

GROUNDWATER TECHNOLOGY ®

Groundwater Technology, Inc.

November 30, 1994

15010 W. 106th Street, Lenexa, KS 66215 USA
Tel: (913) 599-0262 Fax: (913) 599-1043

Ms. Libby Hauschildt
Corrective Actions Supervisor
Bureau of Underground Storage Tank Regulations
9221 Ravenna Road, Suite D7-D8
Twinsburg, Ohio 44087-2443

Subject: Site Assessment Report
Sears Store 1310
300 Midway Boulevard
Elyria, Ohio
Incident No. 4732300-00

Dear Ms. Hauschildt:

Enclosed is the Site Assessment Report for the above-referenced site. Groundwater Technology is submitting this report on behalf of the Sears Merchandise Group.

Based upon results of field screening and chemical analysis of collected samples, it is the opinion of Groundwater Technology and Sears that no further regulatory action at this site is required.

If you have any questions concerning the enclosed report, please call me at (304) 755-5171, at your convenience.

Sincerely,
Groundwater Technology, Inc.

John A. Frankenthal
Zone Project Manager

Enclosure

c: Ms. Bernadine G. Palka, P.E., Sears Merchandise Group
Mr. David W. Daniels, Groundwater Technology, Inc.



Sears Merchandise Group
Department 824C A2 - 160B
3333 Beverly Road
Hoffman Estates, Illinois 60179
708 / 286 8864

November 30, 1994

Corrective Actions Supervisor
Bureau Of Underground Storage Tank Regulations
8895 East Main Street
Reynoldsburg, OH 43068 - 0687

Re: Site Assessment Report
Sears #1310
300 Midway Boulevard
Elyria, Ohio
Incident No. 4732300 - 00

Dear Corrective Actions Supervisor:

Enclosed is the Site Assessment Report which was prepared on behalf of Sears by Groundwater Technology, Inc. for the above referenced site. Based upon results of field screening and chemical analysis of collected samples, it is the opinion of Groundwater Technology, Inc. and Sears that no further regulatory action at this site is required.

If you have any questions concerning the enclosed report, please call John Frankenthal of GTI (304 / 755 - 5171) or me.

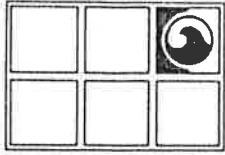
Thank you for your attention to this matter.

Sincerely,
Sears, Roebuck and Co.

Bernadine G. Palka, P.E.
Manager Environmental Engineering

Enclosure

cc: John Frankenthal, Groundwater Technology, Inc.
David Daniels, Groundwater Technology, Inc.



GROUNDWATER TECHNOLOGY®

Groundwater Technology, Inc.

November 30, 1994

15010 W. 106th Street, Lenexa, KS 66215 USA
Tel: (913) 599-0262 Fax: (913) 599-1043

Ms. Libby Hauschildt
Corrective Actions Supervisor
Bureau of Underground Storage Tank Regulations
9221 Ravenna Road, Suite D7-D8
Twinsburg, Ohio 44087-2443

Subject: Site Assessment Report
Sears Store 1310
300 Midway Boulevard
Elyria, Ohio
Incident No. 4732300-00

Dear Ms. Hauschildt:

Enclosed is the Site Assessment Report for the above-referenced site. Groundwater Technology is submitting this report on behalf of the Sears Merchandise Group.

Based upon results of field screening and chemical analysis of collected samples, it is the opinion of Groundwater Technology and Sears that no further regulatory action at this site is required.

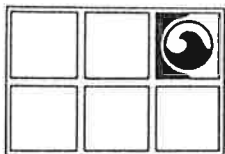
If you have any questions concerning the enclosed report, please call me at (304) 755-5171, at your convenience.

Sincerely,
Groundwater Technology, Inc.

John A. Frankenthal
Zone Project Manager

Enclosure

c: Ms. Bernadine G. Palka, P.E., Sears Merchandise Group
Mr. David W. Daniels, Groundwater Technology, Inc.



**GROUNDWATER
TECHNOLOGY®**

Groundwater Technology, Inc.

15010 W. 106th Street, Lenexa, KS 66215 USA
Tel: (913) 599-0262 Fax: (913) 599-1043

**SITE ASSESSMENT REPORT
SEARS STORE 1310
300 MIDWAY BOULEVARD
ELYRIA, LORAIN COUNTY, OHIO
INCIDENT NO. 4732300-00**

GTI Project 012015039

November 30, 1994

Prepared for:

Ms. Bernadine G. Palka, P.E.
Manager of Environmental Engineering
Sears Merchandise Group
Department 824C, Bldg. A2-160B
3333 Beverly Road
Hoffman Estates, Illinois 60179

Groundwater Technology, Inc.
Prepared by:

Bernhard Dirksa
Bernhard Dirksa HMF
Geologist

Groundwater Technology, Inc.
Reviewed by:

John A. Frankenthal
John A. Frankenthal
Zone Project Manager

Chris Higgins

Chris Higgins
Remedial Technical Specialist

Site Assessment Checklist and Recommended Table of Contents (Page 1 of 2)
 (Received by the SFM within 180 days of reporting the release)

Date:	<u>November 30, 1994</u>	Facility:	<u>Sears Store 1310</u>
Owner/Operator*:	<u>Sears Merchandise Group</u>	Address:	<u>300 Midway Boulevard</u>
Address:	<u>3333 Beverly Drive</u>		<u>Elyria, Ohio 44035</u>
	<u>Hoffman Estates, Illinois</u>	County:	<u>Lorain</u>
Phone #:	<u>(708) 286-8864</u>	Incident #:	<u>4732300-00</u>

check pg #

Each Site Assessment report must include the following:

- | | |
|---------------------|--|
| <u>vi,1</u> | A. A brief summary of the activities to date, which includes |
| <u>1</u> | 1. The nature of the release. |
| <u>1</u> | 2. Immediate corrective actions taken. |
| <u>1</u> | 3. Free product removal activities. |
| <u>1</u> | 4. The results of soil/ground-water results from a site check, closure assessment or other assessment (table of sample results and site map depicting location and depth). |
| <u>2</u> | B. A summary of the assessment activities, which includes |
| <u>2</u> | 1. An explanation of how soil boring locations were chosen. |
| <u>2</u> | 2. A determination of the vertical and horizontal extent of the release in soil and ground water. |
| <u>3, 4 app A,B</u> | 3. A description of soil core drilling and monitor well installation (drilling logs and monitor well diagrams included as an appendix.) |
| <u>4</u> | 4. Determination of the direction and gradient of ground-water flow if ground water is encountered. |
| <u>5</u> | 5. Data collection for monitoring wells, such as depth to product, product thickness, depth of water from top of casing, elevation to top of casing, and location of arbitrary benchmark. |
| <u>app A</u> | C. A map that accurately depicts the locations of the UST system, buildings or other structures within 1,000 feet of the suspect UST system, on-site storm sewers, water lines, underground telephone lines, natural gas lines, and other structures and utilities which may act as a route of migration for contaminants. In addition, the map must accurately depict the locations of the soil core borings, monitoring well locations, and surface water samples. |

Site Assessment Checklist and Recommended Table of Contents (Page 2 of 2)

(Received by the SFM within 180 days of reporting the release)

check pg #

- _____ app C D. Results of sampling in table format with actual analytical results for
- _____ app C 1. Results of soil samples.
- _____ 5 2. Result of surface water sampling from ditches, storm sewers, streams, lakes, or
other surface waters affected by the release.
- _____ 6 3. Results of ground-water samples from monitoring wells.
- _____ 6 4. Results of water samples from private drinking-water wells.
- app A, B E. Any other pertinent information such as access agreements, boring logs, and lab
data sheets.

Preparer Name: John Frankenthal

Preparer Signature: John Frankenthal

Date: 11/29/94

Owner/Operator*: Sears Merchandise Group

Name

BERNADINE G. PALKA

Owner/Operator*: Bernadine Palka

Signature

Date: 11/30/94

*Circle whichever applies.

CONTENTS

EXECUTIVE SUMMARY	vi
A. SUMMARY OF ACTIVITIES TO DATE	1
1. Nature of Release	1
2. Immediate Corrective Actions	1
3. Removal of Liquid-Phase Hydrocarbons	1
4. Results of Site Check	1
B. SUMMARY OF ASSESSMENT ACTIVITIES	2
1. Location of Soil Boreholes	2
2. Soil Boring and Monitoring Well Installation	2
3. Monitoring Well Data	5
C. SITE MAP	5
D. ANALYSIS RESULTS	5
1. Soil Samples	5
2. Surface Water Samples	5
3. Groundwater Samples	6
4. Drinking Water Well Samples	6
E. DISCUSSION	6
1. SFSS Amendments	6
2. Geology/Hydrogeology	6
3. Conclusions	6
F. SUPPORTING INFORMATION	7
1. Results of Site Check	7
2. Drilling Logs	7
3. Field Testing Results	7
4. Monitoring Well Diagrams	7
5. Elevation Survey	7

Appendixes

- A. Figures
- B. Drilling Logs
- C. Laboratory Reports for Soil Samples
- D. SFSS Chart

EXECUTIVE SUMMARY

The site is an active Sears Automotive Service Facility at 300 Midway Boulevard in Elyria, Ohio. On May 24, and September 1, 1994, Groundwater Technology, on behalf of Sears Merchandise Group, conducted site assessment activities at the facility.

The assessment was conducted in response to the detection of petroleum hydrocarbons during the removal of one 1,000-gallon used-oil underground storage tank from the facility on January 7, 1994.

The site assessment was performed in two stages. The initial phase was performed during May 1994, involved a Strataprobe sampler and an on-site mobile laboratory. Four soil borings were advanced, and soil samples were analyzed both on-site and in the laboratory. None of the samples contained hydrocarbons in excess of BUSTR Category 3 Action Levels. Groundwater was not encountered in any of the boreholes advanced.

Subsequent conversations with BUSTR representatives indicated site closure based solely on data collected during the Strataprobe investigation was unacceptable and an assessment using standard drilling techniques was necessary.

The second phase of the site assessment included the advancement of three additional soil borings, and sampling and analysis of soil. Two soil samples from each boring were submitted for laboratory analysis. None of the samples contained adsorbed-phase hydrocarbon concentrations in excess of BUSTR Category 3 Action Levels. Groundwater was not encountered.

Based upon results of field screening and chemical analysis of samples collected, it is the opinion of Groundwater Technology and Sears that no further regulatory action at this site is required.

A. SUMMARY OF ACTIVITIES TO DATE

This site is an active Sears facility from which the underground storage tank (UST) system was removed. Laboratory results from the UST system removal indicated that the soil at this site is impacted with low levels of adsorbed-phase petroleum hydrocarbons. On the basis of the information gathered during the UST system removal, Sears elected to initiate a site assessment. This report documents the findings of the site assessment.

1. Nature of Release

Sears contracted Groundwater Technology to remove the UST system from the site. The USTs removed in January 1994 contained used oil.

