

**Wisconsin Department of Natural Resources
Superfund Site Assessment
Preliminary Assessment/(Screening or Expanded) Site Investigation
HEALTH AND SAFETY PLAN**

Site Name: Keck Farm

U.S. EPA ID#: WIN000506251

Location: W5797 Freitag Lane, Town of Watertown, Jefferson Co., WI

Directions to Site: From Interstate 94, exit at Exit 259 in Lake Mills. Turn left (south) on County Road G. Drive 0.3 miles (beneath interstate). Turn left (east) on Tyranena Park Road. Drive 0.6 miles. Turn left (northeast) on County Road A (crossing beneath interstate again). Drive 3.0 miles. Turn left (north) on County Road Q. Drive 3.6 miles. Turn right (east) on Navan Rd. Drive 0.8 miles. Turn (left) north on West Rd. Drive 1 mile. Turn right (east) on Freitag Lane. The site is on the south side of the east end of Freitag Lane.

Dates of Investigation: July 2017

Project Manager: Jason Lowery, Wisconsin DNR, 101 S. Webster St., Madison, WI 53707

Field Support Group: Jeff Ackerman, Jon Heberer, Larry Lester, Steve Mueller Wendell Wojner, and others TBD

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Reviewed and Approved by:
(Supervisor(s) must sign and date.)



5/30/17

**Prepared by Jason Lowery, Site Assessment Team Leader
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ANTICIPATE

A. Objective

This plan was developed to help protect the health and safety of all DNR personnel investigating potentially contaminated sites. The primary purpose of this health and safety plan is to help site workers recognize and evaluate the chemical, physical, and biological hazards they may potentially encounter and implement controls to minimize the risks of these hazards.

B. Site Description and History

The total area of the Keck Farm is 120 acres, of which two general areas within approximately 1,900 feet of each other were used for disposal of drums containing solvent wastes between 1970 and 1971. Most of the drums were disposed of on the ridge of a drumlin within the farmstead. Additional drums were disposed of along the former fenceline to the east, which is also an existing tree line and the approximate boundary between Sections 15 and 16. The site area is generally used for farming. Most soil contamination was either removed or has had time to volatilize or leach below the immediate ground surface. The monitoring well along the east fenceline (MW-39D) is in a remote area and must be accessed via a field road and rough terrain.

C. Directions to Site and Site Access

From Interstate 94, exit at Exit 259 in Lake Mills. Turn left (south) on County Road G. Drive 0.3 miles (beneath interstate). Turn left (east) on Tyranena Park Road. Drive 0.6 miles. Turn left (northeast) on County Road A (crossing beneath interstate again). Drive 3.0 miles. Turn left (north) on County Road Q. Drive 3.6 miles. Turn right (east) on Navan Rd. Drive 0.8 miles. Turn (left) north on West Rd. Drive 1 mile. Turn right (east) on Freitag Lane. The site is on the south side of the east end of Freitag Lane. Two monitoring wells are located within the farmstead which is surrounded by a fence. One monitoring well (see above section) is in a remote area and must be accessed via a field road and rough terrain. Most of the samples will be collected from potable wells within 1 mile of the source areas. Please see **Attachment 1** for a map showing the route from Interstate 94 to the Site and **Attachment 2** for various maps of the site area.

RECOGNIZE AND EVALUATE

D. Description of Work

Sampling for this SI will be limited to sampling deep on-site monitoring wells that still exist at the site and obtain water from the sandstone aquifer, and private wells within 1 mile of the site. The private wells that were selected as potential targets are near and south of the site and obtain water from the sand or sandstone aquifer, if well construction information is available for the well. Based upon existing well construction forms from the area, most wells in the area obtain water from these aquifers. Groundwater samples from monitoring wells (MW-35D, MW-39D and MW-40D) will be collected using a pump for purging (approximately 58 to 66 gallons) the monitoring wells and dedicated/disposable bailers to sample the monitoring wells. Potable well samples will be collected

directly into laboratory containers from the outdoor spigot between the well and inside pressure tank (or the inside spigot before the pressure tank), and will be identified as potable wells PW-1 through PW-16. Samples will be analyzed for volatile organic compounds (VOC).

E. Work Assignments and Training/Medical Exam Confirmation

All personnel working on site shall have completed, as required, a minimum of 24 hours of health and safety training plus 1 day of supervised in-field training or 40 hours of health and safety training plus 3 days of supervised in-field training. Annual refresher training will also be completed as required. The sampling team will consist of Steve Mueller from the Site Assessment Team and, in general, Hydrogeologists from the WDNR Fitchburg office.

F. Known or Potential Hazards and Risk Analysis

Attachment 3, Risk Analysis Work Sheets for each task, have been completed and are included with this health and safety plan. **Attachment 4** contains information regarding Heat & Cold Stress.

Chemical: Historical data documents the presence of elevated VOCs (primarily trichloroethylene (TCE) in groundwater within the St. Peter Sandstone at the Keck Farm. More recently, TCE was detected at concentrations of 250 and 3,500 ug/L in a groundwater samples collected from monitoring wells MW-35D and MW-40D in 2007. These are two of the three monitoring wells that will be sampled. Significantly lower TCE concentrations are anticipated in groundwater from the eastern-most monitoring well and potable wells (all historically non-detects). The source of the TCE contamination was the dumping of drums of solvents in approximately 1970 to 1971; therefore, significant shallow soil contamination is not anticipated. Groundwater samples will be preserved with a small amount of hydrochloric acid (HCl), which will already be inside the sample containers. The volumes of HCl are not anticipated to be a significant hazard; however, distilled or deionized water will be available on-site in the event that the HCl is inadvertently splashed into somebody's eyes.

