

SUPERFUND SITE INSPECTION
SITE AND SAFETY PLAN

Site: Better-Brite Chrome Shop

WID#: 560010118

Location: SW, NE Section 28, T23R, R20E, City of De Pere,
Brown County, Wisconsin. The street address is
519 Lande Street.

Date of Inspection: July 19-20, 1988

Inspection Leader: Annette Weissbach, Lake Michigan
District, Department of Natural
Resources

Other Site Personnel: Jim Reyburn
Al Nass
Tom Sturm
Terry Hegeman

Init. *

JK

AK

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Approvals:

Annette Weissbach, 7-11-88
Prepared by date
Kim McEntee, 7-13-88
Approved by date

Authority: Employees of the State of Wisconsin, under a
cooperative agreement with the Environmental
Protection Agency, are authorized to take
action for the purpose of determining the
need for a response (see section 14(e)(1),
SARA of 1986).

* Initials indicate Site and Safety Plan has been read and will
be abided by.

Attach: Heat Stress Monitoring Information

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

Weissbach

Date: June 20, 1988

File Ref: 4430

To: Kim McCutcheon - SW/3

From: Annette Weissbach - LMD

Subject: Site Sampling and Safety Plan for the Better-Brite Chrome Shop
Superfund Site Inspection WID#560010118INTRODUCTION

This plan is being developed to finalize procedures used in obtaining environmental samples from the Better-brite Chrome Shop. A Preliminary Assessment (PA) was completed for this site on November 21, 1983 by WDNR. The site obtained a medium priority assessment. Sites with medium or high priority assessments require a site inspection.

The inspection will be conducted under CERCLA Section 104(e)(i) as amended by Section 104(m) or SARA under Section 144.442(a), Wisconsin State Statutes.

Since the FIT Site Inspection at the Chrome Shop, conducted in 1984, the Department of Natural Resources has performed an Environmental Repair Fund Investigation at this site which included installation of deep and shallow groundwater monitoring wells. This investigation has enabled us to obtain additional data and provide us with a mechanism to sample groundwater from both the upper and deeper aquifers.

BACKGROUND

The Better-Brite Plating Company began its chrome plating division in the late 1970's and is located at 519 Lande Street, De Pere, WI. The facility primarily engaged in chrome plating 15-20 foot rollers for paper mills in the area. The Site covers about 1.5 acres in a primarily residential area about 1/4 mile west of the Fox River.

The facility eventually filed for bankruptcy in October 1985. Subsequently, in 1986 an emergency cleanup of the site was conducted.

The facility has a lengthy record of violations nine of which occurred between December 1978 and July 1979. The collection trench installed in the early 1980's has not been pumped since 1986. A few weeks ago during a brief melting period, neighboring properties to the west were flooded with chromium laddened waters. At the present time, the City of De Pere is periodically pumping the trench to bring the

water levels down to manageable levels. The water being pumped was indicator-tested to be 2000 ppm chromium.

For a more complete summation of the facility's background, refer to the SI narrative.

TOPOGRAPHY

Over a 300 foot distance topography ranges from 611 (east) to 601 feet (west), USGS datum. A berm (elevation 604 feet) constructed on the west property boundary was supposed to intercept surface water from flowing onto adjacent property. A surface water holding pond is located north of the trench and northwest of the building and usually contains standing water. The surrounding area is relatively flat with a slight slope toward the Fox River which is located approximately 1/4 to 1/2 mile east of the site.

GEOLOGY AND HYDROGEOLOGY

The site is underlain primarily by lacustrine - reddish brown silty clay with lenses and seams consisting of silty fine sands, silty sands, clayey sands, and clayey gravels. Dolomite bedrock surface with some limestone and shale (Ordovician-Sinnepee Group) is encountered at an elevation of 574 feet (west) and 568 feet (east). This corresponds to a bedrock depth of 30 and 42 feet respectively.

