5.

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE II INVESTIGATIONS

Volume II - Appendices

Lackawanna City Landfill
Lackawanna, New York

Site No. 915094
Erie County

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, Commissioner

Division of Hazardous Waste Remediation
Michael J. O'Toole, Jr., P.E., Director

By:

ENGINEERING-SCIENCE

VOLUME II

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK

PHASE II INVESTIGATIONS - LACKAWANNA CITY LANDFILL
NYS SITE NUMBER 915094
ERIE COUNTY, NEW YORK

Prepared For:

DIVISION OF HAZARDOUS WASTE REMEDIATION
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
ALBANY, NEW YORK 12233-0001

Prepared By:

ENGINEERING-SCIENCE, INC.
290 ELWOOD DAVIS ROAD
LIVERPOOL, NEW YORK 13088

JUNE 1991

APPENDIX A

PHASE II FIELD PROCEDURES

APPENDIX A

PHASE II FIELD PROCEDURES

These procedures, utilized by Engineering-Science, Inc. field teams during the Phase II field investigations, are taken from the NYSDEC-approved "Quality Assurance Project Plan for the Phase II Engineering Investigations and Evaluations at Inactive Hazardous Waste Disposal Sites", dated October 1989.

DRILLING

The drilling procedures utilized were taken from "Guidelines for Exploratory Boring, Monitoring Wells Installation, and Documentation of these Activities", as promulgated by NYSDEC. These procedures, as found in the project Work Plan and Quality Assurance Plan, were modified in the field with NYSDEC approval in response to site-specific conditions encountered.

All downhole drilling equipment and tools were steam-cleaned prior to beginning each well boring. The downhole equipment and tools were generally placed on wooden pallets or sheets of plastic to limit cross-contamination. Drilling was accomplished with Mobile B-57 truck-mounted rig.

Generally, unconsolidated and poorly consolidated soil and rock materials were drilled with 4-1/4-inch inside diameter hollow-stem augers. Soil samples were collected at continuous intervals and visually classified in terms of moisture content, color, texture, density, and structure. The soil samples were screened with a Photovac Tip-II to detect the presence of volatile organic compounds. The soil cuttings were also monitored with the Photovac. The soil materials were left on the ground surface.

MONITORING WELL INSTALLATION

All wells were constructed with two-inch I.D. PVC riser pipe and 0.010-inch slotted screen. Well screens were 5 or 10 feet in length. All well materials were steam-cleaned prior to insertion in the borehole.

PVC well materials were set in place through the augers and quartz sand was backfilled around the well screen to a level of two feet above the screen. A bentonite pellet seal two feet thick was placed above the quartz sand and a cement/bentonite slurry was installed to the surface. A vented PVC cap was placed on the well pipe, and the well was secured with a locking four-inch inside diameter steel protective casing. Once the well installation was complete, the well materials were allowed to set-up for a period of at least 24 hours.

WELL DEVELOPMENT

Each well was developed by removing water from the well until the water was visually sediment-free. Development methods included pumping with the rig pump and hand bailing.

SAMPLING PROGRAM

The sampling program at the Lackawanna Landfill site consisted of groundwater, surface water, sediment, and subsurface soil and surface soil sampling. Samples were collected in accordance with the Quality Assurance Project Plan. In addition to the media sampled, two types of blanks were collected. A trip blank consisting of organic-free water was prepared by the laboratory and accompanied the sample bottle shipment. This blank provides a measure of the impact of the bottle preparation procedures and shipment on the samples. The trip blanks were analyzed for volatile organic compounds.

Wash blanks were also collected by pouring organic-free water provided by the laboratory over the sampling equipment as a measure of the field decontamination procedures. The wash blanks were assigned non-existent sample location designations and were analyzed for TCL compounds and TAL metals.

The sampling equipment was decontaminated by successively rinsing with detergent (Alconox) water, methanol, and distilled water prior to sampling at each location. After collection of the water samples, field tests were performed on an additional sample to determine pH, temperature, and specific conductivity. Field sampling records are presented in Appendix C.

Groundwater Sampling

The static water level in the well was recorded from the top of the PVC casing prior to purging the well. Wells were purged by removing at least three well volumes of water with a clean polyethylene bailer, prior to filling the bottles. Sample bottles were supplied by Versar, Inc. Dedicated polyproplyene rope was used to bail each well.

Surface Water Sampling

Surface water samples were collected by dipping a decontaminated stainless steel beaker beneath the water surface, and pouring the sample into sample bottles supplied by Versar, Inc.

Sediment Sampling

Sediment samples were collected with a decontaminated dredge sampler and long-handled stainless steel spoon. Sample bottles were supplied by Versar, Inc.

Fill/Soil Sampling

The subsurface soils were collected with a split spoon sampler during drilling of the monitoring well borings. Split spoon samples were composited by well for full TCL and TAL analyses.

Surface Soil Sampling

Surface soil samples were collected with a decontaminated stainless steel spoon from the upper 12 inches of soil. Sample bottles were provided by Versar, Inc.

AIR QUALITY MONITORING

Air quality monitoring for volatile organic compounds with a Photovac Tip-II photoionization meter was implemented during the drilling and well installations, and sampling events. Monitoring was performed as a health and safety measure. The meter was calibrated daily before use with a commercially-prepared 100 ppm isobutylene standard gas. Air quality in the breathing zone was determined by holding the intake of the instrument at head height for 30 seconds and recording the reading. During drilling, the split-spoon soil samples were held within several inches of the intake to test for organic vapors emanating from the soil samples. The air in the completed well was monitored by placing the intake over the well opening and removing the PVC cap. The intake was then placed into the well opening and readings were recorded in the field book.

APPENDIX B

PHASE II GEOPHYSICAL SURVEY METHODS AND RESULTS

LACKAWANNA CITY LANDFILL

GEOPHYSICAL SURVEY METHODS AND RESULTS

NYSDEC PHASE II INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

SITE ID NO. 915094

LACKAWANNA CITY LANDFILL

GEOPHYSICAL SURVEY METHODS AND RESULTS

GEOPHYSICAL SURVEY METHODOLOGY

A geophysical investigation was conducted by Engineering-Science (ES) at the Lackawanna City Landfill site in the City of Lackawanna, Erie County, New York. The investigation was part of the New York State Department of Environmental Conservation (NYSDEC) Fourth Round Phase II investigations at inactive hazardous waste disposal sites. This geophysical survey was completed prior to installation of groundwater monitoring wells at the site. The purpose of the survey was to determine whether conductive contaminant plumes were present, to identify the existence of buried metallic waste, and to optimize the placement of monitoring wells within identified conductive contaminant plumes.

Electromagnetic (EM) Survey

Measurements of the near-surface terrain conductivity were obtained at the Lackawanna City Landfill site by using Electromagnetic (EM) mapping techniques. Terrain conductivity anomalies detected in the subsurface may indicate the presence of contaminant plumes, buried drums, and/or other buried metallic objects.

The EM survey was conducted with a Geonics EM31-D Terrain Conductivity Meter. The EM31-D consists of a control unit and transmitter and receiver coils and operates by inducing circular eddy current loops into the surrounding subsurface materials. The magnitude of any one of the current loops is directly proportional to the terrain conductivity in the vicinity of that loop. The current

flowing through each loop then generates a magnetic field which is proportional to the value of the current flowing within the loop. A portion of the magnetic field from each loop is intercepted by the receiver coil of the EM31-D unit and results in an output voltage which is linearly related to the terrain conductivity of the subsurface materials.

Contour maps produced from the data reflect patterns of apparent ground conductivity. The conductivity patterns reflect the cumulative electrical properties of a horizontally layered earth. Under this condition the conductivity values obtained with the EM31-D unit are proportionally weighted for the contribution of near-surface materials. The weighting therefore, balances the contribution of conductivity as it varies with depth. In the vertical dipole configuration used during this survey, the weighting is such that the ground below a depth of 2 meters yields 59% of the response, the ground below 3 meters yields 47%, and the ground below 6 meters 29%, etc., assuming that the conductivity is uniform with depth (Geonics Limited, 1984).

SITE-SPECIFIC METHODS AND RESULTS

A survey grid with 50-foot centers was established across portions of the site and around its perimeter. EM measurements were taken along each survey line at 25-foot intervals. During the survey, the EM31-D unit yielded an effective depth of penetration of approximately 6 meters (19.5 feet) (Geonics Limited, 1984).

Electromagnetic (EM) Survey Results

The findings of this study are based on the interpretation of the data which were obtained from indirect geophysical investigative techniques. The interpretations are

therefore preliminary and subject to verification by direct methods. Terrain conductivity readings, expressed in millimhos per meter were recorded along survey lines which traversed the site's perimeter and portions of the site (Figure 1). Prior to beginning the survey, the EM31-D unit was zeroed in an area which was isolated from the site and free of interferences (overhead power lines, buried conduits and metal objects). Terrain conductivity readings were then taken across a designated off-site area to establish background values of conductivity for the survey area. During the survey, EM readings were collected on 25-foot grid spacings. When anomalous values were noted, additional readings were acquired in the vicinity. Table 1 presents the raw field data acquired during the survey. Figure 2 presents a contour map of the data. The interpretations of the data presented below are based on the apparent terrain conductivity patterns and the magnitude of their deviation from the background readings. Figure 3 presents monitoring well locations indicated in the work plan and modified locations, based on the geophysical survey.

The EM survey at the Lackawanna City Landfill indicates the following:

1. Background readings of terrain conductivity ranged from 10 to 30 mmhos/m. Values of terrain conductivity ranged from 8 to 275 mmhos/m over the survey area. Values of ground conductivity dropped to background range as the survey moved off the known landfill area, therefore, the edge of the fill area was interpreted as being located approximately along areas or contours having conductivity values below 30 mmhos/m (Table 1 and Figure 2).

2. One large, concentric, high conductivity anomaly (275 mmhos/m) was identified along the western margin of the site. This anomaly may correspond

to the presence of buried drums or other buried metal at this location (Figure 2).

3. Anomalous regions were identified along the eastern, southern, and western margins of the site. These anomalies exhibit broader, random patterns, as compared to the western anomaly and are probably related to the presence of scattered metallic wastes buried in the fill material.

4. The anomalies present along the southern margin of the site exhibit a gradationally outward-sweeping pattern which is interpreted as corresponding to the presence of a small conductive contaminant plume in the area or to the presence of buried metallic objects in a concentrated area.

Recommendations

The following recommendations are made based on the EM data and are to be implemented prior to the initiation of the drilling program:

- The location of monitoring well GW-1 indicated in the work plan (Figure 3) appears to be hydraulically isolated from the landfill. Well GW-1 should, therefore, be relocated to a position along the northern edge of the fill which is located between the landfill and stream (Figures 2 and 3).

- The western high anomaly is concentric and has a high gradient over a small area. This indicates that the source of the anomaly is localized and may be due to a buried metal object such as a drum or drums or possibly other metallic wastes. A limited magnetometer search across the anomaly should be conducted to confirm the presence or absence of drums. In addition, an

exploratory trench could be excavated in this area to identify the source of the anomaly.

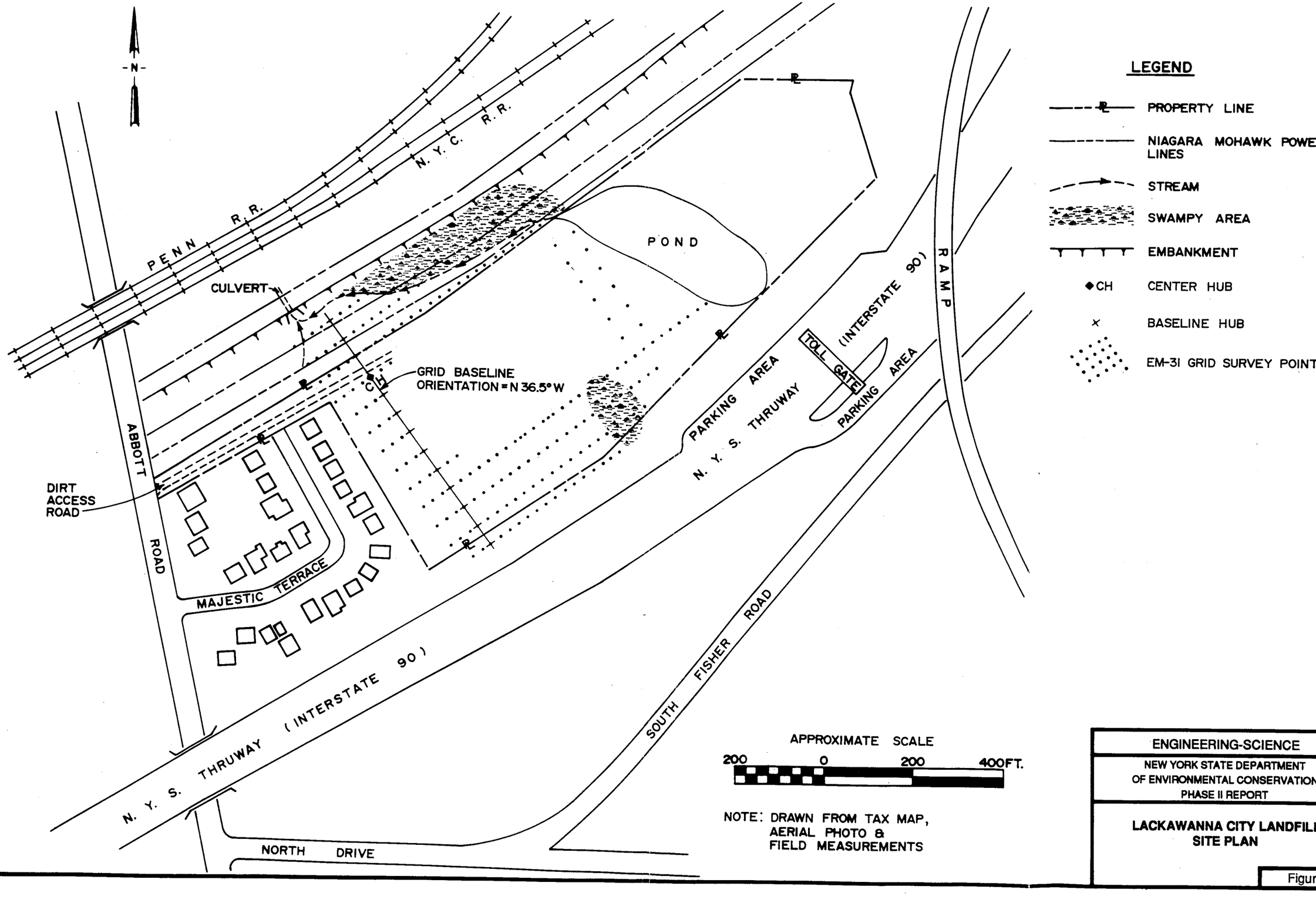
- Monitoring well GW-3 should be relocated to the west of the high conductivity anomaly (present along the western perimeter), approximately 125 feet south of its position indicated in the work plan (Figures 2 and 3). This location will monitor groundwater conditions in the vicinity of the anomaly and between the landfill and the homes on Majestic Terrace.

- Monitoring well GW-4 should be relocated approximately 200 feet northeast of its position indicated in the work plan (Figures 2 and 3). This location will monitor groundwater conditions along the southern margin of the site near the southern anomalous region and possible plume.

- A fifth monitoring well should be located at a position which is at least several hundred feet (300 to 500) southwest of the site (Figure 3). This well location will monitor upgradient groundwater conditions in an area removed from the landfill's influence. Groundwater flow across the region is assumed to be to the north-northwest, based on the site topography.

REFERENCES

1. Geonics, 1984 (Revised). Operating Manual for EM31-D Non-Contacting Terrain Conductivity Meter. Geonics, Limited, Mississauga, Ontario, Canada.



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LACKAWANNA CITY LANDFILL SITE PLAN

Figure 1

SY053.10

SY053.10

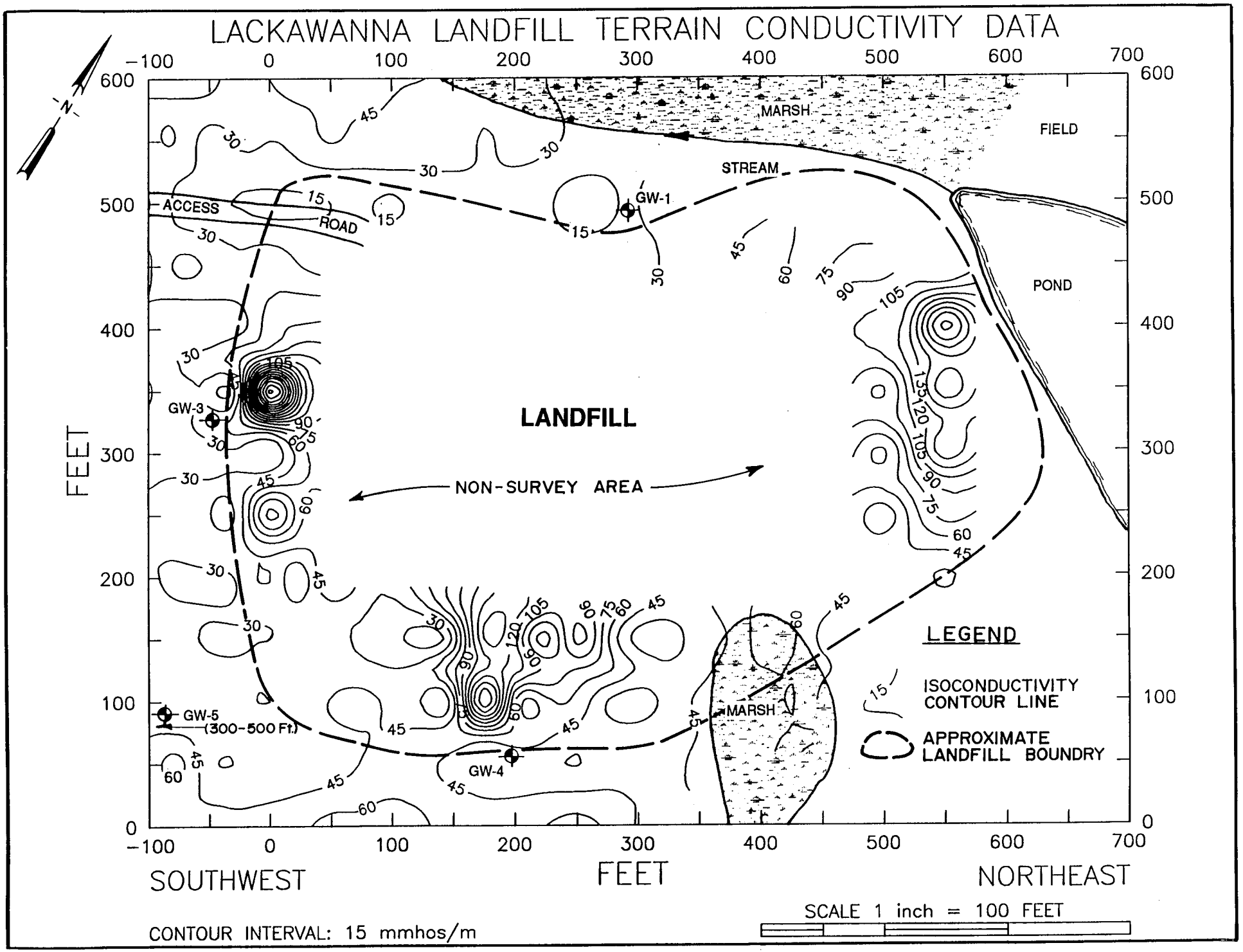

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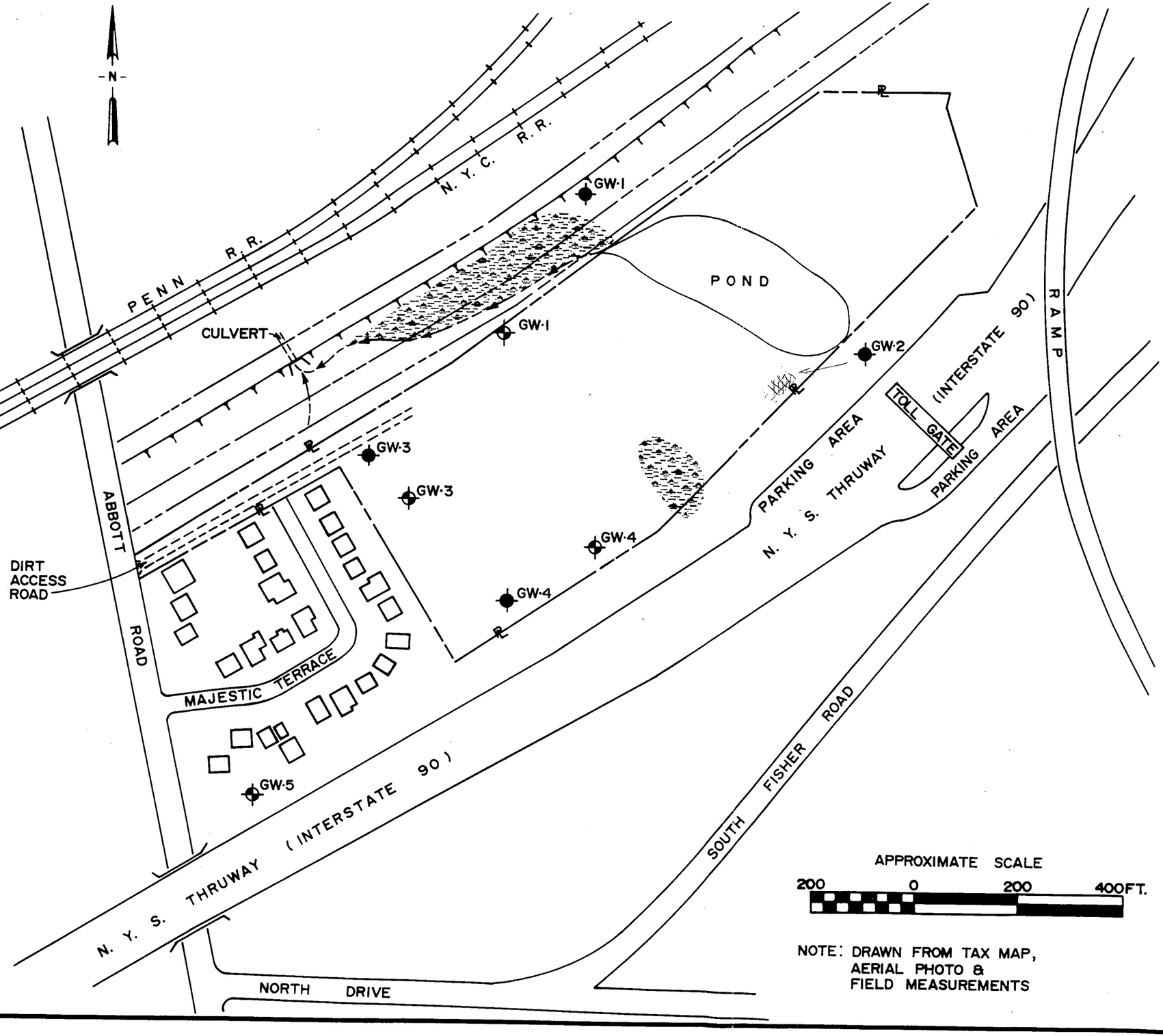
FIGURE 2



NOTE: DRAWN FROM TAX MAP, AERIAL PHOTO & FIELD MEASUREMENTS

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PHASE II REPORT

LACKAWANNA CITY LANDFILL SITE PLAN

Figure 3

SY053.10

TABLE 1

LACKAWANNA LANDFILL TERRAIN CONDUCTIVITY DATA

X Coordinate (Feet)	Y Coordinate (Feet)	EM-31 Data (mmhos/m)
-50	0	47
-25	0	48
0	0	52
25	0	56
50	0	66
75	0	64
100	0	74
125	0	64
150	0	50
175	0	50
200	0	52
225	0	60
250	0	67
275	0	56
300	0	44
325	0	44
350	0	42
-75	50	64
-50	50	34
-25	50	31
0	50	32
25	50	32
50	50	36
75	50	46
100	50	56
125	50	52
150	50	38

TABLE 1, CONTINUED

X Coordinate (Feet)	Y Coordinate (Feet)	EM-31 Data (mmhos/m)
175	50	33
200	50	32
225	50	34
250	50	29
275	50	40
300	50	39
325	50	41
350	50	48
375	50	52
400	50	57
425	50	70
450	50	92
-75	100	44
-50	100	34
-25	100	31
0	100	30
25	100	36
50	100	46
75	100	50
100	100	41
125	100	28
150	100	40
175	100	180
200	100	60
225	100	56
250	100	56
275	100	30
300	100	22
325	100	36
350	100	47

TABLE 1, CONTINUED

X Coordinate (Feet)	Y Coordinate (Feet)	EM-31 Data (mmhos/m)
375	100	50
400	100	50
425	100	61
450	100	40
475	100	33
500	100	42
525	100	43
-75	150	32
-50	150	29
-25	150	29
0	150	30
25	150	30
50	150	32
75	150	28
100	150	20
125	150	8
150	150	33
175	150	135
187.5	150	240
200	150	110
225	150	54
250	150	110
267.5	150	130
275	150	62
300	150	25
325	150	22
350	150	38
375	150	46
400	150	66
412.50	150	88

TABLE 1, CONTINUED

X Coordinate (Feet)	Y Coordinate (Feet)	EM-31 Data (mmhos/m)
425	150	63
450	150	41
475	150	35
500	150	33
525	150	40
550	150	40
575	150	38
600	150	38
625	150	40
650	150	39
675	150	38
700	150	38
-75	200	29
-50	200	28
-25	200	32
0	200	46
25	200	20
50	200	64
500	200	42
550	200	28
-75	250	36
-50	250	31
-25	250	35
0	250	110
500	250	23
550	250	82
-75	300	26
-50	300	24
-25	300	25
0	300	16

TABLE 1, CONTINUED

X Coordinate (Feet)	Y Coordinate (Feet)	EM-31 Data (mmhos/m)
500	300	43
550	300	145
-75	350	24
-50	350	24
-25	350	46
0	350	275
500	350	74
550	350	175
-75	400	19
-50	400	17
-25	400	24
0	400	52
500	400	110
550	400	215
-100	450	27
-75	450	48
-50	450	42
-25	450	33
0	450	40
500	450	80
550	450	82
-100	500	46
-75	500	26
-50	500	18
-25	500	14
0	500	11
25	500	12
50	500	15
75	500	18
100	500	12

TABLE 1, CONTINUED

X Coordinate (Feet)	Y Coordinate (Feet)	EM-31 Data (mmhos/m)
125	500	21
150	500	20
175	500	26
200	500	27
225	500	19
250	500	5
275	500	7
300	500	29
325	500	40
350	500	38
375	500	40
400	500	40
425	500	54
450	500	88
475	500	62
500	500	53
-100	550	40
-75	550	44
-50	550	22
-25	550	32
0	550	30
25	550	36
50	550	46
75	550	40
100	550	42
125	550	40
150	550	42
175	550	28
200	550	38

TABLE 1, CONTINUED

X Coordinate (Feet)	Y Coordinate (Feet)	EM-31 Data (mmhos/m)
225	550	34
-100	600	48
-75	600	52
-50	600	48
-25	600	41
0	600	45
25	600	52
50	600	54
75	600	56
100	600	48

ES
ENGINEERING-SCIENCE, INC.

290 ELWOOD DAVIS ROAD
SUITE 312
LIVERPOOL, NY 13088
TEL: (315) 451-9560
FAX: (315) 451-9570

July 17, 1990

Mr. Carl R. Hoffman
Senior Sanitary Engineer
Western Investigation Section
Bureau of Hazardous Waste Remediation
New York State Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233

Re: Lackawanna City Landfill Site, Magnetometer Survey
Fourth Round Phase II, Site ID No. 915094

Dear Mr. Hoffman:

This letter report presents the techniques utilized, results and interpretations of the magnetic survey conducted on May 17, 1990 at the Lackawanna Landfill Site. The following sections detail the scope of work performed, survey techniques, results, and recommendations from the information.

SCOPE OF WORK

The results of the electromagnetic survey (EM-31) conducted from September 13 through 20, 1989 at the Lackawanna City Landfill indicated the presence of two EM anomalies located along the western margin of the site (Figures 1 and 2). Based on the EM data, ES recommended in the Geophysical Survey Report dated November 14, 1989 that a limited magnetometer search be conducted across the anomaly to confirm the presence or absence of drums in the area. On March 29, 1990, during a site visit, the NYSDEC approved the magnetometer survey for the area illustrated on Figures 1 and 2. The magnetometer survey was performed on May 17, 1990 following completion of the Phase II drilling activities. The objective of the magnetic survey was to aid in confirming and defining the areal extent of the EM anomalies and to determine if large concentrations of ferromagnetic materials are present which could indicate the presence of buried drums.