Physical:

Typical slip, trip, and fall hazards may exist. A reconnaissance inspection prior to the sampling event will help identify potential physical hazards. Monitoring well MW-39D is located a significant distance from the main site area and must be accessed via a field road on rough terrain. Samplers will need to be cautious as travel to and from this monitoring well. Since the sampling will likely occur in July, extreme heat and humidity could also be a concern. Heat stress information is included as **Attachment 4**. Bottled water will be supplied for samplers during the sampling event. Samplers will also be advised to bring sunscreen, in order to minimize sunburn.

Biological:

Poison ivy, ticks, and mosquitos could be an issue for personnel sampling at monitoring well MW-39D. Samplers at this location will wear long pants and be advised to tuck pants into socks and wear long sleeves to mitigate these potential hazards.

G. Air Monitoring

There are no known hazards in ambient air.

CONTROL

H. Selection of Personal Protective Equipment and Action Levels

Level D protection will be required for anybody sampling or exposed to potentially contaminated media. All personnel have been or will be provided eye protection, inner and outer gloves, boots, and a hard hat. They will also be required to wear long pants.

All personnel should wear a cap with sun visor and apply sunscreen if it will not interfere with the integrity of the laboratory samples. If high temperatures occur during the project, all personnel will take the time and effort to stay hydrated and report any suspected heat stress to the safety officer.

I. Site Control Procedures

The risks involved in conducting this site investigation are considered minimal. Nevertheless, a three-zone system will be used to limit the potential of spreading contamination. These zones include 1.) the exclusion zone, 2.) the decontamination zone, and 3.) the support/clean zone. The precise locations are unknown at this time but the decontamination area will be within the fenced-in area shown in **Attachment 2, Figure 2**.

The source of TCE in groundwater is the dumping of drums in 1970 and 1971. Much of the soil contamination was removed and most of the other residual soil contamination likely leached to greater depths or volatilized. Therefore, soil contamination is not a significant concern.

Any re-usable sampling equipment (e.g. pumps or re-usable bailers) will be decontaminated prior to the sampling event and in between collecting each sample. Other sampling equipment (e.g. disposal bailers and gloves) will be disposable.

Processing of samples will occur within the fenced-in area shown in Figure 2. Personnel who handle environmental media, sample containers, sample preservatives or sampling devices must change gloves between each sample that they handle.

The exclusion zone for each sampling location will be a zone 10 feet in diameter around each of the monitoring wells and potable well sampling locations. These exclusion zones will no longer apply once the samples have been containerized.

Decontamination will occur inside the fenced-in area shown in Figure 2. It will be approximately 20 feet in diameter and will include an area where re-usable sampling equipment will be decontaminated and where disposable sampling equipment will be discarded. It will also include additional clean water in the event that personnel need to be decontaminated. The decontamination zone includes the decontamination area and also the routes between the sampling points and the decontamination area.

The support/clean zone will be everything outside the exclusion zone and decontamination zone. Samples will be processed by the Sample Custodian at least 100 feet away from the decontamination zone. The Sample Custodian will make every effort to not enter the decontamination zone after decontamination activities begin.

J. Decontamination Procedures

All sampling equipment will be decontaminated according to procedures outlined in the site-specific sampling plan.

Site personnel will decontaminate according to the following procedures:

Disposable sampling equipment such as disposable bailers will not be cleaned by WDNR before use in the field. Dedicated, non-disposable sampling equipment will be cleaned before the sampling event and before each monitoring well in the following manner:

1. Equipment will be washed with a non-phosphate detergent (Alconox or equivalent) and warm tap water. If possible, a brush will be used to loosen any residual contamination.
2. Sampling equipment will be rinsed with tap water first, followed by a copious de-ionized, reagent-free water rinse.
3. Sampling equipment will be allowed to air dry in a clean environment and then stored in sealed plastic containers until used for sampling.

If sampling equipment (such as the submersible pump or re-usable bailers) is reused in the field, the procedure given above will be followed between sampling locations as closely as practical.

Discarded items such as Tyvek suits, gloves, paper towels, and disposable sampling equipment, etc., will be placed in plastic trash bags, removed from the site, and disposed of at the WDNR regional office. Other investigative wastes such as purge waters from wells will be stored in sealed pails or drums on site. The regional WDNR office will arrange for the pick up and disposal of investigative wastes by a contractor according to state requirements.

K. Spill Containment and Investigative Waste

The preservative for aqueous samples is small amounts of HCl inside each vial. Material Safety Data Sheets for HCl will be available at the site. Potable water will also be available in the decontamination zone in the event that HCl is inadvertently splashed into the eyes of any of the samplers or on clothes.

Investigative derived wastes will consist of disposable gloves, boot covers, decontamination waters, and purge waters. All disposable personal protective equipment will be disposed of in plastic garbage bags and disposed of at DNR offices. Disposable personal protective equipment that has come in contact with heavily contaminated media or potentially hazardous material, however, will be containerized on site along with purge waters until they are properly transported to and disposed of at a licensed facility.

L. Standard Work Practices

These initial procedures will be performed before any site work begins:

- The project manager will brief the field support team regarding health and safety concerns associated with the site and confirm that all workers have read and understood this health and safety plan,
- Most, if not all, site workers have cellular phones and will be provided with phone numbers to facilitate sampling team communications and emergency calls.
- A vehicle with all emergency information (primarily a copy of this plan) will be designated for emergency use,
- Prevailing wind direction will be determined, and
- The exclusion, contamination reduction, and support/clean zones will be delineated.

