

**Environmental Sampling Corporation
Quality Assurance and Sampling Plan**

**Refuse Hideaway Landfill
WDNR License Number 01953**

**Prepared for: Wisconsin Department of Natural Resources,
Fitchburg, Wisconsin**

**Prepared by: Environmental Sampling Corporation
Muskego, Wisconsin**

April 2007

**Refuse Hideaway Landfill
WDNR License Number 01953**

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**Environmental Sampling Corporation
Sampling Plan**

**Refuse Hideaway Landfill
WDNR License Number 01953**

1.0 Overview

The Refuse Hideaway Landfill is located in the SW ¼ of the NW ¼ of Section 8, T7N, R8E, Town of Middleton, Dane County, Wisconsin.

The facility's monitoring program currently contains forty nine (49) groundwater quality monitoring wells, sixty one (61) groundwater elevation monitoring wells, and seventeen (17) private drinking water supply wells. The monitoring frequency, parameter lists for each monitoring point and map are included in Attachment 1. Monitoring of the groundwater monitoring wells, and private drinking water supply well are described in this sampling plan.

2.0 Sampling Plan Summary

The Sampling Plan for the Refuse Hideaway Landfill outlines the approach to be followed to collect representative groundwater samples from the monitoring well network at the facility, and to comply with regulatory requirements established in NR 507.16, Wis. Adm. Code. Procedures for collecting, preserving, and handling samples from each of the monitoring points are discussed in the following sections

The sampling plan indicates the following procedures and techniques:

- Field Measurements
- Purging Procedures
- Sampling Procedures
- Sample Shipment
- QA/QC Sampling Procedures
- Chain-of-Custody

3.0 Field Measurements

3.1 Groundwater Elevations

Static water levels are measured at site monitoring wells prior to conducting purging or sampling activities. Groundwater elevations are determined from the field water level measurements. All water levels should be measured during each event to avoid variations in groundwater levels that could preclude making an accurate determination of groundwater flow rate and direction. The water level indicator should be a portable electronic device or equivalent, which signals by audio or light signal when the probe contacts the water. ESC typically uses a Solinst electronic water tape. The water level measurement is recorded to the nearest 0.01 foot. The water level measurement, top-of-casing elevation, total depth, and groundwater elevation are recorded on the ESC Field Information Form (Attachment 2). The water level indicator is decontaminated between wells using deionized water.

Water levels are not typically measured at private water supply wells.

3.2 Field Parameters

Temperature, specific conductance, and pH are measured at monitoring wells following purging, prior to sampling activities. Temperature is measured using an electronic device accurate to $\pm 1^\circ \text{C}$. Specific conductance is measured using a meter with automatic temperature correction and a range of approximately 0 to 50,000 μmhos . pH is measured using an electronic device accurate to 0.05 standard pH units (SU). Meters are decontaminated using deionized water between wells. Instruments are properly calibrated and checked with standards according to the manufacturer's specifications on a daily basis. Any instrument malfunctions are noted. Improperly operating instruments are repaired or replaced and re-calibrated prior to continuing sampling operations.

Turbidity and color are visually described and unusual odors are noted. Information is recorded on the ESC Field Information Form.

4.0 Purging Procedures

4.1 Monitoring Well Purging Procedures

Upon arrival at the well location, the condition of the well is observed and documented on the ESC Field Information Form. Information to be noted includes the following:

- Condition of the well's identification sign, tag, or label
- Appearance of the well
- Condition of the lock and key
- Well integrity, including: condition of the well, protective casing, and surface seal
- Any physical problems, including: obstructions or kinks in the casing, and water in the annulus
- Weather conditions (i.e., wind speed and direction, temperature, overview, and documentation of any physical activities upwind of the sampling location)
- Evidence of any surface contamination

The static water level is measured as described previously, prior to the start of purging activities. The monitoring well purging system to be used consists of dedicated bladder pumps or dedicated bailers. The monitoring well is purged to dryness or until the equivalent of four standing-water volumes (calculated from the depth to water and well depth) is removed from the well prior to sampling. This procedure insures that samples are drawn from the aquifer, not from stagnant water left in the well between sampling events. Several of the deeper monitoring wells contain dedicated packers that help to reduce the purge volume. The water level field form (Attachment 2) identifies the type of equipment contained in each well. Contaminated purge water is containerized and disposed of in the leachate collection tank located on the landfill site.

If a monitoring well does not recharge sufficiently to allow sampling within a reasonable time period (48 hours), the well is considered "dry" for the sampling event. All results of the purging operation are documented on the ESC Field Information Form.

Wells are sampled immediately upon completion of purging activities. If additional time is necessary for wells to recharge to provide a sufficient volume of water required for analysis, this is documented on the ESC Field Information Form.

4.2 Private Water Supply Well Purging Procedures

Upon arrival at the private well location, the condition of the well is observed and documented on the ESC Field Information Form. Information to be noted includes the following:

- Condition of the private well (i.e. cracked casing or cover)
- Condition of sample location
- Weather conditions (i.e., wind speed and direction, temperature, overview, and documentation of any physical activities upwind of the sampling location)
- Evidence of any surface contamination

The private water supply well is purged from the faucet or spigot closest to the well. The private well is purged for approximately 20 minutes. This procedure insures that the sample is drawn from the aquifer, not from stagnant water left in the household plumbing. All results of the purging operation are documented on the ESC Field Information Form. Wells are sampled immediately upon completion of purging activities.

