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PHASE II INVESTIGATION REPORT
CRYSTEEL MANUFACTURING, INC.
1902 ROUTE 57
FULTON, NEW YORK

PREPARED FOR:

SPELL CAPITAL PARTNERS FUND I

JUNE 2000

PREPARED BY:

Liesch Companies

Minneapolis, MN • Madison, Wl • Scottsdale, AZ

UEECH

PHASE II INVESTIGATION REPORT

of

CRYSTEEL MANUFACTURING, INC.
1902 ROUTE 57
FULTON, NEW YORK 13069

Prepared for:

SPELL CAPITAL PARTNERS FUND I
C/O BRIGGS AND MORGAN
MINNEAPOLIS, MINNESOTA 55402

Prepared by:

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13400 15TH AVENUE SOUTH
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JUNE 20,2000
PROJECT #52035.01

This report was prepared by me or under my direct supervision.

Dana Wdgneif, CHMM
Principal/ProieitManager

Dan Larson, P.G.
Project Geologist

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APPENDICES

1.0 INTRODUCTION

Briggs and Morgan of Minneapolis, Minnesota on behalf of Spell Capital Partners Fund I, retained Liesch Associates, Inc. (Liesch) to conduct a Phase II subsurface assessment of the Crysteel Manufacturing, Inc. property (Crysteel) located at 1902 Route 57, City of Fulton, County of Oswego, State of New York (the Property). The purpose of the Phase II investigation was to assess whether there was evidence of a release from two 70,000-gallon heating oil USTs, a former hazardous waste drum storage and cleaning area, or a soil land farm area identified in a Phase I Environmental Site Assessment completed by Liesch on May 1,2000 (Liesch Phase IESA).

Crysteel is the current Property owner. The Property consists of approximately 60.6 acres of land occupied by Crysteel, a truck body and hoist manufacturing company. The Property contains one major and some minor appurtenant structures, parking lots, outdoor equipment storage areas, landscaped areas, a substation, a pond and wetlands. The plant consists of a 132,400 ft^2 building. Surrounding land use is Highway 481 and agriculture to the north, railroad and forested to the east, the former Miller Brewing plant to the south, a farmstead, Fulton Water Plant and Oswego River to the west **Figure 1** in **Appendix A** shows the location of the Property, **Figure** 2 is a USGS topographic map which also depicts the Property location, and **Figure 3** is a site plan and boring location map.

2.0 RECOGNIZED ENVIRONMENTAL CONDITIONS

The following recognized environmental conditions identified in the Liesch Phase I ESA are addressed in this Phase II Investigation:

- Two 70,000-gallon heating oil USTs were reportedly abandoned in place near the southwest corner of the building. Documentation was not available to Liesch to illustrate no release from these USTs occurred. Two soil borings were placed near these USTs in approximately 1993. No impacts were reported; however, based on the size of these USTs, these two borings may not be representative of site conditions.

- A former hazardous waste drum storage and cleaning area was formerly located along the north edge of the north parking lot. Surficial soil samples collected in approximately 1993 identified levels of total petroleum hydrocarbons (TPH), approximately 28-36 parts per million.

- A former soil land farm area was reported near the northeast corner of the north parking lot. This soil was reportedly generated during spill containment UST removal operations. Surficial soil sample analyses indicated there was volatile organic contamination in the land farm area soils.

3.0 SCOPE OF WORK

The following work items were completed for this Phase II investigation of the Property:

- Completion of subsurface investigation consisting of nine geoprobe borings to assess the presence of a release from two 70,000-gallon heating oil USTs, a former hazardous waste drum storage and cleaning area, or a soil land farm area;
- Completion of five additional geoprobe borings in the vicinity of the soil land farm area to attempt delineation of the extent of a release detected with field screening methods;
- Analysis of soil and groundwater samples for volatile organic compounds, semi-volatile organic compounds, and Resource Conservation and Recovery Act metals using a fixed laboratory; and
- Preparation and submittal of a written report summarizing the findings of the investigation.

The following sections discuss the results of the investigation. Figures for this report are found in **Appendix A,** while report tables are included in **Appendix B.**

4.0 PHYSICAL SETTING

The topography in this part of the Fulton area is generally flat and slopes westward toward the Oswego River. Altitudes range from near 380 feet above mean sea level (MSL) on the east side of the Property to 360 feet above MSL at the west side of the Property.

Elevation and topographic information were obtained from the U.S. Geological Survey (USGS) Fulton, NY 7.5-minute topographic quadrangle map. A copy of the portion of the USGS map that includes the Property is presented as **Figure 2 in Appendix A.**

4.1 SOILS

Soils at the Property are classified generally as Amboy, Ira, Rayham, and Williamson soils consisting of poorly drained and moderately well-drained, fine textured soils according to the Soil Survey of Oswego County, New York, published by the U.S. Department of Agriculture Soil Conservation Service.

4.2 GEOLOGY

Liesch reviewed the Groundwater Atlas of the United States, Hydrogeolic Investigations Atlas 730-M published by the United States Geological Survey in 1995 (the Atlas). The Atlas notes the Property is located in the central lowland province, eastern lake section. Surficial bedrock

consisting of ordovician and cambrian sedimentary rock is overlain by coarse grained stratified outwash and ice-contact deposits.

43 SURFACE AND GROUNDWATER HYDROLOGY

The nearest surface water expression is the Oswego River located approximately 200 feet west of the west side of the Property. The Oswego River flows northerly into Lake Ontario. Surface water drainage at the Property is estimated to be generally to the north and west. According to information presented by EDR, a computerized file search organization, the direction of groundwater flow is toward the west-northwest, and groundwater is expected to be encountered within 10-20 feet below ground surface. Several water supply wells exist between the Property and the Oswego River. Soil and groundwater conditions encountered during the subsurface investigation are discussed in **Section 5.0.**

5.0 SUBSURFACE INVESTIGATION

Liesch conducted a subsurface investigation to address the three recognized environmental conditions outlined above and in the Liesch Phase I ESA. Soil screening, field observations, and laboratory analysis was used to assess whether a release was present in the unsaturated soils at the locations drilled. Groundwater samples were collected in anticipated downgradient locations in each area to determine whether releases have occurred and impacted groundwater.

5.1 GEOPROBE INVESTIGATION

Maxim Technologies, Inc. (Maxim) of Ithaca, New York was retained to install push-probes for this project Fourteen probes, GP-1 through GP-14, were completed utilizing a truck mounted geoprobe rig on May 31 and June 1, 2000. The push-probes were completed under the direction of Liesch Geologist Mr. Dan Larson. Probe locations are presented on **Figure** 3 in **Appendix** A.

Soil Sampling

Discrete soil samples were collected continuously during advancement of the probes using a polyethylene-lined four-foot dual-tube sampler. For dual tube soil sampling, one set of rods is driven into the ground as an outer casing. These rods provide a sealed hole from which soil samples may be recovered without the threat of cross contamination. The second, smaller set of rods, which hold the polyethylene-lined four-foot sampler, are placed inside the outer casing and driven below the depth of the outer casing for collection of an undisturbed soil core representative of the particular depth interval. The standard operating procedure (SOP) for the dual tube sampling technique is included in **Appendix C.**

Upon removal of soils from the probe samplers, samples were screened for the presence of organic vapors using a 10.6 e.V. photoionization detector (PID) and bag headspace analysis procedures. The PID utilized during the subsurface investigation was calibrated prior to use.

Groundwater Sampling

After groundwater was encountered in selected probes (GP-1, GP-3, GP-5, and GP-7) and the last soil sample was collected, the outer casing was withdrawn slightly, leaving an expendable cutting shoe in the ground. A one-inch, 10-slot, PVC screen (2.5' or 5') and riser pipe were placed inside the outer casing. The outer casing was withdrawn, leaving a temporary well with an exposed above-grade riser pipe. Silica sand (#0) was placed in the annular space around the screen in two of the probe holes (GP-1 and GP-5) with less permeable sediment to facilitate water collection.

The following sections discuss each investigation area in more detail.

5.1.1 Abandoned Diesel USTs

Three probes (GP-1 through GP-3) were completed in the vicinity of the abandoned diesel USTs, reported to be 70,000 gallons each, in size. The probes ranged in depth from 16 to 24 feet below ground surface (bgs). Soil boring logs which provide a description of each sampling interval are included in **Appendix D.**

Geoprobe GP-1 was placed in an anticipated downgradient location of the suspected abandoned UST locations. It appeared that this boring was completed in native soil and sediment consisting of reddish brown silts and sands. Elevated PID readings were not encountered in GP-1. A soil sample from the 16 to 18 foot interval was submitted for laboratory analysis for New York Stars volatile organic compounds (NYS-VOCs) and New York Stars semi volatile organic compounds (NYS-SVOCs). Laboratory analytical results are discussed in **Section** 5.2. Groundwater was encountered at approximately 19 feet bgs. A temporary monitoring well was completed at the GP-1 location; however, only a small amount of water was produced by this well. Consequently, only enough water was collected from GP-1 for submittal for NYS-VOCs.

Geoprobes GP-2 and GP-3 encountered primarily brown medium sand and gravel and are suspected to have been completed within the UST basin. Elevated PID readings were not encountered in GP-2 or GP-3. Soil samples from the 12 to 14 (GP-2) and 10 to 14 (GP-3) foot intervals were submitted for laboratory analysis for NYS-VOCs and NYS-SVOCs. Groundwater was encountered at approximately 12 feet bgs in both GP-2 and GP-3. A temporary monitoring well was completed at the GP-2 location for collection of a groundwater sample. This sample was also submitted for laboratory analysis for NYS-VOCs and NYS-SVOCs.

5.1.2 Former Hazardous Waste Drum Storage Area

Three probes (GP-4 through GP-6) were completed in the vicinity of the former hazardous waste drum storage area. The probes ranged in depth from 12 to 16 feet bgs.

It appeared that these borings were completed in native soil and sediment consisting of brown/olive brown silt and very fine-grained sand. Elevated PID readings were not encountered in any of the probes, with the possible exception of GP-4, 8-10', which exhibited a PID reading of 1.6 parts per million (ppm). This reading is thought to possibly be related to moisture. Soil samples from various intervals, as reported on soil boring logs in **Appendix D,** were submitted for laboratory analysis for NYS-SVOCs, VOCs, and Resource Conservation and Recovery Act (RCRA) metals. Laboratory analytical results are discussed in **Section** 5.2. Groundwater was encountered in this area at approximately 12 to 14 feet bgs. Geoprobe GP-5 was placed in an anticipated downgradient location of the former hazardous waste drum storage area. A temporary monitoring well was completed at the GP-5 location. A groundwater sample collected from GP-5 was submitted for laboratory analysis for NYS-SVOCs, VOCs, and dissolved RCRA metals.

5.13 Soil Landfarm Area

Eight probes (GP-7 through GP-14) were completed in the vicinity of the soil landfarm area. Soil borings GP-7 through GP-9 were completed to initially assess the possible presence of impacts from land farmed soil reportedly generated during spill containment UST removal operations. Upon encountering chemically odorous soils and elevated PID readings in soil boring GP-9, additional probes GP-7 through GP-14 were completed to attempt to define the extent of the field-identified impacts.

The probes ranged in depth from eight to 12 feet bgs, with the exception of GP-12 in which refusal was encountered at four feet bgs. In general, soil encountered in these probes consisted of a very fine grained sand with silt and gravel. It was difficult to discern the difference between the naturally occurring native soil and the land fanned soil, which was likely soil derived nearby. Elevated PID readings were encountered in probes GP-9 through GP-12, with the highest readings found in GP-9 (927 ppm) and GP-12 (157 ppm). Soil samples from various intervals, as reported on soil boring logs in **Appendix D,** were submitted for laboratory analysis for NYS-SVOCs, VOCs, and RCRA metals. Laboratory analytical results are discussed in **Section** 5.2. Groundwater was encountered in this area at approximately 5 to 6 feet bgs. Geoprobe GP-7 was placed in an anticipated downgradient location of the soil landfarm area. A temporary monitoring well was completed at the GP-7 location. A groundwater sample collected from GP-5 was submitted for laboratory analysis for NYS-SVOCs, VOCs, and dissolved RCRA metals. A temporary monitoring well was also constructed in the worst-case boring, GP-9; however, only a small amount of water was produced by this well. Consequently, only enough water was collected from GP-9 for submittal for VOCs.

5.2 LABORATORY ANALYTICAL RESULTS

Soil and groundwater samples were submitted to and analyzed by Philip Analytical Services in Reading, Pennsylvania (Philip). Philip is certified with the State of New York Department of Health (certification #10903). Soil and groundwater samples were analyzed for one or more of the following parameters depending upon the area of investigation: VOCs, EPA method 8260; NYS-VOCs; NYS-SVOCs; and RCRA metals. After collection of soil and groundwater samples, samples were immediately placed in an ice-chilled cooler and submitted to Philip within appropriate holding times. Laboratory reports generated by Philip, which include analytical results and methods used and the quality control data has been included as Appendix E. Soil and groundwater sample results are presented in Tables 1 & 2 in Appendix B.

5.2.1 Abandoned Diesel USTs

Soil Sample Analysis

Soil samples from GP-1 (16-18'); GP-2 (12-14'); and GP-3 (12-14') were submitted to Philip for NYS-VOCs and NYS-SVOCs. NYS-SVOCs were not detected above method detection limits in any of the probe locations. NYS-VOCs were not detected above method detection limits in the soil sample from GP-1. Low levels of petroleum related compounds from the NYS-VOCs list were detected in the soil samples from GP-2 and GP-3. Please refer to Table 1 in Appendix B for tabulated laboratory analytical results for soil.

Water Sample Analysis

As previously mentioned, a water samples from GP-1 (18-23') was submitted to Philip for analysis for NYS-VOCs only due to a low recovery volume in the temporary well. The water sample collected from GP-2 (13.3-15.8') was submitted to Phillip for analysis for NYS-VOCs and NYS-SVOCs. Low levels of petroleum related compounds from the NYS-VOCs list were detected in the water sample from GP-1 and GP-2. SVOCs were not detected in the water sample from GP-2. The groundwater analytical results are tabulated in Table 2 in Appendix B.

5.2.2 Former Hazardous Waste Drum Storage Area

Soil Sample Analysis

Soil samples from GP-4 (14-16'); GP-5 (2-4'); and GP-6 (10-12') were submitted to Philip for VOCs, NYS-SVOCs, and RCRA metals. Low levels of acetone were detected in GP-4 (14-16*), GP-5 (2-4*) and GP-6 (10-12') and 1-2-Dichloroethene was detected in the GP-4 (14-16') sample. SVOCs were not detected in either sample analyzed. Low levels of RCRA metals were detected in GP-5 (2-4'). Please refer to Table 1 in Appendix B for tabulated laboratory analytical results for soil analytical results received to date.

Water Sample Analysis

A water sample from GP-5 (11-16') was submitted to Philip for analysis for VOCs, NYS-SVOCs, and dissolved RCRA metals. SVOCs were not detected above method detection limits. Low levels of chlorinated solvents and toluene were detected in the water sample. Barium (61 ppm) and selenium (9 ppm) were the only RCRA metals detected in GP-5 above method detection limits. The groundwater analytical results are tabulated in **Table 2** in **Appendix B.**

5.2.3 Soil Landfarm Area

Soil Sample Analysis

Soil samples from GP-7 (0-2'); GP-8 (4-6*); GP-9 (2-4'); GP-10 (6-8'); GP-11 (6-8'); GP-12 (0-2'); GP-13 (6-8'); and GP-14 (4-6*) were submitted to Philip for VOCs, NYS-SVOCs, and RCRA metals. Analytical results for soil samples collected from this area indicated chlorinated solvent impacts including 48.8 ppm of tetrachloroethene detected in the 2-4' interval in GP-9.