The following standard work practices shall be adhered to at all times:

- No eating, drinking, smoking, or applying of cosmetics or personal hygiene products shall be permitted on site (drinking of water, etc., will be allowed off site),
- No ignition sources shall be permitted on site,
- The “buddy system” shall be in effect at all times in the exclusion zone,
- No one shall enter a confined space,
- No one shall enter areas that require the use of PPE Levels A or B,
- Gloves shall be worn until sample containers are thoroughly decontaminated,
- Work shall be restricted to daylight hours,
- Site work will cease during severe weather conditions, including when thunder and lightning are present, and
- Gloves shall be worn while handling chemical preservatives.

M. Emergency Information

All emergency information specific to this site is in **Attachment 5**. Please note that in the event of an emergency the South Central R&R Supervisor shall be notified immediately:

- Steve Martin, 608-275-3310 desk, 608-293-0112 cell

N. Check List of Safety Equipment and Supplies

Below is a checklist of safety equipment and related supplies:

Safety Equipment and Supplies:

Fire extinguisher
First-aid kit
Portable eye/face wash with sterile solutions
Two-way communication system (cell phones)
Material Safety Data Sheets (HCl)

Personal Protective Equipment and Supplies:

- Hard hats (in PPE bag)
- Ear plugs or muffs (in PPE bag)
- Tyvek coveralls, suits, aprons, sleeve covers, boot covers (in PPE bag)
- Outer gloves (neoprene or other suitable material)(in PPE bag)
- Inner disposable gloves
- Safety boots (washable with steel toes/shanks)(in PPE bag)
- Eye protection (safety goggles or face shields)(in PPE bag)
- Duct tape (in PPE bag)
- Drinking water or “sports drinks” and vessels
- Hand and face soap, tap water, paper towels

Decontamination Supplies:

- Alconox or equivalent
- Wash tubs
- Carboys of tap water
- Carboys of contaminant-free distilled water
- Hudson sprayer for contaminant-free distilled water
- Paper towels
- Trash bags
- Barrels/buckets for investigative waste

ATTACHMENT 1 - Directions to Site from Interstate 94

15 min Light traffic 9.5 mi
14 min without traffic
Via CR-A, CR-Q

Print

- A** I-94 E, Waterloo, WI 53551
- Depart I-94 E
- 220 ft At exit 259, take ramp right for WI-89 toward Waterloo / Lake Mills
- 0.2 mi Turn right onto WI-89 / CR-G
- 0.2 mi Turn left onto Tyranena Park Rd / E Tyranena Park Rd / CR-V
McDonald's on the corner
- 0.6 mi Turn left onto CR-A
- 0.0 mi Turn left to stay on CR-Q
- 0.6 mi Turn right onto West Rd
- 0.6 mi Turn right onto Freitag Ln
- 0.3 mi Arrive at Freitag Ln
The last intersection is West Rd
- B** Freitag Ln, Watertown, WI 53094

United States · WI · Jefferson Co.

West Rd. Freitag Ln, Watertown, WI 53094

West Rd.