MAGNETIC SURVEY METHODOLOGY

The magnetic survey was conducted with an EG&G Geometrics model G-816/826 portable proton magnetometer. The instrument consists of a console with a battery power source, a sensor, and a collapsible sensor staff. The magnetometer operates by utilizing the precession of spinning protons or nuclei of the hydrogen atom in a sample of hydrocarbon fluid to measure the total magnetic intensity of the earth's magnetic field at each survey location. Measurement units are in gammas and the accuracy and resolution of each measurement is +/-1 gamma when the instrument is used with the sensor staff attached, as was the case for this survey (Breiner, 1973).

Magnetometer readings taken at each station represent the total magnetic intensity of the earth's field at that location and time. Station-to-station measurements are required to accomplish a successful survey. The station spacing intervals, therefore, are dependent on the size of the survey and the objective of the survey (such as size and quantity of the objects to be detected). The presence of ferromagnetic materials (i.e., buried drum, tank, pipe, or waste metal) in a survey area is detected by an increase in gamma values, above background, in the survey area. The magnitude of any reading is dependent on factors such as: object size, orientation, depth of burial and magnetic susceptibility. If the potential target is relatively non-magnetic, a decrease in the local total magnetic field may be observed. Therefore, magnetic anomalies observed in the data represent a local disturbance (either positive or negative) in the earth's magnetic field which are functions of local changes in magnetization or magnetization contrast (Breiner, 1973). In general, high anomalous magnetic zones observed over landfills/disposal areas usually indicate the presence of ferromagnetic objects or wastes containing a large proportion of metal ions. Nonferromagnetic objects and nonmetallic wastes such as organic compounds, insulators, etc. tend to exhibit low magnetic responses in comparison to background/undisturbed areas. Voids or trenches may also cause low magnetic responses.

MAGNETIC SURVEY

Methods

Measurements of total magnetic field intensity were obtained at the Lackawanna City Landfill by using magnetic mapping techniques as previously discussed, (i.e. in methodology section). Magnetic anomalies detected in the subsurface may indicate the presence of buried ferromagnetic object (drums, assorted metallic wastes), and/or burial zones.

The existing EM survey baseline was used as a baseline for the magnetic survey. Station spacing was modified to 10-foot centers over a 250-by-80-foot area (Figure 2). Readings were taken at every station and base station checks were taken at the center hub location (Figure 3). Magnetic total field intensity readings (in gammas) were recorded along the indicated survey area (Figures 1 and 2). Prior to beginning the survey, the magnetometer was calibrated according to the manufacturer's instructions. In addition to instrument calibration checks, a base station and background station were established to provide points at which readings of baseline data could be generated. The background station was selected to represent an area with presumably naturally occurring subsurface magnetic properties. This area was selected on the basis of EM-31 survey data which indicated the absence of EM anomalies in the area. Approximately every 30 minutes and at the end of the survey, base station readings were checked for drift. If readings varied by more than 10 gammas for successive readings, then the survey would have been postponed

until such variations did not exist. Prior to the start of the survey and at the conclusion, the heading effect of the sensor was checked at the base station by taking readings with the sensor orientation in the north, south, east and west directions. Raw field data is presented in Appendix A.

RESULTS

The findings of this study are based on the interpretation of data obtained by indirect geophysical investigative techniques. The interpretations are preliminary and subject to verification by direct methods.

The magnetic survey at the Lackawanna City Landfill indicated the following:

1) Background readings of total magnetic field intensity ranged from approximately 56,445 to 56,520 gammas. Values of magnetic field intensity over the survey area ranged from 56,201 to 57,787 gammas.

2) Two magnetic anomalies were identified along the eastern margin of the magnetic survey area (Figure 3). Anomaly #1 is concentric and approximately 60 feet by 40 feet in size and has gamma values ranging from a low of 56,485 gammas to a high of 57,855 gammas (Appendix A). Anomaly #2 is elongate and approximately 80 feet by 20 feet in size and has gamma values ranging from a low of 56,234 gammas to a high of 57,197 gammas (Appendix A).

3) The locations of anomalies #1 and #2 approximately match with the locations of the electromagnetic anomalies identified during the EM-31 survey (Figures 2 and 3). This correlation probably indicates the presence of some type of buried ferromagnetic material (unknown type and quantity) at those locations. Based on the size and gradients of the magnetic anomalies, the target source or sources are probably located between 3 feet to 10 feet in depth in these areas.

4) A third anomaly was identified at the northwest corner of the survey area adjacent to monitoring well GW-3. This anomaly is interpreted to be a result of disturbances caused by the steel protective surface casing of GW-3.

RECOMMENDATIONS

Based on a review of available data (EM and magnetic), the presence or absence of buried drums could not be confirmed or denied. Therefore, the following recommendations are dependent on the analytical results of groundwater and subsurface soil samples taken from locations near the identified anomalies.

- If the analytical results indicate the presence of contaminants in the groundwater or subsurface soils samples, then trenching is recommended to define the source of the anomalies (i.e. drums, metal debris, etc.).

- If the analytical results do not show contamination of samples, then trenching is not recommended, unless the NYSDEC would want the sources of the anomalies determined. In this case, factors such as proximity to residences, possible release of airborn contaminants near residences, visibility and costs vs. benefits should be evaluated.

ES is pleased to work with the NYSDEC on this important project. If you have any questions, please call Mark Schumacher or George Moreau at (315) 451-9560.

Sincerely,

ENGINEERING-SCIENCE, INC.

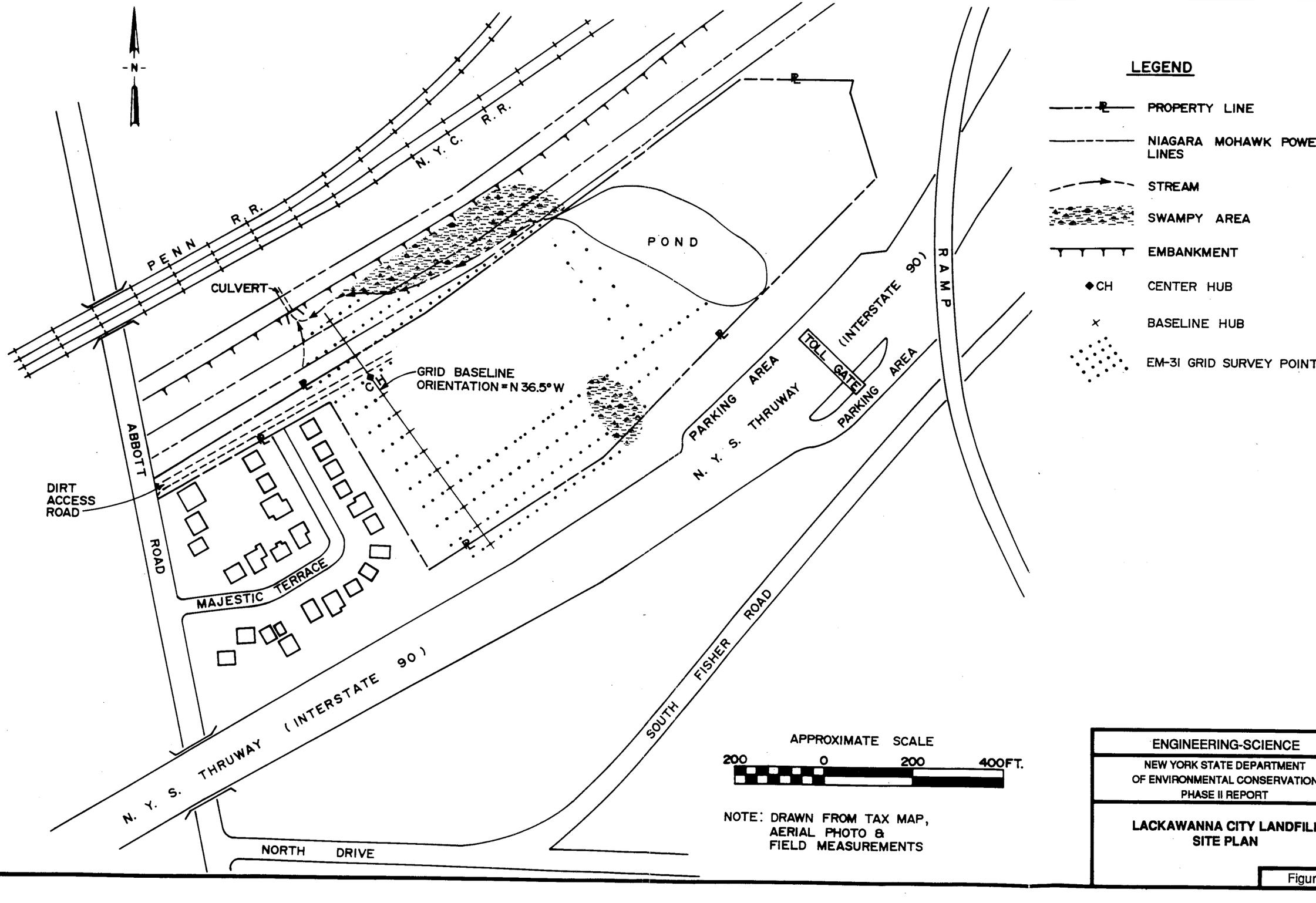
Mark J. Shumacher
Geologist

George H. Moreau
Project Manager

MJS/GHM/dje

REFERENCES

Breiner, Sheldon, 1973. Applications Manual for Portable Magnetometers. Geometrics, Inc., Sunny Vale, CA.



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PHASE II REPORT

LACKAWANNA CITY LANDFILL SITE PLAN

Figure 1

SY053.10

SY053.10

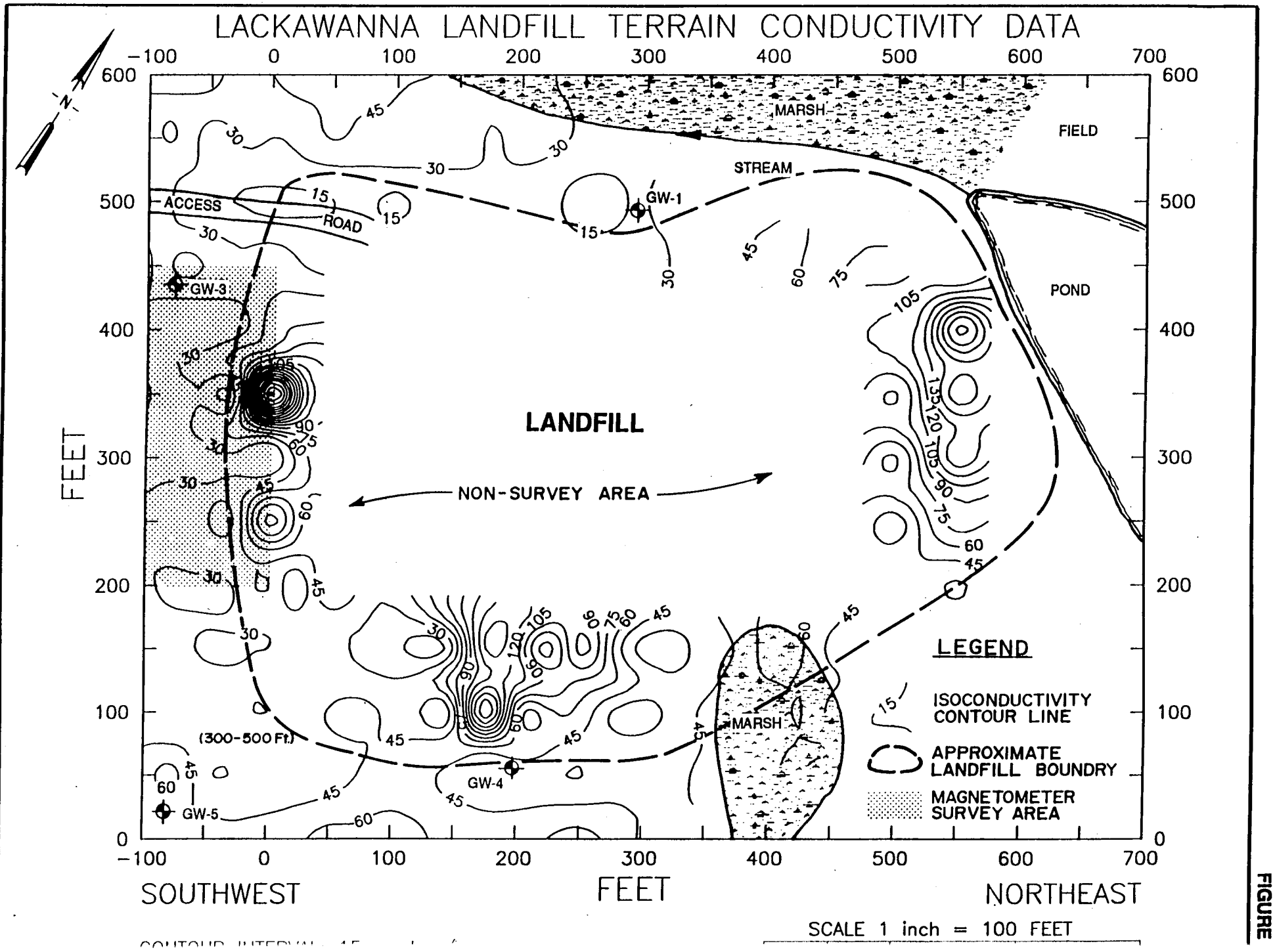

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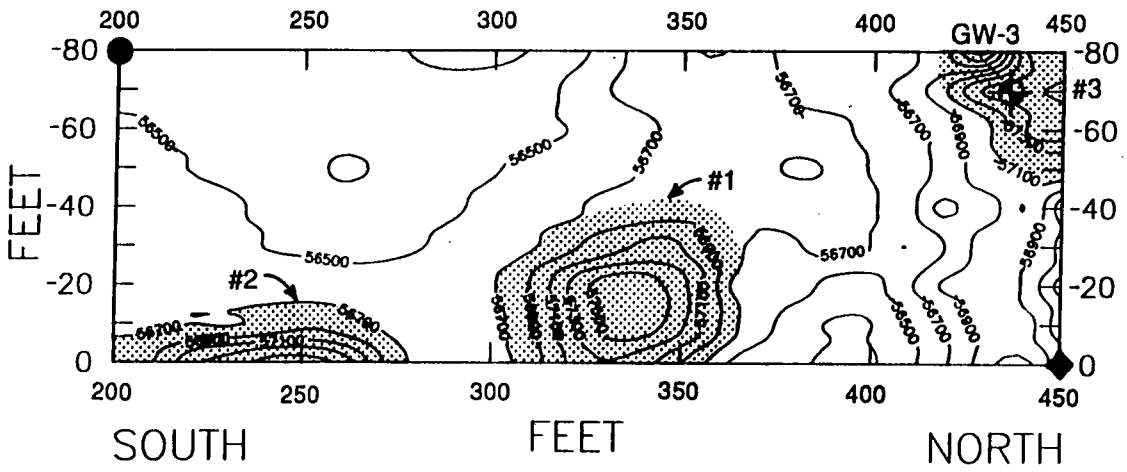
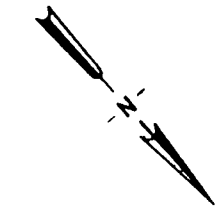
FIGURE

LACKAWANNA LANDFILL MAGNETOMETER SURVEY





LEGEND

- 56500 — ISOMAGNETIC CONTOUR LINE (GAMMAS)
- GW-3 — MONITORING WELL LOCATION
- CH — CENTER HUB (SEE FIGURE #1)
- MAGNETIC ANOMALY
- BASE STATION
- BACKGROUND STATION

SCALE 1 inch = 50 FEET

NOTE: SEE FIGURES 1 AND 2 FOR SURVEY LOCATION

CONTOUR INTERVAL= 200 GAMMAS

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FIGURE

APPENDIX A

RAW FIELD DATA

P13 V[illegible] [illegible]

P14 VIEW [illegible] BAR[illegible]

P20 V[illegible] [illegible]

P21 VIEW [illegible]

P22 V[illegible] [illegible]

P23 V[illegible] [illegible] W [illegible]

P24 V[illegible] [illegible]

MAGNETOMETER SURVEY

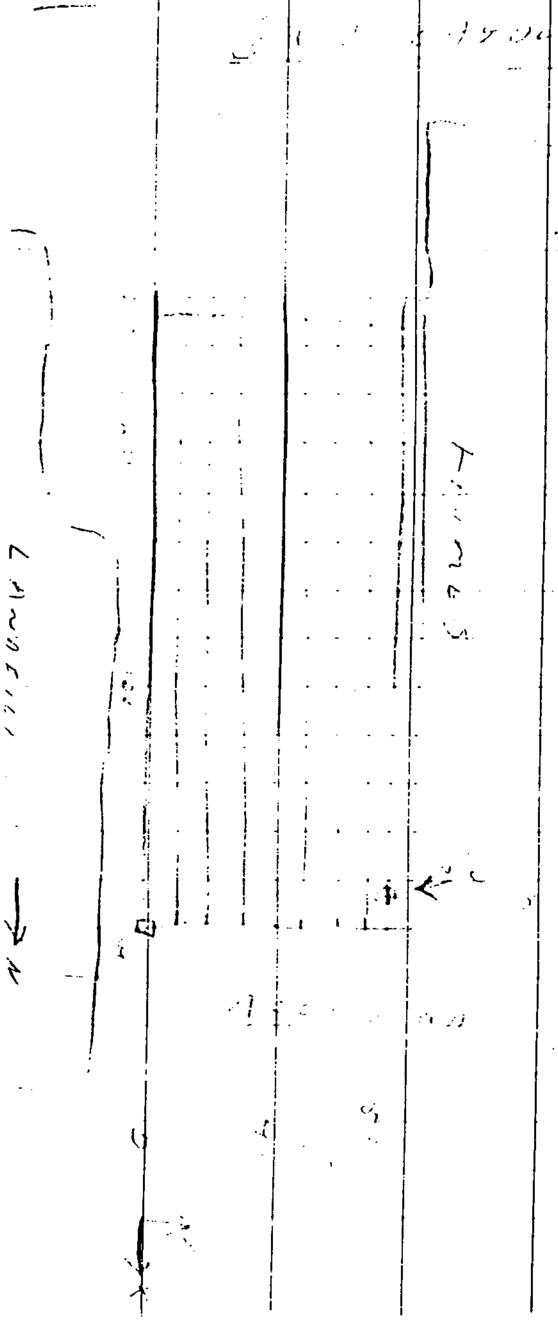
→ CONDUCTED THIS SITE-WIDE [illegible] AS A MEANS OF IDENTIFYING LOCATION OF BURIED METALLIC ARTIFACTS AND TO CK EM-31 ANOMALY

GRID LAYOUT

0,0 PT LOCATED AT EM-31 SURVEYS REFERENCE HUB (SEE P11)

SURVEY GRID LAID OUT 250 FT TO S AND 80 FT TO W

MEASUREMENT PTS EVERY 10 FT (10 FT GRID SPACINGS)



R4 = 0,0
[illegible]

→ BASE REF [illegible] STATION
LOCATED A AT 0,0

		GAMMAS
0,0	N [illegible]	56748
	E	56752
	S	5675[illegible]
	W	5674[illegible]

BASE [illegible] SE

INSTRUMENT EG+G GEOMETRICS
MODEL G-816/826
PROTON MAGNETOMETER

START SURVEY 1400
FINISH SURVEY 1630

[illegible] 1720

71

Location X	Location Y	Reading (gammas)	Orientation
250	7	56748	N
240	–	57147	–
230	–	56971	–
220	–	56653	–
210	–	56425	–
200	–	56234	–
190	–	56234	–
180	–	56358	–
170	–	56235	–
160	–	[illegible]	–
150	–	[illegible]	–
140	–	[illegible]	–
130	–	[illegible]	–
120	–	57157	–
110	–	[illegible]	–
100	–	[illegible]	–
90	–	[illegible]	–
80	–	5645	–
70	–	56919	–
60	–	5754	–
50	–	[illegible]	–
40	–	[illegible]	–
30	–	[illegible]	–
20	–	57253	–
10	–	56985	–

72

Location X	Location Y	Reading (gammas) [Base check 56751]	Orientation
250	19	56552	N
240	–	[illegible]	–
230	–	56915	–
220	–	56617	–
210	–	56424	–
200	–	56251	–
190	–	56214	–
180	–	56467	–
170	–	56586	–
160	–	57080	–
150	–	57532	–
140	–	57855	–
130	–	57785	–
120	–	57206	–
110	–	56765	–
100	–	56632	–
90	–	56595	–
80	–	56597	–
70	–	56640	–
60	–	56763	–
50	–	56840	–
40	–	56714	–
30	–	56663	–
20	–	[illegible]	–

73

Location Y	X	(Gammas) Reading
250	20	56423
240		56900
230		57031
220		56943
210		56634
200		56392
190		56435
180		56341
170		56708
160		56974
150		57481
140		57725
130		57743
120		57480
110		56942
100		56690
90		56606
80		56574
70		56521
60		56504
50		[illegible]
40		[illegible]
30		56529
20		56537
10		56560
0	20	56568

174

BASE ST CK 56750

Location X	Y	Gammas Reading	
250	30	56623	N
240		57074	
230		56476	
220		56674	
210		56461	
200		56766	
190		56802	
180		56661	
170		56641	
160		56844	
150		57221	
140		57094	
130		56914	
120		56732	
110		56628	
100		56574	
90		56501	
80		56488	
70		56468	
60		56422	
50		56485	
40		56496	
30		56511	
20		56531	
10		56545	
0	30	56556	

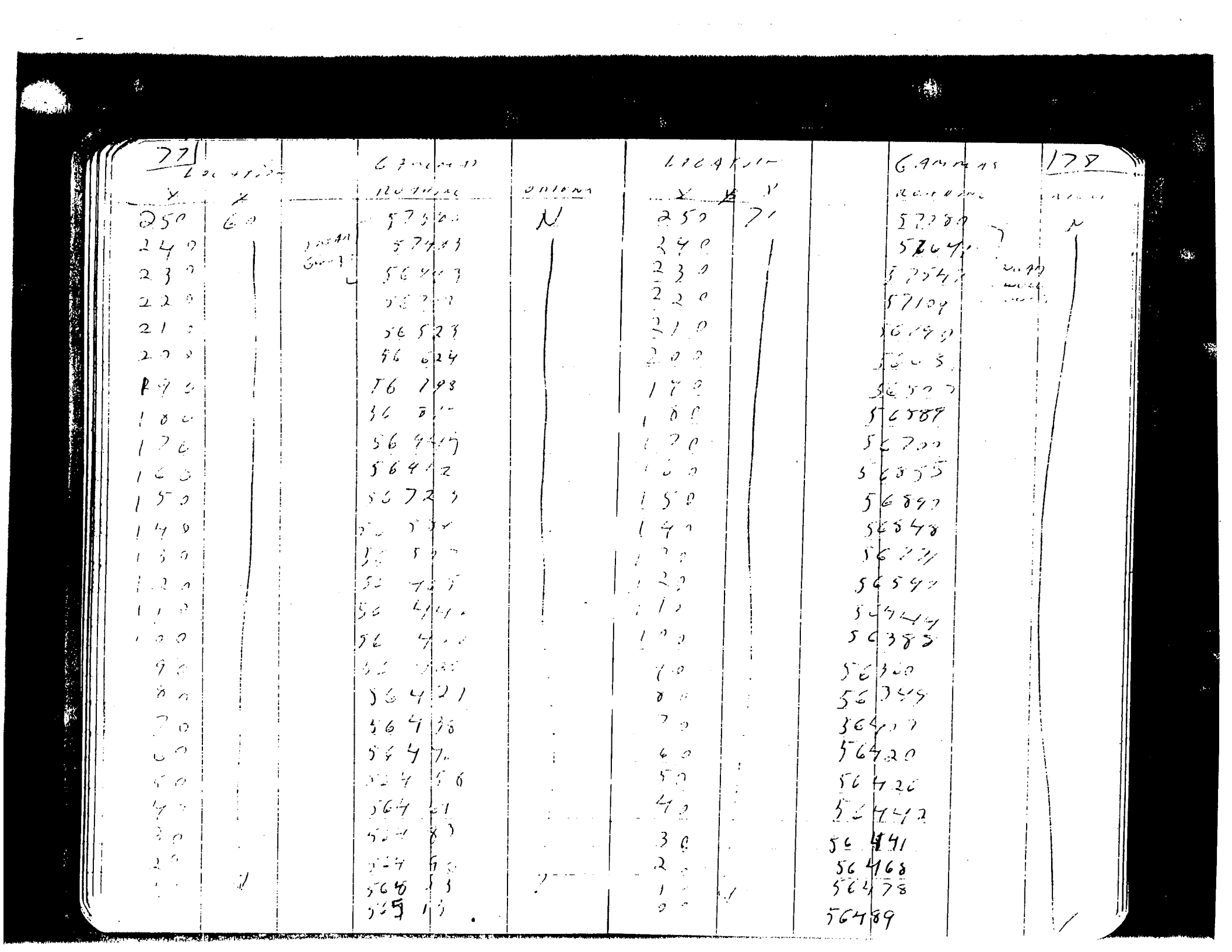
75

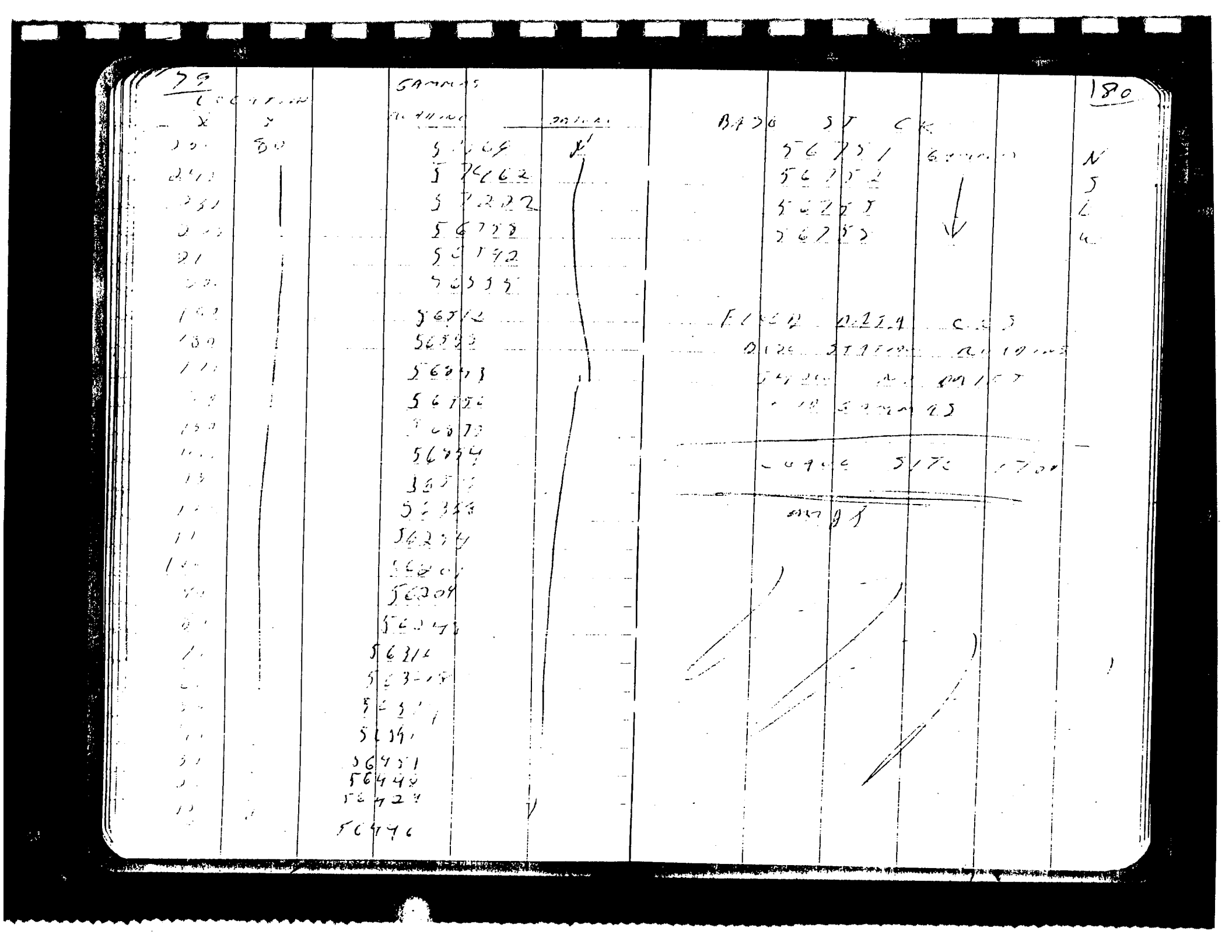
Location X	Location Y	Gamma Reading	On Line?
250	470	56551	N
240		57114	
230		56725	
220		56495	
210		56563	
200		56513	
190		56023	
180		55797	
170		56695	
160		56777	
150		56871	
140		56773	
130		56720	
120		56550	
110		56623	
100		56	
90		56	
80		56	
70		56	
60		56	
50		56	
40		56	
30		56	
20		56	
10		56	
0		56	