The water table slopes to the west, indicating westward groundwater flow. Although not specifically known for the Chrome Shop Site, an investigation at the nearby Better-Brite Zinc Shop indicates strong downward gradients in an identical geologic setting. It may be justified to assume similar gradients exist here. Also, even though the permeabilities of the soils are low (1.9×10^{-8} to 9.0×10^{-9}), the clays are fractured and probably provide for secondary permeability.

Vats containing the plating solutions were buried at a depth of 18 to 20 feet below grade. Assuming the leaky bottoms were at an elevation of 590 feet, a separation distance of only 18 feet to bedrock remained.

The following chemicals have been found in groundwater and soil samples:

Chromium, Zinc, Lead, Cyanide, Cadmium, Benzene, 1,1,1 Dichloroethane, 1,1 Dichloroethylene, 1,1,1 Trichloroethane, Trichloroethylene, and Tetrachloroethylene.

SITE USE

The EPA Technical Assistance Team emptied out most of the interior of the main building after a site assessment and Emergency Action Plan deemed it necessary. Currently, the building is still erect, fairly void of machinery, but containing substantial amounts of contaminated soils. A snow fence was recently put up to keep children and vandals out of the site. The surface water holding pond is also fenced. Another building on site is being used by the Better-Brite Zinc Shop for unknown purposes.

OBJECTIVES

The objective of this operation is to collect groundwater and soil samples to verify releases of hazardous substances through the Contract Lab Program. The site may effect a potential population of 46,400 through a release to the groundwater.

PROCEDURES

Groundwater samples will be taken from all seven (7) monitoring wells installed during the summer of 1987. Sampling will be performed in the following order (representing least to most Chromium contaminated from sampling round in July 1987):

	Cd (ug/l) 8/13/87	Cr (ug/l) 8/13/87
✓B-102A	0.9	< 3
B-101A	1.4	< 3
B-104A	1.8	15.0
B-101	< 0.2	44.0
24B-102	< 0.2	120.0
B-103	< 0.2	6600.0
B-105B	1.1	62000.0

The following field measurements will also be taken and recorded: pH, specific conductance, water elevation, and water temperature.

The monitoring wells will be purged using a 1.66 inch O.D. teflon or stainless steel bailer. Groundwater elevations will be taken prior to bailing as will a reading with the HNU meter of head space in the well. The volume of water in the well will be computed using table 5 of WDNR groundwater sampling procedures outlines PUBL WR-168 87. Most wells are screened into the relatively impermeable clays and may be bailed dry. Purged water will be collected and contained in the calibrated 5-gallon plastic pail and contents

discarded into the approved sanitary sewer inlet. The teflon bailer is being used to minimize absorption of the VOCs and reduce introduction of contaminants. 1/8" 4SB Nylon rope (nonreusable) will be used to lower the bailer. The bailers are not dedicated and, between wells, will be triple rinsed with distilled water, acetone and 10% nitric acid rinse.

One field blank of distilled water, one rinse blank and one field duplicate sample will be taken along with appropriate matrix duplicates for QA/QC purposes. All samples will be analyzed for volatiles, semi-volatiles, and metals.

EQUIPMENT AND SUPPLIES

The following equipment will be used:

Have Packed

- | Have | Packed | |
|-------|--------|--|
| | | Safety Equipment |
| _____ | ✓ | Air Escape Masks |
| _____ | _____ | Fire Extinguishers |
| _____ | ✓ | First-Aid Kit |
| _____ | _____ | Portable Eye/Face Wash Unit |
| _____ | _____ | two-way communication system |
| ✓ | _____ | Exotox Model 40 Tri-gas Meter |
| | | Oxygen |
| | | Hydrogen Sulfide |
| | | Flammable gas (LEL methane) |
| _____ | ✓ | HNU meter, model PI 101 |
| | | Personnel Clothing and Equipment -- LEVEL D -- |
| _____ | ✓ | Aprons (for Post-SI lab work) |
| ✓ | _____ | Boots (neoprene safety/steel toe and shank) |
| _____ | ✓ | Tyvek Suits (one piece/disposable) |
| _____ | ✓ | Gloves (neoprene or suitable composition) |
| ✓ | _____ | Hard Hats |
| _____ | ✓ | Latex Gloves (disposable) |
| _____ | ✓ | Outer Boot Covers |
| ✓ | _____ | Safety Glasses |
| _____ | ✓ | Tool Kit — need screwdriver |
| _____ | ✓ | Masking tape |
| | | Sampling Equipment |
| _____ | ✓ | 0.45 micron Filters and Prefilters |
| _____ | _____ | Air Sampling Containers/Analyzer |
| _____ | ✓ | Bailer Cord (nylon) |
| _____ | ✓ | Bailers (teflon, stainless steel) |
| _____ | ✓ | Calibrated Buckets |

