SWANSON ENVIRONMENTAL INC.

October 12, 1994

Ms. Pam Mylotta
Wisconsin DNR
4041 N. Richards St.
Milwaukee, WI 53212

Dear Pam:

SUBJECT: Allwaste Site, 12305 West Silver Spring Road, Milwaukee, Wisconsin
FID #241486630

Enclosed is one copy of the Initial Site Investigation and Workplan report for the Allwaste site located at 12305 West Silver Spring Road, Milwaukee, Wisconsin. As we have discussed on the telephone, the site will be handled as two projects as one part might be PECFA eligible. Allwaste is currently obtaining bids for the PECFA portion of the project and would like to have until November 18, 1994, for submittal of that workplan. Please call if this time line is unacceptable or if you have any questions.

Sincerely,

SWANSON ENVIRONMENTAL, INC.

Deborah Young
Project Coordinator

DY/ajg

wp/ajg/dy/mylotta.ltr/10-94

3315 N. 124th Street, Unit N, Brookfield, Wisconsin 53005
Telephone (414) 783-0880 Fax (414) 783-0890

INITIAL SITE INVESTIGATION
RESULTS AND WORKPLAN
12305 WEST SILVER SPRING ROAD
MILWAUKEE, WISCONSIN

OCTOBER 10, 1994

FID 241486630

Prepared for:

Allwaste
5151 San Felipe, Suite 1600
Houston, Texas 77056-3609

Prepared by:

Swanson Environmental, Inc.
3315 North 124th Street
Brookfield, Wisconsin 53005

Report prepared by,

SWANSON ENVIRONMENTAL, INC.

Deborah Young
Project Coordinator

Report reviewed by,

SWANSON ENVIRONMENTAL, INC.

James R. Meverden
Director
Wisconsin/Illinois Operations

TABLE OF CONTENTS

I. INTRODUCTION

Swanson Environmental, Inc. (SEI) was retained by Allwaste to conduct a site investigation at the Allwaste site located at 12305 West Silver Spring Road, Milwaukee, Wisconsin. The site is located in the Northwest Quarter of Section 31, Township 8 North, Range 21 East. The site location is depicted in Figure 1.

II. SITE BACKGROUND INFORMATION

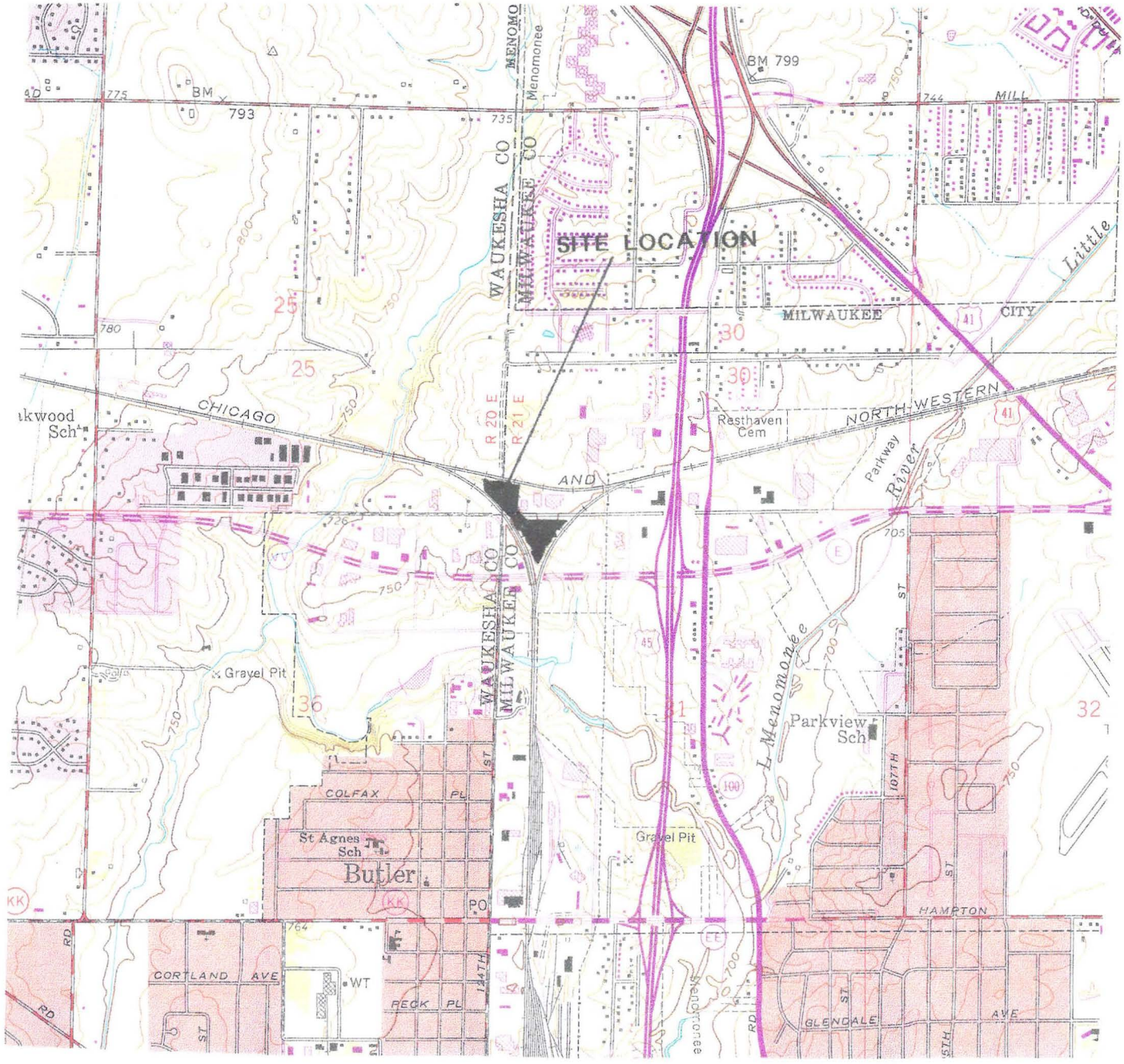
A. Site History

A Phase I assessment completed at the subject property revealed that the site was owned by Highway Pavers from 1963-1974. The Highway Pavers site is currently listed on both the CERCLIS list and the Active and Abandoned Landfill List. Soil samples collected for the Wisconsin Department of Natural Resources (DNR) in 1988 revealed several detects for polynuclear aromatic hydrocarbons (PAHs) and metals. Two of the four parcels from the Highway Pavers site currently make up the subject property.

The property was then owned by several individuals from 1984-1994. The property is currently owned by Allwaste, Inc. who operates it as a glass recycling facility. Based on this information and due to several leaking underground storage tank (LUST) sites on surrounding properties identified by the Phase I, a limited site investigation was conducted.

B. Regional Geologic and Hydrogeologic Setting

The stratigraphy of Milwaukee County consists of glacial deposits overlying bedrock. These sediments include outwash and moraine. The Allwaste investigation lies in an area of end moraine consisting of mainly till, stratified sand and gravel. (Skinner, E.L. and R.G. Borman, 1973). The overall thickness of the unconsolidated material in this area is approximately 50-100 feet. The bedrock near the site consists of the undifferentiated dolomites.



SCALE 1:24 000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL

MN
GN
0°43'
13 MILS
1°
18 MILS

UTM GRID AND 1971 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

WAUWATOSA QUADRANGLE

WISCONSIN

7.5 MINUTE SERIES (TOPOGRAPHIC)

SE/4 WAUKESHA 15' QUADRANGLE

AND

MENOMONEE FALLS, WIS.

NE/4 WAUKESHA 15' QUADRANGLE

N4307.5—W8800/7.5

FIGURE 1
SITE LOCATION MAP
12305 WEST SILVER SPRING ROAD
MILWAUKEE, WISCONSIN

DATE:	10/10/94	DRAWN BY:	DLY
PROJECT:	WE 1932	APPROVED:	JM

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Milwaukee County's primary aquifers are the unconsolidated sand and gravel and the silurian dolomite aquifer. Groundwater at the site flows in a south-southeasterly direction.

III. SITE INVESTIGATION

A Phase I investigation completed at 12305 West Silver Spring Road raised several items of concern. Thus, a Phase II investigation was conducted to address those concerns. The investigation entailed installation of several shallow hand auger borings to identify contaminated soil present due to surface spillage and staining. The investigation also included the installation of five deeper soil borings. These borings were conducted to identify contamination that may be present due to several factors including: the railroad tracks on either side of the property and the historic presence of the Highway Pavers site.

Four of the five borings were converted into groundwater monitoring wells to determine if groundwater contamination was present due to any of the above factors.

A. Hand Auger Results

Six hand auger boreholes were installed on the site as shown in Figure 2. The hand auger boreholes were installed using a stainless steel sampling device which was decontaminated between samples with soap and triple rinsed with deionized water. The boreholes were extended to an approximate six to eight-inch depth at which time samples were collected. Samples HA-3 and HA-4 were collected underneath the glass recycling equipment. Sample HA-1 was collected near a waste oil aboveground storage tank (AST), sample HA-4 near three other ASTs, and sample HA-6 underneath a glass pile. Soil samples from HA-1 through HA-5 were analyzed for diesel range organics (DRO) and gasoline range organics (GRO). Sample HA-1 was also analyzed for the eight RCRA metals as was sample HA-6. Samples HA-3 through HA-5 were analyzed for volatile organic compounds (VOCs) as well. Diesel range organics (DRO), gasoline range organics (GRO) and metal results are summarized in Table 1. Sample collection and decontamination was completed per the field procedure plan in Appendix II.

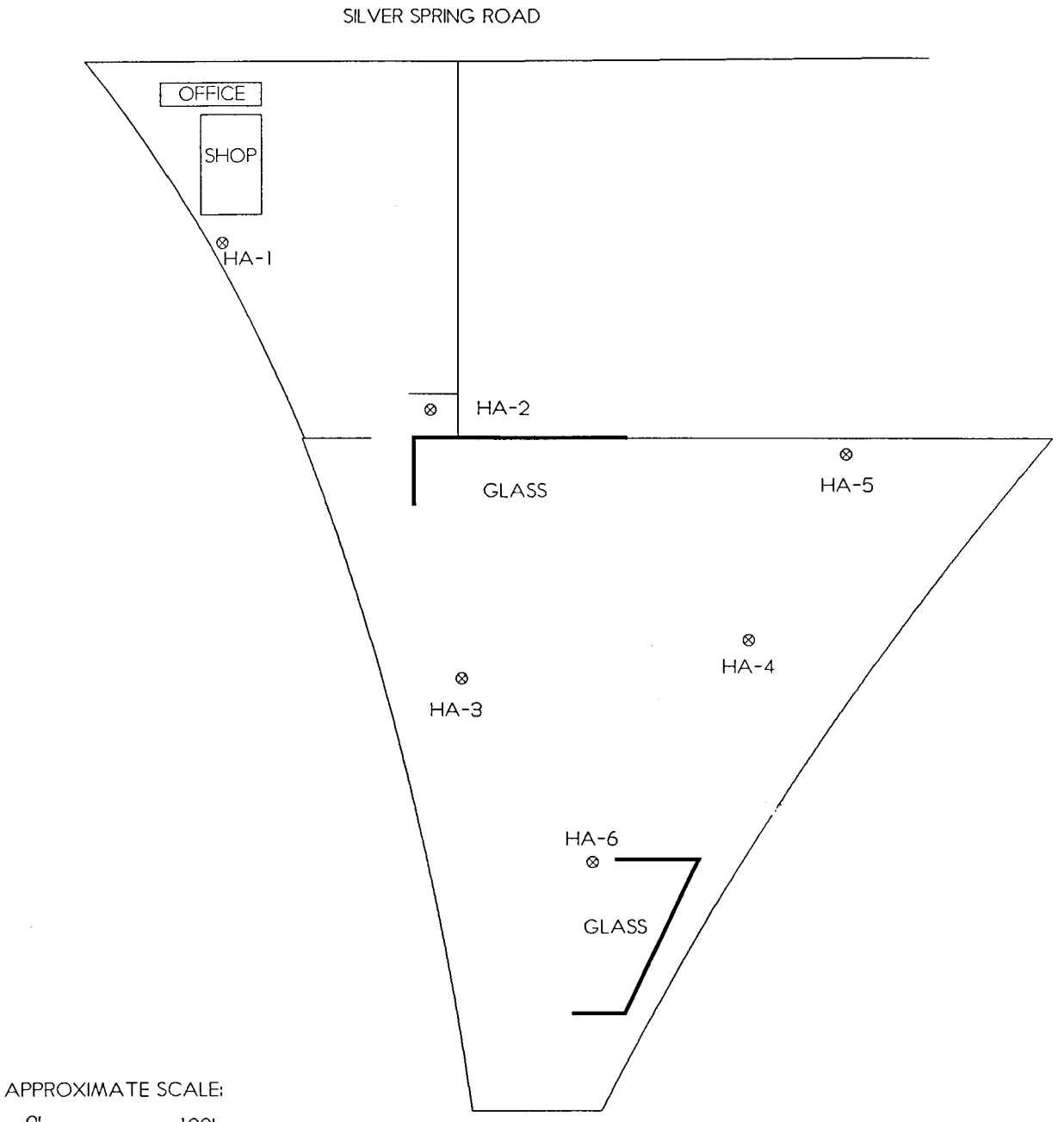

FIGURE 2
APPROXIMATE HAND AUGER LOCATIONS
12305 W. SILVER SPRING ROAD
MILWAUKEE, WI

DATE: 10/5/94	DRAWN BY: DLY
PROJECT: WE1932	APPROVED: JRM

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TABLE 1
SOIL SAMPLE RESULTS (ppm)
12305 West Silver Spring Road
4/13/94

Parameter	HA-1	HA-2	HA-3	HA-4	HA-5	HA-6
DRO	2370	1800	3900	903	ND	
GRO	ND	580	110	ND	ND	
Arsenic	2.1					0.2
Barium	42.0					1.5
Cadmium	5					ND
Chromium	36					2
Lead	269					57
Mercury	ND					0.15
Silver	ND					ND
Selenium	ND					ND

Sample results reveal high detects of DRO and GRO in several samples. The VOCs analysis revealed low levels of toluene in HA-4 and methylene chloride (a typical lab contaminant) in HA-3 and HA-4. All of the metal results are within common ranges fund in natural soil except for cadmium and lead in HA-1. This hand auger was installed under a waste oil tank, and thus the results are explainable.

B. Soil Boring Results

Several borings and groundwater monitoring wells were installed on-site on April 19 and 20, 1994. Drilling was conducted by Midwest Engineering. The boring (monitoring well) locations are shown in Figure 3. The borings/wells were placed in an attempt to identify the overall quality of soil and groundwater throughout the site and to determine a groundwater flow direction.

Borings were constructed per Wisconsin Administrative Code (WAC) NR 141 using hollow stem augers. Auger flights were steam cleaned between boreholes, and the decontaminated water was drummed and left on-site for future disposal. Split

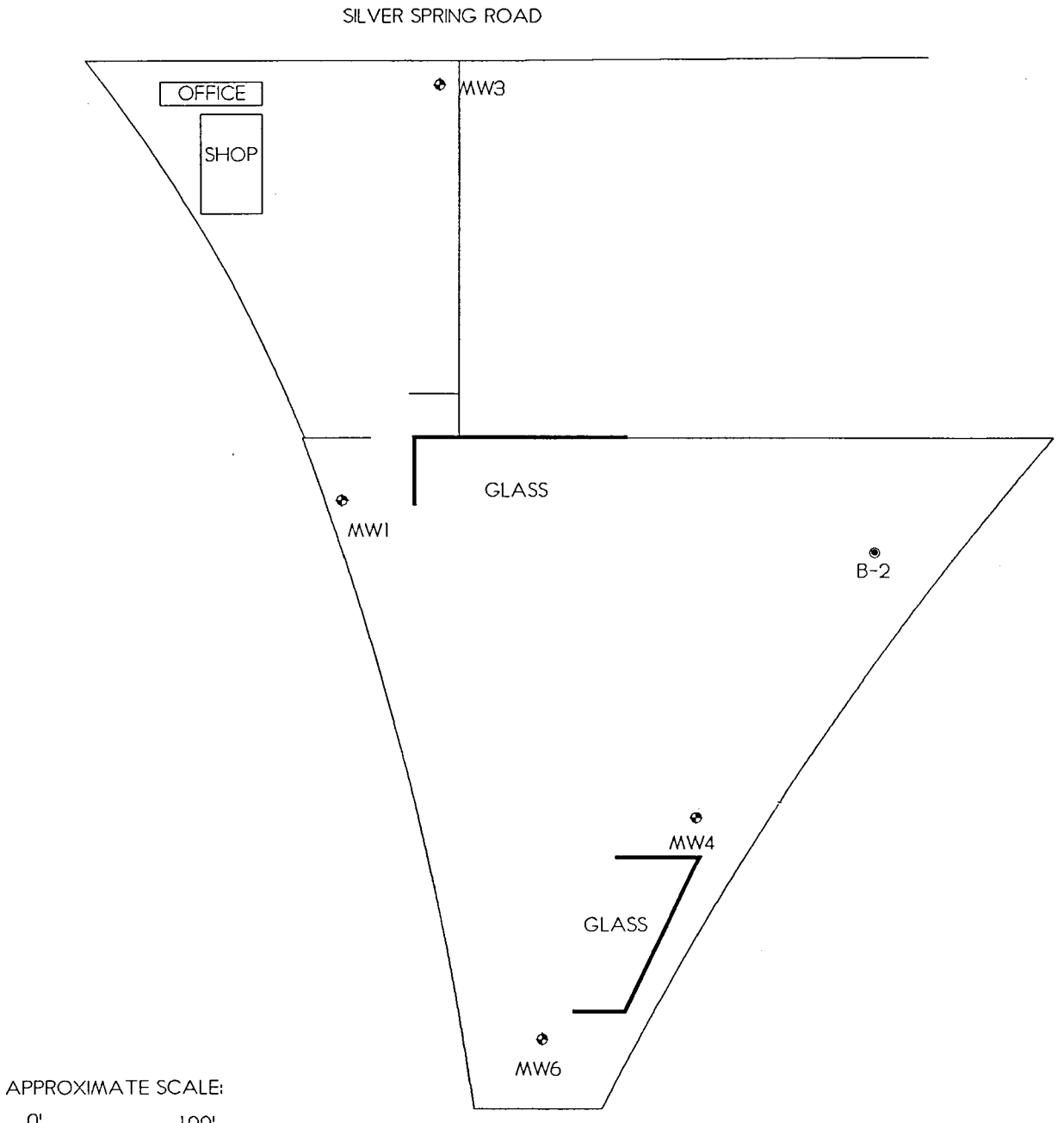

FIGURE 3
APPROXIMATE BORING AND WELL LOCATIONS
12305 W. SILVER SPRING ROAD
MILWAUKEE, WI

DATE: 10/5/94	DRAWN BY: DLY
PROJECT: WE1932	APPROVED: JRM

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spoon samples were collected continuously. Duplicate samples were collected from each split spoon, one headspace and one laboratory sample. Laboratory samples for GRO analysis were placed on ice immediately and preserved with methanol within two hours. Headspace samples were warmed and field screened per DNR guidelines with a 10.6 eV Microtip Photovac photoionization detector (PID) (Model MP-100). The PID was calibrated with a 100 ppm isobutylene standard. Field screening results are shown in Table 2. The boring logs can be found in Appendix III.

Two samples from each boring were selected for laboratory analysis. The samples were analyzed for a combination of the following analytes: RCRA metals, GRO, DRO, and VOCs. The metal analytical results are summarized in Table 3, and laboratory reports can be found in Appendix IV. The metals detected all appear to be within normal ranges for natural soil.

Laboratory results reveal no detects for DRO, GRO and VOCs in any of the samples except for naphthalene, which was found in Borings 1 and 4. The DNR currently has no established limits for PAHs in soil.

C. Groundwater Monitoring Well Results

Four of the borings installed were converted into two-inch groundwater monitoring wells per NR 141 requirements. Monitoring well construction logs and development forms can be found in Appendix V. The monitoring wells were then developed per NR 141 requirements. All of the wells were purged dry at least three times. Development water from all wells was drummed. On April 22, 1994 all monitoring wells were purged and sampled. Samples were analyzed for VOCs, PAHs and eight RCRA metals.

Laboratory results revealed no detects for VOCs in any of the monitoring wells. Metals were identified in a few of the wells but levels detected were below state enforcement standards. Although several PAHs were detected in two of the monitoring wells (MW-1 and MW-4), only benzo(a)pyrene in MW-4 was above the enforcement standard.

TABLE 2
FIELD SCREENING RESULTS
12305 West Silver Spring Road
April 19-20, 1994

Sample ID	PID Reading*	Sample ID	PID Reading*
B-1:0-2	3.3	B-6:0-2	18.7
B-1:2-4	2.3	B-6:2-4	----
B-1:4-6	----	B-6:4-6	19.2
B-1:6-8	----	B-6:6-8	----
B-1:8-10	----	B-6:8-10	----
B-1:10-12	5.9	B-6:10-12	----
B-1:12-14	----	B-6:12-14	21.3
B-1:14-16	3.2	B-6:14-16	----
B-1:16-18	----	B-6:16-18	----
B-1:18-20	8.5	B-6:18-20	20.6
B-1:20-22	8.1	B-6:20-22	13.1
B-1:22-24	4.6	B-6:22-24	11.7
B-4:0-2	4.7	B-3:0-2	7.3
B-4:2-4	10.7	B-3:2-4	16.5
B-4:4-6	17.1	B-3:4-6	15.7
B-4:6-8	9.6	B-3:6-8	18.6
B-4:8-10	16.3	B-3:8-10	18.3
B-4:10-12	14.5	B-3:10-12	14.7
B-4:12-14	21.8	B-3:12-14	22.6
B-4:14-16	----	B-3:14-16	25.0
B-4:16-18	7.2	B-3:16-18	24.3
B-4:18-20	18.1		
B-4:20-22	14.1		
B-4:22-24	19.9		
B-2:0-2	8.3		
B-2:2-4	11.8		
B-2:4-6	16.5		
B-2:6-8	13.8		
B-2:8-10	18.2		
B-2:10-12	15.4		
B-2:12-14	18.1		

* Results in instrument units of isobutylene.
---- Not enough sample for field screening.

TABLE 3
PRELIMINARY ANALYTICAL RESULTS (ppm)
12305 West Silver Spring Road
April 19-20, 1994

Parameter	B-1 6-8′	B-1 18-20′	B-2 8-10′	B-2 12-14′	B-3 4-6′	B-3 14-16′	B-4 12-14′	B-4 22-24′	B-6 4-6′	B-6 12-14′
Arsenic	<29.8	<29.8	<30.5	<27.8	<29.1	<28.8	<27.9	<30.0	<27.4	<30.0
Barium	21.9	63.8	89.5	39.4	52.9	59.0	29.6	72.2	35.6	96.4
Cadmium	<0.60	<0.59	<0.61	<0.56	<0.58	<0.57	<0.56	<0.60	<0.55	<0.60
Chromium	10.3	21.8	31.0	158	17.9	19.7	9.76	26.5	13.5	31.9
Lead	36.9	11.9	22.5	13.3	11.6	9.77	72.0	11.4	78.8	13.8
Mercury	0.11	0.06	<0.05	<0.04	<0.05	0.05	0.08	0.07	0.06	0.08
Selenium	<29.8	<29.8	<30.5	<27.8	<29.1	<28.8	<27.9	<30.0	<27.4	<30.0
Silver	<0.60	<0.59	<0.61	<0.56	<0.58	<0.57	<0.56	<0.60	<0.55	<0.60

IV. PROPOSED PHASE III INVESTIGATION

A. Soil Investigation

The proposed soil investigation will entail installation of several additional shallow soil borings to fully delineate surface contamination found in the hand auger samples. The borings will be installed surrounding three specific areas on-site. These areas are designated as Area 2 through Area 4 in Figure 4. The three areas are described as follows:

Area 2 - location of two diesel and one gasoline ASTs
Area 3 - near the Kramer system
Area 4 - near the 12 Mesh system.

These areas correspond to previous hand auger locations on-site. The area near HA-1 will not be included in this investigation as it is believed to be PECFA eligible, and thus will be handled separately.