CTH Q

I-94 E, Waterloo, WI 53551

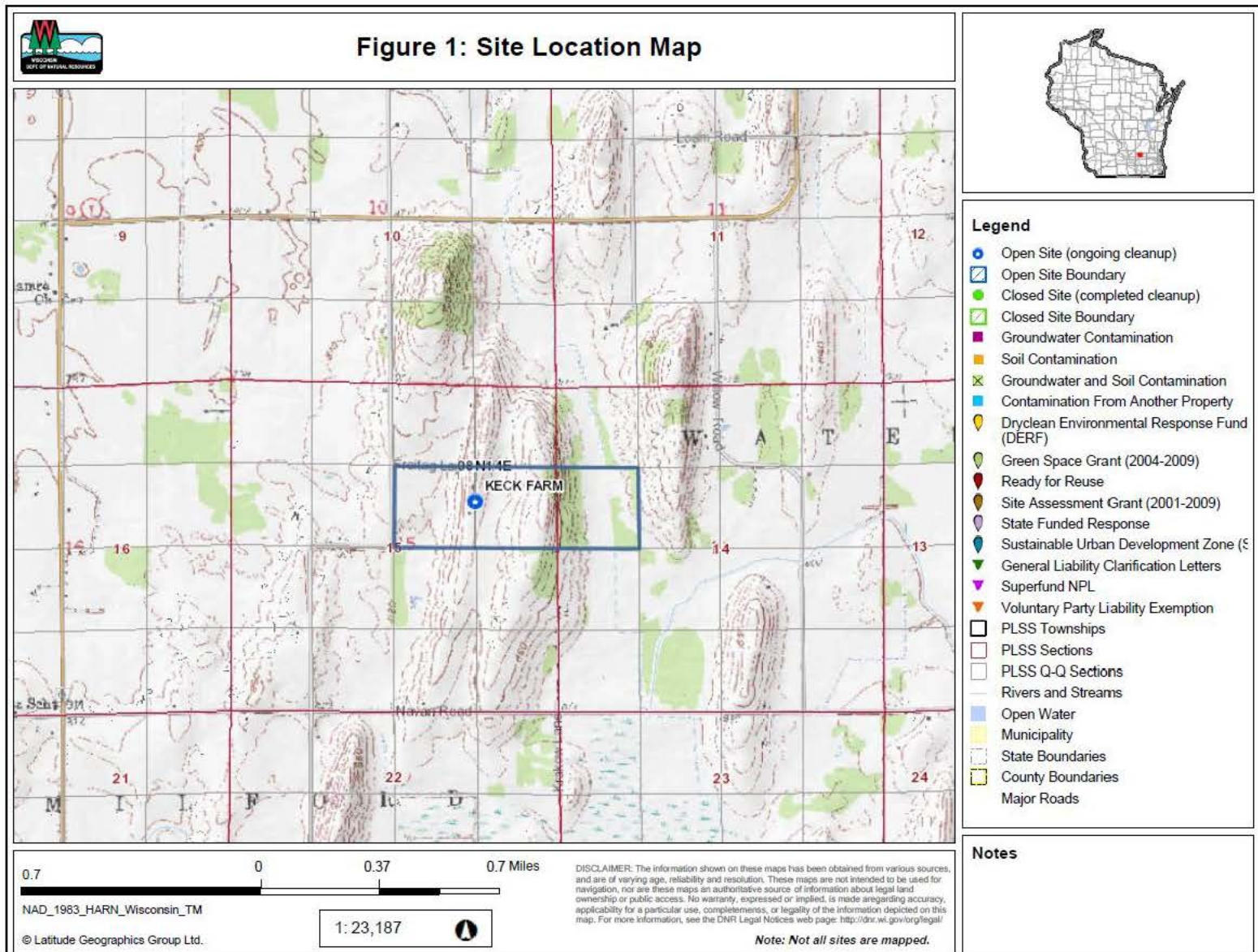
Tyranena Park Rd. CTH A

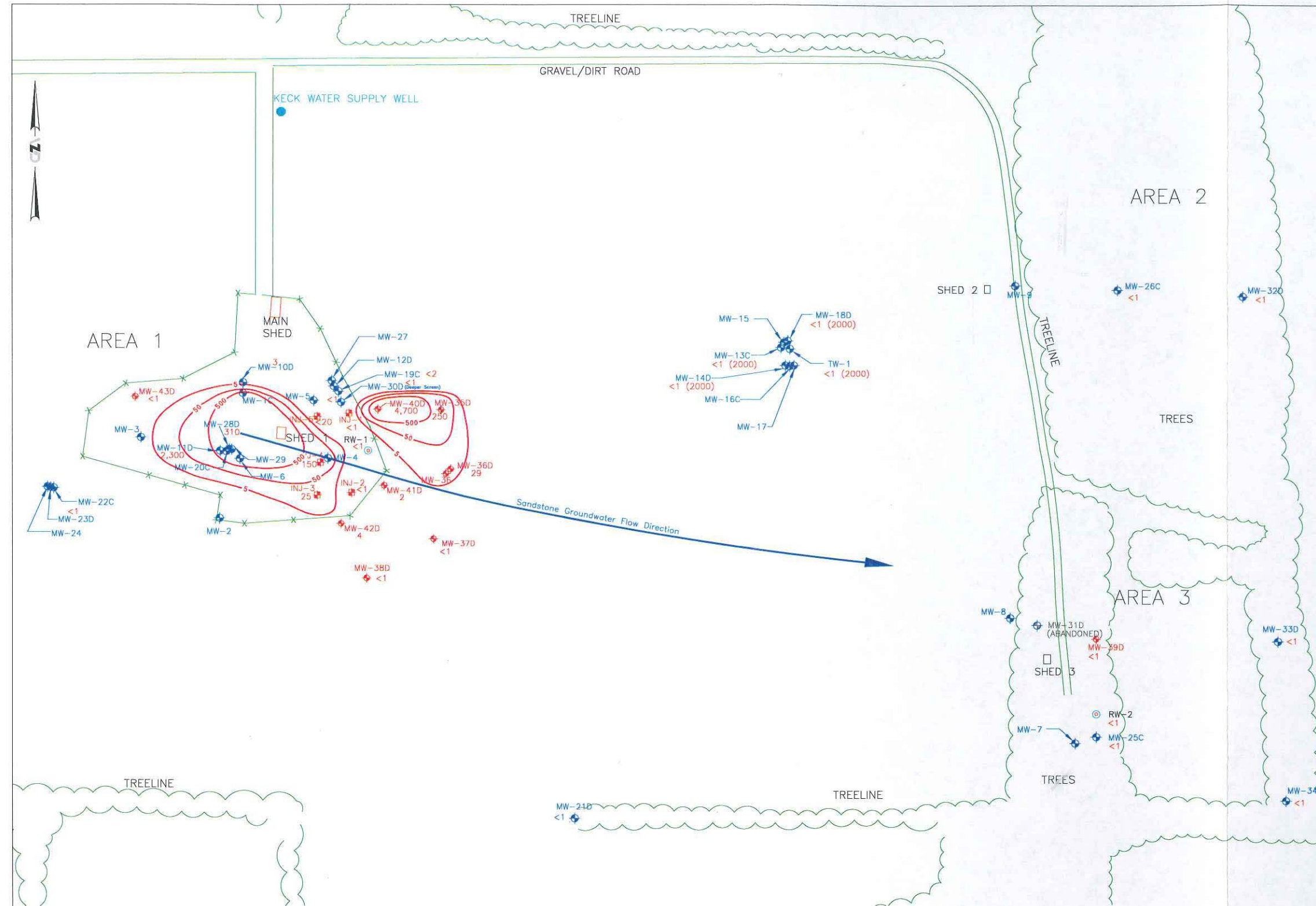
Freitag Ln

2600 feet

© 201

ATTACHMENT 2 - Maps





NOTES

1. BASE MAP WITH SITE FEATURES AND MONITORING WELLS OBTAINED FROM LEGGETTE, BRASHEARS, & GRAHAM, INC. (LBG).
2. MONITORING WELLS MW-35D THROUGH MW-39D INSTALLED BY GZA GEOENVIRONMENTAL, INC. DURING NOVEMBER AND DECEMBER 2002.
3. MONITORING WELLS WITH NO LETTER DESIGNATION ARE SCREENED IN THE TILL.
4. MONITORING WELLS WITH LETTER DESIGNATION "C" ARE SCREENED IN A SAND AND GRAVEL "CONTACT ZONE" BETWEEN THE TILL AND SANDSTONE.
5. MONITORING WELLS WITH LETTER DESIGNATION "D" ARE SCREENED IN THE SANDSTONE AQUIFER.