Water Sample Analysis

A water samples from GP-7 (7-12') was submitted to Philip for analysis for VOCs, NYS-SVOCs, and dissolved RCRA metals. As previously mentioned, a water sample from GP-9 (6-11') was submitted to Philip for analysis for NYS-VOCs only, due to a low recovery volume in the temporary well. Analytical results for water samples collected from this area indicated the presence of chlorinated solvents including 1,140 ug/L of tetrachloroethene in the water sample from GP-9.

53 DISCUSSION

Please note that as of this writing, SVOC soil or groundwater results for GP-6 through GP-14 have not been received. However, based upon Liesch's knowledge of Cry steel operations and the findings to date, the SVOC results are not expected to significantly alter Liesch's conclusions and recommendations regarding the site. Notwithstanding that, the SVOC results will be provided as an addendum to this report upon reception and review by Liesch.

53.1 **Abandoned Diesel** USTs

Low levels of petroleum related compounds from the NYS-VOCs list were detected in the soil samples from GP-2 and GP-3. Low levels of petroleum related compounds from the NYS-VOCs list were detected in the water sample from GP-1 and GP-2. The levels noted were below NYDEC action levels. Based upon data collected it appears that only minor releases have been noted in this area. Based upon observations and knowledge of Crysteels operations and material handling and that the USTs were operated by Miller, the releases are not believed to be related to Crysteels operations.

53.2 **Former Hazardous** Waste **Drum Storage Area**

Low levels of acetone were detected in soil samples from GP-4 (14-16'), GP-5 (2-4*) and GP-6 (10-12') and 1-2-Dichloroethene was detected in the GP-4 (14-16') sample. SVOCs were not detected in either soil sample analyzed. Low levels of RCRA metals were detected the soil sample from GP-5 (2-4*)-

SVOCs were not detected in the water sample from the hazardous waste storage area. Low levels of chlorinated solvents and toluene were detected in the water sample. Barium (61 ppm) and selenium (9 ppm) were the only RCRA metals detected in GP-5 above method detection limits.

The analytical results indicate minor releases to soils in the area. The impacts noted in groundwater are believed to be indicative of the area wide petroleum and chlorinated solvent releases currently being investigated and remediated by the Miller Brewing Company. Based upon observations and knowledge of Crysteels operations and material handling and that the area assessed has been identified as an area of concern directly due to past Miller operations, the releases are not believed to be related to Crysteels operations.

53.3 Soil Landfarm Area

Analytical results for soil samples collected from this area indicated chlorinated solvent impacts including 48.8 ppm of tetrachloroethene detected in the 2-4' interval in GP-9. Analytical results for water samples collected from this area indicated the presence of chlorinated solvents including 1,140 ug/L of tetrachloroethene in the water sample from GP-9.

The findings indicate that this area appears to be a release source for chlorinated solvent impacts present in soils and groundwater which are currently being investigated and remediated by the Miller Brewing Company at the property.

6.0 ADDITIONAL DOCUMENT REVIEW

In addition to onsite soil and ground water testing Liesch also undertook review of additional documentation provided by Crysteel concerning past investigations on the Property and recent correspondence with the State of New York concerning liability. The following summarizes the documents reviewed:

- Letter to Mr. Terry Chesney, Crysteel Manufacturing from the New York Department of Environmental Conservation and dated July 19,1999

The letter summarized the results of a hazardous waste inspection conducted by the N YDEC on July 13, 1999. The NYDEC concluded that no violations were noted and that the facility is classified as a very small quantity generator of hazardous waste (<220 pounds per month).

- Order on Consent, Index # A7-0227-90-04, Miller Brewing Company Container Division and the New York State Department of Environmental Conservation, dated April 12,1990

  This document stipulated the activities to be undertaken by Miller including full investigation of Plume 1 and 2, development of a Remedial Investigation Report and Feasibility Study for remediation. As is usually the case with such orders, remediation system details were not identified.

- Order on Consent, Index # A7-0227-9411, Miller Brewing Company Container Division and the New York State Department of Environmental Conservation, dated November 27,1995

  This document stipulated that Miller will implement the remedial actions, including a groundwater collection system and treatment facility, selected by the NYDEC in the Record of Decision (ROD) for the site. Continued groundwater monitoring was also required. As is usually the case with such orders, system details were not identified.

- Letter from NYDEC to Mr. Alan Burstein, Scolaro, Shulman, Cohen, Lawler & Burstein, PC and dated May 18,2000

  The NYDEC affirmed that it has authority to issue liability release letters like that which was issued to Crysteel in December 1995 and that said letter would extend to successors and assigns. The letter affirms the position of the NYDEC that a successor to ownership of Crysteel should not be held liable for past releases caused by non-Crysteel operations.

7.0 SUMMARY

This Phase II subsurface investigation was designed and implemented to assess whether soils and groundwater at selected areas at Crysteel Manufacturing, Inc., Fulton, NY have been impacted by releases from past operations. The Phase II included assessment of three areas including: the area of two abandoned 70,000-gallon heating oil USTs, a former hazardous waste drum storage and cleaning area and a reported soil land farm area. It should be noted that SVOC results have not yet been received form the laboratory due to equipment failure. However, based upon Liesch's knowledge of Crysteel operations and the findings to date, the SVOC results are not expected to significantly alter Liesch's conclusions and recommendations regarding the site. Notwithstanding that, the SVOC results will be provided as an addendum to this report upon reception and review by Liesch.

The results of the investigation indicate that some impacts were noted in each of the areas assessed. Most notably, high levels of chlorinated solvents were detected in soils and groundwater from the landfarm area. Based upon observations and knowledge of Crysteels operations and material handling and that the areas assessed have all been identified as past areas of concern directly due to past Miller operations, none of the releases noted are believed related to Crysteels operations at the property. Miller Brewing Company should be notified of the releases and investigation and, as necessary, remediation of the releases identified should be undertaken by Miller. Resolution of the releases should also be considered within the overall site closure approach undertaken by Miller.

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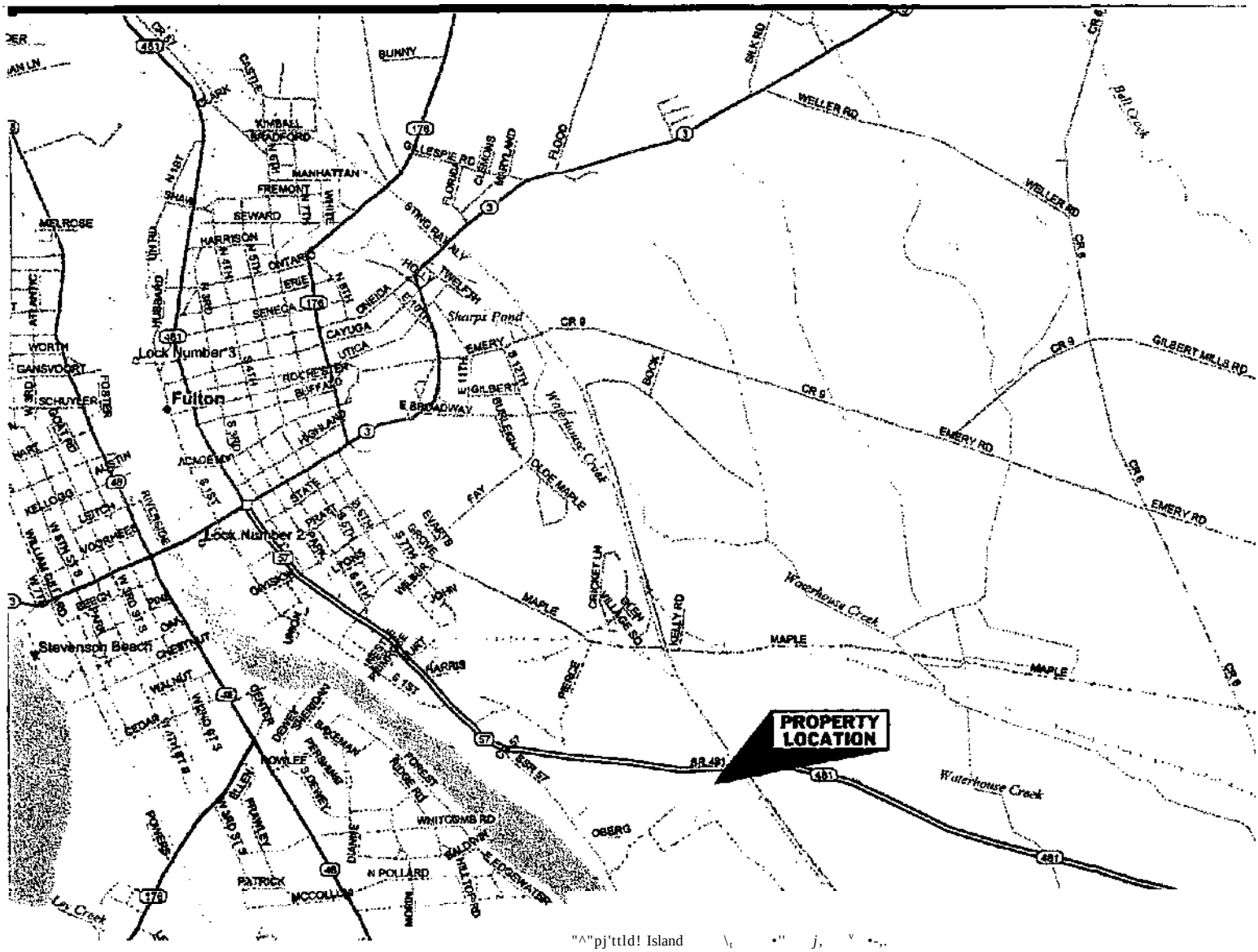

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Source: DeLorme Streets USA

Crysteel, Fulton, NY

Location Map

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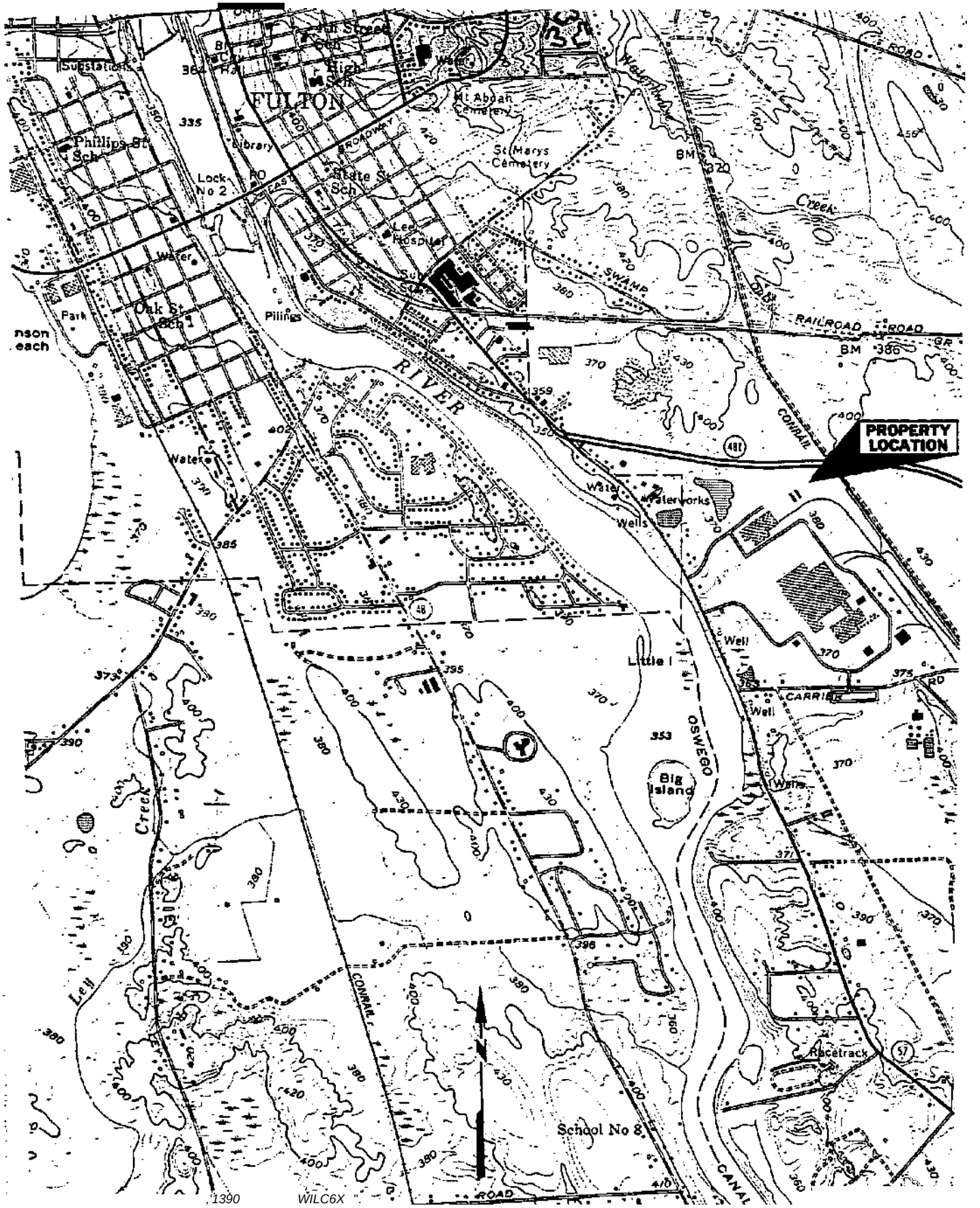
Figure 1

Hydrogeologists • Engineers • Environmental Scientists

6000 Gisbolt Dr. Suite 20] Midiion,WI 53713 (608)223-1532

13400 15* Avenue N Minneapolis, MN 55441 (763)559-1423

2700 N Central Ave, Suite 890 Phoenix, AZ 85004 (602)650-2815



Source:" USGSFultonNY'Ouadrangle

Scale: 1" = 2000'