The borings will be conducted using a Geoprobe (where access will allow) or hand augering devices (in less accessible areas). A Geoprobe is a van mounted hydraulic drill rig which allows cost effective collection of numerous soil samples. An attempt will be made to place the initial boring in each of the four areas through the most heavily contaminated soil. This will be done in an effort to define the vertical extent of contamination. Next, several borings will be placed to surround the most heavily contaminated area in an attempt to determine the horizontal extent of contamination. Where possible, borings will be spaced approximately twenty feet apart and will surround the contamination. Boreholes will be installed on a twenty-foot grid until the extent of horizontal contamination is defined.

Initially, four borings around and one through the middle of each heavily contaminated area are being proposed. The boreholes will be conducted to an approximate four-foot depth with duplicate samples being collected from zero to

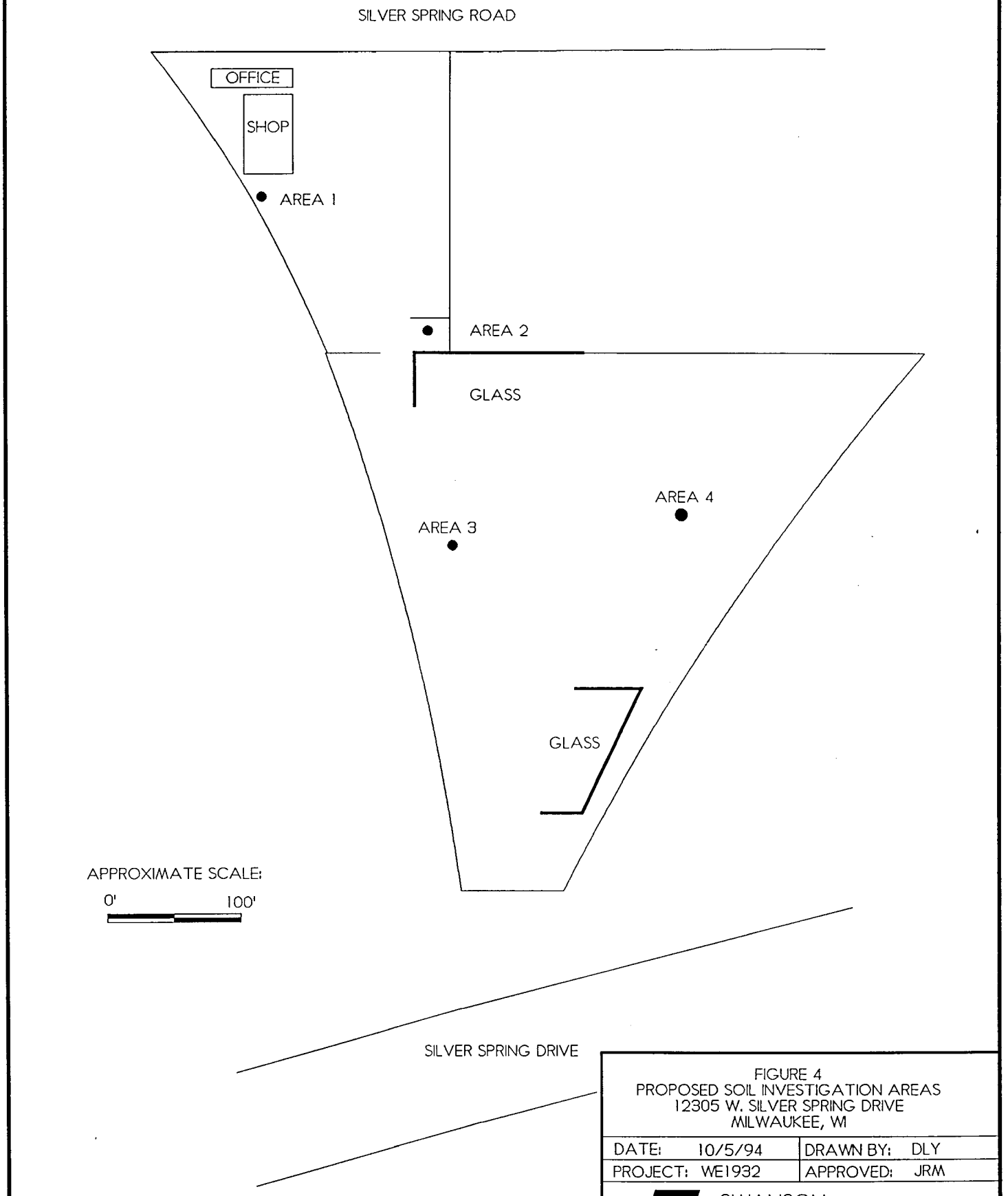

FIGURE 4
PROPOSED SOIL INVESTIGATION AREAS
12305 W. SILVER SPRING DRIVE
MILWAUKEE, WI

DATE: 10/5/94	DRAWN BY: DLY
PROJECT: WE1932	APPROVED: JRM

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two feet and two to four feet. If contamination appears to extend past the four-foot depth, boreholes will be continued until the vertical extent of contamination is reached. Field screening samples will be collected and screened with a photoionization detector (PID) equipped with a 10.6 eV lamp. Based on field screening results one to two samples per boring will be submitted for laboratory analysis. The samples in areas 3 and 4 will be analyzed for DRO. The samples in area 2 will be analyzed for DRO, GRO, VOCs, and lead. The borings will then be abandoned per NR 141 requirements.

B. Groundwater Investigation

The proposed investigation will entail installation of four groundwater monitoring wells around MW-4. These wells are being installed to address concerns regarding groundwater PAHs found in MW-4 (Figure 5). The borings will be conducted using hollow-stem augers. Split spoon samples will be collected continuously and two samples from each boring will be analyzed for PAHs to identify potential contamination sources. The four borings will then be converted into groundwater monitoring wells and developed in accordance with Wisconsin Administrative Code NR 141 requirements. The monitoring wells will then be purged and sampled. Groundwater will be analyzed for PAHs. This will help to identify the extent of benzo(a)pyrene contamination on-site. A survey will then be conducted to identify groundwater elevations and groundwater flow direction.

C. Report

Following receipt of all analytical results, a comprehensive report will be prepared outlining our findings, conclusions and recommendations. The reports will also include information relating to potential remedial options.

V. CLARIFICATION OF PROPOSED INVESTIGATION

The purpose of the proposed groundwater investigation, which is focused on the benzo(a)pyrene contamination, will be to delineate the extent and degree of on-site

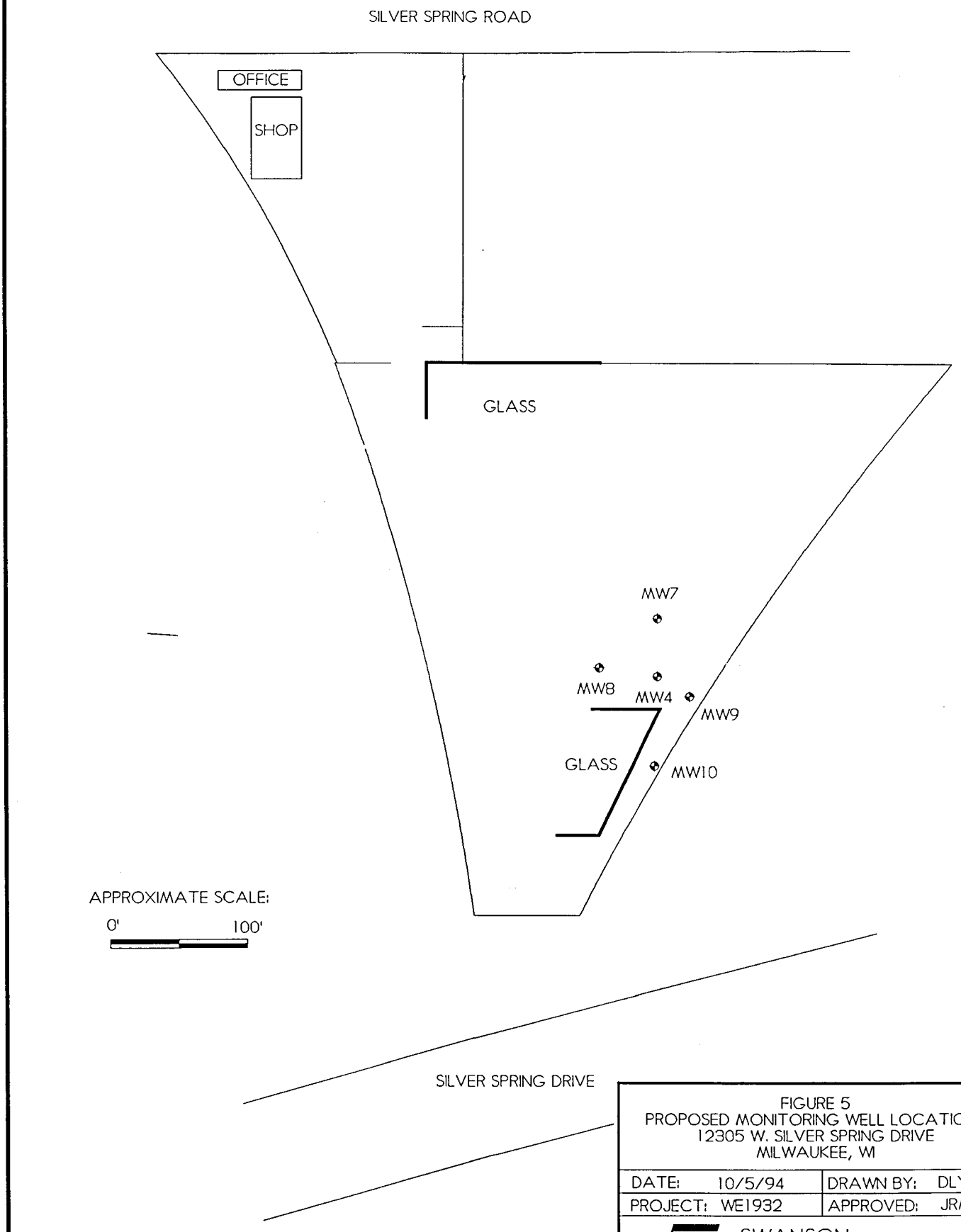

FIGURE 5
PROPOSED MONITORING WELL LOCATIONS
12305 W. SILVER SPRING DRIVE
MILWAUKEE, WI

DATE: 10/5/94	DRAWN BY: DLY
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contamination. As previously discussed, review of the Highway Pavers site file revealed that PAH contamination exists on site. The extent of the contamination has not been identified, and at the time of the file review no work was currently ongoing at the Superfund site.

Allwaste, who now owns and operates the facility, will proceed with an investigation to delineate the extent of contamination on their part of the Highway Pavers site (their property). This information is needed to prepare future plans for renovations and further development.

At this time Allwaste is undertaking this investigation only to delineate the extent and degree of contamination for their business plans; they are not intending to commit to remediating the existing soil or groundwater contamination resulting from operation of the Highway Pavers facility.

APPENDIX I

FACILITY INFORMATION

FACILITY INFORMATION

Site Location:	12305 West Silver Spring Road Milwaukee, Wisconsin 53225
Owner:	Allwaste, Inc. 5151 San Felipe, Suite 1600 Houston, Texas 77056-3609
Contact:	Jennifer Back (713) 625-7092
Consultant:	Swanson Environmental, Inc. 3315 North 124th Street, Unit N Brookfield, Wisconsin 53005
Contact:	Deborah Young (414) 783-0880

APPENDIX II

FIELD PROCEDURES PLAN

STANDARD FIELD PROCEDURES MANUAL

Swanson Environmental, Inc.
Wisconsin Consulting Division

Developed from Wisconsin Department of Natural Resources guidelines.

Approved James R Merrick 10/94
Date

Updated 1/94

TABLE OF CONTENTS

I. FIELD BOOK

The importance of accurate, complete field books cannot be overstressed. Your bound field book is a legal document that you will have to defend if you end up as a witness in a lawsuit.

- The field book is company property. If you are not using it in the field, it should be accessible to everyone in the office.
- Everyone's field book will be checked periodically.
- When you start a new field book, leave the first few pages blank for an index. Number the pages as you go and keep the index up-to-date. This shows that no pages have been removed.
- Except for unusual circumstances or small jobs, start every new job on a separate page. This will make them easier to find later and allow simpler copying if the notes have to be put in a report.
- In general, the field book entries should include the following:

  Project name
  Date and time
  Location
  Weather
  Equipment used
  Calibration and time
  Decontamination procedure (pre and post)
  Sample preservation
  Site sketches (if necessary)
  General observations
  People on-site
  PPE

Other specific information is necessary for different types of sampling, but this is a general overview.

II. SOIL SAMPLING

A. General Sampling

Wear a new pair of latex or surgical gloves for each sample.

Collect samples with a decontaminated trowel, syringe or sampling device.

Collect and preserve samples per current agency guidelines and analytical procedures.

Quality Control - all samples collected for laboratory analysis must be placed on ice in a cooler to maintain sample integrity.

B. Soil Borings

Split-spoon soil samples will be collected continuously throughout each boring.

The soil contained in the split-spoon will be divided down the middle of the spoon (lengthwise). Half of the sample will be containerized for laboratory analysis and the other half for a field screening sample. If more or less than one-half of the split-spoon sample is needed for laboratory analysis, try to take similar amounts, throughout the entire length of the split spoon for laboratory analysis and field screening.

C. Test Pits or Excavations

Duplicate soil samples will be collected at regular intervals (preferably every 2-2.5 feet), at changes in soil type, and directly above the water table through use of a backhoe bucket.

III. SOIL BORING LOGS

Record observations of the drilling activities in your field book. Note the following in your field book.

- Blow counts: record the number of hammer blows per 6-inch interval.
- Recovery: record the amount of material recovered in the sampler using a ruler or tape measure.
- USCS code: classify soil using the Unified Soil Classification System, attached.
- Describe soil identifying the predominant constituent first (e.g.: clay, silty with some gravel...). Be sure to include color, moisture, sorting, interbedding, organics, etc.
- Record field screening result.
- Make note of anything unusual (e.g.: gasoline odor, discoloration, etc.).
- Record the total depth of boring or well (e.g.: boring terminated at 16 feet). Make note if boring was converted to monitoring well.
- Record the borehole number, interval sampled and sample # (e.g. B-1:4-6)

- Note any moist/wet zones as these will be needed to help identify the water table.
- Record the time the sample collected.
- If boring is abandoned, note how many bags of what were used to abandon it.
- Make a brief sketch of the site showing approximate boring/well locations.

IV. MONITORING WELL INSTALLATION

A. Well Casing

Selection of well casing and screen materials will be made with consideration for the geochemistry, anticipated lifetime of the monitoring program, well depth, chemical parameters to be monitored and other site-specific factors. For example, steel casings and screens deteriorate in corrosive environments; PVC deteriorates in contact with ketones, esters and aromatic and halogenated hydrocarbons; and polypropylene deteriorates in contact with oxidizing acids, aliphatic hydrocarbons, and aromatic hydrocarbons.

B. Well Installation

1. Determine the length and placement of the well screen depending upon the water table depth. On water table observation wells the well screens are typically 10 feet long and may not exceed 15 feet in length. Well screens on piezometers may not exceed 5 feet in length. The section of screen should intersect the water table to allow for fluctuations in the water table levels. For example, if your water table depth is 15 feet, they your boring should be drilled to 23 feet and installed with a 10 foot section of screen. Approximately two feet of screen should be above the water table.

2. Use only commercially manufactured screens or slotted casings. Field slotting of casing is not permitted.

3. Screw together the well plug (bottom) to the screened section of pipe and insert into borehole. If the surrounding soil is loosely consolidated or caves, then the auger may be left in the borehole while installing the well piping. Hold screen and screw on the riser pipe as needed to reach surface. Do not use any glues or sealants to assemble wells.

4. Determine the depth to the top of screen and record it in your field book. Also record information on construction of the monitoring well. It is helpful to draw a picture of the well in your field book, noting the depth of the well, filter pack, and filter pack seal and the annular space seal.

5. Place the filter pack by slowly pouring filter pack material directly into the space between well screen and the open borehole wall. As stated above, if the borehole will not stand open, gradually pull back the auger string in small increments and slowly pour filter pack directly into the space between the auger wall and the well casing and screen. The filter pack will consist of coarse sand.

6. Care should be taken to prevent filter pack material from bridging between the borehole wall or augers and the well screen and casing. This can be accomplished by using a tamping device to ensure that the material passes through the augers. In some cases, shaking the well pipe inside the borehole or augers will be helpful.

7. The filter pack material will be placed from the bottom of the well to the top of the screen. If there is room, the filter pack should extend 2 feet above the top of the screen. This may be reduced as needed to build the well. Note the kind and amount of coarse sand used in your field book.

8. The filter pack seal is made up of fine sand and bentonite. If possible, 2 feet of fine sand should be placed above the coarse sand. This amount can be reduced to as little as 6 inches, but some fine sand should be installed. Record the kind and amount of fine sand used.

9. Place a minimum of 2 feet of bentonite pellets or chips on top of the filter pack seal for an annular space seal. Record depth to the top of the bentonite seal and amount and type of bentonite used in your field book.

10. Fill the rest of the annular space with bentonite chips or pellets up to a level appropriate for the well cover. Keep in mind that bentonite will heave in moisture and frost conditions, so do not over-fill.

11. A 7 foot protective cover pipe is typically required, but may be reduced to insure that it does not extend through the annular space seal or into the filter pack.

12. The casing can be cut if needed to accommodate the well cover. A mark should be placed on the well casing. This mark will be used for all water table measurements. Place an expandable well cap on the opening if using flush-mount well cover. Place a cap on the opening if using an aboveground cover. All wells must be locked with a padlock.

13. Construct a concrete surface pad around the flush-mount well cover and make sure that the sides slope away from the well to prevent rainwater and mud from collecting in the well cover crevices. However, do not mound it up too high if it is located in an area that will be plowed in winter. Construct a concrete surface or natural soil pad around aboveground well covers.

14. Further clarifications and procedures can be found in NR 141.

V. MONITORING WELL DEVELOPMENT

Wait a minimum of 12 hours after installation before beginning development.

A. Wells That Cannot be Purged Dry

1. Surge and purge for a minimum of 30 minutes using either a bailer or a surge block.

2. Containerize all purge water.

3. After the surging and purging cycle, bail ten well volumes of water from the well, or bail until the well produces sediment-free water.

4. Well volume calculation

$V_1 + V_2$ = Well volume
$V_1 = \pi(D_1/2)^2 H_1$ ft^3
$V_2 = N\pi H_2[(D_3/2)^2 - (D_2/2)^2]$

N = porosity of filter pack
D_1 = inside diameter of well casing, feet
D_2 = outside diameter of well casing, feet
D_3 = diameter of borehole
H_1 = height of water column
H_2 = length of filter pack or the height of the water column in water table observation well

(Source Wisconsin DNR NR 141)

B. Wells That Can Be Purged Dry

1. Develop the well in a manner which limits agitation.

2. Wells may not be surged and no water may be added to the well.

3. Development is complete when five well volumes are removed, when sediment-free water is produced or when the well has been purged dry three times.

Record in your field book the depth to water, depth to bottom, the method used to develop the well, the amount of time spent purging the well, the time of day and the water clarity, as these will be needed to complete the well development form.

VI. MONITORING WELL PURGING AND GROUNDWATER SAMPLING

A. Water Level Measurements (Water level meter)

1. Slowly lower probe into well by pulling cable from the reel.

2. Continue lowering until beeper sounds and/or light turns on, indicating that the water table has been reached.

3. Note and record depth to water by reading the graduated probe cable to nearest 1/10 of a foot below top of well casing at designated, marked location. A survey should be completed to determine height of this well casing above ground surface.

4. Continue to lower probe into well until bottom is encountered. Read and record depth to bottom of well.

5. Thoroughly decontaminate device between each well with soap and DI water.

B. Purging

1. Prior to sampling, the groundwater monitoring wells, the depth to groundwater and depth to bottom will be measured.

2. Wear a new pair of latex or surgical gloves for each well.

3. Measure an appropriate length of rope for the bailer and attach to the bailer using a secure knot. Samples should always be collected with a teflon bailer. Check the knot periodically.

4. Purge wells in the same order of sampling. Purge the least contaminated wells first, most contaminated last (in descending order). If contamination is unknown (i.e. it was clean last time or you don't have any idea), sample upgradient wells first, downgradient wells last.

5. Remove at least four casing volumes (see equation 1) if possible. If not possible, pump or bail well dry.

6. When purging, do not allow bailer to fall freely into the water. Lower bailer slowly into the water introduce as little air and turbulence to the water as possible.

7. Determining volume to be purged:

$V = [\pi \times (D/2)^2 \times H] \times 7.48 \times 4$

When

V = Total volume of water to be purged, gallons
D = Inside diameter of well in feet
H = Height of water column in well in feet (depth to bottom of well minus depth to water)

Table 1

Inside diameter (Inches)	Gallons per foot of water column
1	0.163
1.25	0.255
1.5	0.367
2	0.652
3	0.469
4	2.610

(Source WDNR PUBL-WR-168-87)

C. Special Procedures When Sampling for VOCs:

1. Evaluate the area around the sampling point prior to sample collection for possible air contamination by VOCs. Products that may give off VOCs and possibly contaminate a sample include perfumes and cosmetics, skin applied pharmaceuticals, suntan lotion, and automotive products (gasoline, starting fluid, windshield deicers, carburetor cleaners, automotive exhaust), insect repellents, lock lubricants, etc.

2. Wear clean gloves (latex or surgical).

3. Collect samples for organic compounds from the bottom of a full bailer as soon as it is brought to the surface.

4. Use a clean bottom-emptying device when using a bailer to sample for VOCs.

5. Do not use a suction pump when sampling for VOCs.

6. Keep the VOC sample bottles and the containers used for mailing the bottles tightly sealed to prevent possible contamination.

7. Remove the cap ring from the sample vial. Make sure that the teflon liner does not fall out. If the liner falls out, replace it in the cap ring and flush the cap with reagent grade water.

8. Add the appropriate preservative such as HCl to 40 milliliter sample vials. (If 1:1 HCl is used, add ten drops. If concentrated HCl is used, add five drops.)

9. Fill the sample vial immediately by allowing the water stream to strike the inner wall of the vial to minimize formation of air bubbles. Do not rinse the sample vial before filling. Fill the sample vial, with a minimum of turbulence, until the water forms a positive meniscus at the brim. Allow the vial to overflow slightly.

10. Replace the cap quickly by gently setting it on the water meniscus. Tighten firmly, but do not over tighten. Invert the vial and tap it lightly. If you see air bubbles in the sample, do not add more sample. Empty the vial and use the extra vial to collect another sample. If bubbles form in the sample collected in the extra vial, empty the vial and collect the sample again in the same vial. Do not filter samples collected for VOC analysis.

11. Repeat this procedure for the other vials, opening only one at a time.

12. Further clarifications and procedures can be found in Groundwater Sampling Procedures, Wisconsin Department of Natural Resources Document PUBL-WR-168-87.

D. In-Field Analyses

1. Slowly pour unfiltered portion into a clean container for required in-field analyses, such as temperature, specific conductance, pH, color, odor and turbidity (see Section VI).

2. Slowly pour portions for any other unfiltered samples.

E. Inorganic Analyses

1. Slowly fill transfer bottle, being careful not to splash or otherwise aerate the water. Immediately filter directly into sample bottles (see Section F). Preserve the samples as required.

F. Field Filtering

1. Samples are usually only filtered before an analysis for inorganic compounds. DO NOT filter samples for volatile organic compound analysis.

2. Use appropriate disposable filter cartridges if they are available. There is less likelihood for contamination with this style of filter. If cartridge style filters are not available, use membrane filter apparatus with a prefilter. Handle filters with plastic or teflon coated forceps. Do not use metal forceps.

3. If using a filter apparatus, flush it with ~500 ml of DI water prior to filtering the sample.

4. Pump sample through filter. Discard the first 20 to 150 milliliters of sample to pass through the filter prior to filling the sample bottle.

5. Collect samples needed.

6. Remove and discard filter cartridge (or membrane and prefilter) rinse all tubing and/or apparatus with at least 500 ml of DI water.

G. In-Field Measurements

1. Temperature and pH

   a. Rinse pH electrode and temperature probe with DI water. Blot dry with a Kimwipe.

   b. Calibrate instrument with appropriate buffer solutions according to manufacturer's instructions. Rinse with DI water and blot dry with Kimwipe. The temperature of the buffers and the sample should be within 5°C of each other. Calibration should be done first thing on the day of sampling and then every five samples, or three hours, whichever is sooner.

   c. Immerse electrodes in sample, allow the instrument to equilibrate (no more than three minutes). Sample should be in a clean glass beaker. Use portable magnetic stirrer if possible.

   d. Read values to the nearest 0.1 unit and record.

   e. Remove electrodes, rinse with DI water and store in saturated KCl, low pH buffer, or solution provided. Rinse and blot dry electrodes before using again. Also rinse beaker and magnetic stir bar between samples.

