STODDARD SOLVENT UNDERGROUND STORAGE TANK
PHASE II SITE INVESTIGATION WORK PLAN

Rec 4/7/93

TECUMSEH PRODUCTS COMPANY
GRAFTON, WISCONSIN

PREPARED FOR:

TECUMSEH PRODUCTS COMPANY
GRAFTON, WISCONSIN

SUBMITTED BY:

FOX ENVIRONMENTAL SERVICES, INC.
MILWAUKEE, WISCONSIN

PROJECT: F-93513
APRIL, 1993

fox environmental services, inc.

STODDARD SOLVENT UNDERGROUND STORAGE TANK

PHASE II SITE INVESTIGATION WORK PLAN

TECUMSEH PRODUCTS COMPANY

GRAFTON, WISCONSIN

Prepared for:

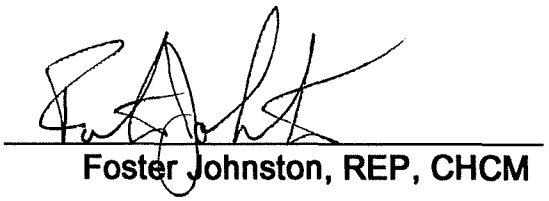
TECUMSEH PRODUCTS COMPANY

GRAFTON, WISCONSIN

Prepared by:

FOX ENVIRONMENTAL SERVICES, INC.

April, 1993



Foster Johnston, REP, CHCM

fox environmental services, inc.

SITE INVESTIGATION WORK PLAN
Stoddard Solvent Tank

Tecumseh Products Company
Grafton, Wisconsin

Project No. F - 92513

INTRODUCTION

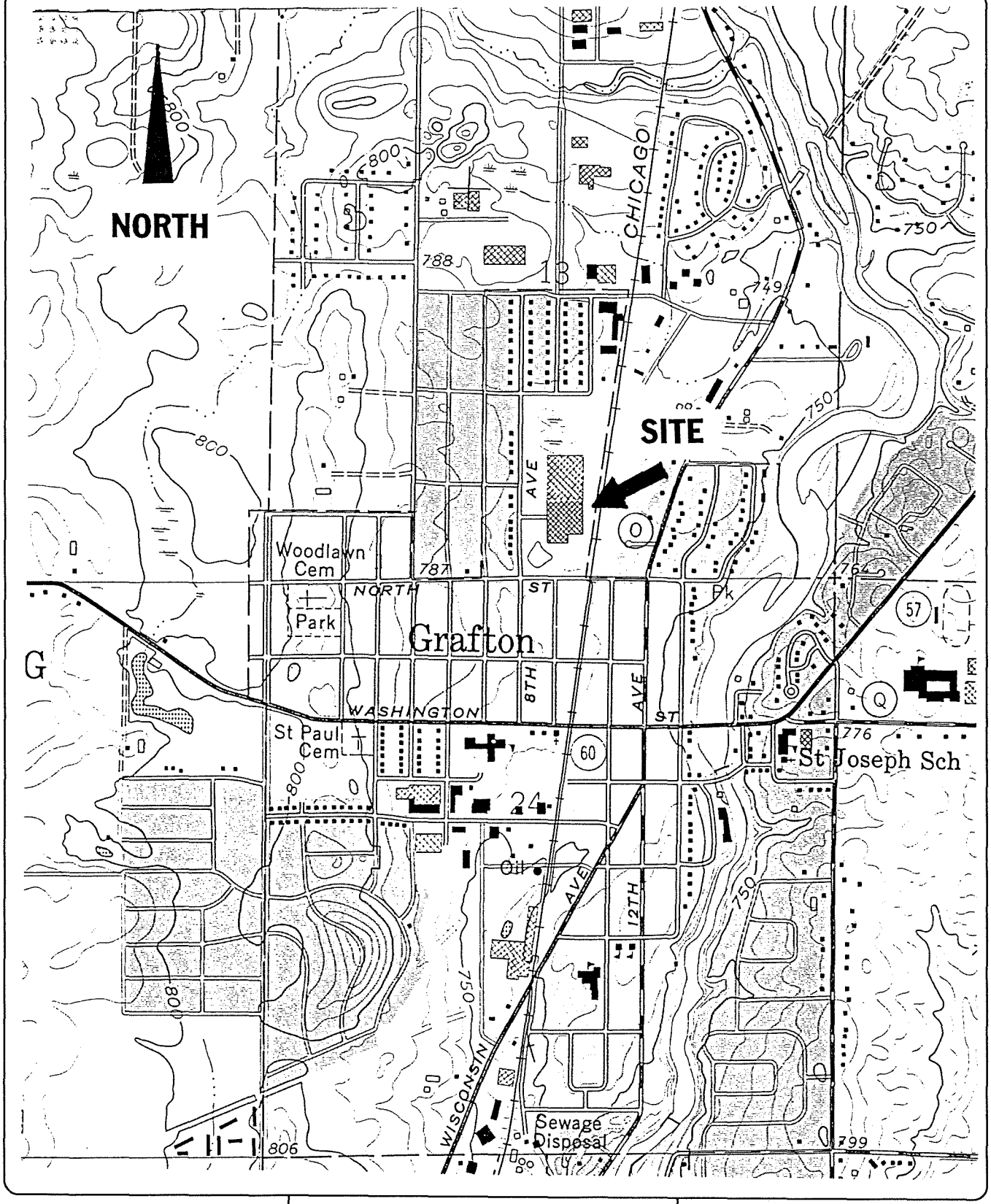
This is a work plan prepared by Fox Environmental Services, Inc. **(FOX)** to describe the Phase II site investigation activities planned at Tecumseh Products Company, 900 North Street in Grafton, Wisconsin **(Figure 1)**. The site investigation was in response to a leak from a stoddard solvent underground storage tank (UST). The purpose of the site investigation is to define the degree and extent of contamination in all media impacted, and provide a basis for choosing the most appropriate remedial action alternative(s).