Analysis of soil samples collected during the system removal indicated there had been a release of petroleum hydrocarbons from the UST system. The sample from the north wall of the excavation contained total petroleum hydrocarbon (TPH) concentrations above BUSTR Category 3 Action Levels. Details of the UST removal are documented in the report entitled *Underground Storage Tank Removal and Closure Report, Sears Store 1310, 300 Midway Boulevard, Elyria, Ohio*, submitted September 1, 1994.

2. Immediate Corrective Actions

No immediate corrective actions were required.

3. Removal of Liquid-Phase Hydrocarbons

No liquid-phase hydrocarbons were encountered during UST removal activities.

4. Results of Site Check

A site check was not performed.

B. SUMMARY OF ASSESSMENT ACTIVITIES

1. Location of Soil Boreholes

The four Strataprobe boring locations were chosen in an effort to delineate the extent of hydrocarbon impact from the former used-oil UST system. Borings could not be advanced immediately east of the UST vault because the facility building was adjacent to the UST.

Boring locations for the second phase of the site assessment were based upon the results of the Strataprobe investigation. Because the Strataprobe investigation did not encounter petroleum hydrocarbons, the drill rig boreholes were located in close proximity to the UST.

The locations of the borings are shown on the site map (figure 1, appendix A).

2. Soil Boring and Monitoring Well Installation

a. Safety Considerations

Groundwater Technology developed a Site Safety Plan to provide a safe working environment and to comply with Occupational Safety and Health Administration (OSHA) Regulation 29 CFR 1910.120. This plan addressed specific environmental work-site hazards and presented contingency plans for site personnel. All Groundwater Technology and subcontractor personnel working at the site reviewed the plan and followed the guidelines.

b. Decontamination

Before the drilling of each borehole and collection of soil samples, downhole equipment was washed with hot water from a high-pressure steamer. This was conducted for quality assurance/quality control purposes and to prevent cross-contamination.

c. Soil Boring

Groundwater Technology personnel supervised the drilling of all boreholes. Borehole locations were selected using the rationale described in section B.1. and are depicted in figure 1 in appendix A. The boreholes installed during the initial phase of the assessment were advanced using Strataprobe technology. The boreholes advanced during the second phase of the assessment were drilled using a hollow-stem auger drill rig. A Groundwater Technology geologist was present to log the lithology of each borehole, note visible indications of petroleum hydrocarbon impact, and collect soil samples. Drilling logs are contained in appendix B.

d. Soil Sampling

Soil from each borehole drilled during the Strataprobe assessment was sampled at intervals shown on the drilling logs (see appendix B), generally every five feet. Soils from each borehole drilled during the second phase of the assessment were continuously sampled from two feet below the ground surface to the bottom of exploration. All soil samples were obtained using a split spoon soil sampler. Duplicate soil samples were collected, one set of samples was collected for field screening, and the second set was properly labeled and preserved as required by EPA protocol, and placed in a cooler with ice for submittal to a laboratory for chemical analysis.

e. Field Screening

After one set of samples had approximated ambient temperature, the headspace was screened for total ionizable vapors. A photoionization detector (PID) was used for the field screening. Before screening, each sample container was shaken to facilitate the partitioning of vapors from the soil into the headspace. The detector probe was inserted into the headspace of the container, and the headspace vapors were tested for approximately 5 seconds, and recorded.

Soil samples from the Strataprobe investigation were analyzed on-site, using a mobile laboratory. Two samples from each boring (except SB-2) were sent for laboratory analysis. One sample from SB-2 was sent to the laboratory for analysis.

Soil samples obtained using the drill rig were sent for laboratory analysis. Two soil samples from each boring were submitted; bottom of exploration, and the vadose zone sample exhibiting the highest PID reading.

f. Monitoring Well Installation and Borehole Abandonment

None of the boreholes were completed as permanent monitoring wells.

After drilling and soil sample collection were completed, the boreholes were abandoned. Bentonite was placed in each borehole from the total depth to several inches below surface grade. The boreholes were capped at the surface with asphalt or concrete, depending upon the surrounding paving surface.

g. Site Survey

The site features, including the boring locations, were horizontally located to generate a site map. Surrounding features were also located for inclusion on the site map.

h. Well Gauging

No monitoring wells were installed during the assessments.

i. Groundwater Sampling

No groundwater was encountered during the site assessment. Therefore, no groundwater samples were collected.

j. Laboratory Analysis

Selected soil samples were submitted to the laboratory for chemical analysis in accordance with BUSTR protocol. The descriptions of samples collected, targeted analytes, and analytical methods used, including a copy of the analytical report from the mobile laboratory, are presented in appendix C.

No surface water sampling was conducted (see section D.2.).

No groundwater samples were collected.

k. Waste Disposal

Water and liquids used to decontaminate the equipment were placed in a labeled 55-gallon drum. The drum remains on-site pending disposal by a licensed subcontractor.

Drill cuttings were placed into three 55-gallon drums. One composite sample was obtained from each drum, and field screened with a PID. The sample exhibiting the highest PID reading was submitted to the laboratory for characterization analysis to determine an appropriate disposal method. Results are shown on the laboratory reports in appendix C. The three drums of drill cuttings remain on-site pending disposal by a licensed subcontractor.

3. Monitoring Well Data

No monitoring wells were installed during any assessment activities.

C. SITE MAP

The site map (see figure 1 in appendix A) illustrates the former location of the UST system, on-site buildings and structures, and utilities that may act as a route of migration. The map also depicts locations of the soil boreholes.

D. ANALYSIS RESULTS

Analytical results from the initial Strataprobe investigation and site assessment are contained in the laboratory reports in appendix C.

1. Soil Samples

Results for soil samples analyzed by the mobile and fixed-base laboratories are in appendix C. Tables summarizing soil analytical results and copies of laboratory reports are included in appendix C.

2. Surface Water Samples

No surface water body was observed within 1,000 feet of the subject site, therefore; collection of surface water samples was not necessary.

3. Groundwater Samples

No monitoring wells were installed during the second phase of the assessment; therefore, no groundwater samples were collected.

4. Drinking Water Well Samples

No drinking water well was identified within 1,000 feet of the subject site.

E. DISCUSSION

1. SFSS Amendments

A SFSS Chart was included with the UST closure report. Additional information obtained during drilling requires that one of the site features be modified. Site feature 2, depth to groundwater, is changed from "greater than 50 feet" to "15-30 feet or unknown". This modification has no effect upon the action levels, and the site remains classified as a Category 3 site. The updated SFSS chart is included in appendix D.

2. Geology/Hydrogeology

Stratigraphy in the areas of the soil borings is classified as stiff clay with traces of silty sand extending to approximately 18 feet below grade. A Shelby tube sampler was used to collect a soil sample from boring SB-7 at the 6 to 8 foot interval. The sample was submitted for analysis of geophysical parameters including moisture and organic content, bulk density, specific gravity, porosity, and particle density. A summary of the geophysical analysis is included in appendix C. No groundwater was encountered. Therefore, groundwater must lie below the maximum boring depth of twenty feet.

3. Conclusions

Based upon results of the drilling investigations, the extent of hydrocarbon impact to the soils in the vicinity of the former used-oil UST has been delineated. Laboratory analytical reports from both assessment investigations indicated total BTEX and TPH concentrations were not detected or were below BUSTR action levels. Based on these results, it is the opinion of Groundwater Technology and Sears that no further regulatory action at this site is required.

F. SUPPORTING INFORMATION

1. Results of Site Check

No site check was performed.

2. Drilling Logs

Drilling logs from the soil assessment are contained in appendix B.

3. Field Testing Results

Field testing results from the soil assessment are shown on the drilling logs in appendix D.

4. Monitoring Well Diagrams

No monitoring wells were installed.

5. Elevation Survey

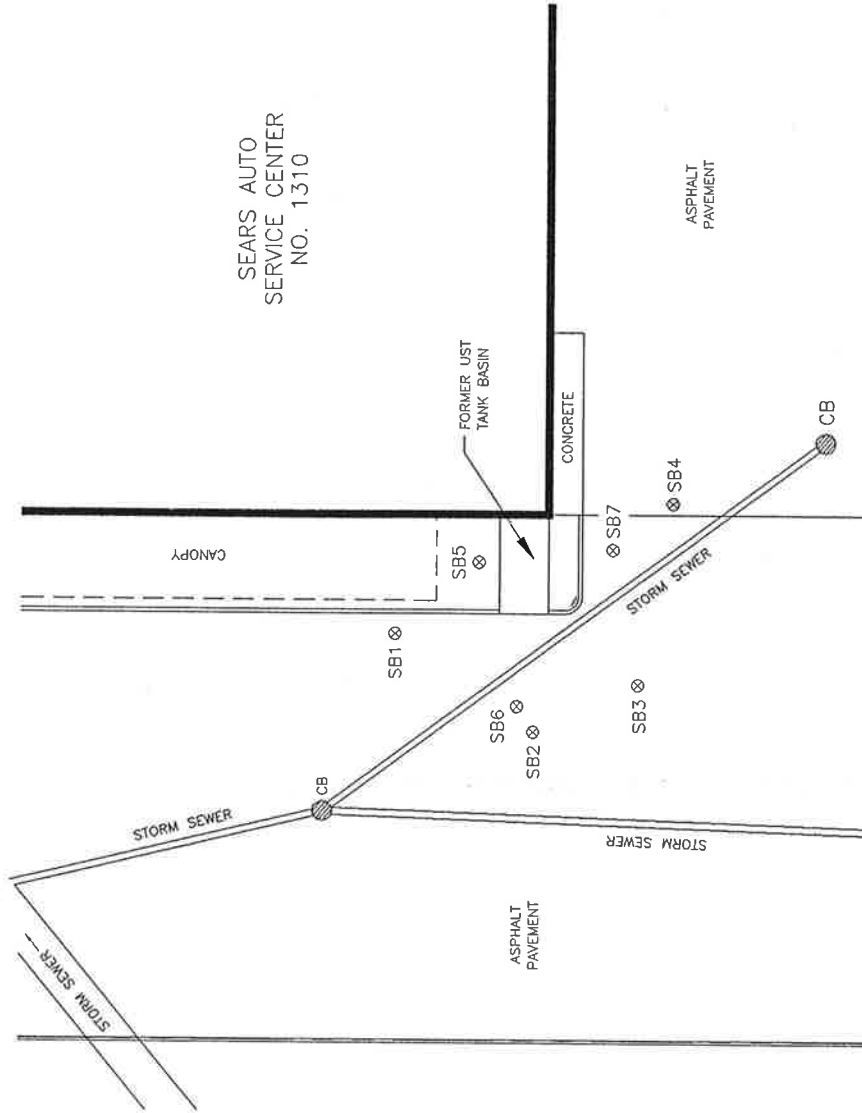
No monitoring wells were installed.