2. Conductivity

   a. Set up and calibrate the conductivity meter according to the manufacturer's instructions.

   b. Set the dial to the desired range for measurement (ex: x100 umhos/cm range).

   c. Rinse probe and blot dry.

d. Immerse probe into sample and allow instrument to equilibrate (less than two minutes). If possible, measure conductivity simultaneously with pH and temperature using magnetic stirrer.

e. Read and record values and units. Correct the measurement to 25°C using the equation supplied by the manufacturer (if not already corrected by the meter).

f. Rinse probe thoroughly with DI water and store.

3. Color, Odor, and Turbidity:

a. Color: Note color after filtration against a white background.

b. Odor: Carefully wave you hand over the opening of the sample container and note any distinct smell. Do not smell the sample directly, particularly when dealing with hazardous or unknown materials.

c. Turbidity: Comment on turbidity, such as cloudy, turbid, clear.

H. Quality Control/Quality Assurance

Sample from the least contaminated to the most contaminated well.

1. Field Blanks:

a. Collect the field blanks when sampling downgradient wells.

b. Collect a minimum of one field blank per sampling event or one every ten samples, whichever is greater.

c. The field blank should be collected by pouring deionized water into a decontaminated bailer. The sample should then be collected the same as a VOC sample.

2. Trip Blank:

a. Include a trip blank in each sample container used to collect organic-compound samples (one trip blank per cooler).

b. Be sure trip blank is kept cool or on ice (but not frozen) at all times.

3. Field Duplicates:

a. Collect a field duplicate for each sampling event or one every ten samples, whichever is greater.

4. Split Samples:

   a. Sample the well, filter the sample (if required) and collect the sample in two containers for separate analysis.

   b. Preserve the sample according to the instructions from your laboratory.

   c. Fill one bottle completely from each set until all bottles are filled when collecting split samples for volatile organic compound analysis.

5. Chain-of-Custody - Chain-of-custody forms acceptable for use in Wisconsin must be correctly filled out. When these forms are filled out, appropriate copies should be placed in the correct file.

Remove and dispose of rope. Decontaminate bailer or mark bailer as to well number if dedicated and place in protective sleeve.

VII. SAMPLE PRESERVATION AND SAMPLE HANDLING

- Preserve samples as directed by laboratory.

- All sample containers will be ordered from SEI's certified laboratory or the laboratory which will analyze the samples.

- Soil and groundwater samples for volatile organic compounds will be filled so that no headspace remains, unless otherwise required.

- Place samples in a cooler with ice and chill until delivered to the laboratory. A temperature blank must be present if icepacks are used.

- A chain of custody (sample attached) should be completed and signed for all samples. The following information should be included.

  1. The time and date the samples were taken
  2. Sample ID # (field and lab numbers)
  3. The project name and address
  4. Who collected the sample/sample method
  5. A sample location description
  6. The parameters the sample is to be analyzed for
  7. Number of containers
  8. The sample type (soil or groundwater)
  9. The method of collection

- The laboratory should record the sample temperature when they receive it. Be sure samples are adequately iced to 4°C. This may require a temperature blank.

VIII. EQUIPMENT OPERATION

A. Photoionization Detection (PID) Meter - Microtip

The field instrument used by SEI is a Photovac Microtip photoionization detector (PID) which has a 10.6 electrovolt lamp.

1. The PID will be calibrated at the beginning of each day with a 100 ppm isobutylene standard.

   The PID will be re-calibrated at midday if used all day. Also, PID will be re-calibrated if:

   a. humidity changes significantly
   b. temperature changes 15°F or more
   c. after any repairs

2. If the PID calibration appears to be disturbed/inconsistent at any point during the day, the PID should be recalibrated.

3. One headspace sample should be collected from the same location along with the laboratory sample. The headspace samples are not to be submitted to the laboratory.

4. Headspace samples will be collected by filing a new one quart plastic bag 1/2 to 3/4 full with soil. A headspace fill line shall be marked on all containers.

5. Immediately after filling the bag 1/2 to 3/4 full of soil, the bag will be sealed.

6. The headspace samples will then be agitated and broken up for at least 30 seconds.

7. All headspace samples must be allowed to equilibrate prior to analysis, according to the table below.

Ambient outside temp.	Min. amount of time a sample must equilibrate at 70°F or greater
40°F	40 min.
41-55°F	20 min.
56-69°F	10 min.
70°F	5 min.

8. Headspace samples should not be warmed in direct sunlight.

9. As soon as equilibration is reached, the samples should be analyzed promptly. This is accomplished by inserting the tip of the PID in the plastic bag. Make sure to seal the bag around the PID tip. Record the highest PID reading. Record the time of field screening, results, equilibration time, temperature and any other conditions.

10. The following documentation should be included along with the field screening results.

    a. Ambient outside temperature
    b. Temperature where samples allowed to equilibrate
    c. Weather conditions (relative humidity, rain, sun, etc.)
    d. Field instrument make and model
    e. Date of last factory calibration
    f. Field calibration gas and concentration
    g. Date and time of last field calibration
    h. Lamp energy in electrovolts
    i. Instrument gain setting
    j. Erratic instrument readings
    k. Cleaning or repairs performed in the field
    l. Use - instrument units as isobutylene
    m. Relative moisture content, if known
    n. Odor
    o. Any quenching.

B. Microtip Calibration

1. Turn instrument on.

2. Unit will display "warming up, please wait".

3. The instrument will then display the time, date, event number, current detected concentration and the instrument status.

4. Check the battery by pushing button 1 ("batt"). Normal battery levels are between 9-16 watts.

5. Fill the span gas bag.
    a. Connect the regulator to the span gas (100 ppm isobutylene).
    b. Open the gas bag valve by turning counter clockwise.
    c. Attach the gas bag to the regulator using the adapter nut.
    d. Turn the regulator knob about 1/2 turn to start the gas flow.
    e. Fill the bag 1/2 full.
    f. Turn the regulator off.
    g. Close the gas bag valve.
    h. Remove the gas bag adaptor from the regulator.
    i. Empty bag.
    j. Repeat once and refill bag.

k. Remove the regulator from span gas tank.

6. Get a clean air sample (preferably air which is free from gases and vapors) which is called the zero gas.

7. Press the Cal button (#8). The instrument will ask for zero gas.

8. Press enter and the instrument will calibrate.

9. The instrument will then ask for the span gas concentration. Enter the known concentration of 100 ppm and press enter.

10. Connect the span gas bag adaptor nut to the inlet and press enter.

11. The instruments display will revert to normal, and it is ready for use.

12. Record calibration data including time, temperature, wait and lamp (model, etc.).

Calibrate periodically during use (steps 5-11).

C. Hermit Data Logger with Pressure Transducer

Aquifer tests may be conducted using slug and pump tests. Pump tests involve measuring the water level drawdown in observation wells over an extended period of time. Slug tests measure the recovery of water level in a well following the rapid removal or addition of an inert slug. In either case, data may be collected using a Hermit Data Logger and a pressure transducer.

The person performing the slug test should be very familiar with the operation of the Hermit Data Logger and should have a copy of the instruction manual on hand. The procedure outline below assumes no instrument operational problems or programming errors will occur, although these are common.

Calibration - no field calibration can be accomplished. As noted in the instruction manual, only factory calibration is accomplished on these instruments. Factory calibration should occur at least once a year.

Operation:

1. Check and reset clock if necessary.

2. Enter the test definition parameters:
   Select test: 0
   Select sampling mode: LOG
   Select active input: 1
   Select type of input: LEVEL

3. Enter the transducer parameters:
   REF.: skip this parameter for now
   SCALE: set to value marked on transducer
   OFFS.: set to zero or as marked on transducer
   DSP.: select top of casing mode and English or metric units
   HI AL: set off
   LOW AL: set off

4. Connect the transducer to the unit and set the transducer into the well at the desired depth. The transducer must be set below the lowest anticipated drawdown, although it is not necessary that it be set at the bottom of the well.

5. Use the XD key to display the transducer depth and to verify that all connections have been made properly.

6. Install the inert slug into the well. Do this slowly so as not to surge the well or damage the transducer. Using your measurements of water level, transducer depth and well bottom, install the inert slug to it is completely submerged below the water, but no closer than one foot above the transducer.

7. Measure the depth to water. Wait until it has returned to the level measured before the inert slug was installed in the well. If the water level recovers very slowly wait until 90% of the water-level rise has dissipated.

8. Go back and enter the reference level of the water. This can be the initial level of the water with respect to the top of casing or zero if only changes in level are important.

9. Use the START function to begin collecting data, synchronizing this with the onset of pumping, slug removal or addition.

10. After one minute, stop the pump and simultaneously press the STOP function on the keyboard. Immediately after pressing the STOP function, press the START function again. This will begin the collection of recovery data. The data collection time depends on the type of aquifer test.

11. If an inert slug was inserted or removed, allow the water levels to recover for four log cycles.

12. Use the STOP function to end data collection. The final data may be viewed, output to a computer, or another test may be run by selecting a new test number.

IX. EQUIPMENT DECONTAMINATION

Sampling equipment should be decontaminated by the following procedure.

A. Soil Sampling Equipment

1. Physically remove as much soil as possible from trowel or auger
2. Wash with scrub brush and detergent solution
3. Triple rinse with DI water
4. Containerize wash water for future disposal.
5. Place decontaminated equipment in clean ziploc bag

B. Groundwater Sampling Equipment

1. Take apart bailer
2. Wash bailer and bottom emptying device in detergent (Alconox) solution. Use a cleaning brush to scrub.
3. Rinse with hot tap water (from carboy)
4. Rinse with hexane (optional - use when product discovered)
5. Triple rinse with DI water.
6. Containerize all wash water for future disposal.
7. Place bottom emptying device in clean ziploc bag. Place decontaminated bailer in clean plastic sealed sleeve.
8. Dispose of rope and gloves (do not reuse).
9. If filtering tubes are decontaminated for reuse, follow procedures 2-8.

X. SAMPLING WATER FROM WATER SUPPLY WELLS

- 1. Raw Water: Locate a tap between the well and any other equipment like water conditioning units, pressure tank, heater, filters, etc. Do not use faucets that swivel; they can be a source of bacteria or air.

2. Delivered water (NR 109 - Safe Drinking Water): Locate the nearest tap after the well and any other equipment like water conditioning units, pressure tank, heater, filters, etc. Do not use faucets that swivel; they can be a source of bacteria or air.

- If tap has aerator, remove it.
- Run water until cold, for at least ten minutes, or until well pump turns on.
- Reduce water flow to a thin stream to reduce aeration as much as possible.
- For volatile organic compounds:

    1. Remove the cap ring from the sample vial. Make sure that the teflon liner does not fall out. If the liner falls out, replace it in the cap ring and flush the cap with running water for 30 seconds.

    2. Fill the sample vial immediately by allowing the water stream to strike the inner wall of the vial to minimize formation of air bubbles. Do not rinse the sample vial before filling. Fill the sample vial, with a minimum of turbulence, until the water forms a positive meniscus at the brim. Allow the vial to overflow slightly.

    3. Replace the cap quickly by gently setting it on the water meniscus. Tighten firmly, but do not over tighten. If you see air bubbles in the sample, do not add more sample. Empty the vial and use the extra vial to collect sample. If bubbles form in the sample collected in the extra vial, empty the vial and collect the sample again.

    4. Repeat this procedure for the other vials, opening only one at a time.

- For Pesticides:

    1. Use amber 1-liter bottles (or as otherwise indicated by lab). Collect at least two sample bottles and one for each other pesticide tested for after two. Sampling guidelines are otherwise identical to those for organic compounds.

- Procedures for other parameters:

    1. Bacteria: Sampling tap should be metal and thoroughly disinfected with a propane torch for at least 30 seconds.

    2. Consult with laboratory for necessary procedures, protocols and containers.

APPENDIX III

BORING LOGS

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 7/89
Page ____ of ____

Facility Name: Allwaste

License/Permit/Monitoring Number: — — — — — — —

Boring Drilled by (Name): Midwest Engineering for Swanson Environmental

Date Installed: 04 / 19 / 94 (M M D D Y Y)

Facility Well Number: — B 1

WI Unique Well Number (assigned by DNR): — — — — — — —

Borehole Diameter: 8¼ Inches

Water Level: ____ Feet

Surface Elevation: ____

NW 1/4 of NW 1/4 of Section 31 T 8 N, R 21 (E) or W

Grid Location (if applicable): ____ feet N or S ____ feet E or W

County: Milwaukee

County Code: 41

Civil Town: Milwaukee

Sample No.	Sample Rec.	DEPTH	SOIL/ROCK DESCRIPTION	DWELL DIAGRAM	USCS	RDQ	GRAPHIC LOG	~~Hnu~~ PID	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200	Blow Count
B-1 0-2	1'	0-2'	tan sand & gravel @ glass					3.3						7/12/20/2
B-1 2-4	1½'	2-4'	4" tan sand & gravel, 2" area asphalt & brick, then black soil & gravel					2.3						36/29/32/3
B-1 4-6	1½'	4-6'	8" tan sand & gravel, 4" seam brick 3" sand & gravel, 3" brown clay					—						15/14/9/3
B-1 6-8	8"	6-8'	4" brown sand & gravel, 4" black sand & slag					—						2/3/2/2
B-1 8-10	1"	8-10'	Br. Sand & gravel & brick					5.9						4/2/1/1
B-1 10-12	1'	10-12'	4" Sand & gravel then brown clay					—						1/2/2/2
B-1 12-14	1'	12-14'	brown-gray clay @ orange mottling					3.2						2/3/3/5
B-1 14-16	1½'	14-16'	2" brown clay @ orange mottling then red clay @ orange & gray mottling 15% gravel, ductile					—						2/3/3/4
B-1 16-18	1"	16-18'	red clay					8.5						5/4/5/6
B-1 18-20	1½'	18-20'	red clay, ductile, piece of wood					8.1						3/5/7/10
B-1 20-22	2'	20-22'	red clay @ gravel & glass seam at 5" then red clay till last 2" gray silt					4.6						4/6/8/12
B-1 22-24	2'	22-24'	red clay @ wet gray silt seam at 6", ¶ rock at 7-8" then red clay											4/8/7/11

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

Signature: [signature]

Firm: Swanson Environmental

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties; Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both, for each violation. Each day of

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 7/89
Page ____ of ____

Facility Name	License/Permit/Monitoring Number
Allwaste	— — — — — — — —

Boring Drilled by (Name)	Date Installed (M M D D Y Y)
Midwest Engineering for Swanson Environmental	04 / 19 / 94

Facility Well Number	WI Unique Well Number (assigned by DNR)	Borehole Diameter	Water Level	Surface Elevation
— B-2	— — — — — — — —	8¼ Inches	____ Feet	____

NW 1/4 of NW 1/4 of Section 31 T 8 N, R 21 (E) or W

Grid Location (if applicable): ____ feet N or S ____ feet E or W

County	County Code	Civil Town
Milwaukee	41	Milwaukee

Sample No.	Sample Rec.	DEPTH	SOIL/ROCK DESCRIPTION	DWELGRAM	USCS	RDQ	GRAPHIC	~~Hnu~~ PID	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200	Blow Count
B-2	1'	0-2'	8" Sand & gravel then red clay					8.3						24/22/10/8
0-2														
B-2	1½'	2-4'	8" red clay & 5% gravel, then 4" yellowish silt seam, rest red clay					11.8						10/8/8/8
2-4														
B-2	1'	4-6'	7" red clay @ sm. amt gravel then 5" silty red clay					16.5						4/4/4/5
4-6														
B-2	1½'	6-8'	red clay @ gravel, ductile, often silty areas					13.8						4/3/3/4
6-8														
B-2	1½'	8-10'	brown clay @ glass, roots & gravel					18.2						2/2/4/6
8-10														
B-2	2'	10-12'	brown clay grading into red clay @ a gray-yellow silt seam at ~11.5'					15.4						7/10/12/14
B-2	2'	12-14'	red clay					18.1						4/7/12/18
12-14														

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

Signature	Firm
Robert Olson	Swanson Environmental

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties; Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both, for each violation. Each day of continued violation is a separate offense, pursuant to ss. 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMEN

Form 3300-5B

Rev. 7-8

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: 6-7

County: Milwaukee

NW 1/4 of NW 1/4 of Sec. 31 ; T. 8 N; R. 21 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well

City, Village

(2) FACILITY NAME

Original Well Owner (If Known)

Present ~~Well~~ Owner Boring: Allwaste

Street or Route: 12305 W. Silver Spring Road

City, State, Zip Code: Milwaukee WI 53225

Facility Well No. and/or Name (If Applicable)

WI Unique Well No. _____

Reason For Abandonment: test boring

Date of Abandonment: 4/19/94

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 4/19/94

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) _____

Pump & Piping Removed?	☐ Yes	☐ No	☐ Not Applica
Liner(s) Removed?	☐ Yes	☐ No	☐ Not Applica
Screen Removed?	☐ Yes	☐ No	☐ Not Applica
Casing Left in Place?	☐ Yes	☐ No	

If No, Explain _____

Was Casing Cut Off Below Surface?	☐ Yes	☐ No
Did Sealing Material Rise to Surface?	☐ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☐ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials — For monitoring wells and monitoring well boreholes
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite
☐ Bentonite Pellets
☐ Granular Bentonite

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Surface, soil	Surface	6"		
Pure gold bentonite chips	6"	14'	150 lbs	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: Midwest Engineering for SEI

Signature of Person Doing Work

Date Signed: 4/27/94

Street or Route: 3315 N 124th St Unit N

Telephone Number: (414) 783-0880

City, State, Zip Code: Brookfield WI 53005

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected

District/County

Reviewer/Inspector

Follow-up Necessary

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 7/89
Page ____ of ____

Facility Name	License/Permit/Monitoring Number
Allwaste	— — — — — — — —

Boring Drilled by (Name)	Date Installed (M M D D Y Y)
Midwest Engineering for Swanson Environmental	04 / 20 / 94

Facility Well Number	WI Unique Well Number (assigned by DNR)	Borehole Diameter	Water Level	Surface Elevation
B 3	— — — — — — — —	8.5 Inches	____ Feet	____

NW 1/4 of NW 1/4 of Section 31 T 8 N, R 21 (E) or W

Grid Location (if applicable): ____ feet N or S ____ feet E or W

County	County Code	Civil Town
Milwaukee	41	Milwaukee

Sample No.	Sample Rec.	DEPTH	SOIL/ROCK DESCRIPTION	WELL DIAGRAM	USCS	RDQ	GRAPHIC LOG	Hnu PID	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200	Blow Count
B-3 0-2	1'	0-2'	Brown sand & gravel					7.3						12/17/10/12
B-3 2-4		2-4'	Green clay @ glass					16.5						5/9/5/6
B-3 4-6	1.1'	4-6'	top 3" black clay, then red clay @ orange & gray mottling, moist silt seams at 5½-6'					15.7						3/4/4/6
B-3 6-8	1½'	6-8'	8" red clay @ orange & gray mottling & rest yellowish-red silty clay					18.6						3/4/6/9
B-3 8-10		8-10'	9" red silty clay @ yellow sand interbed, rest red silty clay					18.3						4/6/9/9
B-3 10-12		10-12'	4" yellow silty clay - rest gray clay @ sandy silt seams					14.7						6/8/8/10
B-3 12-14		12-14'	Gray clay @ 2 gravel seams at 13' & 13.4'					22.6						12/13/11/11
B-3 14-16		14-16'	Gray clay					25.0						8/8/11/14
		16-18'	Gray clay					24.3						6/11/14/12

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

Signature	Firm
[signature]	Swanson Environmental

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties; Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both, for each violation. Each day of continued violation is a separate offense, pursuant to ss. 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 7/89
Page _____ of _____

Facility Name	License/Permit/Monitoring Number
Allwaste	— — — — — — — —

Boring Drilled by (Name)	Date Installed (M M D D Y Y)
Midwest Engineering for Swanson Environmental	04 / 19 / 94

Facility Well Number	WI Unique Well Number (assigned by DNR)	Borehole Diameter	Water Level	Surface Elevation
— B 4	— — — — — — — —	8¼ Inches	____ Feet	____

NW 1/4 of NW 1/4 of Section 31 T 8 N, R 21 (E) or W

Grid Location (if applicable): ____ feet N or S ____ feet E or W

County	County Code	Civil Town
Milwaukee	41	Milwaukee

Sample No.	Sample Rec.	DEPTH	SOIL/ROCK DESCRIPTION	WELL DIAGRAM	USCS	RDQ	GRAPHIC LOG	~~Hnu~~ PID	SOIL PROPERTIES qu (qa) (tsf)	W	LL	PL	P200	Blow Count
B-4 02	8"	0-2'	3" red clay @ glass & gravel, then brown clay @ glass & gravel					4.7						1/3/5/8
B-4 2-4	8"	2-4'	black sand @ glass & gravel					10.7						30/26/7/9
B-4 4-6	1½'	4-6'	8" brown clay @ glass & gravel then red ductile clay					17.1						2/3/4/4
B-4 6-8	1'	6-8'	red clay, moist near bottom @ glass & gravel					9.6						3/3/3/5
B-4 8-10	1½'	8-10'	red clay @ glass & orange mottling 2" of sandy clay @ gravel at bottom					16.3						3/3/3/5
B-4 10-12	1½'	10-12'	8" brown-black clay @ glass & gravel 5" seam gray sand & sm. gravel rest brown sand & gravel					14.5						5/6/10/8
B-4 12-14	1½'	12-14'	6" red clay @ gravel, 4" gray gravel rest black clayey sand & gravel					21.8						7/4/9/12
B-4 14-16	6"	14-16'	black clayey sand @ wood & gravel					—						5/3/3/5
B-4 16-18	1'	16-18'	8" black sand & gravel (concrete)					7.2						3/11/6/2
B-4 18-20	1½'	18-20'	then gray ductile clay					18.1						4/2/1½/3½
B-4 20-22	1'	20-22'	gray & brown silty clay					14.1						2/3/4/4
B-4 22-24	1½'	22-24'	6" black clay @ tar & wood rest red clay					19.9						4/9/12/14
			22-24' red clay @ orange & gray mottling											

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

Signature	Firm
Robert Olson	Swanson Environmental

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both, for each violation. Each day of continued violation is a separate offense, pursuant to ss. 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 7/89
Page ____ of ____

Facility Name: Allwaste

License/Permit/Monitoring Number: __ __ __ __ __ __ __

Boring Drilled by (Name): Midwest Engineering for Swanson Environmental

Date Installed: 04/19/94 (M M D D Y Y)

Facility Well Number: B 5

WI Unique Well Number (assigned by DNR): __ __ __ __ __ __ __

Borehole Diameter: 8.5 Inches

Water Level ____ Feet

Surface Elevation ________

NW 1/4 of NW 1/4 of Section 31 T 8 N, R 21 (E) or W

Grid Location (if applicable): ____ feet N or S ____ feet E or W

County: Milwaukee

County Code: 41

Civil Town: Milwaukee

Sample No.	Rec.	Depth	Soil/Rock Description	Well Diagram	USCS	RQD	Graphic Log	~~Hnu~~ PID	qu (qa) (tsf)	W	LL	PL	P200	Blow Count
B-5 0-2	1'		0-2' 3" glass, 4" gray gravel & glass then brown clay @ glass & gravel											6/8/10/8
B-5 2-4	1'		2-4' 9" glass & clay, 3" brown clay @ glass & gravel, asphalt piece											6/9/8/6
B-5 4-6	6"		4-6' 2" glass, 2" brown clay & gravel 2" concrete											4/38/38/7
B-5 6-8	6"		6-8' 1" glass, rest brown clay											4/1/3/10
B-5 8-10	1"		8-10' tan sand & gravel											4/9/11/3
B-5 10-12	1"		10-12' rock & asphalt											0/4/9/8

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

Signature: [signature]

Firm: Swanson Environmental

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State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONME

Form 3300-5B Rev. 7-

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: B-5

County: Milwaukee

NW 1/4 of NW 1/4 of Sec. 31 ; T. 8 N; R. 21 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well

City, Village

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner: Allwaste

Street or Route: 12305 W. Silver Spring Road

City, State, Zip Code: Milwaukee WI 53225

Facility Well No. and/or Name (If Applicable)