BACKGROUND

On June 16 & 17, 1992, E&K Hazardous Waste Services, Inc. (E&K) removed a 350 gallon stoddard solvent UST and the associated piping, and performed a tank closure assessment. At two locations within the tank excavation soil contamination was identified to be 11 & 15 parts per million (ppm) by the analytical laboratory. For details of the closure assessment, refer to the report titled "Site Assessment and Tank Closure Report"; Tecumseh Products Company; Grafton, Wisconsin; E&K No. 152922, dated August 18, 1992.

PHASE I SITE INVESTIGATION

On September 14 and 15, 1992, FOX placed four soil borings in and around the excavation backfill for the stoddard solvent tank which was beneath the trash dock on the east side of the building. The location of the borings are identified in **Figure 2.** Using a General 550 drill rig soil samples were collected with a six (6) inch shelby tube every two (2) feet and screened in the field with a Thermo Electron, Model 580, photoionization detector (PID). The soil was classified and entered on boring logs along with the results of the screened samples. The soils were a light to medium brown clay down to about 12 feet with medium brown to gray sand to about 18 feet. The depth of the borings ranged from twelve (12) to eighteen (18) feet and water was encountered from eight (8) to eighteen (18) feet. A total of nine soil samples were submitted to Precision Analytical Laboratory (PAL) for gasoline range organics (GRO) and petroleum volatile organic compounds (PVOC) analysis. The boreholes were properly abandoned and later abandonment forms were completed and sent to the Wisconsin Department of Natural Resources (WDNR).



fox environmental services, inc.

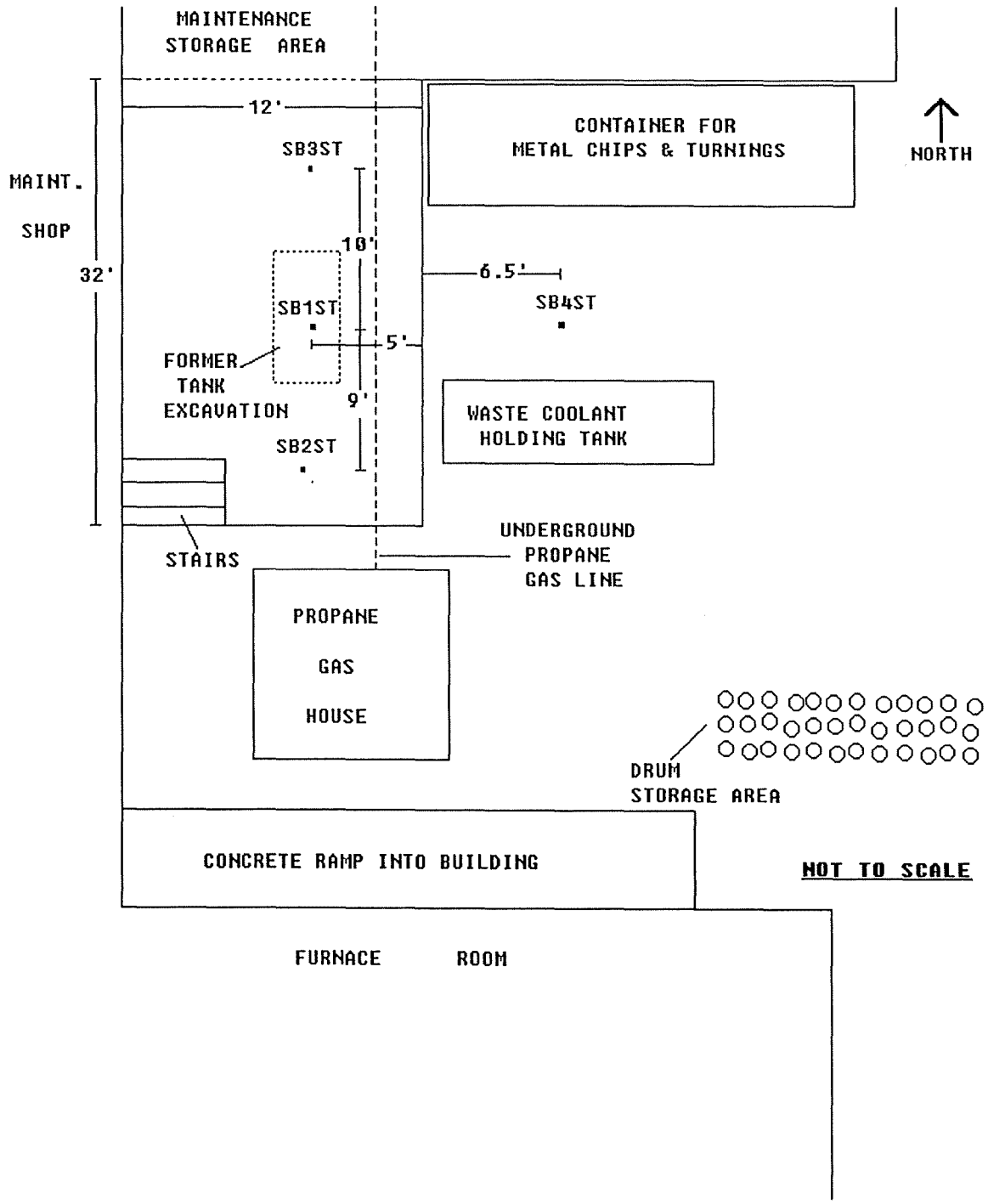
5150 North Port Washington Rd.
Suite 101
Milwaukee, Wisconsin 53217
(414) 332 - 5857