Crysteel, Fulton, NY

Topographic Map

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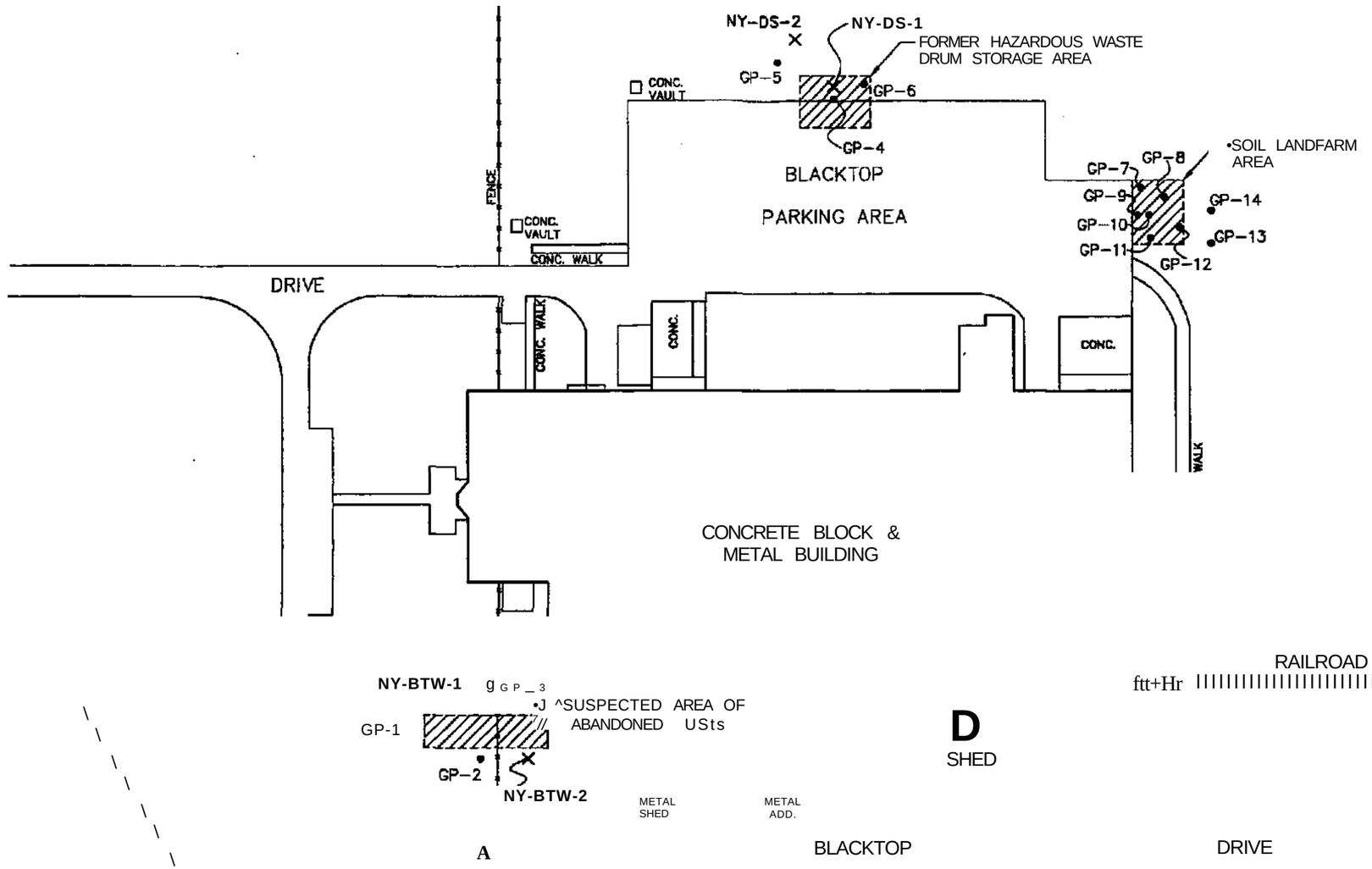
Figure 2

LIE£CH Hydrogeologists • Engineers • Enviromnenul Scientists

6000 Gisholt Dr. Suite 203 Madison, WI 53713 (608)223-1512

13400] 5* Avenue N Minneapolis MN 55441 (763)559-1423

2700 N Central Ave, Suite 890 Phoenix, AZ 35004 (602)650-2815



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Scale (feet)

LEGEND

- • LIESCH GEOPROBE BORING
- X PREVIOUS ENVIRONMENTAL SAMPLING AREA OR BORING

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CRYSTEEL, FULTON, NY

SITE PLAN/ BORING LOCATION MAP

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FIGURE 3

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TABLE I
LABORATORY ANALYTICAL RESULTS (SOIL)
CRYSTEEL- FULTON, NY

Sample ID		GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-8	GP-9	GP-10	GP-U	GP-12	GP-13	GP-14
	Depth	16-18'	12-14'	12-14'	14-16'	2-4*	10-12'	0-2'	0-2'	4-6'	2-4'	6-8'	6-8'	0-2'	6-8'	4-6'
Laboratory Analyte	**Date Collected**	5/31/00	5/31/00	5/31/00	5/31/00	5/31/00	6/1/00	6/1/00	6/1/00	6/1/00	6/1/00	6/1/00	6/1/00	6/1/00	6/1/00	6/1/00
Detected VOCs	NYDEC Action Levels															
Benzene	0.06	ND	0.0013	0.0026	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1.5	ND	0.003	ND	ND	ND	ND	ND	ND	ND	0.542	ND	ND	ND	ND	ND
Xylenes (total)	1.2	ND	0.0097	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.295	ND	ND
1,2,4-Trimethy! benzene	NA	ND	0.0023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	NA	ND	0.0014	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0305	ND	ND
Acetone	0.2	-	-	~	0.068	0.0046	0.113	ND	0.17	ND	0.078	ND	ND	0.188	ND	ND
1 -2-Dichloroethene (total)	0.3	"	–	–	0.0063	ND	ND	ND	ND	ND	0.0076	0.0102	ND	ND	ND	ND
Methylene chloride	0.1	ND	ND	ND	ND	ND	ND	0.0062	0.0061	ND	ND	ND	0.0094	0.0182	ND	0.0087
Tetrachloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.06	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0679	0.0197	ND	ND	ND	ND
Trichloroethene	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.125	0.0595	0.006	ND	ND	ND
Tetrachloroethene	1.4	ND	ND	ND	ND	ND	ND	ND	ND	0.087	48.8	0.746	0.556	0.009	ND	ND
1,1-Dichloroethane	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0105	0.0135	ND	ND	ND	ND
Carbon Disulfide	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0219	ND	ND
Detected SVOCs	NA	ND	ND	ND	ND	ND	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending
Detected RCRA Metals																
Arsenic	7.5 or SB	-	-	-	ND	2.35	2.72	2.69	2.36	2.07	3.92	1.45	1.64	2.19	2.15	4.1
Barium	300 or SB	-	–	-	ND	41.2	44.5	38	30.1	46.5	51.8	21.5	19.5	29.9	28.6	31
Chromium	10 or SB	-	-	-	ND	7.57	9.05	10.5	6.92	4.56	11.5	3.48	3.46	6.14	4.9	5.52
Lead	SB	"	–	-	ND	4.23	6.13	12.2	8.19	2.32	6.29	1.51	1.41	4.93	2.07	7.89

Notes:
AH Values are reported in Milligrams per kilogram (mg/kg).
ND = Parameters) not detected above laboratory practical reporting limit (PRL).
- = Parameter not analyzed for
SB = Site background
NYDEC Action Levels were taken from TAGM #4046, Recommended Soil Cleanup Objective
NA = not available

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RECYCLED® *IO%P.C.W.*

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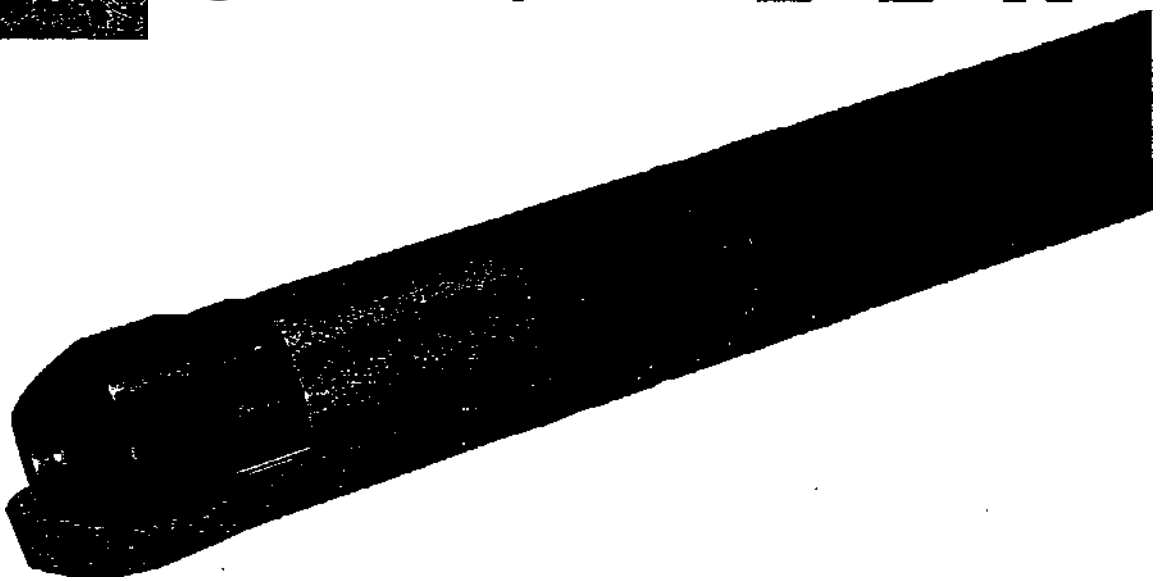
Dual Tube Soil SAMPLER



Geoprobe's efficient method of collecting continuous soil cores with the added benefit of a cased hole... the Dual Tube 21 System.

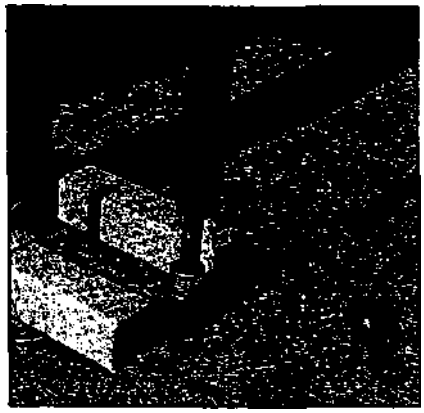
- Continuous Soil Coring
- Sample both Saturated and Unsaturated Zones
- Set Monitoring Wells
- Bottom-up Grouting Through Primary Tool String

Soil Sampling

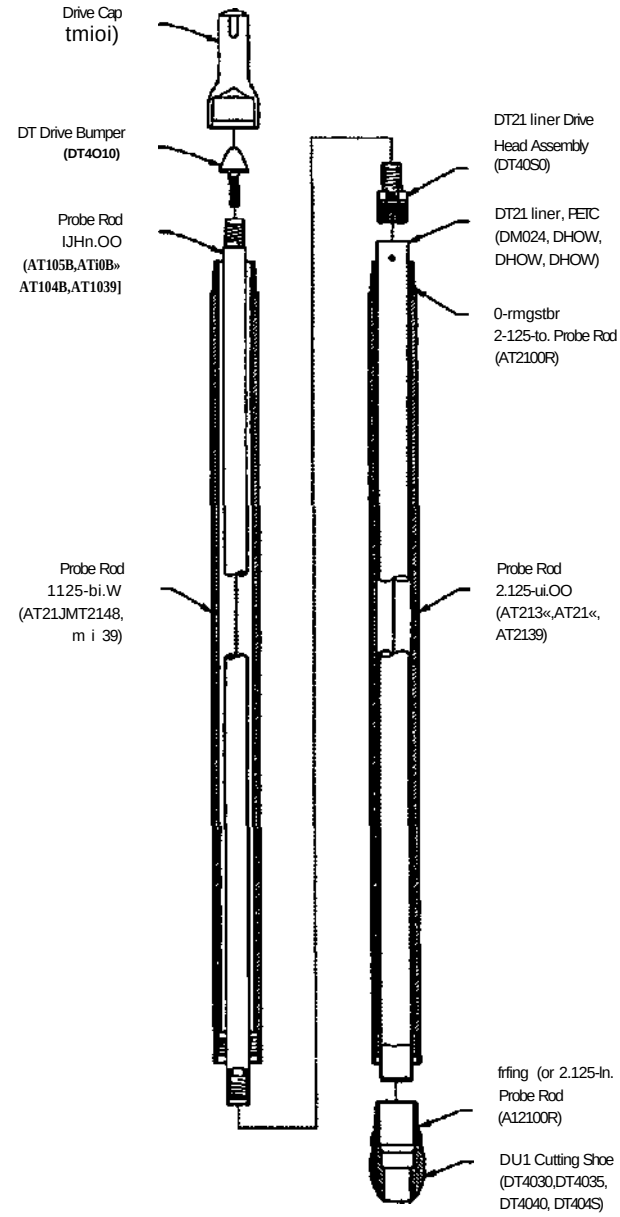
What Is Dual Tube Sampling?

The direct push method of continuous soil coring has historically involved repeatedly driving and retrieving a solid barrel sampler in and out of the same probe hole. While the use of a sealed sampler has proven to yield representative samples, a considerable time investment is required when coring depths exceeding 20 feet. Geoprobe's DT2I Dual Tube Soil Sampling System offers an efficient method of collecting continuous soil cores with die added benefit of a cased hole.

Dual tube sampling gets its name from the fact that two sets of probe rods are used to collect continuous soil cores. One set of rods is driven into the ground as an outer casing. These rods receive the driving force from the hammer and provide a sealed hole from which soil samples may be recovered without the threat of cross contamination. The second, smaller set of rods are placed inside the outer casing. The smaller rods hold a sample liner in place as the outer casing is driven one sampling interval. The small rods are then retracted to retrieve the filled liner.



When sampling with the DT21 system, the smaller OD probe rods are placed inside the outer casing and hold a sample liner in place as the outer casing is driven ooe sampling interval



Dual Tube Soil Sampler Components

Why Dual Tube Sampling?

- **Continuous coring in both saturated and unsaturated zones**
- **Cased hole eliminates cross contamination when sampling through perched water tables**
- **No special sample tube required**
- **Retrieves 1.125-in. OD soil cores**
- **Replaceable cutting shoes available**
- **Optional solid drive tip seals system for driving to top of sampling interval**
- **Perform bottom-up grouting while retracting outer casing**
- **Set monitoring wells through outer casing after collection of soil cores**

THE TOOLS FOR SITE INVESTIGATION

Gcoprnbe Systems

Sampler

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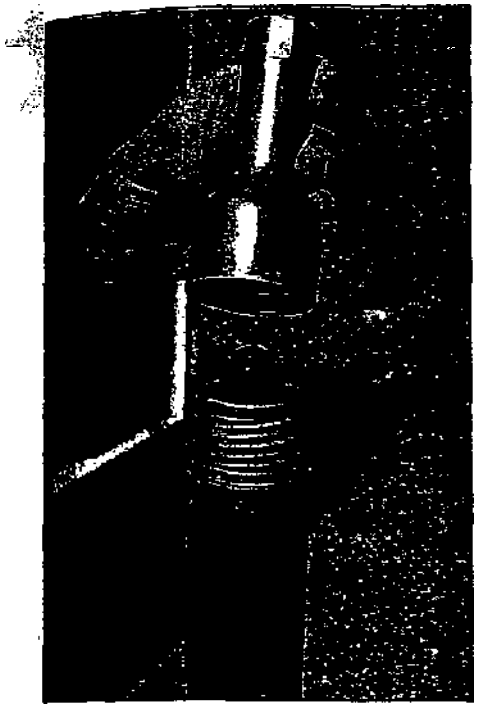
DTSS - Designed for Continuous Soil Coring

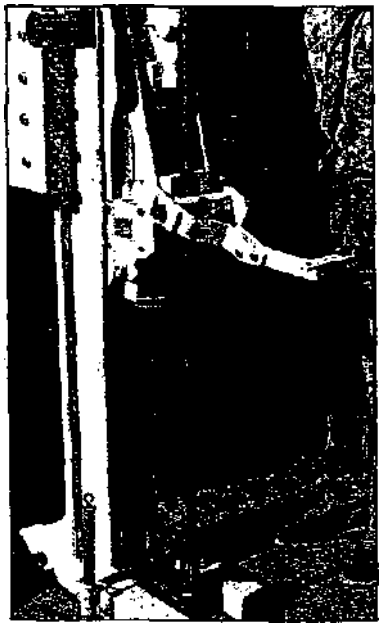
The DT21 system uses Geoprobe 2.125-in. OD probe rods as an outer casing. A cutting shoe is threaded into the leading end of the rod string. When driven into the subsurface, the cutting shoe shears a 1.125-in. OD soil core which is collected inside the casing in a clear PETG liner.