_____	✓	Easy troll down rigger/step ladder
_____	✓	Geofilter Apparatus
_____	✓	Peristaltic Pump
_____	✓	pH Meter and Buffers (4, 7, and 10)
_____	✓	Plastic Sheeting (for ground cover)
_____	✓	Rinse Bottles
_____	✓	Silicone Tubing
_____	✓	Transfer Bottles
_____	✓	YSI Model 3000 T-L-C Meter
		Temperature
		water level
		self-correcting conductivity

Support Equipment and Office Supplies

_____	_____	Air Bills
_____	_____	Chain-of-Custody Forms
_____	✓	Field Book
_____	✓	Coolers
_____	✓	Drinking Water Dispenser
_____	✓	Sampling Van
_____	✓	Calculator
✓	_____	Camera
_____	_____	Ice
_____	✓	Indelible markers, pens, and pencils
_____	_____	Overhead Tarp (with rope and stakes)
_____	_____	Polyethylene Bags (various sizes for bottles)
_____	_____	Receipts for Samples
_____	_____	Sample Label Tags
_____	✓	Tape (masking, cellophane, and strapping)
_____	_____	Traffic Reports
✓	_____	Vermiculite

Decontamination Equipment

_____	✓	Aluminum Foil
_____	✓	Brushes
_____	✓	Detergent
_____	_____	Garbage Cans
✓	_____	Hand and Face Soap
_____	_____	Hudson Sprayer
_____	✓	Paper Toweling
_____	✓	Trash Bags
_____	✓	Wash Tubs
_____	✓	Acetone Rinse
_____	✓	10% Nitric Acid Rinse
_____	✓	Carboys (distilled-quantity <u>4</u> , tap-quantity <u>2</u>)
✓	✓	Hammer for stakes

All monitoring wells will be bailed and sampled using teflon and stainless steel bailers. The bailer will be cleaned prior to use, using acetone as described on page 51 of publication 168. In the field it will be decontaminated using methods specified in the same section. In the lab after sampling is completed, the bailers will also be rinsed with a 10% nitric acid solution. A 6 x 6 piece of 4-mil plastic will be centered around the well to reduce introduction of contaminants. The bailer is bottom loading; a specially designed bottom-emptying-device will be inserted in the bottom to transfer the sample to containers and therefore minimize volatilization of contaminants.

Sampling will comply with Chapter 1, Sections C-J, of the ground-water monitoring procedures guidelines and Chapter 2, Sections C-I, for private water supply wells. The sample containers are provided by the contract laboratory. We will expect that they will comply with exhibit F of the QAPP. Likewise, chain of custody in document control will be according to exhibit G of this reference.

Equipment will be cleaned in the decontamination area where practical. Rinse water will be emptied into the sanitary sewer inlet at the site. Discarded items (ie. Tyvek suits, masking tape, etc..) will be placed in plastic trash bags, removed from the site and disposed of in a dumpster at the office.

After sample bottles are filled, they will be preserved (if necessary per the groundwater sampling procedure guidelines), sealed, rinsed to clean them, labeled, tagged, and placed on ice. All appropriate information such as field measurements, sample I.D. numbers, person obtaining and handling samples, etc., will be recorded in the sampling field notebook or other documents.