FIGURE 1

LOCATION PLAN

PROJECT NO. 92513

OCTOBER, 1992



fox environmental services, inc.

5150 North Port Washington Rd.
Suite 101
Milwaukee, Wisconsin 53217
(414) 332 - 5857

FIGURE 2

SITE PLAN

PROJECT NO. 92513

OCTOBER, 1992

RESULTS

The results of the laboratory analysis are summarized in **Table 1** and a copy of the lab report is in **Appendix A.** Concentrations of GRO were detected in all nine samples ranging from 34 to 1,100 parts per million (ppm). Five of the samples (SB1ST 16' - 16.5', SB2ST 18' - 18.5', SB3ST 12' - 12.5', SB3ST 16' - 16.5', and SB4ST 12' - 12.5') were collected at depths where water was encountered. Concentrations of PVOC were detected in all nine samples ranging from 970 to 37,000 parts per billion (ppb). Field screening of the samples detected volatile contamination in all of the samples.

TABLE 1
STODDARD SOLVENT TANK

	SB1ST 10' - 10.5'	SB1ST 14' - 14.5'	SB1ST 16' - 16.5'	SB2ST 8' - 8.5'	SB2ST 18' - 18.5'	SB3ST 12' - 12.5'	SB3ST 16' - 16.5'	SB4ST 8' - 8.5'	SB4ST 12' - 12.5'
GRO (in parts per million)	580	970	660	1,100	14	410	34	160	520
PVOC (in parts per billion)									
BENZENE	<500	<500	<210	<510	<100	<540	<100	<500	<500
ETHYLBENZENE	<500	4,500	2,700	6,100	<100	<540	<100	<500	<500
METHYL-T-BUTYLETHER	<500	<500	<210	<510	<100	<540	<100	<500	<500
TOLUENE	1,300	1,400	<210	970	<100	<540	<100	2,600	2,900
1,2,4-TRIMETHYLBENZENE	15,000	35,000	22,000	37,000	150	11,000	590	3,400	16,000
1,2,5-TRIMETHYLBENZENE	11,000	19,000	13,000	20,000	<100	6,300	330	1,400	8,100
TOTAL XYLENES	9,400	20,000	11,000	21,000	<100	4,700	160	2,800	11,000

PHASE II WORK PLAN

The results of the field screening and the laboratory analysis detected concentrations of GRO in all four soil borings. Groundwater or perched groundwater was encountered at various depths and contamination was also detected in these zones. A Phase II site investigation will be performed with the following objectives:

- Notify the WDNR on the new status of the release involving the groundwater. *(This was completed in a letter to Giselle Red on November 18, 1992 from Tecumseh Products)*
- Review all hydrogeologic site data and install groundwater monitoring wells.
- Placement of soil borings to determine the extent of the contamination.

Subsurface Investigation

This section presents the general procedures and equipment for performing the planned soil sampling activities at the site. Sampling activities will include the placement of soil borings with subsequent sampling for laboratory analysis. All drilling activities will follow ASTM guidelines [1].

All soil borings will be advanced by a truck mounted drill rig using hollow-stem auger techniques (ASTM 1452). Soil samples will be collected at two and one-half (2½) foot intervals using a split spoon sampler to a depth of twenty (20) feet. A sufficient number of split spoons will be kept in the field to ensure uninterrupted sampling. All downhole equipment will be steam-cleaned prior to drilling each borehole. The split spoon sampler will be washed with trisodium phosphate (TSP) and rinsed with distilled water between consecutive samples. All steam cleaning rinsate and washwater will be containerized and stored in a secure location on the site pending waste characterization and disposal.