APPENDIX A

FIGURES

LEGEND

- ⊗ SOIL SAMPLE LOCATION
- — AREA OF EXCAVATION



SOURCE: GROUNDWATER TECHNOLOGY



GROUNDWATER TECHNOLOGY
1244-B EXECUTIVE BLVD.
CHESAPEAKE, VA. 23320
(804) 436-7881

REV. NO.: DRAWING DATE: 11/22/94 ACAD FILE: 5039-SITE

SITE AND SOIL SAMPLE LOCATION MAP

CLIENT:	SEARS MERCHANDISE GROUP	PM:
LOCATION:	STORE NO. 1310 300 MIDWAY BOULEVARD ELYRIA, OHIO	PE/RG:
DESIGNED:	BD	PROJECT NO.: 012015039
FIGURE:	PJC	FIGURE: 1

PLAT OF SURVEY, FOR,
GROUNDWATER TECHNOLOGY
SITUATED IN THE STATE OF OHIO, COUNTY OF LORAIN, CITY OF
ELYRIA, AND BEING A PART OF LOT 30 WEST OF THE BLACK
RIVER IN ORIGINAL ELYRIA TOWNSHIP

GROUNDWATER TECHNOLOGY
SEARS SITE 1310
PLAT OF SURVEY FOR:

PLAN OF SURVEY FOR:

OHIO SURVEYS, INC.
Surveying - Land Development Consulting Services
50 Baker Blvd., Suite 11 - Akron, Ohio - 44333
(216) 865-7800 FAX: (216) 865-7801

50 Baker Blvd., Suite 11 - Akron, Ohio - 44333
 (216) 865-7800 FAX: (216) 865-7801

OHIO SURVEYS, INC

(216) 865-7800

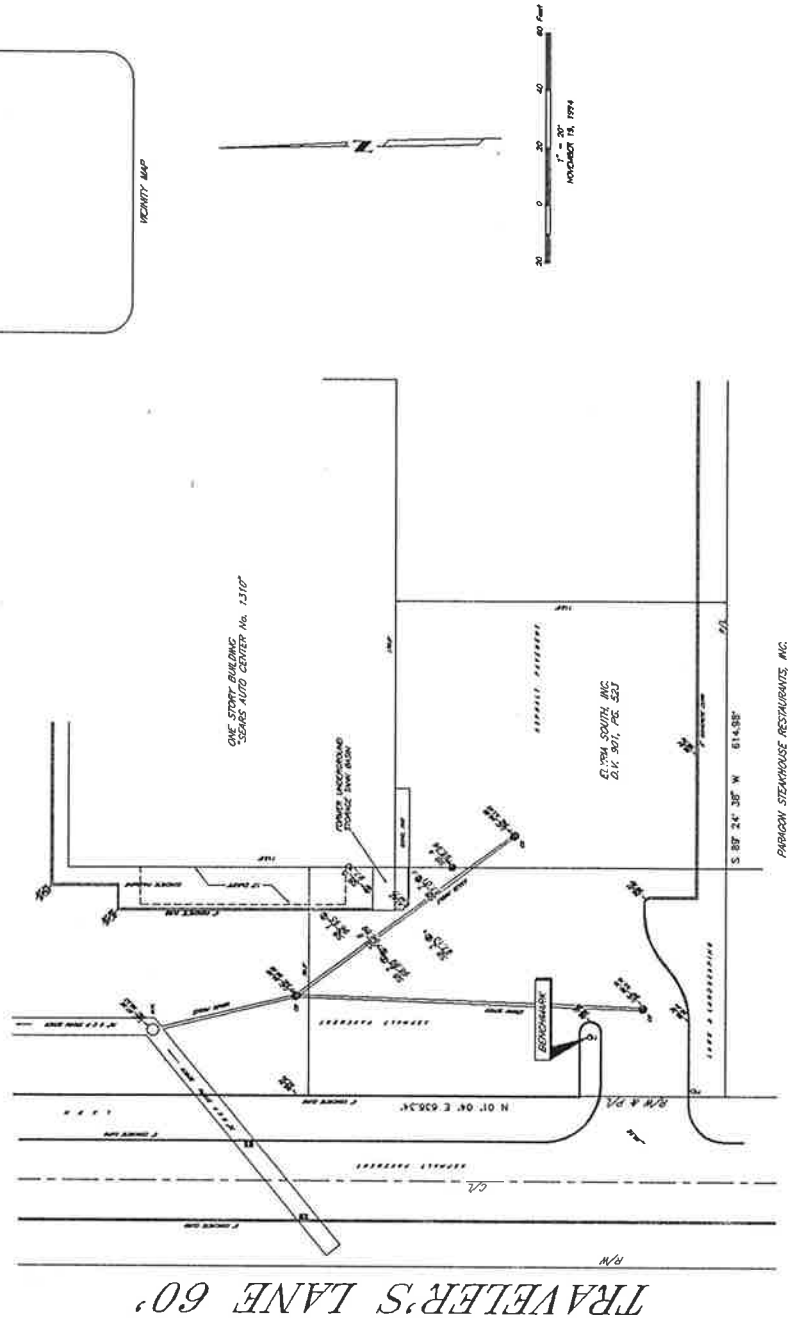
FAX: (216) 865-7801

BENCHMARK: GROSS CUT ON CONC.
LIGHT POLE BASE
ELEVATION..... 100.00 (ASSUMED)

I HEREBY CERTIFY THAT I HAVE SURVEYED THE LAND SHOWN ON THIS PLAN, AND THAT THIS PLAN IS A CORRECT REPRESENTATION OF SAID LAND, AND THAT THE SAME HAS BEEN SHOWN ACCORDING TO AN ASSIGNED MEASUREMENT, AND THAT THE SAME HAS BEEN SURVEYED ACCORDING TO THE INFORMATION SHOWN HEREON, IS BASED UPON A NATURAL FIELD MEASUREMENTS TAKEN ON NOVEMBER 13, 1984.

ANTHONY J. SKIMBAUGH, P.E.
REGISTERED SURVEYOR No. 7120

PROJECT No. 94775



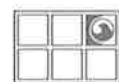
VICINITY MAP

$\gamma = 20^\circ$
NOVEMBER 13, 1994

20
1° = 20°
NOV 20 1974

APPENDIX B

DRILLING LOGS



**GROUNDWATER
TECHNOLOGY®**



GROUNDWATER
TECHNOLOGY

Drilling Log
















Soil Boring **SB-1**

Project SEARS #1310 Owner SEARS
 Location Elyria, Ohio Proj. No. 012015039
 Surface Elev. _____ Total Hole Depth 20 ft. Diameter 2 in.
 Top of Casing _____ Water Level Initial _____ Static _____
 Screen: Dia _____ Length _____ Type/Size _____
 Casing: Dia _____ Length _____ Type _____
 Fill Material _____ Rig/Core Geoprobe
 Drill Co. TEG Method Geoprobe
 Driller Randy Pollock Log By Tom Brinkman Date 05/24/94 Permit # _____
 Checked By John Frankenthal License No. _____

See Site Map
For Boring Location

COMMENTS:

Boring backfilled with bentonite, capped
at surface with asphalt.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0					Asph	Asphalt.
2						
4	20.6	1				Brown SILTY CLAY, trace sand, trace gravel. Dry.
6						
8						
10	7.3	2			CL	Some staining.
12						
14	8.1	3				Gray.
16						Reddish brown.
18	8.4	4				
20						End of boring at 20 feet.
22						
24						



GROUNDWATER
TECHNOLOGY

Drilling Log






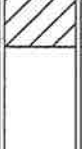


Soil Boring **SB-2**

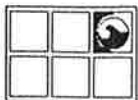
Project SEARS #1310 Owner SEARS
 Location Elyria, Ohio Proj. No. 012015039
 Surface Elev. _____ Total Hole Depth 14.5 ft. Diameter 2 in.
 Top of Casing _____ Water Level Initial _____ Static _____
 Screen: Dia _____ Length _____ Type/Size _____
 Casing: Dia _____ Length _____ Type _____
 Fill Material _____ Rig/Core Geoprobe
 Drill Co. TEG Method Geoprobe
 Driller Randy Pollock Log By Tom Brinkman Date 05/24/94 Permit # _____
 Checked By John Frankenthal License No. _____

See Site Map
For Boring Location

COMMENTS:

Boring backfilled with bentonite, capped at surface with asphalt.

Depth (ft.)	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0				Asph	Asphalt.
2					
4	9.6	1			Brown SILTY CLAY, trace gravel. Moist.
6					
8				CL	
10	5.6	2			Gray.
12					
14		3			
16					End of boring (refusal) at 14.5 feet.
18					
20					
22					
24					



GROUNDWATER
TECHNOLOGY

Drilling Log









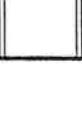
Soil Boring **SB-3**

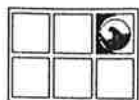
Project SEARS #1310 Owner SEARS
 Location Elyria, Ohio Proj. No. 012015039
 Surface Elev. _____ Total Hole Depth 20 ft. Diameter 2 in.
 Top of Casing _____ Water Level Initial _____ Static _____
 Screen: Dia _____ Length _____ Type/Size _____
 Casing: Dia _____ Length _____ Type _____
 Fill Material _____ Rig/Core Geoprobe
 Drill Co. TEG Method Geoprobe
 Driller Randy Pollock Log By Tom Brinkman Date 05/24/94 Permit # _____
 Checked By John Frankenthal License No. _____

See Site Map
For Boring Location

COMMENTS:

Boring backfilled with bentonite, capped
at surface with asphalt.

Depth (ft.)	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0				Asph	Asphalt.
2					
4	5.3	1			Brown SILTY CLAY, trace sand, trace gravel.
6					
8					
10	3.9	2		CL	Gray.
12					
14	5.4	3			
16					
18	2.6	4			Reddish brown. Dry.
20					End of boring at 20 feet.
22					
24					



GROUNDWATER
TECHNOLOGY

Drilling Log








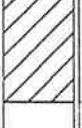

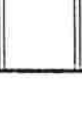
Soil Boring **SB-4**

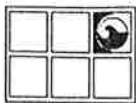
Project SEARS #1310 Owner SEARS
 Location Elyria, Ohio Proj. No. 012015039
 Surface Elev. _____ Total Hole Depth 20 ft. Diameter 2 in.
 Top of Casing _____ Water Level Initial _____ Static _____
 Screen: Dia _____ Length _____ Type/Size _____
 Casing: Dia _____ Length _____ Type _____
 Fill Material _____ Rig/Core Geoprobe
 Drill Co. TEG Method Geoprobe
 Driller Randy Pollock Log By Tom Brinkman Date 05/24/94 Permit # _____
 Checked By John Frankenthal License No. _____

See Site Map
For Boring Location

COMMENTS:

Boring backfilled with bentonite, capped at surface with asphalt.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0					Asph	Asphalt.
2						
4	7.0	1				Brown SILTY CLAY, trace sand, trace gravel.
6						
8						
10	6.4	2			CL	Gray. Moist to wet.
12						
14	5.4	3				Reddish brown. Dry.
16						
18	5.1	4				
20						End of boring at 20 feet.
22						
24						



GROUNDWATER
TECHNOLOGY

Drilling Log

Soil Boring **SB-5**

Project SEARS #1310 Owner SEARS
 Location Elyria, Ohio Proj. No. 012015039
 Surface Elev. _____ Total Hole Depth 16 ft. Diameter 10 in.
 Top of Casing _____ Water Level Initial _____ Static _____
 Screen: Dia _____ Length _____ Type/Size _____
 Casing: Dia _____ Length _____ Type _____
 Fill Material _____ Rig/Core CME 75C
 Drill Co. Summit Drilling Method Hollow Stem Auger
 Driller Mike Pucci Log By Bernhard Dirksa Date 09/01/94 Permit # _____
 Checked By John Frankenthal License No. _____

See Site Map
For Boring Location

COMMENTS:

Boring backfilled with bentonite, capped
at surface with concrete.

