigation to evaluate the degree and extent of petroleum impact to soil and/or groundwater, and determine the type of remedial action, if any, that may be required, under current regulations, Chapters NR 700 inclusive and COMM 47. It is important to properly register the formerly removed tank and include the letter from the City of Juneau Fire Department verifying tank removal with the Department of Commerce. The tank should be registered as a Commercial Marketer tank, as it was used for the resale of gasoline. Then, after the tank is registered the site should be eligible for cleanup assistance under the Petroleum Environmental Cleanup Fund (PECFA) reimbursement program.

Engel can assist you with registering the tank, and applying for participation in the PECFA program. If you have any questions about this assessment or how to proceed from this point, please do not hesitate to contact me at (920) 929-9279.

Sincerely,
Engel & Associates, Inc.



Ronald J. Engel, P. G.
Site Assessor #41838

Attachments

Table 1
WDOT - Tim's Alignment Service Property (417-01)
Soil Sample Field & Analytical Data - DRO, PVOC + Naphthalene

Sample ID	Date	Percent Solids	Sample Depth	PID Reading	GRO	Analytical Parameter							
						1,2,4-TMB	1,3,5-TMB	Benzene	Ethylbenzene	MTBE	Naphthalene	Toluene	Xylenes
SS-1	04/25/04	86	11'	1500	NS	290,000	98,000	20,000	140,000	30,000	59,000	310,000	670,000
SS-2	04/25/04	81.4	7.5'	740	NS	200,000	69,000	5,800	65,000	8,700	36,000	96,000	334,000
NR 720 Residual Contaminant Levels (RCLs)					250	NA	NA	5.5	2,900	NA	NA	1,500	4,100
NR 746 Soil Screening Levels (SSLs)					NA	8,300	11,000	8,500	4,600	NA	2,700	38,000	42,000
NR 746 Direct Contact Levels (DCLs)					NA	NA	NA	1,100	NA	NA	NA	NA	NA

Explanation:

- Results for GRO and lead reported in mg/kg (ppm), remainder of parameters reported in ug/kg (ppb).
- Xylenes reported as total of o-, p-, and m-xylenes
- NS: Not sampled for this parameter
- NA: Not applicable as there is currently no standard established for this parameter
- Bold indicates exceedance of SSLs:

Generic RCLs from ch. NR 720, Wis. Adm. Code and WDNR guidance document Pub # RR-519-97 titled;
 Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance (April 1997)

Route To: Watershed/Wastewater Waste Management
 Remediation/Revelpment Other

Page _____ of _____

Facility/Project Name Stephens Property			License/Permit/Monitoring Number		Boring Number SB-1
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: _____ Last Name: _____			Date Drilling Started 04/25/2004 m m d d y y y y	Date Drilling Completed 04/25/2004 m m d d y y y y	Drilling Method S. S. Augars
WT Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 3 inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane _____ N, _____ E S/C/N			Lat 43° 24' 30.2"	Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of _____ 1/4 of Section _____, T _____ N, R _____ E/W			Long 88° 42' 17.1"	Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W _____	
Facility ID		County Dodge	County Code 14	Civil Town/City/ or Village Juneau	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					ROD/ Comments	
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			0	6" concrete gravel base											
			2	Br silty CLAY				0		M					
			4												
			6					1200							
			8	Br SANDY silt Some (M-C) gravel											
			10												
			12	E.O.R. 12'				1500		M					LAB 360

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

Signature: *Arnold Engel* Firm: ENGEL Associates, INC

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

Route To: Watershed/Wastewater Waste Management
Remediation/Revelopment Other

Page _____ of _____

Facility/Project Name Stephens Property			License/Permit/Monitoring Number		Boring Number SB-2
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: _____ Last Name: _____ Firm: _____			Date Drilling Started 04/25/2004 m m d d y y y y	Date Drilling Completed 04/25/2004 m m d d y y y y	Drilling Method S. S. Augars
WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level _____ Feet MSL	Surface Elevation _____ Feet MSL	Borehole Diameter 3 inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane _____ N, _____ E S/C/N			Lat 43° 24' 30.2"	Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of _____ 1/4 of Section _____, T _____ N, R _____ E/W			Long 88° 42' 17.1"	Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W _____	
Facility ID		County Dodge	County Code 14	Civil Town/City/ or Village Juneau	

Sample Number and Type	Length Alt. & Recovered (ft)	Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/UID	Soil Properties					RQD/ Comments		
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200			
			0	6" concrete gravel base												
			2	Br silty clay				6								
			4													
			6													
			8	Br SANDY silt				740								
			8'	E.O. Br 8'												LAB BRO
			10													
			12													

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

Signature *Kenneth J. Engel* Firm *ENGE & Associates, Inc*

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



Corporate Office & Laboratory
1241 Bellevue Street, Suite 9, Green Bay, WI 54302
920-469-2436, Fax: 920-469-8827
www.enchem.com

Analytical Report Number: 846009

Client: ENGEL & ASSOCIATES

Lab Contact: Eric Bullock

Project Name: STEPHEN'S PROPERTY

Project Number: 437-01

RECEIVED
MAY 10 2004

Lab Sample Number	Field ID	Matrix	Collection Date
846009-001	SB-1	SOIL	04/25/04
846009-002	SB-2	SOIL	04/25/04
846009-003	TRIP BLANK	METH	04/25/04

BY:.....

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 comments. Release of this final report is authorized by Laboratory management, as is verified by the following signature. Reported results shall not be reproduced, except in full, without the written approval of the lab. The sample results relate only to the analytes of interest tested.

Approval Signature

5/5/04

Date

En Chem Inc.

Analytical Report Number: 846009

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

Client : ENGEL & ASSOCIATES
Project Name : STEPHEN'S PROPERTY
Project Number : 437-01
Field ID : SB-1

Matrix Type : SOIL
Collection Date : 04/25/04
Report Date : 05/03/04
Lab Sample Number : 846009-001

INORGANICS

Test	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
Percent Solids	86.0				1	%		04/29/04	SM 2540G M	SM 2540G M

PVOC + NAPHTHALENE

Prep Date: 04/29/04

Analyte	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
1,2,4-Trimethylbenzene	290000	2300	5600		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
1,3,5-Trimethylbenzene	98000	2300	5600		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Benzene	20000	2300	5600		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Ethylbenzene	140000	2300	5600		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Methyl-tert-butyl-ether	30000	2300	5600		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Naphthalene	59000	2300	5600		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Toluene	310000	2300	5600		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Xylene, o	190000	2300	5600		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Xylenes, m + p	480000	4700	11000		4000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
a,a,a-Trifluorotoluene	103				1	%Recov		04/30/04	SW846 5030B	SW846 M8021

En Chem Inc.