Soil cores will be described in the field by a FOX hydrogeologist by visual inspection. The description will include information pertaining to soil type, grain size distribution, gradation, color, odor, moisture content, consistency, density, grain shape and lithology, structure, and genetic origin. In addition, special note will be made of any heterogeneities, mottling, layering, lenses, fractures, organic matter, fill material or solid waste, and voids.

The soil sampling procedures described below have been developed to obtain representative information of the materials encountered, and will be used during the drilling of all soil borings. The procedures provide information on sampling, data recording and equipment decontamination techniques.

1. Record borehole location and sample (depth) intervals on data sheet.
2. Prior to sampling each interval. label all necessary sample containers with the project number, depth interval, date, time and analysis to be performed.
3. Hand-auger or drill to the start of the designated sampling interval and obtain soil samples. When a split-spoon sampler is driven into the unconsolidated deposits to recover the sample, record the number of blow counts over each six inch interval, and the length of material recovered.

The cores recovered in each auger head or split-spoon will be screened in the field for the presence of contaminants through visual examination and with a OVA brand photoionization detector (PID). The PID will have a lamp energy of 10.6 electrovolts. The field PID will be calibrated daily with 100 ppm isobutylene in air. The purpose of the screening is to provide qualitative information on the level of ionizable compounds in the sample, to examine the sample for evidence of non-volatile contaminants (e.g., metal shavings, paint chips) and to provide information for health and safety purposes.

---

[1] "Standard Practice for Soil Investigation and Sampling by Auger Borings", ASTM Designation No. D 1452-80 (Reapproved 1990).

A portion of each recovered soil core will be placed in a labeled, resealable, polyethylene bag. Once collected and sealed, headspace samples will be agitated for at least 30 seconds to break up soil clods and release vapors. Head space samples will be allowed to equilibrate in a location out of direct sun light for an appropriate time period prior to screening with calibrated PID. The following guidelines, established by the WDNR underground storage tank closure assessment program, will be used to determine the proper equilibration time for head-space samples:

Ambient outside Air Temperature At Time of Sample Collected	Minimum Equilibration Time at 70˚F or Greater
< 40˚F	40 min.
41-55˚F	20 min.
56-69˚F	10 min.
>70˚F	5 min.

Field screening of samples will be conducted by carefully opening a small section of the bag's seal, inserting the probe of the PID, sealing the bag around the probe and allowing the detector to draw head-space sample until a peak reading is reached. The highest detector reading for each sample will be recorded. The PID will be withdrawn from the sample and allowed to draw clean air until a 0.0 or background reading is reestablished. The sample number, depth, peak PID reading, and background concentrations (in ambient air) will be recorded in the field notebook.

Samples for laboratory is will be selected on the basis of field PID readings and visual observation of non-volatile potential contaminants. Selected samples with the highest PID readings and representative samples from depths defining the upper and lower boundaries of contaminated zones will be submitted for laboratory analysis. The analyses performed will provide quantitative information regarding contamination extent and the zone of maximum impact.

If field screening indicates a particular boring is beyond the apparent zone of contamination, a representative sample(s) will be submitted to verify field observations. At least two samples per boring will be submitted. If the boring extends into the saturated zone, then one representative sample will be collected from both the unsaturated zone and the saturated zone. The samples will be analyzed for the same parameters as the impacted samples.

Following the retrieval of the split-spoon sample, the bottom-most portion of the sample will immediately be placed into labeled 8 ounce sample containers, filled such that no head space remains, and cooled to 4°C (±2°C). No preservative is required. Samples will be selected for delivery to the laboratory.

The sampling equipment will be washed with a trisodium phosphate and water mixture, rinsed with tap water and double rinsed with distilled water. All washwater will be containerized and stored in a secure location on the site pending waste characterization and disposal.

A minimum of two samples from each boring will be collected for laboratory analysis from: 1) the location of the highest screened soil sample, and 2) where the boring intersects the water table. All samples will be submitted to a WDNR certified laboratory for gasoline range organics (GRO) and petroleum volatile organic compounds (PVOC) analysis.

One duplicate soil sample will be submitted for every ten soil samples collected. If fewer than ten samples are collected during the subsurface investigation of a particular task area, one field duplicate will be submitted for that sampling round. The duplicate sample will be identified by the same sample identifier as the co-located sample, but with a "D" at the end of the code.

The duplicate sample will be collected from the same core as the original sample by splitting the core longitudinally. Due to the natural heterogeneities of soil that may affect analytical results, the sampler will make every attempt to maintain the integrity and similarity of the two samples.

Upon completion, all boreholes deeper than three feet will be abandoned by filling the borehole to the ground surface with hydrate bentonite holeplug per NR141. Installation and abandonment procedures for borings will be documented using WDNR forms 4400-122 (or equivalent) and 3300-5W, respectively. Any shallow borings conducted with a hand-auger will back-filled with bentonite chips.