5.0 Sample Collection

5.1 Monitoring Well Sample Collection

The monitoring well sampling system at the site consists of dedicated bladder pumps or non-dedicated bailers or electric pumps. Groundwater samples are collected starting with upgradient wells and continuing progressively downgradient. Data from the previous round of groundwater level measurements are used to evaluate the direction of groundwater flow.

Groundwater monitoring wells at the site are analyzed for volatile organic compounds (VOCs). All groundwater wells are analyzed for VOCs by EPA Method 8260. The laboratory's Standard Operating Procedures for analysis of VOCs by Methods 524.2 and 8260 are included in Attachment 3. VOC samples are collected at the lowest flow possible (<100 ml / min.) in order to provide high-quality, representative, and consistent data. Samples are placed in new pre-preserved vials provided by the laboratory. VOC samples are not field filtered.

A separate container is filled for the temperature, pH, specific conductance, and other field parameters. These field parameters are measured as described previously. All results are documented on the ESC Field Information Form.

5.2 Private Drinking Water Supply Well Sample Collection

The private wells are analyzed for VOCs by EPA Method 524.2. VOC samples are collected at the lowest flow possible (<100 ml/min.) in order to provide high-quality, representative, and consistent data. Samples are placed in new pre-preserved containers provided by the laboratory. VOC samples are not field filtered.

A separate container is filled for the temperature, pH, specific conductance, and other field parameters. These field parameters are measured as described previously. All results are documented on the ESC Field Information Form.

6.0 Sample Shipment

Groundwater and private well samples are placed on ice in coolers immediately after sample collection and maintained at a temperature of 4°C. ESC Field Information Forms and signed laboratory Chain-of-Custody Forms are also placed in this cooler. Sample coolers are delivered to the laboratory as soon as possible (within 24 hours).

7.0 QA/QC Sampling Procedures

The following QA/QC samples are collected as part of the monitoring program:

- One temperature blank is included with each cooler;
- One field blank is collected at every round;
- One duplicate sample is collected for every twenty samples collected;
- One laboratory trip blank is included with each cooler for volatile organic compounds (VOCs).

Temperature blanks are provided by the laboratory and included with each cooler. Temperature blanks insure that samples are maintained at or below 4°C upon arrival to the laboratory.

Field blank samples are prepared in the field at a routine sample collection point during a monitoring event by filling the pre-preserved sample containers with deionized water. The field blank is analyzed for contamination that may occur due to site ambient air conditions, sample containers, coolers, cleaning procedures, or preservatives.

A field duplicate is an extra set of samples collected at a random monitoring point and labeled as "DUP". This is an additional sample collected from the same source, stored in separate containers, and analyzed independently. The samples shall be collected in proper alternating order for the sample point and field duplicate for each parameter. Field duplicates are used to document the precision of the sampling and analytical process.

Laboratory VOC trip blanks are sent from the laboratory with the original bottle shipment and shall remain with the samples during sample collection and sample shipment. Trip blanks are analyzed for contamination that may occur due to sample shipment, sample preservatives, or exposure to contaminants after collection.

8.0 Chain-of-Custody Procedures

At the time each sample is collected, a laboratory Chain-of-Custody Form is completed and placed in the cooler. With the transfer of sample possession to a subsequent custodian, the person taking custody of the cooler signs the Chain-of-Custody Form. Upon receipt of the samples at the laboratory, the condition of the samples, date, time, cooler number, temperature, and seal number are recorded by the receiver. The Chain-of-Custody records are included in the analytical report prepared by the laboratory, and are consolidated as an integral part of that report.

As part of the Chain-Of-Custody procedure, each sample container is labeled with the sample ID number, bottle type and size, preservative, and filtering requirements.

All sampling procedures, measurements, and observations are to be recorded on the Field Information Forms and Chain-Of-Custody forms as follows:

- Facility site number and name, sample point ID, sample date and time, and source codes
- Specific sample bottle comments (i.e., unfiltered, bottle size, and preservative)
- Field measurements (i.e., depth to water, groundwater elevation and well depth)
- Purging information (i.e., date, start time, elapsed hours, water volume in casing and actual water volume purged)
- Field test results, including pH, temperature, and specific conductance
- Field observations and weather conditions
- Appearance of sample (i.e., odor, color and turbidity)

The sampler's identification, laboratory custodian's identification (with signature), and the date and time of arrival is noted on the Chain-of-Custody Form. The laboratory custodian will verify that the cooler is intact and make notes of the sample bottle condition on the form. These forms are retained by the laboratory and returned with the results of the analyses.