Analytical Report Number: 846009

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

Client : ENGEL & ASSOCIATES
Project Name : STEPHEN'S PROPERTY
Project Number : 437-01
Field ID : SB-2

Matrix Type : SOIL
Collection Date : 04/25/04
Report Date : 05/03/04
Lab Sample Number : 846009-002

INORGANICS

Test	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
Percent Solids	81.4				1	%		04/29/04	SM 2540G M	SM 2540G M

PVOC + NAPHTHALENE

Prep Date: 04/29/04

Analyte	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
1,2,4-Trimethylbenzene	20000	1300	3000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
1,3,5-Trimethylbenzene	69000	1300	3000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Benzene	5800	1300	3000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Ethylbenzene	65000	1300	3000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Methyl-tert-butyl-ether	8700	1300	3000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Naphthalene	36000	1300	3000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Toluene	96000	1300	3000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Xylene, o	94000	1300	3000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
Xylenes, m + p	240000	2500	6000		2000	ug/kg		04/30/04	SW846 5030B	SW846 M8021
a,a,a-Trifluorotoluene	110				1	%Recov		04/30/04	SW846 5030B	SW846 M8021

En Chem Inc.

Analytical Report Number: 846009

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

Client : ENGEL & ASSOCIATES
Project Name : STEPHEN'S PROPERTY
Project Number : 437-01
Field ID : TRIP BLANK

Matrix Type : METHANOL
Collection Date : 04/25/04
Report Date : 05/03/04
Lab Sample Number : 846009-003

PVOC + NAPHTHALENE

Prep Date: 04/29/04

Analyte	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
1,2,4-Trimethylbenzene	< 25	25	60		50	ug/L		04/30/04	SW846 5030B	SW846 M8021
1,3,5-Trimethylbenzene	< 25	25	60		50	ug/L		04/30/04	SW846 5030B	SW846 M8021
Benzene	< 25	25	60		50	ug/L		04/30/04	SW846 5030B	SW846 M8021
Ethylbenzene	< 25	25	60		50	ug/L		04/30/04	SW846 5030B	SW846 M8021
Methyl-tert-butyl-ether	< 25	25	60		50	ug/L		04/30/04	SW846 5030B	SW846 M8021
Naphthalene	< 25	25	60		50	ug/L		04/30/04	SW846 5030B	SW846 M8021
Toluene	29	25	60		50	ug/L	Q	04/30/04	SW846 5030B	SW846 M8021
Xylene, o	< 25	25	60		50	ug/L		04/30/04	SW846 5030B	SW846 M8021
Xylenes, m + p	< 25	25	60		50	ug/L		04/30/04	SW846 5030B	SW846 M8021
a,a,a-Trifluorotoluene	104				1	%Recov		04/30/04	SW846 5030B	SW846 M8021

En Chem Inc.

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436
Fax: 920-469-8827

Lab Number	TestGroupID	Field ID	Comment
846009-003	PVOCNAP-M	TRIP BLANK	Hit of Toluene confirmed by a second analysis on 5/3/04.

Qualifier Codes

Flag	Applies To	Explanation
A	Inorganic	Analyte is detected in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
B	Inorganic	The analyte has been detected between the method detection limit and the reporting limit.
B	Organic	Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
C	All	Elevated detection limit.
D	All	Analyte value from diluted analysis or surrogate result not applicable due to sample dilution.
E	Inorganic	Estimated concentration due to matrix interferences. During the metals analysis the serial dilution failed to meet the established control limits of 0-10%. The sample concentration is greater than 50 times the IDL for analysis done on the ICP or 100 times the IDL for analysis done on the ICP-MS. The result was flagged with the E qualifier to indicate that a physical interference was observed.
E	Organic	Analyte concentration exceeds calibration range.
F	Inorganic	Due to potential interferences for this analysis by Inductively Coupled Plasma techniques (SW-846 Method 6010), this analyte has been confirmed by and reported from an alternate method.
F	Organic	Surrogate results outside control criteria.
H	All	Preservation, extraction or analysis performed past holding time.
HF	Inorganic	This test is considered a field parameter, and the recommended holding time is 15 minutes from collection. The analysis was performed in the laboratory beyond the recommended holding time.
J	Inorganic	The analyte has been detected between the method detection limit and the reporting limit.
J	Organic	Concentration detected is greater than the method detection limit but less than the reporting limit.
K	Inorganic	Sample received unpreserved. Sample was either preserved at the time of receipt or at the time of sample preparation.
K	Organic	Detection limit may be elevated due to the presence of an unrequested analyte.
L	All	Elevated detection limit due to low sample volume.
M	Organic	Sample pH was greater than 2
N	All	Spiked sample recovery not within control limits.
O	Organic	Sample received overweight.
P	Organic	The relative percent difference between the two columns for detected concentrations was greater than 40%.
Q	All	The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
S	Organic	The relative percent difference between quantitation and confirmation columns exceeds internal quality control criteria. Because the result is unconfirmed, it has been reported as a non-detect with an elevated detection limit.
U	All	The analyte was not detected at or above the reporting limit.
V	All	Sample received with headspace.
W	All	A second aliquot of sample was analyzed from a container with headspace.
X	All	See Sample Narrative.
&	All	Laboratory Control Spike recovery not within control limits.
*	All	Precision not within control limits.
<	All	The analyte was not detected at or above the reporting limit.
1	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses passed QC based on precision criteria.
2	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses failed QC based on precision criteria.
3	Inorganic	BOD result is estimated due to the BOD blank exceeding the allowable oxygen depletion.
4	Inorganic	BOD duplicate precision not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
5	Inorganic	BOD result is estimated due to insufficient oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
6	Inorganic	BOD laboratory control sample not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
7	Inorganic	BOD result is estimated due to complete oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.

En Chem Inc.