All cuttings resulting from the drilling of the soil borings will be containerized in 55 gallon DOT approved drums and stored on-site. The exterior of the drums will identify the boring locations of the soil being contained. If soil boring sample analyses indicate contamination, a composite sample will be collected from the drummed cuttings and analyzed for disposal purposes.

Equipment for the soil sampling program will include:

- Stainless steel spatula and spoon
- Photoionization detector (PID)
- Twenty-eight inch long, two-inch diameter split-spoons made of stainless steel
- Hollow-stem auger drilling equipment with split-spoon sampling capabilities
- Distilled and potable water

- Personnel safety equipment
- Resealable plastic bags
- Steam cleaner, decontamination equipment and materials (brushes, buckets, trisodium phosphate cleaner)
- Soil sample jars
- Disposable gloves

Groundwater Investigation

This section presents the general procedures and equipment for performing the planned soil sampling activities at the site. Up to six (6) groundwater monitoring wells will be installed to provide data on vertical and horizontal components of groundwater flow at the site. Sampling of these monitoring wells will provide ground water quality information from the unconsolidated glacial deposits.

Monitoring wells in unconsolidated deposits will be constructed with two-inch diameter PVC well screen and casing, installed, constructed, and developed in a manner consistent with Chapter NR 141 of the Wisconsin Administrative Code. The installation, construction and development of all monitoring wells will be documented with WDNR forms 4400-122, 4400-113A, and 4400-113B or the equivalent.

All monitoring well boreholes will be drilled using hollow-stem auger techniques (ASTM 1452). During the installation of monitoring well boreholes, soil samples will be collected as described in the section on the subsurface investigation.

Monitoring wells will be constructed of PVC casing and screen material. The screens of water table monitoring well will be ten feet in length. The screened intervals will extend from approximately two feet above the water table surface to a depth of eight feet below the water table surface. The length of the screen and screened interval were selected to accommodate expected water table fluctuations and to meet NR141 requirements. Screens will have a slot size of 0.010 inches (10 slot). A silica sand pack will be installed to two feet above the top of the screen. A two foot thick filter pack seal consisting of fine silica sand will be placed above the filter pack. Two feet of bentonite pellets or granules will be placed over the filter pack seal. An annular space seal at least two feet in length, extending from the filter pack seal to the surface seal, will consist of granular bentonite. Both calculated and actual volumes of seal used will be recorded on the well construction log. A protective steel casing with a locking cap and well identification information (i.e., common identifier, installation date, screen interval) will be cemented in place around each well immediately upon completion. If shallow depths to water are encountered or other aquifer conditions prohibit the effective installation of wells per the Chapter NR 141 requirements, a variance in well construction will be sought from the Department prior to construction of the wells. The construction specifications of each monitoring well will be recorded on WDNR Form 4400-113A or equivalent, and made available to the WDNR.

After completion, each well will be developed according to chapter NR 141 of the Wisconsin Administrative code. Wells will be developed, prior to sampling, in order to maximize yields and minimize the turbidity of water. Well development will terminate when the water sample does not decrease in turbidity and has consistent pH and temperature values after repeated development or a minimum of ten well volumes have been removed. Ground water removed during development and pre-sampling purging will be placed in drums until test results demonstrate that the water can be discharged to a storm sewer. In the event that water quality has been impacted by contaminants, the drummed water will be treated and/or disposed of appropriately. The well development procedures for each monitoring well will be recorded on WDNR Form 4400-113B or equivalent, and made available to the WDNR.

Water levels will be recorded from all the monitoring wells to determine ground water flow patterns. Water levels will be collected on a monthly basis to evaluate seasonal fluctuations.

In general, ground water sampling will proceed from the least to the most contaminated wells. The sampling order will be determined by observations made and field analyses performed during well installation and development.

The following protocol has been developed to obtain ground water samples that provide representative chemical quality information, and is intended for use in sampling monitoring wells during the hydrogeologic field investigation. In addition, development is intended to produce water free of sediment and all drill cuttings and drilling fluids.

Prior to sampling the well, at least three times the amount of water in the well must be removed no less than 12 hours after installation. This is to ensure that the ground water samples collected are representative of the water in the aquifer and not the formation surrounding the well. Well evacuation procedures are as follows:

1. Identify the well and record its designation on a water sampling data sheet.
2. Clean the top of the well with clean rag to prevent loose particulate matter from falling into the well.
3. Remove the well cap or plug and wipe the inside of the casing with a clean cloth and monitor for organic vapor levels.
4. Clean the first five feet of the water-level probe with distilled water and measure the depth of water.
5. Compute the volume of water in a two inch diameter well.
6. Remove ten times the volume of standing water in the well (if the well has been developed and sampled previously, then only three volumes must be removed for subsequent sampling). During removal, the well will be purged for a minimum of 30 minutes. The bailer will be used to surge the well for several minutes, followed by several minutes of purging. If recovery of the water from the well is less than 50

the laboratory, will consist of deionized water preserved with 1:1 HCl acid in VOA vials filled to zero head-space.