Attachment 1

Refuse Hideaway Landfill Sampling Schedule and Maps

**REFUSE HIDEAWAY LANDFILL
DANE COUNTY, WI
2007 MONITORING SYSTEM SUMMARY - 05/07**

GROUNDWATER			
TASK	MONITORING POINTS	PARAMETERS	FREQUENCY
I.	P-1D, P-1S, P-3S, P-4S, P-8BR, P-30S, P-33S, P-35S, P-35D, P-36D, P-36S, P-38S, P-39S, P-40S, P-41S, P-42S	groundwater elevation (ft MSL)	May 2007 (2009, 2010, 2012, 2013, etc.)
II.	P-8D, P-8S, P-9D, P-9S, P-16S, P-16D, P-17S, P-18S, P-20SR, P-21S, P-21D, P-21BR, P-22D, P-22E, P-22S, P-23D, P-23S, P-24D, P-24E, P-25S, P-25D, P-25BR, P-26S, P-26D, P-27D, P-27S, P-28S, P-29S, P-30D, P-30I, P-31D, P-31IA, P-31IB, P-31S, P-32D, P-32S, P-33D, P-34S, P-34D, P-40D, P-40I, P-41D, P-43D, P-43I, P-43S, DUP-01, DUP-02, FB-01 <i>(48 samples)</i>	groundwater elevation (ft. MSL) field pH field conductivity field temperature field observations VOCs (8260)	May 2007 (2009, 2010, 2012, 2013, etc.)
III.	P-1D, P-1S, P-3S, P-4S, P-8BR, P-8D, P-8S, P-9D, P-9S, P-16D, P-16S, P-21BR, P-21D, P-21S, P-24D, P-24E, P-25S, P-26D, P-28S, P-29S, P-30S, P-31S, P-32D, P-32S, P-33D, P-33S, P-34S, P-34D, P-35S, P-35D, P-36D, P-36S, P-38S, P-39S, P-40S, P-41D, P-41S, P-42S	groundwater elevation (ft. MSL)	November
IV.	P-17S, P-18S, P-20SR, P-22D, P-22E, P-22S, P-23D, P-23S, P-25D, P-25BR, P-26S, P-27D, P-27S, P-30D, P-30I, P-31D, P-31IA, P-31IB, P-40D, P-40I, P-43D, P-43I, P-43S, DUP-01, FB-01 <i>(23 samples)</i>	groundwater elevation (ft MSL) field pH field conductivity field temperature field observations VOCs (8260)	November
V.	P-1D, P-1S, P-3S, P-4S, P-30S, P-36D, P-36S, P-38S, P-39S, P-40S, P-41S, P-42S	groundwater elevation (ft MSL)	Every third year in May (2008, 2011, 2014, etc.)
VI.	P-8BR, P-8D, P-8S, P-9D, P-9S, P-16S, P-16D, P-17S, P-18S, P-20SR, P-21S, P-21D, P-21BR, P-22D, P-22E, P-22S, P-23D, P-23S, P-24D, P-24E, P-25S, P-25D, P-25BR, P-26S, P-26D, P-27D, P-27S, P-28S, P-29S, P-30D, P-30I, P-31D, P-31IA, P-31IB, P-31S, P-32D, P-32S, P-33D, P-33S, P-34S, P-34D, P-35D, P-35S, P-40D, P-40I, P-41D, P-43D, P-43I, P-43S, DUP-01, DUP-02, FB-01 <i>(52 samples)</i>	groundwater elevation (ft. MSL) field pH field conductivity field temperature field observations VOCs (8260)	Every third year in May (2008, 2011, 2014, etc.)

**REFUSE HIDEAWAY LANDFILL
DANE COUNTY, WI
2007 MONITORING SYSTEM SUMMARY - 05/07**

GROUNDWATER (CONT.)

TASK	MONITORING POINTS	PARAMETERS	FREQUENCY
VII.	P-8BR, P-9D, P-24D, P-24E, P-33D, P-36S (Wells with water level control equip.)	Well equipment inspection (Inspect devices to ensure that the wells are protected from frost damage. When water levels are 3 ft. below ground surface, the inspection is no longer required)	December, January, February, March

PRIVATE WELLS

TASK	MONITORING POINTS	PARAMETERS	FREQUENCY
I.	PW-Sather, PW-Bonk, PW-Bula, PW-Wheat/Krueger, PW-Tantrow/Thompson, PW-Summers, PW-Noles, PW-Stoppleworth <i>(8 samples)</i>	field pH field conductivity field temperature field observations VOCs (524.2)	May
II.	PW-Sather, PW-Matush, PW-Sommers, PW-Weber, PW-Durand, PW-Wagner, PW-Rounds, PW-Noles, PW-Stoppleworth <i>(23 samples)</i>	groundwater elevation (ft. MSL) field pH field conductivity field temperature field observations VOCs (524.2)	November

Contacts:

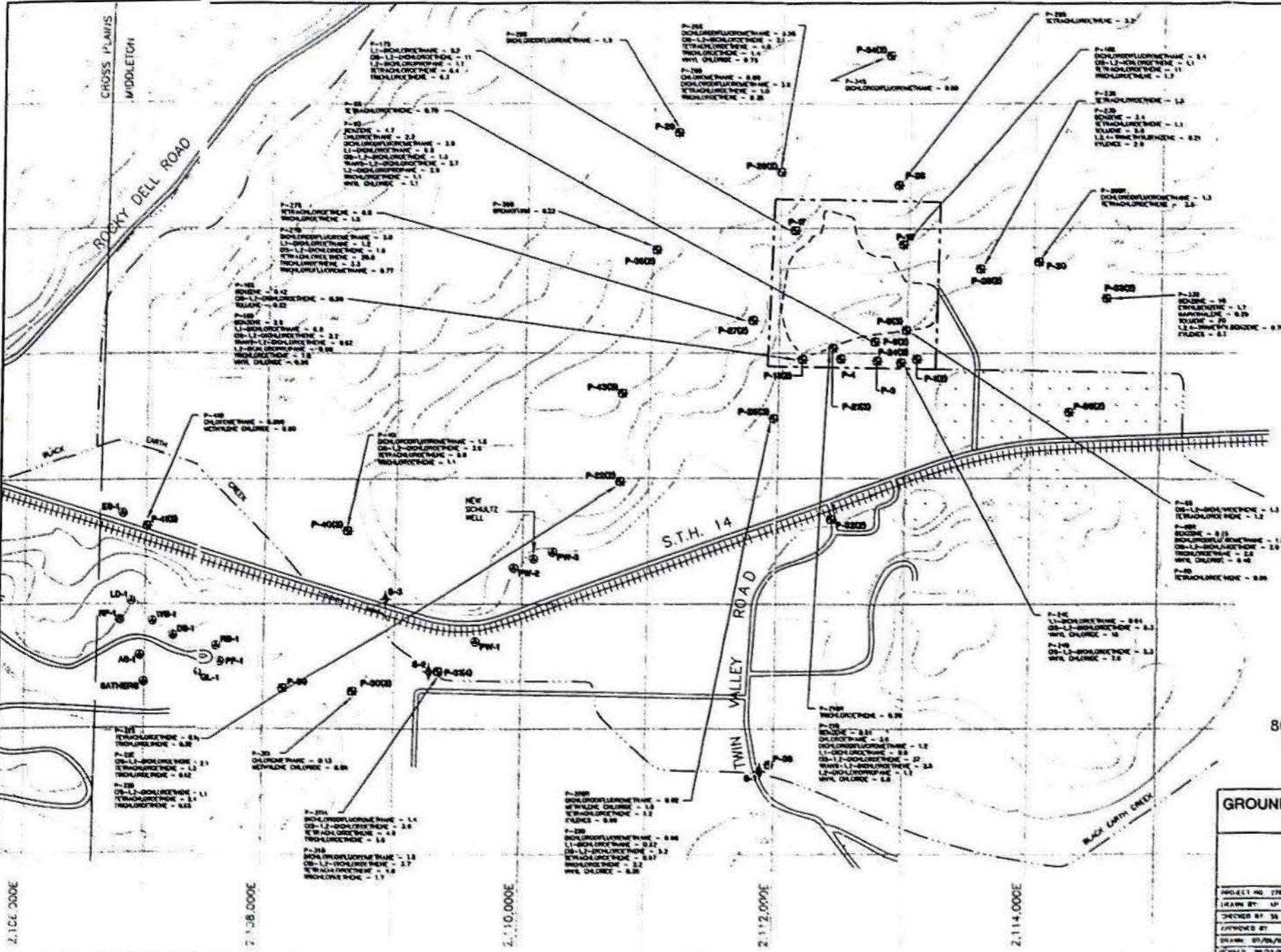
Pat Letterer - CT Laboratory: (800) 228-3012
Hank Kuehling - WDNR: (608) 275-3286

Directions to site:

I94 west to the beltline (HWY 12-18). Exit at Hwy 14 (LaCrosse, Spring Green), turn left. Turn right into driveway before billboard (ShoeBox). 7562 Hwy 14

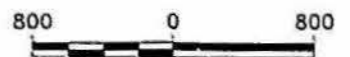
Reporting:

Groundwater and private well monitoring results including elevations (cover letter and analytical) to WDNR in January and July. (ESC)



- LEGEND**
- REFUSE WEDGWAY LANDFILL
 - PROPERTY BOUNDARY
 - FILL LIMITS
 - MONITORING WELL LOCATION AND NUMBER (NUMBER OF WELLS IN NEST) PROPOSED FOR SAMPLING
 - MONITORING WELL LOCATION AND NUMBER (NOT SAMPLED)
 - PRIVATE WELL LOCATION AND NUMBER
 - NEW SCHATZ WELL LOCATION
 - STAFF GAGE LOCATION AND NUMBER
 - RAILROAD
 - WETLANDS
 - CREEK OR INTERMITTENT STREAM

NOTE
 BASE MAP DEVELOPED FROM WHICH 1981 EXISTING CONDITIONS PLAN FOR REFUSE WEDGWAY LANDFILL PREPARED BY HYDRO-SEARCH, INC. DATED JUNE 20, 1984.



SCALE: 1" = 800'