Analysis Summary by Laboratory

1241 Bellevue Street
Green Bay, WI 54302

1090 Kennedy Avenue
Kimberly, WI 54136

Test Group Name	846009-001	846009-002	846009-003
PERCENT SOLIDS	G	G	
PVOC + NAPHTHALENE	G	G	G

Wisconsin Certification	
G = En Chem Green Bay	405132750 / DATCP: 105 000444
K = En Chem Kimberly	445134030
S = En Chem Superior	Not Applicable
C = Subcontracted Analysis	

En Chem, Inc. Cooler Receipt Log

Batch No. 846009

Project Name or ID Stephen's Property

No. of Coolers: 1 Temps: ROI

A. Receipt Phase: Date cooler was opened: 4/22/04 By: KP

- 1: Were samples received on ice? (Must be ≤ 6 C)..... YES NO² NA
- 2: Was there a Temperature Blank?..... YES NO
- 3: Were custody seals present and intact on cooler? (Record on COC)..... YES NO
- 4: Are COC documents present?..... YES NO²
- 5: Does this Project require quick turn around analysis?..... YES NO
- 6: Is there any sub-work?..... YES NO
- 7: Are there any short hold time tests?..... YES NO
- 8: Are any samples nearing expiration of hold-time? (Within 2 days)..... YES¹ NO Contacted by/Who _____
- 9: Do any samples need to be Filtered or Preserved in the lab?..... YES¹ NO Contacted by/Who _____

B. Check-in Phase: Date samples were Checked-in: 4/28/04 By: KP

- 1: Were all sample containers listed on the COC received and intact?..... YES NO² NA
- 2: Sign the COC as received by En Chem. Completed..... YES NO
- 3: Do sample labels match the COC? YES NO²
- 4: Completed pH check on preserved samples..... YES NO NA
(This statement does not apply to water: VOC, O&G, TOC, DRO, Total Rec. Phenolics)
- 5: Do samples have correct chemical preservation?..... YES NO² NA
(This statement does not apply to water: VOC, O&G, TOC, DRO, Total Rec. Phenolics)
- 6: Are dissolved parameters field filtered?..... YES NO² NA
- 7: Are sample volumes adequate for tests requested? YES NO²
- 8: Are VOC samples free of bubbles >6mm YES NO² NA
- 9: Enter samples into logbook. Completed..... YES NO
- 10: Place laboratory sample number on all containers and COC. Completed..... YES NO
- 11: Complete Laboratory Tracking Sheet (LTS). Completed..... YES NO NA
- 12: Start Nonconformance form. YES NO NA
- 13: Initiate Subcontracting procedure. Completed..... YES NO NA
- 14: Check laboratory sample number on all containers and COC. KS YES NO NA

Short Hold-time tests:

24 Hours or less	48 Hours	7 days	Footnotes
Coliform	BOD	Ash	1 Notify proper lab group immediately.
Corrosivity = pH	Color	Aqueous Extractable Organics- ALL	2 Complete nonconformance memo.
Dissolved Oxygen	Nitrite or Nitrate	Flashpoint	
Hexavalent Chromium	Ortho Phosphorus	Free Liquids	
HPC	Surfactants	Sulfide	
Ferrous Iron	Turbidity	TDS	
Eh	En Core Preservation	TSS	
Odor	Power stop preservation	Total Solids	
Residual Chlorine		TVS	
Sulfite		TVSS	
		Unpreserved VOC's	

Rev. 2/05/04, Attachment to 1-REC-5.
Subject to QA Audit.

Reviewed by/date SB5/3/04

Photos Pilsner Ford (Fmr)



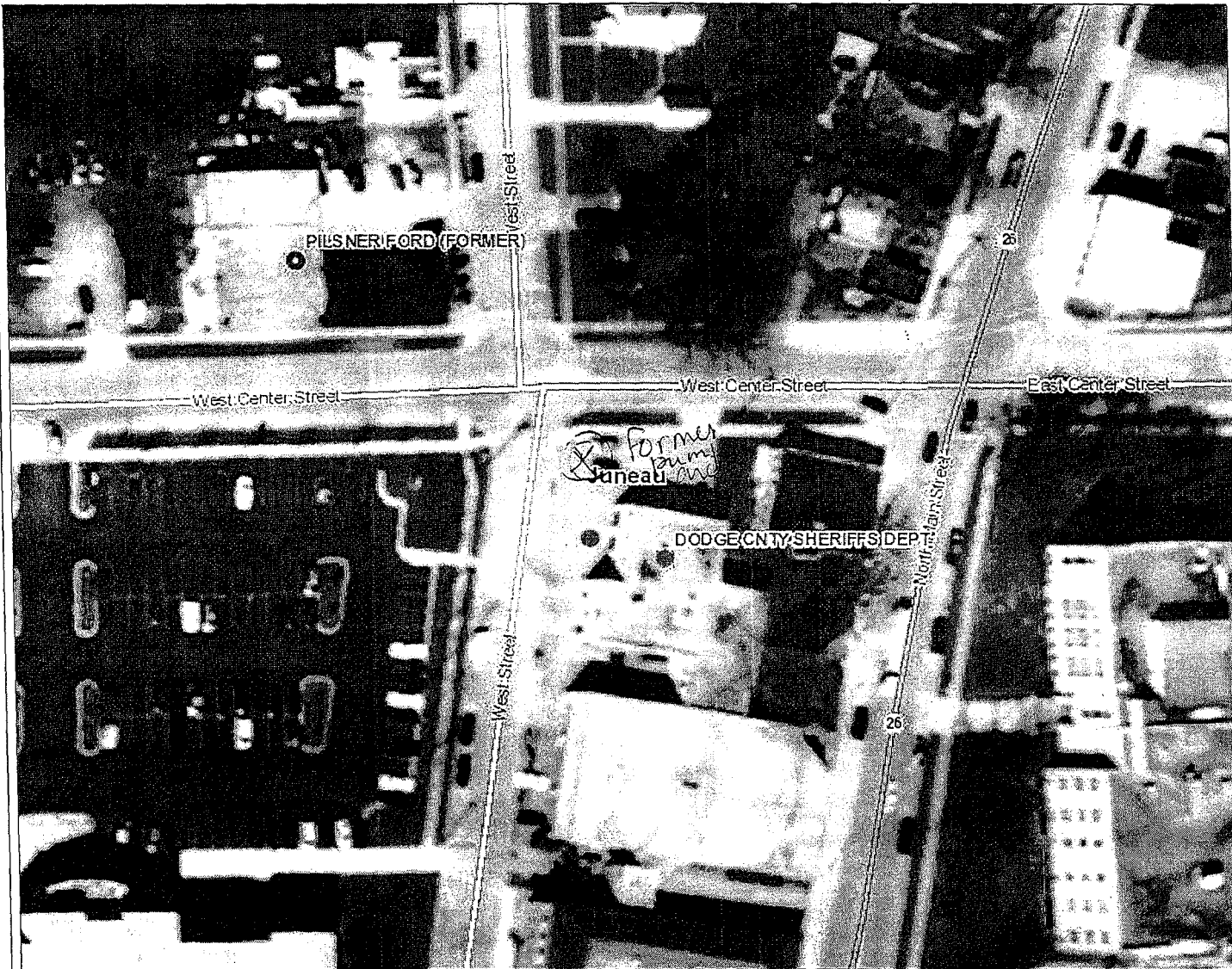
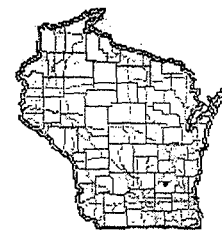
View of Building Front (East Side)



View of Bore hole Locations



former gas str.