WI Unique Well N: _ _ _ _

Reason For Abandonment: test borings

Date of Abandonment: 4/19/94

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 4/19/94

☐ Monitoring Well
☐ Water Well
☒ Drillhole
☒ Borehole

Construction Report Available? ☐ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) _____

Pump & Piping Removed? ☐ Yes ☐ No ☐ Not Applic
Liner(s) Removed? ☐ Yes ☐ No ☐ Not Applic
Screen Removed? ☐ Yes ☐ No ☐ Not Applic
Casing Left in Place? ☐ Yes ☐ No
If No, Explain _____

Was Casing Cut Off Below Surface? ☐ Yes ☐ No
Did Sealing Material Rise to Surface? ☐ Yes ☐ No
Did Material Settle After 24 Hours? ☐ Yes ☐ No
If Yes, Was Hole Retopped? ☐ Yes ☐ No

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite

For monitoring wells and monitoring well boreholes
☐ Bentonite Pellets
☐ Granular Bentonite

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Surface soil & glass	Surface	6"		
Bentonite chips (Pure Gold)	6"	105'	300 lbs	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: Midwest Exploration for SET

Signature of Person Doing Work

Date Signed: 4/27/94

Street or Route: 3315 N 124th St

Telephone Number: (414) 783-0880

City, State, Zip Code: Brookfield WI 53005

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected

District/County

Reviewer/Inspector

Follow-up Necessary

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 7/89
Page ____ of ____

Facility Name: Allwaste		License/Permit/Monitoring Number: — — — — — — —
Boring Drilled by (Name): Midwest Engineering for Swanson Environmental		Date Installed: 04 / 20 / 94 (M M D D Y Y)
Facility Well Number: B 6	WI Unique Well Number (assigned by DNR): — — — — — —	Borehole Diameter: 8.5 Inches
Water Level ____ Feet	Surface Elevation ____	

NW 1/4 of NW 1/4 of Section 31 T 8 N, R 21 (E) or W

Grid Location (if applicable): ____ feet N or S ____ feet E or W

County	County Code	Civil Town
Milwaukee	41	Milwaukee

Sample No.	Rec.	Depth	Soil/Rock Description	Well Diagram	USCS	RQD	Graphic Log	PID	qu (qa) (tsf)	W	LL	PL	P200	Blow Count
B-6 0-2	1'		0-2' 4" red clay & then gravel & brown soil					18.7						8/9/12/13
B-6 2-4	8"		2-4' Gravel, glass & concrete					—						6/12/14/8
B-6 4-6	1'		4-6' 4" brown clay @ gravel & wood 2" seam glass & concrete, rest brown sand & gravel					19.2 / —						6/8/4/7
B-6 6-8	2"		6-8' brown sand & gravel					—						3/3/4/5
B-6 8-10	8"		8-10' 5" brown clayey sand & gravel rest brown sand & gravel					—						2/3/4/4
B-6 10-12	3"		10-12' brown clay @ wood & concrete					21.3						3/5/6/5
B-6 12-14	1½'		12-14' 5" wood & clay, rest red clay @ gravel					— / —						11/10/14/16
B-6 14-16	0"		14-16' no recovery					20.6						5/7/7/7
B-6 16-18	8"		16-18' 4" red clay @ 10% gravel, rest brown-black clay @ wood & gravel					13.7						1/2/3/2
B-6 18-20	1½'		18-20' 8" brown clay @ 10% gravel, red clay @ orange & gray mottling					11.7						1/1/3/5
B-6 20-22	1½'		20-22' red clay @ orange & gray mottling silt seam at 1' gravel at 1'4"											5/13/39/1[illegible]
B-6 22-24	2'		22-24' 4" red clay grading into gray clay sm. amt. wood at bottom											2/5/6/8

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

Signature	Firm
[signature]	Swanson Environmental

APPENDIX IV

ANALYTICAL RESULTS

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

Date: 04/26/94

SEI Project Number: WL10183
Client Project: Allwaste
Project Number: WE1932

Report For: Swanson Environmental, Inc.
3720 North 124th Street
Milwaukee, WI 53222

Attn: Ms. Debra Young

Certified By: _____

Clark J. Crosby
Laboratory Manager

3150 N. Brookfield Road, Brookfield, Wisconsin 53045
Telephone (414) 783-6111 Fax (414) 783-5752

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

Report Date: 04/26/94

To: Swanson Environmental, Inc.
3720 North 124th Street
Milwaukee, WI 53222

Attn: Ms. Debra Young

Date Received: 04/13/94
Your Reference: WE1932

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00501
Sample Point					**HA-1**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
WDNR-DRO	mg/Kg	1.0	WDNR-DRO	04/19/94	2370
DRO Extraction	Date Extracted		WDNR-LUST		04/13/94
WDNR-GRO	mg/Kg	10	WDNR-GRO	04/19/94	Not Detected
Arsenic, Total	mg/Kg	0.2	SW846-7060	04/20/94	2.1
Barium, Total	mg/Kg	0.02	SW846-6010	04/20/94	42.0
Cadmium, Total	mg/Kg	1	SW846-6010	04/20/94	5
Chromium, Total	mg/Kg	1.0	SW846-6010	04/20/94	36
Lead, Total	mg/Kg	5.0	SW846-6010	04/20/94	269
Mercury, Total	mg/Kg	0.01	SW846-7471	04/19/94	Not Detected
Silver, Total	mg/Kg	2.0	SW846-6010	04/20/94	Not Detected
Selenium, Total	mg/Kg	0.2	SW846-7740	04/19/94	Not Detected

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

Report Date: 04/26/94

To: Swanson Environmental, Inc.
3720 North 124th Street
Milwaukee, WI 53222

Attn: Ms. Debra Young

Date Received: 04/13/94
Your Reference: WE1932

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00502
Sample Point					**HA-2**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
WDNR-DRO	mg/Kg	1.0	WDNR-DRO	04/19/94	1800
DRO Extraction	Date Extracted		WDNR-LUST		04/13/94
WDNR-GRO	mg/Kg	10	WDNR-GRO	04/19/94	580

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

Report Date: 04/26/94

To: Swanson Environmental, Inc.
3720 North 124th Street
Milwaukee, WI 53222

Attn: Ms. Debra Young

Date Received: 04/13/94
Your Reference: WE1932

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00503
Sample Point					**HA-3**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
WDNR-DRO	mg/Kg	1.0	WDNR-DRO	04/19/94	3900
DRO Extraction	Date Extracted		WDNR-LUST		04/13/94
WDNR-GRO	mg/Kg	10	WDNR-GRO	04/19/94	110
Benzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Bromobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Bromodichloromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
n-Butylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
sec-Butylbenzene	mg/Kg	0.04	SW846-8021	04/15/94	Not Detected
tert-Butylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Carbon tetrachloride	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chlorodibromomethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloroform	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
2-Chlorotoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
4-Chlorotoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dibromo-3-chloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dibromomethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,3-Dichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,4-Dichlorobenzene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Dichlorodifluoromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

ANALYTICAL REPORT

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00503
Sample Point					**HA-3**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
1,1-Dichloroethane	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
1,2-Dichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1-Dichloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
cis-1,2-Dichloroethene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
trans-1,2-Dichloroethene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
1,2-Dichloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,3-Dichloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
2,2-Dichloropropane	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Di-isopropyl ether	mg/Kg	0.15	SW846-8021	04/15/94	Not Detected
Ethylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Hexachlorobutadiene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Isopropylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
p-Isopropyltoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Methylene chloride	mg/Kg	0.05	SW846-8021	04/15/94	0.08
Methyl-tert-butyl ether	mg/Kg	0.15	SW846-8021	04/15/94	Not Detected
Naphthalene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
n-Propylbenzene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
1,1,2,2-Tetrachloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Tetrachloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Toluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2,3-Trichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2,4-Trichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1,1-Trichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1,2-Trichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Trichloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Trichlorofluoromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2,4-Trimethylbenzene	mg/Kg	0.04	SW846-8021	04/15/94	Not Detected
1,3,5-Trimethylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Vinyl Chloride	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
o-Xylenes	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

ANALYTICAL REPORT

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00503
Sample Point					**HA-3**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
m & p Xylenes	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

Report Date: 04/26/94

To: Swanson Environmental, Inc.
3720 North 124th Street
Milwaukee, WI 53222

Attn: Ms. Debra Young

Date Received: 04/13/94
Your Reference: WE1932

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00504
Sample Point					**HA-4**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
WDNR-DRO	mg/Kg	1.0	WDNR-DRO	04/19/94	903
DRO Extraction	Date Extracted		WDNR-LUST		04/13/94
WDNR-GRO	mg/Kg	10	WDNR-GRO	04/19/94	Not Detected
Benzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Bromobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Bromodichloromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
n-Butylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
sec-Butylbenzene	mg/Kg	0.04	SW846-8021	04/15/94	Not Detected
tert-Butylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Carbon tetrachloride	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chlorodibromomethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloroform	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
2-Chlorotoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
4-Chlorotoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dibromo-3-chloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dibromomethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,3-Dichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,4-Dichlorobenzene	mg/Kg	0.04	SW846-8021	04/15/94	Not Detected
Dichlorodifluoromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

ANALYTICAL REPORT

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00504
Sample Point					**HA-4**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
1,1-Dichloroethane	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
1,2-Dichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1-Dichloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
cis-1,2-Dichloroethene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
trans-1,2-Dichloroethene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
1,2-Dichloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,3-Dichloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
2,2-Dichloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Di-isopropyl ether	mg/Kg	0.15	SW846-8021	04/15/94	Not Detected
Ethylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Hexachlorobutadiene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Isopropylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
p-Isopropyltoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Methylene chloride	mg/Kg	0.05	SW846-8021	04/15/94	0.43
Methyl-tert-butyl ether	mg/Kg	0.15	SW846-8021	04/15/94	Not Detected
Naphthalene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
n-Propylbenzene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
1,1,2,2-Tetrachloroethane	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Tetrachloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Toluene	mg/Kg	0.02	SW846-8021	04/15/94	0.04
1,2,3-Trichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2,4-Trichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1,1-Trichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1,2-Trichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Trichloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Trichlorofluoromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2,4-Trimethylbenzene	mg/Kg	0.04	SW846-8021	04/15/94	Not Detected
1,3,5-Trimethylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Vinyl Chloride	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
o-Xylenes	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00504
Sample Point					**HA-4**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
m & p Xylenes	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

Report Date: 04/26/94

To: Swanson Environmental, Inc.
3720 North 124th Street
Milwaukee, WI 53222

Attn: Ms. Debra Young

Date Received: 04/13/94
Your Reference: WE1932

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00505
Sample Point					**HA-5**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
WDNR-DRO	mg/Kg	1.0	WDNR-DRO	04/19/94	Not Detected
DRO Extraction	Date Extracted		WDNR-LUST		04/13/94
WDNR-GRO	mg/Kg	10	WDNR-GRO	04/19/94	Not Detected
Benzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Bromobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Bromodichloromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
n-Butylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
sec-Butylbenzene	mg/Kg	0.04	SW846-8021	04/15/94	Not Detected
tert-Butylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Carbon tetrachloride	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chlorodibromomethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloroform	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Chloromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
2-Chlorotoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
4-Chlorotoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dibromo-3-chloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dibromomethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,3-Dichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,4-Dichlorobenzene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Dichlorodifluoromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

ANALYTICAL REPORT

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00505
Sample Point					**HA-5**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
1,1-Dichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2-Dichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1-Dichloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
cis-1,2-Dichloroethene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
trans-1,2-Dichloroethene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
1,2-Dichloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,3-Dichloropropane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
2,2-Dichloropropane	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Di-isopropyl ether	mg/Kg	0.15	SW846-8021	04/15/94	Not Detected
Ethylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Hexachlorobutadiene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Isopropylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
p-Isopropyltoluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Methylene chloride	mg/Kg	0.05	SW846-8021	04/15/94	Not Detected
Methyl-tert-butyl ether	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
Naphthalene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
n-Propylbenzene	mg/Kg	0.03	SW846-8021	04/15/94	Not Detected
1,1,2,2-Tetrachloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Tetrachloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Toluene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2,3-Trichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2,4-Trichlorobenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1,1-Trichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,1,2-Trichloroethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Trichloroethene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Trichlorofluoromethane	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
1,2,4-Trimethylbenzene	mg/Kg	0.04	SW846-8021	04/15/94	Not Detected
1,3,5-Trimethylbenzene	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
Vinyl Chloride	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected
o-Xylenes	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00505
Sample Point					**HA-5**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
m & p Xylenes	mg/Kg	0.02	SW846-8021	04/15/94	Not Detected

SWANSON ENVIRONMENTAL INC.

ANALYTICAL REPORT

Report Date: 04/26/94

To: Swanson Environmental, Inc.
3720 North 124th Street
Milwaukee, WI 53222

Attn: Ms. Debra Young

Date Received: 04/13/94
Your Reference: WE1932

SEI Project: WL 10183
Date Collected: 04/13/94

Our Reference					AA00506
Sample Point					**HA-6**
Analyte	**Units**	**PQL**	**Analytical Method**	**Analyzed**	**Result**
Arsenic, Total	mg/Kg	0.1	SW846-7060	04/20/94	0.2
Barium, Total	mg/Kg	0.02	SW846-6010	04/20/94	1.50
Cadmium, Total	mg/Kg	1.0	SW846-6010	04/20/94	Not Detected
Chromium, Total	mg/Kg	1.0	SW846-6010	04/20/94	2
Lead, Total	mg/Kg	5.0	SW846-6010	04/20/94	57
Mercury, Total	mg/Kg	0.02	SW846-7471	04/19/94	0.15
Selenium, Total	mg/Kg	0.2	SW846-7740	04/19/94	Not Detected
Silver, Total	mg/Kg	2.0	SW846-6010	04/20/94	Not Detected

[redacted] [redacted]

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
	Allwaste

SAMPLERS: D. [illegible] / M. Wolczak

SEI #	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	DRO	GRO	RCRA metals	VOC					SAMPLE TYPE (Specify groundwater, soil, wastewater, sludge, etc.)
	HA-1	4/13/94	1010		X	HA-1 /	5	X	X	X						Soil
	HA-2	↓	1025		↓	HA-2 / [illegible]	4	X	X							↓
	HA-3	↓	1035		↓	HA-3 / waste	5	X	X		X					↓
	HA-4	↓	1045		↓	HA-4 / [illegible]	5	X	X		X					↓
	HA-5	↓	1105		↓	HA-5 / [illegible]	5	X	X		X					↓
	HA-6	↓	1111		↓	HA-6 /	1			X						

SAMPLE CONDITION: Rec'd on Ice 9°B

SAMPLE LOCATION:

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
[signature]	4/13/94 [illegible]		|
RECEIVED BY:	**DATE / TIME**	**RECEIVED BY:**	**DATE / TIME**
Gary E Barry	4/14 | 1220		|

SPECIAL REQUESTS:

REPORT TO:

NAME:

ADDRESS:

PHONE:

LABORATORY
3150 North Brookfield Rd.
Brookfield, WI 53045
(414) 783-6111
Fax (414) 783-5752

SWANSON ENVIRONMENTAL INC.

WARZYN

April 27, 1994

Ms. Debbie Keaton
Swanson Environmental Inc.
3150 North Brookfield Road
Brookfield, Wisconsin 53045

Dear Ms. Keaton:

Enclosed are the analytical results and chain-of-custody for the samples collected April 19, 1994. These samples are referenced on your purchase order number 04759. Please feel free to call if you have any questions.

Sincerely,

WARZYN INC.

Sheila M. Tauschek
Project Manager

SMT/kaf/GLG
55006201-lab

Enclosures: As Stated

cc: S. Tauschek

THE PERFECT BALANCE
BETWEEN TECHNOLOGY
AND CREATIVITY

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WARZYN

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STANDARD REPORT FOOTNOTES

A1 Elevated quantitation limit due to low sample volume.

A2 Elevated quantitation limit necessary to overcome interference.

A3 Elevated quantitation limit necessary to overcome difficult matrix.

A4 Result should be considered estimated with possible low bias due to unknown interference.

A5 Result should be considered estimated with possible low bias due to difficult matrix.

A6 Result should be considered estimated with possible low bias as indicated by method QC.

A7 Result should be considered estimated with possible high bias due to unknown interference.

A8 Result should be considered estimated with possible high bias due to difficult matrix.

A9 Result should be considered estimated with possible high bias as indicated by method QC.

A10 Result should be considered estimated due to non-homogeneous sample matrix.

A11 Sample received past recommended hold time.

A12 Analysis requested past recommended hold time.

A13 Initial analysis performed within hold time; confirmation analysis performed past recommended hold time. Results from repeat analysis are reported.

A14 Initial analysis performed within hold time; necessary dilution performed past recommended hold time. Results from repeat analysis are reported.

A15 Result should be considered estimated with possible high bias; analyte detected in method blank.

A16 Elevated quantitation limit indicated by batch QC.

M2 Total analysis performed.

M3 Total analysis performed due to insufficient solid for TCLP extraction.

W1 Sample contained <0.5% solids; filtered sample was analyzed as the TCLP extract.

G1 Result should be considered estimated, concentration exceeds working calibration range.

G2 Elevated quantitation limit due to the concentration of petroleum hydrocarbons in the sample.

G3 Elevated quantitation limit due to the concentration of non-specific hydrocarbons in the sample.

G4 Analyte coelutes with_____; result calculated from calibration standards in a 1:1 ratio of these two compounds.

G5 Sample required extensive cleanup; Endrin Aldehyde is not recovered from these techniques.

G6 Petroleum-type odor detected from this sample.

G7 Elevated quantitation limit due to the concentration of PCBs in the sample.

G8 Result should be considered estimated with possible high bias due to coelution with an additional hydrocarbon product.

G9 Results are influenced by the presence of extraneous peaks which are not representative of petroleum hydrocarbon products.

G10 Presence of one or more unidentified peaks eluting earlier than the retention time window.

G11 Presence of one or more unidentified peaks eluting later than the retention time window.

G12 Result is estimated. The method used is a screening procedure for this compound.

G13 Measurement performed using test strips.

G14 Measurement upon receipt performed using test strips.

G15 n-Nitrosodiphenylamine decomposes in the GC inlet and cannot be separated from Diphenylamine.

G16 Measurement upon receipt performed using test strips. Adjusted to pH <2.

G17 Results are influenced by the presence of extraneous peaks which are not representative of petroleum hydrocarbon products. Final results pending GC/MS confirmation.

WARZYN

MADISON
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METHOD REFERENCES

Compounds	Soil/Groundwater	Wastewater
Alcohol	8015*	8015*
BEXT	8020***	602
DRO	Modified DRO	Modified DRO
GRO	Modified GRO***	Modified GRO
Herbicides	8150	8150
Pesticides	8080	608
Pesticide/PCBs	8080	608
PCBs	8080**	608
PCBs	8080****	608
PCP Screen	8040****	8040****
PNA (GC/MS)	8270	8270
PNA (HPLC)	8310	8310
PVOCs	8020***	8020
SVOCs	8270	8270
TPH	D-3328-78*	D-3328-78*
TRPH	418.1 & 9073	418.1 & 9073
VOCs	8021	8021
VOCs	8010/8020***	601/602
Solids, Total	160.3	160.3

SW846, "Test Methods for Evaluating Solid Waste", 3rd Ed., December 1987.

EPA-600, "Methods for Organic Chemical Analysis of Water and Wastes", March, 1984.

ASTM, "Annual Book of ASTM Standards", 1990.

Wisconsin DNR Modified 9073 TRPH, PUBL-SW-140, Wisconsin DNR, April 1992.

Wisconsin DNR Modified DRO, PUBL-SW-141, Wisconsin DNR, July 1993.

Wisconsin DNR Modified GRO, PUBL-SW-140, Wisconsin DNR, July 1993.

* With Modifications
** With Modfications for Oil Matrix
*** With Modfications for Soil Gas Matrix
**** With Modifications for Wipe Matrix

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ONE SCIENCE COURT
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METHOD REFERENCES

	Soil/Groundwater				Wastewater			
Analytes	**ICP**	**Flame**	**Furnace**	**CV**	**ICP**	**Flame**	**Furnace**	**CV**
Aluminium	6010	7020	-	-	200.7	202.1	-	-
Antimony	6010	7040	7041	-	200.7	-	204.2	-
Arsenic	6010	-	7060	-	200.7	-	206.2	-
Barium	6010	7080	7081	-	200.7	208.1	208.2	-
Beryllium	6010	7090	7091	-	200.7	210.1	210.2	-
Boron	6010	-	-	-	200.7	-	-	-
Cadmium	6010	7130	7131	-	200.7	213.1	213.2	-
Calcium	6010	7140		-	200.7	215.1	-	-
Chromium, Total	6010	7190	7191	-	200.7	218.1	218.2	-
Cobalt	6010	7200	-	-	200.7	219.1	-	-
Copper	6010	7210	-	-	200.7	220.1	-	-
Iron	6010	7380	-	-	200.7	236.1	-	-
Lead	6010	7420	7421	-	200.7	239.1	239.2	-
Magnesium	6010	7450	-	-	200.7	242.1	-	-
Manganese	6010	7460	-	-	200.7	243.1	-	-
Mercury	-	-	-	7470/7471				245.1
Molybdenum	6010	7480	-	-	200.7	246.1	-	-
Nickel	6010	7520	-	-	200.7	249.1	-	-
Potassium	-	SM3500D	-	-	-	SM3500D	-	-
Selenium	6010	-	7740	-	200.7	-	270.2	-
Silver	6010	7760	7761	-	200.7	272.1	272.2	-
Sodium	6010	SM3500D	-	-	200.7	SM3500D	-	-
Strontium	6010	-	-	-	200.7	-	-	-
Thallium	6010	7840	7841	-	200.7	279.1	279.2	-
Tin	6010	-	-	-	200.7	-	-	-
Titanium	6010	-	-	-	200.7	-	-	-
Vanadium	6010	7910	7911	-	200.7	286.1	286.2	-
Zinc	6010	7950	-	-	200.7	289.1	-	-

SW846, "Test Methods for Evaluating Solid Waste", 3rd Ed., December 1987.

EPA-600, "Methods for Chemical Analysis of Water and Wastes", March 1984.

Standard Methods for the Examination of Water and Wastewater", 17th Edition, 1989.

WARZYN

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INORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L8408-0001	10278-1 B6 12-14'	Arsenic	< 30.0	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	96.4	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.60	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	31.9	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	13.8	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	0.08	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 30.0	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.60	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	83.4	0.5	Solid	%	19-APR-94	22-APR-94
L8408-0002	10278-2 B6 4-6'	Arsenic	< 27.4	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	35.6	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.55	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	13.5	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	78.8	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	0.06	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 27.4	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.55	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	91.2	0.5	Solid	%	19-APR-94	22-APR-94
L8408-0003	10278-3 B3 14-16'	Arsenic	< 28.8	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	59.0	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.57	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	19.7	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	9.77	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	0.05	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 28.8	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.57	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	86.7	0.5	Solid	%	19-APR-94	22-APR-94
L8408-0004	10278-4 B3 4-6'	Arsenic	< 29.1	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	52.9	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.58	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	17.9	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	11.6	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	< 0.05	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 29.1	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.58	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	85.8	0.5	Solid	%	19-APR-94	22-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

Chk'd: [signature] App'd: [signature]
Date App'd: 4/27/94

WARZYN

MADISON
ONE SCIENCE COURT
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MADISON, WI 53705
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FAX (608) 231-4777

LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8408-0001	10278-1 B6 12-14'	Benzene	< 0.0060	0.0050	Solid	mg/kg	
		Bromobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Bromodichloromethane	< 0.0060	0.0050	Solid	mg/kg	
		n-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		sec-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		tert-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Carbon tetrachloride	< 0.0060	0.0050	Solid	mg/kg	
		Chlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Chlorodibromomethane	< 0.0060	0.0050	Solid	mg/kg	
		Chloroethane	< 0.012	0.010	Solid	mg/kg	
		Chloroform	< 0.0060	0.0050	Solid	mg/kg	
		Chloromethane	< 0.012	0.010	Solid	mg/kg	
		2-Chlorotoluene	< 0.0060	0.0050	Solid	mg/kg	
		4-Chlorotoluene	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dibromo-3-chloropropane	< 0.018	0.015	Solid	mg/kg	
		1,2-Dibromoethane	< 0.012	0.010	Solid	mg/kg	
		1,2-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,3-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,4-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Dichlorodifluoromethane	< 0.012	0.010	Solid	mg/kg	
		1,1-Dichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,1-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		cis-1,2-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		trans-1,2-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		1,3-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		2,2-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		Di-isopropyl ether	< 0.0060	0.0050	Solid	mg/kg	
		Ethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Hexachlorobutadiene	< 0.0060	0.0050	Solid	mg/kg	
		Isopropylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		p-Isopropyltoluene	< 0.0060	0.0050	Solid	mg/kg	
		Methylene chloride	< 0.018	0.015	Solid	mg/kg	
		Methyl tert-butyl ether	< 0.0060	0.0050	Solid	mg/kg	
		Naphthalene	< 0.0060	0.0050	Solid	mg/kg	
		n-Propylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,1,2,2-Tetrachloroethane	< 0.0060	0.0050	Solid	mg/kg	
		Tetrachloroethene	< 0.0060	0.0050	Solid	mg/kg	
		Toluene	< 0.0060	0.0050	Solid	mg/kg	

Note: Results in mg/kg are reported on a dry weight basis.