Location X	Location Y	Gamma Reading	On Line?
220	50	57161	N
210		57193	
200		57001	
190		56780	
180		56574	
170		56696	
160		56913	
150		56964	
140		56774	
130		56902	
120		56801	
110		56716	
100		56647	
90		56579	
80		56561	
70		56487	
60		56453	
50		56443	
40		56445	
30		56559	
20		56464	
10		56475	
0		56486	
		56498	
		56506	
		56517	

DA20 ST CK 56754

76





APPENDIX C

PHASE II GEOLOGIC DATA

- Boring Logs With Well Schematics and Well Installation Details

Contractor: AMERICAN AUGER
Driller: LEE PENROD
Inspector: MARK J SCHUMACHER
Rig Type: MOBIL B-57
Drilling Method: 4.25" HSA

GROUNDWATER OBSERVATIONS

Water Level	TOC 7.95'		
Time	910		
Date	5-15-90		

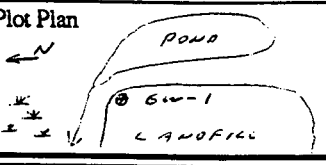
ENGINEERING-SCIENCE DRILLING RECORD

PROJECT NAME LACKAWANNA LANDFILL
PROJECT NO. 5405-3.10.00

Weather: 60's SUNNY
Date/Time Start 5-14-90 / 1200
Date Time Finish 5-14-90 / 1415

BORING NO. GW-1
Sheet 1 of 1
Location NE CORNER OF SITE, ADJ TO STREAM OUTLET FROM POND

Plot Plan



Photovac Reading	Sample I.D.	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
							PROTECTIVE STEEL CASING
							2" ID PVC RISER 3.0' STICK-UP
		0		55			
					0		
1.7	S1		25	1	BRN, CLAY WITH FILL, SOFT, MOIST		CEMENT 0-2'
		1		2			
				4			
		2		4			
							BENTONITE PELLETS 2-3'
		3					
		4					
					4.0		
1.4	S1		35	3	RED BRN - BLK, CO. SAND AND FILL, MOIST		SAND PACK 3-14'
		5		2			
				2	▼ WET AT ≈ 5.5 FT		
		6		1			
NA			0	2			
		7		1			
				1			
		8		1			2" ID PVC 0.01" SLOT WELL SCREEN 4-14
1.0	S1		30	3			
					8.6		
		9		1	GRY, CLAY, SOFT, WET		
				1			
		10		1			
					10.0		
1.6	S1		10	4	GRY, MED - VY CO. SAND WITH FILL, WET		
		11		3			
				1			
		12		2			
NA			5	3	WITH MED GRAVEL		
		13		2			
				1			
		14		1			WELL BOTTOM 14.0'
					14.0		
					BORING TERMINATED AT 14.0'		
		15					
		16					
		17					

STANDARD PENETRATION TEST
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY 0-4 CLAY, 4-8.6 SAND + FILL 8.6-10 CLAY 10-14 SAND

G1-[redacted]

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

Site Name: LACKAWANNA Date: 5-14-90

Job Number: 5Y053.10.00 By: MARK J SCHUMACHER

Boring Number: GW-1

****

Comments

Depth of Hole: 14'

Diameter of Hole: 8"

ALL MATERIALS INSPECTED PRIOR TO INSTALLATION?
Yes X No ____

SCREEN
Material: 2" ID PVC
Slot Size: 0.01"
Length: 10'
Threaded: Yes X No ____

RISER PIPE
Material: 2" ID PVC
Total Length of Well - Screen Length = 17-10 = 7'
Threaded: Yes X No ____

END CAP
Material: PVC
Threaded: Yes X No ____

ALL JOINTS TEFLON TAPED: Yes ____ No X

TOTAL LENGTH OF WELL CASING (Includes screen and stick-up.) 17'

SAND PACK
Type/Size: #3 Rock/US SILICA
Amount (Calculated): 250 lb
Amount (Actual): 250 lb
Installed with Tremie: Yes ____ No X

BENTONITE SEAL(S):
Type/Size: BENTONITE PELLETS 3/4"
Amount (Calculated): 2.5 GAL
Amount (Actual): 2.5 GAL
Installed with Tremie: Yes ____ No X
Secondary Seal(s) Used: Yes ____ No X
Explain: ____

Bentonite allowed to swell at least 30 minutes? Yes X No

g2 -

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

GROUT/CEMENT
Mixture (#Cement/#Bentonite): _____
Mixture (Gal. water/#dry mix): 10/94
Amount (calculated): 10 GAL
Amount (actual): 10 GAL
Installed with TREMIE: Yes ___ No X

LOCKING PROTECTIVE CASING INSTALLED: Yes X No ___
Locked immediately after installation: Yes X No ___
Grout sloped at surface to allow run-off: Yes X No ___
Drain hole drilled prior to development: Yes X No ___
Stick-up: 3.0'

ANY FOREIGN OBJECTS LOST IN THE WELL: Yes ___ No X
If yes:
(1) What was lost:
(2) Depth:
(3) Stage of well installation:
(4) Was object retrieved: Yes ___ No ___
(All or part/how):

WELL CAPPED: Yes X No ___

WELL IDENTIFIED: Yes X No ___

DISPOSAL OF CUTTINGS:
Left in pile: _____
Spread out: X (Hnu reading: 0 ppm)
Containerized: _____
Other: _____

DISPOSAL OF FLUIDS:
Run off on ground surface: X
Containerized: _____
Other: _____

Mark J Schuman
Engineering-Science Representative

5-14-90
Date

Contractor: AMERICAN AUGER
Driller: LEE PENROD
Inspector: NICHOLAS A. SMITH
Rig Type: MOBIL B-57
Drilling Method: 4.25" HSA

GROUNDWATER OBSERVATIONS

Water Level	TOC 3.80		
Time	12:30		
Date	5-15-90		

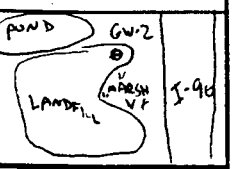
ENGINEERING-SCIENCE DRILLING RECORD

PROJECT NAME LACKAWANNA LANDFILL
PROJECT NO. SY053.10.00

Weather: SUNNY, 70's
Date/Time Start 5-14-90 / 1510
Date Time Finish 5-14-90 / 1725

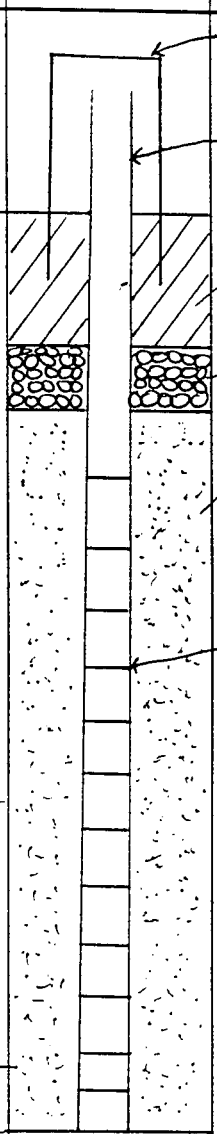
BORING NO. GW-2
Sheet 1 of 1
Location SE CORNER OF SITE ADJ TO NYS THRUWAY

Plot Plan



Photovac Reading	Sample I.D.	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL
		0		SS	0
1.1	S1		75	3	GRAY CLAY, SOME BROWN SILT, DRY TO MOIST
		1		4	
				6	
		2		9	
		3			
		4			
0.8			100	1	
		5		1	▼ WET AT 5.0 ft
				1	
		6		1	
1.0			75	1	TR. FINE SAND
		7		1	
				2	
		8		2	
1.0	S1		100	1	
		9		1	9.0
				1	
		10		2	GRAY CLAY, LITTLE FINE BROWN SAND, WET
1.0	S1		62.5	1	
		11		3	TR. F-MED GRAVEL
				4	
		12		6	
1.0	S1		100	5	
		13		7	13.0
				7	GRAY CLAY AND MED GRAVEL (SHALE FRAGMENTS), WET
		14		8	14.0
					BORING TERMINATED AT 14.0 ft
		15			

WELL SCHEMATIC



COMMENTS

STANDARD PENETRATION TEST
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY 0-9 CLAY, SOME SILT 9-13 CLAY, LITTLE F SAND
13-14 CLAY & GRAVEL

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

Site Name: LACKAWANNA CITY LANDFILL Date: 5/14/90

Job Number: 5Y053.10.00 By: NICHOLAS A. SMITH

Boring Number: GW-2

****

Depth of Hole: 14' Comments

Diameter of Hole: 8"

ALL MATERIALS INSPECTED PRIOR TO INSTALLATION?
Yes X No ____

SCREEN
Material: 2" ID PVC
Slot Size: 0.01"
Length: 10'
Threaded: Yes X No ____

RISER PIPE
Material: 2" ID PVC
Total Length of Well - Screen Length = 14 + 3 ft stickup - 10 = 7 ft
Threaded: Yes X No ____

END CAP
Material: PVC
Threaded: Yes X No ____

ALL JOINTS TEFLON TAPED: Yes ____ No X

TOTAL LENGTH OF WELL CASING (Includes screen and stick-up.) 17 ft

SAND PACK
Type/Size: US SILICA / #3 Q-ROK
Amount (Calculated): 250
Amount (Actual): 250
Installed with Tremie: Yes ____ No X

BENTONITE SEAL(S):
Type/Size: PELLETS / 3/8"
Amount (Calculated): 2.5 GAL
Amount (Actual): 2.5 GAL
Installed with Tremie: Yes ____ No X
Secondary Seal(s) Used: Yes ____ No X
Explain: ____

Bentonite allowed to swell at least 30 minutes? Yes X No

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

GROUT/CEMENT
Mixture (#Cement/#Bentonite): _____
Mixture (Gal. water/#dry mix): 10/94
Amount (calculated): 10 GAL
Amount (actual): 10 GAL
Installed with TREMIE: Yes ____ No X

LOCKING PROTECTIVE CASING INSTALLED: Yes X No ____
Locked immediately after installation: Yes X No ____
Grout sloped at surface to allow run-off: Yes X No ____
Drain hole drilled prior to development: Yes X No ____
Stick-up: 3.6 ft

ANY FOREIGN OBJECTS LOST IN THE WELL: Yes ____ No X
If yes:
(1) What was lost:
(2) Depth:
(3) Stage of well installation:
(4) Was object retrieved: Yes ____ No ____
(All or part/how):

WELL CAPPED: Yes X No ____

WELL IDENTIFIED: Yes X No ____

DISPOSAL OF CUTTINGS:
Left in pile: _____
Spread out: X (Hnu reading: 0 ppm)
Containerized: _____
Other: _____

DISPOSAL OF FLUIDS:
Run off on ground surface: X
Containerized: _____
Other: _____

Nicholas A Smith
Engineering-Science Representative

5/14/90
Date

Contractor: AMERICAN AUGER
Driller: ROCKY BAYE
Inspector: MARK J SCHUMACHER
Rig Type: MOBIL B-57
Drilling Method: 4.25" HSA

GROUNDWATER OBSERVATIONS

Water Level	TOC 8.65'		
Time	8:15		
Date	5-16-90		

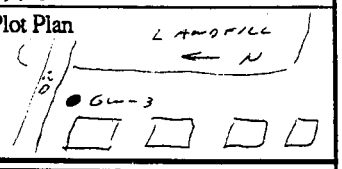
ENGINEERING-SCIENCE DRILLING RECORD

PROJECT NAME LACKAWANNA LANDFILL
PROJECT NO. 3Y053.18.00

Weather: 60'S OVERCAST
Date/Time Start 5-15-90 / 940
Date Time Finish 5-15-90 / 1120

BORING NO. GW-3
Sheet 1 of 1
Location NW CORNER OF SITE, ADJ TO ACCESS RD

Plot Plan



Photovac Reading	Sample I.D.	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
							PROTECTIVE STEEL CASING
		0		55	0		2" ID PVC RISER 2.5' STICK-UP
0			50	5	BRN, SILT, STIFF, MOIST 0.6		
		1		10	BRN-BLK, F-CO SAND AND FILL, MOIST		CEMENT 0-6.5'
				6			
		2		4			
		3					
		4					
		5			5.0'		
0	S1		20	3	BRN, SILT, W/ LITTLE FILL, VY MOIST		
		6		6			
				4			
		7		5	7.0'		BENTONITE PELLETS 6.5-8.5'
0	S1		100	4	BRN, CLAY WITH GRY MOTTLING, SOFT, MOIST		
		8		3			
				3			
		9		3			SAND PACK 8.5-16'
0	S1		100	2	TR SILT STRINGERS ± ⅛-¼" THICK WET		
		10		2			
				2			
		11		2	12.9'		
0	S1		100	2	BRN, CLAY, VY MOIST, SOFT		4.22" OD PRE-PACKED WELL SCREEN W/2" ID WELL SLOTTED 0.01" SLOT 11-16'
		12		3	12.0		
				5	BRN, CLAY, W/LITTLE F-CO SAND AND GRAVEL, WET ▼		
		13		9	GRY, CO. SAND, WET		
0			5"	2			
		14		15			
				12			
		15		2			
				4			
		16		4	16.5'		WELL BOTTOM 16.0'
					BORING TERMINATED AT 16.5FT		
		17					
		18					

STANDARD PENETRATION TEST
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY 0-2.6 SILT, 0.6-5.0 SAND+FILL, 5-7 SILT 7-12.5 CLAY, 12.5-16 SAND

G1-[redacted]

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

Site Name: LACKAWANNA Date: 5-15-90

Job Number: 5405 3.10.00 By: MARK J SCHUMACHER

Boring Number: GW-3

****

Depth of Hole: 16'

Diameter of Hole: 8"

ALL MATERIALS INSPECTED PRIOR TO INSTALLATION?
Yes X No ____

SCREEN
Material: PVC
Slot Size: 0.01"
Length: 5'
Threaded: Yes X No ____

RISER PIPE
Material: 2" ID PVC
Total Length of Well - Screen Length = 18 - 5 = 13'
Threaded: Yes X No ____

END CAP
Material: PVC
Threaded: Yes X No ____

ALL JOINTS TEFLON TAPED: Yes ____ No X

TOTAL LENGTH OF WELL CASING (Includes screen and stick-up.) 18'

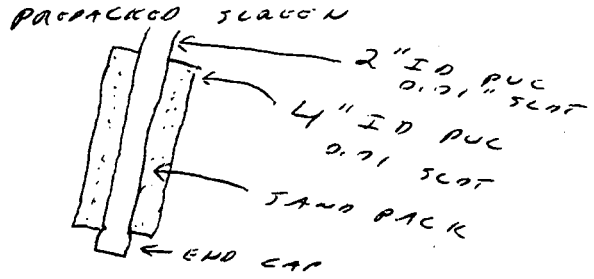
SAND PACK
Type/Size: #3 RANK / US SILICA
Amount (Calculated): 100 lb
Amount (Actual): 100 lb
Installed with Tremie: Yes ____ No X

BENTONITE SEAL(S):
Type/Size: BENTONITE PELLETS 3/8"
Amount (Calculated): 5 GAL
Amount (Actual): 5 GAL
Installed with Tremie: Yes ____ No X
Secondary Seal(s) Used: Yes ____ No ____
Explain: ____

Bentonite allowed to swell at least 30 minutes? Yes X No

Comments

PROPACKED SCREEN
SAND PACK INSTALLED AROUND PROPACKED SCREEN



g2 -

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

GROUT/CEMENT

Mixture (#Cement/#Bentonite): _____

Mixture (Gal. water/#dry mix): 22/188

Amount (calculated): 22 6AC

Amount (actual): 22 6AC

Installed with TREMIE: Yes ___ No X

LOCKING PROTECTIVE CASING INSTALLED: Yes X No ___

Locked immediately after installation: Yes X No ___

Grout sloped at surface to allow run-off: Yes X No ___

Drain hole drilled prior to development: Yes X No ___

Stick-up: 2.0'

ANY FOREIGN OBJECTS LOST IN THE WELL: Yes ___ No X

If yes:

(1) What was lost:

(2) Depth:

(3) Stage of well installation:

(4) Was object retrieved: Yes ___ No ___

(All or part/how):

_____

_____

WELL CAPPED: Yes X No ___

WELL IDENTIFIED: Yes X No ___

DISPOSAL OF CUTTINGS:

Left in pile: _____

Spread out: X (Hnu reading: 0 ppm)

Containerized: _____

Other: _____

DISPOSAL OF FLUIDS:

Run off on ground surface: X

Containerized: _____

Other: _____

Mark D Backus

Engineering-Science Representative

5-15-90

Date

Contractor: AMERICAN AUGER
Driller: LEE PENROD
Inspector: NICHOLAS A. SMITH
Rig Type: MOBIL B-57
Drilling Method: 4.25" HSA

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. GW-4
Sheet 1 of 1

PROJECT NAME LACKAWANNA LANDFILL
PROJECT NO. SY053.10.00

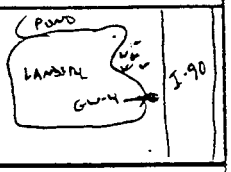
Location ALONG NYS THRUWAY BETWEEN GW-2 AND GW-5

GROUNDWATER OBSERVATIONS

Water Level	TOC, 3.5'		
Time	8:25		
Date	5-16-90		

Weather: 60s LIGHT RAW - SUN
Date/Time Start 5/15/90 8:30
Date Time Finish 5/15/90 10:30

Plot Plan



Photovac Reading	Sample ID	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
							PROTECTIVE STEEL CASING AND LOCK
							2" ID PVC RISER 2.0' STICKUP
		0		SS	~ 512.3	0	
0.4	S1		50	5	BROWN SILT AND BLACK CO. SAND, BRICK, FINE-MED GRAVEL (FILL)		CEMENT 0-3'
		1		5			
				3			
		2		4			
		3					
							BENTONITE PELLETS 3-5'
		4			WITH SOME GRAY CLAY, DRY	4.0	
0.2			75	5	GRAY CLAY AND BROWN SILT, DRY TO MOIST		
		5		4			
				6	▼ WET AT 5.75'		SAND PACK 5-12'
		6		6			
0.4	S1		100	1	LITTLE MED. SAND		
		7		2			4.22" OD PRE-PACKED WELL SCREEN W/ 2" ID PVC SCREEN 0.01" SLOT 7-12'
				3			
		8		3		8.0	
0.5	S1		87.5	2	GRAY CLAY WITH LITTLE BROWN SILT, MOIST		
		9		1		9.5	
				1			
		10		1	GRAY CLAY, WET		
0.4	S1		100	1			
		11		1	TR FINE SAND		
				1			
		12		1		12.0	
					BORING TERMINATED AT 12.0 FT		WELL BOTTOM 12.0'
		13					
		14					

STANDARD PENETRATION TEST
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY 0-4 SILT + FILL 4-8 CLAY & SILT 8-9.5 CLAY W/ LITTLE SILT
9.5-12 CLAY

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

Site Name: LACKAWANNA CITY LANDFILL Date: 5/15/90

Job Number: 5Y053.10.00 By: NICHOLAS A. SMITH

Boring Number: GW-4

****

Comments

Depth of Hole: 12 ft.

Diameter of Hole: 8 in.

ALL MATERIALS INSPECTED PRIOR TO INSTALLATION?
Yes X No ____

SCREEN
Material: 4.22" OD PREPACKED PVC
Slot Size: 0.01"
Length: 5 ft.
Threaded: Yes X No ____

RISER PIPE
Material: 2" ID PVC
Total Length of Well - Screen Length = 12.0 + 2.0' Stickup - 5 = 8 ft
Threaded: Yes X No ____

END CAP
Material: PVC 2"
Threaded: Yes ____ No X

ALL JOINTS TEFLON TAPED: Yes ____ No X

TOTAL LENGTH OF WELL CASING (Includes screen and stick-up.) 14 ft.

SAND PACK
Type/Size: #3 Q-ROK
Amount (Calculated): 50lb
Amount (Actual): 50 lb
Installed with Tremie: Yes ____ No X

INSTALLED AROUND PREPACKED SCREEN

BENTONITE SEAL(S):
Type/Size: PELLETS / 3/8"
Amount (Calculated): 5 GAL
Amount (Actual): 5 GAL
Installed with Tremie: Yes ____ No X
Secondary Seal(s) Used: Yes ____ No X
Explain: ____

Bentonite allowed to swell at least 30 minutes Yes ____ No X

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

GROUT/CEMENT

Mixture (#Cement/#Bentonite): _____

Mixture (Gal. water/#dry mix): 10/100

Amount (calculated): 10 GAL

Amount (actual): 10 GAL

Installed with TREMIE: Yes ____ No X

LOCKING PROTECTIVE CASING INSTALLED: Yes X No ____

Locked immediately after installation: Yes X No ____

Grout sloped at surface to allow run-off: Yes X No ____

Drain hole drilled prior to development: Yes ____ No X

Stick-up: 2.0 Ft.

ANY FOREIGN OBJECTS LOST IN THE WELL: Yes ____ No X

If yes:

(1) What was lost:

(2) Depth:

(3) Stage of well installation:

(4) Was object retrieved: Yes ____ No ____

(All or part/how):

_____

_____

WELL CAPPED: Yes X No ____

WELL IDENTIFIED: Yes X No ____

DISPOSAL OF CUTTINGS:

Left in pile: _____

Spread out: X (Hnu reading: 0 ppm)

Containerized: _____

Other: _____

DISPOSAL OF FLUIDS:

Run off on ground surface: X

Containerized: _____

Other: _____

Nicholas A Smith

Engineering-Science Representative

5/15/90

Date

Contractor: AMERICAN AUGER
Driller: ROCKY BAYE
Inspector: MARK J SCHUMACHER
Rig Type: MOBIL B-57
Drilling Method: 4.25" HSA

ENGINEERING-SCIENCE DRILLING RECORD

BORING NO. GW-5
Sheet 1 of 1
Location SW CORNER OF SITE, ADJ TO NYS THRUWAY

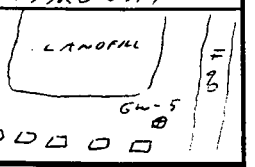
PROJECT NAME LACKAWANNA LANDFILL
PROJECT NO. 5Y053.10.00

GROUNDWATER OBSERVATIONS

Water Level	TOC 3.37'		
Time	1510		
Date	5-15-90		

Weather: 60's SUNNY
Date/Time Start 5-14-90 / 1520
Date Time Finish 5-14-90 / 1821

Plot Plan



Photovac Reading	Sample I.D.	Sample Depth	% Recovery	SPT	FIELD IDENTIFICATION OF MATERIAL	WELL SCHEMATIC	COMMENTS
							PROTECTIVE STEEL CASING
							2.0" ID PVC RISER
							2.7' STICK-UP
		0		55	GL 589.54		
0	S1		100	4	BRN, SILT, W/ LITTLE CLAY, TR. GRY MOTTLING, SOFT, MOIST		CEMENT 0-2
		1		5			
				5			
		2		5			
							BENTONITE PELLETS 2-3
		3					
		4					
							SAND PACK 3-14'
		5					
0	S1		100	2			
		6		3			
				3			
		7		3	7.9'		
					GRY, CLAY, V.F. MOIST		
					▼ WET AT 8.0 FT		
		8					
		9					
0	S1		100	WT			2" ID PVC 0.01" SLOT WELL SCREEN 4-14'
		10		1			
				1			
		11		1	11.0		
0	S1		50	5	GRY, MED-CO SAND AND F-CO GRAVEL (SMALL FRAGMENTS), WET		
		12		8			
				6			
		13		6			
				4			WELL BOTTOM 14.0 FT
		14		4	14.0		
					BORING TERMINATED AT 14.0'		BEDROCK MAY BE AT ≈ 14.0 FT HIGHLY WEATHERED
		15					
		16					
		17					

STANDARD PENETRATION TEST
SS = SPLIT SPOON A = AUGER CUTTINGS C = CORED

SUMMARY 0-7.9 SILT 7.9-11 CLAY, 11-14 SAND + GRAVEL

GI-[redacted]

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

Site Name: LACKAWANNA Date: 5-14-91

Job Number: SY053.10.01 By: MARK J SCHUMACHER

Boring Number: GW-5

****

Comments

Depth of Hole: 14'

Diameter of Hole: 8"

ALL MATERIALS INSPECTED PRIOR TO INSTALLATION?
Yes X No ____

SCREEN
Material: 2" ID PVC
Slot Size: 0.01"
Length: 10'
Threaded: Yes X No ____

RISER PIPE
Material: 2" ID PVC
Total Length of Well - Screen Length = 17-10 = 7'
Threaded: Yes X No ____

END CAP
Material: PVC
Threaded: Yes X No ____

ALL JOINTS TEFLON TAPED: Yes ____ No X

TOTAL LENGTH OF WELL CASING (Includes screen and stick-up.) 17'

SAND PACK
Type/Size: #3 RANK / US SILICA
Amount (Calculated): 250 lb
Amount (Actual): 250 lb
Installed with Tremie: Yes ____ No X

BENTONITE SEAL(S):
Type/Size: BENTONITE PELLETS 3/8"
Amount (Calculated): 2.5 GAL
Amount (Actual): 2.5 GAL
Installed with Tremie: Yes ____ No X
Secondary Seal(s) Used: Yes ____ No X
Explain: ____

Bentonite allowed to swell at least 30 minutes? Yes ✓ No

1g2 -

WELL INSTALLATION CHECKLIST
PHASE II INVESTIGATIONS

GROUT/CEMENT
Mixture (#Cement/#Bentonite): _____
Mixture (Gal. water/#dry mix): 10/94
Amount (calculated): 10 GAL
Amount (actual): 10 GAL
Installed with TREMIE: Yes ____ No ____

LOCKING PROTECTIVE CASING INSTALLED: Yes X No ____
Locked immediately after installation: Yes X No ____
Grout sloped at surface to allow run-off: Yes X No ____
Drain hole drilled prior to development: Yes X No ____
Stick-up: 3.0'

ANY FOREIGN OBJECTS LOST IN THE WELL: Yes ____ No X
If yes:
(1) What was lost:
(2) Depth:
(3) Stage of well installation:
(4) Was object retrieved: Yes ____ No ____
(All or part/how):

WELL CAPPED: Yes X No ____

WELL IDENTIFIED: Yes X No ____

DISPOSAL OF CUTTINGS:
Left in pile: _____
Spread out: X (Hnu reading: 0 ppm)
Containerized: _____
Other: _____

DISPOSAL OF FLUIDS:
Run off on ground surface: X
Containerized: _____
Other: _____

Mark J. Behnke
Engineering-Science Representative

5-14-90
Date

APPENDIX D

LABORATORY ANALYTICAL DATA

APPENDIX D

LABORATORY ANALYTICAL DATA

Subsurface Soil Results

Groundwater Results

Surface Water Results

Sediment Results

Surface Soil Results

Quality Control Sample Results

Field Sampling Records

Each group noted above is organized by sample number. Results are listed in the following order:

Volatile organics, semivolatile organics, pesticide/PCBs, and metals.

Data qualifiers can be found following this page.

Versar INC.

Data Qualifier Flags

J — For Target Compounds: This flag is used when mass spectral data indicates the presence of a compound but the result is less than the specified detection limit but still greater than zero.

For Non Target Compounds: This flag indicates that the concentration is an estimated value, assuming a 1 to 1 response with the internal standard.

B — This flag is used when the analyte is found in the blank as well as in the sample. It indicates possible/probable contamination and warns the data user to take appropriate action.

u — This flag states that the compound was analyzed for but was not detected. The number is the minimum attainable detection limit for the sample.

X or T — This flag states that the mass spectrum does not meet EPA CLP criteria for confirmation, but compound presence is strongly suspected.

E — This flag is used to indicate that the quantitation of the analyte is outside the linear calibration of the curve and that dilution was required in order to properly quantitate.

D — This flag is used to indicate the value for the target analyte was calculated from a dilution (see "E" flag above).