Legend

- Open Site (ongoing cleanup)
- ▣ Open Site Boundary
- Closed Site (completed cleanup)
- ▣ Closed Site Boundary
- Groundwater Contamination
- Soil Contamination
- ⊗ Groundwater and Soil Contamination
- Contamination from Another Property
- 📍 Dryclean Environmental Response Fund (DERF)
- 📍 Green Space Grant (2004-2009)
- 📍 Ready for Reuse
- 📍 Site Assessment Grant (2001-2009)
- 📍 State Funded Response
- 📍 Sustainable Urban Development Zone (S)
- ▼ General Liability Clarification Letters
- ▼ Superfund NPL
- ▼ Voluntary Party Liability Exemption
- Rivers and Streams
- Open Water
- Municipality
- ▭ State Boundaries
- ▭ County Boundaries
- Major Roads
 - Interstate Highway
 - State Highway
 - US Highway

0.0 0 0.02 0.0 Miles

NAD_1983_HARN_Wisconsin_TM

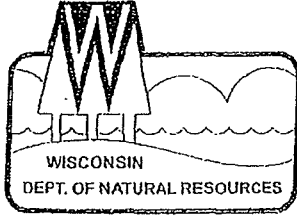
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Note: Not all sites are mapped.

Notes



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott Walker, Governor
Cathy Stepp, Secretary

South Central Region Headquarters
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711-5397
Telephone 608-275-3266
FAX 608-275-3338
TDD 608-275-3231

June 11, 2015

Dianna Williams
207 West Street
Juneau WI 53039

Eileen Pilsner
291 West Street
Juneau WI 53039

Subject: Reported Contamination at Pilsner Ford (Former) located at 207 West St.
In Juneau WI
DNR BRRTS Activity # 03-14-530057

Dear Ms. Williams and Ms. Pilsner:

On August 9, 2004 Ron Engel representing Engel and Associates on behalf of Dianna Stephens notified the Department of Natural Resources (DNR) that petroleum contamination had been detected at the site described above. On May 20, 2015 the Department received lab results from Engel and Associates confirming soil contamination.

Based on the information that has been submitted to the DNR regarding this site, we believe you are responsible for investigating and restoring the environment at the above-described site under Section 292.11, Wisconsin Statutes, known as the hazardous substances spills law.

This letter describes the legal responsibilities of a person who is responsible under section 292.11, Wis. Stats., explains what you need to do to investigate and clean up the contamination, and provides you with information about cleanups, environmental consultants, possible financial assistance, and working cooperatively with the DNR or the Department of Agriculture, Trade and Consumer Protection (DATCP).

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 Code chapters NR 700 through NR 754 establish requirements for



*Quality Natural Resources Management
Through Excellent Customer Service*



emergency and interim actions, public information, site investigations, design and operation of remedial action systems, and case closure. Wisconsin Administrative Code chapter NR 140 establishes groundwater standards for contaminants that reach groundwater.

Steps to Take:

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. The following information provides the timeframes and required steps to take. Unless otherwise approved by DNR in writing you must complete the work by the timeframes specified.

1. Within the next **30 days** you should submit written verification (such as a letter from the consultant) that you have hired an environmental consultant. If you do not take action within this time frame, the DNR may initiate enforcement action against you.
2. Within **60 days** you must submit a work plan for completing the investigation. The work plan must comply with the requirements in the NR 700 Wis. Adm. Code rule series and should adhere to current DNR technical guidance documents.
3. You must initiate the site investigation within 90 days of submitting the site investigation work plan. If a fee for DNR review has been submitted, the site investigation must begin within 60 days after receiving DNR comments.
4. Within 60 days after completion of the field investigation and receipt of the laboratory data, you must submit a *Site Investigation Report to the DNR or other agency with administrative authority*. For sites with agrichemicals contamination, your case will be transferred to the Department of Agriculture, Trade and Consumer Protection for oversight.
5. Within 60 days after submitting the Site Investigation Report, you must submit a remedial actions options report.

Sites where discharges to the environment have been reported are entered into the Bureau for Remediation and Redevelopment Tracking System ("BRRTS"), a version of which appears on the DNR's internet site. You may view the information related to your site at any time (<http://dnr.wi.gov/botw/SetUpBasicSearchForm.do>) and use the feedback system to alert us to any errors in the data.

If you want a formal written response from the department on a specific submittal, please be aware that a review fee is required in accordance with ch. NR 749, Wis. Adm. Code. If a fee is not submitted with your reports, you must complete the site investigation and cleanup to maintain your compliance with the spills law and chapters NR 700 through NR754. **The timeframes specified above are required by rule, so do not delay the investigation of your site.** We have provided detailed technical guidance to environmental consultants. Your consultant is expected to know our technical procedures and administrative rules and should be able to answer your questions on meeting cleanup requirements.

All correspondence regarding this site should be sent to:

Denise Nettesheim
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg WI 53711

Unless otherwise directed, submit one paper copy and one electronic copy of plans and reports. To speed processing, correspondence should reference the BRRTS and FID numbers (if assigned) shown at the top of this letter.

Site Investigation and Vapor Pathway Analysis

As you develop the site investigation work plan, we want to remind you to include an assessment of the vapor intrusion pathway. Chapter NR 716, Wisconsin Administrative Code outlines the requirements for investigation of contamination in the environment. Specifically, s. NR 716.11(3)(a) requires that the field investigation determine the "nature, degree and extent, both areal and vertical, of the hazardous substances or environmental pollution in all affected media". In addition, section NR 716.11(5) (g) and (h) contains the specific requirements for evaluating the presence of vapors in the sub-surface as well as in indoor air.

You will need to include documentation with the Site Investigation Report that explains how the assessment was done. If the vapor pathway is being ruled out, then the report needs to provide the appropriate justification for reaching this conclusion. If the pathway cannot be ruled out, then investigation and, if appropriate, remedial action must be taken to address the risk presented prior to submitting the site for closure. The DNR has developed guidance to help responsible parties and their consultants comply with the requirements described above. The guidance includes a detailed explanation of how to assess the vapor intrusion pathway and provides criteria which identify when an investigation is necessary. The guidance is available at: <http://dnr.wi.gov/files/PDF/pubs/rr/RR800.pdf>.