A second set of probe rods (standard Geoprobe 1.0-in. OD) are inserted into the casing with a liner attached. The 1.0-in. rods hold the liner in place while collecting the soil core, and also provide a means of retrieving the liner once the sample is collected. The 2.125-in. probe rods provide a cased hole through which to sample.

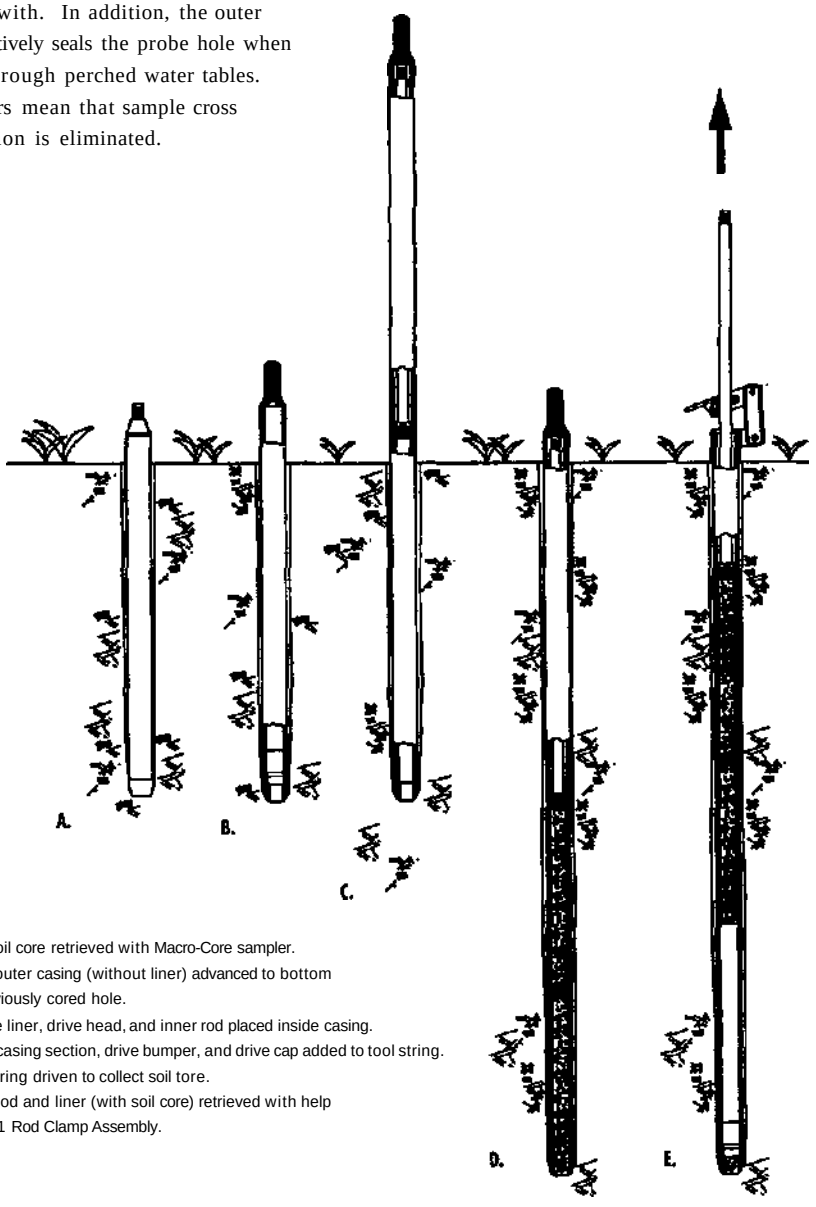
The main advantage of sampling through a cased hole is that there is no side slough to contend with. In addition, the outer casing effectively seals the probe hole when sampling through perched water tables. These factors mean that sample cross contamination is eliminated.



The 0T21 System features a drive bumper (DT4010K) which b placed on the top of the 1.0-in. probe rod. This bumper prevents the dynamic hammering forces from being transmitted to the sample finer, thus helping to preserve the bier during the sampling process.



Only the smaller diameter probe rods are retracted when retrieving the filled liner. The outer casing prevents the threat of cross contamination.



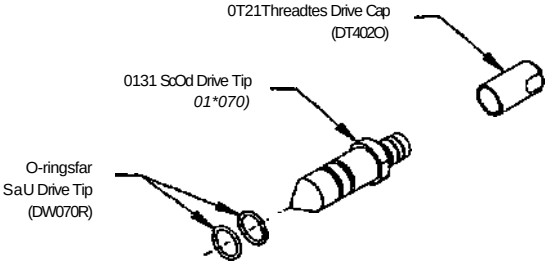
A. First soil core retrieved with Macro-Core sampler.
B. 0T21 outer casing (without liner) advanced to bottom of previously cored hole.
C Sample liner, drive head, and inner rod placed inside casing. Outer casing section, drive bumper, and drive cap added to tool string.
D. Tool string driven to collect soil tore.
E. Inner rod and liner (with soil core) retrieved with help of DT21 Rod Clamp Assembly.

Driving and Sampling with the Dual Tube Soil Sampler

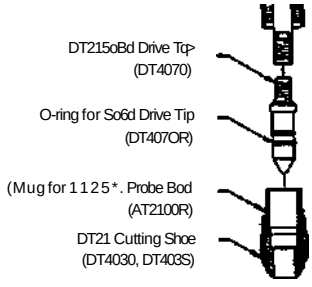
Continuous Coring with the Dual Tube Soil Sampling System

The DTSS is similar to the Macro-Core sampler in that it is capable of easily obtaining continuous soil samples. But it's also akin to the classic Large Bore discrete sampler because of its ability to drive through undisturbed soil before actually sampling. With the DTSS exclusive expendable cutting shoe, the Dual Tube Soil Sampler is also well suited for installing monitoring wells after sampling to a predetermined depth.

Since it is not always desirable to start continuous coring from the ground surface, Geoprobe's DTSS has a solid drive dp (DT4070) available which allows the operator to advance the DT21 tool string direcdy through undisturbed soil to the top of the sampling interval. The drive up is installed on die leading end of the I.O-in. probe rod string in place of the sample liner. When placed within the 2.125-in. probe rods, the drive tip fits firmly inside the cutting shoe. The solid drive rip plugs the cutting shoe and effectively seals the tool string as the outer casing is driven to depth. Once to depth, the sampler can be treated as a continous sampler by removing the 1,0-in. probe rod and solid drive point and installing a sample liner.



The use of a removable 1.0-in. solid drive tip inside the cutting shoe doses the open end of the sampler maldng it possilile to drta undisturbed soil to the top of the sampling interval.



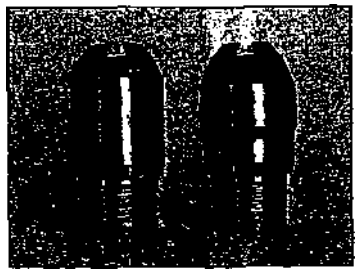
Dual Tube Soil Sampler
Solid Drive Tip Assembly

Bottom-Up Grouting

The DT21 system is the only soil sampler that allows bottom-up grouting through the primary tool string. This means that the sample hole can be sealed by pumping grout from the bottom of the tool string as the outer casing is withdrawn. All other soil samplers require driving a secondary set of tools to deliver grout to the bottom of the core hole.

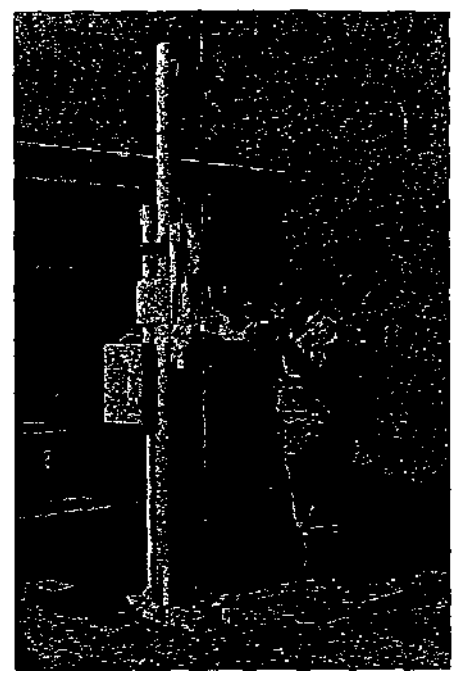
Different Probing Jobs Require Different Cutting Shoes

Held operators can select which cutting shoe to use depending on the sample process desired. The D21 Large Cutting Shoe (DT4030) and DT21 Small Cutting Shoe (DT4035) thread into the leading end of the 2.125-in. probe rods and are recovered after sampling. The Large Cutting Shoes have a 1.125-in. ID and 2.375 in. OD. The Small Cutting Shoe has an ID of 1.125 in. but the OD is only 2.205 in. To reduce side friction and make driving easier, the Large Cutting Shoe (DT4030) is oversiicd to provide a small annulus between the outer casing and soil. By contrast, the Small Cutting Shoe (DT4035) is for use in soil conditions where an annulus is undesirable.

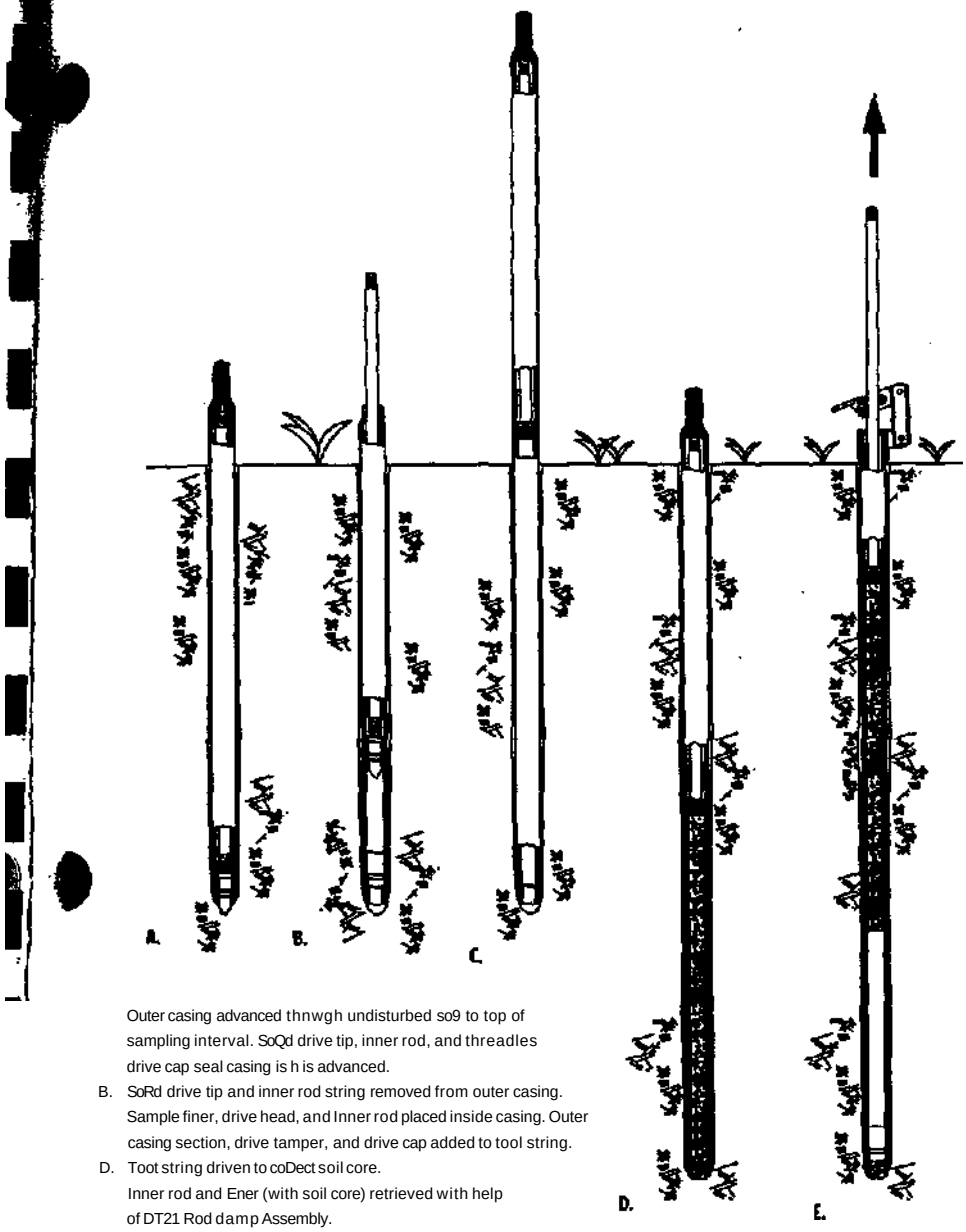


Use the DT21 Small Cutting Shoe (DT40J5, left] when probing through aquifers when an annulus is undesirable. Use the DT21 Large Cutting Shoe {DM030) when minimal side friction with the probe rod and the formation is desired.

Dual Tube Soil Sampler



To reduce "threading* time, we suggest coupling probe rods in &- to 12-foot sections as you reaver and install sample Gners. Be sure to watdi out for overhead utility Imes!



Outer casing advanced thnwgh undisturbed so9 to top of sampling interval. SoQd drive tip, inner rod, and threadles drive cap seal casing is h is advanced.

B. SoRd drive tip and inner rod string removed from outer casing. Sample finer, drive head, and Inner rod placed inside casing. Outer casing section, drive tamper, and drive cap added to tool string.

D. Toot string driven to coDect soil core. Inner rod and Ener (with soil core) retrieved with help of DT21 Rod damp Assembly.

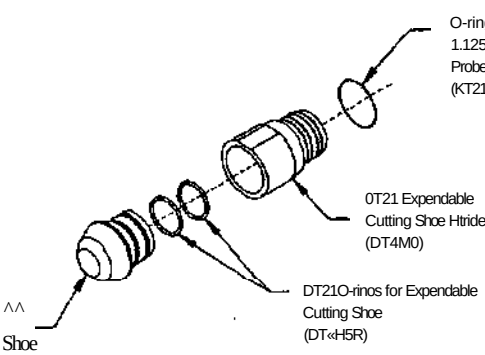
Driving and Sampling with the Dual Tube Sot) Sampler

(Solid Drive Tip Process)

II Geoprobe Systems

Monitoring Well Installation

An Expendable Cutting Shoe (DT4045) allows the field operator to install a Geoprobe Prepacked Screen Monitoring Well after soil sampling is completed. An expendable cutting shoe is inserted into an expendable cutting shoe holder (DT4040) which is threaded into the leading end of the outer casing. When the last soil sample is retrieved the outer casing is withdrawn slightly. The expendable cutting shoe pulls out of the expendable cutting shoe holder and is left in the ground. The field operator then instalk the monitoring well by placing prepacked screens with PVC risers in the 2.125-in. casing, grouting while pulling back the casing, and then developing the well.