Y — This flag is used when a matrix spike compound is also confirmed present in the unspiked sample.

Flags excerpted from and established by the US EPA Contract Lab Program (CLP) protocol.

Qualifier Cross Reference List

For Metals

Qualifier	Type	Brief Explaination
B	C	Reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL)
U	C	Reported value is less than the IDL
E	Q	Reported value is estimated because of the presence of interference. An explanatory note will appear on the cover page if the problem applies to all samples or on a specific Form I - IN if it is an isolated problem
M	Q	Duplicate injection precision not met
N	Q	Spiked sample recovery not within control limits
S	Q	The reported value was determined by the Method of Standard Additions (MSA)
W	Q	Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance. (See Exhibit E of SOW 7/87)
*	Q	Duplicate analysis (Relative Percent Difference) not within contol limits
+	Q	Correlation coefficient for the MSA is less than 0.995
Please note that entering "S", "W", or "+" is mutually exclusive. There are no combinations of these qualifiers in the same field for an analyte		
P	M	Analysis done by inductively coupled plasma (ICP)
A	M	Analysis done by flame atomic absorption (AA)
F	M	Analysis done by furnace AA
CV	M	Analysis done by manual cold vapor AA
AS	M	Analysis done by semi-automated spectrophotometric
NR	M	The analyte is not required to be analyzed
NA	M	Not applicable

Types: C - Concentration Qualifier; Q - QC Qualifier; M - Method Qualifier;

For more detailed descriptions of each of these qualifiers, please to refer to EPA's Contract Laboratory Program's Statement of Work, 7/87

Subsurface Soil Results

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-GW-1-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20948

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3710

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 26 Date Analyzed: 05/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene chloride	4	J
67-64-1	Acetone	19	
75-15-0	Carbon disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon tetrachloride	7	U
108-05-4	Vinyl acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-pentanone	14	U
591-78-6	2-Hexanone	14	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA-GW-1-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20948

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3710

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 26 Date Analyzed: 05/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW1S1

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20943

Sample wt/vol: 30.2 (g/mL) G Lab File ID: T2842

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 29 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 6.94 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	490	U
111-44-4	bis(2-Chloroethyl)ether	490	U
95-57-8	2-Chlorophenol	490	U
541-73-1	1,3-Dichlorobenzene	490	U
106-46-7	1,4-Dichlorobenzene	490	U
100-51-6	Benzyl alcohol	490	U
95-50-1	1,2-Dichlorobenzene	490	U
95-48-7	2-Methylphenol	490	U
108-60-1	bis(2-Chloroisopropyl)ether	490	U
106-44-5	4-Methylphenol	490	U
621-64-7	N-Nitroso-di-n-propylamine	490	U
67-72-1	Hexachloroethane	490	U
98-95-3	Nitrobenzene	490	U
78-59-1	Isophorone	490	U
88-75-5	2-Nitrophenol	490	U
105-67-9	2,4-Dimethylphenol	490	U
65-85-0	Benzoic Acid	2400	U
111-91-1	bis(2-Chloroethoxy)methane	490	U
120-83-2	2,4-Dichlorophenol	490	U
120-82-1	1,2,4-Trichlorobenzene	490	U
91-20-3	Naphthalene	490	U
106-47-8	4-Chloroaniline	490	U
87-68-3	Hexachlorobutadiene	490	U
59-50-7	4-Chloro-3-methylphenol	490	U
91-57-6	2-Methylnaphthalene	490	U
77-47-4	Hexachlorocyclopentadiene	490	U
88-06-2	2,4,6-Trichlorophenol	490	U
95-95-4	2,4,5-Trichlorophenol	2400	U
91-58-7	2-Chloronaphthalene	490	U
88-74-4	2-Nitroaniline	2400	U
131-11-3	Dimethylphthalate	490	U
208-96-8	Acenaphthylene	490	U
606-20-2	2,6-Dinitrotoluene	490	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW1S1

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20943

Sample wt/vol: 30.2 (g/mL) G Lab File ID: T2842

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 29 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 6.94 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2400	U
83-32-9	Acenaphthene	490	U
51-28-5	2,4-Dinitrophenol	2400	U
100-02-7	4-Nitrophenol	2400	U
132-64-9	Dibenzofuran	490	U
121-14-2	2,4-Dinitrotoluene	490	U
84-66-2	Diethylphthalate	490	U
7005-72-3	4-Chlorophenyl-phenylether	490	U
86-73-7	Fluorene	490	U
100-01-6	4-Nitroaniline	2400	U
534-52-1	4,6-Dinitro-2-methylphenol	2400	U
86-30-6	N-nitrosodiphenylamine (1)	490	U
101-55-3	4-Bromophenyl-phenylether	490	U
118-74-1	Hexachlorobenzene	490	U
87-86-5	Pentachlorophenol	2400	U
85-01-8	Phenanthrene	490	U
120-12-7	Anthracene	490	U
84-74-2	Di-n-butylphthalate	490	U
206-44-0	Fluoranthene	490	U
129-00-0	Pyrene	490	U
85-68-7	Butylbenzylphthalate	490	U
91-94-1	3,3'-Dichlorobenzidine	980	U
56-55-3	Benzo(a)anthracene	490	U
218-01-9	Chrysene	490	U
117-81-7	bis(2-Ethylhexyl)phthalate	300	J
117-84-0	Di-n-octyl phthalate	490	U
205-99-2	Benzo(b)fluoranthene	490	U
207-08-9	Benzo(k)fluoranthene	490	U
50-32-8	Benzo(a)pyrene	490	U
193-39-5	Indeno(1,2,3-cd)pyrene	490	U
53-70-3	Dibenz(a,h)anthracene	490	U
191-24-2	Benzo(g,h,i)perylene	490	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LAGW1S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20943

Sample wt/vol: 30.2 (g/mL) G Lab File ID: T2842

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 29 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 6.94 Dilution Factor: 1.1

Number TICs found: 14

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.58	340	BJ
2.		UNKNOWN HYDROCARBON	4.70	290	BJ
3.		UNKNOWN HYDROCARBON	4.85	390	J
4.		UNKNOWN	6.33	2000	J
5.		UNKNOWN KETONE	6.77	1500	J
6.		UNKNOWN KETONE	6.98	200	J
7.		UNKNOWN	7.68	4500	J
8.		UNKNOWN KETONE	8.15	200	J
9.		UNKNOWN	8.95	3800	J
10.		UNKNOWN ORGANIC ACID	23.75	200	J
11.	10544-50-0	SULFUR, MOL. (S8)	25.47	390	J
12.		UNKNOWN	25.62	340	J
13.	10544-50-0	SULFUR, MOL. (S8)	25.71	980	J
14.		UNKNOWN	32.82	200	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW1SWDL

Lab Name: VERSAR, INC. Contract:

b Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 20943

Sample wt/vol: 30.20 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 29.3 dec. Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/04/90

GPC Cleanup: (Y/N) N pH: 6.94 Dilution Factor: 10

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	56	U
319-85-7	beta-BHC	56	U
319-86-8	delta-BHC	56	U
58-89-9	gamma-BHC (Lindane)	56	U
76-44-8	Heptachlor	56	U
309-00-2	Aldrin	56	U
1024-57-3	Heptachlor Epoxide	56	U
959-98-8	Endosulfan I	56	U
60-57-1	Dieldrin	110	U
72-55-9	4,4'-DDE	110	U
72-20-8	Endrin	110	U
33213-65-9	Endosulfan II	110	U
72-54-8	4,4'-DDD	110	U
1031-07-8	Endosulfan Sulfate	110	U
50-29-3	4,4'-DDT	110	U
72-43-5	Methoxychlor	560	U
53494-70-5	Endrin Ketone	110	U
5103-71-9	alpha-Chlordane	110	U
5103-74-2	gamma-Chlordane	110	U
8001-35-2	Toxaphene	1100	U
12674-11-2	Aroclor-1016	560	U
11104-28-2	Aroclor-1221	560	U
11141-16-5	Aroclor-1232	560	U
53469-21-9	Aroclor-1242	560	U
12672-29-6	Aroclor-1248	560	U
11097-69-1	Aroclor-1254	1100	U
11096-82-5	Aroclor-1260	1100	U

06-06-90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-GW-1-S1

Client : ENGINEERING_SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2739____ Code: ENGILACK Batch: 1_____

Matrix : SOIL_____ Lab Sample ID: 20938____

Level (low/med): LOW_____ Date Received: 05/16/90_

% Solids: __74.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16200			P
7440-36-0	Antimony	6.1	U	N	P
7440-38-2	Arsenic	8.2		SN	F
7440-39-3	Barium	155			P
7440-41-7	Beryllium	0.53	U		P
7440-43-9	Cadmium	2.6			P
7440-70-2	Calcium	13600		E*	P
7440-47-3	Chromium	58.5			P
7440-48-4	Cobalt	6.9	B		P
7440-50-8	Copper	145			P
7439-89-6	Iron	73500		E	P
7439-92-1	Lead	257			F
7439-95-4	Magnesium	2570		*	P
7439-96-5	Manganese	502		EN*	P
7439-97-6	Mercury	0.12			CV
7440-02-0	Nickel	54.9			P
7440-09-7	Potassium	1060	B		P
7782-49-2	Selenium	0.78	U	WN	F
7440-22-4	Silver	2.8			P
7440-23-5	Sodium	863	B		P
7440-28-0	Thallium	0.78	U		F
7440-62-2	Vanadium	14.1			P
7440-66-6	Zinc	1220		E	P
	Cyanide	0.63	U		AS

Color Before: BLACK_____ Clarity Before: _____ Texture: MEDIUM

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: YES___

Comments:

__ARTIFACTS:__ROCKS;_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-GW-2-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20949

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3711

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 22 Date Analyzed: 05/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene chloride	3	J
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
108-05-4	Vinyl acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LA-GW-2-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20949

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3711

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 22 Date Analyzed: 05/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW2S1

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20944

Sample wt/vol: 30.2 (g/mL) G Lab File ID: T2843

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 20 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 7.39 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
100-51-6	Benzyl alcohol	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
108-60-1	bis(2-Chloroisopropyl)ether	430	U
106-44-5	4-Methylphenol	430	U
621-64-7	N-Nitroso-di-n-propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
65-85-0	Benzoic Acid	2100	U
111-91-1	bis(2-Chloroethoxy)methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	430	U
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-methylphenol	430	U
91-57-6	2-Methylnaphthalene	430	U
77-47-4	Hexachlorocyclopentadiene	430	U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	2100	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethylphthalate	430	U
208-96-8	Acenaphthylene	430	U
606-20-2	2,6-Dinitrotoluene	430	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW2S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20944

Sample wt/vol: 30.2 (g/mL) G Lab File ID: T2843

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 20 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 7.39 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	430	U
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
132-64-9	Dibenzofuran	430	U
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	430	U
100-01-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-methylphenol	2100	U
86-30-6	N-nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	430	U
120-12-7	Anthracene	430	U
84-74-2	Di-n-butylphthalate	430	U
206-44-0	Fluoranthene	430	U
129-00-0	Pyrene	430	U
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	870	U
56-55-3	Benzo(a)anthracene	430	U
218-01-9	Chrysene	430	U
117-81-7	bis(2-Ethylhexyl)phthalate	200	J
117-84-0	Di-n-octyl phthalate	430	U
205-99-2	Benzo(b)fluoranthene	430	U
207-08-9	Benzo(k)fluoranthene	430	U
50-32-8	Benzo(a)pyrene	430	U
193-39-5	Indeno(1,2,3-cd)pyrene	430	U
53-70-3	Dibenz(a,h)anthracene	430	U
191-24-2	Benzo(g,h,i)perylene	430	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LAGW2S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20944

Sample wt/vol: 30.2 (g/mL) G Lab File ID: T2843

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 20 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 7.39 Dilution Factor: 1.1

Number TICs found: 15

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.58	170	BJ
2.		UNKNOWN HYDROCARBON	4.70	1200	BJ
3.		UNKNOWN HYDROCARBON	4.85	2200	J
4.		UNKNOWN HYDROCARBON	5.00	2000	J
5.		UNKNOWN	6.33	2400	J
6.		UNKNOWN KETONE	6.75	700	J
7.		UNKNOWN KETONE	6.97	260	J
8.		UNKNOWN	7.67	2400	J
9.		UNKNOWN	8.15	260	J
10.		UNKNOWN	8.94	3000	J
11.		UNKNOWN HYDROCARBON	22.89	170	J
12.		UNKNOWN HYDROCARBON	24.19	170	J
13.		UNKNOWN HYDROCARBON	25.44	170	J
14.		UNKNOWN HYDROCARBON	26.64	170	J
15.		UNKNOWN HYDROCARBON	32.79	260	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW2S1

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 20944

Sample wt/vol: 30.18 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 20.2 dec. Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	5.0	U
319-85-7	beta-BHC	5.0	U
319-86-8	delta-BHC	5.0	U
58-89-9	gamma-BHC (Lindane)	5.0	U
76-44-8	Heptachlor	5.0	U
309-00-2	Aldrin	5.0	U
1024-57-3	Heptachlor Epoxide	5.0	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	10	U
72-55-9	4,4'-DDE	10	U
72-20-8	Endrin	10	U
33213-65-9	Endosulfan II	10	U
72-54-8	4,4'-DDD	10	U
1031-07-8	Endosulfan Sulfate	10	U
50-29-3	4,4'-DDT	10	U
72-43-5	Methoxychlor	50	U
53494-70-5	Endrin Ketone	10	U
5103-71-9	alpha-Chlordane	10	U
5103-74-2	gamma-Chlordane	10	U
8001-35-2	Toxaphene	100	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	100	U
11096-82-5	Aroclor-1260	100	U

06-06-90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-GW-2-S1

Client : ENGINEERING_SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2739____ Code: ENGILACK Batch: 1_____

Matrix : SOIL_____ Lab Sample ID: 20939____

Level (low/med): LOW_____ Date Received: 05/16/90_

% Solids: __78.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13700			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	5.8		N	F
7440-39-3	Barium	65.8			P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium	38600		E*	P
7440-47-3	Chromium	18.9			P
7440-48-4	Cobalt	10.4	B		P
7440-50-8	Copper	22.9			P
7439-89-6	Iron	24600		E	P
7439-92-1	Lead	12.7			F
7439-95-4	Magnesium	10000		*	P
7439-96-5	Manganese	325		EN*	P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	31.3			P
7440-09-7	Potassium	2170			P
7782-49-2	Selenium	0.74	U	N	F
7440-22-4	Silver	0.51	U		P
7440-23-5	Sodium	191	B		P
7440-28-0	Thallium	0.74	U	W	F
7440-62-2	Vanadium	24.0			P
7440-66-6	Zinc	73.9		E	P
	Cyanide	0.60	U		AS

Color Before: BROWN_____ Clarity Before: _____ Texture: MEDIUM

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: YES____

Comments:

__ARTIFACTS:__LEAVES;_____

_____

_____

_____

FORM I - IN

00011

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-GW-3-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20950

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3712

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 20 Date Analyzed: 05/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene chloride	5	J
67-64-1	Acetone	12	U
75-15-0	Carbon disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
108-05-4	Vinyl acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LA-GW-3-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20950

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3712

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 20 Date Analyzed: 05/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW3S1

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20945

Sample wt/vol: 30.3 (g/mL) G Lab File ID: T2844

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 21 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 7.36 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
100-51-6	Benzyl alcohol	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
108-60-1	bis(2-Chloroisopropyl)ether	430	U
106-44-5	4-Methylphenol	430	U
621-64-7	N-Nitroso-di-n-propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
65-85-0	Benzoic Acid	2100	U
111-91-1	bis(2-Chloroethoxy)methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	430	U
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-methylphenol	430	U
91-57-6	2-Methylnaphthalene	430	U
77-47-4	Hexachlorocyclopentadiene	430	U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	2100	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethylphthalate	430	U
208-96-8	Acenaphthylene	430	U
606-20-2	2,6-Dinitrotoluene	430	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW3S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20945

Sample wt/vol: 30.3 (g/mL) G Lab File ID: T2844

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 21 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 7.36 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	430	U
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
132-64-9	Dibenzofuran	430	U
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	430	U
100-01-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-methylphenol	2100	U
86-30-6	N-nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	430	U
120-12-7	Anthracene	430	U
84-74-2	Di-n-butylphthalate	430	U
206-44-0	Fluoranthene	430	U
129-00-0	Pyrene	430	U
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	870	U
56-55-3	Benzo(a)anthracene	430	U
218-01-9	Chrysene	430	U
117-81-7	bis(2-Ethylhexyl)phthalate	3900	
117-84-0	Di-n-octyl phthalate	430	U
205-99-2	Benzo(b)fluoranthene	430	U
207-08-9	Benzo(k)fluoranthene	430	U
50-32-8	Benzo(a)pyrene	430	U
193-39-5	Indeno(1,2,3-cd)pyrene	430	U
53-70-3	Dibenz(a,h)anthracene	430	U
191-24-2	Benzo(g,h,i)perylene	430	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAGW3S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20945

Sample wt/vol: 30.3 (g/mL) G Lab File ID: T2844

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 21 dec. _____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/01/90

GPC Cleanup: (Y/N) N pH: 7.36 Dilution Factor: 1.1

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.58	1200	BJ
2.		UNKNOWN HYDROCARBON	4.70	1100	BJ
3.		UNKNOWN HYDROCARBON	4.87	1900	J
4.		UNKNOWN HYDROCARBON	5.02	1700	J
5.		UNKNOWN KETONE	5.43	260	J
6.	108-22-5	1-PROPEN-2-OL, ACETATE	5.92	260	J
7.		UNKNOWN	6.37	5300	J
8.		UNKNOWN KETONE	6.78	1600	J
9.		UNKNOWN	7.53	400	J
10.		UNKNOWN	7.68	3300	J
11.		UNKNOWN KETONE	8.17	480	J
12.		UNKNOWN	8.97	3800	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW3S1

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 20945

Sample wt/vol: 30.26 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 20.9 dec. Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.36 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	5.0	U
319-85-7	beta-BHC	5.0	U
319-86-8	delta-BHC	5.0	U
58-89-9	gamma-BHC (Lindane)	5.0	U
76-44-8	Heptachlor	5.0	U
309-00-2	Aldrin	5.0	U
1024-57-3	Heptachlor Epoxide	5.0	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	10	U
72-55-9	4,4'-DDE	10	U
72-20-8	Endrin	10	U
33213-65-9	Endosulfan II	10	U
72-54-8	4,4'-DDD	10	U
1031-07-8	Endosulfan Sulfate	10	U
50-29-3	4,4'-DDT	10	U
72-43-5	Methoxychlor	50	U
53494-70-5	Endrin Ketone	10	U
5103-71-9	alpha-Chlordane	10	U
5103-74-2	gamma-Chlordane	10	U
8001-35-2	Toxaphene	100	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	100	U
11096-82-5	Aroclor-1260	100	U

JPH 06-05-90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.: LA-GW-3-S1

Client : ENGINEERING_SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2739____ Code: ENGILACK Batch: 1_____

Matrix : SOIL_____ Lab Sample ID: 20940____

Level (low/med): LOW_____ Date Received: 05/16/90_

% Solids: __80.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10400			P
7440-36-0	Antimony	5.7	U	N	P
7440-38-2	Arsenic	10.4		N	F
7440-39-3	Barium	138			P
7440-41-7	Beryllium	0.92	B		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	48700		E*	P
7440-47-3	Chromium	20.1			P
7440-48-4	Cobalt	7.7	B		P
7440-50-8	Copper	50.8			P
7439-89-6	Iron	27800		E	P
7439-92-1	Lead	1220			F
7439-95-4	Magnesium	6900		*	P
7439-96-5	Manganese	366		EN*	P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	27.1			P
7440-09-7	Potassium	1680			P
7782-49-2	Selenium	0.72	U	N	F
7440-22-4	Silver	1.1	B		P
7440-23-5	Sodium	256	B		P
7440-28-0	Thallium	0.72	U	W	F
7440-62-2	Vanadium	18.4			P
7440-66-6	Zinc	274		E	P
	Cyanide	0.61	U		AS

Color Before: BROWN_____ Clarity Before: _____ Texture: MEDIUM

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: YES___

Comments:

__ARTIFACTS:__STONES;_____

FORM I - IN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-GW-4-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20951

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3713

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 22 Date Analyzed: 05/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene chloride	6	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
108-05-4	Vinyl acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA-GW-4-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20951

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3713

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 22 Date Analyzed: 05/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW4S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20946

Sample wt/vol: 30.4 (g/mL) G Lab File ID: T2845

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 21 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.50 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430	U
111-44-4	bis(2-Chloroethyl)ether	430	U
95-57-8	2-Chlorophenol	430	U
541-73-1	1,3-Dichlorobenzene	430	U
106-46-7	1,4-Dichlorobenzene	430	U
100-51-6	Benzyl alcohol	430	U
95-50-1	1,2-Dichlorobenzene	430	U
95-48-7	2-Methylphenol	430	U
108-60-1	bis(2-Chloroisopropyl)ether	430	U
106-44-5	4-Methylphenol	430	U
621-64-7	N-Nitroso-di-n-propylamine	430	U
67-72-1	Hexachloroethane	430	U
98-95-3	Nitrobenzene	430	U
78-59-1	Isophorone	430	U
88-75-5	2-Nitrophenol	430	U
105-67-9	2,4-Dimethylphenol	430	U
65-85-0	Benzoic Acid	2100	U
111-91-1	bis(2-Chloroethoxy)methane	430	U
120-83-2	2,4-Dichlorophenol	430	U
120-82-1	1,2,4-Trichlorobenzene	430	U
91-20-3	Naphthalene	430	U
106-47-8	4-Chloroaniline	430	U
87-68-3	Hexachlorobutadiene	430	U
59-50-7	4-Chloro-3-methylphenol	430	U
91-57-6	2-Methylnaphthalene	430	U
77-47-4	Hexachlorocyclopentadiene	430	U
88-06-2	2,4,6-Trichlorophenol	430	U
95-95-4	2,4,5-Trichlorophenol	2100	U
91-58-7	2-Chloronaphthalene	430	U
88-74-4	2-Nitroaniline	2100	U
131-11-3	Dimethylphthalate	430	U
208-96-8	Acenaphthylene	430	U
606-20-2	2,6-Dinitrotoluene	430	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW4S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20946

Sample wt/vol: 30.4 (g/mL) G Lab File ID: T2845

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 21 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.50 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100	U
83-32-9	Acenaphthene	430	U
51-28-5	2,4-Dinitrophenol	2100	U
100-02-7	4-Nitrophenol	2100	U
132-64-9	Dibenzofuran	430	U
121-14-2	2,4-Dinitrotoluene	430	U
84-66-2	Diethylphthalate	430	U
7005-72-3	4-Chlorophenyl-phenylether	430	U
86-73-7	Fluorene	430	U
100-01-6	4-Nitroaniline	2100	U
534-52-1	4,6-Dinitro-2-methylphenol	2100	U
86-30-6	N-nitrosodiphenylamine (1)	430	U
101-55-3	4-Bromophenyl-phenylether	430	U
118-74-1	Hexachlorobenzene	430	U
87-86-5	Pentachlorophenol	2100	U
85-01-8	Phenanthrene	430	U
120-12-7	Anthracene	430	U
84-74-2	Di-n-butylphthalate	430	U
206-44-0	Fluoranthene	430	U
129-00-0	Pyrene	430	U
85-68-7	Butylbenzylphthalate	430	U
91-94-1	3,3'-Dichlorobenzidine	870	U
56-55-3	Benzo(a)anthracene	430	U
218-01-9	Chrysene	430	U
117-81-7	bis(2-Ethylhexyl)phthalate	260	J
117-84-0	Di-n-octyl phthalate	430	U
205-99-2	Benzo(b)fluoranthene	430	U
207-08-9	Benzo(k)fluoranthene	430	U
50-32-8	Benzo(a)pyrene	430	U
193-39-5	Indeno(1,2,3-cd)pyrene	430	U
53-70-3	Dibenz(a,h)anthracene	430	U
191-24-2	Benzo(g,h,i)perylene	430	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LAGW4S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20946

Sample wt/vol: 30.4 (g/mL) G Lab File ID: T2845

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 21 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.50 Dilution Factor: 1.1

Number TICs found: 16

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.58	1500	BJ
2.		UNKNOWN HYDROCARBON	4.70	1000	BJ
3.		UNKNOWN HYDROCARBON	4.87	2100	J
4.		UNKNOWN HYDROCARBON	5.02	1800	J
5.		UNKNOWN KETONE	5.43	260	J
6.	108-22-5	1-PROPEN-2-OL, ACETATE	5.92	180	J
7.		UNKNOWN	6.35	3600	J
8.		UNKNOWN KETONE	6.78	2100	J
9.		UNKNOWN	7.53	350	J
10.		UNKNOWN	7.70	3000	J
11.		UNKNOWN KETONE	8.17	530	J
12.		UNKNOWN	8.95	2500	J
13.		UNKNOWN HYDROCARBON	22.90	180	J
14.		UNKNOWN HYDROCARBON	24.22	130	J
15.		UNKNOWN HYDROCARBON	25.47	130	J
16.		UNKNOWN	32.86	180	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW4S1

Lab Name: VERSAR, INC. Contract:

b Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 20946

Sample wt/vol: 30.36 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 21.2 dec. Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	5.0	U
319-85-7	beta-BHC	5.0	U
319-86-8	delta-BHC	5.0	U
58-89-9	gamma-BHC (Lindane)	5.0	U
76-44-8	Heptachlor	5.0	U
309-00-2	Aldrin	5.0	U
1024-57-3	Heptachlor Epoxide	5.0	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	10	U
72-55-9	4,4'-DDE	10	U
72-20-8	Endrin	10	U
33213-65-9	Endosulfan II	10	U
72-54-8	4,4'-DDD	10	U
1031-07-8	Endosulfan Sulfate	10	U
50-29-3	4,4'-DDT	10	U
72-43-5	Methoxychlor	50	U
53494-70-5	Endrin Ketone	10	U
5103-71-9	alpha-Chlordane	10	U
5103-74-2	gamma-Chlordane	10	U
8001-35-2	Toxaphene	100	U
12674-11-2	Aroclor-1016	50	U
11104-28-2	Aroclor-1221	50	U
11141-16-5	Aroclor-1232	50	U
53469-21-9	Aroclor-1242	50	U
12672-29-6	Aroclor-1248	50	U
11097-69-1	Aroclor-1254	100	U
11096-82-5	Aroclor-1260	100	U

06-069

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-GW-4-S1

Client : ENGINEERING_SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2739_____ Code: ENGILACK Batch: 1_____

Matrix : SOIL_____ Lab Sample ID: 20941_____

Level (low/med): LOW_____ Date Received: 05/16/90_

% Solids: __77.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14600			P
7440-36-0	Antimony	5.9	U	N	P
7440-38-2	Arsenic	13.0		SN	F
7440-39-3	Barium	81.1			P
7440-41-7	Beryllium	1.1	B		P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium	19100		E*	P
7440-47-3	Chromium	21.2			P
7440-48-4	Cobalt	11.8	B		P
7440-50-8	Copper	28.5			P
7439-89-6	Iron	27600		E	P
7439-92-1	Lead	25.2			F
7439-95-4	Magnesium	8650		*	P
7439-96-5	Manganese	420		EN*	P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	28.4			P
7440-09-7	Potassium	2130			P
7782-49-2	Selenium	0.74	U	WN	F
7440-22-4	Silver	0.65	B		P
7440-23-5	Sodium	698	B		P
7440-28-0	Thallium	0.74	U		F
7440-62-2	Vanadium	26.9			P
7440-66-6	Zinc	74.5		E	P
	Cyanide	0.64	U		AS

Color Before: BROWN_____ Clarity Before: _____ Texture: MEDIUM

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: YES___

Comments:

__ARTIFACTS:__STONES_AND_GRASS;_____

FORM I - IN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-GW-5-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20952

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3714

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 22 Date Analyzed: 05/22/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene chloride	6	U
67-64-1	Acetone	13	U
75-15-0	Carbon disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
108-05-4	Vinyl acetate	13	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA-GW-5-S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 20952

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3714

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 22 Date Analyzed: 05/22/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW5S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20947