Additional Information for Site Owners

We encourage you to visit our website at <http://dnr.wi.gov/topic/Brownfields/>, where you can find information on selecting a consultant, financial assistance and understanding the cleanup process. You will also find information there about liability clarification letters, post-cleanup liability and more.

If you have questions, call Denise Nettlesheim at (608) 275-3209 for more information or visit the RR web site at the address above.

Thank you for your cooperation.

Sincerely,



Wendy Weikemuller
Environmental Program Associate
Remediation & Redevelopment Program

Enclosures:

1. Selecting a Consultant – RR-502
<http://dnr.wi.gov/files/PDF/pubs/rr/RR502.pdf>

Environmental Services Contractor List – RR-024
<http://dnr.wi.gov/files/PDF/pubs/rr/RR024.pdf>

Petroleum Environmental Cleanup Fund Award, Information about PECFA
Reimbursement, DNR Publication RR-942
<http://dnr.wi.gov/topic/brownfields/pecfa.html>

cc: Ron Engel Engel and Associates N4737 Hwy. 175 S. Fond du Lac WI 54937
File copy

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

APPENDIX F/HEALTH AND SAFETY PLAN

**Site Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Safety Plan Information

Company Name: METCO

Contact Information: Jason Powell
709 Gillette Street, Suite 3
La Crosse, WI 54603
(608) 781-8879

Site Information

METCO Project #: C2596

Site Name: Pilsner Ford
Site address: 207 West Street
Juneau, WI 53039
County: Dodge

WDNR Contact: Patrick Dowd
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3339

WDNR BRRTS Case #: 03-14-530057

Purpose of Activity (Check all that apply)

Petroleum Release Investigation	<input checked="" type="checkbox"/>
Ag Chemical Release Investigation	<input type="checkbox"/>
Install Soil Borings/Monitoring Wells	<input checked="" type="checkbox"/>
Tank/Piping Removal	<input type="checkbox"/>
Tank/Piping Closure Assessment	<input type="checkbox"/>
Phase 1/Phase 2 Environmental Site Assessment	<input type="checkbox"/>
Install Remedial System	<input type="checkbox"/>
Other	<input type="checkbox"/>

**Site Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Tank Information

Tank Size (Gallons)	Contents	Age
1,000	Gasoline	Removed (1988)

Potential Health and Safety Hazards (Check all that apply)

Handling/Transfer of Product (Fire, Explosions)	<input type="checkbox"/>
General Construction (Electrical Hazards, Physical Injury)	<input checked="" type="checkbox"/>
Confined Space Entry (Explosions)	<input type="checkbox"/>
Heavy Equipment	<input checked="" type="checkbox"/>
Noise	<input checked="" type="checkbox"/>
Underground and Overhead Utilities	<input checked="" type="checkbox"/>
Site Traffic	<input checked="" type="checkbox"/>
Oxygen Depletion	<input type="checkbox"/>
Excavation (Cave Ins, Falls, Slips)	<input type="checkbox"/>
Poisonous Plants	<input type="checkbox"/>
Snakes, Insects, Rodents	<input type="checkbox"/>
Heat, Cold	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>

Evaluation of Chemical Hazards

Name	Physical State	Route of Entry	TWA/STEL	Symptoms of Exposure
Gasoline	Vapor/Liquid	Inhalation/Skin	300/500 ppm	Irritation, Nausea, Vomiting, Dizziness, Unconsciousness

On-Site Personnel Responsibilities

	<u>Team Member</u>	<u>Responsibility</u>
1.	Ron Anderson	Senior Project Manager
2.	Jason Powell	Site Project Manager
3.	Eric Dahl	Hydrogeologist
4.	Jon Jensen	Staff Scientist
5.	Matt Michalski	Hydrogeologist
6.	Bryce Kujawa	Hydrogeologist

**Site Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Method to Control Potential Health and Safety Hazards

Monitoring Instruments

Photoionization Detector (PID)	X
Flame Ionization Detector (FID)	
Combustible Gas Indicator	
Four Gas Meter	
Detector Tubes	

Action Levels

0-10% LEL (No Explosion Hazard)

Oxygen Deficient (Less Than 21%)

Oxygen Deficient (Less Than 19%)

Action

None

Notify Health & Safety Officer

Evacuate

Personal Protective Equipment

Minimum Requirements:

1. Hardhat
2. Safety Glasses/Goggles
3. Steel Toe Shoes or Boots
4. Flame Retardant Coveralls
5. Hearing Protection (Muffs or Ear Plugs)

Is additional PPE required? No

Additional Requirements

Uncoated Tyvek Coveralls	
Saranex Tyvek Coveralls	
Rubber Boots	
Overboots	
Surgical Inner Gloves	
Butyl Neoprine/Nitrile Outer Gloves	
Full Face Respirators	
Type of Cartridge:	
SCBA/SAR	
Other	

Level of Protection Designated: D

**Site Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Site Control

Work Zones

Support Zone: Beyond a 25 foot radius of drilling or excavation and upwind of operation.
Contamination Reduction Zone: Between 15 and 25 foot radius of drilling or excavation.
Exclusion Zone: Within 15 foot radius of drilling or excavation.

Site Entry Procedure: Obtain all approval and instructions from project manager.

Decontamination Procedures:

Personnel: Remove protective equipment and wash hands prior to eating.
Equipment: Wash with brush and Alconox soap, rinse with fresh tap water.

Investigation Derived Material Disposal:

Stockpiling: The soils will be placed on and covered with plastic. The client will determine the stockpile location, but will have to be approved by the project manager. Soils will be disposed of by the most efficient and cost effective approved method.

DOT drums: Label drums as to content and date filled. Routinely inspect drums for leakage or spills. Place together in area where movement is at minimum.

Work Limitations: Daylight hours. No eating, drinking, or smoking in the exclusion zone or contamination reduction zone.