LEGEND

- MW-2 MONITORING WELL (INSTALLED BY LBG DURING 1989-1990)
- MW-35D MONITORING WELL (INSTALLED BY GZA DURING 2002 - 2004) TCE CONCENTRATIONS IN ug/L
- RW-1 RECOVERY WELL (INSTALLED BY LBG IN 1991)
- INJ-2 INJECTION WELL (INSTALLED BY GZA IN 2004)
- 500 TCE CONCENTRATION CONTOUR LINE (LOGRITHMIC SCALE)

REV. NO.	DESCRIPTION	BY	DATE
	PROJ. MGR: BGF DESIGNED BY: BGF REVIEWED BY: JCO	OPERATOR: CLK DATE: 4/18/07	



KECK FARM
WATERTOWN, WISCONSIN
TCE CONCENTRATIONS IN THE SANDSTONE AQUIFER
NOVEMBER 2006/MARCH 2007

JOB NO.
150549.35

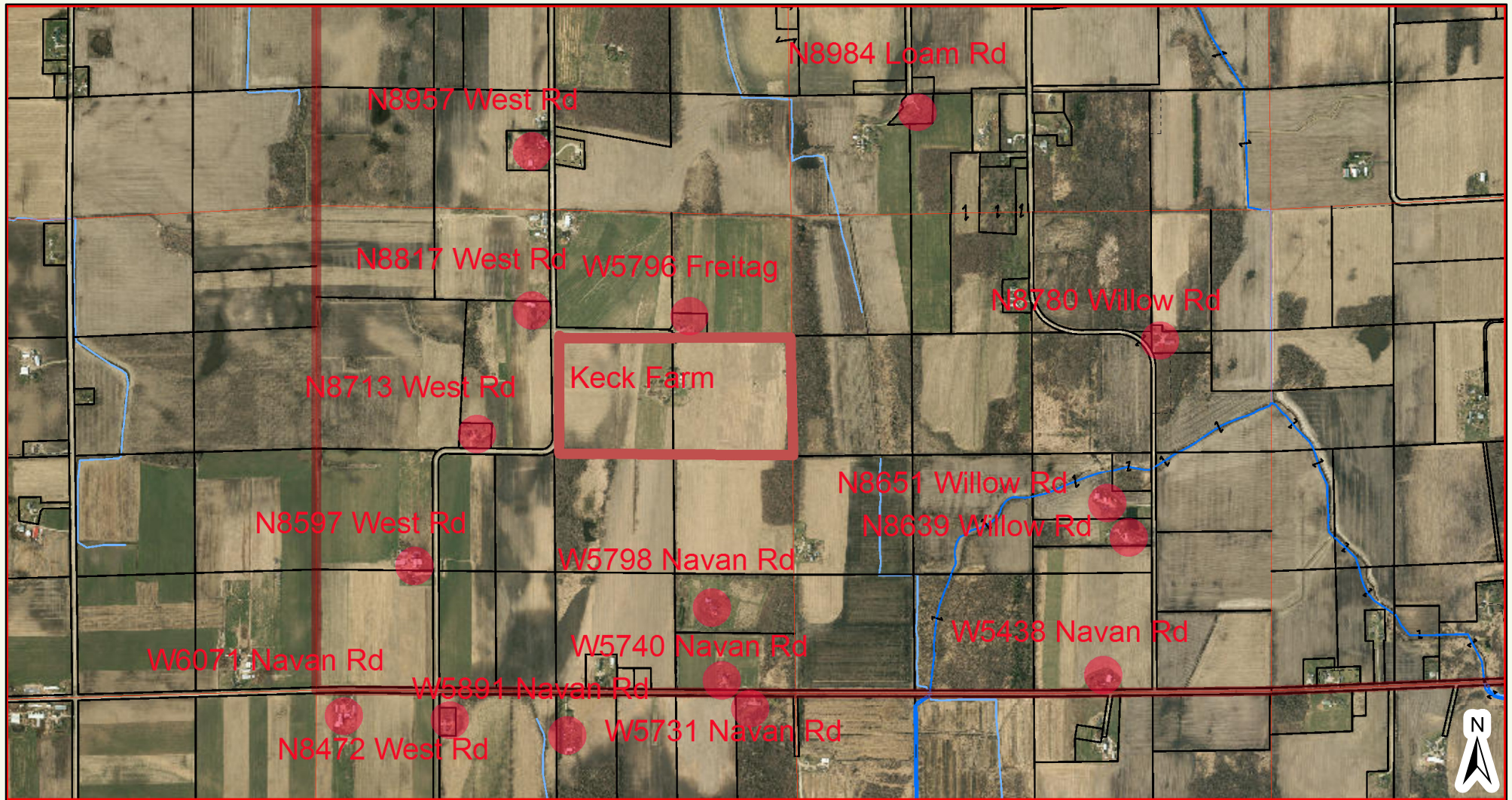
FIGURE NO.
2

© 2008 GZA GeoEnvironmental, Inc.

GZA Drawing Name: Ji:150549.35 Annual Report Nov 2006 April 2007 TCE Conc.dwg Last Modified: Apr 18, 2007 - 2:53pm Plotted on: Apr 18, 2007 - 3:29pm by Bernard.Fenech



Figure 3: Potable Well Locations

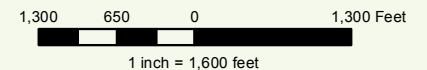


- | | | | |
|-----------------------|--------------------|---------------------|--------------|
| Municipal Boundaries | Road Right of Ways | Tax Parcels | Blue: Band_3 |
| Property Boundary | Section Lines | Streams and Ditches | |
| Old Lot/Meander Lines | Surface Water | Red: Band_1 | |
| Rail Right of Ways | Map Hooks | Green: Band_2 | |



Jefferson County Geographic Information System

DISCLAIMER: This map is not a substitute for an actual field survey or onsite investigation. The accuracy of this map is limited to the quality of the records from which it was assembled. Other inherent inaccuracies occur during the compilation process. Jefferson County makes no warranty whatsoever concerning this information.