The following field equipment is required for well development and sampling:

- Field book, pens, marking pens, labels.
- Clean rags, disposable gloves.
- Steel tape or water level probe, preferably marked in 100ths of a foot.
- Distilled water, plastic wash bottle.
- Trisodium phosphate or other lab grade detergent.
- Polypropylene rope.
- Tools required for opening wells.
- Pail (graduated).
- Ice chest and ice.
- pH meter, electrode, standard buffer solutions, beakers, conductivity bridge, conductivity cell, temperature gauge.
- Clean 55-gallon drums.
- Bailers
- Sample containers, preservative.

Precision Analytical Lab, Inc
205 West Galena
Milwaukee, WI 53212

Phone: (414) 272-5222

RECEIVED 10-16-92

Fox Environmental Services
5150 N. Port Washington Rd.
Milwaukee, WI 53217

Attn: Lawrence L. Fox
Invoice Number: 5505

Order #: 92-09-169
Date: 10/12/92 16:12
Work ID: Tecumseh 92513
Date Received: 09/15/92
Date Completed: 09/30/92
Client Code: FOX_ENVIRO

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	SB1 ST 10-10.5
02	SB1ST 14-14.5
03	SB1ST 16-16.5
04	SB2ST 8-8.5
05	SB2ST 18-18.5

Laboratory ID Number (Wisconsin DNR): 241369260

Certified By
Jeff Bushner

Sample: 01A SB1 ST 10-10.5 **Collected: 09/14/92**

Test Description		Result	Limit	Units	Analyzed	By
Mod. GRO (WDNR)		580		mg/kg	09/23/92	EMC
PVOC Soil, (WDNR) 8020						
Benzene	##	< 500		ug/kg	09/23/92	EMC
Ethylbenzene		< 500		ug/kg	09/23/92	EMC
Methyl-t-butylether		< 500		ug/kg	09/23/92	EMC
Toluene		1300		ug/kg	09/23/92	EMC
1,2,4-Trimethylbenzene		15000		ug/kg	09/23/92	EMC
1,3,5-Trimethylbenzene		11000		ug/kg	09/23/92	EMC
Total Xylenes		9400		ug/kg	09/23/92	EMC

Sample: 02A SB1ST 14-14.5 **Collected: 09/14/92**

Test Description		Result	Limit	Units	Analyzed	By
Mod. GRO (WDNR)		970		mg/kg	09/23/92	EMC
PVOC Soil, (WDNR) 8020						
Benzene	##	< 500		ug/kg	09/23/92	EMC
Ethylbenzene		4500		ug/kg	09/23/92	EMC
Methyl-t-butylether		< 500		ug/kg	09/23/92	EMC
Toluene		1400		ug/kg	09/23/92	EMC
1,2,4-Trimethylbenzene		35000		ug/kg	09/23/92	EMC
1,3,5-Trimethylbenzene		19000		ug/kg	09/23/92	EMC
Total Xylenes		20000		ug/kg	09/23/92	EMC

Sample: 03A SB1ST 16-16.5 **Collected: 09/14/92**

Test Description		Result	Limit	Units	Analyzed	By
Mod. GRO (WDNR)		660		mg/kg	09/23/92	EMC
PVOC Soil, (WDNR) 8020						
Benzene	##	< 210		ug/kg	09/23/92	EMC
Ethylbenzene		2700		ug/kg	09/23/92	EMC
Methyl-t-butylether		< 210		ug/kg	09/23/92	EMC
Toluene		< 210		ug/kg	09/23/92	EMC
1,2,4-Trimethylbenzene		22000		ug/kg	09/23/92	EMC
1,3,5-Trimethylbenzene		13000		ug/kg	09/23/92	EMC
Total Xylenes		11000		ug/kg	09/23/92	EMC

Sample: 04A SB2ST 8-8.5 **Collected: 09/14/92**

Test Description	Result	Limit	Units	Analyzed	By
Mod. GRO (WDNR)	1100		mg/kg	09/23/92	EMC

Test Description		Result	Limit	Units	Analyzed	By
PVOC Soil, (WDNR) 8020						
Benzene	##	< 510		ug/kg	09/23/92	EMC
Ethylbenzene		6100		ug/kg	09/23/92	EMC
Methyl-t-butylether		< 510		ug/kg	09/23/92	EMC
Toluene		970		ug/kg	09/23/92	EMC
1,2,4-Trimethylbenzene		37000		ug/kg	09/23/92	EMC
1,3,5-Trimethylbenzene		20000		ug/kg	09/23/92	EMC
Total Xylenes		21000		ug/kg	09/23/92	EMC

Sample: 05A SB2ST 18-18.5 **Collected: 09/14/92**

Test Description		Result	Limit	Units	Analyzed	By
Mod. GRO (WDNR)	@	14		mg/kg	10/01/92	EMC
PVOC Soil, (WDNR) 8020						
Benzene	##@	< 100		ug/kg	10/01/92	EMC
Ethylbenzene		< 100		ug/kg	10/01/92	EMC
Methyl-t-butylether		< 100		ug/kg	10/01/92	EMC
Toluene		< 100		ug/kg	10/01/92	EMC
1,2,4-Trimethylbenzene		150		ug/kg	10/01/92	EMC
1,3,5-Trimethylbenzene		< 100		ug/kg	10/01/92	EMC
Total Xylenes		< 100		ug/kg	10/01/92	EMC

The organic data is reported out on a dry-weight basis.