Chk'd: [illegible] App'd: [illegible]
Date App'd: 4/17/94

WARZYN

MADISON
ONE SCIENCE COURT
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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8408-0001	10278-1 B6 12-14'	1,2,3-Trichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,2,4-Trichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,1,1-Trichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,1,2-Trichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		Trichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		Trichlorofluoromethane	< 0.0060	0.0050	Solid	mg/kg	
		1,2,4-Trimethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,3,5-Trimethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Vinyl chloride	< 0.0060	0.0050	Solid	mg/kg	
		o-Xylene	< 0.0060	0.0050	Solid	mg/kg	
		m + p-Xylene	< 0.012	0.010	Solid	mg/kg	

Sample Date: 19-APR-94
Analysis Date: 21-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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Date App'd: 4/27/94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8408-0002	10278-2 B6 4-6'	Benzene	< 0.0055	0.0050	Solid	mg/kg	
		Bromobenzene	< 0.0055	0.0050	Solid	mg/kg	
		Bromodichloromethane	< 0.0055	0.0050	Solid	mg/kg	
		n-Butylbenzene	< 0.0055	0.0050	Solid	mg/kg	
		sec-Butylbenzene	< 0.0055	0.0050	Solid	mg/kg	
		tert-Butylbenzene	< 0.0055	0.0050	Solid	mg/kg	
		Carbon tetrachloride	< 0.0055	0.0050	Solid	mg/kg	
		Chlorobenzene	< 0.0055	0.0050	Solid	mg/kg	
		Chlorodibromomethane	< 0.0055	0.0050	Solid	mg/kg	
		Chloroethane	< 0.011	0.010	Solid	mg/kg	
		Chloroform	< 0.0055	0.0050	Solid	mg/kg	
		Chloromethane	< 0.011	0.010	Solid	mg/kg	
		2-Chlorotoluene	< 0.0055	0.0050	Solid	mg/kg	
		4-Chlorotoluene	< 0.0055	0.0050	Solid	mg/kg	
		1,2-Dibromo-3-chloropropane	< 0.016	0.015	Solid	mg/kg	
		1,2-Dibromoethane	< 0.011	0.010	Solid	mg/kg	
		1,2-Dichlorobenzene	< 0.0055	0.0050	Solid	mg/kg	
		1,3-Dichlorobenzene	< 0.0055	0.0050	Solid	mg/kg	
		1,4-Dichlorobenzene	< 0.0055	0.0050	Solid	mg/kg	
		Dichlorodifluoromethane	< 0.011	0.010	Solid	mg/kg	
		1,1-Dichloroethane	< 0.0055	0.0050	Solid	mg/kg	
		1,2-Dichloroethane	< 0.0055	0.0050	Solid	mg/kg	
		1,1-Dichloroethene	< 0.0055	0.0050	Solid	mg/kg	
		cis-1,2-Dichloroethene	< 0.0055	0.0050	Solid	mg/kg	
		trans-1,2-Dichloroethene	< 0.0055	0.0050	Solid	mg/kg	
		1,2-Dichloropropane	< 0.0055	0.0050	Solid	mg/kg	
		1,3-Dichloropropane	< 0.0055	0.0050	Solid	mg/kg	
		2,2-Dichloropropane	< 0.0055	0.0050	Solid	mg/kg	
		Di-isopropyl ether	< 0.0055	0.0050	Solid	mg/kg	
		Ethylbenzene	< 0.0055	0.0050	Solid	mg/kg	
		Hexachlorobutadiene	< 0.0055	0.0050	Solid	mg/kg	
		Isopropylbenzene	< 0.0055	0.0050	Solid	mg/kg	
		p-Isopropyltoluene	< 0.0055	0.0050	Solid	mg/kg	
		Methylene chloride	< 0.016	0.015	Solid	mg/kg	
		Methyl tert-butyl ether	< 0.0055	0.0050	Solid	mg/kg	
		Naphthalene	< 0.0055	0.0050	Solid	mg/kg	
		n-Propylbenzene	< 0.0055	0.0050	Solid	mg/kg	
		1,1,2,2-Tetrachloroethane	< 0.0055	0.0050	Solid	mg/kg	
		Tetrachloroethene	< 0.0055	0.0050	Solid	mg/kg	
		Toluene	< 0.0055	0.0050	Solid	mg/kg	

Note: Results in mg/kg are reported on a dry weight basis.

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Date App'd: 4/27/94

WI Lab Certification ID#: 113138300

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8408-0002	10278-2 B6 4-6'	1,2,3-Trichlorobenzene	< 0.0055	0.0050	Solid	mg/kg	
		1,2,4-Trichlorobenzene	< 0.0055	0.0050	Solid	mg/kg	
		1,1,1-Trichloroethane	< 0.0055	0.0050	Solid	mg/kg	
		1,1,2-Trichloroethane	< 0.0055	0.0050	Solid	mg/kg	
		Trichloroethene	< 0.0055	0.0050	Solid	mg/kg	
		Trichlorofluoromethane	< 0.0055	0.0050	Solid	mg/kg	
		1,2,4-Trimethylbenzene	< 0.0055	0.0050	Solid	mg/kg	
		1,3,5-Trimethylbenzene	< 0.0055	0.0050	Solid	mg/kg	
		Vinyl chloride	< 0.0055	0.0050	Solid	mg/kg	
		o-Xylene	< 0.0055	0.0050	Solid	mg/kg	
		m + p-Xylene	< 0.011	0.010	Solid	mg/kg	

Sample Date: 19-APR-94
Analysis Date: 21-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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Date App'd: 4/27/94

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GASOLINE RANGE ORGANICS (GRO)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Petroleum Odor	Footnotes
L8408-0003	10278-3 B3 14-16'	Gasoline Range Organics	< 10	10	Solid	mg/kg	None	
		Sample Date:	19-APR-94					
		Extract Date:	21-APR-94					
		Analysis Date:	21-APR-94					
L8408-0004	10278-4 B3 4-6'	Gasoline Range Organics	< 10	10	Solid	mg/kg	None	
		Sample Date:	19-APR-94					
		Extract Date:	21-APR-94					
		Analysis Date:	21-APR-94					

Note: Results in mg/kg are reported on a dry weight basis.

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DIESEL RANGE ORGANICS (DRO)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Petroleum Odor	Footnotes
L8408-0003	10278-3 B3 14-16'	Diesel Range Organics	< 20	10	Solid	mg/kg	None	A1
		Sample Date:	19-APR-94					
		Extract Date:	21-APR-94					
		Analysis Date:	22-APR-94					
L8408-0004	10278-4 B3 4-6'	Diesel Range Organics	< 20	10	Solid	mg/kg	None	A1
		Sample Date:	19-APR-94					
		Extract Date:	21-APR-94					
		Analysis Date:	22-APR-94					

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

Chk'd: [illegible] App'd: [illegible]
Date App'd: 4/27/94

CHAIN OF CUSTODY RECORD

10278

PROJ. NO.	PROJECT NAME
	Allwaste

SAMPLERS: D. Young

SEI #	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TEST PARAMETERS: GRO	DRO	VOC	8RCRA metals	SAMPLE TYPE (Specify groundwater, soil, wastewater, sludge, etc.)	
	B-6:12-14	4/20/94	0913		X	B-6: 12-14' / collected	2			X	X	soil	-879
	B-6:4-6	"	0900		X	" 4-6' / from	2			X	X	"	880
	B-3:14-16	"	1140		X	B-3: 14-16' / Split spoon	4	X	X		X	"	881
	B-3:4-6	"	1181		X	" 4-6'	4	X	X		X	"	882

SAMPLE CONDITION: ON Ice

SAMPLE LOCATION:

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME	SPECIAL REQUESTS:
Robert Young	4/20/94 1417			
RECEIVED BY:	**DATE / TIME**	**RECEIVED BY:**	**DATE / TIME**	**REPORT TO:**
Mary E Barry	4/20/94 1417			NAME:
				ADDRESS:
				PHONE:

LABORATORY
3150 North Brookfield Rd.
Brookfield, WI 53045
(414) 783-6111
Fax (414) 783-5752

SWANSON ENVIRONMENTAL INC.

CHAIN OF CUSTODY RECORD

S. Tanschek

PROJ. NO.	PROJECT NAME
55006201 2010	Swanson Environmental, Inc.

SAMPLERS:

NO. OF CONTAINERS

TEST PARAMETERS: VOCs (8021), 8 RCRA Metals, GRO, DRO

SAMPLE TYPE (Specify groundwater, soil, wastewater, sludge, etc.): SOIL

SEI #	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOCs (8021)	8 RCRA Metals	GRO	DRO					SAMPLE TYPE
10278-1		4-19				B-6 12-14'	2	X	X							Soil 8408-001
10278-2		↓				B-6 4-6'	2	X	X							↓ 002
10278-3		↓				B 3 14-16'	4		X	X	X					↓ 003
10278-4		↓				B-3 4-6'	4		X	X	X					↓ 004

Report Due 4/28/94

SAMPLE CONDITION:

SAMPLE LOCATION:

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
Gary E. Berry To UPS	4/19/94 / 1530		
RECEIVED BY:	**DATE / TIME**	**RECEIVED BY:**	**DATE / TIME**
Randy Wenzing	4-21-94 / 14:10		

SPECIAL REQUESTS: 5 DAY TAT

REPORT TO:

NAME:

ADDRESS:

PHONE:

LABORATORY
3150 North Brookfield Rd.
Brookfield, WI 53045
(414) 783-6111
Fax (414) 783-5752

SWANSON ENVIRONMENTAL INC.

[illegible] via UPS, no [illegible]

WARZYN

April 27, 1994

Ms. Debbie Keaton
Swanson Environmental Inc.
3150 North Brookfield Road
Brookfield, Wisconsin 53045

Dear Ms. Keaton:

Enclosed are the analytical results and chain-of-custody for the samples collected April 19, 1994. These samples are referenced on your purchase order number 04755. Please feel free to call if you have any questions.

Sincerely,

WARZYN INC.

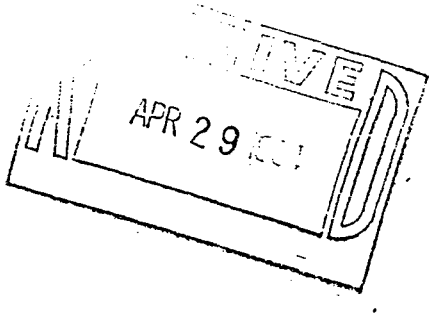
Sheila M. Tauschek

Sheila M. Tauschek
Project Manager

SMT/kaf/GLG
55006201-lab

Enclosures: As Stated

cc: S. Tauschek



THE PERFECT BALANCE
BETWEEN TECHNOLOGY
AND CREATIVITY

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WARZYN

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STANDARD REPORT FOOTNOTES

A1 Elevated quantitation limit due to low sample volume.

A2 Elevated quantitation limit necessary to overcome interference.

A3 Elevated quantitation limit necessary to overcome difficult matrix.

A4 Result should be considered estimated with possible low bias due to unknown interference.

A5 Result should be considered estimated with possible low bias due to difficult matrix.

A6 Result should be considered estimated with possible low bias as indicated by method QC.

A7 Result should be considered estimated with possible high bias due to unknown interference.

A8 Result should be considered estimated with possible high bias due to difficult matrix.

A9 Result should be considered estimated with possible high bias as indicated by method QC.

A10 Result should be considered estimated due to non-homogeneous sample matrix.

A11 Sample received past recommended hold time.

A12 Analysis requested past recommended hold time.

A13 Initial analysis performed within hold time; confirmation analysis performed past recommended hold time. Results from repeat analysis are reported.

A14 Initial analysis performed within hold time; necessary dilution performed past recommended hold time. Results from repeat analysis are reported.

A15 Result should be considered estimated with possible high bias; analyte detected in method blank.

A16 Elevated quantitation limit indicated by batch QC.

M2 Total analysis performed.

M3 Total analysis performed due to insufficient solid for TCLP extraction.

W1 Sample contained <0.5% solids; filtered sample was analyzed as the TCLP extract.

G1 Result should be considered estimated, concentration exceeds working calibration range.

G2 Elevated quantitation limit due to the concentration of petroleum hydrocarbons in the sample.

G3 Elevated quantitation limit due to the concentration of non-specific hydrocarbons in the sample.

G4 Analyte coelutes with_____; result calculated from calibration standards in a 1:1 ratio of these two compounds.

G5 Sample required extensive cleanup; Endrin Aldehyde is not recovered from these techniques.

G6 Petroleum-type odor detected from this sample.

G7 Elevated quantitation limit due to the concentration of PCBs in the sample.

G8 Result should be considered estimated with possible high bias due to coelution with an additional hydrocarbon product.

G9 Results are influenced by the presence of extraneous peaks which are not representative of petroleum hydrocarbon products.

G10 Presence of one or more unidentified peaks eluting earlier than the retention time window.

G11 Presence of one or more unidentified peaks eluting later than the retention time window.

G12 Result is estimated. The method used is a screening procedure for this compound.

G13 Measurement performed using test strips.

G14 Measurement upon receipt performed using test strips.

G15 n-Nitrosodiphenylamine decomposes in the GC inlet and cannot be separated from Diphenylamine.

G16 Measurement upon receipt performed using test strips. Adjusted to pH <2.

G17 Results are influenced by the presence of extraneous peaks which are not representative of petroleum hydrocarbon products. Final results pending GC/MS confirmation.

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METHOD REFERENCES

	Soil/Groundwater				Wastewater			
Analytes	**ICP**	**Flame**	**Furnace**	**CV**	**ICP**	**Flame**	**Furnace**	**CV**
Aluminium	6010	7020	-	-	200.7	202.1	-	-
Antimony	6010	7040	7041	-	200.7	-	204.2	-
Arsenic	6010	-	7060	-	200.7	-	206.2	-
Barium	6010	7080	7081	-	200.7	208.1	208.2	-
Beryllium	6010	7090	7091	-	200.7	210.1	210.2	-
Boron	6010	-	-	-	200.7	-	-	-
Cadmium	6010	7130	7131	-	200.7	213.1	213.2	-
Calcium	6010	7140		-	200.7	215.1	-	-
Chromium, Total	6010	7190	7191	-	200.7	218.1	218.2	-
Cobalt	6010	7200	-	-	200.7	219.1	-	-
Copper	6010	7210	-	-	200.7	220.1	-	-
Iron	6010	7380	-	-	200.7	236.1	-	-
Lead	6010	7420	7421	-	200.7	239.1	239.2	-
Magnesium	6010	7450	-	-	200.7	242.1	-	-
Manganese	6010	7460	-	-	200.7	243.1	-	-
Mercury	-	-	-	7470/7471				245.1
Molybdenum	6010	7480	-	-	200.7	246.1	-	-
Nickel	6010	7520	-	-	200.7	249.1	-	-
Potassium	-	SM3500D	-	-	-	SM3500D	-	-
Selenium	6010	-	7740	-	200.7	-	270.2	-
Silver	6010	7760	7761	-	200.7	272.1	272.2	-
Sodium	6010	SM3500D	-	-	200.7	SM3500D	-	-
Strontium	6010	-	-	-	200.7	-	-	-
Thallium	6010	7840	7841	-	200.7	279.1	279.2	-
Tin	6010	-	-	-	200.7	-	-	-
Titanium	6010	-	-	-	200.7	-	-	-
Vanadium	6010	7910	7911	-	200.7	286.1	286.2	-
Zinc	6010	7950	-	-	200.7	289.1	-	-

SW846, "Test Methods for Evaluating Solid Waste", 3rd Ed., December 1987.

EPA-600, "Methods for Chemical Analysis of Water and Wastes", March 1984.

Standard Methods for the Examination of Water and Wastewater", 17th Edition, 1989.

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METHOD REFERENCES

Compounds	Soil/Groundwater	Wastewater
Alcohol	8015*	8015*
BEXT	8020***	602
DRO	Modified DRO	Modified DRO
GRO	Modified GRO***	Modified GRO
Herbicides	8150	8150
Pesticides	8080	608
Pesticide/PCBs	8080	608
PCBs	8080**	608
PCBs	8080****	608
PCP Screen	8040****	8040****
PNA (GC/MS)	8270	8270
PNA (HPLC)	8310	8310
PVOCs	8020***	8020
SVOCs	8270	8270
TPH	D-3328-78*	D-3328-78*
TRPH	418.1 & 9073	418.1 & 9073
VOCs	8021	8021
VOCs	8010/8020***	601/602
Solids, Total	160.3	160.3

SW846, "Test Methods for Evaluating Solid Waste", 3rd Ed., December 1987.

EPA-600, "Methods for Organic Chemical Analysis of Water and Wastes", March, 1984.

ASTM, "Annual Book of ASTM Standards", 1990.

Wisconsin DNR Modified 9073 TRPH, PUBL-SW-140, Wisconsin DNR, April 1992.

Wisconsin DNR Modified DRO, PUBL-SW-141, Wisconsin DNR, July 1993.

Wisconsin DNR Modified GRO, PUBL-SW-140, Wisconsin DNR, July 1993.

* With Modifications
** With Modfications for Oil Matrix
*** With Modfications for Soil Gas Matrix
**** With Modifications for Wipe Matrix

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INORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L8407-0001	#10269-1	Arsenic	< 27.8	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	39.4	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.56	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	16.8	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	13.3	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	< 0.04	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 27.8	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.56	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	89.8	0.5	Solid	%	19-APR-94	22-APR-94
L8407-0002	#10269-2	Arsenic	< 30.5	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	89.6	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.61	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	31.0	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	22.5	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	< 0.05	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 30.5	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.61	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	81.9	0.5	Solid	%	19-APR-94	22-APR-94
L8407-0003	#10269-6	Arsenic	< 29.8	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	63.8	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.59	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	21.8	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	11.9	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	0.06	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 29.8	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.59	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	84.0	0.5	Solid	%	19-APR-94	22-APR-94
L8407-0004	#10269-7	Solids, Total	88.2	0.5	Solid	%	19-APR-94	25-APR-94
L8407-0005	#10269-3	Arsenic	< 30.0	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	72.2	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.60	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	26.5	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	11.4	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	0.07	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 30.0	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.60	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	83.4	0.5	Solid	%	19-APR-94	22-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

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WI Lab Certification ID#: 113138300

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INORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L8407-0006	#10269-4	Arsenic	< 27.9	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	29.6	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.56	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	9.76	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	72.0	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	0.08	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 27.9	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.56	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	89.5	0.5	Solid	%	19-APR-94	22-APR-94
L8407-0007	#10269-5	Arsenic	< 29.8	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Barium	21.9	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Cadmium	< 0.60	0.50	Solid	mg/kg	19-APR-94	26-APR-94
		Chromium, Total	10.3	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Lead	36.9	5.00	Solid	mg/kg	19-APR-94	25-APR-94
		Mercury	0.11	0.04	Solid	mg/kg	19-APR-94	26-APR-94
		Selenium	< 29.8	25.0	Solid	mg/kg	19-APR-94	25-APR-94
		Silver	< 0.60	0.50	Solid	mg/kg	19-APR-94	25-APR-94
		Solids, Total	83.9	0.5	Solid	%	19-APR-94	22-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0001	#10269-1	Benzene	< 0.0056	0.0050	Solid	mg/kg	
		Bromobenzene	< 0.0056	0.0050	Solid	mg/kg	
		Bromodichloromethane	< 0.0056	0.0050	Solid	mg/kg	
		n-Butylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		sec-Butylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		tert-Butylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		Carbon tetrachloride	< 0.0056	0.0050	Solid	mg/kg	
		Chlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		Chlorodibromomethane	< 0.0056	0.0050	Solid	mg/kg	
		Chloroethane	< 0.011	0.010	Solid	mg/kg	
		Chloroform	< 0.0056	0.0050	Solid	mg/kg	
		Chloromethane	< 0.011	0.010	Solid	mg/kg	
		2-Chlorotoluene	< 0.0056	0.0050	Solid	mg/kg	
		4-Chlorotoluene	< 0.0056	0.0050	Solid	mg/kg	
		1,2-Dibromo-3-chloropropane	< 0.017	0.015	Solid	mg/kg	
		1,2-Dibromoethane	< 0.011	0.010	Solid	mg/kg	
		1,2-Dichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,3-Dichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,4-Dichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		Dichlorodifluoromethane	< 0.011	0.010	Solid	mg/kg	
		1,1-Dichloroethane	< 0.0056	0.0050	Solid	mg/kg	
		1,2-Dichloroethane	< 0.0056	0.0050	Solid	mg/kg	
		1,1-Dichloroethene	< 0.0056	0.0050	Solid	mg/kg	
		cis-1,2-Dichloroethene	< 0.0056	0.0050	Solid	mg/kg	
		trans-1,2-Dichloroethene	< 0.0056	0.0050	Solid	mg/kg	
		1,2-Dichloropropane	< 0.0056	0.0050	Solid	mg/kg	
		1,3-Dichloropropane	< 0.0056	0.0050	Solid	mg/kg	
		2,2-Dichloropropane	< 0.0056	0.0050	Solid	mg/kg	
		Di-isopropyl ether	< 0.0056	0.0050	Solid	mg/kg	
		Ethylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		Hexachlorobutadiene	< 0.0056	0.0050	Solid	mg/kg	
		Isopropylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		p-Isopropyltoluene	< 0.0056	0.0050	Solid	mg/kg	
		Methylene chloride	< 0.024	0.015	Solid	mg/kg	A2
		Methyl tert-butyl ether	< 0.0056	0.0050	Solid	mg/kg	
		Naphthalene	< 0.0056	0.0050	Solid	mg/kg	
		n-Propylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,1,2,2-Tetrachloroethane	< 0.0056	0.0050	Solid	mg/kg	
		Tetrachloroethene	< 0.0056	0.0050	Solid	mg/kg	
		Toluene	< 0.0056	0.0050	Solid	mg/kg	

Note: Results in mg/kg are reported on a dry weight basis.