Depth (ft.)	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0				Conc GP	Concrete. GRAVEL FILL.
2	0.5	1 16"			Tan SILTY CLAY, trace sand, trace grave. Moist.
4	0.0	2 18"			
6		3 0"			
8	0.5	4 20"		CL	Mottled gray and tan. Dry.
10	0.2	5 18"			Gray.
12	0.4	6 24"			
14	0.2	7 24"			
16		8 0"		SH	Red SHALE. Dry.
18		50/3			End of boring at 16 feet.
20					
22					
24					



GROUNDWATER
TECHNOLOGY

Drilling Log










Soil Boring **SB-6**

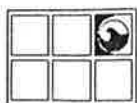
Project SEARS #1310 Owner SEARS
 Location Elyria, Ohio Proj. No. 012015039
 Surface Elev. _____ Total Hole Depth 16 ft. Diameter 10 in.
 Top of Casing _____ Water Level Initial _____ Static _____
 Screen: Dia _____ Length _____ Type/Size _____
 Casing: Dia _____ Length _____ Type _____
 Fill Material _____ Rig/Core CME 75C
 Drill Co. Summit Drilling Method Hollow Stem Auger
 Driller Mike Pucci Log By Bernhard Dirska Date 09/01/94 Permit # _____
 Checked By John Frankenthal License No. _____

See Site Map
For Boring Location

COMMENTS:

Boring backfilled with bentonite, capped
at surface with asphalt.

Depth (ft.)	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0				Asph	Asphalt.
2	0.4	1 18"		GP	GRAVEL FILL.
4	0.4	2 20"			Green-gray SILTY CLAY, trace sand, trace gravel. Dry to moist.
6	0.8	3 24"			Mottled gray and tan. Dry.
8	0.7	4 24"		CL	
10	0.3	5 24"			Gray.
12	0.0	6 24"			
14	0.0	7 18"		SH	Red SHALE. Dry.
16					End of boring at 16 feet.
18					
20					
22					
24					



GROUNDWATER
TECHNOLOGY

Drilling Log

Soil Boring **SB-7**

Project SEARS #1310 Owner SEARS
 Location Elyria, Ohio Proj. No. 012015039
 Surface Elev. _____ Total Hole Depth 16 ft. Diameter 10 in.
 Top of Casing _____ Water Level Initial _____ Static _____
 Screen: Dia _____ Length _____ Type/Size _____
 Casing: Dia _____ Length _____ Type _____
 Fill Material _____ Rig/Core CME 75C
 Drill Co. Summit Drilling Method Hollow Stem Auger
 Driller Mike Pucci Log By Bernhard Dirksa Date 09/01/94 Permit # _____
 Checked By John Frankenthal License No. _____

See Site Map
For Boring Location

COMMENTS:

Boring backfilled with bentonite, capped at surface with concrete.

Depth (ft.)	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0			Conc		Concrete.
			GP		GRAVEL FILL.
2	0.2	1 18"	3 4 5 5 5		Tan SILTY CLAY, trace sand, trace gravel. Dry to moist.
4	0.0	2 20"	2 2 3 6		Little to some sand. Trace wood fragments.
6					Shelby tube sample.
8	0.1	3 24"	3 7 8 11	CL	
10	0.0	4 24"	5 7 9 12		
12	0.0	5 18"	2 4 7		Gray.
14	0.0	6 20"	12 2 10 13 23	SH	Red SHALE. Dry.
16					End of boring at 16 feet.
18					
20					
22					
24					

APPENDIX C

LABORATORY REPORTS FOR SOIL SAMPLES

TABLE 1
Summary of Mobile Laboratory Results for Soil Samples, May 24, 1994
(All Measurements Reported in Parts Per Million Unless Otherwise Noted)

Sears Store 1310
Elyria, Ohio

Sample ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH (418.1)
SB-1 4'-6'	<0.05	<0.05	<0.05	<0.05	<10
SB-1 14'-16'	<0.05	<0.05	<0.05	<0.05	<10
SB-1 18'-20'	<0.05	<0.05	<0.05	<0.05	<10
SB-2 4'-6'	<0.05	<0.05	<0.05	<0.05	<10
SB-2 9'-11'	<0.05	<0.05	<0.05	<0.05	<10
SB-3 4'-6'	<0.05	<0.05	<0.05	<0.05	<10
SB-3 14'-16'	<0.05	<0.05	<0.05	<0.05	<10
SB-3 18'-20'	<0.05	<0.05	<0.05	<0.05	<10
SB-4 4'-6'	<0.05	<0.05	<0.05	<0.05	<10
SB-4 14'-16'	<0.05	<0.05	<0.05	<0.05	<10
SB-4 18'-20'	<0.05	<0.05	<0.05	<0.05	<10

Source: Transglobal Environmental Geochemistry, 1994.

TABLE 2A
Summary of Fixed-Base Laboratory Results for Soil Samples, May 24, 1994
(All Measurements Reported in Parts Per Million Unless Otherwise Noted)

Sears Store 1310
Elyria, Ohio

Sample ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH (418.1)
CATEGORY 3 ACTION LEVEL	0.335	9.0	14	67	904
SB-1 9'-11'	<0.005	<0.005	<0.005	<0.005	110
SB-1 18'-20'	<0.005	<0.005	<0.005	<0.005	<33
SB-2 9'-11'	<0.005	<0.005	<0.005	<0.005	180
SB-3 9'-11'	<0.005	<0.005	<0.005	<0.005	180
SB-3 18'-20'	<0.005	<0.005	<0.005	<0.005	<34
SB-4 9'-11'	<0.005	<0.005	<0.005	<0.005	210
SB-4 18'-20'	<0.005	<0.005	<0.005	<0.005	<36

Source: GTEL Environmental Laboratories, Inc., 1994.

TABLE 2B
Summary of Fixed-Base Laboratory Results for Soil Samples, September 1, 1994
(All Measurements Reported in Parts Per Million Unless Otherwise Noted)

Sears Store 1310
Elyria, Ohio

Sample ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH (418.1)
CATEGORY 3 ACTION LEVEL	0.335	9.0	14	67	904
SB-5 8'-10'	<0.005	<0.005	<0.005	<0.005	190
SB-5 14'-16'	<0.005	<0.005	<0.005	<0.005	<40
SB-6 6'-8'	<0.005	0.0053	<0.005	<0.005	<40
SB-6 14'-16'	<0.005	<0.005	<0.005	<0.005	<40
SB-7 2'-4'	<0.005	0.007	<0.005	<0.005	70
SB-7 14'-16'	<0.005	<0.005	<0.005	<0.005	<40
Soil Cuttings	<0.005	<0.005	<0.005	<0.005	190

Source: GTEL Environmental Laboratories, Inc., 1994.

Sample Test Summary

Client: Groundwater Technologies, Inc.
Project Name: Sears #1310
Project Location: Elyria, OH

GTX #: 620
Date: 10/06/94

Sample ID: SB-7 (6-8 ft)

Type: Tube

Analysis, units	Method	Result
Moisture Content, %	ASTM D2216	15.5
Organic Content, %	ASTM D2974	1.32
Visual Classification	ASTM D2488	Stiff gray/brown clay with trace of gravel
Bulk Density, pcf	EM 1110	136.5
Specific Gravity	ASTM D854	2.72
Porosity	ASTM D854 & EM1110	0.30
Particle Density, pcf	ASTM D854	169.6
Permeability, cm/sec	ASTM D5084	3.8×10^{-8}

Comments:



GROUNDWATER TECHNOLOGY, INC.
6573-T COCHRAN RD.
CLEVELAND, OH

SEARS AUTO CENTER #1310
ELYRIA, OH
CLIENT PROJECT #01201-5039

TEG PROJECT # 940524G1

TPH (EPA 418.1) & BTEX (EPA 8020) ANALYSES OF SOIL

SAMPLE NUMBER	DATE ANALYZED	TPH (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYLBENZ (mg/kg)	XYLENES (mg/kg)	TOT. BTEX (mg/kg)
M. BLANK	05/24/94	ND	ND	ND	ND	ND	ND
SB1 4-6'	05/24/94	ND	ND	ND	ND	ND	ND
SB1 14-16'	05/24/94	ND	ND	ND	ND	ND	ND
SB1 18-20'	05/24/94	ND	ND	ND	ND	ND	ND
SB2 4-6'	05/24/94	ND	ND	ND	ND	ND	ND
SB2 9-11'	05/24/94	ND	ND	ND	ND	ND	ND
SB3 4-6'	05/24/94	ND	ND	ND	ND	ND	ND
SB3 14-16'	05/24/94	ND	ND	ND	ND	ND	ND
SB3 18-20'	05/24/94	ND	ND	ND	ND	ND	ND
SB4 4-6'	05/24/94	ND	ND	ND	ND	ND	ND
SB4 14-16'	05/24/94	ND	ND	ND	ND	ND	ND
SB4 18-20'	05/24/94	ND	ND	ND	ND	ND	ND
SB4 18-20' DUP	05/24/94	ND	ND	ND	ND	ND	ND

DETECTION LIMITS: 10 0.05 0.05 0.05 0.05

"ND" INDICATES ANALYTE NOT DETECTED AT LISTED DETECTION LIMITS



QA/QC DATA - MATRIX SPIKE ANALYSES (SOIL)

	TPH418.1	BENZENE	TOLUENE	ETHYLBENZ	XYLENES
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
05/24/94					
MATRIX SPIKE					
Spiked Conc.	500	1.00	1.00	1.00	3.00
Measured Conc.	490	0.79	0.81	0.84	2.57
% Recovery	98.0%	79.0%	81.0%	84.0%	85.7%
MATRIX SPIKE DUPLICATE					
Spiked Conc.	500	1.00	1.00	1.00	3.00
Measured Conc.	488	0.80	0.83	0.86	2.52
% Recovery	97.6%	80.0%	83.0%	86.0%	84.0%
RELATIVE PERCENT DIFFERENCE (RPD)	0.4%	1.3%	2.4%	2.4%	2.0%

ACCEPTABLE RECOVERY LIMITS: 65% - 135%

ACCEPTABLE RPD: 0 - 20%

ANALYSES PERFORMED ON SITE IN TEG'S EPA CERTIFIED MOBILE LABORATORY.
CERTIFICATION # 1890.