LOGISTICS

Equipment and personnel will be transported to the site from LMD HQ in a state-owned, full-sized station wagon. Personnel and equipment from the Central Office will be transported in a state-owned, full sized station wagon. Samples will be taken to Appleton and sent via federal express to the contract laboratory. The federal express office is located in the Outagamie County Airport, telephone number 414-738-7010. This office is open until 7:30 p.m.

SAMPLING REPORT

A sampling report will be prepared by Annette Weissbach after completion of sampling. This report will summarize personnel present, equipment used, problems encountered,

deviations from the sampling plan, and other appropriate information. Two copies will be sent to Robin Schmidt - SW/3. The original will be kept in the District Superfund Inspection File.

SITE SAFETY:

Inspection Leader

Annette Weissbach, Superfund Hydrogeologist, Lake Michigan District

Planned Site Activities

Department employees have been granted access to the site by the Trustee. The owners of the adjacent property containing a monitoring well have also granted access. The site is well known and all members of the site inspection team are familiar with it. The Department has received permission from the City of De Pere Wastewater Treatment Plant to dispose of bail and rinse waters into the sanitary inlet on site. SI personnel will not enter any on-site buildings, nor will they approach the surface water holding pond.

Logistics

Two department station wagon will be used to transport equipment to the site.

A meeting will be held prior to the site inspection to discuss among all personnel the following:

1. Assignment of duties
2. Inspection procedures
3. The nearest medical facilities
4. Emergency procedures
5. Restriction, hygiene

Safety

All people entering the exclusion zone or contaminant reduction zone will wear Level D.

Level D was chosen based on the following rationale:

1. There are no unknown hazards at this site
2. Groundwater and soil samples have been taken over the past ten years
3. Contaminant concentrations are documented

Protective Equipment

At a minimum the following will be worn:

- Boots (neoprene safety/steel toe and shank)
- Tyvek Suits (one piece/disposable)
- Gloves (neoprene or suitable composition)
- Hard Hats
- Latex Inner Gloves (disposable)
- Outer Boot Covers (disposable)
- Safety Glasses
- Full Face Shields for personnel involved in groundwater sampling

Anticipated Hazards

- risk of splash when taking samples
- risk of contact with contaminated soils
- slip, trip, and fall are most likely
- risk of acid burns from preserving samples
- heat exhaustion if temperatures are very hot

Monitoring Requirements

A Hnu PID with 11.7 eV probe will be used for ambient air monitoring for organics.

A Exotox Model 40 Tri gas meter will be used for oxygen, combustible gases, and hydrogen sulfide (not expected to be found).

Readings will be taken from ambient air every hour and from head space in each monitoring well immediately after cap removal.

If Hnu readings 5 ppm above background are encountered in ambient air at breathing level, work will cease. Likewise, if combustible gas levels of 25% LEL are encountered, work will cease. If levels are between 10% to 25% caution will be exercised.

Due to the anticipated hot weather, SI personnel will be instructed to be aware of heart rate and body temperature. The safety officer will be instructed to recognize signs associated with heat rash, heat cramps, heat exhaustion, and heat stroke. Rest breaks will be taken whenever necessary to assure the well being of all personnel. Gator aid and water will be available at all times. Arrangements will be made to offer shade and an air conditioned car will also be available.

Team Organization

<u>Team member</u>	<u>Responsibilities</u>	
Annette Weissbach	Site Manager GW sampling	
Jim Reyburn	soil sampling gw sampling	
Al Nass	gw sampling photo documentation	
Terry Hegeman	air sampling safety officer* back up	off-site
Tom Sturm	Sample preservation and packing decontamination	off-site
C.O. staff	to be determined	

*The safety officer is not permitted in the exclusion zone since he did not have the opportunity to take the required 8 hour refresher course. However, he can serve as safety officer for the following reasons:

1. All monitoring wells are within 50 feet of the exclusion boundary
2. On-site personnel can easily be observed from an off-site location

Initial Procedure

The initial procedure when entering the site will be:

- locate nearest telephone
- confirm location of emergency numbers and route to hospital
- designate vehicle for emergency use
- determine prevailing wind direction and establish support zone, contaminant reduction zone, and exclusion zone
- zero monitoring instruments up wind off site
- perform site inspection

Work Limitations

- no eating, drinking, or smoking on site
- no ignition sources
- buddy system in effect at all times in exclusion zone
- no entry into confined spaces
- no drugs or alcohol during or prior to work

- gloves must be worn until sample bottles are thoroughly decontaminated
- work restricted to daylight hours
- no working if thunder or lightning observed
- continuous air monitoring to occur while in exclusion zone

Decontamination Procedures

- wash and rinse outer gloves (repeat as necessary)
- tear away tyvek suit (place in plastic garbage bag)
- wash and rinse boots
- remove latex inner gloves and place in garbage bag
- wash hands and face thoroughly

Disposal Practices

- all wash and rinse water will be disposed of in the sanitary sewer inlet on site
- garbage will be wrapped and disposed of in dumpster at LMD HQ

Emergency Information

- a. St. Vincent Hospital - Emergency Center (433-8383) located at 835 S. Van Buren Street, Green Bay
- b. City of De Pere Fire Department and Emergency Rescue Squad can be contacted by dialing 911
- c. The Poison Control Center is also located at 835 S. Van Buren Street and can be contacted by dialing (433-8100)