Employee Limitations:

Site Resources:

Shower	<input type="checkbox"/>
Water Supply	<input checked="" type="checkbox"/>

Contingency Planning

<u>Emergency Contacts</u>	<u>Phone Number</u>
Ambulance: Juneau	911
Hospital Emergency Room: Beaver Dam Community Hospital	(920) 887-7181
Poison Control Center: Milwaukee	(800) 222-1222
Police: Juneau	911
Fire Department: Juneau	911
Hazardous Waste Response Center: Wisconsin	(800) 943-0003
EPA	(800) 424-8802

Location Address: 207 West Street, Juneau, WI 53039

Site Investigation Field Procedures Workplan - METCO Pilsner Ford (Former)

Hospital: Beaver Dam Community Hospital
707 South University Avenue
Beaver Dam, WI 53916
(920) 887-7181

Emergency Route:

1. Head **north** on **West St** toward **W North St** 0.1 mi
Turn **left** onto **County Rd W/W North St**
2. Continue to follow County Rd W 7.4 mi
Destination will be on the right

Emergency Procedures:

If an emergency develops at the site, the discoverer will take the following course of action:

- Notify the proper emergency service (fire, police, etc.) for assistance.
- Notify other personnel on the site. Notify project manager.
- Contact METCO and the client representative to inform them of the incident as soon as possible.
- Prepare a summary report of the incident for METCO and the client representative.

On-Site Organization

Phone Numbers

METCO Project Manager: Jason Powell	work (608) 781-8879
	cell (608) 385-1467
METCO Safety Officer: Brian Hora	work (800) 236-0448
	cell (608) 604-2933
METCO Corporate Contact: Paul Knower	work (800) 236-0448
	cell (608) 604-2931
Client Contact: Dianna Williams	(920) 210-1490

Daily Safety Plan Check

1. Hard Hat
2. Visible Fire Extinguisher
3. Safety Glasses
4. Hearing Protection
5. No Smoking On Site
6. Safety Data Sheet
7. Route to Hospital
8. Barricades (Cones, Flags, Fences, Vehicle)
9. Emergency Phone Numbers
10. Know Where the Site Safety Plan Is

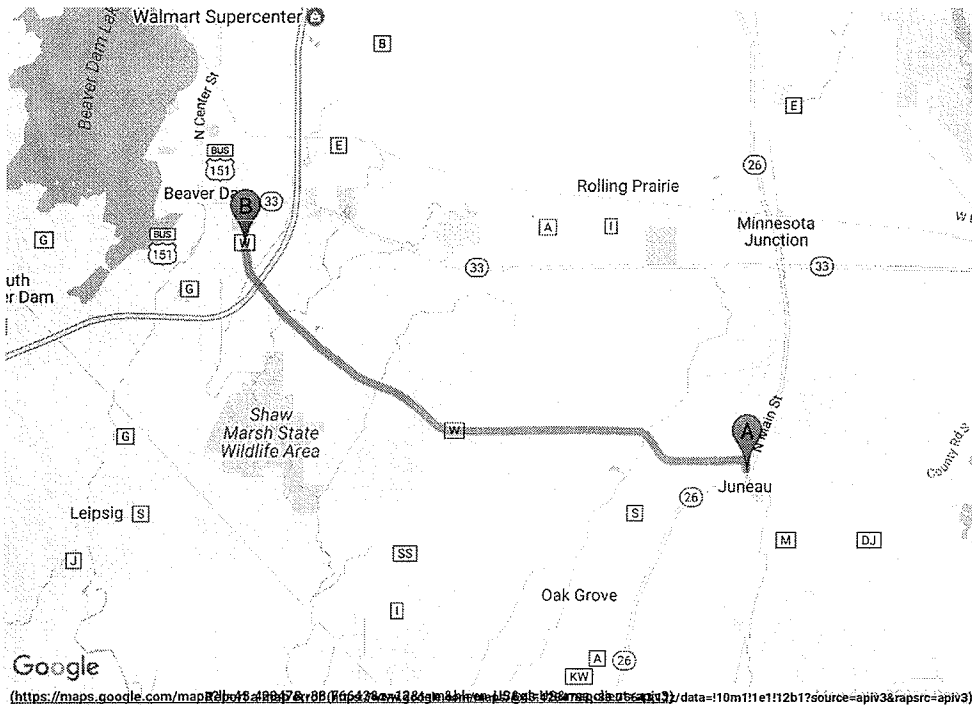
US Hospital Finder (/)™: Directions

From: 207 West Street, Juneau, WI

To: Beaver Dam Community Hospitals 707 South University Avenue Beaver Dam, WI 53916-3089

PQRS survey from DSS

High response rates, experience, direction for improvement. Go to dssresearch.com



PQRS survey from DSS

High response rates, experience, direction for improvement. Go to dssresearch.com



207 West St, Juneau, WI 53039, USA

7.5 mi. About 10 mins

1. Head north on West St toward W North St 0.1 mi
2. Turn left onto County Rd W/W North St 7.4 mi
Continue to follow County Rd W
Destination will be on the right



707 S University Ave, Beaver Dam, WI 53916, USA

Map data ©2016 Google

Name: Beaver Dam Community Hospitals

Address: 707 South University Avenue Beaver Dam, WI 53916-3089

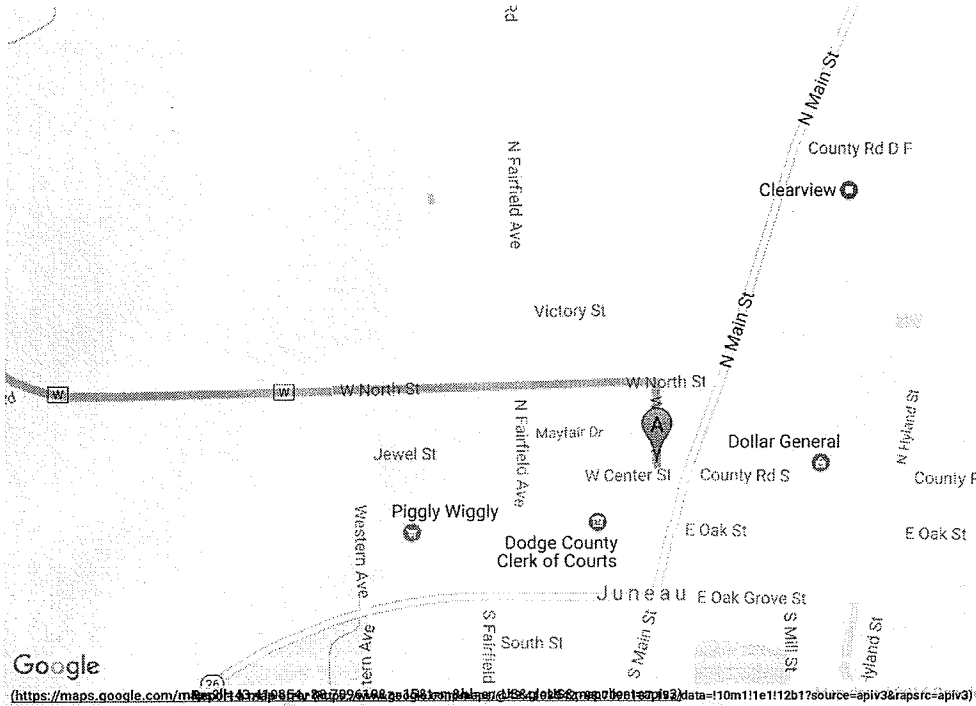
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7.5 mi. About 10 mins