ANALYSES PERFORMED BY: BARTON MOORE

DATA REVIEWED BY: MARK HANKINSON



CHAIN-OF-CUSTODY RECORD

[illegible]



GTEL

ENVIRONMENTAL
LABORATORIES, INC.

Northeast Region

Meadowbrook Industrial Park
Milford, NH 03055
(603) 672-4835
(603) 673-8105 (FAX)

June 17, 1994

John Frankenthal
Groundwater Technology, Inc.
4200 First Avenue
Nitro, WV 25143

RE: GTEL Client ID: 012015039
Login Number: M4060076
Project ID (number): 1310
Project ID (name): SEARS, ELYRIA, OH

Dear John Frankenthal:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 06/03/94 under Chain-of-Custody Number(s) 60173.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Susan C. Uhler
Laboratory Director

Client Number: 012015039
Project ID: 1310 SEARS, ELY-
RIA, OH
Login Number: M4-06-0076

Login #: M4-06-0076

Analysis: 8240

Instrument ID: J

Date of Last Cal.: 05/10/94

Analyst(s): Patricia Leazott

Analysis: TPH 418.1 in Soil

Instrument ID: PE1420

Date of Last Cal.: 06/03/94

Analyst(s): Michele Engel

Client Number: 012015039
 Project ID: 1310 SEARS, ELY-
 RIA, OH
 Login Number: M4-06-0076

CONFORMANCE/NONCONFORMANCE SUMMARY

(X = Requirements Met * = See Comments NA = Not Applicable)

#	Conformance Item	VOA GC/MS	VOA GC	SV GC/MS	SV GC	Metals	Wet Chem
1	GC/MS Tune	X	NA	--	NA	NA	NA
2	Initial Calibration	X	--	--	--	--	X
3	Continuing Calibration	X	--	--	--	--	X
4	Surrogate Recovery	X	--	--	--	NA	NA
5	Holding Time	X	--	--	--	--	X
6	Method Accuracy	X	--	--	--	--	X
7	Method Precision	X	--	--	--	--	X

8 Blank Contamination - List/ND (None Detected)/*(See Comments)

VOA: ND
 SV: --
 Metals: --
 Wet Chem: ND

9 Comments:

Method 8240:
 Internal Standard Areas exceeded acceptability limits in samples. Reanalysis of the samples yielded similar results. Sample specific matrix effect has been demonstrated and data is flagged as estimated.

GTEL Client ID: 012015039
 Login Number: M4060076
 Project ID (number): 1310
 Project ID (name): SEARS, ELYRIA, OH

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8240A
 Matrix: Low Soil

GTEL Sample Number	M4060076-01	M4060076-02	M4060076-03	M4060076-04
Client ID	SB-1 (9-11)	SB-1 (18-20)	SB-2 (9-11)	SB-3 (9-11)
Date Sampled	05/24/94	05/24/94	05/24/94	05/24/94
Date Analyzed	06/06/94	06/06/94	06/06/94	06/06/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration: Dry Weight			
Chloromethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Bromomethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Vinyl chloride	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Chloroethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Methylene chloride	5.0	ug/kg	< 5.0	< 5.0	10.	5.2
Acetone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Carbon disulfide	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethene (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Butanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
1,1,1-Trichloroethane	5.0	ug/kg	19.	18.	< 5.0	< 5.0
Carbon tetrachloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl acetate	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Bromodichloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloroethyl vinyl ether	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
trans-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
2-Hexanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Tetrachloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,4-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,2-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Percent Solids	--	%	85.7	93.9	87.5	87.5

Notes:

Dilution Factor:

The dilution factor indicates the adjustments made by the laboratory to results and sample reporting limits for dilutions.

GTEL Milford, NH

M4060076:1

GTEL Client ID: 012015039
Login Number: M4060076
Project ID (number): 1310
Project ID (name): SEARS, ELYRIA, OH

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Low Soil

GTEL Sample Number	M4060076-01	M4060076-02	M4060076-03	M4060076-04
Client ID	SB-1 (9-11)'	SB-1 (18-20)'	SB-2 (9-11)'	SB-3 (9-11)'
Date Sampled	05/24/94	05/24/94	05/24/94	05/24/94
Date Analyzed	06/06/94	06/06/94	06/06/94	06/06/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Dry Weight
---------	--------------------	-------	--------------------------

EPA 8240A:

Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846, Third Edition, Revision 1, US EPA July 1992. Analyte list modified to include additional compounds.

M4060076-01:

Estimated concentration for all analytes. Internal standard areas demonstrated sample specific matrix effect.

M4060076-03:

Estimated concentration for all analytes. Internal standard areas demonstrated sample specific matrix effect.

GTEL Client ID: 012015039
 Login Number: M4060076
 Project ID (number): 1310
 Project ID (name): SEARS, ELYRIA, OH

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8240A
 Matrix: Low Soil

GTEL Sample Number	M4060076-05	M4060076-06	M4060076-07	--
Client ID	SB-3 (18-20)	SB-4 (9-11)	SB-4 (18-20)	--
Date Sampled	05/24/94	05/24/94	05/24/94	--
Date Analyzed	06/06/94	06/06/94	06/06/94	--
Dilution Factor	1.00	1.00	1.00	--

Analyte	Reporting Limit	Units	Concentration: Dry Weight			
Chloromethane	10.	ug/kg	< 10.	< 10.	< 10.	--
Bromomethane	10.	ug/kg	< 10.	< 10.	< 10.	--
Vinyl chloride	10.	ug/kg	< 10.	< 10.	< 10.	--
Chloroethane	10.	ug/kg	< 10.	< 10.	< 10.	--
Methylene chloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Acetone	20.	ug/kg	< 20.	< 20.	< 20.	--
Carbon disulfide	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,1-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,1-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,2-Dichloroethene (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Chloroform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,2-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
2-Butanone	20.	ug/kg	< 20.	< 20.	< 20.	--
1,1,1-Trichloroethane	5.0	ug/kg	36.	< 5.0	< 5.0	--
Carbon tetrachloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Vinyl acetate	20.	ug/kg	< 20.	< 20.	< 20.	--
Bromodichloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,2-Dichloropropane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
cis-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Trichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Dibromochloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,1,2-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Benzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
2-Chloroethyl vinyl ether	10.	ug/kg	< 10.	< 10.	< 10.	--
trans-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Bromoform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
4-Methyl-2-pentanone	20.	ug/kg	< 20.	< 20.	< 20.	--
2-Hexanone	20.	ug/kg	< 20.	< 20.	< 20.	--
Tetrachloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,1,2,2-Tetrachloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Toluene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Chlorobenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Ethylbenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Styrene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Xylenes (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,3-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	--
1,4-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	--
1,2-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	--
Percent Solids	--	%	93.7	87.5	93.5	

Notes:

Dilution Factor:

The dilution factor indicates the adjustments made by the laboratory to results and sample reporting limits for dilutions.

GTEL Milford, NH

M4060076:3

GTEL Client ID: 012015039
Login Number: M4060076
Project ID (number): 1310
Project ID (name): SEARS, ELYRIA, OH

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Low Soil

GTEL Sample Number	M4060076-05	M4060076-06	M4060076-07	--
Client ID	SB-3 (18-20)'	SB-4 (9-11)'	SB-4 (18-20)'	--
Date Sampled	05/24/94	05/24/94	05/24/94	--
Date Analyzed	06/06/94	06/06/94	06/06/94	--
Dilution Factor	1.00	1.00	1.00	--

Analyte	Reporting Limit	Units	Concentration: Dry Weight
---------	-----------------	-------	---------------------------

EPA 8240A:

Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846, Third Edition, Revision 1, US EPA July 1992. Analyte list modified to include additional compounds.

M4060076-06:

Estimated concentration for all analytes. Internal standard areas demonstrated sample specific matrix effect.

Client Number: 012015039
 Project ID: 1310 SEARS, ELY-
 RIA, OH
 Login Number: M4-06-0076

SURROGATE RECOVERY SUMMARY

Volatile Organics in Soil - Low Level
 Modified EPA Method 8240

GTEL No.	Percent Recovery, %			
	S1 (TOL)	S2 (BFB)	S3 (DCE)	TOTAL OUT
BL060694JA	99.2	99.0	97.7	0
060076-01	109	94.4	95.9	0
060076-02	110	94.7	98.1	0
060076-03	109	92.4	93.8	0
060076-04	115	90.0	95.8	0
060076-05	104	93.0	95.2	0
060076-06	121	80.6	91.7	0
060076-07	111	86.7	103	0
MS060076-07	104	94.4	93.7	0
MD060076-07	111	85.8	102	0

Surrogates			Amount Spiked, ug/L	Recovery Limits ^a
S1	TOL	Toluene-d8	50	81-117
S2	BFB	Bromofluorobenzene	50	74-121
S3	DCE	1,2-Dichloroethane-d4	50	70-121
* Indicates values outside of acceptability limits.				
a Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) guidelines.				
D Diluted out. Percent Recovery is not calculated when surrogate compound(s) are diluted out.				

MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) SUMMARY
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)

Volatile Organics in Soil—Low Level
Modified EPA Method 8240

Sample spiked: 060076-07 Client ID: Batch QC
Solution ID: MS94MS045 Date analyzed: 6/2/94

Analyte	Spike Added ug/kg	Sample Concentration ug/kg	MS Concentration ug/kg	MS Percent Recovery	Limits, %(a)	
1,1 – Dichloroethene	52	0	56		107	59–172
Trichloroethene	52	0	50		96	62–137
Benzene	52	0	53		102	66–142
Toluene	52	0	52		99	59–139
Chlorobenzene	52	0	48		92	60–133

Analyte	Spike Added ug/kg	MSD Concentration ug/kg	MS Percent Recovery	RPD, %	Acceptability limits (a)	
					RPD	%Recovery
1,1 – Dichloroethene	52	51	99	8	22	59–172
Trichloroethene	52	44	85	12	24	62–137
Benzene	52	53	102	0	21	66–142
Toluene	52	56	109	9	21	59–139
Chlorobenzene	52	49	94	1	21	60–133

* Indicates values outside of acceptability limits.

a Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

D Diluted out. Percent Recovery and RPD are not calculated when spike compound(s) are diluted out.