**GROUNDWATER ANALYTICAL RESULTS MAP
 MAY 2005 SAMPLING EVENT**

REFUSE WEDGWAY LANDFILL
 HIGHWAY 14
 MIDDLETON, WISCONSIN

PROJECT NO. 0781
DRAWN BY: AP
CHECKED BY: SS
APPROVED BY:
DRAWN: 07/26/05
REVISED: 08/19/05



9/11
 1 of 1

1:100,000

2:100,000

7:100,000

2:100,000

2:100,000

2:100,000

Attachment 2

ESC Field Information Forms

ENVIRONMENTAL SAMPLING CORPORATION GROUNDWATER MONITORING FIELD FORM
 MONTH: 2007

Purging Phase										Sampling Phase											
Well ID	Date (2007)	Time (24hrs.)	Top of Well Elevation (ft.MSL)	Depth to Water (ft.)	Groundwater Elevation (ft.MSL)	Total Depth (ft.)	Height of Water Col. (ft.)	Req. Gal. to Purge (4 vol.)	Amount Purged (gal.)	Date (2007)	Time (24hrs.)	pH (s.u.)	Spec. Cond. (25C)	Temp. (deg.C)	Color before Filter	Color after Filter	Odor	Turb before Filter	Turb after Filter	Number of Filters Used	
P-22D			1088.94			217.2		PACKER 5.5													
P-22E			1089.72			273.0															
P-22S			1088.20			184.7															
P-26D			1149.63			262.1															
P-26S			1150.95			237.6															
P-27D			1095.56			204.3		PACKER 8.0													
P-27S			1095.23			188.8															
P-28S			1124.33			207.4															
P-29S			1163.10			257.2															
P-34D			1090.98			276.1		PACKER 9.0													
P-34S			1091.10			186.0															
P-35D			1087.70			252.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-35S			1087.90			184.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Casing I.D. (Inches) : Gallons per foot to get one well volume.
 1.5" well : 0.092 gal. 2" well : 0.163 gal. 3" well : 0.377 gal. 4" well : 0.653 gal.

NOTES:
 Monitoring wells are located on the Sommers Farm property.

WEATHER Wind Speed: Direction: Temp.:
 Date: Overview:
 Date Equipment Used:
 pH Meter: pH 7.0: pH 4.0: Slope:
 Spec. Cond. Meter: Standard: Reading:
 Temperature:

Facility Name: WDNR Refuse Hideaway Landfill
 Facility Address: Highway 14, Middleton, WI
 ESC Personnel:

ENVIRONMENTAL SAMPLING CORPORATION
 414-427-5033

Client: WDNR Page: 1 of 6
 Project:
 Prepared by: Date:
 Checked by: Date:

ENVIRONMENTAL SAMPLING CORPORATION GROUNDWATER MONITORING FIELD FORM

MONTH: _____

2007

Purging Phase

Well ID	Date (2007)	Time (24hrs.)	Top of Well Elevation (ft.MSL)	Depth to Water (ft.)	Groundwater Elevation (ft.MSL)	Total Depth (ft.)	Height of Water Col. (ft.)	Req. Gal. to Purge (4 vol.)	Amount Purged (gal.)
P-24E			927.39			52.5			
P-25BR			943.27			140.3			
P-25D			943.86			96.3			
P-25S			943.14			29.4			
P-33D			928.50			103.4			
P-1D			926.67				--	--	--
P-1S			924.39				--	--	--
P-3S			932.79				--	--	--
P-4S			929.89				--	--	--
P-8BR			929.52			111.5	--	--	--
P-33S			928.55			27.6	--	--	--
DUP-02									
FB-01									

Sampling Phase

Date (2007)	Time (24hrs.)	pH (s.u.)	Spec. Cond. (25C)	Temp. (deg.C)	Color before Filter	Color after Filter	Odor	Turb before Filter	Turb after Filter	Number of Filters Used
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--

Casing I.D. (inches) : Gallons per foot to get one well volume.
 1.5" well : 0.092 gal. 2" well : 0.163 gal. 3" well : 0.377 gal. 4" well : 0.653 gal.

NOTES:
 Monitoring wells are located around the facility and along the adjacent farm fields.

WEATHER Wind Speed: _____ Direction: _____ Temp.: _____
 Date: _____ Overview: _____
 Date Equipment Used: _____
 pH Meter: _____ pH 7.0: _____ pH 4.0: _____ Slope: _____
 Spec. Cond. Meter: _____ Standard: _____ Reading: _____
 Temperature: _____

Facility Name: WDNR Refuse Hideaway Landfill
 Facility Address: Highway 14, Middleton, WI
 ESC Personnel: _____

ENVIRONMENTAL SAMPLING CORPORATION
 414-427-5033

Client: WDNR Page: 5 of 6
 Project: _____
 Prepared by: _____ Date: _____
 Checked by: _____ Date: _____

ENVIRONMENTAL SAMPLING CORPORATION GROUNDWATER MONITORING FIELD FORM
 MONTH: 2007

Purging Phase										Sampling Phase											
Well ID	Date (2007)	Time (24hrs.)	Top of Well Elevation (R.M.S.L)	Depth to Water (ft.)	Groundwater Elevation (R.M.S.L)	Total Depth (ft.)	Height of Water Col. (ft.)	Req. Gal. to Purge (4 vol.)	Amount Purged (gal.)	Date (2007)	Time (24hrs.)	pH (s.u.)	Spec. Cond. (25C)	Temp. (deg.C)	Color before Filter	Color after Filter	Odor	Turb before Filter	Turb after Filter	Number of Filters Used	
PW-Sather																					
PW-Bank																					
PW-Bula																					
PW-Whistl Kruoger																					
PW-Tarrow/ Thompson																					
PW- Summers																					
PW-Notes																					
PW- Stappeworth																					
PW-Matush																					
PW- Sommers																					
PW-Durand																					
PW-Wagner																					
PW-Weber																					
PW-Rounds																					

Casing I.D. (inches) : Gallons per foot to get one well volume.
 1.5" well : 0.092 gal. 2" well : 0.163 gal. 3" well : 0.377 gal. 4" well : 0.653 gal.