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0001	#10269-1	1,2,3-Trichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,2,4-Trichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,1,1-Trichloroethane	< 0.0056	0.0050	Solid	mg/kg	
		1,1,2-Trichloroethane	< 0.0056	0.0050	Solid	mg/kg	
		Trichloroethene	< 0.0056	0.0050	Solid	mg/kg	
		Trichlorofluoromethane	< 0.0056	0.0050	Solid	mg/kg	
		1,2,4-Trimethylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,3,5-Trimethylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		Vinyl chloride	< 0.0056	0.0050	Solid	mg/kg	
		o-Xylene	< 0.0056	0.0050	Solid	mg/kg	
		m + p-Xylene	< 0.011	0.010	Solid	mg/kg	

Sample Date: 19-APR-94
Analysis Date: 21-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0002	#10269-2	Benzene	< 0.0061	0.0050	Solid	mg/kg	
		Bromobenzene	< 0.0061	0.0050	Solid	mg/kg	
		Bromodichloromethane	< 0.0061	0.0050	Solid	mg/kg	
		n-Butylbenzene	< 0.0061	0.0050	Solid	mg/kg	
		sec-Butylbenzene	< 0.0061	0.0050	Solid	mg/kg	
		tert-Butylbenzene	< 0.0061	0.0050	Solid	mg/kg	
		Carbon tetrachloride	< 0.0061	0.0050	Solid	mg/kg	
		Chlorobenzene	< 0.0061	0.0050	Solid	mg/kg	
		Chlorodibromomethane	< 0.0061	0.0050	Solid	mg/kg	
		Chloroethane	< 0.012	0.010	Solid	mg/kg	
		Chloroform	< 0.0061	0.0050	Solid	mg/kg	
		Chloromethane	< 0.012	0.010	Solid	mg/kg	
		2-Chlorotoluene	< 0.0061	0.0050	Solid	mg/kg	
		4-Chlorotoluene	< 0.0061	0.0050	Solid	mg/kg	
		1,2-Dibromo-3-chloropropane	< 0.018	0.015	Solid	mg/kg	
		1,2-Dibromoethane	< 0.012	0.010	Solid	mg/kg	
		1,2-Dichlorobenzene	< 0.0061	0.0050	Solid	mg/kg	
		1,3-Dichlorobenzene	< 0.0061	0.0050	Solid	mg/kg	
		1,4-Dichlorobenzene	< 0.0061	0.0050	Solid	mg/kg	
		Dichlorodifluoromethane	< 0.012	0.010	Solid	mg/kg	
		1,1-Dichloroethane	< 0.0061	0.0050	Solid	mg/kg	
		1,2-Dichloroethane	< 0.0061	0.0050	Solid	mg/kg	
		1,1-Dichloroethene	< 0.0061	0.0050	Solid	mg/kg	
		cis-1,2-Dichloroethene	< 0.0061	0.0050	Solid	mg/kg	
		trans-1,2-Dichloroethene	< 0.0061	0.0050	Solid	mg/kg	
		1,2-Dichloropropane	< 0.0061	0.0050	Solid	mg/kg	
		1,3-Dichloropropane	< 0.0061	0.0050	Solid	mg/kg	
		2,2-Dichloropropane	< 0.0061	0.0050	Solid	mg/kg	
		Di-isopropyl ether	< 0.0061	0.0050	Solid	mg/kg	
		Ethylbenzene	< 0.0061	0.0050	Solid	mg/kg	
		Hexachlorobutadiene	< 0.0061	0.0050	Solid	mg/kg	
		Isopropylbenzene	< 0.0061	0.0050	Solid	mg/kg	
		p-Isopropyltoluene	< 0.0061	0.0050	Solid	mg/kg	
		Methylene chloride	< 0.018	0.015	Solid	mg/kg	
		Methyl tert-butyl ether	< 0.0061	0.0050	Solid	mg/kg	
		Naphthalene	< 0.0061	0.0050	Solid	mg/kg	
		n-Propylbenzene	< 0.0061	0.0050	Solid	mg/kg	
		1,1,2,2-Tetrachloroethane	< 0.0061	0.0050	Solid	mg/kg	
		Tetrachloroethene	< 0.0061	0.0050	Solid	mg/kg	
		Toluene	< 0.0061	0.0050	Solid	mg/kg	

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0002	#10269-2	1,2,3-Trichlorobenzene	< 0.0061	0.0050	Solid	mg/kg	
		1,2,4-Trichlorobenzene	< 0.0061	0.0050	Solid	mg/kg	
		1,1,1-Trichloroethane	< 0.0061	0.0050	Solid	mg/kg	
		1,1,2-Trichloroethane	< 0.0061	0.0050	Solid	mg/kg	
		Trichloroethene	< 0.0061	0.0050	Solid	mg/kg	
		Trichlorofluoromethane	< 0.0061	0.0050	Solid	mg/kg	
		1,2,4-Trimethylbenzene	< 0.0061	0.0050	Solid	mg/kg	
		1,3,5-Trimethylbenzene	< 0.0061	0.0050	Solid	mg/kg	
		Vinyl chloride	< 0.0061	0.0050	Solid	mg/kg	
		o-Xylene	< 0.0061	0.0050	Solid	mg/kg	
		m + p-Xylene	< 0.012	0.010	Solid	mg/kg	

Sample Date: 19-APR-94
Analysis Date: 21-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0003	#10269-6	Benzene	< 0.0060	0.0050	Solid	mg/kg	
		Bromobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Bromodichloromethane	< 0.0060	0.0050	Solid	mg/kg	
		n-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		sec-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		tert-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Carbon tetrachloride	< 0.0060	0.0050	Solid	mg/kg	
		Chlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Chlorodibromomethane	< 0.0060	0.0050	Solid	mg/kg	
		Chloroethane	< 0.012	0.010	Solid	mg/kg	
		Chloroform	< 0.0060	0.0050	Solid	mg/kg	
		Chloromethane	< 0.012	0.010	Solid	mg/kg	
		2-Chlorotoluene	< 0.0060	0.0050	Solid	mg/kg	
		4-Chlorotoluene	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dibromo-3-chloropropane	< 0.018	0.015	Solid	mg/kg	
		1,2-Dibromoethane	< 0.012	0.010	Solid	mg/kg	
		1,2-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,3-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,4-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Dichlorodifluoromethane	< 0.012	0.010	Solid	mg/kg	
		1,1-Dichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,1-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		cis-1,2-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		trans-1,2-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		1,3-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		2,2-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		Di-isopropyl ether	< 0.0060	0.0050	Solid	mg/kg	
		Ethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Hexachlorobutadiene	< 0.0060	0.0050	Solid	mg/kg	
		Isopropylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		p-Isopropyltoluene	< 0.0060	0.0050	Solid	mg/kg	
		Methylene chloride	< 0.018	0.015	Solid	mg/kg	
		Methyl tert-butyl ether	< 0.0060	0.0050	Solid	mg/kg	
		Naphthalene	0.24	0.0050	Solid	mg/kg	
		n-Propylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,1,2,2-Tetrachloroethane	< 0.0060	0.0050	Solid	mg/kg	
		Tetrachloroethene	< 0.0060	0.0050	Solid	mg/kg	
		Toluene	< 0.0060	0.0050	Solid	mg/kg	

Note: Results in mg/kg are reported on a dry weight basis.

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WI Lab Certification ID#: 113138300

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0003	#10269-6	1,2,3-Trichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,2,4-Trichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,1,1-Trichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,1,2-Trichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		Trichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		Trichlorofluoromethane	< 0.0060	0.0050	Solid	mg/kg	
		1,2,4-Trimethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,3,5-Trimethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Vinyl chloride	< 0.0060	0.0050	Solid	mg/kg	
		o-Xylene	< 0.0060	0.0050	Solid	mg/kg	
		m + p-Xylene	< 0.012	0.010	Solid	mg/kg	

Sample Date: 19-APR-94
Analysis Date: 21-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0004	#10269-7	Benzene	< 0.0057	0.0050	Solid	mg/kg	
		Bromobenzene	< 0.0057	0.0050	Solid	mg/kg	
		Bromodichloromethane	< 0.0057	0.0050	Solid	mg/kg	
		n-Butylbenzene	< 0.0057	0.0050	Solid	mg/kg	
		sec-Butylbenzene	< 0.0057	0.0050	Solid	mg/kg	
		tert-Butylbenzene	< 0.0057	0.0050	Solid	mg/kg	
		Carbon tetrachloride	< 0.0057	0.0050	Solid	mg/kg	
		Chlorobenzene	< 0.0057	0.0050	Solid	mg/kg	
		Chlorodibromomethane	< 0.0057	0.0050	Solid	mg/kg	
		Chloroethane	< 0.011	0.010	Solid	mg/kg	
		Chloroform	< 0.0057	0.0050	Solid	mg/kg	
		Chloromethane	< 0.011	0.010	Solid	mg/kg	
		2-Chlorotoluene	< 0.0057	0.0050	Solid	mg/kg	
		4-Chlorotoluene	< 0.0057	0.0050	Solid	mg/kg	
		1,2-Dibromo-3-chloropropane	< 0.017	0.015	Solid	mg/kg	
		1,2-Dibromoethane	< 0.011	0.010	Solid	mg/kg	
		1,2-Dichlorobenzene	< 0.0057	0.0050	Solid	mg/kg	
		1,3-Dichlorobenzene	< 0.0057	0.0050	Solid	mg/kg	
		1,4-Dichlorobenzene	< 0.0057	0.0050	Solid	mg/kg	
		Dichlorodifluoromethane	< 0.011	0.010	Solid	mg/kg	
		1,1-Dichloroethane	< 0.0057	0.0050	Solid	mg/kg	
		1,2-Dichloroethane	< 0.0057	0.0050	Solid	mg/kg	
		1,1-Dichloroethene	< 0.0057	0.0050	Solid	mg/kg	
		cis-1,2-Dichloroethene	< 0.0057	0.0050	Solid	mg/kg	
		trans-1,2-Dichloroethene	< 0.0057	0.0050	Solid	mg/kg	
		1,2-Dichloropropane	< 0.0057	0.0050	Solid	mg/kg	
		1,3-Dichloropropane	< 0.0057	0.0050	Solid	mg/kg	
		2,2-Dichloropropane	< 0.0057	0.0050	Solid	mg/kg	
		Di-isopropyl ether	< 0.0057	0.0050	Solid	mg/kg	
		Ethylbenzene	< 0.0057	0.0050	Solid	mg/kg	
		Hexachlorobutadiene	< 0.0057	0.0050	Solid	mg/kg	
		Isopropylbenzene	< 0.0057	0.0050	Solid	mg/kg	
		p-Isopropyltoluene	< 0.0057	0.0050	Solid	mg/kg	
		Methylene chloride	< 0.017	0.015	Solid	mg/kg	
		Methyl tert-butyl ether	< 0.0057	0.0050	Solid	mg/kg	
		Naphthalene	0.0074	0.0050	Solid	mg/kg	
		n-Propylbenzene	< 0.0057	0.0050	Solid	mg/kg	
		1,1,2,2-Tetrachloroethane	< 0.0057	0.0050	Solid	mg/kg	
		Tetrachloroethene	< 0.0057	0.0050	Solid	mg/kg	
		Toluene	< 0.0057	0.0050	Solid	mg/kg	

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

Chk'd: [signature] App'd: [signature]
Date App'd: 4/27/94

WARZYN

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0004	#10269-7	1,2,3-Trichlorobenzene	< 0.0057	0.0050	Solid	mg/kg	
		1,2,4-Trichlorobenzene	< 0.0057	0.0050	Solid	mg/kg	
		1,1,1-Trichloroethane	< 0.0057	0.0050	Solid	mg/kg	
		1,1,2-Trichloroethane	< 0.0057	0.0050	Solid	mg/kg	
		Trichloroethene	< 0.0057	0.0050	Solid	mg/kg	
		Trichlorofluoromethane	< 0.0057	0.0050	Solid	mg/kg	
		1,2,4-Trimethylbenzene	< 0.0057	0.0050	Solid	mg/kg	
		1,3,5-Trimethylbenzene	< 0.0057	0.0050	Solid	mg/kg	
		Vinyl chloride	< 0.0057	0.0050	Solid	mg/kg	
		o-Xylene	< 0.0057	0.0050	Solid	mg/kg	
		m + p-Xylene	< 0.011	0.010	Solid	mg/kg	

Sample Date: 19-APR-94
Analysis Date: 21-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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Date App'd: 4/27/94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0005	#10269-3	Benzene	< 0.0060	0.0050	Solid	mg/kg	
		Bromobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Bromodichloromethane	< 0.0060	0.0050	Solid	mg/kg	
		n-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		sec-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		tert-Butylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Carbon tetrachloride	< 0.0060	0.0050	Solid	mg/kg	
		Chlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Chlorodibromomethane	< 0.0060	0.0050	Solid	mg/kg	
		Chloroethane	< 0.012	0.010	Solid	mg/kg	
		Chloroform	< 0.0060	0.0050	Solid	mg/kg	
		Chloromethane	< 0.012	0.010	Solid	mg/kg	
		2-Chlorotoluene	< 0.0060	0.0050	Solid	mg/kg	
		4-Chlorotoluene	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dibromo-3-chloropropane	< 0.018	0.015	Solid	mg/kg	
		1,2-Dibromoethane	< 0.012	0.010	Solid	mg/kg	
		1,2-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,3-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,4-Dichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		Dichlorodifluoromethane	< 0.012	0.010	Solid	mg/kg	
		1,1-Dichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,1-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		cis-1,2-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		trans-1,2-Dichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		1,2-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		1,3-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		2,2-Dichloropropane	< 0.0060	0.0050	Solid	mg/kg	
		Di-isopropyl ether	< 0.0060	0.0050	Solid	mg/kg	
		Ethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Hexachlorobutadiene	< 0.0060	0.0050	Solid	mg/kg	
		Isopropylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		p-Isopropyltoluene	< 0.0060	0.0050	Solid	mg/kg	
		Methylene chloride	< 0.020	0.015	Solid	mg/kg	A2
		Methyl tert-butyl ether	< 0.0060	0.0050	Solid	mg/kg	
		Naphthalene	< 0.0060	0.0050	Solid	mg/kg	
		n-Propylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,1,2,2-Tetrachloroethane	< 0.0060	0.0050	Solid	mg/kg	
		Tetrachloroethene	< 0.0060	0.0050	Solid	mg/kg	
		Toluene	< 0.0060	0.0050	Solid	mg/kg	

Note: Results in mg/kg are reported on a dry weight basis.

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Date App'd: 4/27/94

WI Lab Certification ID#: 113138300

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0005	#10269-3	1,2,3-Trichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,2,4-Trichlorobenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,1,1-Trichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		1,1,2-Trichloroethane	< 0.0060	0.0050	Solid	mg/kg	
		Trichloroethene	< 0.0060	0.0050	Solid	mg/kg	
		Trichlorofluoromethane	< 0.0060	0.0050	Solid	mg/kg	
		1,2,4-Trimethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		1,3,5-Trimethylbenzene	< 0.0060	0.0050	Solid	mg/kg	
		Vinyl chloride	< 0.0060	0.0050	Solid	mg/kg	
		o-Xylene	< 0.0060	0.0050	Solid	mg/kg	
		m + p-Xylene	< 0.012	0.010	Solid	mg/kg	

Sample Date: 19-APR-94
Analysis Date: 21-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0006	#10269-4	Benzene	< 0.0056	0.0050	Solid	mg/kg	
		Bromobenzene	< 0.0056	0.0050	Solid	mg/kg	
		Bromodichloromethane	< 0.0056	0.0050	Solid	mg/kg	
		n-Butylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		sec-Butylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		tert-Butylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		Carbon tetrachloride	< 0.0056	0.0050	Solid	mg/kg	
		Chlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		Chlorodibromomethane	< 0.0056	0.0050	Solid	mg/kg	
		Chloroethane	< 0.011	0.010	Solid	mg/kg	
		Chloroform	< 0.0056	0.0050	Solid	mg/kg	
		Chloromethane	< 0.011	0.010	Solid	mg/kg	
		2-Chlorotoluene	< 0.0056	0.0050	Solid	mg/kg	
		4-Chlorotoluene	< 0.0056	0.0050	Solid	mg/kg	
		1,2-Dibromo-3-chloropropane	< 0.017	0.015	Solid	mg/kg	
		1,2-Dibromoethane	< 0.011	0.010	Solid	mg/kg	
		1,2-Dichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,3-Dichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,4-Dichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		Dichlorodifluoromethane	< 0.011	0.010	Solid	mg/kg	
		1,1-Dichloroethane	< 0.0056	0.0050	Solid	mg/kg	
		1,2-Dichloroethane	< 0.0056	0.0050	Solid	mg/kg	
		1,1-Dichloroethene	< 0.0056	0.0050	Solid	mg/kg	
		cis-1,2-Dichloroethene	< 0.0056	0.0050	Solid	mg/kg	
		trans-1,2-Dichloroethene	< 0.0056	0.0050	Solid	mg/kg	
		1,2-Dichloropropane	< 0.0056	0.0050	Solid	mg/kg	
		1,3-Dichloropropane	< 0.0056	0.0050	Solid	mg/kg	
		2,2-Dichloropropane	< 0.0056	0.0050	Solid	mg/kg	
		Di-isopropyl ether	< 0.0056	0.0050	Solid	mg/kg	
		Ethylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		Hexachlorobutadiene	< 0.0056	0.0050	Solid	mg/kg	
		Isopropylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		p-Isopropyltoluene	< 0.0056	0.0050	Solid	mg/kg	
		Methylene chloride	< 0.017	0.015	Solid	mg/kg	
		Methyl tert-butyl ether	< 0.0056	0.0050	Solid	mg/kg	
		Naphthalene	0.012	0.0050	Solid	mg/kg	
		n-Propylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,1,2,2-Tetrachloroethane	< 0.0056	0.0050	Solid	mg/kg	
		Tetrachloroethene	< 0.0056	0.0050	Solid	mg/kg	
		Toluene	< 0.0056	0.0050	Solid	mg/kg	

Note: Results in mg/kg are reported on a dry weight basis.

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Date App'd: 4/27/94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8407-0006	#10269-4	1,2,3-Trichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,2,4-Trichlorobenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,1,1-Trichloroethane	< 0.0056	0.0050	Solid	mg/kg	
		1,1,2-Trichloroethane	< 0.0056	0.0050	Solid	mg/kg	
		Trichloroethene	< 0.0056	0.0050	Solid	mg/kg	
		Trichlorofluoromethane	< 0.0056	0.0050	Solid	mg/kg	
		1,2,4-Trimethylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		1,3,5-Trimethylbenzene	< 0.0056	0.0050	Solid	mg/kg	
		Vinyl chloride	< 0.0056	0.0050	Solid	mg/kg	
		o-Xylene	< 0.0056	0.0050	Solid	mg/kg	
		m + p-Xylene	< 0.011	0.010	Solid	mg/kg	

Sample Date: 19-APR-94
Analysis Date: 22-APR-94

Note: Results in mg/kg are reported on a dry weight basis.

WI Lab Certification ID#: 113138300

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Date App'd: 4/27/94

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GASOLINE RANGE ORGANICS (GRO)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Petroleum Odor	Footnotes
L8407-0001	#10269-1	Gasoline Range Organics	< 10	10	Solid	mg/kg	None	
		Sample Date: 19-APR-94						
		Extract Date: 21-APR-94						
		Analysis Date: 21-APR-94						
L8407-0002	#10269-2	Gasoline Range Organics	< 10	10	Solid	mg/kg	None	
		Sample Date: 19-APR-94						
		Extract Date: 21-APR-94						
		Analysis Date: 21-APR-94						
L8407-0003	#10269-6	Gasoline Range Organics	< 10	10	Solid	mg/kg	None	
		Sample Date: 19-APR-94						
		Extract Date: 21-APR-94						
		Analysis Date: 21-APR-94						
L8407-0004	#10269-7	Gasoline Range Organics	< 10	10	Solid	mg/kg	None	
		Sample Date: 19-APR-94						
		Extract Date: 21-APR-94						
		Analysis Date: 21-APR-94						

Note: Results in mg/kg are reported on a dry weight basis.

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DIESEL RANGE ORGANICS (DRO)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Petroleum Odor	Footnotes
L8407-0001	#10269-1	Diesel Range Organics	< 20	10	Solid	mg/kg	None	A1
		Sample Date:	19-APR-94					
		Extract Date:	21-APR-94					
		Analysis Date:	21-APR-94					
L8407-0002	#10269-2	Diesel Range Organics	< 20	10	Solid	mg/kg	None	A1
		Sample Date:	19-APR-94					
		Extract Date:	21-APR-94					
		Analysis Date:	21-APR-94					
L8407-0003	#10269-6	Diesel Range Organics	< 20	10	Solid	mg/kg	None	A1
		Sample Date:	19-APR-94					
		Extract Date:	21-APR-94					
		Analysis Date:	21-APR-94					
L8407-0004	#10269-7	Diesel Range Organics	< 20	10	Solid	mg/kg	None	A1
		Sample Date:	19-APR-94					
		Extract Date:	21-APR-94					
		Analysis Date:	21-APR-94					

Note: Results in mg/kg are reported on a dry weight basis.

CHAIN OF CUSTODY RECORD

04/28/94 12:10 ☎414 783 5752 SWANSON ENVIRNMTL → SEI CONSULTING 001/002

PROJ. NO.: 10269
PROJECT NAME: Allwaste
SAMPLERS: D. Yang

SEI #	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	DRO	GRO	VOC	RCRA metals					SAMPLE TYPE (Specify groundwater, soil, wastewater, sludge, etc.)
1	B-2:12-14	4/19/94	1420		X	B-2:12-14 (collected @ split spoon)	5	X	X	X	X					Soil AA00835
2	B-2:8-10	↓	1408		↓	↓ 8-10	5	X	X	X	X					↓ 836
3	B-4:22-24	↓	1147		↓	B-4: 22-24	2			X	X					↓ 837
4	B-4:12-14	↓	1120		↓	↓ 12-14	2			X	X					↓ 838
5	B-1:6-8	↓	0831		↓	B-1: 6-8	1				X					↓ 339
6	B-1:18-20	↓	0902		↓	↓ 18-20	5	X	X	X	X					340
7	B-1:22-24	↓	0910		↓	↓ 22-24	4	X	X	X						341

SAMPLE CONDITION: On Ice

SAMPLE LOCATION:

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
[signature]	4/20/94	[signature]	4/20 12:30
RECEIVED BY:	**DATE / TIME**	**RECEIVED BY:**	**DATE / TIME**
[signature]	4/20 1020	Kurt Goomey	4/20 1030

SPECIAL REQUESTS:

REPORT TO:
NAME:
ADDRESS:
PHONE:

Post-it™ brand fax transmittal memo 7671 | # of pages ▸
To: Rex Young | From: D Yang
Co. | Co.
Dept. | Phone #
Fax # | Fax #

LABORATORY
3150 North Brookfield Rd.
Brookfield, WI 53045
(414) 783-6111
Fax (414) 783-5752

SWANSON ENVIRONMENTAL INC.

P.O.# 4755

CHAIN OF CUSTODY RECORD

WAREYN

PROJ. NO. 5500 6201 ~~006~~

PROJECT NAME: SWANSON Env

SAMPLERS:

SAMPLE TYPE: SOIL (Specify groundwater, soil, wastewater, sludge, etc.)

SEI #	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	8 RCRA Metals (TCLP)	Metals (TCLP)	VOC (8021)	DRO (WDNR)	GRO (WDNR)				SAMPLE TYPE
8407-	001	4/19	14:20		X	#10269-1	5	X		X	X	X				Soil
↓	002	↓	14:08		↓	10269-2	5	X		X	X	X				
	005		11:41			10269-3	2	X		X						
	006		11:20			10269-4	2	X		X						
	007		4:31			10269-5	1	X								
	003		9:02			10269-6	5	X		X	X	X				
	004		9:10			10269-7	4			X	X	X				

Report Due 4/28/94

SAMPLE CONDITION:

SAMPLE LOCATION:

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME	SPECIAL REQUESTS:
[signature]	4/20 3:30		/	
RECEIVED BY:	**DATE / TIME**	**RECEIVED BY:**	**DATE / TIME**	**REPORT TO:**
Randy Meindorf	4-21-94 / 10:50		/	NAME: Debbie Keeton ADDRESS: PHONE:

LABORATORY
3150 North Brookfield Rd.
Brookfield, WI 53045
(414) 783-6111
Fax (414) 783-5762

SWANSON ENVIRONMENTAL INC.

[illegible] via UPS S. Tauschek

WARZYN

April 28, 1994

Ms. Debbie Keaton
Swanson Environmental Inc.
3150 North Brookfield Road
Brookfield, Wisconsin 53045

Dear Ms. Keaton:

Enclosed are the analytical results and chain-of-custody for the samples collected April 21 and 22, 1994. These samples are referenced on your purchase order number 04767. Please feel free to call if you have any questions.

Sincerely,

WARZYN INC.

Sheila M. Tauschek
Project Manager

SMT/dlk/GLG
55006201-lab

Enclosures: As Stated

cc: S. Tauschek

THE PERFECT BALANCE
BETWEEN TECHNOLOGY
AND CREATIVITY

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STANDARD REPORT FOOTNOTES

A1 Elevated quantitation limit due to low sample volume.

A2 Elevated quantitation limit necessary to overcome interference.

A3 Elevated quantitation limit necessary to overcome difficult matrix.

A4 Result should be considered estimated with possible low bias due to unknown interference.

A5 Result should be considered estimated with possible low bias due to difficult matrix.

A6 Result should be considered estimated with possible low bias as indicated by method QC.

A7 Result should be considered estimated with possible high bias due to unknown interference.

A8 Result should be considered estimated with possible high bias due to difficult matrix.

A9 Result should be considered estimated with possible high bias as indicated by method QC.

A10 Result should be considered estimated due to non-homogeneous sample matrix.

A11 Sample received past recommended hold time.

A12 Analysis requested past recommended hold time.

A13 Initial analysis performed within hold time; confirmation analysis performed past recommended hold time. Results from repeat analysis are reported.