Printed on: May 26, 2017

Author: Public User

ATTACHMENT 3

Risk Analysis

Physical Hazard

	Yes	No
Will the site activity at the time it is performed result in stress?		x
Is there a potential for a noise exposure in excess of 90 dBA?		x
Will site activity be performed in extreme temperatures (>70°F and < 40°F)?	x	
Will site activity be performed in windy conditions (wind in excess of 10 mph)?		x
Will site activity be performed in extreme weather (rain or lightning)?		x
Will site activity require lifting of heavy objects (>30 lbs)?	x	
Will site activity require repetitive twisting hand movements?		x
Will the work activity require repetitive elbow and shoulder movement?		x
Will the site activity require arms outstretched or elbows high?		x
Is there a potential for site workers to be struck by moving objects?		x
Will site activity include excessive physical effort (over exertion)?		x
Will site activity be performed on platforms or at elevated heights?		x
Will site activity be performed in an area with an increase potential for slip, trip, or fall?	x	
Will site activity be performed between moving or stationary objects?		x
Will work activity be performed in Level 1 confined space?		x

Department employees are forbidden to enter level 2 confined space

If 'Yes' to any of these questions please refer to Chapter 4 for appropriate risk evaluation and control alternatives.

***For extreme temperature, appropriate breaks and cooling or heating options (shelter, fluids) will be provided.**

***Select personnel may need to lift buckets of purge water and pumps**

***There is uneven terrain between the main site area and monitoring well MW-39D. Sampling personnel will use a vehicle in this area as much as possible.**

Biological Hazard

	Yes	No
Do you know or suspect the presence of blood-borne pathogens and infections (Hepatitis A & B, HIV/AIDS)?		x
Do you know or suspect the presence of blastomycosis causing fungus on site?		x
Is there potential for sharp rusty objects at work site (is this addressed better under medical monitoring)?		x
Do you know or suspect the presence of poisonous ivy, sumac, or other poisonous plants at work site?	x	
Do you know or suspect the presence of poisonous snakes at the worksite?		x
Do you know or suspect the presence of dangerous spiders and insects (including ticks)?	x	

If 'Yes' to any of these questions please refer to Chapter 4 for appropriate risk evaluation and control alternatives.

***Monitoring well MW-39D is in a wooded area. This makes poison ivy, ticks, and mosquitos a concern. Sampling personnel will wear long pants tucked into socks and be requested to wear insect repellent.**

Chemical Hazard

	Yes	No
Are there any known or suspected containers/drums?		x
Are there any known or suspected vapor clouds?		x
Are there any known or suspected dead or stressed animals or stressed vegetation?		x
Are there any known or suspected staining of surface or soils?		x
Are there any known or suspected sheens on water or other clues to the presence of chemicals?		x
Are there any known or suspected manmade or naturally occurring pathways including storm or sanitary sewers, culverts, electrical race ways, gas pipes, telephone wires, cables, etc.?		x

If the answer is "Yes" to any of the above questions, complete Table 1 and quantify concentration.

ATTACHMENT 4 Heat Stress and/or Cold Stress Information

Heat Stress:

Table 2.2 Heat Index/Relative Humidity Chart

		RELATIVE HUMIDITY									
		10%	20%	30%	40%	50%	60%	70%	80%	90%	
TEMPERATURE (Fahrenheit)	104	98	104	110	120	132	*	*	*	*	IV
	102	97	101	108	117	125	*	*	*	*	
	100	95	99	105	110	120	132	*	*	*	
	98	93	97	101	106	110	125	*	*	*	
	96	91	95	98	104	108	120	128	*	*	III
	94	89	93	95	100	105	111	122	*	*	
	92	87	90	92	96	100	106	115	122	*	
	90	85	88	90	92	96	100	106	114	122	
	88	82	86	87	89	93	95	100	106	115	II
	86	80	84	85	87	90	92	96	100	109	
	84	78	81	83	85	86	89	91	95	99	
	82	77	79	80	81	84	86	89	91	95	
	80	75	77	78	79	81	83	85	86	89	I
	78	72	75	77	78	79	80	81	83	85	
	76	70	72	75	76	77	77	77	78	79	
	74	68	70	73	74	75	75	75	76	77	

HOW HOT DOES IT FEEL (Heat Index)

* Beyond the capacity of the Earth's atmosphere to hold water vapor

GENERAL HEAT STRESS INDEX		
DANGER CATEGORY	HEAT INDEX	HEAT SYNDROME
IV. EXTREME DANGER	GREATER THAN 130 DEGREES	Heat/sunstroke highly likely with continued exposure
III. DANGER	105-130 DEGREES	Sunstroke, heat cramps or heat exhaustion likely. Heat stroke possible with prolonged exposure or physical activity.
II. EXTREME CAUTION	90-105 DEGREES	Sunstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity.
I. CAUTION	80-90 DEGREES	Fatigue possible with prolonged exposure and/or physical activity.

The protective clothing will increase the potential for **heat rash, heat cramps, heat exhaustion, and heat stroke**. The symptoms for each disorder are listed below:

1. **Heat rash** is caused by continuous exposure to heat and humid air and aggravated by chafing clothes. It decreases the ability to tolerate heat as well as being a nuisance.
2. **Heat cramps** are caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs: muscle spasm and pain in the extremities and abdomen. Muscles fatigued from work are usually most susceptible to cramps.
3. **Heat exhaustion** is caused by increased stress on various organs to meet increased demands to cool the body. Signs: shallow breathing; pale, moist skin; profuse sweating; dizziness and lassitude.
4. **Heat stroke** is the most extreme form of heat stress. The body must be cooled immediately to prevent severe injury and/or death. Signs: red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma. Medical help must be obtained immediately.