Sample wt/vol: 30.3 (g/mL) G Lab File ID: T2846

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 39 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.32 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	560	U
111-44-4	bis(2-Chloroethyl)ether	560	U
95-57-8	2-Chlorophenol	560	U
541-73-1	1,3-Dichlorobenzene	560	U
106-46-7	1,4-Dichlorobenzene	560	U
100-51-6	Benzyl alcohol	560	U
95-50-1	1,2-Dichlorobenzene	560	U
95-48-7	2-Methylphenol	560	U
108-60-1	bis(2-Chloroisopropyl)ether	560	U
106-44-5	4-Methylphenol	560	U
621-64-7	N-Nitroso-di-n-propylamine	560	U
67-72-1	Hexachloroethane	560	U
98-95-3	Nitrobenzene	560	U
78-59-1	Isophorone	560	U
88-75-5	2-Nitrophenol	560	U
105-67-9	2,4-Dimethylphenol	560	U
65-85-0	Benzoic Acid	2700	U
111-91-1	bis(2-Chloroethoxy)methane	560	U
120-83-2	2,4-Dichlorophenol	560	U
120-82-1	1,2,4-Trichlorobenzene	560	U
91-20-3	Naphthalene	560	U
106-47-8	4-Chloroaniline	560	U
87-68-3	Hexachlorobutadiene	560	U
59-50-7	4-Chloro-3-methylphenol	560	U
91-57-6	2-Methylnaphthalene	560	U
77-47-4	Hexachlorocyclopentadiene	560	U
88-06-2	2,4,6-Trichlorophenol	560	U
95-95-4	2,4,5-Trichlorophenol	2700	U
91-58-7	2-Chloronaphthalene	560	U
88-74-4	2-Nitroaniline	2700	U
131-11-3	Dimethylphthalate	560	U
208-96-8	Acenaphthylene	560	U
606-20-2	2,6-Dinitrotoluene	560	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW5S1

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20947

Sample wt/vol: 30.3 (g/mL) G Lab File ID: T2846

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 39 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.32 Dilution Factor: 1.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2700	U
83-32-9	Acenaphthene	560	U
51-28-5	2,4-Dinitrophenol	2700	U
100-02-7	4-Nitrophenol	2700	U
132-64-9	Dibenzofuran	560	U
121-14-2	2,4-Dinitrotoluene	560	U
84-66-2	Diethylphthalate	560	U
7005-72-3	4-Chlorophenyl-phenylether	560	U
86-73-7	Fluorene	560	U
100-01-6	4-Nitroaniline	2700	U
534-52-1	4,6-Dinitro-2-methylphenol	2700	U
86-30-6	N-nitrosodiphenylamine (1)	560	U
101-55-3	4-Bromophenyl-phenylether	560	U
118-74-1	Hexachlorobenzene	560	U
87-86-5	Pentachlorophenol	2700	U
85-01-8	Phenanthrene	560	U
120-12-7	Anthracene	560	U
84-74-2	Di-n-butylphthalate	560	U
206-44-0	Fluoranthene	560	U
129-00-0	Pyrene	560	U
85-68-7	Butylbenzylphthalate	560	U
91-94-1	3,3'-Dichlorobenzidine	1100	U
56-55-3	Benzo(a)anthracene	560	U
218-01-9	Chrysene	560	U
117-81-7	bis(2-Ethylhexyl)phthalate	3400	
117-84-0	Di-n-octyl phthalate	560	U
205-99-2	Benzo(b)fluoranthene	560	U
207-08-9	Benzo(k)fluoranthene	560	U
50-32-8	Benzo(a)pyrene	560	U
193-39-5	Indeno(1,2,3-cd)pyrene	560	U
53-70-3	Dibenz(a,h)anthracene	560	U
191-24-2	Benzo(g,h,i)perylene	560	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LAGW5S1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2739 SAS No.: _____ SDG No.: B1

Matrix: (soil/water) SOIL Lab Sample ID: 20947

Sample wt/vol: 30.3 (g/mL) G Lab File ID: T2846

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 39 dec. ____ Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.32 Dilution Factor: 1.1

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN HYDROCARBON	4.87	2000	J
2.		UNKNOWN HYDROCARBON	5.02	1600	J
3.		UNKNOWN	6.35	3700	J
4.		UNKNOWN KETONE	6.78	1900	J
5.		UNKNOWN KETONE	6.98	400	J
6.		UNKNOWN	7.53	230	J
7.		UNKNOWN	7.70	3900	J
8.		UNKNOWN KETONE	8.17	400	J
9.		UNKNOWN	9.00	3800	J
10.		UNKNOWN	18.60	460	J
11.		UNKNOWN HYDROCARBON	20.10	400	J
12.		UNKNOWN HYDROCARBON	20.19	230	J
13.		UNKNOWN HYDROCARBON	21.54	400	J
14.		UNKNOWN HYDROCARBON	22.90	460	J
15.		UNKNOWN HYDROCARBON	24.22	400	J
16.		UNKNOWN HYDROCARBON	25.47	400	J
17.		UNKNOWN HYDROCARBON	26.67	340	J
18.		UNKNOWN HYDROCARBON	27.82	280	J
19.		UNKNOWN HYDROCARBON	32.84	460	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAGW5S1

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 20947

Sample wt/vol: 30.34 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/16/90

% Moisture: not dec. 38.8 dec. Date Extracted: 05/24/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/02/90

GPC Cleanup: (Y/N) N pH: 7.32 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	6.5	U
319-85-7	beta-BHC	6.5	U
319-86-8	delta-BHC	6.5	U
58-89-9	gamma-BHC (Lindane)	6.5	U
76-44-8	Heptachlor	6.5	U
309-00-2	Aldrin	6.5	U
1024-57-3	Heptachlor Epoxide	6.5	U
959-98-8	Endosulfan I	6.5	U
60-57-1	Dieldrin	13	U
72-55-9	4,4'-DDE	13	U
72-20-8	Endrin	13	U
33213-65-9	Endosulfan II	13	U
72-54-8	4,4'-DDD	13	U
1031-07-8	Endosulfan Sulfate	13	U
50-29-3	4,4'-DDT	13	U
72-43-5	Methoxychlor	65	U
53494-70-5	Endrin Ketone	13	U
5103-71-9	alpha-Chlordane	13	U
5103-74-2	gamma-Chlordane	13	U
8001-35-2	Toxaphene	130	U
12674-11-2	Aroclor-1016	65	U
11104-28-2	Aroclor-1221	65	U
11141-16-5	Aroclor-1232	65	U
53469-21-9	Aroclor-1242	65	U
12672-29-6	Aroclor-1248	65	U
11097-69-1	Aroclor-1254	130	U
11096-82-5	Aroclor-1260	130	U

SPH 06-06-90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.: LA-GW-5-S1

Client : ENGINEERING_SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2739____ Code: ENGILACK Batch: 1_____

Matrix : SOIL_____ Lab Sample ID: 20942____

Level (low/med): LOW_____ Date Received: 05/16/90_

% Solids: __78.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11900			P
7440-36-0	Antimony	5.8	U	N	P
7440-38-2	Arsenic	11.7		SN	F
7440-39-3	Barium	74.0			P
7440-41-7	Beryllium	1.2	B		P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium	49200		E*	P
7440-47-3	Chromium	16.6			P
7440-48-4	Cobalt	9.7	B		P
7440-50-8	Copper	22.9			P
7439-89-6	Iron	23300		E	P
7439-92-1	Lead	13.2			F
7439-95-4	Magnesium	15800		*	P
7439-96-5	Manganese	371		EN*	P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	27.5			P
7440-09-7	Potassium	1960			P
7782-49-2	Selenium	0.74	U	N	F
7440-22-4	Silver	0.51	U		P
7440-23-5	Sodium	280	B		P
7440-28-0	Thallium	0.74	U		F
7440-62-2	Vanadium	21.8			P
7440-66-6	Zinc	61.7		E	P
	Cyanide	0.59	U		AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: YES___

Comments:

__ARTIFACTS:__STONES;_____

Groundwater Results

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW-1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22703

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2635

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

 100198

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: GW-1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22703

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2635

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22691

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2955

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	9	U
111-44-4	bis(2-Chloroethyl)ether	9	U
95-57-8	2-Chlorophenol	9	U
541-73-1	1,3-Dichlorobenzene	9	U
106-46-7	1,4-Dichlorobenzene	9	U
100-51-6	Benzyl alcohol	9	U
95-50-1	1,2-Dichlorobenzene	9	U
95-48-7	2-Methylphenol	9	U
108-60-1	bis(2-Chloroisopropyl)ether	9	U
106-44-5	4-Methylphenol	9	U
621-64-7	N-Nitroso-di-n-propylamine	9	U
67-72-1	Hexachloroethane	9	U
98-95-3	Nitrobenzene	9	U
78-59-1	Isophorone	9	U
88-75-5	2-Nitrophenol	9	U
105-67-9	2,4-Dimethylphenol	9	U
65-85-0	Benzoic Acid	47	U
111-91-1	bis(2-Chloroethoxy)methane	9	U
120-83-2	2,4-Dichlorophenol	9	U
120-82-1	1,2,4-Trichlorobenzene	9	U
91-20-3	Naphthalene	9	U
106-47-8	4-Chloroaniline	9	U
87-68-3	Hexachlorobutadiene	9	U
59-50-7	4-Chloro-3-methylphenol	9	U
91-57-6	2-Methylnaphthalene	9	U
77-47-4	Hexachlorocyclopentadiene	9	U
88-06-2	2,4,6-Trichlorophenol	9	U
95-95-4	2,4,5-Trichlorophenol	47	U
91-58-7	2-Chloronaphthalene	9	U
88-74-4	2-Nitroaniline	47	U
131-11-3	Dimethylphthalate	9	U
208-96-8	Acenaphthylene	9	U
606-20-2	2,6-Dinitrotoluene	9	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22691

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2955

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	47	U
83-32-9	Acenaphthene	9	U
51-28-5	2,4-Dinitrophenol	47	U
100-02-7	4-Nitrophenol	47	U
132-64-9	Dibenzofuran	9	U
121-14-2	2,4-Dinitrotoluene	9	U
84-66-2	Diethylphthalate	9	U
7005-72-3	4-Chlorophenyl-phenylether	9	U
86-73-7	Fluorene	9	U
100-01-6	4-Nitroaniline	47	U
534-52-1	4,6-Dinitro-2-methylphenol	47	U
86-30-6	N-nitrosodiphenylamine (1)	9	U
101-55-3	4-Bromophenyl-phenylether	9	U
118-74-1	Hexachlorobenzene	9	U
87-86-5	Pentachlorophenol	47	U
85-01-8	Phenanthrene	9	U
120-12-7	Anthracene	9	U
84-74-2	Di-n-butylphthalate	9	U
206-44-0	Fluoranthene	9	U
129-00-0	Pyrene	9	U
85-68-7	Butylbenzylphthalate	9	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)anthracene	9	U
218-01-9	Chrysene	9	U
117-81-7	bis(2-Ethylhexyl)phthalate	9	U
117-84-0	Di-n-octyl phthalate	9	U
205-99-2	Benzo(b)fluoranthene	9	U
207-08-9	Benzo(k)fluoranthene	9	U
50-32-8	Benzo(a)pyrene	9	U
193-39-5	Indeno(1,2,3-cd)pyrene	9	U
53-70-3	Dibenz(a,h)anthracene	9	U
191-24-2	Benzo(g,h,i)perylene	9	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GW_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22691

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2955

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.40	15	BJ
2.	UNKNOWN	4.70	28	BJ
3.	UNKNOWN ALCOHOL	5.30	7.6	BJ
4.	UNKNOWN KETONE	6.27	7.6	BJ
5. 10544-50-0	SULFUR, MOL. (S8)	25.26	3.8	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW1

Lab Name: VERSAR, INC. Contract:

Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22697

Sample wt/vol: 965 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/09/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.52	U
11104-28-2	Aroclor-1221	0.52	U
11141-16-5	Aroclor-1232	0.52	U
53469-21-9	Aroclor-1242	0.52	U
12672-29-6	Aroclor-1248	0.52	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

CEB 6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

GW-1

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : WATER_____ Lab Sample ID: 22679____

Level (low/med): LOW_____ Date Received: 05/26/90_

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28300			P
7440-36-0	Antimony	29.5	B		P
7440-38-2	Arsenic	5.4	B		F
7440-39-3	Barium	488			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	139000			P
7440-47-3	Chromium	69.6			P
7440-48-4	Cobalt	16.3	B		P
7440-50-8	Copper	250			P
7439-89-6	Iron	59700			P
7439-92-1	Lead	348			F
7439-95-4	Magnesium	43800			P
7439-96-5	Manganese	2330			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	78.3			P
7440-09-7	Potassium	7090			P
7782-49-2	Selenium	3.0	U	S	F
7440-22-4	Silver	10.4			P
7440-23-5	Sodium	209000			P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	38.0	B		P
7440-66-6	Zinc	1420			P
	Cyanide	10.0	U		AS

Color Before: BROWN____ Clarity Before: CLOUDY Texture: ______

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: ______

Comments:

_CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22685;_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW-2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22704

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2634

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: GW-2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22704

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2634

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22692

Sample wt/vol: 930 (g/mL) ML Lab File ID: T2956

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	11	U
111-44-4	bis(2-Chloroethyl)ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
100-51-6	Benzyl alcohol	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
108-60-1	bis(2-Chloroisopropyl)ether	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-di-n-propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	54	U
111-91-1	bis(2-Chloroethoxy)methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	54	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	54	U
131-11-3	Dimethylphthalate	11	U
208-96-8	Acenaphthylene	11	U
606-20-2	2,6-Dinitrotoluene	11	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22692

Sample wt/vol: 930 (g/mL) ML Lab File ID: T2956

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	54	U
83-32-9	Acenaphthene	11	U
51-28-5	2,4-Dinitrophenol	54	U
100-02-7	4-Nitrophenol	54	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-01-6	4-Nitroaniline	54	U
534-52-1	4,6-Dinitro-2-methylphenol	54	U
86-30-6	N-nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	54	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
84-74-2	Di-n-butylphthalate	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	22	U
56-55-3	Benzo(a)anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)phthalate	11	U
117-84-0	Di-n-octyl phthalate	11	U
205-99-2	Benzo(b)fluoranthene	11	U
207-08-9	Benzo(k)fluoranthene	11	U
50-32-8	Benzo(a)pyrene	11	U
193-39-5	Indeno(1,2,3-cd)pyrene	11	U
53-70-3	Dibenz(a,h)anthracene	11	U
191-24-2	Benzo(g,h,i)perylene	11	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GW_2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22692

Sample wt/vol: 930 (g/mL) ML Lab File ID: T2956

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.38	24	BJ
2.	UNKNOWN	4.68	26	BJ
3.	UNKNOWN KETONE	6.25	8.6	BJ

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW2

Lab Name: VERSAR, INC. Contract:

Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22698

Sample wt/vol: 990 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/09/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.51	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.51	U
11104-28-2	Aroclor-1221	0.51	U
11141-16-5	Aroclor-1232	0.51	U
53469-21-9	Aroclor-1242	0.51	U
12672-29-6	Aroclor-1248	0.51	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

CBB 6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

GW-2

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : WATER_____ Lab Sample ID: 22680____

Level (low/med): LOW_____ Date Received: 05/26/90_

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	50900			P
7440-36-0	Antimony	26.1	B		P
7440-38-2	Arsenic	9.98	B		F
7440-39-3	Barium	432			P
7440-41-7	Beryllium	3.2	B		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	577000			P
7440-47-3	Chromium	89.1			P
7440-48-4	Cobalt	46.7	B		P
7440-50-8	Copper	96.2			P
7439-89-6	Iron	96800			P
7439-92-1	Lead	53.3			F
7439-95-4	Magnesium	163000			P
7439-96-5	Manganese	1730			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	148			P
7440-09-7	Potassium	6870			P
7782-49-2	Selenium	15.0	U		F
7440-22-4	Silver	7.6	B		P
7440-23-5	Sodium	33900			P
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	90.8			P
7440-66-6	Zinc	357			P
	Cyanide	10.0	U		AS

Color Before: BROWN____ Clarity Before: CLOUDY Texture: ______

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: ______

Comments:

_CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22686;_____

FORM I - IN

00022

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW-3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22705

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2654

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ Date Analyzed: 05/31/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: GW-3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22705

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2654

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ Date Analyzed: 05/31/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

100221

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22693

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2971

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	9	U
111-44-4	bis(2-Chloroethyl)ether	9	U
95-57-8	2-Chlorophenol	9	U
541-73-1	1,3-Dichlorobenzene	9	U
106-46-7	1,4-Dichlorobenzene	9	U
100-51-6	Benzyl alcohol	9	U
95-50-1	1,2-Dichlorobenzene	9	U
95-48-7	2-Methylphenol	9	U
108-60-1	bis(2-Chloroisopropyl)ether	9	U
106-44-5	4-Methylphenol	9	U
621-64-7	N-Nitroso-di-n-propylamine	9	U
67-72-1	Hexachloroethane	9	U
98-95-3	Nitrobenzene	9	U
78-59-1	Isophorone	9	U
88-75-5	2-Nitrophenol	9	U
105-67-9	2,4-Dimethylphenol	9	U
65-85-0	Benzoic Acid	47	U
111-91-1	bis(2-Chloroethoxy)methane	9	U
120-83-2	2,4-Dichlorophenol	9	U
120-82-1	1,2,4-Trichlorobenzene	9	U
91-20-3	Naphthalene	9	U
106-47-8	4-Chloroaniline	9	U
87-68-3	Hexachlorobutadiene	9	U
59-50-7	4-Chloro-3-methylphenol	9	U
91-57-6	2-Methylnaphthalene	9	U
77-47-4	Hexachlorocyclopentadiene	9	U
88-06-2	2,4,6-Trichlorophenol	9	U
95-95-4	2,4,5-Trichlorophenol	47	U
91-58-7	2-Chloronaphthalene	9	U
88-74-4	2-Nitroaniline	47	U
131-11-3	Dimethylphthalate	9	U
208-96-8	Acenaphthylene	9	U
606-20-2	2,6-Dinitrotoluene	9	U

200643

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22693

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2971

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	47	U
83-32-9	Acenaphthene	9	U
51-28-5	2,4-Dinitrophenol	47	U
100-02-7	4-Nitrophenol	47	U
132-64-9	Dibenzofuran	9	U
121-14-2	2,4-Dinitrotoluene	9	U
84-66-2	Diethylphthalate	9	U
7005-72-3	4-Chlorophenyl-phenylether	9	U
86-73-7	Fluorene	9	U
100-01-6	4-Nitroaniline	47	U
534-52-1	4,6-Dinitro-2-methylphenol	47	U
86-30-6	N-nitrosodiphenylamine (1)	9	U
101-55-3	4-Bromophenyl-phenylether	9	U
118-74-1	Hexachlorobenzene	9	U
87-86-5	Pentachlorophenol	47	U
85-01-8	Phenanthrene	9	U
120-12-7	Anthracene	9	U
84-74-2	Di-n-butylphthalate	9	U
206-44-0	Fluoranthene	9	U
129-00-0	Pyrene	9	U
85-68-7	Butylbenzylphthalate	9	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)anthracene	9	U
218-01-9	Chrysene	9	U
117-81-7	bis(2-Ethylhexyl)phthalate	9	U
117-84-0	Di-n-octyl phthalate	9	U
205-99-2	Benzo(b)fluoranthene	9	U
207-08-9	Benzo(k)fluoranthene	9	U
50-32-8	Benzo(a)pyrene	9	U
193-39-5	Indeno(1,2,3-cd)pyrene	9	U
53-70-3	Dibenz(a,h)anthracene	9	U
191-24-2	Benzo(g,h,i)perylene	9	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: GW_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22693

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2971

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.27	49	BJ
2.		UNKNOWN	4.57	51	BJ
3.		UNKNOWN ALCOHOL	5.15	9.4	BJ
4.		UNKNOWN KETONE	6.12	11	BJ
5.		UNKNOWN	8.65	5.7	BJ

200045

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW3

Lab Name: VERSAR, INC. Contract:

Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22699

Sample wt/vol: 1010 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/09/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	0.99	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.99	U
11096-82-5	Aroclor-1260	0.99	U

CEB 6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

GW-3

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : WATER_____ Lab Sample ID: 22681____

Level (low/med): LOW_____ Date Received: 05/26/90_

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	26000			P
7440-36-0	Antimony	23.0	U		P
7440-38-2	Arsenic	11.9			F
7440-39-3	Barium	290			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	427000			P
7440-47-3	Chromium	52.4			P
7440-48-4	Cobalt	23.3	B		P
7440-50-8	Copper	100			P
7439-89-6	Iron	57400			P
7439-92-1	Lead	46.0			F
7439-95-4	Magnesium	98200			P
7439-96-5	Manganese	1470			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	77.1			P
7440-09-7	Potassium	9220			P
7782-49-2	Selenium	3.0	U		F
7440-22-4	Silver	7.4	B		P
7440-23-5	Sodium	47400			P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	71.6			P
7440-66-6	Zinc	333			P
	Cyanide	10.0	U		AS

Color Before: BROWN____ Clarity Before: CLOUDY Texture: _____

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

_CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22687;_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW-4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22706

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2633

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	3	J
67-64-1	Acetone	10	
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	3	J
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: GW-4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22706

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2633

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22694

Sample wt/vol: 1040 (g/mL) ML Lab File ID: T2974

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	48	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	48	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	48	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22694

Sample wt/vol: 1040 (g/mL) ML Lab File ID: T2974

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	48	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	48	U
100-02-7	4-Nitrophenol	48	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	48	U
534-52-1	4,6-Dinitro-2-methylphenol	48	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	48	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

200087

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: GW_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22694

Sample wt/vol: 1040 (g/mL) ML Lab File ID: T2974

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.27	200	BJ
2.		UNKNOWN	4.57	17	BJ

200068

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW4

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22700

Sample wt/vol: 980 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/09/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.51	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.51	U
11104-28-2	Aroclor-1221	0.51	U
11141-16-5	Aroclor-1232	0.51	U
53469-21-9	Aroclor-1242	0.51	U
12672-29-6	Aroclor-1248	0.51	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

CSB 6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

GW-4

Client : ENGINEERING-SCIENCE Site: LACKAWANNA

Lab Name: VERSAR_INC. Control No.: 2804 Code: ENGILACK Batch: 2,_3

Matrix : WATER

Lab Sample ID: 22682

Level (low/med): LOW

Date Received: 05/26/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5410			P
7440-36-0	Antimony	23.0	U		P
7440-38-2	Arsenic	3.0	U	W	F
7440-39-3	Barium	145	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	243000			P
7440-47-3	Chromium	7.7	B		P
7440-48-4	Cobalt	5.0	U		P
7440-50-8	Copper	10.3	B		P
7439-89-6	Iron	10400			P
7439-92-1	Lead	11.1			F
7439-95-4	Magnesium	69700			P
7439-96-5	Manganese	487			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.0	B		P
7440-09-7	Potassium	1850	B		P
7782-49-2	Selenium	3.0	U	W	F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	890000			P
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	13.0	B		P
7440-66-6	Zinc	51.2			P
	Cyanide	10.0	U		AS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After : COLORLESS Clarity After: CLEAR Artifacts:

Comments:

CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22688;

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW-5

L Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22707

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2632

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	3	J
67-64-1	Acetone	94	
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GW-5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22707

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2632

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22695

Sample wt/vol: 1010 (g/mL) ML Lab File ID: T2975

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW_5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22695

Sample wt/vol: 1010 (g/mL) ML Lab File ID: T2975

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

200084

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GW_5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22695

Sample wt/vol: 1010 (g/mL) ML Lab File ID: T2975

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.25	83	BJ
2.		UNKNOWN	4.57	40	BJ
3.		UNKNOWN ALCOHOL	5.15	7.9	BJ
4.		UNKNOWN KETONE	6.10	9.9	BJ
5.		UNKNOWN	8.64	7.9	BJ

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GW5

Lab Name: VERSAR, INC. Contract:

Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22701

Sample wt/vol: 1030 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/09/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.49	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	0.97	U
12674-11-2	Aroclor-1016	0.49	U
11104-28-2	Aroclor-1221	0.49	U
11141-16-5	Aroclor-1232	0.49	U
53469-21-9	Aroclor-1242	0.49	U
12672-29-6	Aroclor-1248	0.49	U
11097-69-1	Aroclor-1254	0.97	U
11096-82-5	Aroclor-1260	0.97	U

CEB 6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.: GW-5

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : WATER_____ Lab Sample ID: 22683____

Level (low/med): LOW_____ Date Received: 05/26/90_

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5_	Aluminum__	8120	_		P_
7440-36-0_	Antimony__	24.6	B		P_
7440-38-2_	Arsenic___	3.0	U	W	F_
7440-39-3_	Barium____	317	_		P_
7440-41-7_	Beryllium_	2.0	U		P_
7440-43-9_	Cadmium___	5.0	U		P_
7440-70-2_	Calcium___	127000	_		P_
7440-47-3_	Chromium__	13.4	_		P_
7440-48-4_	Cobalt____	5.5	B		P_
7440-50-8_	Copper____	10.2	B		P_
7439-89-6_	Iron______	13400	_		P_
7439-92-1_	Lead______	8.0	_		F_
7439-95-4_	Magnesium_	51700	_		P_
7439-96-5_	Manganese_	281	_		P_
7439-97-6_	Mercury___	0.20	U		CV
7440-02-0_	Nickel____	15.2	B		P_
7440-09-7_	Potassium_	3900	B		P_
7782-49-2_	Selenium__	3.0	U		F_
7440-22-4_	Silver____	4.0	U		P_
7440-23-5_	Sodium____	27800	_		P_
7440-28-0_	Thallium__	3.0	U		F_
7440-62-2_	Vanadium__	19.5	B		P_
7440-66-6_	Zinc______	39.2	_		P_
_____	Cyanide___	10.0	U		AS

Color Before: BROWN____ Clarity Before: CLOUDY Texture: ______

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: ______

Comments:

_CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22689;_____

Surface Water Results

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW1

I Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2_3

Matrix: (soil/water) WATER Lab Sample ID: 22544

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2630

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LASW1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22544

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2630

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22538

Sample wt/vol: 970 (g/mL) ML Lab File ID: T2949

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22538

Sample wt/vol: 970 (g/mL) ML Lab File ID: T2949

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	52	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	52	U
100-02-7	4-Nitrophenol	52	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	52	U
534-52-1	4,6-Dinitro-2-methylphenol	52	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	52	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	21	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SW_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22538

Sample wt/vol: 970 (g/mL) ML Lab File ID: T2949

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.68	39	BJ
2.		UNKNOWN KETONE	6.25	8.2	BJ
3.		UNKNOWN ORGANIC ACID	17.54	16	BJ
4.		UNKNOWN	23.30	10	J
5.	57-10-3	HEXADECANOIC ACID	23.52	25	J
6.		UNKNOWN	25.82	37	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW1

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR# Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22532

Sample wt/vol: 1015 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.49	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	0.99	U
12674-11-2	Aroclor-1016	0.49	U
11104-28-2	Aroclor-1221	0.49	U
11141-16-5	Aroclor-1232	0.49	U
53469-21-9	Aroclor-1242	0.49	U
12672-29-6	Aroclor-1248	0.49	U
11097-69-1	Aroclor-1254	0.99	U
11096-82-5	Aroclor-1260	0.99	U

6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SW-1

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : WATER_____ Lab Sample ID: 22520____

Level (low/med): LOW_____ Date Received: 05/25/90_

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	227			P
7440-36-0	Antimony	23.0	U		P
7440-38-2	Arsenic	3.0	U	W	F
7440-39-3	Barium	60.8	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	68000			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	5.0	U		P
7440-50-8	Copper	4.6	B		P
7439-89-6	Iron	1090			P
7439-92-1	Lead	5.0			F
7439-95-4	Magnesium	17100			P
7439-96-5	Manganese	250			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	4030	B		P
7782-49-2	Selenium	3.0	U		F
7440-22-4	Silver	5.5	B		P
7440-23-5	Sodium	209000			P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	4.9	B		P
7440-66-6	Zinc	20.5			P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: _____

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

_CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22526;_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22545

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2629

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LASW2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22545

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2629

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_2

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22539

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T2950

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	49	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	49	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	49	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_2

La. Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22539

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T2950

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	49	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	49	U
100-02-7	4-Nitrophenol	49	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	49	U
534-52-1	4,6-Dinitro-2-methylphenol	49	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	49	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

100425

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SW_2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22539

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T2950

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.70	29	BJ
2.		UNKNOWN KETONE	6.27	7.8	BJ
3.		UNKNOWN ORGANIC ACID	17.54	7.8	BJ
4.	57-10-3	HEXADECANOIC ACID	23.52	5.8	J
5.		UNKNOWN	25.82	5.8	J
6.		UNKNOWN	27.86	5.8	J

100426

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW2

Lab Name: VERSAR, INC. Contract:

Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22533

Sample wt/vol: 1055 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: ~~9.48~~ 1.00 6/8/90