Client Number: 012015039
 Project ID: 1310 SEARS, ELY-
 RIA, OH
 Login Number: M4-06-0076

METHOD BLANK RESULTS

Volatile Organics in Soil - Low Level
 Modified EPA Method 8240^a

GTEL File ID		BL060694JA
Date Analyzed		06/06/94
Analyte	Reporting Limit, ug/kg	Concentration, ug/kg
Chloromethane	10	< 10
Bromomethane	10	< 10
Vinyl Chloride	10	< 10
Chloroethane	10	< 10
Methylene Chloride	5	< 5
Acetone	20	< 20
Carbon Disulfide	5	< 5
1,1-Dichloroethene	5	< 5
1,1-Dichloroethane	5	< 5
1,2-Dichloroethene (total) ^b	5	< 5
Chloroform	5	< 5
1,2-Dichloroethane	5	< 5
2-Butanone	20	< 20
1,1,1-Trichloroethane	5	< 5
Carbon Tetrachloride	5	< 5
Vinyl Acetate	20	< 20
Bromodichloromethane	5	< 5
1,2-Dichloropropane	5	< 5
cis-1,3-Dichloropropene	5	< 5
Trichloroethene	5	< 5
Dibromochloromethane	5	< 5

Client Number: 012015039
 Project ID: 1310 SEARS, ELY-
 RIA, OH
 Login Number: M4-06-0076

METHOD BLANK RESULTS

Volatile Organics in Soil - Low Level
 Modified EPA Method 8240^a

GTEL File ID		BL060694JA
Date Analyzed		06/06/94
Analyte	Reporting Limit, ug/kg	Concentration, ug/kg
1,1,2-Trichloroethane	5	< 5
Benzene	5	< 5
2-Chloroethyl Vinyl Ether	10	< 10
<i>trans</i> -1,3-Dichloropropene	5	< 5
Bromoform	5	< 5
4-Methyl-2-Pentanone	20	< 20
2-Hexanone	20	< 20
Tetrachloroethene	5	< 5
1,1,2,2-Tetrachloroethane	5	< 5
Toluene	5	< 5
Chlorobenzene	5	< 5
Ethylbenzene	5	< 5
Styrene	5	< 5
Xylenes (total)	5	< 5
1,3-Dichlorobenzene	10	< 10
1,4-Dichlorobenzene	10	< 10
1,2-Dichlorobenzene	10	< 10

- a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986; heated purge and trap for sample preparation. This method is modified to include additional compounds. Results are calculated on a dry weight basis.
- b Total 1,2-dichloroethene is the sum of the *cis*- and *trans*- isomers.

Client Number: 012015039
 Project ID: 1310 SEARS, ELY-
 RIA, OH
 Login Number: M4-06-0076

ANALYTICAL RESULTS

Total Recoverable Petroleum Hydrocarbons in Soil
 by Infrared Spectrometry
 Modified EPA Method 418.1^a

Sample Identification		Date Sampled	Date Extracted	Date Analyzed	Percent Solids, %	Detection Limit, mg/kg	Concentration, mg/kg
GTEL No.	Client ID	--	--	--	--	--	--
060076-01	SB-1 (9-11)'	05/24/94	06/06/94	06/07/94	85.7	37	110
060076-02	SB-1 (18-20)'	05/24/94	06/06/94	06/07/94	93.9	33	< 33
060076-03	SB-2 (9-11)'	05/24/94	06/06/94	06/07/94	87.4	38	180
060076-04	SB-3 (9-11)'	05/24/94	06/06/94	06/07/94	87.5	39	180
060076-05	SB-3 (18-20)'	05/24/94	06/06/94	06/07/94	93.7	34	< 34
060076-06	SB-4 (9-11)'	05/24/94	06/06/94	06/07/94	87.5	35	210
060076-07	SB-4 (18-20)'	05/24/94	06/06/94	06/07/94	93.5	36	< 36

a EPA 600/4-79-020, March 1983 revision. Extraction modified for soils (Soxhlet). Concentration calculated on a dry weight basis.

Reporting Conventions

The table below summarizes the reporting conventions which appear on the enclosed QC Package for inorganic analyses. These conventions are consistent with EPA Contract Laboratory Program (CLP), except for classical chemistry analyses.

Flag	Interpretation
Column Heading: C	Concentration qualifier:
U	The analyte was analyzed for but not detected.
Column Heading: Q	Qualifier-Specified entries and their meanings are as follows:
N	Spiked sample recovery not within control limits.
*	Duplicate analysis not in control.
Column Heading: M	Method Used:
F	Furnace AA.
P	Inductively Coupled Plasma (ICP).
CV	Cold Vapor AA.
FP	Closed-cup Tester.
C	Colorimetric.
E	Electrode.
T	Titrimetric.
IR	Infra-Red.
G	Gravimetric.

Data for soils are reported on a dry weight basis.

SPIKED SAMPLE RECOVERY SUMMARY

GTEL Sample Spiked: 060067-02
 Date Analyzed: 06/07/94
 Concentration Units: mg/kg
 Matrix: Solid Waste

Analyte	Spiked Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	Recovery %	Lim	Q	M
Total Petroleum Hydrocarbons	11331.0925		9854.9517		617.8588	NA	a		IR

- a Control Limits for Total Petroleum Hydrocarbons by Infra-Red in Solid Waste (28-94%) are derived from Laboratory Practice.
- NA Not applicable when sample results are greater than four times the amount added.

LABORATORY DUPLICATE SAMPLE RESULTS

GTEL Sample I.D.: MS060067-02
 Date Analyzed: 06/07/94
 Concentration Units: mg/kg
 Matrix: Solid Waste

Analyte	Sample Result	C	Duplicate Result	C	RPD, %	Control Limit ^a	Q	M
Total Petroleum Hydrocarbons	11331.0925		12109.5165		6.6	50		IR

a Control limits are derived from Laboratory Practice.
 MS Matrix Spike

LABORATORY CONTROL SAMPLE

Date Analyzed: 06/07/94
Units: mg/kg

Analyte	True	Found	C	Recovery, %	Control Limits,% ^a
Total Petroleum Hydrocarbons	380.1310	284.5091		74.8	60-140

a Control limits are derived from Laboratory Practice.

BLANK RESULTS

Date Analyzed:
Preparation Blank Units:
Matrix:

06/07/94
mg/kg
Solid Waste

Analyte	Preparation Blank		M
		C	
Total Petroleum Hydrocarbons	40.0000	U	IR



60173

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Company Name:	GROUNDWATER TECH.	Phone #:	216-349-0004
Company Address:	6573-T COLUMBIAN RD. CLEVELAND OH	FAX #:	216-349-0894
Project Manager:	JOHN FRANKENTHAL	Site location:	SEACREST # 1310
		Client Project ID: (#)	012015039
I attest that the proper field sampling procedures were used during the collection of these samples.		(NAME)	
		Sampler Name (Print):	THOMAS J. FRANKENTHAL

Field Sample ID	GTEL Lab # (Lab use only)	# Containers	Matrix							Method Preserved					Sampling	
			WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	HCl	HNO ₃	H ₂ SO ₄	ICE	UNPRESERVED	OTHER (SPECIFY)	DATE	TIME
SB-1 (9-11)	1	2	X									X			5/24/14	8:46
SB-1 (18-20)	2	2	X									X			5/24	9:47
SB-2 (9-11)	3	2	X									X			5/24	10:13
SB-2 (18-20)			X									X			5/24	
SB-3 (9-11)	4	2	X									X			5/24	10:45
SB-3 (18-20)	5	2	X									X			5/24	11:28
SB-4 (9-11)	6	2	X									X			5/24	1:11
SB-4 (18-20)	7	2	X									X			5/24	1:31

TAT		Special Handling		SPECIAL DETECTION LIMITS	
<input type="checkbox"/> Priority (24 hr) <input type="checkbox"/> Expedited (48 hr) <input checked="" type="checkbox"/> 7 Business Days <input type="checkbox"/> Other _____ Business Days	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	GTEL Contact <u>LOIS L</u> Quote/Contract # <u>1000000000</u> Confirmation # <u>11</u> PO # <u>11</u> <u>11</u>	SPECIAL REPORTING REQUIRE		
QA / QC LEVEL		FAX <input type="checkbox"/>			
<input type="checkbox"/> BLUE <input type="checkbox"/> CLP <input type="checkbox"/> OTHER <u>11</u>					

CUSTODY RECORD	Relinquished by Sampler:	<i>Thomas E. Buck</i>	D 6/2
	Relinquished by:		D
	Relinquished by:		D

BTEX/Gas Hydrocarbons PID/FID □
BTEX/602 □ 8020 □ with MTBE
Hydrocarbons GC/FID Gas □ Diesel □ Screen □
Hydrocarbon Profile (SIMDIS) □
Oil and Grease 413.1 □ 413.2 □ SM 503
TPH/IR 418.1 <input checked="" type="checkbox"/> SM 503
EDB by 504 □ DBCP by 504
EPA 503.1 □ EPA 502.2
EPA 601 □ EPA 8010
EPA 602 □ EPA 8020
EPA 608 □ 8080 □ PCB only
EPA 624/PPL □ 8240/TAL <input checked="" type="checkbox"/> NBS (+ 15)
EPA 625/PPL □ 8270/TAL □ NBS (+ 25)
EPA 610 □ 8310
EP TOX Metals □ Pesticides □ Herbicides
TCLP Metals □ VOA □ Semi-VOA □ Pest □ Herb □
EPA Metals - Priority Pollutant □ TAL □ RCRA □
CAM Metals TLC □ STLC □
Lead 239.2 □ 200.7 □ 7420 □ 7421 □ 6010
Organic Lead □
Corrosivity □ Flash Point □ Reactivity □

REMARKS	<p>LIMITED SAMPLES</p>
LABORATORY COMMENTS	<p>Lab Use Only Lot #</p> <p>Storage Location: 2340 W3B</p> <p>Work Order # 1111060076</p> <p>Received by:</p> <p>Received by:</p> <p>Received by Laboratory:</p> <p>Waybill # 8855391036</p>
<p>Date</p> <p>Time</p>	<p>10/1/01</p> <p>20:21</p>
<p>Date</p> <p>Time</p>	<p>11/1/01</p> <p>11:20</p>



GTEL

ENVIRONMENTAL
LABORATORIES, INC.

Northeast Region

Meadowbrook Industrial Park
Milford, NH 03055
(603) 672-4835
(603) 673-8105 (FAX)

September 22, 1994

John Frankenthal
Groundwater Technology, Inc.
4200 First Avenue
Nitro, WV 25143

RE: GTEL Client ID: 012015039
Login Number: M4090062
Project ID (number): 1310
Project ID (name): SEARS ELYRIA

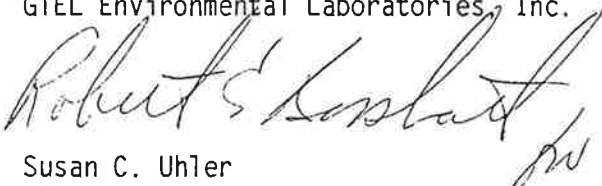
Dear John Frankenthal:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 09/02/94 under Chain-of-Custody Number(s) 19137.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.