Heat Stress Monitoring:

For monitoring the body's recuperative ability to excess heat, one or both of the following techniques should be used as a screening mechanism. Monitoring of personnel wearing protective clothing should commence when the ambient temperature is 70 degrees Fahrenheit (F) or above. Frequency of monitoring should increase as ambient temperature increases or if slow recovery rates are indicated. When temperatures exceed 80 degrees F workers must be monitored for heat stress after every work period.

1. **Heart rate** (HR) should be measured by the radial pulse for 30 seconds as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 110 beats per minute. If the HR is higher, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period stays the same. If the HR is 100 beats per minute at the beginning of the next rest period, the following work cycle should be shortened by 33%.
2. **Body temperature** should be measured orally with a clinical thermometer (or forehead strip thermometer) as early as possible in the resting period. Oral temperature (OT) at the beginning of the rest period should not exceed 99 degrees F. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period stays the same. However, if the OT exceeds 99.7 degrees F at the beginning of the next period, the following work cycle should be further shortened by 33%. OT should be measured again at the end of the rest period to make sure that it has dropped below 99 degrees Fahrenheit.

The following steps will be taken to reduce the potential for heat stress if temperature extremes are reached:

1. Gatorade will be available as a source of electrolytes. Water will also be available. Personnel should be sure that they have decontaminated their hands and faces prior to consuming liquids. The liquids will be kept in a cooler in the van.
2. For temperatures between 70 and 90 degrees F a minimum of one ten minute rest break for each hour work period is planned. For temperatures exceeding 90 degrees F the planned rest break will be increased to 15 minutes. Monitoring for heat stress will be performed after each work period when temperatures exceed 80 degrees F with rest periods being modified as necessary,
3. Shade will be provided and an air conditioned car will be available. When possible, overheated personnel will cool down in the shade prior to entering an air conditioned car.
4. The team members will use the buddy system while working. They should report any potential symptoms immediately to their partner.

Cold Stress:

Although samplers may not be exposed to extreme cold conditions for prolonged periods, there are several different kinds of cold injuries which can occur, even at temperatures above freezing. This section describes exposure conditions which may cause cold injuries, and methods to prevent or care

for such injuries.

Local Cold Injuries

Chilblains can result from prolonged exposures of bare skin to temperatures in the low sixties or below. The injury usually affects the extremities as a chronic injury of the skin and peripheral capillary circulation. Protecting the skin against exposure to cold for prolonged periods is the method for prevention and for treatment of chilblains.

Immersion foot results from wet cooling of the extremities. Although more common in wet feet exposed over hours or days at temperatures slightly above freezing, it can occur at higher temperatures if wet feet are exposed to cooling over prolonged periods. Prevention depends upon dry shoes and socks, and limited exposures with wet feet. Severe exposures will require emergency treatment.

Frostbite can affect hands, feet, ears and exposed parts of the face, and the severity of the frostbite can range from incipient frostbite, to superficial, to deep frostbite. Incipient frostbite, or frostnip, appears as a sudden blanching or whiteness of the skin, and often is not noticed by the person affected because it comes on slowly and is painless. If identified early, incipient frostbite can be treated effectively by warm hands or breath or by holding the nipped fingers in the armpits. No type of frostbite should be rubbed, and snow should not be used to rub frostbite.

Superficial frostbite causes the skin to have a white, waxy appearance and firm touch, with the tissue beneath soft and resilient. Treatment is protection from the cold and steady and careful re-warming of the frostbitten area. Do not rub any frostbitten area.

Deep frostbite usually involves the hands and feet, and is an extremely serious injury. Tissues are pale, cold, and solid, and emergency medical treatment is urgent. The injured person must be kept dry, given external warming, and watched to see if cardiopulmonary resuscitation is necessary.

Systemic Hypothermia

Severe and general body cooling, known as systemic hypothermia, can occur at temperatures well above freezing by exposure to low or rapidly dropping temperatures, or cold moisture, or to snow and ice. Fatigue, exertion, and hunger are contributing factors.

Generalized body cooling can progress through five stages: Shivering; apathy, sleepiness, listlessness, and indifference; unconsciousness, with slow respiratory rate and very slow pulse rate; freezing of the extremities; and death. Sustained shivering begins when the body core temperature falls below 95 degrees Fahrenheit. With continued cooling there will be stumbling, fumbling, clumsiness, slow reactions, mental confusion, and difficulty in speaking. If the cold conditions are extremely severe, death may occur within two hours of the first symptoms. Emergency treatment of hypothermia requires moving the person out of the wind, replacing wet clothing and providing external heat in any way possible, because the person is unable to generate sufficient body heat. Warm liquids and nourishing food should be provided if the person is conscious. However, since hypothermia is such a severe emergency, emergency medical treatment is needed promptly.

Wind Chill: (The Wind Chill Factor Table in the R&R H&S Handbook is not current. A revised table can be obtained electronically.)

<http://www.usatoday.com/weather/winter/windchill/wind-chill-chart.htm>

The two important factors which contribute to cold injuries are the temperature of the environment and the velocity of the wind. Thermal conductivity of the environment is the mechanism that allows for the effects of the extreme cold. The most common conductors of cold to samplers are moisture, such as wet hands, and metal, such as ladders and railings. Still air is a very poor conductor, but increased velocity increases the wind chill factor. Sampling operations should not generally be conducted when the wind chill temperature is below -20 degrees Fahrenheit.