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.09	U
72-55-9	4,4'-DDE	0.09	U
72-20-8	Endrin	0.09	U
33213-65-9	Endosulfan II	0.09	U
72-54-8	4,4'-DDD	0.09	U
1031-07-8	Endosulfan Sulfate	0.09	U
50-29-3	4,4'-DDT	0.09	U
72-43-5	Methoxychlor	0.47	U
53494-70-5	Endrin Ketone	0.09	U
5103-71-9	alpha-Chlordane	0.09	U
5103-74-2	gamma-Chlordane	0.09	U
8001-35-2	Toxaphene	0.95	U
12674-11-2	Aroclor-1016	0.47	U
11104-28-2	Aroclor-1221	0.47	U
11141-16-5	Aroclor-1232	0.47	U
53469-21-9	Aroclor-1242	0.47	U
12672-29-6	Aroclor-1248	0.47	U
11097-69-1	Aroclor-1254	0.95	U
11096-82-5	Aroclor-1260	0.95	U

6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SW-2

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : WATER_____ Lab Sample ID: 22521____

Level (low/med): LOW_____ Date Received: 05/25/90_

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5_	Aluminum__	170	B		P_
7440-36-0_	Antimony__	23.0	U		P_
7440-38-2_	Arsenic___	3.0	U		F_
7440-39-3_	Barium____	58.4	B		P_
7440-41-7_	Beryllium_	2.0	U		P_
7440-43-9_	Cadmium___	5.0	U		P_
7440-70-2_	Calcium___	89000			P_
7440-47-3_	Chromium__	5.0	U		P_
7440-48-4_	Cobalt____	5.0	U		P_
7440-50-8_	Copper____	9.3	B		P_
7439-89-6_	Iron______	3580			P_
7439-92-1_	Lead______	13.3		+	F_
7439-95-4_	Magnesium_	20600			P_
7439-96-5_	Manganese_	495			P_
7439-97-6_	Mercury___	0.20	U		CV
7440-02-0_	Nickel____	10.0	U		P_
7440-09-7_	Potassium_	4370	B		P_
7782-49-2_	Selenium__	3.0	U		F_
7440-22-4_	Silver____	4.0	U		P_
7440-23-5_	Sodium____	244000			P_
7440-28-0_	Thallium__	3.0	U	W	F_
7440-62-2_	Vanadium__	5.6	B		P_
7440-66-6_	Zinc______	27.2			P_
_____	Cyanide___	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: ______

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: ______

Comments:

_CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22527;_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22546

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2628

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LASW3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22546

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2628

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22540

Sample wt/vol: 980 (g/mL) ML Lab File ID: T2951

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	51	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	51	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	51	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22540

Sample wt/vol: 980 (g/mL) ML Lab File ID: T2951

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	51	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	51	U
100-02-7	4-Nitrophenol	51	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	51	U
534-52-1	4,6-Dinitro-2-methylphenol	51	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	51	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SW_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22540

Sample wt/vol: 980 (g/mL) ML Lab File ID: T2951

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.40	24	BJ
2.	UNKNOWN	4.70	29	BJ
3.	UNKNOWN KETONE	6.27	8.2	BJ

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW3

Lab Name: VERSAR, INC. Contract:

Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22534

Sample wt/vol: 1040 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.48	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	0.96	U
12674-11-2	Aroclor-1016	0.48	U
11104-28-2	Aroclor-1221	0.48	U
11141-16-5	Aroclor-1232	0.48	U
53469-21-9	Aroclor-1242	0.48	U
12672-29-6	Aroclor-1248	0.48	U
11097-69-1	Aroclor-1254	0.96	U
11096-82-5	Aroclor-1260	0.96	U

CEB 6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.: LA-SW-3

Client : ENGINEERING-SCIENCE Site: LACKAWANNA

Lab Name: VERSAR_INC. Control No.: 2804 Code: ENGILACK Batch: 2,_3

Matrix : WATER

Lab Sample ID: 22522

Level (low/med): LOW

Date Received: 05/25/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	252			P
7440-36-0	Antimony	23.0	U		P
7440-38-2	Arsenic	3.0	U		F
7440-39-3	Barium	51.0	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	86900			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	5.0	U		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	1010			P
7439-92-1	Lead	5.8			F
7439-95-4	Magnesium	19200			P
7439-96-5	Manganese	178			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	4400	B		P
7782-49-2	Selenium	3.0	U		F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	239000			P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	4.4	B		P
7440-66-6	Zinc	16.1	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After : COLORLESS Clarity After: CLEAR Artifacts:

Comments:
CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22528;

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22547

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2627

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LASW4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22547

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2627

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22541

Sample wt/vol: 1050 (g/mL) ML Lab File ID: T2988

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	48	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	48	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	48	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22541

Sample wt/vol: 1050 (g/mL) ML Lab File ID: T2988

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	48	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	48	U
100-02-7	4-Nitrophenol	48	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	48	U
534-52-1	4,6-Dinitro-2-methylphenol	48	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	48	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	22	
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LA_SW_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22541

Sample wt/vol: 1050 (g/mL) ML Lab File ID: T2988

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 26

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	3.83	3.8	J
2.		UNKNOWN	4.27	28	BJ
3.		UNKNOWN	4.57	32	BJ
4.	822-67-3	2-CYCLOHEXEN-1-OL	5.17	9.5	BJ
5.	930-68-7	2-CYCLOHEXEN-1-ONE	6.12	11	BJ
6.		UNKNOWN	9.09	5.7	J
7.		UNKNOWN	9.67	3.8	J
8.		UNKNOWN	10.42	3.8	J
9.		UNKNOWN	12.40	3.8	J
10.		UNKNOWN BENZALDEHYDE	14.50	5.7	J
11.		UNKNOWN SUBSTD BENZALDEHYDE	15.24	7.6	J
12.		UNKNOWN	17.67	7.6	J
13.		UNKNOWN	19.44	3.8	J
14.	544-63-8	TETRADECANOIC ACID	20.10	5.7	J
15.		UNKNOWN	20.37	3.8	J
16.		UNKNOWN ORGANIC ACID	20.64	11	J
17.	1002-84-2	PENTADECANOIC ACID	21.52	11	J
18.		UNKNOWN ORGANIC ACID	21.64	11	J
19.		UNKNOWN	21.84	3.8	J
20.		UNKNOWN ORGANIC ACID	22.00	3.8	J
21.		UNKNOWN	23.19	66	J
22.		UNKNOWN	23.27	17	J
23.	57-10-3	HEXADECANOIC ACID	23.39	25	J
24.		UNKNOWN	23.92	3.8	J
25.	10544-50-0	SULFUR, MOL. (S8)	25.00	5.7	J
26.		UNKNOWN	25.64	7.6	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW4

Lab Name: VERSAR, INC. Contract:

Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22535

Sample wt/vol: 1060 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.09	U
72-55-9	4,4'-DDE	0.09	U
72-20-8	Endrin	0.09	U
33213-65-9	Endosulfan II	0.09	U
72-54-8	4,4'-DDD	0.09	U
1031-07-8	Endosulfan Sulfate	0.09	U
50-29-3	4,4'-DDT	0.09	U
72-43-5	Methoxychlor	0.47	U
53494-70-5	Endrin Ketone	0.09	U
5103-71-9	alpha-Chlordane	0.09	U
5103-74-2	gamma-Chlordane	0.09	U
8001-35-2	Toxaphene	0.94	U
12674-11-2	Aroclor-1016	0.47	U
11104-28-2	Aroclor-1221	0.47	U
11141-16-5	Aroclor-1232	0.47	U
53469-21-9	Aroclor-1242	0.47	U
12672-29-6	Aroclor-1248	0.47	U
11097-69-1	Aroclor-1254	0.94	U
11096-82-5	Aroclor-1260	0.94	U

OEB 6/11/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.: LA-SW-4

Client : ENGINEERING-SCIENCE Site: LACKAWANNA

Lab Name: VERSAR_INC. Control No.: 2804 Code: ENGILACK Batch: 2,3

Matrix : WATER Lab Sample ID: 22523

Level (low/med): LOW Date Received: 05/25/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	68200			P
7440-36-0	Antimony	146			P
7440-38-2	Arsenic	19.0			F
7440-39-3	Barium	8180			P
7440-41-7	Beryllium	3.4	B		P
7440-43-9	Cadmium	6.6			P
7440-70-2	Calcium	338000			P
7440-47-3	Chromium	123			P
7440-48-4	Cobalt	71.2			P
7440-50-8	Copper	337			P
7439-89-6	Iron	1380000			P
7439-92-1	Lead	760			F
7439-95-4	Magnesium	60300			P
7439-96-5	Manganese	41700			P
7439-97-6	Mercury	0.57			CV
7440-02-0	Nickel	192			P
7440-09-7	Potassium	13000			P
7782-49-2	Selenium	30.0	U	W	F
7440-22-4	Silver	46.2			P
7440-23-5	Sodium	208000			P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	214			P
7440-66-6	Zinc	3180			P
	Cyanide	15.4			AS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After : ORANGE Clarity After: CLEAR Artifacts:

Comments:

CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22529;

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2_3

Matrix: (soil/water) WATER Lab Sample ID: 22548

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2626

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	6	
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

100165

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LASW5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22548

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2626

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22542

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2954

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	9	U
111-44-4	bis(2-Chloroethyl)ether	9	U
95-57-8	2-Chlorophenol	9	U
541-73-1	1,3-Dichlorobenzene	9	U
106-46-7	1,4-Dichlorobenzene	9	U
100-51-6	Benzyl alcohol	9	U
95-50-1	1,2-Dichlorobenzene	9	U
95-48-7	2-Methylphenol	9	U
108-60-1	bis(2-Chloroisopropyl)ether	9	U
106-44-5	4-Methylphenol	9	U
621-64-7	N-Nitroso-di-n-propylamine	9	U
67-72-1	Hexachloroethane	9	U
98-95-3	Nitrobenzene	9	U
78-59-1	Isophorone	9	U
88-75-5	2-Nitrophenol	9	U
105-67-9	2,4-Dimethylphenol	9	U
65-85-0	Benzoic Acid	47	U
111-91-1	bis(2-Chloroethoxy)methane	9	U
120-83-2	2,4-Dichlorophenol	9	U
120-82-1	1,2,4-Trichlorobenzene	9	U
91-20-3	Naphthalene	9	U
106-47-8	4-Chloroaniline	9	U
87-68-3	Hexachlorobutadiene	9	U
59-50-7	4-Chloro-3-methylphenol	9	U
91-57-6	2-Methylnaphthalene	9	U
77-47-4	Hexachlorocyclopentadiene	9	U
88-06-2	2,4,6-Trichlorophenol	9	U
95-95-4	2,4,5-Trichlorophenol	47	U
91-58-7	2-Chloronaphthalene	9	U
88-74-4	2-Nitroaniline	47	U
131-11-3	Dimethylphthalate	9	U
208-96-8	Acenaphthylene	9	U
606-20-2	2,6-Dinitrotoluene	9	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22542

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2954

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	47	U
83-32-9	Acenaphthene	9	U
51-28-5	2,4-Dinitrophenol	47	U
100-02-7	4-Nitrophenol	47	U
132-64-9	Dibenzofuran	9	U
121-14-2	2,4-Dinitrotoluene	9	U
84-66-2	Diethylphthalate	9	U
7005-72-3	4-Chlorophenyl-phenylether	9	U
86-73-7	Fluorene	9	U
100-01-6	4-Nitroaniline	47	U
534-52-1	4,6-Dinitro-2-methylphenol	47	U
86-30-6	N-nitrosodiphenylamine (1)	9	U
101-55-3	4-Bromophenyl-phenylether	9	U
118-74-1	Hexachlorobenzene	9	U
87-86-5	Pentachlorophenol	47	U
85-01-8	Phenanthrene	9	U
120-12-7	Anthracene	9	U
84-74-2	Di-n-butylphthalate	9	U
206-44-0	Fluoranthene	9	U
129-00-0	Pyrene	9	U
85-68-7	Butylbenzylphthalate	9	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)anthracene	9	U
218-01-9	Chrysene	9	U
117-81-7	bis(2-Ethylhexyl)phthalate	9	U
117-84-0	Di-n-octyl phthalate	9	U
205-99-2	Benzo(b)fluoranthene	9	U
207-08-9	Benzo(k)fluoranthene	9	U
50-32-8	Benzo(a)pyrene	9	U
193-39-5	Indeno(1,2,3-cd)pyrene	9	U
53-70-3	Dibenz(a,h)anthracene	9	U
191-24-2	Benzo(g,h,i)perylene	9	U

(1) - Cannot be separated from Diphenylamine

100585

1F

EPA SAMPLE NO.

LA_SW_5

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22542

Sample wt/vol: 1060 (g/mL) ML Lab File ID: T2954

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 11

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.38	15	BJ
2.		UNKNOWN	4.70	26	BJ
3.		UNKNOWN ALCOHOL	5.30	7.6	BJ
4.		UNKNOWN KETONE	6.27	7.6	BJ
5.	544-63-8	TETRADECANOIC ACID	20.82	9.4	J
6.		UNKNOWN	23.35	34	J
7.	57-10-3	HEXADECANOIC ACID	23.57	47	J
8.		UNKNOWN	25.87	49	J
9.		UNKNOWN ORGANIC ACID	22.20	7.6	J
10.	10544-50-0	SULFUR, MOL. (S8)	25.26	11	J
11.		UNKNOWN	27.87	19	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW5

Lab Name: VERSAR, INC. Contract:

Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22536

Sample wt/vol: 1010 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/09/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	0.99	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.99	U
11096-82-5	Aroclor-1260	0.99	U

CBB 6/14/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.: LA-SW-5

Client : ENGINEERING-SCIENCE Site: LACKAWANNA

Lab Name: VERSAR_INC. Control No.: 2804 Code: ENGILACK Batch: 2,_3

Matrix : WATER Lab Sample ID: 22524

Level (low/med): LOW Date Received: 05/25/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1550			P
7440-36-0	Antimony	23.0	U		P
7440-38-2	Arsenic	3.0	U	W	F
7440-39-3	Barium	375			P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	93400			P
7440-47-3	Chromium	13.0			P
7440-48-4	Cobalt	5.0	U		P
7440-50-8	Copper	20.8	B		P
7439-89-6	Iron	9510			P
7439-92-1	Lead	64.0			F
7439-95-4	Magnesium	13900			P
7439-96-5	Manganese	1370			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	10600			P
7782-49-2	Selenium	3.0	U		F
7440-22-4	Silver	5.4	B		P
7440-23-5	Sodium	1210000			P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	6.7	B		P
7440-66-6	Zinc	107			P
	Cyanide	58.2			AS

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After : COLORLESS Clarity After: CLEAR Artifacts:

Comments:

CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22530;

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW6

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22549

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2625

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	6	
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

100176

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LASW6

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22549

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2625

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_6

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22543

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T2952

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	49	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	49	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	49	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SW_6

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22543

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T2952

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	49	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	49	U
100-02-7	4-Nitrophenol	49	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	49	U
534-52-1	4,6-Dinitro-2-methylphenol	49	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	49	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SW_6

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22543

Sample wt/vol: 1030 (g/mL) ML Lab File ID: T2952

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/08/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	4.40	21	BJ
2.		UNKNOWN	4.70	21	BJ
3.		UNKNOWN	23.32	5.8	J
4.	57-10-3	HEXADECANOIC ACID	23.54	17	J
5.		UNKNOWN	25.86	21	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASW6

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22537

Sample wt/vol: 1010 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/09/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.05	U
319-85-7	beta-BHC	0.05	U
319-86-8	delta-BHC	0.05	U
58-89-9	gamma-BHC (Lindane)	0.05	U
76-44-8	Heptachlor	0.05	U
309-00-2	Aldrin	0.05	U
1024-57-3	Heptachlor Epoxide	0.05	U
959-98-8	Endosulfan I	0.05	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	0.99	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.99	U
11096-82-5	Aroclor-1260	0.99	U

OEB 6/12/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SW-6

Client : ENGINEERING-SCIENCE Site: LACKAWANNA

Lab Name: VERSAR_INC. Control No.: 2804 Code: ENGILACK Batch: 2,3

Matrix : WATER Lab Sample ID: 22525

Level (low/med): LOW Date Received: 05/25/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	216			P
7440-36-0	Antimony	23.0	U		P
7440-38-2	Arsenic	3.0	U	W	F
7440-39-3	Barium	71.1	B		P
7440-41-7	Beryllium	2.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	71500			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	5.0	U		P
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron	1240			P
7439-92-1	Lead				NR
7439-95-4	Magnesium	17700			P
7439-96-5	Manganese	263			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	4090	B		P
7782-49-2	Selenium	3.0	U		F
7440-22-4	Silver	4.0	U		P
7440-23-5	Sodium	220000			P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	19.3	B		P
	Cyanide	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After : COLORLESS Clarity After: CLEAR Artifacts:

Comments:

CYANIDE LAB SAMPLE ID NUMBER IS 22531;

Sediment Results

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-SED1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22565

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3835

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 33 Date Analyzed: 05/31/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene chloride	7	U
67-64-1	Acetone	19	X
75-15-0	Carbon disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	15	U
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon tetrachloride	7	U
108-05-4	Vinyl acetate	15	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	Trans-1,3-dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Total xylenes	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LA-SED1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22565

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3835

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 33 Date Analyzed: 05/31/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN SILOXANE	33.92	87	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SED_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22558

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5452

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 31 dec. ____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) ____ Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 7.02 Dilution Factor: 2.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2000	U
111-44-4	bis(2-Chloroethyl)ether	2000	U
95-57-8	2-Chlorophenol	2000	U
541-73-1	1,3-Dichlorobenzene	2000	U
106-46-7	1,4-Dichlorobenzene	2000	U
100-51-6	Benzyl alcohol	2000	U
95-50-1	1,2-Dichlorobenzene	2000	U
95-48-7	2-Methylphenol	2000	U
108-60-1	bis(2-Chloroisopropyl)ether	2000	U
106-44-5	4-Methylphenol	2000	U
621-64-7	N-Nitroso-di-n-propylamine	2000	U
67-72-1	Hexachloroethane	2000	U
98-95-3	Nitrobenzene	2000	U
78-59-1	Isophorone	2000	U
88-75-5	2-Nitrophenol	2000	U
105-67-9	2,4-Dimethylphenol	2000	U
65-85-0	Benzoic Acid	9600	U
111-91-1	bis(2-Chloroethoxy)methane	2000	U
120-83-2	2,4-Dichlorophenol	2000	U
120-82-1	1,2,4-Trichlorobenzene	2000	U
91-20-3	Naphthalene	2000	U
106-47-8	4-Chloroaniline	2000	U
87-68-3	Hexachlorobutadiene	2000	U
59-50-7	4-Chloro-3-methylphenol	2000	U
91-57-6	2-Methylnaphthalene	2000	U
77-47-4	Hexachlorocyclopentadiene	2000	U
88-06-2	2,4,6-Trichlorophenol	2000	U
95-95-4	2,4,5-Trichlorophenol	9600	U
91-58-7	2-Chloronaphthalene	2000	U
88-74-4	2-Nitroaniline	9600	U
131-11-3	Dimethylphthalate	2000	U
208-96-8	Acenaphthylene	2000	U
606-20-2	2,6-Dinitrotoluene	2000	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SED_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22558

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5452

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 31 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) _____ Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 7.02 Dilution Factor: 2.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	9600	U
83-32-9	Acenaphthene	2000	U
51-28-5	2,4-Dinitrophenol	9600	U
100-02-7	4-Nitrophenol	9600	U
132-64-9	Dibenzofuran	2000	U
121-14-2	2,4-Dinitrotoluene	2000	U
84-66-2	Diethylphthalate	2000	U
7005-72-3	4-Chlorophenyl-phenylether	2000	U
86-73-7	Fluorene	2000	U
100-01-6	4-Nitroaniline	9600	U
534-52-1	4,6-Dinitro-2-methylphenol	9600	U
86-30-6	N-nitrosodiphenylamine (1)	2000	U
101-55-3	4-Bromophenyl-phenylether	2000	U
118-74-1	Hexachlorobenzene	2000	U
87-86-5	Pentachlorophenol	9600	U
85-01-8	Phenanthrene	2000	U
120-12-7	Anthracene	2000	U
84-74-2	Di-n-butylphthalate	2000	U
206-44-0	Fluoranthene	580	J
129-00-0	Pyrene	500	J
85-68-7	Butylbenzylphthalate	2000	U
91-94-1	3,3'-Dichlorobenzidine	4000	U
56-55-3	Benzo(a)anthracene	2000	U
218-01-9	Chrysene	2000	U
117-81-7	bis(2-Ethylhexyl)phthalate	2000	U
117-84-0	Di-n-octyl phthalate	2000	U
205-99-2	Benzo(b)fluoranthene	2000	U
207-08-9	Benzo(k)fluoranthene	2000	U
50-32-8	Benzo(a)pyrene	2000	U
193-39-5	Indeno(1,2,3-cd)pyrene	2000	U
53-70-3	Dibenz(a,h)anthracene	2000	U
191-24-2	Benzo(g,h,i)perylene	2000	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SED_1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22558

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5452

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 31 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) _____ Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 7.02 Dilution Factor: 2.1

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	7.47	1200	J
2.		UNKNOWN KETONE	7.85	2600	BJ
3.		UNKNOWN	8.74	1800	J
4.		UNKNOWN	10.04	4600	BJ
5.		UNKNOWN	34.46	600	BJ
6.		UNKNOWN HYDROCARBON	35.72	1800	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASED1

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 22558

Sample wt/vol: 30.44 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 31 dec. Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/90

GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	23	U
319-85-7	beta-BHC	120	
319-86-8	delta-BHC	23	U
58-89-9	gamma-BHC (Lindane)	23	U
76-44-8	Heptachlor	23	U
309-00-2	Aldrin	23	U
1024-57-3	Heptachlor Epoxide	23	U
959-98-8	Endosulfan I	23	U
60-57-1	Dieldrin	46	U
72-55-9	4,4'-DDE	46	U
72-20-8	Endrin	46	U
33213-65-9	Endosulfan II	46	U
72-54-8	4,4'-DDD	46	U
1031-07-8	Endosulfan Sulfate	46	U
50-29-3	4,4'-DDT	46	U
72-43-5	Methoxychlor	230	U
53494-70-5	Endrin Ketone	46	U
5103-71-9	alpha-Chlordane	46	U
5103-74-2	gamma-Chlordane	46	U
8001-35-2	Toxaphene	460	U
12674-11-2	Aroclor-1016	230	U
11104-28-2	Aroclor-1221	230	U
11141-16-5	Aroclor-1232	230	U
53469-21-9	Aroclor-1242	230	U
12672-29-6	Aroclor-1248	230	U
11097-69-1	Aroclor-1254	460	U
11096-82-5	Aroclor-1260	460	U

06/19/90

100093

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.: LA-SED-1

Client : ENGINEERING-SCIENCE Site: LACKAWANNA

Lab Name: VERSAR_INC. Control No.: 2804 Code: ENGILACK Batch: 2,3

Matrix : SOIL Lab Sample ID: 22553

Level (low/med): LOW Date Received: 05/25/90

% Solids: 66.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4740			P
7440-36-0	Antimony	6.9	U	N	P
7440-38-2	Arsenic	4.3			F
7440-39-3	Barium	63.1			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	1.5			P
7440-70-2	Calcium	105000		*	P
7440-47-3	Chromium	49.6			P
7440-48-4	Cobalt	7.5	B		P
7440-50-8	Copper	76.2		N*	P
7439-89-6	Iron	53300		*	P
7439-92-1	Lead	271		*	F
7439-95-4	Magnesium	3670			P
7439-96-5	Manganese	788		N	P
7439-97-6	Mercury	0.25			CV
7440-02-0	Nickel	18.1			P
7440-09-7	Potassium	393	B		P
7782-49-2	Selenium	0.82	U		F
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	465	B		P
7440-28-0	Thallium	0.82	U		F
7440-62-2	Vanadium	25.3			P
7440-66-6	Zinc	220		EN	P
	Cyanide	0.71	U	N	AS

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After : YELLOW Clarity After: CLEAR Artifacts:

Comments:

00026

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-SED2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22566

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3836

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 54 Date Analyzed: 05/31/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	22	U
74-83-9	Bromomethane	22	U
75-01-4	Vinyl chloride	22	U
75-00-3	Chloroethane	22	U
75-09-2	Methylene chloride	11	U
67-64-1	Acetone	17	J
75-15-0	Carbon disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	22	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon tetrachloride	11	U
108-05-4	Vinyl acetate	22	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	Trans-1,3-dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-pentanone	22	U
591-78-6	2-Hexanone	22	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Total xylenes	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA-SED2

ıb Name: VERSAR INC. Contract: _____

Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

ıtrix: (soil/water) SOIL Lab Sample ID: 22566

...ple wt/vol: 5.0 (g/mL) G Lab File ID: U3836

...el: (low/med) LOW Date Received: 05/25/90

Moisture: not dec. 54 Date Analyzed: 05/31/90

...umn (pack/cap) PACK Dilution Factor: 1.0

...ber TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN SILOXANE	30.84	200	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-SED2RE

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22566

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3872

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 54 Date Analyzed: 06/01/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	22	U
74-83-9	Bromomethane	22	U
75-01-4	Vinyl chloride	22	U
75-00-3	Chloroethane	22	U
75-09-2	Methylene chloride	7	J
67-64-1	Acetone	37	
75-15-0	Carbon disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	22	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon tetrachloride	11	U
108-05-4	Vinyl acetate	22	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	Trans-1,3-dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-pentanone	22	U
591-78-6	2-Hexanone	22	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Total xylenes	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA-SED2RE

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22566

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3872

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 54 Date Analyzed: 06/01/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SED_2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22559

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5453

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 55 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 6.70 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1500	U
111-44-4	bis(2-Chloroethyl)ether	1500	U
95-57-8	2-Chlorophenol	1500	U
541-73-1	1,3-Dichlorobenzene	1500	U
106-46-7	1,4-Dichlorobenzene	1500	U
100-51-6	Benzyl alcohol	1500	U
95-50-1	1,2-Dichlorobenzene	1500	U
95-48-7	2-Methylphenol	1500	U
108-60-1	bis(2-Chloroisopropyl)ether	1500	U
106-44-5	4-Methylphenol	1500	U
621-64-7	N-Nitroso-di-n-propylamine	1500	U
67-72-1	Hexachloroethane	1500	U
98-95-3	Nitrobenzene	1500	U
78-59-1	Isophorone	1500	U
88-75-5	2-Nitrophenol	1500	U
105-67-9	2,4-Dimethylphenol	1500	U
65-85-0	Benzoic Acid	7500	U
111-91-1	bis(2-Chloroethoxy)methane	1500	U
120-83-2	2,4-Dichlorophenol	1500	U
120-82-1	1,2,4-Trichlorobenzene	1500	U
91-20-3	Naphthalene	1500	U
106-47-8	4-Chloroaniline	1500	U
87-68-3	Hexachlorobutadiene	1500	U
59-50-7	4-Chloro-3-methylphenol	1500	U
91-57-6	2-Methylnaphthalene	1500	U
77-47-4	Hexachlorocyclopentadiene	1500	U
88-06-2	2,4,6-Trichlorophenol	1500	U
95-95-4	2,4,5-Trichlorophenol	7500	U
91-58-7	2-Chloronaphthalene	1500	U
88-74-4	2-Nitroaniline	7500	U
131-11-3	Dimethylphthalate	1500	U
208-96-8	Acenaphthylene	1500	U
606-20-2	2,6-Dinitrotoluene	1500	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SED_2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22559

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5453

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 55 dec. ____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 6.70 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	7500	U
83-32-9	Acenaphthene	1500	U
51-28-5	2,4-Dinitrophenol	7500	U
100-02-7	4-Nitrophenol	7500	U
132-64-9	Dibenzofuran	1500	U
121-14-2	2,4-Dinitrotoluene	1500	U
84-66-2	Diethylphthalate	1500	U
7005-72-3	4-Chlorophenyl-phenylether	1500	U
86-73-7	Fluorene	1500	U
100-01-6	4-Nitroaniline	7500	U
534-52-1	4,6-Dinitro-2-methylphenol	7500	U
86-30-6	N-nitrosodiphenylamine (1)	1500	U
101-55-3	4-Bromophenyl-phenylether	1500	U
118-74-1	Hexachlorobenzene	1500	U
87-86-5	Pentachlorophenol	7500	U
85-01-8	Phenanthrene	1500	U
120-12-7	Anthracene	1500	U
84-74-2	Di-n-butylphthalate	1500	U
206-44-0	Fluoranthene	500	J
129-00-0	Pyrene	440	J
85-68-7	Butylbenzylphthalate	1500	U
91-94-1	3,3'-Dichlorobenzidine	3100	U
56-55-3	Benzo(a)anthracene	1500	U
218-01-9	Chrysene	1500	U
117-81-7	bis(2-Ethylhexyl)phthalate	1500	U
117-84-0	Di-n-octyl phthalate	1500	U
205-99-2	Benzo(b)fluoranthene	1500	U
207-08-9	Benzo(k)fluoranthene	1500	U
50-32-8	Benzo(a)pyrene	1500	U
193-39-5	Indeno(1,2,3-cd)pyrene	1500	U
53-70-3	Dibenz(a,h)anthracene	1500	U
191-24-2	Benzo(g,h,i)perylene	1500	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LA_SED_2