Susan C. Uhler
Laboratory Director

fw So

Client Number: 012015039
Project ID: 1310
SEARS ELYRIA
Work Order Number: M4-09-0062

Login #: M4-09-0062

Analysis: 8240

Instrument ID: J

Instrument ID: --

Analyst(s): Patricia Leazott

Date of Last Cal.: 08/15/94

Date of Last Cal.: --

Login #: M4-09-0062

Analysis: 418.1

Instrument ID: PE-1420

Instrument ID: --

Analyst(s): Michele Engel

Date of Last Cal.: 08/16/94

Date of Last Cal.: --

Client Number: 012015039
 Project ID: 1310
 SEARS ELYRIA
 Work Order Number: M4-09-0062

CONFORMANCE/NONCONFORMANCE SUMMARY

(X = Requirements Met * = See Comments NA = Not Applicable)

#	Conformance Item	VOA GC/MS	VOA GC	SV GC/MS	SV GC	Metals	Wet Chem
1	GC/MS Tune	X	NA	--	NA	NA	NA
2	Initial Calibration	X	--	--	--	--	X
3	Continuing Calibration	X	--	--	--	--	X
4	Surrogate Recovery	X	--	--	--	NA	NA
5	Holding Time	X	--	--	--	--	X
6	Method Accuracy	X	--	--	--	--	X
7	Method Precision	X	--	--	--	--	X

8 Blank Contamination - List/ND (None Detected)/*(See Comments)

VOA: ND

SV: --

Metals: --

Wet Chem: ND

9 Comments: --

GTEL Client ID: 012015039
 Login Number: M4090062
 Project ID (number): 1310
 Project ID (name): SEARS ELYRIA

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8240A
 Matrix: Low Soil

GTEL Sample Number	M4090062-01	M4090062-02	M4090062-03	M4090062-04
Client ID	SB-5 8'-10'	SB-5 14'-16'	SB-6 6'-8'	SB-6 14'-16'
Date Sampled	09/01/94	09/01/94	09/01/94	09/01/94
Date Analyzed	09/13/94	09/13/94	09/15/94	09/13/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration: Dry Weight			
Chloromethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Bromomethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Vinyl chloride	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Chloroethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Methylene chloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Acetone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Carbon disulfide	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethene (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Butanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
1,1,1-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl acetate	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Bromodichloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloroethyl vinyl ether	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
trans-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
2-Hexanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Tetrachloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	5.0	ug/kg	< 5.0	< 5.0	5.3	< 5.0
Chlorobenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,4-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,2-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Percent Solids	--	%	86.5	87.6	85.5	88.4

Notes:

Dilution Factor:

The dilution factor indicates the adjustment made by the laboratory to results and sample reporting limits for dilutions.

GTEL Milford, NH

M4090062:1

GTEL Client ID: 012015039
Login Number: M4090062
Project ID (number): 1310
Project ID (name): SEARS ELYRIA

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Low Soil

GTEL Sample Number	M4090062-01	M4090062-02	M4090062-03	M4090062-04
Client ID	SB-5 8'-10'	SB-5 14'-16'	SB-6 6'-8'	SB-6 14'-16'
Date Sampled	09/01/94	09/01/94	09/01/94	09/01/94
Date Analyzed	09/13/94	09/13/94	09/15/94	09/13/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration: Dry Weight
---------	-----------------	-------	---------------------------

EPA 8240A:

"Test Methods for Evaluating Solid Waste, Physical and Chemical Methods, SW-846", Third Edition, Revision 1, US EPA July 1992. Analyte list modified to include additional compounds.

GTEL Client ID: 012015039
 Login Number: M4090062
 Project ID (number): 1310
 Project ID (name): SEARS ELYRIA

ANALYTICAL RESULTS

Volatile Organics
 Method: EPA 8240A
 Matrix: Low Soil

GTEL Sample Number	M4090062-05	M4090062-06	M4090062-07	--
Client ID	SB-7 2'-4'	SB-7 14'-16'	SOIL CUTTINGS	--
Date Sampled	09/01/94	09/01/94	09/01/94	--
Date Analyzed	09/15/94	09/13/94	09/13/94	--
Dilution Factor	1.00	1.00	1.00	--

Analyte	Reporting Limit	Units	Concentration: Dry Weight			
Chloromethane	10.	ug/kg	< 10.	< 10.	< 10.	--
Bromomethane	10.	ug/kg	< 10.	< 10.	< 10.	--
Vinyl chloride	10.	ug/kg	< 10.	< 10.	< 10.	--
Chloroethane	10.	ug/kg	< 10.	< 10.	< 10.	--
Methylene chloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Acetone	20.	ug/kg	31.	< 20.	< 20.	--
Carbon disulfide	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,1-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,1-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,2-Dichloroethene (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Chloroform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,2-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
2-Butanone	20.	ug/kg	< 20.	< 20.	< 20.	--
1,1,1-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Carbon tetrachloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Vinyl acetate	20.	ug/kg	< 20.	< 20.	< 20.	--
Bromodichloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,2-Dichloropropane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
cis-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Trichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Dibromochloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,1,2-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Benzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
2-Chloroethyl vinyl ether	10.	ug/kg	< 10.	< 10.	< 10.	--
trans-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Bromoform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
4-Methyl-2-pentanone	20.	ug/kg	< 20.	< 20.	< 20.	--
2-Hexanone	20.	ug/kg	< 20.	< 20.	< 20.	--
Tetrachloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,1,2,2-Tetrachloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Toluene	5.0	ug/kg	7.0	< 5.0	< 5.0	--
Chlorobenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Ethylbenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Styrene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
Xylenes (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	--
1,3-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	--
1,4-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	--
1,2-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	--
Percent Solids	--	%	85.1	90.8	89.9	

Notes:

Dilution Factor:

The dilution factor indicates the adjustments made by the laboratory to results and sample reporting limits for dilutions.

GTEL Milford, NH
 M4090062:3

GTEL Client ID: 012015039
Login Number: M4090062
Project ID (number): 1310
Project ID (name): SEARS ELYRIA

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Low Soil

GTEL Sample Number	M4090062-05	M4090062-06	M4090062-07	--
Client ID	SB-7 2'-4'	SB-7 14'-16'	SOIL CUTTINGS	--
Date Sampled	09/01/94	09/01/94	09/01/94	--
Date Analyzed	09/15/94	09/13/94	09/13/94	--
Dilution Factor	1.00	1.00	1.00	--

Analyte	Reporting Limit	Units	Concentration: Dry Weight
---------	--------------------	-------	---------------------------

EPA 8240A:

"Test Methods for Evaluating Solid Waste: Physical and Chemical Methods, SW-846", Third Edition, Revision 1, US EPA July 1992. Analyte list modified to include additional compounds.

Client Number: 012015039
 Project ID: 1310
 SEARS ELYRIA
 Work Order Number: M4-09-0062

SURROGATE RECOVERY SUMMARY

Volatile Organics in Soil - Low Level
 Modified EPA Method 8240

GTEL No.	Percent Recovery, %			
	S1 (TOL)	S2 (BFB)	S3 (DCE)	TOTAL OUT
BL091394J	96.7	103	101	0
BL091594JB	100	103	91.7	0
090062-01	106	100	95.7	0
090062-02	107	97.3	100	0
090062-03	108	95.0	101	0
090062-04	108	95.9	94.8	0
090062-05	107	99.4	103	0
090062-06	110	95.7	103	0
090062-07	108	95.9	101	0
MS090062-07	103	103	92.1	0
MD090062-07	104	96.9	93.3	0
MS090061-01	100	104	104	0
MD090061-01	108	102	102	0

Surrogates			Amount Spiked, ug/L	Recovery Limits ^a
S1	TOL	Toluene-d8	50	81-117
S2	BFB	Bromofluorobenzene	50	74-121
S3	DCE	1,2-Dichloroethane-d4	50	70-121

- * Indicates values outside of acceptability limits.
- a Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) guidelines.
- D Diluted out. Percent Recovery is not calculated when surrogate compound(s) are diluted out.

MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) SUMMARY
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)

Volatile Organics in Soil – Low Level
Modified EPA Method 8240

Sample spiked: 090061 – 01 Client ID: Batch QC

Solution ID: MS94MS075 Date analyzed: 9/13/94

Analyte	Spike ug/kg	Sample Concentration ug/kg	MS Concentration ug/kg	MS Percent Recovery	Limits, %(a)
1,1 – Dichloroethene	50	0	62	123	59–172
Trichloroethene	50	0	61	121	62–137
Benzene	50	0	63	125	66–142
Toluene	50	0	63	126	59–139
Chlorobenzene	50	0	57	113	60–133

Analyte	Spike Added ug/kg	MSD Concentration ug/kg	MS Percent Recovery	RPD, %	Acceptability limits (a) RPD %Recovery
1,1 – Dichloroethene	50	64	130	5	22 59–172
Trichloroethene	50	60	121	0	24 62–137
Benzene	50	63	127	1	21 66–142
Toluene	50	65	132	5	21 59–139
Chlorobenzene	50	55	112	1	21 60–133

Recoveries are calculated based on a wet weight concentration.

* Indicates values outside of acceptability limits.

a Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

D Diluted out. Percent Recovery and RPD are not calculated when spike compound(s) are diluted out.

MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) SUMMARY
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)

Volatile Organics in Soil—Low Level
Modified EPA Method 8240

Sample spiked: 090062-07 Client ID: Batch QC

Solution ID: MS94MS075 Date analyzed: 9/15/94

Analyte	Spike ug/kg	Sample Concentration ug/kg	MS Concentration ug/kg	MS Percent Recovery	Limits, %(a)
1,1 – Dichloroethene	50	0	61	123	59–172
Trichloroethene	50	0	60	120	62–137
Benzene	50	0	66	132	66–142
Toluene	50	4	66	125	59–139
Chlorobenzene	50	0	54	109	60–133

Analyte	Spike Added ug/kg	MSD Concentration ug/kg	MS Percent Recovery	RPD, %	Acceptability limits (a) RPD %Recovery
1,1 – Dichloroethene	50	66	132	7	22 59–172
Trichloroethene	50	60	121	1	24 62–137
Benzene	50	62	125	5	21 66–142
Toluene	50	66	125	0	21 59–139
Chlorobenzene	50	52	105	4	21 60–133

Recoveries are calculated based on a wet weight concentration.

* Indicates values outside of acceptability limits.

a Acceptability limits are derived from USEPA Contract Laboratory Program (CLP) requirements.

D Diluted out. Percent Recovery and RPD are not calculated when spike compound(s) are diluted out.