1. Head north on West St toward W North St 0.1 mi
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Continue to follow County Rd W
Destination will be on the right

707 S University Ave, Beaver Dam, WI 53916, USA

Map data ©2016 Google

Name: Beaver Dam Community Hospitals

Address: 707 South University Avenue Beaver Dam, WI 53916-3089

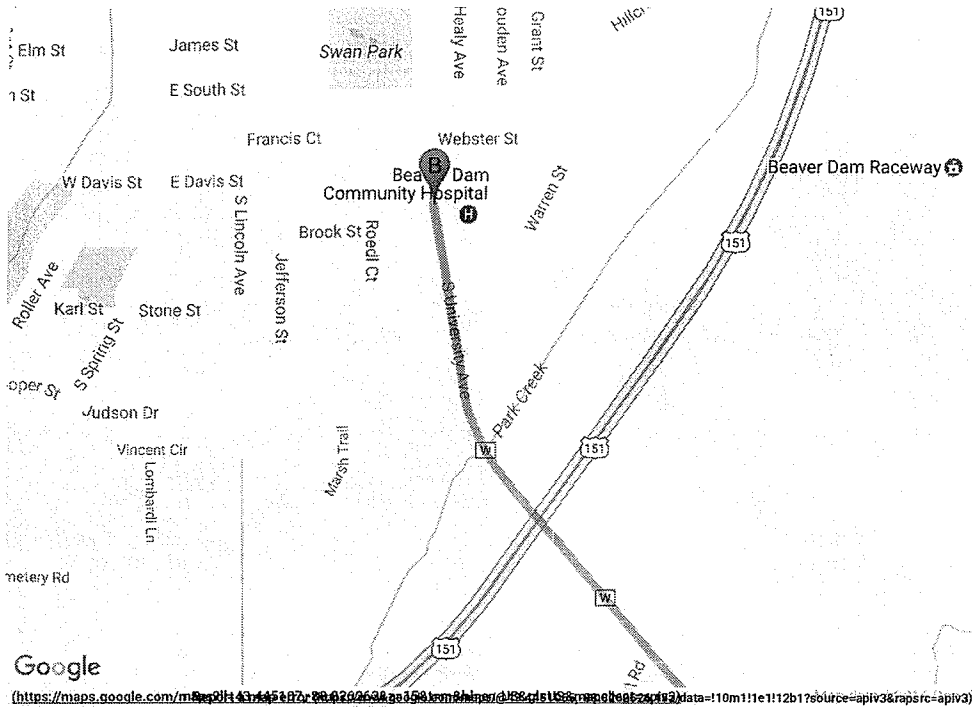
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From: 207 West Street, Juneau, WI

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High response rates, experience, direction for improvement. Go to dssresearch.com



PQRS survey from DSS

High response rates, experience, direction for improvement. Go to dssresearch.com



207 West St, Juneau, WI 53039, USA

7.5 mi. About 10 mins

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2. Turn left onto County Rd W/W North St 7.4 mi
Continue to follow County Rd W
Destination will be on the right



707 S University Ave, Beaver Dam, WI 53916, USA

Map data ©2016 Google

Name: Beaver Dam Community Hospitals

Address: 707 South University Avenue Beaver Dam, WI 53916-3089

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

APPENDIX G/QUALIFICATIONS

LUST Investigation Field Procedures Workplan - METCO Pilsner Ford (Former)

Ronald J. Anderson, P.G.

Professional Titles

- Senior Hydrogeologist
- Project Manager

Credentials

- Licensed Professional Geologist in Wisconsin
- Licensed Professional Geologist in Minnesota
- Recognized by the State of Wisconsin Department of Natural Resources (Chapter NR712) as a qualified Hydrogeologist
- Certified by State of Wisconsin to conduct PECFA-funded LUST projects
- Certified tank closure site assessor (#41861) in Wisconsin
- Member of the Wisconsin Groundwater Association
- Member of the Minnesota Groundwater Association
- Member of the Federation of Environmental Technologist, Inc.

Education

Includes a BA in Earth Science from the University of Minnesota-Duluth. Applicable courses successfully completed include Hydrogeology, Applied Hydrogeology, Environmental Geology, Geological Field Methods, Geology Field Camp, Geomorphology, Structural Geology, Stratigraphy/Tectonics, Mineralogy/Petrology, Glacial/Quaternary Geology, Geology of North America, Oceanography, General Chemistry, Organic Chemistry, and Environmental Conservation

Post-Graduate Education

Includes Personnel Protection and Safety, Conducting Comprehensive Environmental Property Assessments, Groundwater Flow and Well Hydraulics, Effective Techniques for Contaminated Groundwater Treatment, and numerous other continuing education classes and conferences.

Work Experience

Includes nine months with the Wisconsin Department of Natural Resources Leaking Underground Storage Tank Program regulating LUST sites and since June 1990, with METCO as a Hydrogeologist and Project Manager. Duties have included: managing, conducting, and reporting tank closure assessments; property assessment, LUST investigations; spill investigations; agricultural chemical investigations, dry cleaning chemical investigations, general geotechnical/environmental investigations; Geoprobe projects (soil, groundwater, soil gas sampling); drilling projects (soil boring and monitoring wells); and remedial projects. Since 1989, METCO has sampled/consulted over 1,465 environmental sites.

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Jason T. Powell

Professional Title

- Staff Scientist

Credentials

- Recognized by the State of Wisconsin Department of Natural Resources (Chapter NR712) as a qualified Scientist.

Education

Includes a BS in Groundwater Management from the University of Wisconsin- Stevens Point. Applicable courses successfully completed include Hydrogeology, Applied Hydrogeology, Environmental Geology, Hydrogeology-Groundwater Flow Modeling, Groundwater Management, Structural Geology, Mineralogy, Glacial Geology, Soils, Soil Physics, Hydrology, Geochemistry, Water Chemistry, Organic Chemistry, General Chemistry, Environmental Issues.