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22559

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5453

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 55 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 6.70 Dilution Factor: 1.0

Number TICs found: 15 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	822-67-3	2-CYCLOHEXEN-1-OL	6.58	620	BJ
2.		UNKNOWN	7.47	3100	J
3.	930-68-7	2-CYCLOHEXEN-1-ONE	7.62	620	BJ
4.		UNKNOWN KETONE	7.87	9000	BJ
5.		UNKNOWN	8.50	770	J
6.		UNKNOWN	8.75	5700	J
7.		UNKNOWN	9.87	1400	J
8.		UNKNOWN	10.07	8400	J
9.		UNKNOWN	16.49	1100	J
10.	57-10-3	HEXADECANOIC ACID	24.97	620	J
11.		UNKNOWN HYDROCARBON	31.14	620	J
12.		UNKNOWN HYDROCARBON	33.12	770	J
13.		UNKNOWN	34.46	1200	BJ
14.		UNKNOWN HYDROCARBON	35.71	6000	J
15.		UNKNOWN HYDROCARBON	39.32	4000	J

106020

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASED2

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 22559

Sample wt/vol: 30.23 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 55 dec. Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/16/90

GPC Cleanup: (Y/N) Y pH: 6.7 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	18	U
319-85-7	beta-BHC	18	U
319-86-8	delta-BHC	18	U
58-89-9	gamma-BHC (Lindane)	18	U
76-44-8	Heptachlor	18	U
309-00-2	Aldrin	18	U
1024-57-3	Heptachlor Epoxide	18	U
959-98-8	Endosulfan I	18	U
60-57-1	Dieldrin	35	U
72-55-9	4,4'-DDE	35	U
72-20-8	Endrin	35	U
33213-65-9	Endosulfan II	35	U
72-54-8	4,4'-DDD	35	U
1031-07-8	Endosulfan Sulfate	35	U
50-29-3	4,4'-DDT	35	U
72-43-5	Methoxychlor	180	U
53494-70-5	Endrin Ketone	35	U
5103-71-9	alpha-Chlordane	35	U
5103-74-2	gamma-Chlordane	35	U
8001-35-2	Toxaphene	350	U
12674-11-2	Aroclor-1016	180	U
11104-28-2	Aroclor-1221	180	U
11141-16-5	Aroclor-1232	180	U
53469-21-9	Aroclor-1242	180	U
12672-29-6	Aroclor-1248	180	U
11097-69-1	Aroclor-1254	350	U
11096-82-5	Aroclor-1260	350	U

6/19/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SED-2

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : SOIL_____ Lab Sample ID: 22554____

Level (low/med): LOW_____ Date Received: 05/25/90_

% Solids: __45.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14600			P
7440-36-0	Antimony	9.5	U	N	P
7440-38-2	Arsenic	8.0		S	F
7440-39-3	Barium	112			P
7440-41-7	Beryllium	0.82	U		P
7440-43-9	Cadmium	5.1			P
7440-70-2	Calcium	7650		*	P
7440-47-3	Chromium	20.7			P
7440-48-4	Cobalt	7.1	B		P
7440-50-8	Copper	125		N*	P
7439-89-6	Iron	38400		*	P
7439-92-1	Lead	281	B	*	F
7439-95-4	Magnesium	2450			P
7439-96-5	Manganese	373		N	P
7439-97-6	Mercury	0.22	U		CV
7440-02-0	Nickel	23.3			P
7440-09-7	Potassium	1070	B		P
7782-49-2	Selenium	1.2	U		F
7440-22-4	Silver	1.6	U		P
7440-23-5	Sodium	1720	B		P
7440-28-0	Thallium	1.2	U		F
7440-62-2	Vanadium	15.6	B		P
7440-66-6	Zinc	774		EN	P
	Cyanide	0.97	U	N	AS

Color Before: BROWN____ Clarity Before: ______ Texture: MEDIUM

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: ______

Comments:

FORM I - IN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-SED3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22567

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3846

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 39 Date Analyzed: 05/31/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	16	U
74-83-9	Bromomethane	16	U
75-01-4	Vinyl chloride	16	U
75-00-3	Chloroethane	16	U
75-09-2	Methylene chloride	8	U
67-64-1	Acetone	24	
75-15-0	Carbon disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	8	U
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	16	U
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon tetrachloride	8	U
108-05-4	Vinyl acetate	16	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	8	U
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	Trans-1,3-dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-pentanone	16	U
591-78-6	2-Hexanone	16	U
127-18-4	Tetrachloroethene	8	U
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-88-3	Toluene	8	U
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Total xylenes	8	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA-SED3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22567

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3846

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 39 Date Analyzed: 05/31/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SED_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22560

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5461

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 40 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

GPC Cleanup: (Y/N) Y pH: 6.61 Dilution Factor: 2.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2300	U
111-44-4	bis(2-Chloroethyl)ether	2300	U
95-57-8	2-Chlorophenol	2300	U
541-73-1	1,3-Dichlorobenzene	2300	U
106-46-7	1,4-Dichlorobenzene	2300	U
100-51-6	Benzyl alcohol	2300	U
95-50-1	1,2-Dichlorobenzene	2300	U
95-48-7	2-Methylphenol	2300	U
108-60-1	bis(2-Chloroisopropyl)ether	2300	U
106-44-5	4-Methylphenol	2300	U
621-64-7	N-Nitroso-di-n-propylamine	2300	U
67-72-1	Hexachloroethane	2300	U
98-95-3	Nitrobenzene	2300	U
78-59-1	Isophorone	2300	U
88-75-5	2-Nitrophenol	2300	U
105-67-9	2,4-Dimethylphenol	2300	U
65-85-0	Benzoic Acid	2700	J
111-91-1	bis(2-Chloroethoxy)methane	2300	U
120-83-2	2,4-Dichlorophenol	2300	U
120-82-1	1,2,4-Trichlorobenzene	2300	U
91-20-3	Naphthalene	2300	U
106-47-8	4-Chloroaniline	2300	U
87-68-3	Hexachlorobutadiene	2300	U
59-50-7	4-Chloro-3-methylphenol	2300	U
91-57-6	2-Methylnaphthalene	2300	U
77-47-4	Hexachlorocyclopentadiene	2300	U
88-06-2	2,4,6-Trichlorophenol	2300	U
95-95-4	2,4,5-Trichlorophenol	11000	U
91-58-7	2-Chloronaphthalene	2300	U
88-74-4	2-Nitroaniline	11000	U
131-11-3	Dimethylphthalate	2300	U
208-96-8	Acenaphthylene	2300	U
606-20-2	2,6-Dinitrotoluene	2300	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SED_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22560

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5461

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 40 dec. ____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

GPC Cleanup: (Y/N) Y pH: 6.61 Dilution Factor: 2.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	11000	U
83-32-9	Acenaphthene	2300	U
51-28-5	2,4-Dinitrophenol	11000	U
100-02-7	4-Nitrophenol	11000	U
132-64-9	Dibenzofuran	2300	U
121-14-2	2,4-Dinitrotoluene	2300	U
84-66-2	Diethylphthalate	2300	U
7005-72-3	4-Chlorophenyl-phenylether	2300	U
86-73-7	Fluorene	2300	U
100-01-6	4-Nitroaniline	11000	U
534-52-1	4,6-Dinitro-2-methylphenol	11000	U
86-30-6	N-nitrosodiphenylamine (1)	2300	U
101-55-3	4-Bromophenyl-phenylether	2300	U
118-74-1	Hexachlorobenzene	2300	U
87-86-5	Pentachlorophenol	11000	U
85-01-8	Phenanthrene	2300	U
120-12-7	Anthracene	2300	U
84-74-2	Di-n-butylphthalate	2300	U
206-44-0	Fluoranthene	2300	U
129-00-0	Pyrene	2300	U
85-68-7	Butylbenzylphthalate	2300	U
91-94-1	3,3'-Dichlorobenzidine	4600	U
56-55-3	Benzo(a)anthracene	2300	U
218-01-9	Chrysene	2300	U
117-81-7	bis(2-Ethylhexyl)phthalate	2300	U
117-84-0	Di-n-octyl phthalate	2300	U
205-99-2	Benzo(b)fluoranthene	2300	U
207-08-9	Benzo(k)fluoranthene	2300	U
50-32-8	Benzo(a)pyrene	2300	U
193-39-5	Indeno(1,2,3-cd)pyrene	2300	U
53-70-3	Dibenz(a,h)anthracene	2300	U
191-24-2	Benzo(g,h,i)perylene	2300	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SED_3

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22560

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5461

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 40 dec. ____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

GPC Cleanup: (Y/N) Y pH: 6.61 Dilution Factor: 2.1

Number TICs found: 13

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN KETONE	7.72	3700	BJ
2.		UNKNOWN	8.60	1200	J
3.		UNKNOWN	9.89	2300	J
4.		UNKNOWN	26.34	1600	J
5.		UNKNOWN HYDROCARBON	31.01	2300	J
6.		UNKNOWN	31.26	1200	J
7.		UNKNOWN	32.31	2300	J
8.		UNKNOWN HYDROCARBON	32.94	3000	J
9.		UNKNOWN	34.24	1200	BJ
10.		UNKNOWN ALDEHYDE	34.76	7200	J
11.		UNKNOWN HYDROCARBON	35.46	5800	J
12.		UNKNOWN ALDEHYDE	38.02	3500	J
13.		UNKNOWN HYDROCARBON	38.96	930	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASED3

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 22560

Sample wt/vol: 30.43 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 40 dec. Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	26	U
319-85-7	beta-BHC	26	U
319-86-8	delta-BHC	26	U
58-89-9	gamma-BHC (Lindane)	26	U
76-44-8	Heptachlor	26	U
309-00-2	Aldrin	26	U
1024-57-3	Heptachlor Epoxide	26	U
959-98-8	Endosulfan I	26	U
60-57-1	Dieldrin	53	U
72-55-9	4,4'-DDE	53	U
72-20-8	Endrin	53	U
33213-65-9	Endosulfan II	53	U
72-54-8	4,4'-DDD	53	U
1031-07-8	Endosulfan Sulfate	53	U
50-29-3	4,4'-DDT	53	U
72-43-5	Methoxychlor	270	U
53494-70-5	Endrin Ketone	53	U
5103-71-9	alpha-Chlordane	53	U
5103-74-2	gamma-Chlordane	53	U
8001-35-2	Toxaphene	530	U
12674-11-2	Aroclor-1016	270	U
11104-28-2	Aroclor-1221	270	U
11141-16-5	Aroclor-1232	270	U
53469-21-9	Aroclor-1242	270	U
12672-29-6	Aroclor-1248	270	U
11097-69-1	Aroclor-1254	530	U
11096-82-5	Aroclor-1260	530	U

6/18/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SED-3

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : SOIL_____ Lab Sample ID: 22555____

Level (low/med): LOW_____ Date Received: 05/25/90_

% Solids: __60.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7690			P
7440-36-0	Antimony	7.2	U	N	P
7440-38-2	Arsenic	4.2			F
7440-39-3	Barium	72.6			P
7440-41-7	Beryllium	0.63	U		P
7440-43-9	Cadmium	1.6	U		P
7440-70-2	Calcium	8290		*	P
7440-47-3	Chromium	15.1			P
7440-48-4	Cobalt	7.3	B		P
7440-50-8	Copper	39.1		N*	P
7439-89-6	Iron	59700		*	P
7439-92-1	Lead	52.7		*	F
7439-95-4	Magnesium	2380			P
7439-96-5	Manganese	502		N	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	17.3			P
7440-09-7	Potassium	442	B		P
7782-49-2	Selenium	0.94	U	W	F
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	461	B		P
7440-28-0	Thallium	0.94	U		F
7440-62-2	Vanadium	15.2	B		P
7440-66-6	Zinc	150		EN	P
	Cyanide	0.86		N	AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-SED4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22568

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3849

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 47 Date Analyzed: 05/31/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	19	U
74-83-9	Bromomethane	19	U
75-01-4	Vinyl chloride	19	U
75-00-3	Chloroethane	19	U
75-09-2	Methylene chloride	9	U
67-64-1	Acetone	29	
75-15-0	Carbon disulfide	9	U
75-35-4	1,1-Dichloroethene	9	U
75-34-3	1,1-Dichloroethane	9	U
540-59-0	1,2-Dichloroethene (total)	9	U
67-66-3	Chloroform	9	U
107-06-2	1,2-Dichloroethane	9	U
78-93-3	2-Butanone	19	U
71-55-6	1,1,1-Trichloroethane	9	U
56-23-5	Carbon tetrachloride	9	U
108-05-4	Vinyl acetate	19	U
75-27-4	Bromodichloromethane	9	U
78-87-5	1,2-Dichloropropane	9	U
10061-01-5	cis-1,3-Dichloropropene	9	U
79-01-6	Trichloroethene	9	U
124-48-1	Dibromochloromethane	9	U
79-00-5	1,1,2-Trichloroethane	9	U
71-43-2	Benzene	9	U
10061-02-6	Trans-1,3-dichloropropene	9	U
75-25-2	Bromoform	9	U
108-10-1	4-Methyl-2-pentanone	19	U
591-78-6	2-Hexanone	19	U
127-18-4	Tetrachloroethene	9	U
79-34-5	1,1,2,2-Tetrachloroethane	9	U
108-88-3	Toluene	9	U
108-90-7	Chlorobenzene	9	U
100-41-4	Ethylbenzene	9	U
100-42-5	Styrene	9	U
1330-20-7	Total xylenes	9	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA-SED4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22568

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3849

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 47 Date Analyzed: 05/31/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: LA_SED_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22561

Sample wt/vol: 30.3 (g/mL) G Lab File ID: V5495

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 40 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/21/90

GPC Cleanup: (Y/N) Y pH: 6.42 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1100	U
111-44-4	bis(2-Chloroethyl)ether	1100	U
95-57-8	2-Chlorophenol	1100	U
541-73-1	1,3-Dichlorobenzene	1100	U
106-46-7	1,4-Dichlorobenzene	1100	U
100-51-6	Benzyl alcohol	1100	U
95-50-1	1,2-Dichlorobenzene	1100	U
95-48-7	2-Methylphenol	1100	U
108-60-1	bis(2-Chloroisopropyl)ether	1100	U
106-44-5	4-Methylphenol	1100	U
621-64-7	N-Nitroso-di-n-propylamine	1100	U
67-72-1	Hexachloroethane	1100	U
98-95-3	Nitrobenzene	1100	U
78-59-1	Isophorone	1100	U
88-75-5	2-Nitrophenol	1100	U
105-67-9	2,4-Dimethylphenol	1100	U
65-85-0	Benzoic Acid	5500	U
111-91-1	bis(2-Chloroethoxy)methane	1100	U
120-83-2	2,4-Dichlorophenol	1100	U
120-82-1	1,2,4-Trichlorobenzene	1100	U
91-20-3	Naphthalene	1100	U
106-47-8	4-Chloroaniline	1100	U
87-68-3	Hexachlorobutadiene	1100	U
59-50-7	4-Chloro-3-methylphenol	1100	U
91-57-6	2-Methylnaphthalene	1100	U
77-47-4	Hexachlorocyclopentadiene	1100	U
88-06-2	2,4,6-Trichlorophenol	1100	U
95-95-4	2,4,5-Trichlorophenol	5500	U
91-58-7	2-Chloronaphthalene	1100	U
88-74-4	2-Nitroaniline	5500	U
131-11-3	Dimethylphthalate	1100	U
208-96-8	Acenaphthylene	1100	U
606-20-2	2,6-Dinitrotoluene	1100	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: LA_SED_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22561

Sample wt/vol: 30.3 (g/mL) G Lab File ID: V5495

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 40 dec. ____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/21/90

GPC Cleanup: (Y/N) Y pH: 6.42 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	5500	U
83-32-9	Acenaphthene	1100	U
51-28-5	2,4-Dinitrophenol	5500	U
100-02-7	4-Nitrophenol	5500	U
132-64-9	Dibenzofuran	1100	U
121-14-2	2,4-Dinitrotoluene	1100	U
84-66-2	Diethylphthalate	1100	U
7005-72-3	4-Chlorophenyl-phenylether	1100	U
86-73-7	Fluorene	1100	U
100-01-6	4-Nitroaniline	5500	U
534-52-1	4,6-Dinitro-2-methylphenol	5500	U
86-30-6	N-nitrosodiphenylamine (1)	1100	U
101-55-3	4-Bromophenyl-phenylether	1100	U
118-74-1	Hexachlorobenzene	1100	U
87-86-5	Pentachlorophenol	5500	U
85-01-8	Phenanthrene	1100	U
120-12-7	Anthracene	1100	U
84-74-2	Di-n-butylphthalate	1100	U
206-44-0	Fluoranthene	1100	U
129-00-0	Pyrene	1100	U
85-68-7	Butylbenzylphthalate	1100	U
91-94-1	3,3'-Dichlorobenzidine	2300	U
56-55-3	Benzo(a)anthracene	1100	U
218-01-9	Chrysene	1100	U
117-81-7	bis(2-Ethylhexyl)phthalate	1100	U
117-84-0	Di-n-octyl phthalate	1100	U
205-99-2	Benzo(b)fluoranthene	1100	U
207-08-9	Benzo(k)fluoranthene	1100	U
50-32-8	Benzo(a)pyrene	1100	U
193-39-5	Indeno(1,2,3-cd)pyrene	1100	U
53-70-3	Dibenz(a,h)anthracene	1100	U
191-24-2	Benzo(g,h,i)perylene	1100	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SED_4

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22561

Sample wt/vol: 30.3 (g/mL) G Lab File ID: V5495

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 40 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/21/90

GPC Cleanup: (Y/N) Y pH: 6.42 Dilution Factor: 1.0

Number TICs found: 10

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	7.25	2900	J
2.		UNKNOWN KETONE	7.63	1300	J
3.		UNKNOWN	8.52	2900	J
4.		UNKNOWN	9.82	3400	J
5.		UNKNOWN ALDEHYDE	28.02	580	J
6.		UNKNOWN ALDEHYDE	30.27	460	J
7.		UNKNOWN	30.87	460	J
8.		UNKNOWN	34.04	810	J
9.		UNKNOWN	34.56	1500	J
10.		UNKNOWN HYDROCARBON	35.22	1200	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASED4

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 22561

Sample wt/vol: 30.27 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 40 dec. Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/90

GPC Cleanup: (Y/N) Y pH: 6.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	13	U
319-85-7	beta-BHC	13	U
319-86-8	delta-BHC	13	U
58-89-9	gamma-BHC (Lindane)	13	U
76-44-8	Heptachlor	13	U
309-00-2	Aldrin	13	U
1024-57-3	Heptachlor Epoxide	13	U
959-98-8	Endosulfan I	13	U
60-57-1	Dieldrin	26	U
72-55-9	4,4'-DDE	26	U
72-20-8	Endrin	26	U
33213-65-9	Endosulfan II	26	U
72-54-8	4,4'-DDD	26	U
1031-07-8	Endosulfan Sulfate	26	U
50-29-3	4,4'-DDT	26	U
72-43-5	Methoxychlor	130	U
53494-70-5	Endrin Ketone	26	U
5103-71-9	alpha-Chlordane	26	U
5103-74-2	gamma-Chlordane	26	U
8001-35-2	Toxaphene	260	U
12674-11-2	Aroclor-1016	130	U
11104-28-2	Aroclor-1221	130	U
11141-16-5	Aroclor-1232	130	U
53469-21-9	Aroclor-1242	130	U
12672-29-6	Aroclor-1248	130	U
11097-69-1	Aroclor-1254	260	U
11096-82-5	Aroclor-1260	260	U

06/19/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SED-4

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : SOIL_____ Lab Sample ID: 22556____

Level (low/med): LOW_____ Date Received: 05/25/90_

% Solids: __52.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	17700			P
7440-36-0	Antimony	7.1	U	N	P
7440-38-2	Arsenic	11.2		S	F
7440-39-3	Barium	95.9			P
7440-41-7	Beryllium	0.62	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	18500		*	P
7440-47-3	Chromium	27.4			P
7440-48-4	Cobalt	14.6	B		P
7440-50-8	Copper	30.9		N*	P
7439-89-6	Iron	33100		*	P
7439-92-1	Lead	62.4		*	F
7439-95-4	Magnesium	7360			P
7439-96-5	Manganese	421		N	P
7439-97-6	Mercury	0.16	U		CV
7440-02-0	Nickel	39.0			P
7440-09-7	Potassium	1600			P
7782-49-2	Selenium	1.1	U	W	F
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	490	B		P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	28.4			P
7440-66-6	Zinc	151		EN	P
	Cyanide	0.88	U	N	AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-SED5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22569

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3850

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 79 Date Analyzed: 05/31/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	48	U
74-83-9	Bromomethane	48	U
75-01-4	Vinyl chloride	48	U
75-00-3	Chloroethane	48	U
75-09-2	Methylene chloride	24	U
67-64-1	Acetone	240	
75-15-0	Carbon disulfide	24	U
75-35-4	1,1-Dichloroethene	24	U
75-34-3	1,1-Dichloroethane	24	U
540-59-0	1,2-Dichloroethene (total)	24	U
67-66-3	Chloroform	24	U
107-06-2	1,2-Dichloroethane	24	U
78-93-3	2-Butanone	48	U
71-55-6	1,1,1-Trichloroethane	24	U
56-23-5	Carbon tetrachloride	24	U
108-05-4	Vinyl acetate	48	U
75-27-4	Bromodichloromethane	24	U
78-87-5	1,2-Dichloropropane	24	U
10061-01-5	cis-1,3-Dichloropropene	24	U
79-01-6	Trichloroethene	24	U
124-48-1	Dibromochloromethane	24	U
79-00-5	1,1,2-Trichloroethane	24	U
71-43-2	Benzene	24	U
10061-02-6	Trans-1,3-dichloropropene	24	U
75-25-2	Bromoform	24	U
108-10-1	4-Methyl-2-pentanone	48	U
591-78-6	2-Hexanone	48	U
127-18-4	Tetrachloroethene	24	U
79-34-5	1,1,2,2-Tetrachloroethane	24	U
108-88-3	Toluene	24	U
108-90-7	Chlorobenzene	24	U
100-41-4	Ethylbenzene	24	U
100-42-5	Styrene	24	U
1330-20-7	Total xylenes	24	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LA-SED5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22569

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3850

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 79 Date Analyzed: 05/31/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-SED5RE

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22569

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3873

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 79 Date Analyzed: 06/01/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	48	U
74-83-9	Bromomethane	48	U
75-01-4	Vinyl chloride	48	U
75-00-3	Chloroethane	48	U
75-09-2	Methylene chloride	24	U
67-64-1	Acetone	110	
75-15-0	Carbon disulfide	24	U
75-35-4	1,1-Dichloroethene	24	U
75-34-3	1,1-Dichloroethane	24	U
540-59-0	1,2-Dichloroethene (total)	24	U
67-66-3	Chloroform	24	U
107-06-2	1,2-Dichloroethane	24	U
78-93-3	2-Butanone	48	U
71-55-6	1,1,1-Trichloroethane	24	U
56-23-5	Carbon tetrachloride	24	U
108-05-4	Vinyl acetate	48	U
75-27-4	Bromodichloromethane	24	U
78-87-5	1,2-Dichloropropane	24	U
10061-01-5	cis-1,3-Dichloropropene	24	U
79-01-6	Trichloroethene	24	U
124-48-1	Dibromochloromethane	24	U
79-00-5	1,1,2-Trichloroethane	24	U
71-43-2	Benzene	24	U
10061-02-6	Trans-1,3-dichloropropene	24	U
75-25-2	Bromoform	24	U
108-10-1	4-Methyl-2-pentanone	48	U
591-78-6	2-Hexanone	48	U
127-18-4	Tetrachloroethene	24	U
79-34-5	1,1,2,2-Tetrachloroethane	24	U
108-88-3	Toluene	24	U
108-90-7	Chlorobenzene	24	U
100-41-4	Ethylbenzene	24	U
100-42-5	Styrene	24	U
1330-20-7	Total xylenes	24	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA-SED5RE

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22569

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3873

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 79 Date Analyzed: 06/01/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SED_5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22562

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5455

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 75 dec. ____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 6.82 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	2800	U
111-44-4	bis(2-Chloroethyl)ether	2800	U
95-57-8	2-Chlorophenol	2800	U
541-73-1	1,3-Dichlorobenzene	2800	U
106-46-7	1,4-Dichlorobenzene	2800	U
100-51-6	Benzyl alcohol	2800	U
95-50-1	1,2-Dichlorobenzene	2800	U
95-48-7	2-Methylphenol	2800	U
108-60-1	bis(2-Chloroisopropyl)ether	2800	U
106-44-5	4-Methylphenol	2800	U
621-64-7	N-Nitroso-di-n-propylamine	2800	U
67-72-1	Hexachloroethane	2800	U
98-95-3	Nitrobenzene	2800	U
78-59-1	Isophorone	2800	U
88-75-5	2-Nitrophenol	2800	U
105-67-9	2,4-Dimethylphenol	2800	U
65-85-0	Benzoic Acid	13000	U
111-91-1	bis(2-Chloroethoxy)methane	2800	U
120-83-2	2,4-Dichlorophenol	2800	U
120-82-1	1,2,4-Trichlorobenzene	2800	U
91-20-3	Naphthalene	2800	U
106-47-8	4-Chloroaniline	2800	U
87-68-3	Hexachlorobutadiene	2800	U
59-50-7	4-Chloro-3-methylphenol	2800	U
91-57-6	2-Methylnaphthalene	2800	U
77-47-4	Hexachlorocyclopentadiene	2800	U
88-06-2	2,4,6-Trichlorophenol	2800	U
95-95-4	2,4,5-Trichlorophenol	13000	U
91-58-7	2-Chloronaphthalene	2800	U
88-74-4	2-Nitroaniline	13000	U
131-11-3	Dimethylphthalate	2800	U
208-96-8	Acenaphthylene	2800	U
606-20-2	2,6-Dinitrotoluene	2800	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SED_5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22562

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5455

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 75 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 6.82 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	13000	U
83-32-9	Acenaphthene	2800	U
51-28-5	2,4-Dinitrophenol	13000	U
100-02-7	4-Nitrophenol	13000	U
132-64-9	Dibenzofuran	2800	U
121-14-2	2,4-Dinitrotoluene	2800	U
84-66-2	Diethylphthalate	2800	U
7005-72-3	4-Chlorophenyl-phenylether	2800	U
86-73-7	Fluorene	2800	U
100-01-6	4-Nitroaniline	13000	U
534-52-1	4,6-Dinitro-2-methylphenol	13000	U
86-30-6	N-nitrosodiphenylamine (1)	2800	U
101-55-3	4-Bromophenyl-phenylether	2800	U
118-74-1	Hexachlorobenzene	2800	U
87-86-5	Pentachlorophenol	13000	U
85-01-8	Phenanthrene	4200	
120-12-7	Anthracene	2800	U
84-74-2	Di-n-butylphthalate	2800	U
206-44-0	Fluoranthene	9500	
129-00-0	Pyrene	8400	
85-68-7	Butylbenzylphthalate	2800	U
91-94-1	3,3'-Dichlorobenzidine	5500	U
56-55-3	Benzo(a)anthracene	3200	
218-01-9	Chrysene	5200	
117-81-7	bis(2-Ethylhexyl)phthalate	5100	
117-84-0	Di-n-octyl phthalate	2800	U
205-99-2	Benzo(b)fluoranthene	4600	X
207-08-9	Benzo(k)fluoranthene	4000	
50-32-8	Benzo(a)pyrene	4100	
193-39-5	Indeno(1,2,3-cd)pyrene	2800	U
53-70-3	Dibenz(a,h)anthracene	2800	U
191-24-2	Benzo(g,h,i)perylene	2600	JX

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LA_SED_5

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22562

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5455

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 75 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/11/90