NOTES:

WEATHER Wind Speed: Direction: Temp.:
 Date: Overview:
 Date Equipment Used:
 pH Meter: pH 7.0: pH 4.0: Slope:
 Spec. Cond. Meter: Standard: Reading:
 Temperature:

Facility Name: WDNR Refuse Hideaway Landfill
 Facility Address: Highway 14, Middleton, WI
 ESC Personnel:

**ENVIRONMENTAL
 SAMPLING
 CORPORATION**
 414-427-5033

Client: WDNR Page: 6 of 6
 Project:
 Prepared by: Date:
 Checked by: Date:

Attachment 3

***CT Laboratories
Standard Operating Procedures for
Volatile Organic Compounds
EPA Methods 524.2 and 8260***

April 19, 2007

SITE SAFETY PLAN

JOB LOCATION: Refuse Hideaway Landfill
7182 Hwy 14
Middleton, WI 53562

PROJECT DESCRIPTION: Groundwater Monitoring

ON SITE ORGANIZATION AND COORDINATION:

Project Team Leader: Tracy Ipavec - Environmental Sampling Corporation (ESC)
Primary Health & Safety Officer: Frank Perugini - ESC
Client Representative: Hank Kuehling - Wisconsin Department of Natural Resources

CHEMICAL HAZARD EVALUATION:

Sample bottles provided by the laboratory are pre-preserved with hydrochloric acid. ESC personnel shall use caution when handling sample bottles and avoid contact with the preservative. Material safety data sheets (MSDS) are provided by the laboratory with each sample bottle shipment. MSDS sheets for hydrochloric acid are included in Attachment 1.

Groundwater may contain volatile organic compounds (VOCs) at concentrations at or above WDNR Public Health Groundwater Quality Standards. ESC personnel shall use care to minimize contact with groundwater during purging and sampling.

PHYSICAL HAZARD EVALUATION:

The following hazards could be potentially encountered while performing the operation and maintenance functions of the project:

<u>Hazard</u>	<u>Possible Results</u>
Fire	Burns, death
Mechanical	Serious injury, death
Blood borne Pathogens	Chronic infection
Dermal Absorption of Liquid Contaminants	Chronic infection

Portable gasoline powered air compressors will be used for purging and sampling of groundwater monitoring wells. Exhaust shall be directed down wind and away from operator and sample location. Care shall be taken by the operator to keep limbs, loose clothing, and field equipment away from moving compressor parts (i.e., fan belt and fan blade). The operator shall avoid contact with compressor parts that radiate heat during compressor operation (i.e., muffler, air discharge port and quick connections).

All terrain vehicles are operated in accordance with the operation and safety procedures outlined in the manufacturers owner's manuals.

STANDARD PROCEDURES

The following are standard procedures that ESC will follow while on site:

- **No smoking:** Smoking will not be allowed at anytime on site unless designated smoking areas are available.
- **Personal Protective Equipment:** ESC personnel will wear Level D protection at all times including hard hat (when overhead hazards exist), safety vest, leather work boots, work clothes and latex gloves. Additional personal protective equipment will be available in the ESC company vehicles.
- **Common Sense:** ESC employees will use common sense precautions while performing duties on site. Employees understand when performing a one-person job assignment that they are acting as their own supervisor.

FIELD HYGIENE:

Avoiding or minimizing contact with groundwater and/or sample bottle preservative greatly simplifies decontamination and reduces the potential of injury. Do not handle, or touch groundwater or preservative without latex gloves, if possible. Wear work gloves when handling equipment or tools. Skin abrasions, cuts, and scratches enhance potential for infectious agents or chemicals to penetrate the body. Skin injuries should be adequately covered. Washing with antibacterial soaps and/or disinfectants minimizes infection. Hands should be thoroughly cleaned prior to eating, drinking, or other hand-to-mouth activities. Care should also be taken not to swipe debris from the eyes with soiled fingers during any work activity involving groundwater or preservative.

DECONTAMINATION PROCEDURES:

Spillage of sample bottle preservative on skin should be thoroughly washed with soap and water. Spillage of preservative onto personal clothing should be washed after use. Decontamination (decon) is the process of removing contaminants that have accumulated on personnel and equipment. Proper decon protects workers & others from hazardous substances that may contaminate clothing, tools, vehicles, etc. used on a landfill site.

EMERGENCY MEDICAL CARE:

Permanent first aid equipment will not necessarily be found on site; first aid kits are kept in the ESC company vehicles. A list of emergency phone numbers is shown below in Table 1.

Table 1

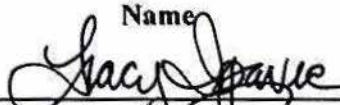
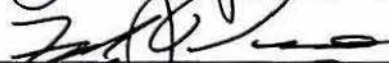

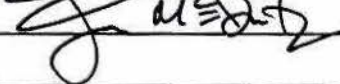
Agency/Facility	Telephone Number
Ambulance/Police/Fire	911
University of Wisconsin Hospital 600 Highland Avenue Madison, WI 53792	(608) 262-2398 Note: See Attachment 2 for specific directions
ESC – Muskego, WI	(414) 427-5033
Frank Perugini (ESC) – Mobile phone	(414) 333-9453
Client representative: Hank Kuehling	(608) 275-3286

EMERGENCY PROCEDURES:

Stop work activities when injury or accident occurs. As needed notify appropriate emergency agency. Administer first aid if possible. Contact the ESC Project Team Leader and Health & Safety Officer as soon as is possible.