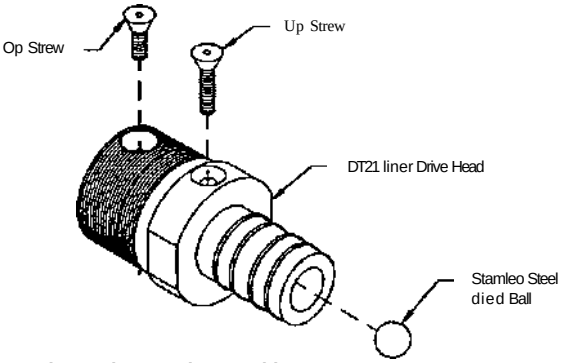
Dual Tube Soil Sampler
Expendable Cutting Shoe Assembly

Soil Sampling

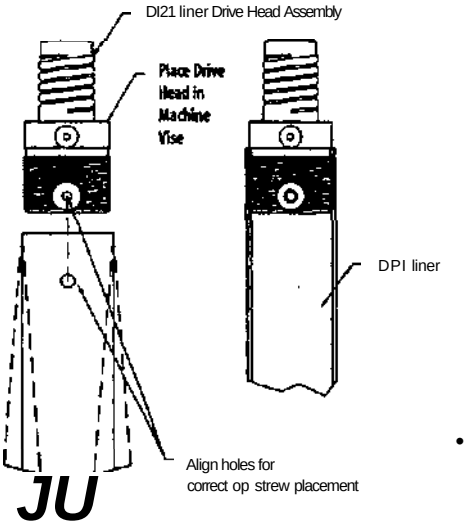
Continuous Coring in Both Saturated and Unsaturated Zones

Sampling in saturated sands has become quite a challenge with any sampling system, especially when the end of the sampler is left open. This creates the potential for formation heave into the 2.125-in. probe rods when it is not desired (i.e., when sample liners are being removed or installed). A common method for dealing with formation heave is equalizing the formaiion pressure by adding a column of water insdc the 2.125-in. casing. The head pressure created by the column of water will sometimes prevent formation heave.

The Geoprobc Dual Tube Soil Sampler has a unique feature to help deal with the presence of water inside the 2.125-in. probe rods. The liner drive head is designed with an internal check valve that is normally closed. The check valve will allow water and/or air to pass up through the liner drive head while sampling {acting like a vent), but will not allow the water to re-enter back down through the liner drive head. If water is present inside the 2.125-in. casing, it will normally create a certain amount of head pressure on the soil core. If this head pressure is great enough, it may force the soil sample out of the liner, thus decreasing the amount of recovery.



DT21 Liner Drive Head Assembly (DT4050)

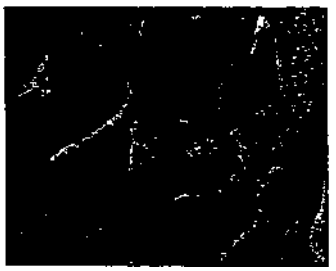


DT21 liner securely attaches to drive head with cap screw.

Sampling with the DTSS

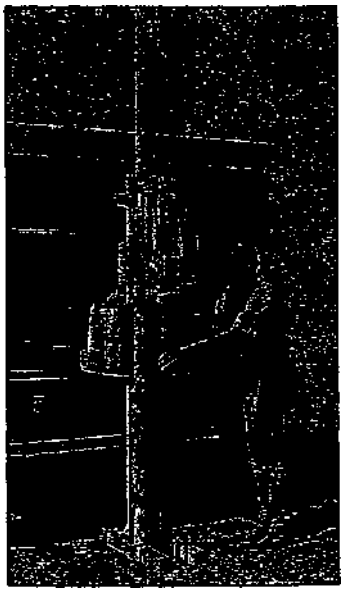
Thoroughly clean the sampler before assembly to insure correct operation and to remove contaminants. When sampling from the ground surface to 4 feet, we suggest using the Macro-Core Soil Sampler for the best sample recovery at this depth. The field operator should therefore start the following procedure with an open hole that is as deep as the first 2.125-in. probe rod (dual tube outer casing).

1. Install G-iing in groove of tutting shoe.



2. Thread cutting shoe into female end of 2.125-in. probe rod. Place rod in vise and tighten cutting shoe with MC wrench.

3. Thread drive tap onto male end of 2.125-in. probe rod.



A. Place the probe rod in driving position, parallel to the probe derrick axis.

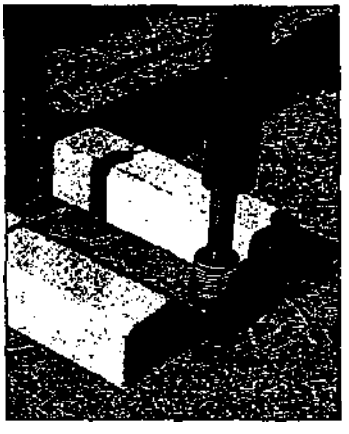
5. Advance the rod string to the bottom of the previously sampled hole. Remove the drive cap from the probe rod and install an (king at the base of the male threads.

6. Place the finer drive head assembly in a machine vise and remove the cap screw from the lower end of the drive head. Place the open end of the dear liner over the end of the drive head and align the hole in the liner with the threaded cap screw hole in the drive head.

7. After the liner is in place, replace the cap screw and tighten with a hex wrench. The liner is now securely attached to the drive head.

8. Thread the liner/drive head assembly into the female end of a 1,0 in. probe rod.

9. insert the*toDed"endofthe liner into the 1125-in. probe rod which "o now the outer casing-lower liner and probe rod until liner seats firmly within the cutting shoe,

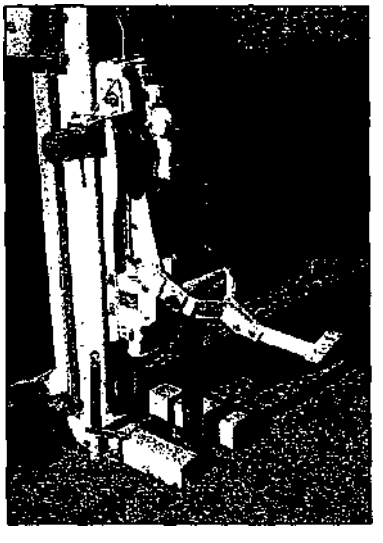


10. Place a 2.125-in. probe rod over the 1.0 in. rod and thread it onto the outer casing. Tighten outer casing with a pipe wrench.

11. Insert a drive bumper in the top of the 1.0 tn. probe rod. A portion of the drive bumper will protrude slightly from top of outer casing. Thread a drive cap onto the male end of the probe rod and tighten with a pipe wrench.

12. Drive the DTJ1 tool string one sampling interval, then remove the drive cap and bumper. Back the probe assembly away from the the tool string and thread another 1.0 in. probe rod onto the 1.0 in. rod in the outer casing. Raise the 1.0 in. rod to retrieve the filled liner.

13. Unthread the 1 *Si* m, probe rod from the finer drive head (left). The drive head remains attached to the liner (right).



1S. The outer casing of 2.US in. probe rods is easily recovered with Geoprobe's rod grip pull system.

14. Place liner drive head in machine vise (left). Remove set screw holding liner in place. Cut from top of liner to end of drive head with a utility knife. Move lower end of liner back and forth while pulling away from drive head. The liner end will split and release from the drive **head (right).**

Dual Tube System Parts and Components

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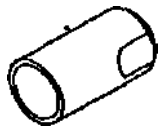
DT4010K - DT21 Drive Bumpers

DT21 Drive Bumpers
DT4010K

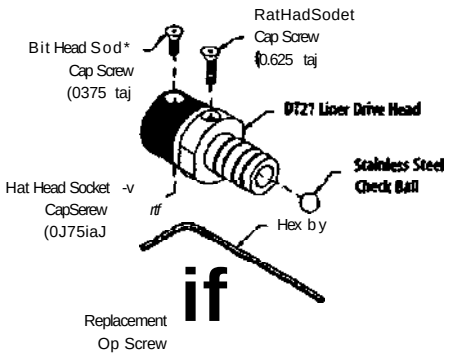
Placed on top of 1.0 in. probe rods while sampling. Absorbs shock of hammer to protect liner. Pkg. of 5.



DT4Q20 - Threadless Drive Cap

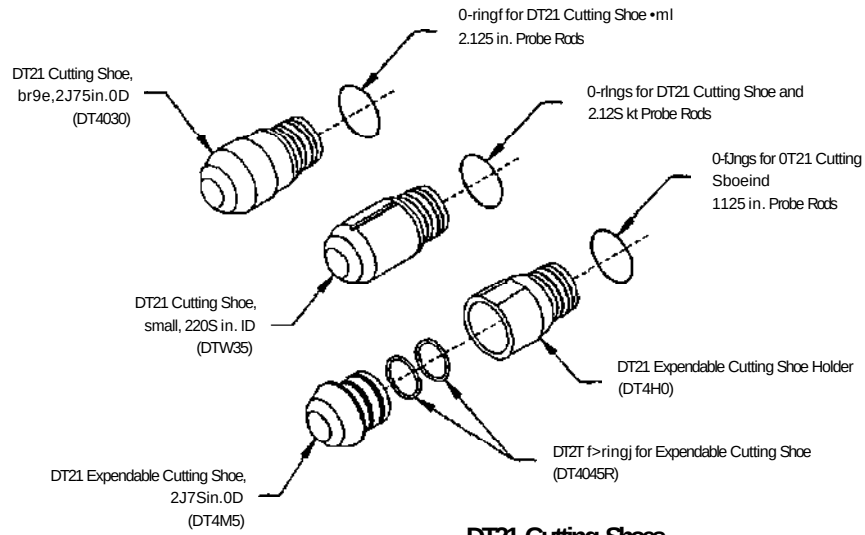
DT21 Threadless Drive Cap
ADT4020

Protects threads of top 1.0-in. probe rod while driving sampler with solid drive rip (DT4070). Threadless for quick attachment/ removal.



Dm Liner Drive Head Assembly
DT4050

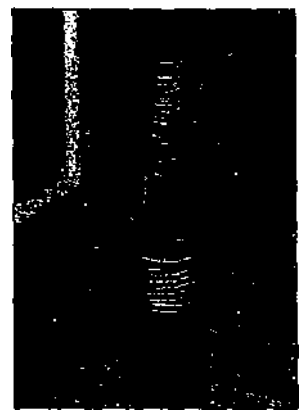
For 1.0 in. probe rods. Assembly includes 1 drive head, 5 screws, 1 check ball, and 1 hex wrench.



DT21 Cutting Shoes

DT Cutting Shoes
DT4030... Large, 2.375 in. OD
DT4035... Small, 2.205 in. OD
DT4045... Expendable, 2375 in. OD

Geoprobe brand alloy steel. Cutting shoes attach to leading end of outer casing. Shear a 1.125-in. OD core when sampler is driven.



DI21 Uner Drive Head (DT4050) attaches to the liner and is held securely In place.

DT21 Rebuild Kit for Uner Drive Head
DT4051

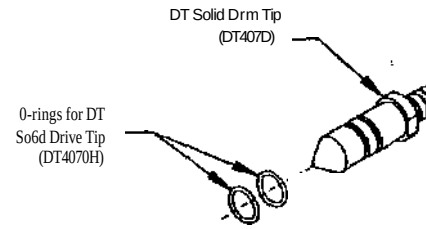
For 1.0 in. probe rods. Kit includes 4 flat head socket cap screws (0.375 in.), 1 stainless steel check ball, 3 flat head socket cap screws (0.625 in.), and 1 hex key (0.09375 in.).

0-rings for Expendable Cutting Shoe
DT4045R

O-rings fit groove on expendable cutting shoe (DT4045). Not required for DT4030 or DT4035 cutting shoes. Pkg. of 50.

DT21 Expendable Cutting Shoe Holder
DT4040

Threads into leading end of outer casing, Holds expendable cutting shoe in place as sampler is driven to depth.



DT21 Solid Drive Tip
DT4070

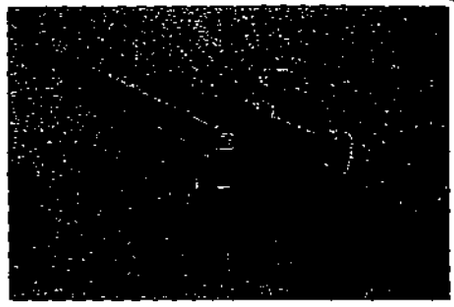
For 1,0 in. probe rods. Fits inside cutting shoes to seal sampler as it is driven through undisturbed soil to top of sampling interval-

DT210-rings for Solid Drive Tip
DT4070R

O-rings for Solid Drive Tip. Pkg. of 25.

DT21 Rod Clamp Assembly
DT4060

The inner (1.0 in.) probe rod string can get heavy and hard to hold by hand when sampling past 15 or 20 feet (4,5 to 6 m). Use Geoprobe's Rod Grip Pull System (GH3000K) to raise and lower the rods, and a DT21 Rod Clamp Assembly to hold them in place while removing or adding rods to the string. Probe rods not included!



DT4060 -.. DTZ1 Rod damp Assembly

The DT21 Rod Clamp Assembly slides over the 1.0 in. rods and rests on top of the outer casing (upper left). The 1.0 in. rods slide through the rod clamp when raised (left), but are held in place when released. This ensures that the rods do not fall downhole when adding or removing rods from the tool string.

DT Liners, PETG, 24 in. » in., 48 in.

Dm Liners
DT4024K... 24 in. length
DT4036K... 36 in. length
DT4039K... 1m. length
DT4048... 48 in. length

All liners made of PETG. 1375 in. OD. Box of 50. Cap screw hole in one end to attach to liner drive head assembly. Opposite *enA* is rolled to increase structural integrity of liner and help keep sample in liner during retrieval. 36-in. liners are used with 36-in. probe rods, 48-in. liners are used with 48-in. probe rods, 1-m. liners are used with 1-m. probe rods. 24-in. liners are used with 48-in. probe rods but also require a 24-in. probe tod and are used for hard to sample materials such as expanding clays and heaving sands. Refer to page 5-16 for a composition description of PETG.

Dm Vinyl End Caps
DT4026

Box of 50 pair: 50 black and 50 red.

Do You Need

Technical Support?

Damn Stanley fa just one of our fleet of Technical Service Representatives ready to assist you with any probing problems or questions you may have. His first priority is to answer your questions, offer probing or tooling suggestions, and assist you In selecting the right tool for the job. As part of the Tech Services Team in Salina, Darren will be taking your tools orders and making sure your Geoprabe machine is equipped with the best possible probing tools. If he's not here to answer the phone, he's probably out hunting or fishing!

Liesch Associates, Inc.

Project:	Crysteel - Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	5/31/00
Date Finished:	5/31/00
E.O.B. (ft.)	24'
Borehole Number:	GP-1
Location	West of abandoned diesel tanks, nea• southwest corner or building
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
-	0-2* Reddish brown silt		0.0	dry		
-	24' Reddish brown sandy silt		0.0	dry		
-5	4-6' No recovery		—	—		
-	6-8' Reddish brown silty sand		0.0	dry		
-10	8-10'No recovery		—	–		
-	10-12'No recovery		–	—		
	12-14'Grayish brown silt		0.0	dry		Slight mottling
"-15	14-16' Reddish brown silt		0.0	moist		
-	16-18' Brown silt		0.0	moist to wet	Stars VOCs &SVOCs	Mottled
-20	18-20'Brown silt		0.0	wet		Mottled - not expected to produce water
	20-22' Brown sandy silt		0.0	wet to saturated		
'-25	22-24' Brown sandy silt grading to clayey silt at bottom		0.0	saturated, drying up at bottom		

NOTES: Set 1" PVC screen at 18-23' for GW sam pie colle :tion. Groundwater level in well recovered very slowly; as a result, only VOCs were collected for analysis.

Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	5/31/00
Date Finished:	5/31/00
E.O.B. (ft.)	16'
Borehole Number:	GP-2
Location	South of expected UST location
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
-	0-2' Reddish brown silty sand		0.0	dry		Grass & other organics
-	2-4' Reddish brown silty sand w/ some gravel		0.0	moist		
-5	4-6' Brown medium-grained sand		0.0	dry		
-	6-8' Brown medium-grained sand		0.0	dry		
-	8-10' Brown medium-grained sand		0.0	moist		
-10	10-12'No recovery		—	—		
-	12-14' Brown coarse sand to fine gravel		0.0	saturated	Stars VOCs&SVOCs	
-	14-16' Brown coarse sand to fine gravel		0.0	saturated		
-15						
-						
-20						
-25						

NOTES

Set 1" PVC screen at 13.3'-15.8' for groundwater sample collection.

Probe location is suspected to be within former UST basin.

Liesch Associates, Inc.

1 Project:	Crysteel-Fulton, NY
B Drilling Contractor:	Maxim
Logged By:	Dan Larson
• Date Start:	5/31/00
B Date Finished:	5/31/00
m E.O.B. (ft.)	16'
1 Borehole Number:	GP-3
Location	North of UST basin, near bldg
• Drilling Equipment:	Truck-mounted geoprobe
• Driller:	Al Kimball
^ Surface Elevation:	

Depth (Ft.]_	Description of Material	uses	PID	Moisture Content	Samples	Notes
• -	0-4' Brown silty sand		0.0	dry		
1 - 5	4-6' Brown sandy silt		_	—		
-	6-8[1] No recovery		—	—		Rock in end of sampler
. - 1 0	8-12' Brown medium-grained sand		0.0	dry, wet at bottom		
• -	10-14' Brown medium gravel reddish brown silt at bottom		0.0	saturated	Stars VOCs&SVOCs	
-15	14-16' Reddish brown silt		0.0	saturated		
-20						
' - 2 5						

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Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	5/31/00
Date Finished:	5/31/00
•E.O.B. (ft.)	16'
Borehole Number:	*GP-A*
Location	Former Haz. Waste Drum Storage Area (middle)
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Contenl	Samples	Notes
-	0-2' Brown/dark brown silt		0.0	dry		Some topsoil/organics
-	2-4' Brown sandy silt with 4"		0.0	dry/saturated		
-	layer of saturated gravel at 3'					
-5	4-6' Olive brown/brown silt		0.0	dry		
-	6-8' Olive brown/brown silt		0.0	moist		
–	8-10' Olive brown/brown silt		1.6	moist		
-10						
-	10-12' Olive brown/brown silt		0.0	moist		
-	12-14' Olive brown/brown silt		0.0	moist		
-15	14-16' Olive brown very fine-		0.0	saturated	RCRA metals	
	grained silty sand				Stars VOCs&SVOCs	
-						
-20						
-25						

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Liesch Associates, Inc.

Project:	Crysteel - Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	5/31/00
Date Finished:	5/31/00
E.O.B. (ft.)	16'
Borehole Number:	GP-5
Location	Former Haz. Waste Drum Storage Area, west of GP-4
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
	0-2' Brown silt w/organics		0.0	dry		
	2-4' Brown/olive brown silt		0.0	moist	RCRA metals Stars VOCs&SVOCs	
- 5	4-6' Olive brown silt		0.0	dry		
J-	6-8' Olive brown silt		0.0	dry		
	8-10' Olive brown silt		0.0	dry		
J-10						
-	10-12' Olive brown silt grading to brown very fine-grained sand		0.0	moist		
1"	12-14' Brown very fine-grained sand w/trace silt & gravel		0.0	wet		
1-15	14-16' Brown very fine-grained sand w/trace silt & gravel		0.0	saturated		
T						
H-20						
-25						

1" PVC screen site at 11-16' for groundwater sample collection

NOTES

Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor;	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B. (ft.)	12'
Borehole Number:	GP-6
Location	Former Haz. Waste Drum Storage Area, E-NE of GP-4
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
-	0-2' Brown silt w/organics		0.0	dry		
-	2-4' Olive brown sift		0.0	dry		
-5	4-6' Brown silt		0.0	dry		
-	6-8' Brown silt		0.0	dry		
-	8-10'Brown silt		0.0	moist		
-10						
-	10-12' Brown silt grading to		0.0	saturated	Stars SVOCs&VOCs	
-	very fine-grained sand				RCRA metals	
-15						
-20						
-25						

NOTES

Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B. (ft.)	12'
Borehole Number:	GP-7
Location	Soil Land Farm Area, Comer of Parking Lot
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Confer	Samples	Notes
1	0-2' Brown silt w/organics		0.0	dry	Stars VOCs&SVOCs RCRA metals	
B-	2-4' Reddish brown sandy, gravelly silt		0.0	moist		
J- 1-5	4-6' Reddish brown very fine-grained, gravelly, silty sand		0.0	moist to wet		
1"	6-8' Reddish brown very fine-grained, gravelly, silty sand		0.0	saturated		
I]-	8-10' Reddish brown very fine-grained, gravelly, silty sand		0.0	saturated		
| - 1 0	10-12* Reddish brown very fine-grained, gravelly, silty sand		0.0	saturated		
H _						
-15						
-20						
• - 2 5						

Set 1" PVC screen at 7'-12' for groundwater sample collection

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Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B. (ft.)	8'
Borehole Number:	GP-8
Location	Soil Land Farm Area
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
	0-2' Brown very fine-grained silty gravelly sand		0.0	dry	Stars SVOCs, RCRA metals, VOCs	2 Layers of clear poly at -1.5'
	2-4' Brown very fine-grained silty gravelly sand		0.0	dry		
5	4-6' Brown very fine-grained silty gravelly sand		0.0	saturated		
	6-8' Brown very fine-grained silty gravelly sand		0.0	saturated		
-10						
-15						
-20						
-25						

NOTES

Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B. (ft.)	8'
Borehole Number:	GP-9
Location	Soil Land Farm Area
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
	0-2' Brown very fine-grained silty gravelly sand		0.0	dry	Stars SVOCs, RCRA metals, VOCs	
	2-4' Brown silt		927.0	dry		
5	4-6' No recovery		—			
	6-8' Brown very fine-grained gravelly silty sand		98.5	saturated		
10	8-12' Brown very fine-grained gravelly silty sand		0.0	saturated		
15						
20						
25						

Set PVC screen at 6-11' for groundwater sample collection - dry.

Moved 9" to south and retried. Collected 8-12' sample and set PVC screen at 6-11'.

Groundwater level in well recovered very slowly; as a result, only VOCs were collected for analysis.

Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B. (ft.)	8'
Borehole Number:	GP-10
Location	Soil Land Farm Area, SW of GP-9
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
	0-2' Brown fine-grained gravelly sand		0.0	dry		
	2-4' Brown fine-grained gravelly sand		0.0	dry - moist to wet at bottom		
-5	4-6' Brown very fine-grained silty gravelly sand		4.1	wet to saturated		
	6-8' Brown very fine-grained silty gravelly sand		18.1	saturated	Stars SVOCs, RCRA metals, VOCs	
-10						
-15						
-20						
-25						

NOTES

Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B. (ft.)	8*
Borehole Number:	GP-11
Location	Soil Land Farm Area, Southeast of GP-9
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
	0-2' Brown very fine-grained silty sand		0.0	dry		
	2-4' Brown very fine-grained silty sand		0.0	dry - moist at bottom		
-5	4-6' Brown very fine-grained silty gravelly sand		0.0	saturated		
	6-8' Brown very fine-grained silty gravelly sand		5.9	saturated	Stars SVOCs, RCRA metals, VOCs	

NOTES

Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B.(ft)	4'
Borehole Number:	GP-12
Location	Soil Land Farm Area, Northeast of GP-9
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
	0-2' Brown silty gravelly very fine-grained sand		157.1	dry	Stars SVOCs, RCRA metals, VOCs	Chemical odor
	2-4' Brown silty gravelly very fine-grained sand		50.3	dry		Chemical odor
	4-6* Obstruction/refusal at 4'					
-15						
-20						
-25						

NOTES

Liesch Associates, Inc.

Project:	Crysteel-Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B. (ft.)	4*
Borehole Number:	GP-13
Location	Soil Land Farm Area, East of GP-12
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Content	Samples	Notes
	0-2' Brown silt w/organics		0.0	dry		
	2-4' Brown silt		0.0	dry		
-5	4-6' Brown very fine-grained gravelly sand w/trace silt		0.0	moist		
	6-8' Brown very fine-grained gravelly sand w/trace silt		0.0	moist	Stars SVOCs, RCRA metals, VOCs	
-10	8-12' No recovery		...	"		Rock in end of sampler
-15						
-20						
-25						

Notes

Liesch Associates, Inc.

Project:	Crysteel- Fulton, NY
Drilling Contractor:	Maxim
Logged By:	Dan Larson
Date Start:	6/1/00
Date Finished:	6/1/00
E.O.B. (ft.)	4'
Borehole Number:	GP-14
Location	Soil Land Farm Area, N NE of GP-12
Drilling Equipment:	Truck-mounted geoprobe
Driller:	Al Kimball
Surface Elevation:	

Depth (Ft.)	Description of Material	uses	PID	Moisture Conten	Samples	Notes
-	0-2' Brown very fine-grained		0.0	dry		
-	silty sand w/organics					
-	2-4' Brown very fine-grained		0.0	moist		
-	silty grained sand					
-5	4-6' Brown very fine-grained		0.0	saturated	Stars SVOCs, VOCs,	
-	silty sand				RCRA metals	
-	6-8' Brown very fine-grained		0.0	saturated		
-	silty sand					
-10						
-15						
-20						
-25						

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PHILIP
ANALYTICAL SERVICES

SHDUSTRIAL HYGIENE ENVIRONMENTAL TESTING

•EPA/NVL.AP ',01262-0 - NY 0OH 10903 • NJ DEP 77678
• AIHA ACCREDITATION NO. 100439 • PA DEB 06-353

June 13, 2000

Dan Larson
Liesch Associates
13400 15th Avenue North
Minneapolis MN 55441

Laboratory Project: 193608
Client Reference: NY Stars List
VOC, SVOC, Metals, etc.

Dear Mr. Larson:

The samples which were logged in on 01-JUN-00 have been analyzed as requested. The analytical results are enclosed in the attached report.

Please note that any unused portion of the samples will be disposed after 06-JUL-00, unless you have requested omerwise.

Thank you for the opportunity to provide these services to you. If you have any questions concerning this report, please contact a Client Services representative at 610/921-8833.

Sincerely,

Fred W. Usbeck, CIH
Manager IH Services

PHILIP ANALYTICAL SERVICES

INDUSTRIAL HYGIENE ENVIRONMENTAL TESTING

'EPA/NVLAP 101262-0 NY DOH 1 0903 NJ DEP 77678
•AIHA ACCREDITATION NO. 10C439 PA DER 06-353

ANALYTICAL REPORT

Client: Liesch Associates

Project: 193608
Received: 01-JUN-00
Reported: 13-JUN-00

\Report to: Dan Larson
Liesch Associates
13400 15th Avenue North
Minneapolis MN 55441

•Project Description: NY Stars List
VOC, SVOC, Metals, etc.

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
GP-1 16-18'						
Lab Sample: 1405558						
sampled: 31-MAY-00 11:00						
Moisture	19.3		%	2540G	02-JUN-00	KKS
NY STARS LIST				802 IB	06-JUN-00	DLK
Benzene	< 1.0	< 1 2	ug/kg			
Ethylbenzene	< 1.0	< 1 2	ug/kg			
Toluene	< 1.0	< 1 2	ug/kg			
o-Xylene	< 1.0	< 1 2	ug/kg			
m & p-Xylenes	< 2.0	< 2 5	ug/kg			
Xylenes	< 2.0	< 2 5	ug/kg			
Isopropytbenzene (Cumene)	< 1.0	< 1 2	ug/kg			
n-Propylbenzene	< 1.0	< 1 2	ug/kg			
p-Isopropyltoluene	< 1.0	< 1 2	ug/kg			
1,2,4-Trimethylbenzene	< 1.0	< 1 2	ug/kg			
1,3,5-Tri methyl benzene	< 2.0	< 2 5	ug/kg			
n-Butylbenzene	< 1.0	< 1 2	ug/kg			
sec - B uty lbenzene	< 1.0	< 1 2	ug/kg			
Naphthalene	< 1.0	< 1 2	ug/kg			
Methyl tertiary-butyl ether	< 10	< 12	ug/kg			
Acenaphthene	< 330	< 410	ug/kg	8270C	05-JUN-00	TDW
Anthracene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Benzo (a) anthracene	< 330	< 410	ug/kg	8270C	05-JUN-00	TDW
Benzofbjfluoranthene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Benzo(k)fluoranthene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Benzo (g ,h,i)perylene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Benzo(a)pyrene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Chrysene	< 330	< 409	ug/kg	8270C	05-JUN-OO	TDW
Dibenzo(a,h)anrhracene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Fluorantnene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Fluorene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Indeno(l,2,3-cd)pyrene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW
Phenanthrene	< 330	< 410	ug/kg	8270C	05-JUN-OO	TDW

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INDUSTRIAL HYGIENE ENVIRONMENTAL TESTtNG

•EPA/NVLAP 101262-0 • NY DOH 10903 NJDEP 77678
'AIHA ACCREDITATION NO. 100439 • PA DER 06-353

Client: Liesch Associates
Project: 193608

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
GP-1 16-18'						
Lab Sample: 1405558 -continued						
Pyrene	< 330	< 410	ug/kg	8270C	05-JUN-00	TDW
GP-2 12-14'						
Lab Sample: 1405559						
sampled: 31-MAY-00 12:00						
Moisture	14 3		%	2540G	02-JUN-OO	KKS
NY STARS LIST				8021B	06-JUN-OO	DLK
Benzene	1 1	1.3	ug/kg			
Ethylbenzene	< 1 0	< 1.2	ug/kg			
Toluene	2 6	3.0	ug/kg			
o-Xylene	2 7	3.2	ug/kg			
m & p-Xylenes	5 6	6.5	ug/kg			
Xylenes	8 3	9.7	ug/kg			
Isopropylbenzene (Cumone)	< 1 0	< 1.2	ug/kg			
n-Propylbenzene						
p-lsopropyltoluene	< 1 0	< 1.2	ug/kg			
1,2,4-Trimethytbenzene	2 0	2.3	ug/kg			
1,3,5-Trimethylbenzene	< 2 0	< 2.3	ug/kg			
n-Butylbenzene	< 1 0	< 1.2	ug/kg			
sec-Butylbenzene	1 2	1.4	ug/kg			
Naphthalene	< 1 0	< 1.2	ug/kg			
Methyl tertiary-butyl ether	< 10	< 12	ug/kg			
Acenaphthene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Anthracene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Benzo(a)anthracene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Benzo(b)f1uoranthene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Benzo(k)fluoranthene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Benzo(g,h,i)perylene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Benzo(a)pyrene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Chrysene	< 330	< 385	ug/kg	8270C	06-JUN-OO	TDW
Dibenzo(a,h)anthracene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Fluoranthene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Fluorene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Indenod ,2,3-cd)pyrene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Phenanthrene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Pyrene	< 330	< 390	ug/kg	8270C	06-JUN-OO	TDW
GP-3 12-14'						
Lab Sample: 1405560						
sampled: 31-MAY-00 12:30						
Moisture	15.0		%	2540G	02-JUN-OO	KKS