Post-Graduate Education

40-hour OSHA Hazardous Materials Safety Training course with 8-hour refresher course.

Work Experience

With METCO since May 1992 as a Geoprobe Assistant and Geoprobe Operator. In June 1995 to July 1996 as a Environmental Technician. In July 1996 as a Staff Scientist. Duties have included: LUST investigations; general geotechnical/environmental investigations; Geoprobe projects (soil, groundwater sampling); drilling projects (soil boring and monitoring wells); remedial projects (sampling, pilot tests, system operation/maintenance) and project management.

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Eric J. Dahl

Professional Title

- Hydrogeologist

Credentials

- Recognized by the State of Wisconsin Department of Natural Resources (Chapter NR712) as a qualified Hydrogeologist.
- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#823519).

Education

Includes B.S. in Geology from the University of Wisconsin-Eau Claire. Applicable courses successfully completed include Environmental Geology, Physical Hydrogeology, Chemical Hydrogeology, Computer Modeling in Hydrogeology, Aqueous Geochemistry, Field Geology I and II, Mineralogy and Petrology I and II, Sedimentology and Stratigraphy, Petroleum and Economic Geology, Earth Resources, Earth History, and Structural Geology.

Post-Graduate Education

40-hour OSHA Hazardous Materials Safety Training course with 8-hour refresher course.

Work Experience

With METCO since November 1999 as a Hydrogeologist. Duties have included: Site Investigations, Phase I and Phase II Environmental Site Assessments, Case Closure Requests/GIS Registry, Geoprobe projects (oversight, direction, and sampling), drilling projects/monitoring well installation (oversight, direction, and sampling), soil excavation projects (oversight, direction, and sampling), Geoprobe operation, and operation and maintenance of remedial systems.

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Thomas P. Pignet, P.E.

Professional Titles

- Chemical Engineer
- Industrial Engineer

Credentials

- Licensed Professional Engineer in Wisconsin

Education

Undergraduate: B.S. in Chemical Engineering from the University of Wisconsin. Applicable courses include the standard chemistry curriculum - basic, physical, organic, etc. - plus engineering transport phenomena, chemical unit operations (e.g. separations), fluid mechanics, etc.

Post-Graduate Education

Ph.D. in Chemical Engineering from the University of Minnesota - with applicable special training in absorption & catalysis; M.S. in Industrial Engineering from the University of Wisconsin - Milwaukee - with special emphasis on statistical techniques and data analysis. Applicable further training: continuing education, semester-length courses in [1] Understanding Environmental & Safety Regulation; [2] Hazardous & Toxic Waste Management; plus a number of 1-2 day workshops - Fire & Explosion Safety; Small Quantity Generations of Hazardous Waste.

Work Experience

Includes ten years as a research chemical engineer with a large chemical manufacturer; one year as process development engineer and demonstration-scale test analyst on a unique coal gasification project; ten years in association with UW-M, teaching and consulting to industry on energy efficiency, waste minimization and productivity improvement. One year working with a small engineering consulting firm on energy, environmental, and process improvement projects, including LUST Investigations and Remediations. With METCO since February 2000: Duties include Remedial Action Plan preparation, pilot test design and performance, remedial systems design and implementation, and general management of METCO's remedial projects.

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Jon Jensen

Professional Title

- Staff Scientist

Credentials

- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#1294924).

Education

Includes B.S. in Geography with and Environmental Science minor from University of Wisconsin – La Crosse: Applicable courses successfully completed include Interpretation of Aerial Photographs, Intro to GIS, Advanced Remote Sensing, Fundamentals of Cartography, Biogeography, and Conservation of Global Environments.

Work Experience

With METCO since July, 2014 as Staff Scientist. Duties include: soil and groundwater sampling, operation and maintenance of remedial systems, Geoprobe projects (oversight, direction, and sampling), site mapping, data reduction and analysis, and reporting.

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Matthew C. Michalski

Professional Title

- Hydrogeologist

Credentials

- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#1261443).
- Member of the Wisconsin Groundwater Association
- Member of the Minnesota Groundwater Association
- Member of the National Groundwater Association
- Member of the American Institute of Professional Geologist
- Member of the Geological Society of America

Education

Includes B.S. in Geology with an emphasis in Hydrogeology and Water Chemistry from the University of Wisconsin-Eau Claire, completion of Western Michigan University's Hydrogeology Field Camp, a B.S. In Geography from the University of Wisconsin-La Crosse. Applicable courses successfully completed include Hydrogeology, Contaminant Hydrogeology, Aqueous Geochemistry, Geomorphology and Aerial Photography interpretation, Sedimentology and Stratigraphy, Structural Geology, Mineralogy and Petrology, Hazardous Waste Operation and Emergency Response, Surface Geophysics, Principles and Practices of Groundwater Sampling and Monitoring, Principles and Practices of Aquifer Testing, Principles of Well Drilling and Installation, Remediation Design and Implementation, Water Resources, Environmental Hazards and Land Use, and Advanced Map Design.

Post-Graduate Education

40-hour OSHA Hazardous Materials Safety Training course.

Work Experience

With METCO since May 2016 as a Hydrogeologist and from August 2012 to August 2014 as a Staff Scientist. Duties have included: soil and groundwater sampling, Site Investigations, Phase I and Phase II Environmental Site Assessments, Case Closure Requests/GIS Registry, Geoprobe projects (oversight, direction, and sampling), drilling projects/monitoring well installation (oversight, direction, and sampling), and operation and maintenance of remedial systems, site mapping, data reduction and analysis, and reporting.

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

Bryce Kujawa

Professional Title

- Staff Scientist

Credentials

- Registered through the Wisconsin Department of Safety and Professional Services as a PECFA consultant (#17138).
- Member of the Geological Society of America

Education

Includes B.S. in Geology from the University of Wisconsin-Eau Claire. Applicable courses successfully completed include Hydrogeology, Contaminant Hydrogeology, Field Geology I and II, Mineralogy and Petrology I and II, Sedimentology and Stratigraphy, Petroleum and Economic Geology, Earth History, Physical Geology, Structural Geology, Computers in Geology, Geographic Informational Systems, Global Environmental Change, and General Chemistry.

Work Experience

With METCO since June, 2016 as Staff Scientist. Duties include: soil and groundwater sampling, operation and maintenance of remedial systems, Geoprobe projects (oversight, direction, and sampling), site mapping, data reduction and analysis, and reporting.

**LUST Investigation Field Procedures Workplan - METCO
Pilsner Ford (Former)**

APPENDIX F/LIST OF ACRONYMS

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