APPROVAL SIGNATURE 

All site personnel have read the above plan and are familiar with its provisions.

	Name	Date
Project Team Leader		5/21/07
Health & Safety Officer:		5/21/07
Other Site Personnel:		5/21/07
		5/21/07

Attachment 1

Material Safety Data Sheet

Hydrochloric Acid

MSDS Number: H3680

Effective Date: 09/24/04

MSDS MATERIAL SAFETY DATA SHEET

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

CHEMTREC: 800-424-9300 (USA)

703-527-3887

(Outside USA & CANADA)

CANUTEC: 613-996-6666

Emergency Telephone Number: 908-859-2151

NOTE: Use CHEMTREC and CANUTEC
phone numbers only in the event
of a chemical emergency.

All non-emergency questions should be directed to Customer Service
(1-800-582-2537) for assistance.

MALLINCKRODT

J. T. BAKER

HYDROCHLORIC ACID, 33 - 40%

1. Product Identification

Synonyms: Muriatic acid; hydrogen chloride, aqueous
CAS No: 7647-01-0
Molecular Weight: 36.46
Chemical Formula: HCl

Product Codes: J.T. Baker:
5367, 5537, 5575, 5800, 5814, 5821, 5839, 5861, 5862,
5894, 5962, 5972, 5994, 6900, 7831, 9529, 9530, 9534,
9535, 9536, 9537, 9538, 9539, 9540, 9544, 9548
Mallinckrodt:
2062, 2515, 2612, 2624, 2626, 3861, 5583, 5587, H611,
H613, H987, H992, H999, V078, V628

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Hydrogen Chloride	7647-01-0	33 - 40%	Yes
Water	7732-18-5	60 - 67%	No

3. Hazards Identification

Emergency Overview

POISON! DANGER! CORROSIVE.
LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF

SWALLOWED OR INHALED. INHALATION MAY CAUSE LUNG DAMAGE.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation:

Corrosive! Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary edema, circulatory failure, and death.

Ingestion:

Corrosive! Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhea. Swallowing may be fatal.

Skin Contact:

Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.

Eye Contact:

Corrosive! Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.

Chronic Exposure:

Long-term exposure to concentrated vapors may cause erosion of teeth. Long term exposures seldom occur due to the corrosive properties of the acid.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye disease may be more susceptible to the effects of this substance.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash, clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Extreme heat or contact with metals can release flammable hydrogen gas.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

If involved in a fire, use water spray. Neutralize with soda ash or slaked lime.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Structural firefighter's protective clothing is ineffective for fires involving hydrochloric acid. Stay away from ends of tanks. Cool tanks with water spray until well after fire is out.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

J. T. Baker NEUTRASORB(R) or TEAM(R) 'Low Na+' acid neutralizers are recommended for spills of this product.

7. Handling and Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials. Do not wash out container and use it for other purposes. When diluting, the acid should always be added slowly to water and in small amounts. Never use hot water and never add water to the acid. Water added to acid can cause uncontrolled boiling and splashing. When opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for

the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

For Hydrochloric acid:

- OSHA Permissible Exposure Limit (PEL):
5 ppm (Ceiling)
- ACGIH Threshold Limit Value (TLV):
2 ppm (Ceiling), A4 Not classifiable as a human carcinogen

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, a full facepiece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: Colorless, fuming liquid.	Boiling Point: 53C (127F) Azeotrope (20.2%) boils at 109C (228F)
Odor: Pungent odor of hydrogen chloride.	Melting Point: -74C (-101F)
Solubility: Infinite in water with slight evolution of heat.	Vapor Density (Air=1): No information found.
Density: 1.18	Vapor Pressure (mm Hg): 190 @ 25C (77F)
pH:	Evaporation Rate (BuAc=1):

For HCL solutions:
 0.1 (1.0 N), 1.1 (0.1 N),
 2.02 (0.01 N)

No information found.

% Volatiles by volume @ 21C (70F):
 100

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Containers may burst when heated.

Hazardous Decomposition Products:

When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

A strong mineral acid, concentrated hydrochloric acid is incompatible with many substances and highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials. Incompatible with materials such as cyanides, sulfides, sulfites, and formaldehyde.

Conditions to Avoid:

Heat, direct sunlight.

11. Toxicological Information

Inhalation rat LC50: 3124 ppm/1H; oral rabbit LD50: 900 mg/kg (Hydrochloric acid concentrated); investigated as a tumorigen, mutagen, reproductive effector.

-----\Cancer Lists\-----

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Hydrogen Chloride (7647-01-0)	No	No	3
Water (7732-18-5)	No	No	None

12. Ecological Information

Environmental Fate:

When released into the soil, this material is not expected to biodegrade. When released into the soil, this material may leach into groundwater.

Environmental Toxicity:

This material is expected to be toxic to aquatic life.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: HYDROCHLORIC ACID

Hazard Class: 8

UN/NA: UN1789

Packing Group: II

Information reported for product/size: 475LB

International (Water, I.M.O.)

Proper Shipping Name: HYDROCHLORIC ACID

Hazard Class: 8

UN/NA: UN1789

Packing Group: II

Information reported for product/size: 475LB

15. Regulatory Information

Risk and Safety Phrases:

Symbol: C

Risk: 34-37

Safety: (1/2-)26-45

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Hydrogen Chloride (7647-01-0)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	Korea	--Canada--		Phil.
		DSL	NDSL	
Hydrogen Chloride (7647-01-0)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.