ATTACHMENT 5

Map with Directions to the Site with Highlighted Route to the Hospital And Emergency Information

Nearest Hospital: Watertown Memorial Hospital, 125 Hospital Dr., Watertown, WI 53098, 920-261-4210, 6.43 miles from site.

Fire/Rescue/Police: 9-1-1. The street address of the site and directions to the site are included on this sheet in case you have to direct emergency personnel to find *you*.

Complete Street Address of Site: W5797 Freitag Ln, Watertown, WI 53094. See Figure 3 for addresses of potable wells, all located in Watertown.

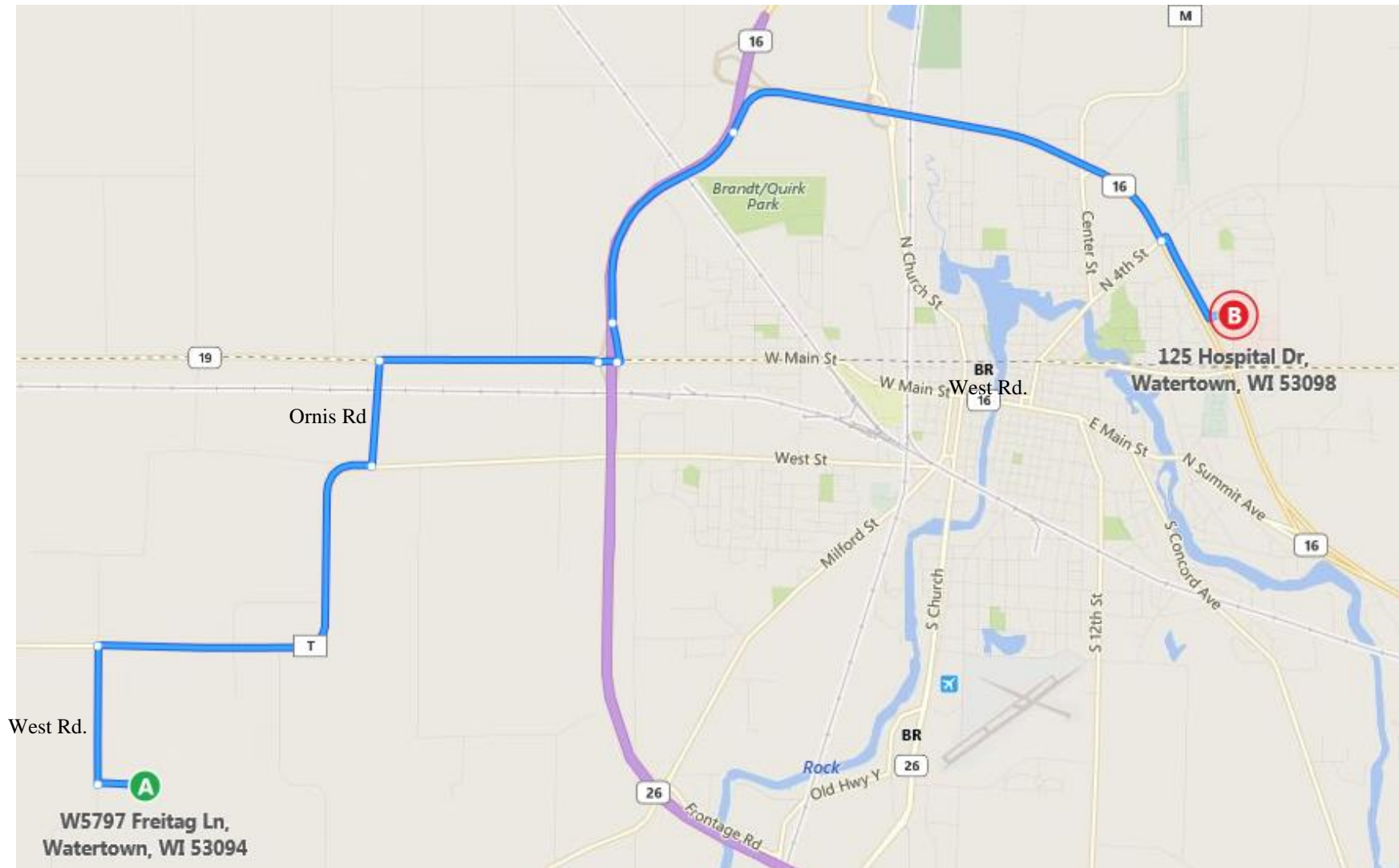
Mobile/Cell Phone Number at Site: Jason Lowery, 608-260-5609, Steve Mueller, 414-708-1315

Driving Directions to the Site (See map)- From W5797 Freitag Ln: Turn left/east. Turn right/north onto West Rd. After 0.8 miles turn right/east on County Road T. County Road T will curve left and then right again. After 2.4 miles turn left/north onto Ornis Rd. After 0.6 miles turn right/east onto State Road 19. After 1.3 miles turn left/north onto State Road 26. After 1.3 miles, at exit 45, turn right/east at State Road 16. After 2.7 miles, turn left/northeast onto N 4th St/County Road R, and then immediately right/southeast onto Frontage Rd for State Road 16. After 0.5 miles, turn left/east onto Memorial Dr. Hospital entrance will be on the right after 0.1 miles.

Poison Control Center-Madison: (608) 262-3702

Chemtrec: (800) 424-9300

MED-TOX: (501) 370-8203



ATTACHMENT 6

Observation Note Sheet

The Project Manager or other site workers may use this sheet to note any observations made related to health and safety. For example, in extreme weather, work periods may be shortened to protect workers from the hazards of heat and cold. You may record the duration of work periods here. In cases of medical concerns or emergencies, health care professionals may find information, such as the persons body temperature, or other observed conditions, helpful. This sheet should not take the place of filing an incident report or a Workman's Compensation claim, but information recorded here may be useful in remembering events at a work site.