A14 Initial analysis performed within hold time; necessary dilution performed past recommended hold time. Results from repeat analysis are reported.

A15 Result should be considered estimated with possible high bias; analyte detected in method blank.

A16 Elevated quantitation limit indicated by batch QC.

M2 Total analysis performed.

M3 Total analysis performed due to insufficient solid for TCLP extraction.

W1 Sample contained <0.5% solids; filtered sample was analyzed as the TCLP extract.

G1 Result should be considered estimated, concentration exceeds working calibration range.

G2 Elevated quantitation limit due to the concentration of petroleum hydrocarbons in the sample.

G3 Elevated quantitation limit due to the concentration of non-specific hydrocarbons in the sample.

G4 Analyte coclutes with_____; result calculated from calibration standards in a 1:1 ratio of these two compounds.

G5 Sample required extensive cleanup; Endrin Aldehyde is not recovered from these techniques.

G6 Petroleum-type odor detected from this sample.

G7 Elevated quantitation limit due to the concentration of PCBs in the sample.

G8 Result should be considered estimated with possible high bias due to coelution with an additional hydrocarbon product.

G9 Results are influenced by the presence of extraneous peaks which are not representative of petroleum hydrocarbon products.

G10 Presence of one or more unidentified peaks eluting earlier than the retention time window.

G11 Presence of one or more unidentified peaks eluting later than the retention time window.

G12 Result is estimated. The method used is a screening procedure for this compound.

G13 Measurement performed using test strips.

G14 Measurement upon receipt performed using test strips.

G15 n-Nitrosodiphenylamine decomposes in the GC inlet and cannot be separated from Diphenylamine.

G16 Measurement upon receipt performed using test strips. Adjusted to pH <2.

G17 Results are influenced by the presence of extraneous peaks which are not representative of petroleum hydrocarbon products. Final results pending GC/MS confirmation.

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METHOD REFERENCES

	Soil/Groundwater				Wastewater			
Analytes	ICP	Flame	Furnace	CV	ICP	Flame	Furnace	CV
Aluminium	6010	7020	-	-	200.7	202.1	-	-
Antimony	6010	7040	7041	-	200.7	-	204.2	-
Arsenic	6010	-	7060	-	200.7	-	206.2	-
Barium	6010	7080	7081	-	200.7	208.1	208.2	-
Beryllium	6010	7090	7091	-	200.7	210.1	210.2	-
Cadmium	6010	7130	7131	-	200.7	213.1	213.2	-
Calcium	6010	7140		-	200.7	215.1	-	-
Chromium, Total	6010	7190	7191	-	200.7	218.1	218.2	-
Cobalt	6010	7200	-	-	200.7	219.1	-	-
Copper	6010	7210	-	-	200.7	220.1	-	-
Iron	6010	7380	-	-	200.7	236.1	-	-
Lead	6010	7420	7421	-	200.7	239.1	239.2	-
Magnesium	6010	7450	-	-	200.7	242.1	-	-
Manganese	6010	7460	-	-	200.7	243.1	-	-
Mercury	-	-	-	7470/7471				245.1
Molybdenum	6010	7480	-	-	200.7	246.1	-	-
Nickel	6010	7520	-	-	200.7	249.1	-	-
Potassium	-	SM3500D	-	-	-	SM3500D	-	-
Selenium	6010	-	7740	-	200.7	-	270.2	-
Silver	6010	7760	7761	-	200.7	272.1	272.2	-
Sodium	6010	SM3500D	-	-	200.7	SM3500D	-	-
Strontium	6010	-	-	-	200.7	-	-	-
Thallium	6010	7840	7841	-	200.7	279.1	279.2	-
Tin	6010	-	-	-	200.7	-	-	-
Titanium	6010	-	-	-	200.7	-	-	-
Vanadium	6010	7910	7911	-	200.7	286.1	286.2	-
Zinc	6010	7950	-	-	200.7	289.1	-	-

SW846, "Test Methods for Evaluating Solid Waste", 3rd Ed., December 1987.

EPA-600, "Methods for Chemical Analysis of Water and Wastes", March 1984.

Standard Methods for the Examination of Water and Wastewater", 17th Edition, 1989.

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METHOD REFERENCES

Compounds	Soil/Groundwater	Wastewater
Alcohol	8015*	8015*
BEXT	8020***	602
DRO	Modified DRO	Modified DRO
GRO	Modified GRO***	Modified GRO
Herbicides	8150	8150
Pesticides	8080	608
Pesticide/PCBs	8080	608
PCBs	8080**	608
PCBs	8080****	608
PCP Screen	8040****	8040****
PNA (GC/MS)	8270	8270
PNA (HPLC)	8310	8310
PVOCs	8020***	8020
SVOCs	8270	8270
TPH	D-3328-78*	D-3328-78*
TRPH	418.1 & 9073	418.1 & 9073
VOCs	8021	8021
VOCs	8010/8020***	601/602
Solids, Total	160.3	160.3

SW846, "Test Methods for Evaluating Solid Waste", 3rd Ed., December 1987.

EPA-600, "Methods for Organic Chemical Analysis of Water and Wastes", March, 1984.

ASTM, "Annual Book of ASTM Standards", 1990.

Wisconsin DNR Modified 9073 TRPH, PUBL-SW-140, Wisconsin DNR, April 1992.

Wisconsin DNR Modified DRO, PUBL-SW-141, Wisconsin DNR, July 1993.

Wisconsin DNR Modified GRO, PUBL-SW-140, Wisconsin DNR, July 1993.

* With Modifications
** With Modfications for Oil Matrix
*** With Modfications for Soil Gas Matrix
**** With Modifications for Wipe Matrix

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INORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L8423-0001	10326-1	Arsenic	< 0.002	0.002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Barium	0.22	0.01	GroundH2O	mg/L	22-APR-94	26-APR-94
		Cadmium	0.0003	0.0002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Chromium, Total	0.0004	0.0002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Lead	< 0.003	0.003	GroundH2O	mg/L	22-APR-94	26-APR-94
		Mercury	< 0.0002	0.0002	GroundH2O	mg/L	22-APR-94	28-APR-94
		Selenium	< 0.002	0.002	GroundH2O	mg/L	22-APR-94	27-APR-94
		Silver	< 0.0005	0.0005	GroundH2O	mg/L	22-APR-94	27-APR-94
L8423-0002	10326-2	Arsenic	< 0.002	0.002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Barium	0.22	0.01	GroundH2O	mg/L	22-APR-94	26-APR-94
		Cadmium	0.0005	0.0002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Chromium, Total	< 0.0002	0.0002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Lead	< 0.003	0.003	GroundH2O	mg/L	22-APR-94	26-APR-94
		Mercury	< 0.0002	0.0002	GroundH2O	mg/L	22-APR-94	28-APR-94
		Selenium	< 0.002	0.002	GroundH2O	mg/L	22-APR-94	27-APR-94
		Silver	< 0.0005	0.0005	GroundH2O	mg/L	22-APR-94	27-APR-94
L8423-0003	10326-3	Arsenic	0.005	0.002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Barium	0.36	0.01	GroundH2O	mg/L	22-APR-94	26-APR-94
		Cadmium	< 0.0002	0.0002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Chromium, Total	0.0009	0.0002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Lead	< 0.003	0.003	GroundH2O	mg/L	22-APR-94	26-APR-94
		Mercury	< 0.0002	0.0002	GroundH2O	mg/L	22-APR-94	28-APR-94
		Selenium	< 0.002	0.002	GroundH2O	mg/L	22-APR-94	27-APR-94
		Silver	< 0.0010	0.0005	GroundH2O	mg/L	22-APR-94	27-APR-94
L8423-0004	10326-4	Arsenic	< 0.002	0.002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Barium	0.36	0.01	GroundH2O	mg/L	22-APR-94	26-APR-94
		Cadmium	< 0.0002	0.0002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Chromium, Total	0.0003	0.0002	GroundH2O	mg/L	22-APR-94	26-APR-94
		Lead	< 0.003	0.003	GroundH2O	mg/L	22-APR-94	26-APR-94
		Mercury	< 0.0002	0.0002	GroundH2O	mg/L	22-APR-94	28-APR-94
		Selenium	< 0.002	0.002	GroundH2O	mg/L	22-APR-94	27-APR-94
		Silver	< 0.0005	0.0005	GroundH2O	mg/L	22-APR-94	27-APR-94

Footnotes

Sample #	Test	Footnote
L8423-0003	Silver	A2

Chk'd: dlk App'd: GG
Date App'd: 4/28/94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0001	10326-1	Benzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromodichloromethane	< 1.0	1.0	GroundH2O	ug/L	
		n-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		sec-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		tert-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Carbon tetrachloride	< 1.0	1.0	GroundH2O	ug/L	
		Chlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Chlorodibromomethane	< 1.0	1.0	GroundH2O	ug/L	
		Chloroethane	< 2.0	2.0	GroundH2O	ug/L	
		Chloroform	< 1.0	1.0	GroundH2O	ug/L	
		Chloromethane	< 2.0	2.0	GroundH2O	ug/L	
		2-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		4-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dibromo-3-chloropropane	< 3.0	3.0	GroundH2O	ug/L	
		1,2-Dibromoethane	< 2.0	2.0	GroundH2O	ug/L	
		1,2-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,4-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Dichlorodifluoromethane	< 2.0	2.0	GroundH2O	ug/L	
		1,1-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		cis-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		trans-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		2,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		Di-isopropyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Ethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Hexachlorobutadiene	< 1.0	1.0	GroundH2O	ug/L	
		Isopropylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		p-Isopropyltoluene	< 1.0	1.0	GroundH2O	ug/L	
		Methylene chloride	< 3.0	3.0	GroundH2O	ug/L	
		Methyl tert-butyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Naphthalene	< 1.0	1.0	GroundH2O	ug/L	
		n-Propylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2,2-Tetrachloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Tetrachloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Toluene	< 1.0	1.0	GroundH2O	ug/L	

WI Lab Certification ID#: 113138300

Chk'd: dlk App'd: GAb
Date App'd: 4/28/94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0001	10326-1	1,2,3-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,1-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Trichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Trichlorofluoromethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3,5-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Vinyl chloride	< 1.0	1.0	GroundH2O	ug/L	
		o-Xylene	< 1.0	1.0	GroundH2O	ug/L	
		m + p-Xylene	< 2.0	2.0	GroundH2O	ug/L	
		pH	< 2.0	2.0	GroundH2O	S.U.	G13

Sample Date: 22-APR-94
Analysis Date: 26-APR-94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0002	10326-2	Benzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromodichloromethane	< 1.0	1.0	GroundH2O	ug/L	
		n-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		sec-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		tert-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Carbon tetrachloride	< 1.0	1.0	GroundH2O	ug/L	
		Chlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Chlorodibromomethane	< 1.0	1.0	GroundH2O	ug/L	
		Chloroethane	< 2.0	2.0	GroundH2O	ug/L	
		Chloroform	< 1.0	1.0	GroundH2O	ug/L	
		Chloromethane	< 2.0	2.0	GroundH2O	ug/L	
		2-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		4-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dibromo-3-chloropropane	< 3.0	3.0	GroundH2O	ug/L	
		1,2-Dibromoethane	< 2.0	2.0	GroundH2O	ug/L	
		1,2-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,4-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Dichlorodifluoromethane	< 2.0	2.0	GroundH2O	ug/L	
		1,1-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		cis-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		trans-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		2,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		Di-isopropyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Ethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Hexachlorobutadiene	< 1.0	1.0	GroundH2O	ug/L	
		Isopropylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		p-Isopropyltoluene	< 1.0	1.0	GroundH2O	ug/L	
		Methylene chloride	< 3.0	3.0	GroundH2O	ug/L	
		Methyl tert-butyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Naphthalene	< 1.0	1.0	GroundH2O	ug/L	
		n-Propylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2,2-Tetrachloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Tetrachloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Toluene	< 1.0	1.0	GroundH2O	ug/L	

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0002	10326-2	1,2,3-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,1-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Trichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Trichlorofluoromethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3,5-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Vinyl chloride	< 1.0	1.0	GroundH2O	ug/L	
		o-Xylene	< 1.0	1.0	GroundH2O	ug/L	
		m + p-Xylene	< 2.0	2.0	GroundH2O	ug/L	
		pH	< 2.0	2.0	GroundH2O	S.U.	G13

Sample Date: 22-APR-94
Analysis Date: 26-APR-94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0003	10326-3	Benzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromodichloromethane	< 1.0	1.0	GroundH2O	ug/L	
		n-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		sec-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		tert-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Carbon tetrachloride	< 1.0	1.0	GroundH2O	ug/L	
		Chlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Chlorodibromomethane	< 1.0	1.0	GroundH2O	ug/L	
		Chloroethane	< 2.0	2.0	GroundH2O	ug/L	
		Chloroform	< 1.0	1.0	GroundH2O	ug/L	
		Chloromethane	< 2.0	2.0	GroundH2O	ug/L	
		2-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		4-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dibromo-3-chloropropane	< 3.0	3.0	GroundH2O	ug/L	
		1,2-Dibromoethane	< 2.0	2.0	GroundH2O	ug/L	
		1,2-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,4-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Dichlorodifluoromethane	< 2.0	2.0	GroundH2O	ug/L	
		1,1-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		cis-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		trans-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		2,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		Di-isopropyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Ethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Hexachlorobutadiene	< 1.0	1.0	GroundH2O	ug/L	
		Isopropylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		p-Isopropyltoluene	< 1.0	1.0	GroundH2O	ug/L	
		Methylene chloride	< 3.0	3.0	GroundH2O	ug/L	
		Methyl tert-butyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Naphthalene	< 1.0	1.0	GroundH2O	ug/L	
		n-Propylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2,2-Tetrachloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Tetrachloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Toluene	< 1.0	1.0	GroundH2O	ug/L	

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0003	10326-3	1,2,3-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,1-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Trichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Trichlorofluoromethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3,5-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Vinyl chloride	< 1.0	1.0	GroundH2O	ug/L	
		o-Xylene	< 1.0	1.0	GroundH2O	ug/L	
		m + p-Xylene	< 2.0	2.0	GroundH2O	ug/L	
		pH	< 2.0	2.0	GroundH2O	S.U.	G13

Sample Date: 22-APR-94
Analysis Date: 26-APR-94

WARZYN

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0004	10326-4	Benzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromodichloromethane	< 1.0	1.0	GroundH2O	ug/L	
		n-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		sec-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		tert-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Carbon tetrachloride	< 1.0	1.0	GroundH2O	ug/L	
		Chlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Chlorodibromomethane	< 1.0	1.0	GroundH2O	ug/L	
		Chloroethane	< 2.0	2.0	GroundH2O	ug/L	
		Chloroform	< 1.0	1.0	GroundH2O	ug/L	
		Chloromethane	< 2.0	2.0	GroundH2O	ug/L	
		2-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		4-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dibromo-3-chloropropane	< 3.0	3.0	GroundH2O	ug/L	
		1,2-Dibromoethane	< 2.0	2.0	GroundH2O	ug/L	
		1,2-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,4-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Dichlorodifluoromethane	< 2.0	2.0	GroundH2O	ug/L	
		1,1-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		cis-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		trans-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		2,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		Di-isopropyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Ethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Hexachlorobutadiene	< 1.0	1.0	GroundH2O	ug/L	
		Isopropylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		p-Isopropyltoluene	< 1.0	1.0	GroundH2O	ug/L	
		Methylene chloride	< 3.0	3.0	GroundH2O	ug/L	
		Methyl tert-butyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Naphthalene	< 1.0	1.0	GroundH2O	ug/L	
		n-Propylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2,2-Tetrachloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Tetrachloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Toluene	< 1.0	1.0	GroundH2O	ug/L	

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0004	10326-4	1,2,3-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,1-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Trichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Trichlorofluoromethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3,5-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Vinyl chloride	< 1.0	1.0	GroundH2O	ug/L	
		o-Xylene	< 1.0	1.0	GroundH2O	ug/L	
		m + p-Xylene	< 2.0	2.0	GroundH2O	ug/L	
		pH	< 2.0	2.0	GroundH2O	S.U.	G13

Sample Date: 22-APR-94
Analysis Date: 26-APR-94

WI Lab Certification ID#: 113138300

Chk'd dlr App'd: dlr
Date App'd: 4/28/94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0005	10326-6	Benzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Bromodichloromethane	< 1.0	1.0	GroundH2O	ug/L	
		n-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		sec-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		tert-Butylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Carbon tetrachloride	< 1.0	1.0	GroundH2O	ug/L	
		Chlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Chlorodibromomethane	< 1.0	1.0	GroundH2O	ug/L	
		Chloroethane	< 2.0	2.0	GroundH2O	ug/L	
		Chloroform	< 1.0	1.0	GroundH2O	ug/L	
		Chloromethane	< 2.0	2.0	GroundH2O	ug/L	
		2-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		4-Chlorotoluene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dibromo-3-chloropropane	< 3.0	3.0	GroundH2O	ug/L	
		1,2-Dibromoethane	< 2.0	2.0	GroundH2O	ug/L	
		1,2-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,4-Dichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		Dichlorodifluoromethane	< 2.0	2.0	GroundH2O	ug/L	
		1,1-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		cis-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		trans-1,2-Dichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		1,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		1,3-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		2,2-Dichloropropane	< 1.0	1.0	GroundH2O	ug/L	
		Di-isopropyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Ethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Hexachlorobutadiene	< 1.0	1.0	GroundH2O	ug/L	
		Isopropylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		p-Isopropyltoluene	< 1.0	1.0	GroundH2O	ug/L	
		Methylene chloride	< 3.0	3.0	GroundH2O	ug/L	
		Methyl tert-butyl ether	< 1.0	1.0	GroundH2O	ug/L	
		Naphthalene	< 1.0	1.0	GroundH2O	ug/L	
		n-Propylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2,2-Tetrachloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Tetrachloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Toluene	< 1.0	1.0	GroundH2O	ug/L	

WI Lab Certification ID#: 113138300

Chk'd: dlk App'd: GG
Date App'd: 4/23/94

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LUST VOLATILE ORGANIC REPORT (8021)
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0005	10326-6	1,2,3-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trichlorobenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,1,1-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		1,1,2-Trichloroethane	< 1.0	1.0	GroundH2O	ug/L	
		Trichloroethene	< 1.0	1.0	GroundH2O	ug/L	
		Trichlorofluoromethane	< 1.0	1.0	GroundH2O	ug/L	
		1,2,4-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		1,3,5-Trimethylbenzene	< 1.0	1.0	GroundH2O	ug/L	
		Vinyl chloride	< 1.0	1.0	GroundH2O	ug/L	
		o-Xylene	< 1.0	1.0	GroundH2O	ug/L	
		m + p-Xylene	< 2.0	2.0	GroundH2O	ug/L	
		pH	< 2.0	2.0	GroundH2O	S.U.	G13

Sample Date: 21-APR-94
Analysis Date: 26-APR-94

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PNA/PAH (HPLC) ORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0001	10326-1	Naphthalene	< 10	10	GroundH2O	ug/L	
		Acenaphthylene	< 10	10	GroundH2O	ug/L	
		Acenaphthene	< 18	18	GroundH2O	ug/L	
		Fluorene	< 2.0	2.0	GroundH2O	ug/L	
		Phenanthrene	1.5	1.0	GroundH2O	ug/L	
		Anthracene	< 1.0	1.0	GroundH2O	ug/L	
		Fluoranthene	< 2.0	2.0	GroundH2O	ug/L	
		Pyrene	< 1.0	1.0	GroundH2O	ug/L	
		Chrysene	< 1.0	1.0	GroundH2O	ug/L	
		Benzo(a)anthracene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(b)fluoranthene	< 0.18	0.18	GroundH2O	ug/L	
		Benzo(k)fluoranthene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(a)pyrene	< 0.10	0.10	GroundH2O	ug/L	
		Indeno(1,2,3-cd)pyrene	< 0.10	0.10	GroundH2O	ug/L	
		Dibenzo(a,h)anthracene	< 0.20	0.20	GroundH2O	ug/L	
		Benzo(g,h,i)perylene	< 0.20	0.20	GroundH2O	ug/L	
		1-Methylnaphthalene	< 10	10	GroundH2O	ug/L	
		2-Methylnaphthalene	< 10	10	GroundH2O	ug/L	

Sample Date: 22-APR-94
Extract Date: 25-APR-94
Analysis Date: 26-APR-94

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PNA/PAH (HPLC) ORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0002	10326-2	Naphthalene	< 10	10	GroundH2O	ug/L	
		Acenaphthylene	< 10	10	GroundH2O	ug/L	
		Acenaphthene	< 18	18	GroundH2O	ug/L	
		Fluorene	< 2.0	2.0	GroundH2O	ug/L	
		Phenanthrene	< 1.0	1.0	GroundH2O	ug/L	
		Anthracene	< 1.0	1.0	GroundH2O	ug/L	
		Fluoranthene	< 2.0	2.0	GroundH2O	ug/L	
		Pyrene	< 1.0	1.0	GroundH2O	ug/L	
		Chrysene	< 1.0	1.0	GroundH2O	ug/L	
		Benzo(a)anthracene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(b)fluoranthene	< 0.18	0.18	GroundH2O	ug/L	
		Benzo(k)fluoranthene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(a)pyrene	< 0.10	0.10	GroundH2O	ug/L	
		Indeno(1,2,3-cd)pyrene	< 0.10	0.10	GroundH2O	ug/L	
		Dibenzo(a,h)anthracene	< 0.20	0.20	GroundH2O	ug/L	
		Benzo(g,h,i)perylene	< 0.20	0.20	GroundH2O	ug/L	
		1-Methylnaphthalene	< 10	10	GroundH2O	ug/L	
		2-Methylnaphthalene	< 10	10	GroundH2O	ug/L	

Sample Date: 22-APR-94
Extract Date: 25-APR-94
Analysis Date: 26-APR-94

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PNA/PAH (HPLC) ORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0003	10326-3	Naphthalene	< 10	10	GroundH2O	ug/L	
		Acenaphthylene	< 10	10	GroundH2O	ug/L	
		Acenaphthene	< 18	18	GroundH2O	ug/L	
		Fluorene	2.2	2.0	GroundH2O	ug/L	
		Phenanthrene	1.3	1.0	GroundH2O	ug/L	
		Anthracene	< 1.0	1.0	GroundH2O	ug/L	
		Fluoranthene	< 2.0	2.0	GroundH2O	ug/L	
		Pyrene	< 1.0	1.0	GroundH2O	ug/L	
		Chrysene	< 1.0	1.0	GroundH2O	ug/L	
		Benzo(a)anthracene	0.23	0.10	GroundH2O	ug/L	
		Benzo(b)fluoranthene	0.22	0.18	GroundH2O	ug/L	
		Benzo(k)fluoranthene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(a)pyrene	0.27	0.10	GroundH2O	ug/L	
		Indeno(1,2,3-cd)pyrene	0.21	0.10	GroundH2O	ug/L	
		Dibenzo(a,h)anthracene	< 0.20	0.20	GroundH2O	ug/L	
		Benzo(g,h,i)perylene	0.22	0.20	GroundH2O	ug/L	
		1-Methylnaphthalene	< 10	10	GroundH2O	ug/L	
		2-Methylnaphthalene	< 10	10	GroundH2O	ug/L	

Sample Date: 22-APR-94
Extract Date: 25-APR-94
Analysis Date: 26-APR-94

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PNA/PAH (HPLC) ORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0004	10326-4	Naphthalene	< 10	10	GroundH2O	ug/L	
		Acenaphthylene	< 10	10	GroundH2O	ug/L	
		Acenaphthene	< 18	18	GroundH2O	ug/L	
		Fluorene	< 2.0	2.0	GroundH2O	ug/L	
		Phenanthrene	< 1.0	1.0	GroundH2O	ug/L	
		Anthracene	< 1.0	1.0	GroundH2O	ug/L	
		Fluoranthene	< 2.0	2.0	GroundH2O	ug/L	
		Pyrene	< 1.0	1.0	GroundH2O	ug/L	
		Chrysene	< 1.0	1.0	GroundH2O	ug/L	
		Benzo(a)anthracene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(b)fluoranthene	< 0.18	0.18	GroundH2O	ug/L	
		Benzo(k)fluoranthene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(a)pyrene	< 0.10	0.10	GroundH2O	ug/L	
		Indeno(1,2,3-cd)pyrene	< 0.10	0.10	GroundH2O	ug/L	
		Dibenzo(a,h)anthracene	< 0.20	0.20	GroundH2O	ug/L	
		Benzo(g,h,i)perylene	< 0.20	0.20	GroundH2O	ug/L	
		1-Methylnaphthalene	< 10	10	GroundH2O	ug/L	
		2-Methylnaphthalene	< 10	10	GroundH2O	ug/L	

Sample Date: 22-APR-94
Extract Date: 25-APR-94
Analysis Date: 26-APR-94

Chk'd: dlk App'd: GBo
Date App'd: 4/28/94

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PNA/PAH (HPLC) ORGANIC REPORT
SWANSON ENVIRONMENTAL
BROOKFIELD WI
Project Number: 55006201

Sample #	Description	Compound	Result	Reporting Limit	Matrix	Units	Footnotes
L8423-0006	10326-5	Naphthalene	< 10	10	GroundH2O	ug/L	
		Acenaphthylene	< 10	10	GroundH2O	ug/L	
		Acenaphthene	< 18	18	GroundH2O	ug/L	
		Fluorene	< 2.0	2.0	GroundH2O	ug/L	
		Phenanthrene	< 1.0	1.0	GroundH2O	ug/L	
		Anthracene	< 1.0	1.0	GroundH2O	ug/L	
		Fluoranthene	< 2.0	2.0	GroundH2O	ug/L	
		Pyrene	< 1.0	1.0	GroundH2O	ug/L	
		Chrysene	< 1.0	1.0	GroundH2O	ug/L	
		Benzo(a)anthracene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(b)fluoranthene	< 0.18	0.18	GroundH2O	ug/L	
		Benzo(k)fluoranthene	< 0.10	0.10	GroundH2O	ug/L	
		Benzo(a)pyrene	< 0.10	0.10	GroundH2O	ug/L	
		Indeno(1,2,3-cd)pyrene	< 0.10	0.10	GroundH2O	ug/L	
		Dibenzo(a,h)anthracene	< 0.20	0.20	GroundH2O	ug/L	
		Benzo(g,h,i)perylene	< 0.20	0.20	GroundH2O	ug/L	
		1-Methylnaphthalene	< 10	10	GroundH2O	ug/L	
		2-Methylnaphthalene	< 10	10	GroundH2O	ug/L	

Sample Date: 22-APR-94
Extract Date: 25-APR-94
Analysis Date: 26-APR-94

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Allwaste

SAMPLERS: D. Tang / M. Walczak

SEI #	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOC	PAH	8 RCRA metals						SAMPLE TYPE (Specify groundwater, soil, wastewater, sludge, etc.)
5	FB-1	4/22/91	1215		X	FB-1	1		X							GW 963
1	mw 1		1208			mw 1 collected	4	X	X	X						AA00959
2	mw3		1145			3 @ teflon	6 4	X	X	X						960
3	mw4		1241			4 bailers	4	X	X	X						961
4	mw6		1226			6	4	X	X	X						962
6		4/21				TRIP BLANK	2	X								964

SAMPLE CONDITION: ON Ice

SAMPLE LOCATION:

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME
[signature]	4/22/91 1105	M. Walczak	4/22 1430
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
Gary E Barry	4/22/91 1421	Kurt Goomey	4/22 1421

SPECIAL REQUESTS:

REPORT TO:

NAME:

ADDRESS:

PHONE:

LABORATORY
3150 North Brookfield Rd.
Brookfield, WI 53045
(414) 783-6111
Fax (414) 783-5752

SWANSON ENVIRONMENTAL INC.