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INDUSTRIAL HYGIENE ENVIRONMENTAL TESTING

•EPA'NVLAP 101262-0 • NY DOH 10903 NJDEP 77678
AIMA ACCREDITATION NO. 100439 * PA DER 06-353

Client: Liesch Associates
Project: 193608

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
GP-3 12-14'						
Lab Sample: 1405560 -continued						
NY STARS LIST				8021B	06-JUN-00	DLK
Benzene		26	ug/kg			
Ethylbenzene		< 12	ug/kg			
Toluene		< 12	ug/kg			
o-Xylene		< 12	ug/kg			
m & p-Xylenes		< 24	ug/kg			
Xylenes		< 24	ug/kg			
Isopropytbenzene (Cumene)		< 12	ug/kg			
n-Propylbenzene						
p-Isopropyltoluene	< 10	< 12	ug/kg			
1,2,4-Trim ethyl benzene	< 10	< 12	ug/kg			
1,3,5-Trimethylbenzene	< 2	< 24	ug/kg			
n-Butylbenzene	< 1.	< 12	ug/kg			
sec-Bury lbenzene	1.	20	ug/kg			
Naphthalene	< 1.	< 12	ug/kg			
Methyl tertiary-butyl ether	< 10	< 12	ug/kg			
Acenaphthene	330	< 390	ug/kg	8270C	06-JUN-00	TDW
Anthracene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Benzo(a)anthracene	330	< 390	ug/kg	8270C	06-JUN-00	TDW
Benzojbjfluoranthene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Benzo(k)fluoranthene	330	< 390	ug/kg	8270C	06-JUN-00	TDW
Benzo(g,h,i)perylene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Benzolajpyrene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Chrysene	330	< 388	ug/kg	8270C	06-JUN-OO	TDW
Dibenzo(a,h)anthracene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Fluorantnene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Fluorene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
IndenoO,2,3-cd)pyrene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Phenanthrene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Pyrene	330	< 390	ug/kg	8270C	06-JUN-OO	TDW
Trip Blank						
Lab Sample: 1405561						
sampled: 26-MAY-OO 09:00 by: @ lab						
TCL VOLATILES				8260B	02-JUN-00	WLB
Chloromethane	< 10		ug/l			
Bromomethane	< 10		ug/l			
Vinyl chloride	< io		ug/l			
Chloroethane	< io		ug/l			
Methylene chloride	< 5		ug/l			
Acetone	< 25		ug/l			
Carbon disulfide	< 5		ug/l			
1,1-Dichloroethene	< 5		ug/i			
1,1-Dichloroethane	< 5		ug/l			

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INDUSTRIAL HYGIENE ENVIRONMENTAL TESTING

K333&iQSlSi^Sjl50S^
Bg^ra*ffKT<n^-gagwwyr?K,"JT'^:y;'-';8

•EPA/NVLAP 101262-0 • NY DOM 10903 • NJ DEP 77678
"AIHA ACCREDITATION Kir> '•nnA'ko

Client: Liesch Associates
Project: 193608

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
Trip Blank						
Lab Sample: 1405561 - continued						
1,2-Dichloroethene (total)	< 5.0		ug/l			
Chloroform	< 5.0		ug/l			
1,2-Dichloroethane	< 5.0		ug/l			
2-Butanone	< 25		ug/l			
1,1,1-Trlchloroethane	< 5.0		ug/l			
Carbon tetrachloride	< 5.0		ug/l			
Bromodichloromethane	< 5.0		ug/l			
1,2-Dlchloropropane	< 5.0		ug/l			
cis-1,3-Dichloropropene	< 5.0		ug/l			
Trlchloroethene	< 5.0		ug/l			
Dlbromochloromethane	< 5.0		ug/l			
1,1,2-Trichloroethane	< 5.0		ug/l			
Benzene	< 5.0		ug/l			
trans-1,3-Dichloropropene	< 5.0		ug/l			
Bromoform	< 5.0		ug/l			
4-Methyl-2-pentanone	< 25		ug/l			
2-Hexanone	< 25		ug/l			
Tetrachloroethene	< 5.0		ug/l			
1,1,2,2-Tetrachloroethane	< 5.0		ug/l			
Toluene	< 5.0		ug/l			
Chlorobenzene	< 5.0		ug/l			
Ethylbenzene	< 5.0		ug/l			
Styrene	< 5.0		ug/l			
Xylenes (total)	< 15		ug/l			
NY STARS UST				6021B	06-JUN-00	DLK
Benzene	< 1.0		ug/l			
Ethylbenzene	< 1.0		ug/l			
Toluene	< 1.0		ug/l			
o-Xylene	< 1.0		ug/l			
m & p-Xylenes	< 2.0		ug/l			
Xylenes	< 2.0		ug/l			
Isopropylbenzene (Cumene)	< 1.0		ug/l			
n-Propylbenzene	< 1.0		ug/l			
p-Isopropyltoluene	< 1.0		ug/l			
1,2,4-Trimethylbenzene	< 1.0		ug/l			
1,3,5-Trimethylbenzene	< 2.0		ug/l			
n-Butylbenzene	< 1.0		ug/l			
sec-Butylbenzene	< 1.0		ug/l			
Naphthalene	< 1.0		ug/l			
Methyl tertiary-butyl ether	< 10		ug/l			

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INDUSTRIAL HYGIENE ENVIRONMENTAL TESTING

•EPA/NVLAP 101262-0 - NY DOH 10903 • NJ DEP 77678
'AIHA ACCREDITATION NO 10D439 " PA DER 06-353

Client: Liesch Associates
Project: 193608

GP-4 14-16'
Lab Sample: 1405562
sampled: 31-MAY-00 15:30

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
Moisture	19.0		%	2540G	02-JUN-OO	KKS
Acenaphthene	< 330	< 410	ug/kg	8270C	06-JUN-OO	TDW
Anthracene	< 330	< 410	ug/kg	8270C	06-JUN-OO	TDW
Benzo(a)anthracene	< 330	< 410	ug/kg	8270C	06-JUN-00	TDW
Benzo(b)fluoranthene	< 330	< 410	ug/kg	8270C	06-JUN-00	TDW
Benzo(k)fluoranthene	< 330	< 410	ug/kg	8270C	06-JUN-00	TDW
Benzo(g,h,l)pery!ene	< 330	< 410	ug/kg	8270C	06-JUN-00	TDW
Benzo(a)pyrene	< 330	< 410	ug/kg	8270C	06-JUN-OO	TDW
Chrysene	< 330	< 410	ug/kg	8270C	06-JUN-OO	TDW
Dibenzo(a,h)anthracene	< 330	< 410	ug/kg	8270C	06-JUN-OO	TDW
Fluoranthene	< 330	< 410	ug/kg	8270C	06-JUN-OO	TDW
Fluorene	< 330	< 410	ug/kg	8270C	06-JUN-OO	TDW
IndenoO ,2,3-cd)pyrene	< 330	< 410	ug/kg	8270C	06-JUN-OO	TDW
Phenanthrene	< 330	< 407	ug/kg	8270C	06-JUN-OO	TDW
Pyrene	< 330	< 407	ug/kg	8270C	06-JUN-OO	TDW
TCL VOLATILES				8260B	02-JUN-OO	WLB
Chloromethane	< 10	< 12	ug/kg			
Bromomethane	< 10	c 12	ug/kg			
Vinyl chloride	< 10	c 12	ug/kg			
Chloroethane	< 10	c 12	ug/kg			
Methylene chloride	< 5.0	< 6.2	ug/kg			
Acetone	55	68	ug/kg			
Carbon disulfide	< 5.0	< 6.2	ug/kg			
1,1-Dichloroethene	< 5.0	< 6.2	ug/kg			
1,1-Dichloroethane	< 5.0	< 6.2	ug/kg			
1,2-Dichloroethene (total)	5.1	6.3	ug/kg			
Chloroform	< 5.0	< 6.2	ug/kg			
1,2-Dichloroethane	< 5.0	< 6.2	ug/kg			
2-Butanone	< 25	c 31	ug/kg			
1,1,1-Trichloroethane	< 5.0	< 6.2	ug/kg			
Carbon tetrachloride	< 5.0	< 6.2	ug/kg			
Bromodichloromethane	< 5.0	< 6.2	ug/kg			
1,2-Dichloropropane	< 5.0	< 6.2	ug/kg			
cis-1,3-Dichloropropene	< 5.0	< 6.2	ug/kg			
Trichloroethene	< 5.0	< 6.2	ug/kg			
Dfbromochloromethane	< 5.0	< 6.2	ug/kg			
1,1,2-Trichloroethane	< 5.0	< 6.2	ug/kg			
Benzene	< 5.0	< 6.2	ug/kg			
trans-1,3-Dichloropropene	< 5.0	< 6.2	ug/kg			
Bromoform	< 5.0	< 6.2	ug/kg			
4- Methyl- 2-pentanone	< 25	< 31	ug/kg			
2-Hexanone	< 25	< 31	ug/kg			
Tetrachloroethene	< 5.0	< 6.2	ug/kg			
1,1,2,2-Tetrachloroethane	< 5.0	< 6.2	ug/kg			
Toluene	< 5.0	< 6.2	ug/kg			

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SDUSTRIAL HYGiENE ENVIRONMENTAL TESTING

•EPA/NVLAP 101262-0 NY DOH 10903 NJ DEP 77678
•AIHA ACCREDITATION NO. 100439 PA DER 06-353

Client: Liesch Associates
Project: 193608

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
GP-4 14-16'						
Lab Sample: 1405562 -continued						
Chlorobenzene	< 5.0	< 6.2	ug/kg			
Ethylbenzene	< 5.0	< 6.2	ug/kg			
Styrene	< 5.0	< 6.2	ug/kg			
Xylenes (total)	< 15	< 19	ug/kg			
RCRA METALS ON A SOLID SAMPLE						
Arsenic, Total		< 1.2	mg/kg	6010	02-JUN-OO	JLH
Barium, Total		< 1.2	mg/kg	6010	02-JUN-OO	JLH
Cadmium, Total		< 1.2	mg/kg	6010	02-JUN-OO	JLH
Chromium, Total		< 1.2	mg/kg	6010	02-JUN-OO	JLH
Lead, Total		< 1.2	mg/kg	6010	02-JUN-OO	JLH
Mercury, Total		< 1.2	mg/kg	7471	02-JUN-OO	SMW
Silver, Total		< 1.2	mg/kg	6010	02-JUN-OO	JLH
Selenium, Total		< 1.2	mg/kg	6010	02-JUN-OO	JLH
GP-5 2-4'						
Lab Sample: 1405563						
sampled: 31-MAY-00 16:00						
Moisture	13.2		%	2540G	02-JUN-OO	KKS
Acenaphthene	< 330	< 380	ug/kg	8270C	07-JUN-00	TDW
Anthracene	< 330	< 380	ug/kg	8270C	07-JUN-00	TDW
Benzo(a)anthracene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Benzo(b)fluoranthene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Benzo(k)fluoranthene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Benzo(g,h,i)perylene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Benzo(a)pyrene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Chrysene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Dibenzo(a,h)anthracene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Fluoranthene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Fluorene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Indeno(1,2,3-cdJpyrsne	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Phenanthrene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
Pyrene	< 330	< 380	ug/kg	8270C	07-JUN-OO	TDW
TCL VOLATILES				8260B	02-JUN-OO	WL8
Chloromethane	< 10	< 12	ug/kg			
Bromomethane	< 10	< 12	ug/kg			
Vinyl chloride	< 10	c 12	ug/kg			
Chloro ethane	< 10	< 12	ug/kg			
Methylene chloride	< 5 0	< 5 8	ug/kg			
Acetone	40	46	ug/kg			
Carbon disulfide	< 5 0	< 5 8	ug/kg			
1,1-Dichloroethene	< 5 0	< 5 8	ug/kg			
1,1-Dichloroethane	< 5 0	< 5 8	ug/kg			
1,2-Dichloroethene (total)	< 5 0	< 5 8	ug/kg			
Chlorotomn	< 5 0	< 5 8	ug/kg			

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INDUSTRIAL HYGIENE ENVIRONMENTAL TESTING

EPA/NVLAP 101262-0 NYDOH 10903 NJOEP 77678
•AIHA ACCREDITATION NO. 100439 PADER 06-353

Client: Liesch Associates
Project: 193608

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
GP-5 2-4'						
Lab Sample: 1405563 -continued						
1,2-Dichloroethan©	< 5.0	< 5.8	ug/kg			
2-Butanone	< 25	< 29	ug/kg			
1,1,1 -Trichloroethane	< 5.0	< 5.8	ug/kg			
Carbon tetrachloride	< 5.0	< 5.8	ug/kg			
Bromodichloromethane	< 5.0	< 5.8	ug/kg			
1,2-Dichloropropane	< 5.0	< 5.8	ug/kg			
cis-1,3-Dichloropropene	< 5.0	< 5.8	ug/kg			
Trichtoroethene	< 5.0	< 5.8	ug/kg			
Dibromochlorom ethane	< 5.0	< 5.8	ug/kg			
1,1,2-Trichloroethane	< 5.0	< 5.8	ug/kg			
Benzene	< 5.0	< 5.8	ug/kg			
trans-1,3-Dichloropropene	< 5.0	< 5.8	ug/kg			
Bromoform	< 5.0	< 5.8	ug/kg			
4-Methyl-2-pentanone	< 25	< 29	ug/kg			
2-Hexanone	< 25	< 29	ug/kg			
Tetrachloroethene	< 5.0	< 5.8	ug/kg			
1,1,2,2-Tetrachloroe thane	< 5.0	< 5.8	ug/kg			
Toluene	< 5.0	< 5.8	ug/kg			
Chlorobenzene	< 5.0	< 5.8	ug/kg			
Ethylbenzene	< 5.0	< 5.8	ug/kg			
Styrene	< 5.0	< 5.8	ug/kg			
Xylenes (total)	< 15	< 17	ug/kg			
RCRA METALS ON A SOLID SAMPLE						
Arsenic, Total	2.04	2.35	mg/kg	6010	02-JUN-00	JLH
Barium, Total	35.8	41.2	mg/kg	6010	02-JUN-00	JLH
Cadmium, Total	< 0.500	< 0.576	mg/kg	6010	02-JUN-OO	JLH
Chromium, Total	6.57	7.57	mg/kg	6010	02-JUN-00	JLH
Lead, Total	3.67	4.23	mg/kg	6010	02-JUN-OO	JLH
Mercury, Total	< 0.04	< 0.05	mg/kg	7471	02-JUN-00	SMW
Silver, Total	< 0.500	< 0.576	mg/kg	6010	02-JUN-00	JLH
Selenium, Total	< 0.500	< 0.576	mg/kg	6010	02-JUN-OO	JLH
GP-2						
Lab Sample: 1405564						
sampled: 31-MAY-00 12:00						
NY STARS LIST				8021B	06-JUN-00	DLK
Benzene	< 1.0		ug/l			
Ethylbenzene	< 1.0		ug/l			
Toluene	3.3		ug/l			
o-Xylene	1.0		ug/l			
m & p-Xylenes	2.6		ug/l			
Xylenes	3.6		ug/l			
Isopropylbenzene (Cumene)	< 1.0		ug/l			
n-Propy (benzene	< 1.0		ug/l			