Hydrogen Chloride (7647-01-0)	5000	500*	Yes	No
Water (7732-18-5)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	-TSCA-
Hydrogen Chloride (7647-01-0)	5000	261.33	8(d)
Water (7732-18-5)	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes
 SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
 Reactivity: No (Mixture / Liquid)

Australian Hazchem Code: 2R
 Poison Schedule: None allocated.

WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings:
 Health: 3 Flammability: 0 Reactivity: 0

Label Hazard Warning:
 POISON! DANGER! CORROSIVE.
 LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED OR INHALED. INHALATION MAY CAUSE LUNG DAMAGE.

Label Precautions:
 Do not get in eyes, on skin, or on clothing.
 Do not breathe vapor or mist.
 Use only with adequate ventilation.
 Wash thoroughly after handling.
 Store in a tightly closed container.
 Remove and wash contaminated clothing promptly.

Label First Aid:
 In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.

Product Use:
 Laboratory Reagent.

Revision Information:
 MSDS Section(s) changed since last revision of document include: 3.

Disclaimer:

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faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

.....
Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)
H3880

Attachment 2

Map Directions to Hospital

Directions to MADISON, WI



Summary and Notes

START **A** MIDDLETON, WI

FINISH **B** 600 Highland Ave, MADISON, WI

Total Distance: 6.8 miles, Total Time: 18 mins (approx.)

Add your notes here...

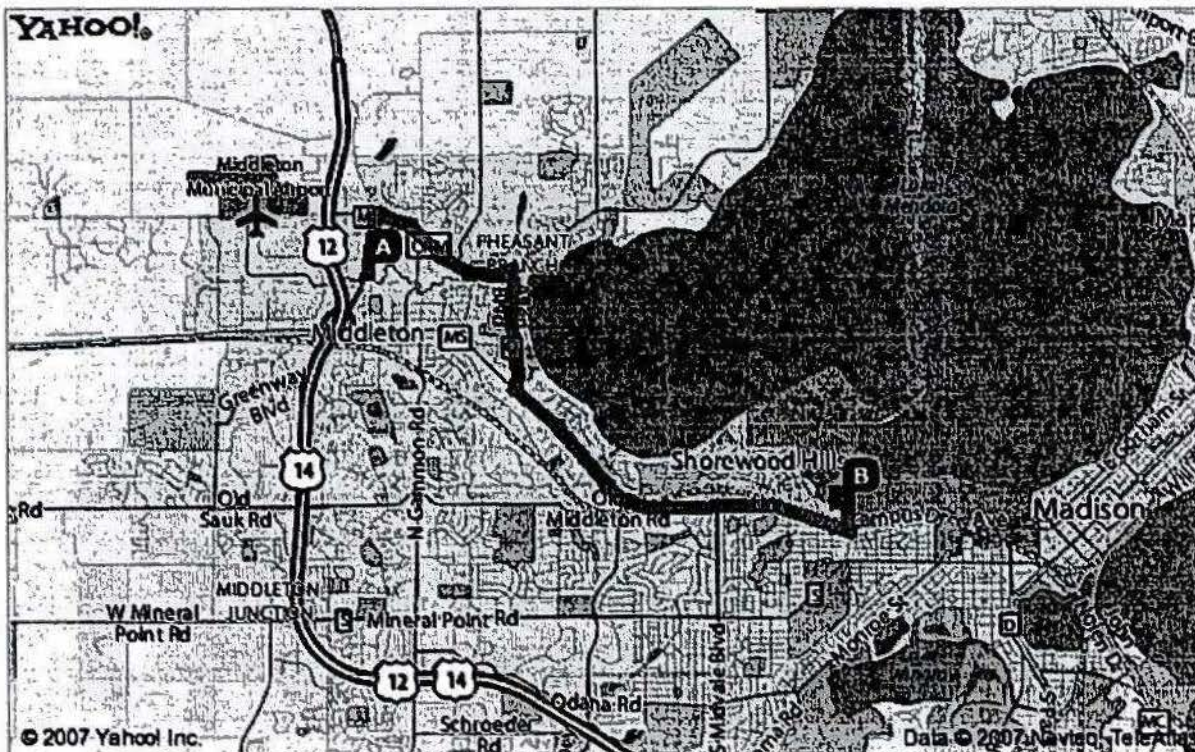
Distance

A MIDDLETON, WI

- 1. Starting at the center of zip code 53562 on **PARMENTER ST** go toward **DONNA DR** go 0.5 mi
- 2. Turn **R** on **CENTURY AVE(CR-M E)** go < 0.1 mi
- 3. Continue on **CENTURY AVE(CR-M)** go 1.3 mi
- 4. Turn **R** on **ALLEN BLVD(CR-Q S)** go 1.0 mi
- 5. Bear **L** on **UNIVERSITY AVE(CR-MS)** go 3.4 mi
- 6. Turn **L** on **HIGHLAND AVE** go 0.6 mi
- 7. Arrive at **600 HIGHLAND AVE, MADISON**, on the **L**

B 600 HIGHLAND AVE, MADISON, WI

Distance: 6.8miles, Time: 18 mins



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.