Sample was covered air tight in approved container, shipped in cooler from the source to our lab, temperature upon arrival was 4 degrees C.

The samples ordered for GRO were analyzed by the Wisconsin DNR Modified GRO method.

Elevated detection limit due to sample concentration.

The samples ordered for PVOC were analyzed according to Method 8020 (SW 846 Test Methods for Evaluating Solid Waste - Physical/ Chemical Methods)

All analysis as per approved methods found in one or more of the following:
Standard Methods for the Evaluation of Water and Wastewater, 16th Edition.
Methods for Chemical Analysis for Water and Wastes, Revised March 1983, EPA 600/4-79-020
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Edition 1986 EPA SW846

Analysis performed or certified by Precision Analytical Labs

@ Amended result due to autosampler error. Initial analysis was performed on 9/25/92.

CL INF ATR

Chain of Custody

Page 1 of 1 No 5396

Precision Analytical Laboratory
205 W. Galena
Milwaukee, WI 53212

Phone: (414) 272-5222
Fax: (414) 272-6949

Project Manager: Foster Johnston
Company: Fox Environmental Services
Address: 5150 N Port Washington Rd
Milwaukee WI 53217
Phone: (414) 332-5857 Fax: ( )
Project: Tecumseh 92513
Quote/Reference:
Reports to be sent to: Foster Johnston

SPECIAL INSTRUCTIONS:

Property Owner:
Property Address:
Telephone Number:

Del'v: Hand Comm.
Ship Cont. OK? (Y) N N/A
Rec'd Refrig.? (Y) N N/A
Seals OK? (Y) N N/A
Samples leaking? Y (N) N/A
Comments:

Temperature
Blank: ____ C
Cool on Ice

SAMPLE HANDLING

___ Nonhazardous ___ Reactive
___ Flammable ___ Work in Hood
___ Skin Irritant ___ Wear Gloves
X Highly Toxic ___ Infectious
___ Other (specify) _____

Turnaround Time

X Normal
___ Rush ** (Please refer to Quote/Reference Number)
Date Needed: _____
** WAS LAB NOTIFIED (Y/N) ____

Preservation Code
A-None B-HN03
C-H_2SO_4 D-NAOH
E-HCL F-____
M-MEOH

REMARKS:

LAB USE ONLY	DATE	TIME	COMP	GRAB	TOTAL NUMBER OF CONTAINERS	MATRIX: Surface Water(1), Ground Water(2) Soil(3), Solid/Liquid Waste(4/5), Other(6)	FIELD ID	LOCATION / DESCRIPTION	ANALYSIS: GRO (FILTERED Y, PRESERVED Y)	PVOC (FILTERED Y, PRESERVED Y)	Dry Weight (REFRIGERATED Y)	Fill in spaces with bottles per test
205169-1	9/14/92	10:40		X	5	3	SB1ST 10-10.5	Solvent tank/Boring #1	X	X	*	
-2	9/14/92	11:30		X	5	3	SB1ST 14-14.5	Solvent tank/Boring #1	X	X	*	
-3	9/14/92	12:15		X	5	3	SB1ST 16-16.5	Solvent tank/Boring #1	X	X	*	
-4	9/14/92	2:20		X	5	3	SB2ST 8-8.5	Solvent tank/Boring #2	X	X	*	
-5	9/14/92	3:50		X	5	3	SB2ST 18-18.5	Solvent tank/Boring #2	X	X	*	

Disposition of unused portion of sample
Laboratory Should:
___ Dispose * ___ Retain for ____ days
___ Return ___ Other

* Disposal charges listed in fee schedule

Relinquished By (Signature)	Date /Time	Received By (Signature)
Donald J. Frank	9/15/92 10:45 A.M.	Richard Lahey
Relinquished By (Signature)	Date / Time	Received By (Signature)
Relinquished By (Signature)	Date / Time	Received For Laboratory By: (Signature)

White - Lab. Canary - Report Pink - File Golden Rod - Customer

Precision Analytical Lab, Inc
205 West Galena
Milwaukee, WI 53212

Phone: (414) 272-5222

Fox Environmental Services
5150 N. Port Washington Rd.
Milwaukee, WI 53217

Attn: Lawrence L. Fox
Invoice Number:

Order #: 92-09-180
Date: 10/07/92 09:06
Work ID: Techumseh 92513
Date Received: 09/15/92
Date Completed: 10/06/92
Client Code: FOX_ENVIRO

SAMPLE IDENTIFICATION

Sample Number	Sample Description	Sample Number	Sample Description
01	SB3ST 12-12.5	04	SB4ST 12-12.5
02	SB3ST 16-16.5	05	OTIE
03	SB4ST 8-8.5	06	OT2W