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INDUSTRIAL HYGIENE ENVIRONMENTAL TESTING

•EPA/NVLAP 101262-0 * NYDOH 10903 •NJDEP 77678
• AiHA ACCREDITATION NO. 100439 • PADER 06-353

Client: Liesch A;ssociates
Project: 193608

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
GP-2						
Lab Sample: 1405564 -continued						
p-lsopropyltolueno	l		ug/l			
1,2,4-Trimethylbenzene	l		ug/l			
1,3,5-Trimethylbenzene	2		ug/l			
n-Butylbenzene	1		ug/l			
sec-Butylbenzene	1		ug/l			
Naphthalene	1		ug/l			
Methyl tertiary-butyl ether	10		ug/l			
Acenaphthene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Anthracene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Benzo(a)anthracene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Benzo (bjf luoranthene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Benzo(k)fluoranthene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Benzo(g,h,i)peryl9ne	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Benzojajpyrene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Chrysene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
D ibe nz o (a, h) anthracene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Fluoranthene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Fluorene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Indenod ,2,3-cdJpyrene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Phenanthrene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
Pyrene	10		ug/l	8270C	**09-JUN-OO**	**TDW**
GP-1						
Lab Sample: 1405565						
sampled: 31-MAY-00 14:15						
NY STARS LIST				8021B	**06-JUN-00**	**DLK**
Benzene	1.		ug/l			
Ethylbenzene	1.		ug/l			
Toluene	l.		ug/l			
o-Xylene	l.		ug/l			
m & p-Xylenes	2.		ug/l			
Xylenes	2,		ug/l			
Isopropylbenzene (Cumene)	1.		ug/l			
n-Propylbenzene	1.		ug/l			
p-1 sop ropy ltoluene	1		ug/l			
1,2,4-Trimethylbenzene	1.		ug/l			
1,3,5-Trimethylbenzene	2		ug/l			
n-Butyl benzene	1		ug/l			
sec-Butylbenzene	1		ug/l			
Naphthalene	1		ug/l			
Methyl tertiary-butyl ether	10		ug/l			

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INDUSTRIAL HYGIENE ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0 NYDOH 10903 NJDEP 77673
AIHAACCREDITATiONNO. 100439 PAPER 06-353

Client: Liesch Associates
Project: 193608

GP-5
Lab Sample: 1405566
sampled: 31-MAY-00 14:15

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
Acenaphthene	< 10.8		ug/l	8270C	09-JUN-OO	TDW
Anthracene	< 10		ug/l	8270C	09-JUN-OO	TDW
Benzo(a)anthracene	< 10 8		ug/l	8270C	09-JUN-OO	TDW
Benzo(b)fluoranthene	< 10		ug/l	8270C	09-JUN-OO	TDW
Benzo{k)fluoranthene	< 10 8		ug/l	8270C	09-JUN-OO	TDW
Benzo(g ,h,i)pery tene	< 10		ug/l	8270C	09-JUN-OO	TDW
Benzo(a)pyrene	< 10 8		ug/l	8270C	09-JUN-OO	TDW
• Chrysene	< 10.8		ug/l	8270C	09-JUN-OO	TDW
Dibenzo (a, h)anthracene	< 10		ug/l	8270C	09-JUN-OO	TDW
Fluoranthene	< 10 8		ug/l	8270C	09-JUN-OO	TDW
Fluorene	< 10 8		ug/l	8270C	09-JUN-OO	TDW
IndenoU ,2,3-cdlpyrene	< 10		ug/l	8270C	09-JUN-OO	TDW
Phenanthrene	< 10 8		ug/l	8270C	09-JUN-OO	TDW
Pyrene	< 10		ug/l	8270C	09-JUN-OO	TDW
TCL VOLAT1LES				8260B	02-JUN-OO	WLB
Chloromethane	< 10		ug/l			
Bromomethane	< 10		ug/l			
Vinyl chloride	< 10		ug/l			
Chloroethane	48		ug/l			
Methylene chloride	< 5 0		ug/l			
Acetone	< 25		ug/l			
Carbon disulfide	< 5 0		ug/l			
1,1 -Dichloroethene	20 8		ug/l			
1,1 -Dlchloroethane	37 4		ug/l			
1,2-Dichloroethene (total)	29 5		ug/l			
Chloroform	< 5 0		ug/l			
1,2-Dlchloroethano	< 5 0		ug/l			
2-Butanone	< 25		ug/l			
1,1,1 -Trichloroethane	< 5 0		ug/l			
Carbon tetrachloride	< 5 0		ug/l			
Bromodichloro methane	< 5 0		ug/l			
1,2-Dichloropropane	< 5 0		ug/l			
cis-1,3-Dichloropropene	< 5 0		ug/l			
Trichloroethene	< 5 0		ug/l			
Dibfomochlorome thane	< 5 0		ug/l			
1,1,2-Trichloroethano	< 5.0		ug/l			
Benzene	< 5.0		ug/l			
trans-1,3-Dlchloropropene	< 5.0		ug/l			
Bromoform	< 5.0		ug/l			
4- Methy l-2-penta none	< 25		ug/l			
2-Hexanone	< 25		ug/l			
Tetrachloroethene	< 5.0		ug/l			
1,1,2,2-Tetrachloroethane	< 5.0		ug/l			
Toluene	5.7		ug/l			
Chlorobenzene	< 5.0					

PHILIP ANALYTICAL SERVICES

INDUSTRIAL HYGiENi ENVIRONMENTAL TESTING

•EPA/NVLAP 101262-0 NYDOH 10903 NJDEP 77678
• AIHA ACCREDITATION NO. 100439 PADER 06-353

Client: Liesch Associates
Project: 193608

GP-5
Lab Sample: 1405566 - continued

	AS RECEIVED BASIS	DRY BASIS	UNITS	METHOD	DATE	ANALYST
Ethylbenzene	**< 5.0**		ug/l			
Styrene	**< 5.0**		ug/l			
Xylenes (total)	**< 15**		ug/l			
F102: Samples received for volatile analysis via method 5030 purging protocol. They were received at the laboratory with headspace. Therefore results are reported as estimated.						
Arsenic, Dissolved	005		mg/l	200.7	06-JUN-00	JLH
Barium, Dissolved	061		mg/l	200.7	06-JUN-OO	JLH
Cadmium, Dissolved	002		mg/l	200.7	06-JUN-00	JLH
Chromium, Dissolved	002		mg/l	200.7	06-JUN-OO	JLH
Lead, Dissolved	005		mg/l	200.7	06-JUN-OO	JLH
Selenium, Dissolved	009		mg/l	200.7	06-JUN-OO	JLH
Silver, Dissolved	005		mg/l	200.7	06-JUN-OO	JLH
Mercury, Dissolved	0002		mg/l	245.1	07-JUN-00	JLP

< **Indicates less than the Limit of quantitation.**

PHILIP

ANALYTICAL SERVICES

Chain of Custody Record

4418 Pottsyille Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667

*Sample Container Information^*

Bottle Type (G P IH)												
# of Containers	8	4	2									
Preserved? (Y/N)	N											

PO# Job ID

Report Results To:
Company ^ ^ f e f c C ^ , ^ Q .
Mailing Address f^jj ftp ^ *frfr* /J-
ZIP 55441
Telephone # 763-559-1423 Fax # 763-559-1423

Send Invoice To:
Name Same Above
Company Dept
Mailing Address
City State ZIP
Credit Card # Exp. Date

Analysis Requested

Page 1 of 1

PAS Quote# See Jim Jacklin

HMD-193606
193608

Sampled by:

	SAMPLE DESCRIPTION	Air Vol. (L or min)	Matrix Type	Date Sampled	Time Sampled	NY STARS List VOCs	NY STARS List SVOCs	VOCs 8260	RCRA Metals	4 oz Soil jars	40 ml vials w/ HCl	Amber glass, 8270 SIM	8270 SIM plastic	Comments/Hazards/ Location Details
1	GP-1 12-14'		Soil	5/31	11:00	✓	✓				2	-	-	-	*HOLD!!*
2	16-18'				11:00	✓	✓				2	-	-	-	
3	GP-2 12-14'				12:00	✓	✓				2	-	-	-	
4	GP-2		Water		12:00	✓	✓				-	3	2	-	
5	GP-1		Water		2:15	✓					-	3	-	-	
6	GP-3 12-14'		Soil		12:30	✓	✓				2	-	-	-	
7	GP-4 8-10'		Soil		3:15		✓	✓	✓		3	-	-	-	*HOLD!!**
8	GP-4 14-16'		Soil		3:30		✓	✓	✓		3	-	-	-	~~Filtered for metals 0108~~
9	GP-5 2-4'		Soil		4:00		✓	✓	✓		3	-	-	-	
10	GP-5		Water		4:00		✓	✓	✓		-	3	2	1	Filter RCRA Metals Sample in lab

Special Instructions (including Data Deliverables and Turn Around Time):
'//- Tr<f)'$lg.Jilt~ → 5/26/00 @ 0900 (2 days)

Samples relinquished to shipper or courier by:	Date	Time
Samples received by:	Date	Time

Samples Relinquished by:	Samples Relinquished to:	Date	Time
Samples Relinquished by:	Samples Relinquished to Laboratory: *nlQlMMfr/PM*	Date	Time

Method of Shipment/Delivery: UPS FED-EX PAS Courier Client dropoH" OtHer

* . Samples Rec'd;'6n Ice? (<g N n7aT Temp. Blank Sample Temp. ^>'<•
Samples rec'd intact?^N) Custody seals intact?(Y N n^)) ID on samples match C0C?(®N
VOC Samples have zero headspace?(Y/N) n/a I Samples properly preserved? *i* Y N n/a)

Notes:

Chain of Custody Record

ANALYTICAL SERVICES
4418 Pottsville Pike—, Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667

PO# Job ID

Report Results To:

Mailing. Addressjyjflfl QJX fa ^

City State

Name Telephone t

Send Invoice To:

Company.

Mailing Addres

City ZIP

Credit Card # Exp. Date

Sampled by:

Sample Container Information

Bottle Type (G P IH I)												
# of Containers												
Preserved? (Y/N)												

Analysis Requested

NY STARS List VOCs
NJ STARS List SVOCs
VOCs 8260
RCRA Metals

Page / of T

PAS Quote#

SAMPLE DESCRIPTION	AirVoL(L Jormln)	Matrix Type	Date Sampled	Time Sampled	/_ Comments/Hazardjs/ Location Details
&>-t iz-tr		f>n	V▽	im^	
H~i&				ft too	
gft-2- tlrj$				ll*6b	
(£=2^		MK		JMt> W >	
>-L				2l£	
1-3 / 2 ? / ^		>J		te.-53 • ^	
&M.		&il		3US- V	
m<«		&±L		130. sv •'	
r?-<?		QiL		HM. •'> t ^	
*£		# j		y;<3o w^	

#fiQLI>y*X-

PUcr'tlM M / j C ^ r /« /^i»

" Special Instructions (including Data Deliverables and Turn Around Time):

Samples relinquished to shipper or courier by: Date Time

Samples received by: Date Time

Samples Relinquished by:	Samples Relinquished to:	Date	Time
Samples Relinquished by:	Samples Relinquished to Laboratory:	Date	Time

Method of Shipment/Delivery: tW ouner Client drop ott Other

SampleS'Rec'arbn Ice? (-Y N nTaT^ Temp. Blank Sample Temp. Notes:

Samples rec'd intact?(Y N) Custody seals intact?! Y N n/a) ID on samples match C0C?(Y N)

VOC Samples have zero headspace?(Y N n/a) Samples properly preserved? (Y N n/a)

PHILIP
ANALYTICAL SERVICES

Chain of Custody Record

4418 Pottsville Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667

Sample Container Information

Bottle Type (G P IH)	
# of Containers	
Preserved? (Y/N)	

Report Results To:

PO # Job ID 52035.01
Name Dan Larson
Company Liesch Associates, Inc.
Mailing Address 13400 15th Ave N
City Plymouth State MN ZIP 55441
Telephone # 763-559-1423 Fax # 559-2202

Send Invoice To:

Name Same as above Telephone #
Company Dept.
Mailing Address
City State ZIP
Credit Card # Exp. Date

Analysis Requested

Page 1 of 2
PAS Quote#

Sampled by:

	SAMPLE DESCRIPTION	Air Vol. (L or min)	Matrix Type	Date Sampled	Time Sampled	MN Short List SVOCs	VOCs 8260	RCRA Metals	Comments/Hazards/ Location Details
1	GP-6 10-12'		Soil	6/1/00	9:00	✓	✓	✓	
2	GP-6 0-2'		Soil		9:00	✓	✓	✓	#HOLD#
3	GP-7 0-2'		Soil		9:30	✓	✓	✓	
4	GP-7		Water		10:15	✓	✓	✓	
5	GP-8 0-2'		Soil		10:45	✓	✓	✓	
6	GP-8 4-6'		Soil		10:45	✓	✓	✓	
7	GP-9 2-4'	Soil	Soil		11:15	✓	✓	✓	
8	GP-9 4-8 6-8'	Soil	Soil		11:15	✓	✓	✓	#HOLD#
9	GP-10 2-4'		Soil		12:30	✓	✓	✓	#HOLD#
10	GP-10 6-8'		Soil	✓	12:30	✓	✓	✓	

Special Instructions (including Data Deliverables and Turn Around Time):

Samples relinquished to shipper or courier by: [signature] Time^ Samples Relinquished by: Samples Relinquished to: Date , Time

Samples received by Date Time Samples Relinquished by: Samples Relinquished to Laboratory: Date , Time

Method of Shipment/Delivery: TM FED-EX PAS Courier Client drop off Other

Samples Rec'd. oh Ice?, {Y N n/a) Temp. Blank_____ Sample Temp._____

Samples rec'd intact?(V N) Custody seals intact?{ Y N n/a) ID on samples match COC?{ Y N

VOC Samples have zero headspace?(Y N n/a) Samples properly preserved? (Y N n/a)

Notes:

t5fiasw»r«--*r

lit
ANALYTICAL SERVICES

Chain of Custody Record

4418 Pottsville Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667

Sample Container Information

Bottle Type (G P IH)											
# of Containers											
Preserved? (Y/N)											

PO# job ID $2A sr-oi 4

Report Results To:
Name
Company L\€£rk
Mailing Address
City Stats ZIP
Telephone # Fax*
Name Telephone 9

Send Invoice To:
Company Dept.
Mailing Address -:Kt**4A% •" '
City State ZIP
Credit Card # Exp. Date

Analysis Requested

Page ^L of jZT
PAS Quote#

Sampled by

SAMPLE DESCRIPTION	AlrVoL(L or mln)	Matrii Type	Date Sampled	Time Sampled	/ Comments/Hazards/ Location Details
ymfrin-i 1		Jad	tyl/oQ	'/too /'•00	9t-\&*U!>9('
		SJ,'<		/vr	*/ iS"**k
		Si-I		/'JO	S • ^
'5		Shi		Lno	~7 s <s
		c*hf<	\L	7**r	

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Special Instructions (Including Data Deliverables and Turn Around Time):

Samples relinquished to shipper or courier b\: '•'-•• jjfa*[illegible]Ct4~ jd 1 Date Time
Samples received by: Date Time
Samples Relinquished by: Samples Relinquished to: Date . Time
Samples Relinquished by: Samples Relinquished to Laboratory: Date . Time

Method of shipment/Delivery: UPS FED-EX J?AS Courier CUent.drop off Other

Samples Rec'di on Ice? (Y N n/a) Temp. Blank_____ Sample Temp._____
Samples rec'd intact?(Y N) Custody seals intact?! YN n/a) ID on samples match C0C?(Y N)
VOC Samples have zero headspace?< Y N n/a) Samples property preserved? (Y N n/a)

Notes:

,yBf!iSS^^^

END

OF