10 ~~1~~ 01   2000   [redacted]AI[redacted] CU[redacted]OD[redacted]EC[redacted]   J. Tawatchi   Warzyn

~~PROJ. NO.~~	PROJECT NAME: Swanson Env.
SAMPLERS:	

SEI #	STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOC (8021)	PAH	As, Ba, Cd, Cr, Pb, Hg, Se, Ag						SAMPLE TYPE (Specify groundwater, soil, wastewater, sludge, etc.) GW
8421-0001		4/22				~~#10362-1~~ 10326-1	4	X	X	X	X					GW
02		↓				10326-2	4	X	X	X	X					↓
03						10326-3	4	X	X	X	X					
04						10326-4	4	X	X	X	X					
06						10326-5	1		X							
↓ 05		4/21	'			10326-6	2	X								DI Water

SAMPLE CONDITION: Results Due 4/29/94

SAMPLE LOCATION:

RELINQUISHED BY:	DATE / TIME	RELINQUISHED BY:	DATE / TIME	SPECIAL REQUESTS:
Kurt Goomey	4/25, 8:00			GFAA except Ba, Hg
RECEIVED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME	REPORT TO:
Randy Marnhof	4-25-94 11:15			NAME:
				ADDRESS:
				PHONE:

LABORATORY
3150 North Brookfield Rd.
Brookfield, WI 53045
(414) 783-6111
Fax (414) 783-5752

HNO3 PH < 2

SWANSON ENVIRONMENTAL INC.

Intact, recd on ice, Dispatch/10 Messenger Service

APPENDIX V

WELL CONSTRUCTION AND DEVELOPMENT LOGS

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTIC
Form 4400-113A Rev. 4-9

Facility/Project Name: Allwaste	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: MW1
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Wis. Unique Well Number / DNR Well Numb: _____
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	Section Location of Waste/Source: NW 1/4 of NW 1/4 of Sec. 31 T. 8 N. R. 21 ☒E. ☐W.	Date Well Installed: 04/19/94 (m m d d y y)
Distance Well Is From Waste/Source Boundary: _____ ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm) Midwest Engineering for Swanson Environmental
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No		

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 0.5 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

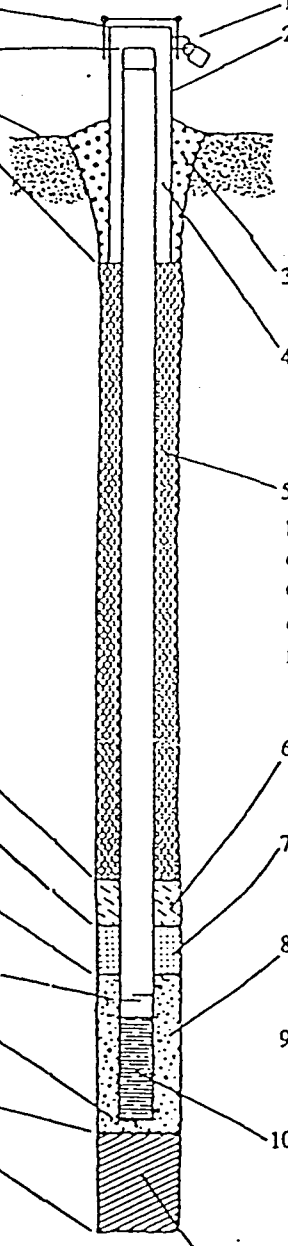
15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 0.5 ft.
F. Fine sand, top _____ ft. MSL or 9.0 ft.
G. Filter pack, top _____ ft. MSL or 11.0 ft.
H. Screen joint, top _____ ft. MSL or 13.0 ft.
I. Well bottom _____ ft. MSL or 23.0 ft.
J. Filter pack, bottom _____ ft. MSL or 24.0 ft.
K. Borehole, bottom _____ ft. MSL or 24.0 ft.
L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.00 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0
b. Length: 5.0
c. Material: Steel ☒ 0; Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 3; Concrete ☒ 0; Other ☐ Concrete
4. Material between well casing and protective pipe: Bentonite ☒ 3; Annular space seal ☐; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 3 (Chips); b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3; c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 3; d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 5; e. 150 lbs ☒ volume added for any of the above; f. How installed: Tremie ☐ 0; Tremie pumped ☐ 0; Gravity ☒ 0
6. Bentonite seal: a. Bentonite granules ☐ 3; b. ☒ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 3; c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Unimin Fine Sand
b. Volume added 75 lbs ☒
8. Filter pack material: Manufacturer, product name and mesh s
a. Red Flint Coarse Sand
b. Volume added 375 lbs ☒
9. Well casing: Flush threaded PVC schedule 40 ☒ 2; Flush threaded PVC schedule 80 ☐ 2; Other ☐ _____
10. Screen material: PVC Schedule 40
a. Screen type: Factory cut ☒ 1; Continuous slot ☐ 0; Other ☐ _____
b. Manufacturer Diedrich
c. Slot size: 0.010
d. Slotted length: 9.5
11. Backfill material (below filter pack): None ☒ 1; Other ☐ _____

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

Signature: Robert W. Swanson | Firm: Swanson Environmental

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stat and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTIC
Form 4400-113A Rev. 4-9

Facility/Project Name: Allwaste	Local Grid Location of Well: _____ ft. ☐N. ☐S. _____ ft. ☐E. ☐W.	Well Name: MW 3
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or St. Plane _____ ft. N. _____ ft. E.	Wis. Unique Well Number / DNR Well Numb: _____
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	Section Location of Waste/Source: NW 1/4 of NW 1/4 of Sec. 31, T. 8 N. R. 21 ☒E. ☐W.	Date Well Installed: 04-20-94 (m m d d y y)
Distance Well Is From Waste/Source Boundary: _____ ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm): Midwest Engineering for Swanson Environmental
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No		

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 0.5 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

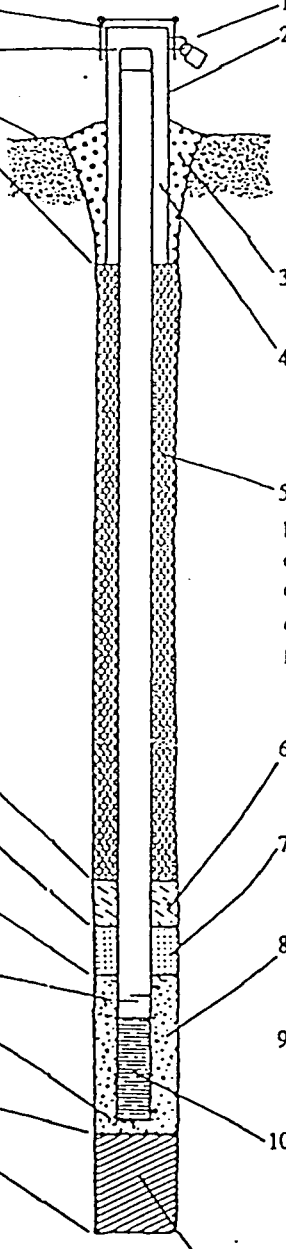
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 0.5 ft.
F. Fine sand, top _____ ft. MSL or 4.0 ft.
G. Filter pack, top _____ ft. MSL or 5.0 ft.
H. Screen joint, top _____ ft. MSL or 5.5 ft.
I. Well bottom _____ ft. MSL or 15.5 ft.
J. Filter pack, bottom _____ ft. MSL or 16.0 ft.
K. Borehole, bottom _____ ft. MSL or 16.0 ft.
L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ☒ 0; Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 3; Concrete ☒ 0; Other ☐ Concrete
4. Material between well casing and protective pipe: Bentonite ☒ 3; Annular space seal ☐; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 3; b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 3; c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 3; d. _____ % Bentonite ..... Bentonite-cement grout ☐ 5; e. 75 lbs volume added for any of the above; f. How installed: Tremie ☐ 0; Tremie pumped ☐ 0; Gravity ☒ 0
6. Bentonite seal: a. Bentonite granules ☐ 3; b. ☒ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 3; c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Unimin Fine Sand
b. Volume added 50 lbs
8. Filter pack material: Manufacturer, product name and mesh s
a. Red Flint Coarse Sand
b. Volume added 325 lbs
9. Well casing: Flush threaded PVC schedule 40 ☒ 2; Flush threaded PVC schedule 80 ☐ 2; Other ☐ _____
10. Screen material: PVC Schedule 40
a. Screen type: Factory cut ☒ 1; Continuous slot ☐ 0; Other ☐ _____
b. Manufacturer Diedrich
c. Slot size: 0.010
d. Slotted length: 9.5
11. Backfill material (below filter pack): None ☒ 1; Other ☐ _____

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

Signature: [signature] Firm: Swanson Environmental

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTIO
Form 4400-113A Rev. 4-9

Facility/Project Name: Allwaste	Local Grid Location of Well: _____ ft. ☐N ☐S _____ ft. ☐E ☐W	Well Name: MW4
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number / DNR Well Numb
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	St. Plane _____ ft. N. _____ ft. E.	Date Well Installed: 04/19/94 (m m d d y y)
Distance Well Is From Waste/Source Boundary: _____ ft.	Section Location of Waste/Source: NW 1/4 of NW 1/4 of Sec. 31, T. 8 N, R. 21 ☐E ☐W	Well Installed By: (Person's Name and Firm) Midwest Engineering for Swanson Environmental
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 0.5 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 0.5 ft.
F. Fine sand, top _____ ft. MSL or 5.0 ft.
G. Filter pack, top _____ ft. MSL or 6.0 ft.
H. Screen joint, top _____ ft. MSL or 8.0 ft.
I. Well bottom _____ ft. MSL or 18.0 ft.
J. Filter pack, bottom _____ ft. MSL or 24.0 ft.
K. Borehole, bottom _____ ft. MSL or 24.0 ft.
L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.00 in.
N. I.D. well casing 2.07 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.0 ft.
c. Material: Steel ☒ 0; Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 3; Concrete ☒ 0; Other ☐ Concrete
4. Material between well casing and protective pipe: Bentonite ☒ 3; Annular space seal ☐; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 3; b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 3; c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 3; d. _____ % Bentonite ..... Bentonite-cement grout ☐ 5; e. 75 lbs volume added for any of the above; f. How installed: Tremie ☐ 0; Tremie pumped ☐ 0; Gravity ☒ 0
6. Bentonite seal: a. Bentonite granules ☐ 3; b. ☒ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 3; c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Unimin Fine Sand
b. Volume added 25 lbs
8. Filter pack material: Manufacturer, product name and mesh s
a. Red Flint Coarse Sand
b. Volume added 425 lbs
9. Well casing: Flush threaded PVC schedule 40 ☒ 2; Flush threaded PVC schedule 80 ☐ 2; Other ☐ _____
10. Screen material: PVC Schedule 40
a. Screen type: Factory cut ☒ 1; Continuous slot ☐ 0; Other ☐ _____
b. Manufacturer Diedrich
c. Slot size: 0.010
d. Slotted length: 9.5
11. Backfill material (below filter pack): None ☒ 1; Other ☐ _____

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

Signature: Robert Uhen | Firm: Swanson Environmental

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTIC
Form 4400-113A Rev. 4-9

Facility/Project Name: Allwaste	Local Grid Location of Well: _____ ft. ☐N ☐S _____ ft. ☐E ☐W	Well Name: MW6
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. _____ Long. _____ or	Wis. Unique Well Number / DNR Well Numb: _____
Type of Well: Water Table Observation Well ☒ 11; Piezometer ☐ 12	St. Plane _____ ft. N. _____ ft. E.	Date Well Installed: 04/20/94 (m m d d y y)
Distance Well Is From Waste/Source Boundary: _____ ft.	Section Location of Waste/Source: NW 1/4 of NW 1/4 of Sec. 31 T. 8 N. R. 21 ☒E ☐W	Well Installed By: (Person's Name and Firm): Midwest Engineering for Swanson Environmental
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 0.5 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ _____

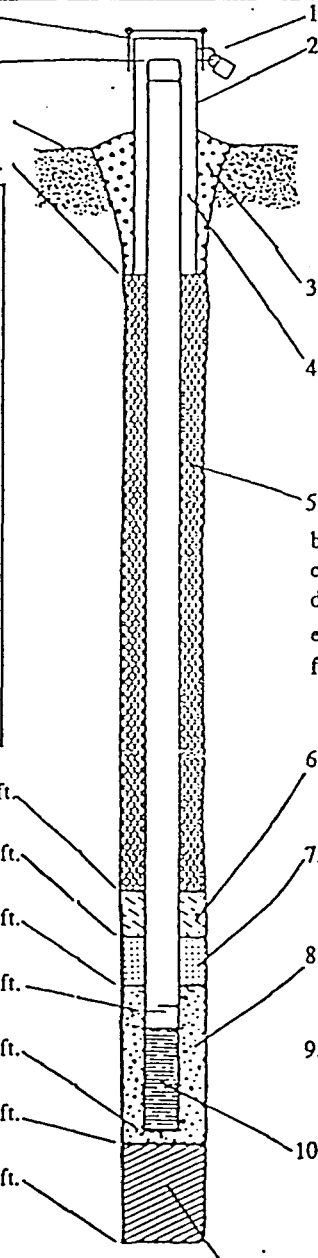
15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis): _____

E. Bentonite seal, top _____ ft. MSL or 0.5 ft.
F. Fine sand, top _____ ft. MSL or 6.0 ft.
G. Filter pack, top _____ ft. MSL or 8.0 ft.
H. Screen joint, top _____ ft. MSL or 10.0 ft.
I. Well bottom _____ ft. MSL or 20.0 ft.
J. Filter pack, bottom _____ ft. MSL or 24.0 ft.
K. Borehole, bottom _____ ft. MSL or 24.0 ft.
L. Borehole, diameter 8.5 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4.0
b. Length: 5.0
c. Material: Steel ☒ 0; Other ☐ _____
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 3; Concrete ☒ 0; Other ☐ Concrete
4. Material between well casing and protective pipe: Bentonite ☒ 3; Annular space seal ☐; Other ☐ _____
5. Annular space seal: a. Granular Bentonite ☒ 3 (Chips)
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 3
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 3
d. _____ % Bentonite ..... Bentonite-cement grout ☐ 5
e. 150 lbs ft³ volume added for any of the above
f. How installed: Tremie ☐ 0; Tremie pumped ☐ 0; Gravity ☒ 0
6. Bentonite seal: a. Bentonite granules ☐ 3
b. ☒ 1/4 in. ☐ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 3
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Unimin Fine Sand
b. Volume added 75 lbs ft³
8. Filter pack material: Manufacturer, product name and mesh s
a. Red Flint Coarse Sand
b. Volume added 400 lbs ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 2; Flush threaded PVC schedule 80 ☐ 2; Other ☐ _____
10. Screen material: PVC Schedule 40
a. Screen type: Factory cut ☒ 1; Continuous slot ☐ 0; Other ☐ _____
b. Manufacturer Diedrich
c. Slot size: 0.010
d. Slotted length: 9.5
11. Backfill material (below filter pack): None ☒ 1; Other ☐ _____

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

Signature _____ Firm Swanson Environmental

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stat and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4-90

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

Facility/Project Name	County Name	Well Name
Allwaste	Milwaukee	MW1
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well Number**
_____	41	_____	_____

		Before Development	After Development
1. Can this well be purged dry?		☒ Yes ☐ No	
2. Well development method			
surged with bailer and bailed	☐ 41		
surged with bailer and pumped	☐ 61		
surged with block and bailed	☐ 42		
surged with block and pumped	☐ 62		
surged with block, bailed and pumped	☐ 70		
compressed air	☐ 20		
bailed only	☒ 10		
pumped only	☐ 51		
pumped slowly	☐ 50		
Other _____	☐		
11. Depth to Water (from top of well casing)	a.	16.3 ft.	16.53 ft.
Date	b. mm dd yy	04 20 94	04 22 94
Time	c.	10:15 ☒ a.m. ☐ p.m.	11:30 ☐ a.m. ☐ p.m.
12. Sediment in well bottom		0.2 inches	___.__ inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
3. Time spent developing well		50 min.	
4. Depth of well (from top of well casisng)		25.5 ft.	
5. Inside diameter of well		2.07 in.	
6. Volume of water in filter pack and well casing		11.2 gal.	
7. Volume of water removed from well		22.0 gal.	
8. Volume of water added (if any)		___.__ gal.	
9. Source of water added		_____	
10. Analysis performed on water added? (If yes, attach results)		☐ Yes ☐ No	

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	_____.__ mg/l	_____.__ mg/l
15. COD	_____.__ mg/l	_____.__ mg/l

16. Additional comments on development:

Well developed by: Person's Name and Firm

Name: B. Boyce / M. Waldstat / D. Yang

Firm: Swanson Environmental

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

Signature: Robert Young

Print Initials: RLY

Firm: Swanson Environmental

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 4-90

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

Facility/Project Name	County Name	Well Name
Allwaste	Milwaukee	MW 3
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number** / **DNR Well Number**
_____	41	_____ / _____

		Before Development	After Development
1. Can this well be purged dry?	☒ Yes ☐ No		
2. Well development method			
surged with bailer and bailed	☐ 41		
surged with bailer and pumped	☐ 61		
surged with block and bailed	☐ 42		
surged with block and pumped	☐ 62		
surged with block, bailed and pumped	☐ 70		
compressed air	☐ 20		
bailed only	☒ 10		
pumped only	☐ 51		
pumped slowly	☐ 50		
Other _____	☐		
11. Depth to Water (from top of well casing)	a.	8.87 ft.	8.88 ft.
	Date b. (m m d d y y)	04/24/94	04/25/94
	Time c.	9:00 ☒ a.m. ☐ p.m.	11:30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		___.__ inches	___.__ inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
3. Time spent developing well		50 min.	
4. Depth of well (from top of well casisng)		185 ft.	
5. Inside diameter of well		2.07 in.	
6. Volume of water in filter pack and well casing		11.7 gal.	
7. Volume of water removed from well		26.0 gal.	
8. Volume of water added (if any)		___.__ gal.	
9. Source of water added		_____	
10. Analysis performed on water added? (If yes, attach results)	☐ Yes ☐ No		

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	_____.__ mg/l	_____.__ mg/l
15. COD	_____.__ mg/l	_____.__ mg/l

16. Additional comments on development:

-

Well developed by: Person's Name and Firm

Name: B Boyce / M. Waldstat / D Young

Firm: Swanson Environmental

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

Signature: Robert D Young

Print Initials: DLY

Firm: Swanson Environmental

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4-90

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

Facility/Project Name	County Name	Well Name
Allwaste	Milwaukee	MW4
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well Number**
_____	41	_____	_____

		Before Development	After Development
1. Can this well be purged dry?	☒ Yes ☐ No		
2. Well development method			
surged with bailer and bailed	☐ 41		
surged with bailer and pumped	☐ 61		
surged with block and bailed	☐ 42		
surged with block and pumped	☐ 62		
surged with block, bailed and pumped	☐ 70		
compressed air	☐ 20		
bailed only	☒ 10		
pumped only	☐ 51		
pumped slowly	☐ 50		
Other _____	☐		
3. Time spent developing well	30 min.		
4. Depth of well (from top of well casisng)	20.5 ft.		
5. Inside diameter of well	2.07 in.		
6. Volume of water in filter pack and well casing	3.3 gal.		
7. Volume of water removed from well	7.0 gal.		
8. Volume of water added (if any)	____.__ gal.		
9. Source of water added	_____		
10. Analysis performed on water added? (If yes, attach results)	☐ Yes ☐ No		
11. Depth to Water (from top of well casing)	a.	17.8 ft.	17.90 ft.
Date	b.	04/19/94 (m m d d y y)	04/22/94 (m m d d y y)
Time	c.	10:45 ☒ a.m. ☐ p.m.	~11:30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		0 inches	0 inches
13. Water clarity		Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☐ 20 Turbid ☒ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:			
14. Total suspended solids		____.__ mg/l	____.__ mg/l
15. COD		____.__ mg/l	____.__ mg/l

16. Additional comments on development:

Well developed by: Person's Name and Firm	I hereby certify that the above information is true and correct to the best of my knowledge.
Name: B. Boyce / M. Waltzak / D. Young	Signature:
Firm: Swanson Environmental	Print Initials: DLY
	Firm: Swanson Environmental

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State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4-90

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

Facility/Project Name	County Name	Well Name
Allwaste	Milwaukee	MW6
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well Number**
_____	41	_____	_____

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☒ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 20 min.

4. Depth of well (from top of well casisng) 22.5 ft.

5. Inside diameter of well 2.07 in.

6. Volume of water in filter pack and well casing 5.5 gal.

7. Volume of water removed from well 65 gal.

8. Volume of water added (if any) ____.__ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 17.95 ft.	15.90 ft.
Date	b. 04 22 94 (m m d d y y)	04 22 94 (m m d d y y)
Time	c. 9:20 ☒ a.m. ☐ p.m.	11:30 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	___.__ inches	___.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____.__ mg/l	_____.__ mg/l
15. COD	_____.__ mg/l	_____.__ mg/l

16. Additional comments on development:

Well developed by: Person's Name and Firm

Name: B. Boyce / M. Waltstat / D. Young

Firm: Swanson Environmental

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

Signature: Deborah L Young

Print Initials: DLY

Firm: Swanson Environmental

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