Laboratory ID Number (Wisconsin DNR): 241369260

Certified By
Jeff Bushner

Test Description		Result	Limit	Units	Analyzed	By
PVOC Soil, (WDNR) 8020						
Benzene	##	< 500		ug/kg	09/23/92	EMC
Ethylbenzene		< 500		ug/kg	09/23/92	EMC
Methyl-t-butylether		< 500		ug/kg	09/23/92	EMC
Toluene		2900		ug/kg	09/23/92	EMC
1,2,4-Trimethylbenzene		16000		ug/kg	09/23/92	EMC
1,3,5-Trimethylbenzene		8100		ug/kg	09/23/92	EMC
Total Xylenes		11000		ug/kg	09/23/92	EMC

The organic data is reported out on a dry-weight basis.

Sample was covered air tight in approved container, shipped in cooler from the source to our lab, temperature upon arrival was 4 degrees C.

The samples ordered for TRPH were analyzed by Modified EPA Method 9073.

Elevated detection limit due to sample concentration.

The samples ordered for PVOC were analyzed according to Method 8020 (SW 846 Test Methods for Evaluating Solid Waste - Physical/ Chemical Methods)

The samples ordered for GRO were analyzed by the Wisconsin DNR Modified GRO method.

All analysis as per approved methods found in one or more of the following:
Standard Methods for the Evaluation of Water and Wastewater, 16th Edition.
Methods for Chemical Analysis for Water and Wastes, Revised March 1983, EPA 600/4-79-020
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd Edition 1986 EPA SW846

Analysis performed or certified by Precision Analytical Labs

Chain of Custody

Page 1 of 1 № 5397

Precision Analytical Laboratory
205 W. Galena
Milwaukee, WI 53212

Phone: (414) 272-5222
Fax: (414) 272-6949

CLIENT INFORMATION

Project Manager: FOSTER JOHNSTON
Company: Fox Environmental Services
Address: 5150 N Port Washington Rd
Milwaukee WI 53217
Phone: (414) 332-5857 Fax: ( )
Project: Tecumseh 92513
Quote/Reference:
Reports to be sent to: Foster Johnston

SPECIAL INSTRUCTIONS:

Property Owner:
Property Address:
Telephone Number:

Del'v: Hand Comm.
Ship Cont. OK? (Y) N N/A
Rec'd Refrig.? (Y) N N/A
Seals OK? (Y) N N/A
Samples leaking? Y (N) N/A
Comments:

Temperature Blank: ____ C
ON ICE

SAMPLE HANDLING
___Nonhazardous ___ Reactive
___Flammable ___Work in Hood
___Skin Irritant ___ Wear Gloves
X Highly Toxic ___Infectious
___Other (specify) ____

Turnaround Time
X Normal
___ Rush ** (Please refer to Quote/Reference Number)
Date Needed: ____
** WAS LAB NOTIFIED (Y/N) ____

LAB USE ONLY	DATE	TIME	COMP	GRAB	TOTAL NUMBER OF CONTAINERS	MATRIX: Surface Water(1), Ground Water(2) Soil(3), Solid/Liquid Waste(4/5), Other(6)	FIELD ID	LOCATION / DESCRIPTION	ANALYSIS: GRO	PVOC	Dry Weight	TRPH	Trip Blank	FILTERED (YES/NO)	PRESERVED (CODE)	REFRIGERATED (YES/NO)	REMARKS
									Fill in spaces with bottles per test						M	M	
															Y	Y	Y
92092801	9/15/92	10:20		X	5	3	SB3ST 12-12.5	Solvent tank/Boring #3	2	2	1						
-2	9/15/92	11:00		X	5	3	SB3ST 16-16.5	Solvent tank/Boring #3	2	2	1						
-3	9/15/92	1:05		X	5	3	SB4ST 8-8.5	Solvent tank/Boring #4	2	2	1						
-4	9/15/92	1:50		X	5	3	SB4ST 12-12.5	Solvent tank/Boring #4	2	2	1						
-5	9/15/92	10:30		X	2	3	OT1E	Piping trench/East side				2					
-6	9/15/92	10:30		X	2	3	OT2W	Piping trench/west side				2					
-7	9/15/92				1		Trip Blank						1				

Recollected per client 9/17/92 SAM

Disposition of unused portion of sample
Laboratory Should:
___ Dispose *
___ Return
___ Retain for ___ days
___ Other

* Disposal charges listed in fee schedule

Relinquished By (Signature)	Date /Time	Received By (Signature)
[signature]	9/15/92 3:35	[signature]
Relinquished By (Signature)	Date / Time	Received By (Signature)
Relinquished By (Signature)	Date / Time	Received For Laboratory By: (Signature)

White - Lab Canary - Report Pink - File Golden Rod - Customer

- **Property Transfer Audits**
- **Environmental Assessments**
- **Underground Storage Tank Management**
- **Remedial Management Services**
- **Asbestos Management Services**
- **Industrial Hygiene Services**