Client Number: 012015039
 Project ID: 1310
 SEARS ELYRIA
 Work Order Number: M4-09-0062

METHOD BLANK RESULTS

Volatile Organics in Soil - Low Level
 Modified EPA Method 8240^a

GTEL File ID		BL091394J	
Date Analyzed		09/13/94	
Analyte	PQL, ug/kg ^b	Concentration, ug/kg ^c	
Chloromethane	10	10	U
Bromomethane	10	10	U
Vinyl Chloride	10	10	U
Chloroethane	10	10	U
Methylene Chloride	5	5	U
Acetone	10	10	U
Carbon Disulfide	5	5	U
1,1-Dichloroethene	5	5	U
1,1-Dichloroethane	5	5	U
1,2-Dichloroethene (total) ^d	5	5	U
Chloroform	5	5	U
1,2-Dichloroethane	5	5	U
2-Butanone	10	10	U
1,1,1-Trichloroethane	5	5	U
Carbon Tetrachloride	5	5	U
Vinyl Acetate	10	10	U
Bromodichloromethane	5	5	U
1,2-Dichloropropane	5	5	U
cis-1,3-Dichloropropene	5	5	U
Trichloroethene	5	5	U
Dibromochloromethane	5	5	U

Client Number: 012015039
Project ID: 1310
SEARS ELYRIA
Work Order Number: M4-09-0062

METHOD BLANK RESULTS

Volatile Organics in Soil - Low Level
Modified EPA Method 8240^a

GTEL File ID		BL091394J
Date Analyzed		09/13/94
Analyte	PQL, ug/kg ^b	Concentration, ug/kg ^c
1,1,2-Trichloroethane	5	5 U
Benzene	5	5 U
2-Chloroethyl Vinyl Ether	10	10 U
<i>trans</i> -1,3-Dichloropropene	5	5 U
Bromoform	5	5 U
4-Methyl-2-Pentanone	10	10 U
2-Hexanone	10	10 U
Tetrachloroethene	5	5 U
1,1,2,2-Tetrachloroethane	5	5 U
Toluene	5	5 U
Chlorobenzene	5	5 U
Ethylbenzene	5	5 U
Styrene	5	5 U
Xylenes (total)	5	5 U

Client Number: 012015039
Project ID: 1310
SEARS ELYRIA
Work Order Number: M4-09-0062

METHOD BLANK RESULTS

Volatile Organics in Soil - Low Level Modified EPA Method 8240^a

- a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, Table 2, US EPA November 1986; sample prepared by low level solvent extraction and purge and trap. Method modified to include additional compounds.
- b Practical quantitation limit. The PQL limits are as published in SW846. Individual sample PQL's are adjusted for dry weight.
- c Data Flag Definitions
 - U Indicates compound was analyzed for but not detected.
 - J Indicates an estimated value. This flag is used when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the quantitation limit, but greater than zero, or when reporting an estimated concentration for a tentatively identified compound.
- d Total 1,2-dichloroethene is the sum of the cis- and trans- isomers.

GTEL Client ID: 012015039
Login Number: M4090062
Project ID (number): 1310
Project ID (name): SEARS ELYRIA

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons
Method: EPA 418.1
Matrix: Soil

GTEL Sample Number	M4090062-01	M4090062-02	M4090062-03	M4090062-04
Client ID	SB-5 8'-10'	SB-5 14'-16'	SB-6 6'-8'	SB-6 14'-16'
Date Sampled	09/01/94	09/01/94	09/01/94	09/01/94
Date Analyzed	09/07/94	09/07/94	09/07/94	09/07/94
Date Prepped	09/06/94	09/06/94	09/06/94	09/06/94
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting		Concentration: Dry Weight			
	Limit	Units				
Total Petroleum Hydrocarbons	40.	mg/kg	190	< 40.	< 40.	< 40.
Percent Solids	--	%	86.5	87.6	85.5	88.4

Notes:

Dilution Factor:

The dilution factor indicates the adjustments made by the laboratory to results and sample reporting limits for dilutions.

EPA 418.1 Modified:

"Methods for Chemical Analysis of Water and Wastes". EPA 600/4-79--020. USEPA EMSL, Cincinnati, OH. Revised, March 1983. Extraction modified for soils.

GTEL Client ID: 012015039
Login Number: M4090062
Project ID (number): 1310
Project ID (name): SEARS ELYRIA

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons
Method: EPA 418.1
Matrix: Soil

GTEL Sample Number	M4090062-05	M4090062-06	M4090062-07	--
Client ID	SB-7 2'-4'	SB-7 14'-16'	SOIL CUTTINGS	--
Date Sampled	09/01/94	09/01/94	09/01/94	--
Date Analyzed	09/07/94	09/07/94	09/07/94	--
Date Prepped	09/06/94	09/06/94	09/06/94	--
Dilution Factor	1.00	1.00	1.00	--

Analyte	Reporting Limit	Units	Concentration: Dry Weight		
Total Petroleum Hydrocarbons	40.	mg/kg	70.	< 40.	190
Percent Solids	--	%	85.1	90.8	89.9

Notes:

Dilution Factor:

The dilution factor indicates the adjustments made by the laboratory to results and sample reporting limits for dilutions.

EPA 418.1 Modified:

"Methods for Chemical Analysis of Water and Wastes". EPA 600/4-79--020. USEPA EMSL, Cincinnati, OH. Revised, March 1983. Extraction modified for soils.

Reporting Conventions

The table below summarizes the reporting conventions which appear on the enclosed QC Package for inorganic analyses. These conventions are consistent with EPA Contract Laboratory Program (CLP), except for classical chemistry analyses.

Flag	Interpretation
Column Heading: C	Concentration qualifier:
U	The analyte was analyzed for but not detected.
Column Heading: Q	Qualifier-Specified entries and their meanings are as follows:
N	Spiked sample recovery not within control limits.
*	Duplicate analysis not in control.
Column Heading: M	Method Used:
F	Furnace AA.
P	Inductively Coupled Plasma (ICP).
CV	Cold Vapor AA.
FP	Closed-cup Tester.
C	Colorimetric.
E	Electrode.
T	Titrimetric.
IR	Infra-Red.
G	Gravimetric.

Data for soils are reported on a dry weight basis.

SPIKED SAMPLE RECOVERY SUMMARY

GTEL Sample Spiked: 080631-41
 Date Analyzed: 09/07/94
 Concentration Units: mg/kg
 Matrix: Solid Waste

Analyte	Spiked Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	Recovery %	Lim	Q	M
Total Petro- leum Hydro- carbons	532525.8410		321150.8451		480.9178	NA	NA		IR

NA Not applicable when sample results are greater than four times the amount added.

LABORATORY DUPLICATE SAMPLE RESULTS

GTEL Sample I.D.: MS080631-41
 Date Analyzed: 09/07/94
 Concentration Units: mg/kg
 Matrix: Solid Waste

Analyte	Sample Result	C	Duplicate Result	C	RPD, %	Control Limit ^a	Q	M
Total Petroleum Hydrocarbons	532525.8410		326853.7691		47.9	50		IR

a Control limits are derived from Laboratory Practice.
 MS Matrix Spike

LABORATORY CONTROL SAMPLE

Date Analyzed: 09/07/94
Units: mg/kg

Analyte	True	Found	C	Recovery, %	Control Limits,% ^a
Total Petroleum Hydrocarbons	381.8623	372.2372		97.5	60-140

a Control limits are derived from Laboratory Practice.

BLANK RESULTS

Date Analyzed:
Preparation Blank Units:
Matrix:

09/07/94
mg/kg
Solid Waste

Analyte	Preparation Blank		M
		C	
Total Petroleum Hydrocarbons	40.0000	U	IR



4211 MAY AVE
WICHITA, KS 67209
(315) 945-2624
(800) 633-7936

CHAIN-OF-CUSTODY RECORD
AND ANALYSIS REQUEST

19137

Company Name:

ROUND WATER TECHNOLOGY

Phone #:

(916) 344-0004

Company Address:

1731 COCHRAN RD
SOLON OH 44139

Site location:

300 MIDWAY BLVD
ELYRIA OHIO

Project Manager:

JOHN FRANKENTHAL

Client Project ID:

(#) 012015039-020503

Test that the proper field sampling

procedures were used during the collection

these samples.

Sampler Name (Print):

BERNHARD DIRSKA

Field Sample ID	GTCL Lab # (Lab use only)	# Containers	Matrix		Method Preserved		Sampling	
			WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER
1	1	3	X					
2	2	3	X					
3	3	3	X					
4	4	3	X					
5	5	3	X					
6	6	3	X					
7	7	3	X					

TAT		Special Handling		SPECIAL DETECTION LIMITS		REMARKS	
<input type="checkbox"/> Priority (24 hr)	<input type="checkbox"/> Edited (48 hr)	<input type="checkbox"/> Business Days	<input type="checkbox"/> Other	OHIO DETECTION LIMITS			
GTEL Contact		Quote/Contract #		SPECIAL REPORTING REQUIREMENTS		Lab Use Only Lot #	
Confirmation #		PO #		Storage Location:		23RD W6D	
QA / QC LEVEL		OTHER		Work Order #		M1090062	
Relinquished by Sampler:		Relinquished by:		Date		Time	
Bernhard Dirsk				09/16/94		1600	
Relinquished by:		Relinquished by:		Date		Time	
				09/16/94		1600	
Relinquished by:		Relinquished by:		Date		Time	
				09/16/94		1600	
Waybill #		706084990		Antio. Kelly			

JUSTODY
RECORD

APPENDIX D

SFSS CHART

SFM SITE FEATURE SCORING SYSTEM (SFSS) CHART
(USE "SFSS GUIDELINES" TO COMPLETE THIS CHART)

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
Sears Merchandise Group 3333 Beverly Drive Hoffman Estates, Illinois 60179 Contact: Bernadine Palka (708) 286-8864	Incident No. 4732300 Sears Store #1310 300 Midway Boulevard Elyria, Lorain County, Ohio 44035 Contact: Jim Dwyer (216) 324-2411

Site Features	COLUMN A		COLUMN B		COLUMN C		COLUMN D	
	Score 20	Enter Score	Score 15	Enter Score	Score 10	Enter Score	Score 5	Enter Score
1. Distance of UST system from closest potable-water supply source currently in use is:	> 1000 ft.	20	300 - 1000 ft.		< 300 ft.		Inside of designated sensitive area	
2. Depth to groundwater is:	> 50 ft.		31 - 50 ft.		15 - 30 ft. or unknown	10	< 15 ft.	
3. Predominant soil type of substratum is:	Clay or shale	20	Silt or clayey sands or fine sandstone		Silty sand or fine sand, unknown, or sandstone		Clean sand, gravel, or conglomerate	
4. Natural and/or man-made conduits or receptors -- See Worksheet Below	< 8		8 - 10		11 - 13	10	> 13	
Subtotals:		40				20		
TOTAL SCORE (SUBTOTALS)								60

SITE FEATURE 4 WORKSHEET:

Basements or subsurface foundations within 100 feet of UST system	4 points	4
Storm sewer within 50 feet of UST system	4 points	4
Sanitary sewer within 50 feet of UST system	4 points	4
Septic system leach field within 50 feet of UST system	2 points	
Water line main within 50 feet of UST system	1 points	
Natural gas line main within 50 feet of UST system	1 points	
Bedrock area prone to dissolution along joints of fractures within 100 feet of UST system	1 points	
Faults or known fractures within 100 feet of UST system	1 points	
Buried telephone/television cable main within 50 feet of UST system	1 points	
Buried electrical cable within 50 feet of UST system	1 points	1
TOTAL POINTS		13

CONSTITUENT	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
TOTAL SCORE	< 31	31-50	51-70	> 71
Soil BTEX	.006/4/6/28	.170/7/10/47	.335/9/14/67	.500/12/18/85
Groundwater BTEX	.005/1/.700/10	.005/1/.700/10	.005/1/.700/10	.005/1/.700/10
Soil TPH (Gasoline)	105	300	450	600
Soil TPH (Others)	380	642	904	1156