Emergency Routes

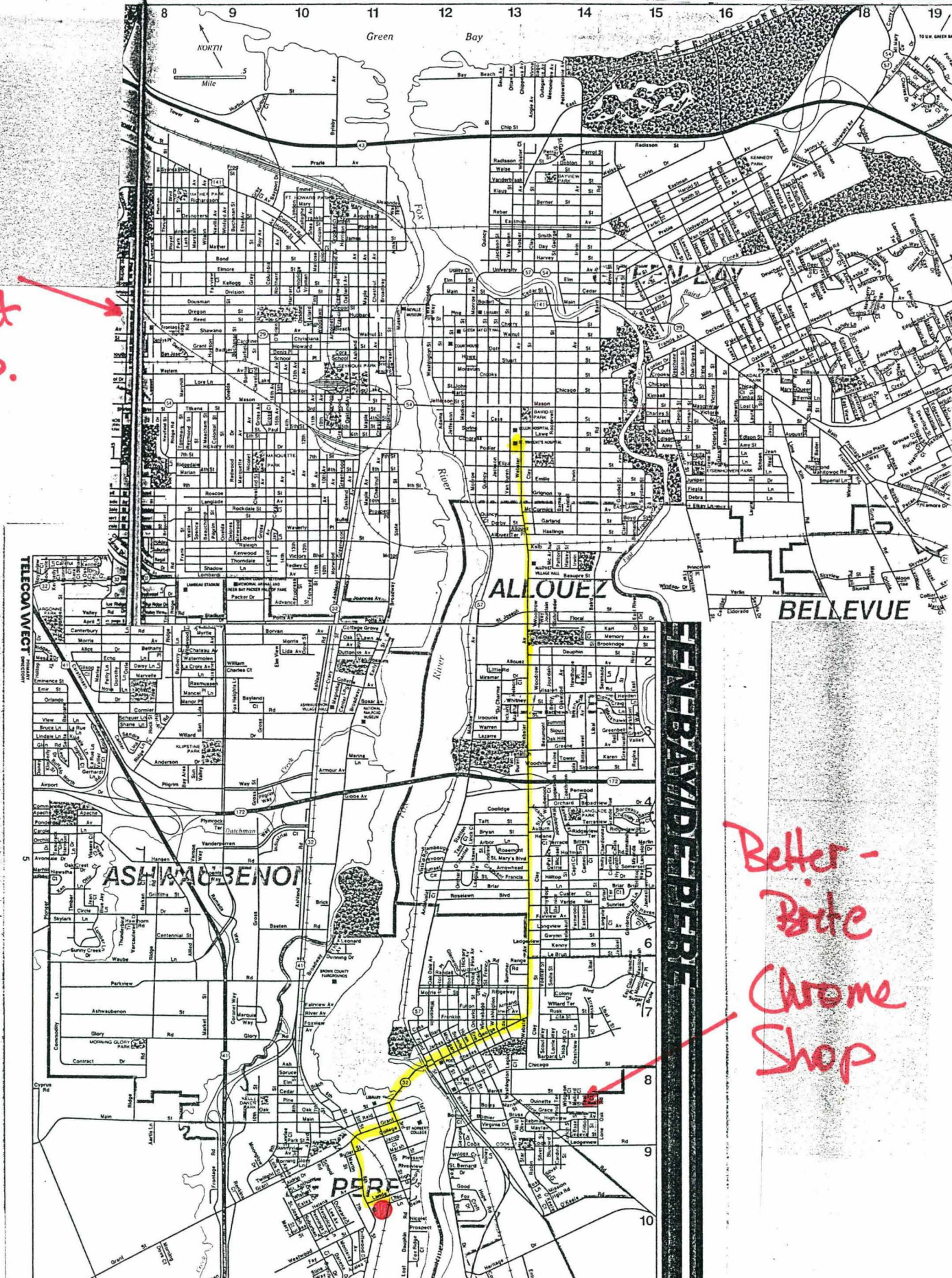
See attached map

Prepared by

Date

GREEN BAY/D

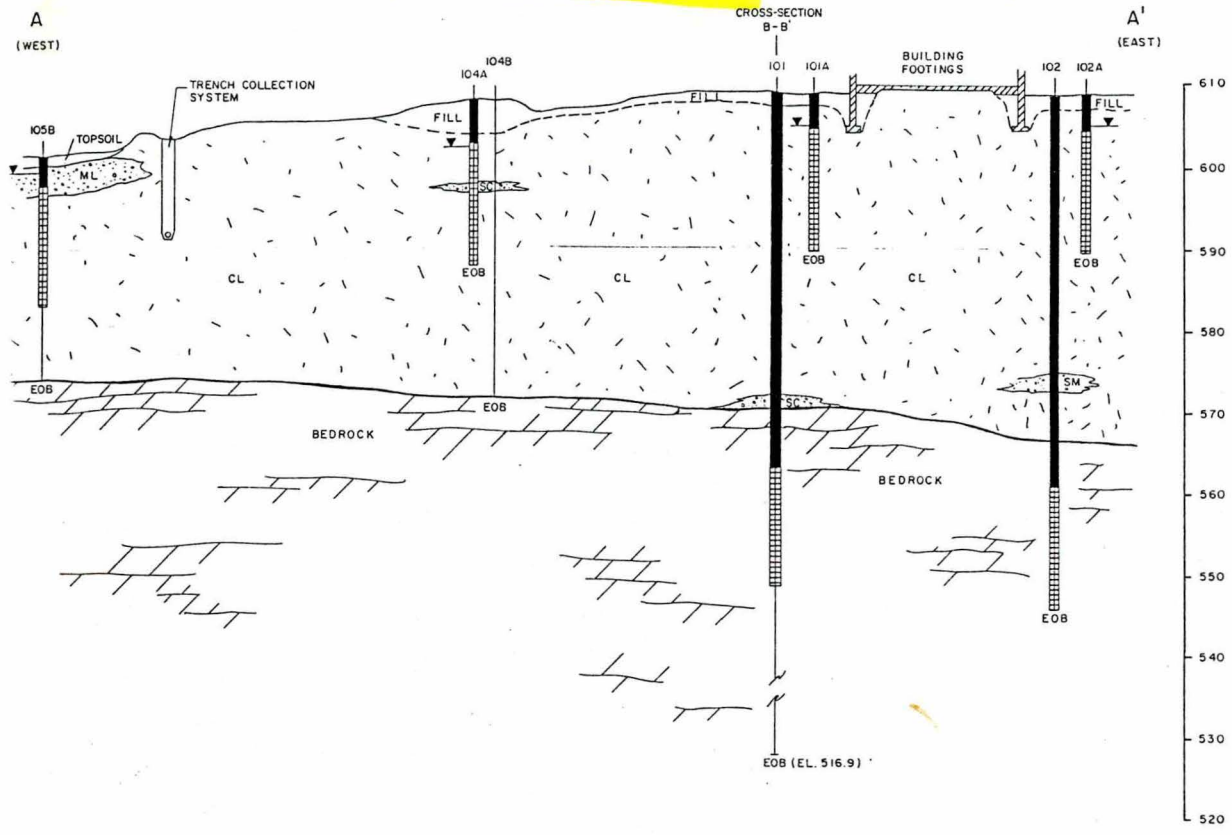
St. Vincent Hosp. →



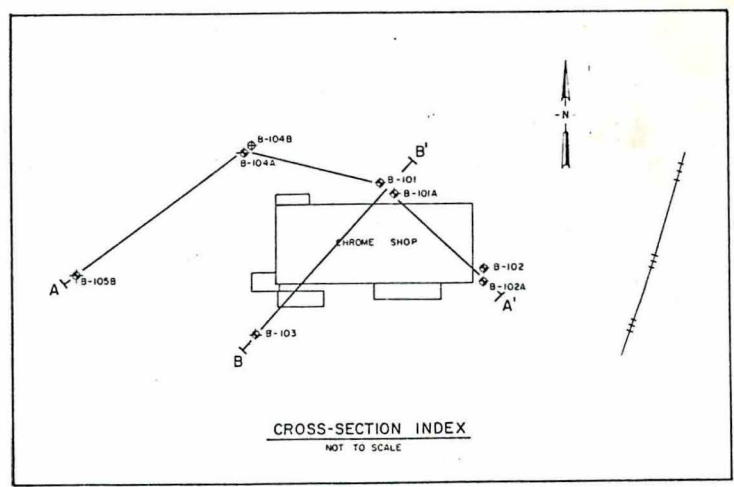
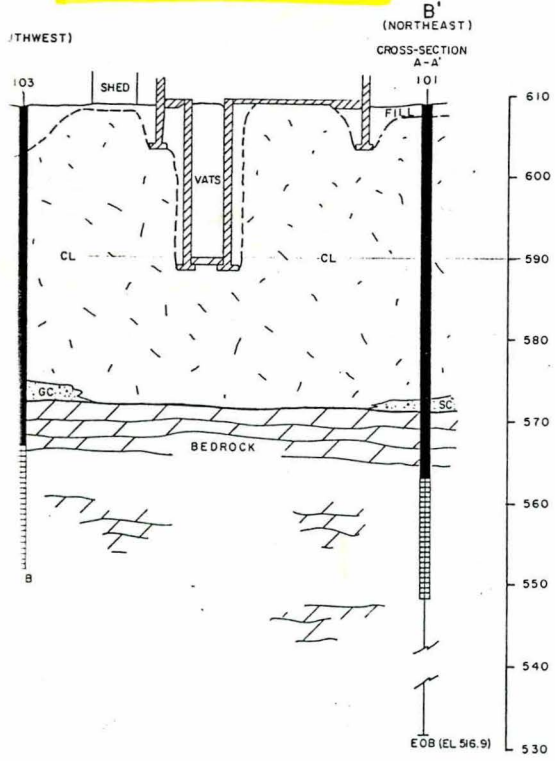
Better -
Brite
Chrome
Shop

Chrome Shop

GEOLOGIC CROSS-SECTION A-A'



GEOLOGIC CROSS-SECTION B-B'



LEGEND

SYMBOL	UNIFIED CLASSIFICATION	DESCRIPTION
	CL	LACUSTRINE - SILTY CLAY
	ML, SM, SC, GC	LACUSTRINE - SILTS, SILTY SA CLAYEY SANDS AND GRAVELS, FC AS ISOLATED LENSES AND SEAMS
		BEDROCK (DOLOMITE)