GPC Cleanup: (Y/N) Y pH: 6.82 Dilution Factor: 1.0

Number TICs found: 24 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	822-67-3	2-CYCLOHEXEN-1-OL	6.58	1100	BJ
2.		UNKNOWN	7.47	2800	J
3.	930-68-7	2-CYCLOHEXEN-1-ONE	7.63	1100	BJ
4.		UNKNOWN KETONE	7.88	14000	BJ
5.		UNKNOWN KETONE	8.08	2000	J
6.		UNKNOWN	8.75	12000	J
7.		UNKNOWN	9.89	3900	J
8.		UNKNOWN	10.09	17000	J
9.		UNKNOWN HYDROCARBON	21.32	2200	J
10.		UNKNOWN HYDROCARBON	21.40	2800	J
11.		UNKNOWN HYDROCARBON	22.90	3900	J
12.	1002-84-2	PENTADECANOIC ACID	23.62	2200	J
13.		UNKNOWN	23.95	2800	J
14.	2091-29-4	9-HEXADECENOIC ACID	24.80	5900	J
15.	57-10-3	HEXADECANOIC ACID	25.00	8600	J
16.		UNKNOWN	26.51	20000	J
17.		UNKNOWN HYDROCARBON	28.36	5300	J
18.		UNKNOWN HYDROCARBON	31.17	7500	J
19.		UNKNOWN HYDROCARBON	32.72	4500	J
20.		UNKNOWN HYDROCARBON	33.16	5000	J
21.		UNKNOWN HYDROCARBON	35.77	20000	J
22.		UNKNOWN HYDROCARBON	36.99	8900	J
23.		UNKNOWN	38.87	10000	J
24.		UNKNOWN	40.74	8900	J

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASED5

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 22562

Sample wt/vol: 30.25 (g/ml) Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 75 dec. Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/90

GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	31	U
319-85-7	beta-BHC	31	U
319-86-8	delta-BHC	31	U
58-89-9	gamma-BHC (Lindane)	31	U
76-44-8	Heptachlor	31	U
309-00-2	Aldrin	31	U
1024-57-3	Heptachlor Epoxide	31	U
959-98-8	Endosulfan I	31	U
60-57-1	Dieldrin	63	U
72-55-9	4,4'-DDE	63	U
72-20-8	Endrin	63	U
33213-65-9	Endosulfan II	63	U
72-54-8	4,4'-DDD	63	U
1031-07-8	Endosulfan Sulfate	63	U
50-29-3	4,4'-DDT	63	U
72-43-5	Methoxychlor	310	U
53494-70-5	Endrin Ketone	63	U
5103-71-9	alpha-Chlordane	63	U
5103-74-2	gamma-Chlordane	63	U
8001-35-2	Toxaphene	630	U
12674-11-2	Aroclor-1016	310	U
11104-28-2	Aroclor-1221	310	U
11141-16-5	Aroclor-1232	310	U
53469-21-9	Aroclor-1242	310	U
12672-29-6	Aroclor-1248	310	U
11097-69-1	Aroclor-1254	630	U
11096-82-5	Aroclor-1260	630	U

06/18/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SED-5

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : SOIL_____ Lab Sample ID: 22557____

Level (low/med): LOW_____ Date Received: 05/25/90_

% Solids: __20.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15600			P
7440-36-0	Antimony	20.2	U	N	P
7440-38-2	Arsenic	13.2			F
7440-39-3	Barium	361			P
7440-41-7	Beryllium	1.8	U		P
7440-43-9	Cadmium	9.8			P
7440-70-2	Calcium	24100		*	P
7440-47-3	Chromium	54.2			P
7440-48-4	Cobalt	12.4	B		P
7440-50-8	Copper	116		N*	P
7439-89-6	Iron	28800		*	P
7439-92-1	Lead	809		*	F
7439-95-4	Magnesium	5750			P
7439-96-5	Manganese	1340		N	P
7439-97-6	Mercury	0.45	U		CV
7440-02-0	Nickel	39.0			P
7440-09-7	Potassium	1310	B		P
7782-49-2	Selenium	2.7	U	W	F
7440-22-4	Silver	3.5	U		P
7440-23-5	Sodium	11000			P
7440-28-0	Thallium	2.7	U		F
7440-62-2	Vanadium	33.5	B		P
7440-66-6	Zinc	708		EN	P
	Cyanide	1.8		N	AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

Surface Soil Results

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA-SS1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22570

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3851

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 8 Date Analyzed: 05/31/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene chloride	5	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	11	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LA-SS1

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22570

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3851

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 8 Date Analyzed: 05/31/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: LA_SS_1

La Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22563

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5464

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

GPC Cleanup: (Y/N) Y pH: 6.91 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	940	U
111-44-4	bis(2-Chloroethyl)ether	940	U
95-57-8	2-Chlorophenol	940	U
541-73-1	1,3-Dichlorobenzene	940	U
106-46-7	1,4-Dichlorobenzene	940	U
100-51-6	Benzyl alcohol	940	U
95-50-1	1,2-Dichlorobenzene	940	U
95-48-7	2-Methylphenol	940	U
108-60-1	bis(2-Chloroisopropyl)ether	940	U
106-44-5	4-Methylphenol	940	U
621-64-7	N-Nitroso-di-n-propylamine	940	U
67-72-1	Hexachloroethane	940	U
98-95-3	Nitrobenzene	940	U
78-59-1	Isophorone	940	U
88-75-5	2-Nitrophenol	940	U
105-67-9	2,4-Dimethylphenol	940	U
65-85-0	Benzoic Acid	4600	U
111-91-1	bis(2-Chloroethoxy)methane	940	U
120-83-2	2,4-Dichlorophenol	940	U
120-82-1	1,2,4-Trichlorobenzene	940	U
91-20-3	Naphthalene	940	U
106-47-8	4-Chloroaniline	940	U
87-68-3	Hexachlorobutadiene	940	U
59-50-7	4-Chloro-3-methylphenol	940	U
91-57-6	2-Methylnaphthalene	940	U
77-47-4	Hexachlorocyclopentadiene	940	U
88-06-2	2,4,6-Trichlorophenol	940	U
95-95-4	2,4,5-Trichlorophenol	4600	U
91-58-7	2-Chloronaphthalene	940	U
88-74-4	2-Nitroaniline	4600	U
131-11-3	Dimethylphthalate	940	U
208-96-8	Acenaphthylene	940	U
606-20-2	2,6-Dinitrotoluene	940	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SS_1

Ta Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

atrix: (soil/water) SOIL Lab Sample ID: 22563

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5464

evel: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/04/90

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

PC Cleanup: (Y/N) Y pH: 6.91 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4600	U
83-32-9	Acenaphthene	940	U
51-28-5	2,4-Dinitrophenol	4600	U
100-02-7	4-Nitrophenol	4600	U
132-64-9	Dibenzofuran	940	U
121-14-2	2,4-Dinitrotoluene	940	U
84-66-2	Diethylphthalate	940	U
7005-72-3	4-Chlorophenyl-phenylether	940	U
86-73-7	Fluorene	940	U
100-01-6	4-Nitroaniline	4600	U
534-52-1	4,6-Dinitro-2-methylphenol	4600	U
86-30-6	N-nitrosodiphenylamine (1)	940	U
101-55-3	4-Bromophenyl-phenylether	940	U
118-74-1	Hexachlorobenzene	940	U
87-86-5	Pentachlorophenol	4600	U
85-01-8	Phenanthrene	940	U
120-12-7	Anthracene	940	U
84-74-2	Di-n-butylphthalate	940	U
206-44-0	Fluoranthene	670	J
129-00-0	Pyrene	990	
85-68-7	Butylbenzylphthalate	940	U
91-94-1	3,3'-Dichlorobenzidine	1900	U
56-55-3	Benzo(a)anthracene	860	J
218-01-9	Chrysene	1500	
117-81-7	bis(2-Ethylhexyl)phthalate	940	U
117-84-0	Di-n-octyl phthalate	940	U
205-99-2	Benzo(b)fluoranthene	1200	
207-08-9	Benzo(k)fluoranthene	790	J
50-32-8	Benzo(a)pyrene	1200	
193-39-5	Indeno(1,2,3-cd)pyrene	690	J
53-70-3	Dibenz(a,h)anthracene	940	U
191-24-2	Benzo(g,h,i)perylene	850	J

(1) - Cannot be separated from Diphenylamine

100278

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SS_1

La. Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22563

Sample wt/vol: 30.4 (g/mL) G Lab File ID: V5464

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 27 dec. ____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

GPC Cleanup: (Y/N) Y pH: 6.91 Dilution Factor: 1.0

Number TICs found: 25

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	822-67-3	2-CYCLOHEXEN-1-OL	6.47	470	BJ
2.		UNKNOWN	7.35	3900	J
3.	930-68-7	2-CYCLOHEXEN-1-ONE	7.50	470	BJ
4.		UNKNOWN KETONE	7.73	1000	BJ
5.		UNKNOWN	8.62	1500	J
6.		UNKNOWN	9.92	2900	J
7.	74367-33-2	PROPANOIC ACID, 2-METHYL-, 2	15.89	470	J
8.		UNKNOWN HYDROCARBON	21.17	380	J
9.		UNKNOWN HYDROCARBON	23.99	570	J
10.		UNKNOWN	26.51	950	J
11.		UNKN POLYAROMATIC HYDROCARBO	27.59	760	J
12.		UNKNOWN	32.49	660	J
13.		UNKN POLYAROMATIC HYDROCARBO	32.91	660	J
14.		UNKNOWN	33.37	760	J
15.		UNKN POLYAROMATIC HYDROCARBO	34.26	760	J
16.		UNKNOWN	35.51	760	J
17.		UNK POLYAROMATIC HYDROCARBON	36.74	1900	J
18.		UNKNOWN	37.72	3100	J
19.		UNKNOWN	37.89	2100	J
20.		UNKNOWN	38.77	950	J
21.		UNKNOWN	40.29	6700	J
22.		UNKNOWN	41.46	1600	J
23.		UNKNOWN	42.33	8600	J
24.		UNKNOWN	43.38	1800	J
25.		UNKNOWN	45.04	2100	J

100279

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASS1

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 22563

Sample wt/vol: 30.40 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 27 dec. Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/90

GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	11	U
319-86-8	delta-BHC	11	U
58-89-9	gamma-BHC (Lindane)	11	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	11	U
1024-57-3	Heptachlor Epoxide	11	U
959-98-8	Endosulfan I	11	U
60-57-1	Dieldrin	22	U
72-55-9	4,4'-DDE	22	U
72-20-8	Endrin	22	U
33213-65-9	Endosulfan II	22	U
72-54-8	4,4'-DDD	22	U
1031-07-8	Endosulfan Sulfate	22	U
50-29-3	4,4'-DDT	22	U
72-43-5	Methoxychlor	110	U
53494-70-5	Endrin Ketone	22	U
5103-71-9	alpha-Chlordane	22	U
5103-74-2	gamma-Chlordane	22	U
8001-35-2	Toxaphene	220	U
12674-11-2	Aroclor-1016	110	U
11104-28-2	Aroclor-1221	110	U
11141-16-5	Aroclor-1232	110	U
53469-21-9	Aroclor-1242	110	U
12672-29-6	Aroclor-1248	110	U
11097-69-1	Aroclor-1254	220	U
11096-82-5	Aroclor-1260	220	U

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SS-1

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : SOIL_____ Lab Sample ID: 22551____

Level (low/med): LOW_____ Date Received: 05/25/90_

% Solids: __91.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6940			P
7440-36-0	Antimony	4.1	U	N	P
7440-38-2	Arsenic	2.7			F
7440-39-3	Barium	24.4	B		P
7440-41-7	Beryllium	0.36	U		P
7440-43-9	Cadmium	0.89	U		P
7440-70-2	Calcium	2060		*	P
7440-47-3	Chromium	13.0			P
7440-48-4	Cobalt	1.3	B		P
7440-50-8	Copper	9.5		N*	P
7439-89-6	Iron	14400		*	P
7439-92-1	Lead	18.5		*	F
7439-95-4	Magnesium	574	B		P
7439-96-5	Manganese	182		N	P
7439-97-6	Mercury	0.096	U		CV
7440-02-0	Nickel	7.9			P
7440-09-7	Potassium	167	B		P
7782-49-2	Selenium	0.51	U		F
7440-22-4	Silver	0.71	U		P
7440-23-5	Sodium	119	B		P
7440-28-0	Thallium	0.51	U		F
7440-62-2	Vanadium	11.0			P
7440-66-6	Zinc	20.6		EN	P
	Cyanide	0.47	U	N	AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

00031

FORM I - IN

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: LA-SS2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22571

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3855

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 17 Date Analyzed: 05/31/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene chloride	6	U
67-64-1	Acetone	12	U
75-15-0	Carbon disulfide	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon tetrachloride	6	U
108-05-4	Vinyl acetate	12	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	Trans-1,3-dichloropropene	6	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
100-42-5	Styrene	6	U
1330-20-7	Total xylenes	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: LA-SS2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22571

Sample wt/vol: 5.0 (g/mL) G Lab File ID: U3855

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 17 Date Analyzed: 05/31/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SS_2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22564

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5465

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 16 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

GPC Cleanup: (Y/N) Y pH: 6.47 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	820	U
111-44-4	bis(2-Chloroethyl)ether	820	U
95-57-8	2-Chlorophenol	820	U
541-73-1	1,3-Dichlorobenzene	820	U
106-46-7	1,4-Dichlorobenzene	820	U
100-51-6	Benzyl alcohol	820	U
95-50-1	1,2-Dichlorobenzene	820	U
95-48-7	2-Methylphenol	820	U
108-60-1	bis(2-Chloroisopropyl)ether	820	U
106-44-5	4-Methylphenol	820	U
621-64-7	N-Nitroso-di-n-propylamine	820	U
67-72-1	Hexachloroethane	820	U
98-95-3	Nitrobenzene	820	U
78-59-1	Isophorone	820	U
88-75-5	2-Nitrophenol	820	U
105-67-9	2,4-Dimethylphenol	820	U
65-85-0	Benzoic Acid	4000	U
111-91-1	bis(2-Chloroethoxy)methane	820	U
120-83-2	2,4-Dichlorophenol	820	U
120-82-1	1,2,4-Trichlorobenzene	820	U
91-20-3	Naphthalene	820	U
106-47-8	4-Chloroaniline	820	U
87-68-3	Hexachlorobutadiene	820	U
59-50-7	4-Chloro-3-methylphenol	820	U
91-57-6	2-Methylnaphthalene	820	U
77-47-4	Hexachlorocyclopentadiene	820	U
88-06-2	2,4,6-Trichlorophenol	820	U
95-95-4	2,4,5-Trichlorophenol	4000	U
91-58-7	2-Chloronaphthalene	820	U
88-74-4	2-Nitroaniline	4000	U
131-11-3	Dimethylphthalate	820	U
208-96-8	Acenaphthylene	820	U
606-20-2	2,6-Dinitrotoluene	820	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LA_SS_2

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

Matrix: (soil/water) SOIL Lab Sample ID: 22564

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5465

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 16 dec. _____ Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

GPC Cleanup: (Y/N) Y pH: 6.47 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4000	U
83-32-9	Acenaphthene	820	U
51-28-5	2,4-Dinitrophenol	4000	U
100-02-7	4-Nitrophenol	4000	U
132-64-9	Dibenzofuran	820	U
121-14-2	2,4-Dinitrotoluene	820	U
84-66-2	Diethylphthalate	820	U
7005-72-3	4-Chlorophenyl-phenylether	820	U
86-73-7	Fluorene	820	U
100-01-6	4-Nitroaniline	4000	U
534-52-1	4,6-Dinitro-2-methylphenol	4000	U
86-30-6	N-nitrosodiphenylamine (1)	820	U
101-55-3	4-Bromophenyl-phenylether	820	U
118-74-1	Hexachlorobenzene	820	U
87-86-5	Pentachlorophenol	4000	U
85-01-8	Phenanthrene	820	U
120-12-7	Anthracene	820	U
84-74-2	Di-n-butylphthalate	820	U
206-44-0	Fluoranthene	820	U
129-00-0	Pyrene	820	U
85-68-7	Butylbenzylphthalate	820	U
91-94-1	3,3'-Dichlorobenzidine	1600	U
56-55-3	Benzo(a)anthracene	820	U
218-01-9	Chrysene	820	U
117-81-7	bis(2-Ethylhexyl)phthalate	820	U
117-84-0	Di-n-octyl phthalate	820	U
205-99-2	Benzo(b)fluoranthene	820	U
207-08-9	Benzo(k)fluoranthene	820	U
50-32-8	Benzo(a)pyrene	820	U
193-39-5	Indeno(1,2,3-cd)pyrene	820	U
53-70-3	Dibenz(a,h)anthracene	820	U
191-24-2	Benzo(g,h,i)perylene	820	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LA_SS_2

a_ Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2

atrix: (soil/water) SOIL Lab Sample ID: 22564

Sample wt/vol: 30.2 (g/mL) G Lab File ID: V5465

evel: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 16 dec. ____ Date Extracted: 06/04/90

xtraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/13/90

PC Cleanup: (Y/N) Y pH: 6.47 Dilution Factor: 1.0

umber TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	822-67-3	2-CYCLOHEXEN-1-OL	6.45	330	BJ
2.		UNKNOWN	7.33	2000	J
.	930-68-7	2-CYCLOHEXEN-1-ONE	7.48	330	BJ
..		UNKNOWN KETONE	7.72	660	J
5.		UNKNOWN	8.60	1100	J
6.		UNKNOWN	9.90	2100	J
7.	74367-33-2	PROPANOIC ACID, 2-METHYL-, 2	15.87	330	J
8.		UNKNOWN	34.22	580	BJ

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LASS2

Lab Name: VERSAR, INC. Contract:

Lab Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 22564

Sample wt/vol: 30.21 (g/ml) G Lab File ID:

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. 16 dec. Date Extracted: 06/04/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/90

GPC Cleanup: (Y/N) Y pH: 6.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	9.4	U
319-85-7	beta-BHC	9.4	U
319-86-8	delta-BHC	9.4	U
58-89-9	gamma-BHC (Lindane)	9.4	U
76-44-8	Heptachlor	9.4	U
309-00-2	Aldrin	9.4	U
1024-57-3	Heptachlor Epoxide	9.4	U
959-98-8	Endosulfan I	9.4	U
60-57-1	Dieldrin	19	U
72-55-9	4,4'-DDE	19	U
72-20-8	Endrin	19	U
33213-65-9	Endosulfan II	19	U
72-54-8	4,4'-DDD	19	U
1031-07-8	Endosulfan Sulfate	19	U
50-29-3	4,4'-DDT	19	U
72-43-5	Methoxychlor	94	U
53494-70-5	Endrin Ketone	19	U
5103-71-9	alpha-Chlordane	19	U
5103-74-2	gamma-Chlordane	19	U
8001-35-2	Toxaphene	190	U
12674-11-2	Aroclor-1016	94	U
11104-28-2	Aroclor-1221	94	U
11141-16-5	Aroclor-1232	94	U
53469-21-9	Aroclor-1242	94	U
12672-29-6	Aroclor-1248	94	U
11097-69-1	Aroclor-1254	190	U
11096-82-5	Aroclor-1260	190	U

06/19/90

1

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

LA-SS-2

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : SOIL_____ Lab Sample ID: 22552____

Level (low/med): LOW_____ Date Received: 05/25/90_

% Solids: __82.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13400			P
7440-36-0	Antimony	5.3	U	N	P
7440-38-2	Arsenic	34.5			F
7440-39-3	Barium	86.5			P
7440-41-7	Beryllium	0.46	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	2010		*	P
7440-47-3	Chromium	235			P
7440-48-4	Cobalt	14.1			P
7440-50-8	Copper	22.7		N*	P
7439-89-6	Iron	29300		*	P
7439-92-1	Lead	18.1		*	F
7439-95-4	Magnesium	5000			P
7439-96-5	Manganese	469		N	P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	34.3			P
7440-09-7	Potassium	1860			P
7782-49-2	Selenium	0.70	U		F
7440-22-4	Silver	0.92	U		P
7440-23-5	Sodium	223	B		P
7440-28-0	Thallium	0.70	U		F
7440-62-2	Vanadium	24.8			P
7440-66-6	Zinc	82.8		EN	P
	Cyanide	0.56	U	N	AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After : YELLOW___ Clarity After: CLEAR_ Artifacts: _____

Comments:

Quality Control Sample Results

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LATRIPBLK

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22550

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2624

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. _____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	5	
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LATRIPBLK

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22550

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2624

Level: (low/med) LOW Date Received: 05/25/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: WASHBLANK

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2_3

Matrix: (soil/water) WATER Lab Sample ID: 22708

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2631

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	4	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total xylenes	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: WASHBLANK

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: 2 3

Matrix: (soil/water) WATER Lab Sample ID: 22708

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: W2631

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. ____ Date Analyzed: 05/30/90

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WASH_BLANK

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22696

Sample wt/vol: 1010 (g/mL) ML Lab File ID: T2982

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WASH_BLANK

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22696

Sample wt/vol: 1010 (g/mL) ML Lab File ID: T2982

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: WASH_BLANK

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 2804 SAS No.: _____ SDG No.: B2_3

Matrix: (soil/water) WATER Lab Sample ID: 22696

Sample wt/vol: 1010 (g/mL) ML Lab File ID: T2982

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. _____ dec. _____ Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/12/90

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

Number TICs found: 8

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	3.83	5.9	J
2.		UNKNOWN	4.27	46	BJ
3.		UNKNOWN	4.57	34	BJ
4.	822-67-3	2-CYCLOHEXEN-1-OL	5.15	7.9	BJ
5.	930-68-7	2-CYCLOHEXEN-1-ONE	6.12	9.9	BJ
6.		UNKNOWN	14.34	18	J
7.		UNKNOWN ORGANIC ACID	17.40	150	BJ
8.	141-03-7	BUTANEDIOIC ACID, DIBUTYL ES	17.70	5.9	J

200103

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WASHBLANK

Lab Name: VERSAR, INC. Contract:

) Code: VERSAR Case No.: ENGILACK SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 22702

Sample wt/vol: 870 (g/ml) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/26/90

% Moisture: not dec. dec. Date Extracted: 05/31/90

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 06/09/90

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.06	U
319-85-7	beta-BHC	0.06	U
319-86-8	delta-BHC	0.06	U
58-89-9	gamma-BHC (Lindane)	0.06	U
76-44-8	Heptachlor	0.06	U
309-00-2	Aldrin	0.06	U
1024-57-3	Heptachlor Epoxide	0.06	U
959-98-8	Endosulfan I	0.06	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan Sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.57	U
53494-70-5	Endrin Ketone	0.11	U
5103-71-9	alpha-Chlordane	0.11	U
5103-74-2	gamma-Chlordane	0.11	U
8001-35-2	Toxaphene	1.1	U
12674-11-2	Aroclor-1016	0.57	U
11104-28-2	Aroclor-1221	0.57	U
11141-16-5	Aroclor-1232	0.57	U
53469-21-9	Aroclor-1242	0.57	U
12672-29-6	Aroclor-1248	0.57	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

CEB 6/12/90

INORGANIC ANALYSES DATA SHEET

FIELD SAMPLE NO.

WASH BLANK

Client : ENGINEERING-SCIENCE_ Site: LACKAWANNA_____

Lab Name: VERSAR_INC. Control No.: 2804____ Code: ENGILACK Batch: 2,_3___

Matrix : WATER_____ Lab Sample ID: 22684____

Level (low/med): LOW_____ Date Received: 05/26/90_

% Solids: ___0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5_	Aluminum__	64.6	B		P_
7440-36-0_	Antimony__	23.0	U		P_
7440-38-2_	Arsenic___	3.0	U		F_
7440-39-3_	Barium____	4.6	B		P_
7440-41-7_	Beryllium_	2.0	U		P_
7440-43-9_	Cadmium___	5.0	U		P_
7440-70-2_	Calcium___	1360	B		P_
7440-47-3_	Chromium__	5.0	U		P_
7440-48-4_	Cobalt____	5.0	U		P_
7440-50-8_	Copper____	4.0	U		P_
7439-89-6_	Iron______	117			P_
7439-92-1_	Lead______	2.0	U		F_
7439-95-4_	Magnesium_	452	B		P_
7439-96-5_	Manganese_	2.0	U		P_
7439-97-6_	Mercury___	0.20	U		CV
7440-02-0_	Nickel____	10.0	U		P_
7440-09-7_	Potassium_	871	U		P_
7782-49-2_	Selenium__	3.0	U		F_
7440-22-4_	Silver____	4.0	U		P_
7440-23-5_	Sodium____	2190	B		P_
7440-28-0_	Thallium__	3.0	U		F_
7440-62-2_	Vanadium__	4.0	B		P_
7440-66-6_	Zinc______	4.0	U		P_
	Cyanide___	10.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR_ Texture: ______

Color After : COLORLESS Clarity After: CLEAR_ Artifacts: ______

Comments:

_CYANIDE_LAB_SAMPLE_ID_NUMBER_IS_22690;_____

Field Sampling Records

FIGURE 6.3

FIELD SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. GW-1 Date: 5/25/90
well

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

Initial Static Water Level. 6.58
(from top of well casing)

Evacuation:
Using: Submersible ____ Centrifugal ____
Airlift ____ Positive Displacement ____
Bailed X ____ Times

Well Volume Calculation:
2" Casing: 7.42 ft. of water x .16 = 1.18 gals.
3" Casing: ____ ft. of water x .36 = ____ gals.
4" Casing: ____ ft. of water x .65 = ____ gals.

Depth to intake from top of protective well casing ____
Volume of Water removed 5 Gals. (> 3 Well Volumes)

Sampling: Time 9:45 X a.m. ____ p.m.

Bailer Type: Stainless Steel ____
Teflon ____
From Pos. Dis. Pump Discharge Tube ____
Other DISPOSABLE POLYETHYLENE X

	No. of Bottles Filled	I.D. No.	Analyses
Trip Blank	____	____	____
Field Blank - Wash/Atmospheric. (circle one)	____	____	____
Ground-water Sample	6	LACKAWANNA GW-1	VOA, BNA, PEST, METAL, CN-

Physical Appearance and Odor GRAY, HIGH TURBIDITY

Refrigerate: Date 5/25/90 Time 10:45 a.m.

Field Tests:

Temperature (C°)/°F)	10.7 °C	____
pH	7.03	____
Spec. Conduc (umnos/cm)	1335	____

Weather PARTLY SUNNY HIGH 50's - LOW 60's

Comments

FIGURE 6.3

FIELD SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. GW-2 Date: 5/25/90
Well

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

Initial Static Water Level. 3.84
(from top of well casing)

Evacuation:
Using: Submersible ____ Centrifugal ____
Airlift ____ Positive Displacement ____
Bailed X ____ Times

Well Volume Calculation:
2" Casing: 10.16 ft. of water x .16 = 1.62 gals.
3" Casing: ____ ft. of water x .36 = ____ gals.
4" Casing: ____ ft. of water x .65 = ____ gals.

Depth to intake from top of protective well casing ____
Volume of Water removed 5 Gals. (> 3 Well Volumes)

Sampling: Time 10:00 X a.m. ____ p.m.

Bailer Type: Stainless Steel ____
Teflon ____
From Pos. Dis. Pump Discharge Tube ____
Other DISPOSABLE POLYETHILENE X

	No. of Bottles Filled	I.D. No.	Analyses
Trip Blank			
Field Blank - Wash/Atmospheric. (circle one)			
Ground-water Sample	6	LACKAWANNA GW-2	VOA, BNA, PEST, METAL, CN-

Physical Appearance and Odor GRAY, MEDIUM TURBIDITY, HIGH FINES

Refrigerate: Date 5/25/90 Time 10:45 a.m.

Field Tests:

Temperature (C°/°F)	11.5° C	
pH	7.05	
Spec. Conduc (umhos/cm)	1468	

Weather PARTLY SUNNY HIGH 50's - LOW 60's

Comments

SY053

ENGINEERING-SCIENCE

FIGURE 6.3

FIELD SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. GW-3 Date: 5/25/90

Well

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE

of

Initial Static Water Level. 8.65
(from top of well casing)

Evacuation:

Using: Submersible ____ Centrifugal ____
Airlift ____ Positive Displacement ____
Bailed X ____ Times

Well Volume Calculation:

2" Casing: 9.35 ft. of water x .16 = 1.49 gals.
3" Casing: ____ ft. of water x .36 = ____ gals.
4" Casing: ____ ft. of water x .65 = ____ gals.

Depth to intake from top of protective well casing ____
Volume of water removed 5 Gals. (> 3 Well Volumes)

Sampling: Time 8:30 X a.m. ____ p.m.

Bailer Type:

Stainless Steel	
Teflon	
From Pos. Dis. Pump Discharge Tube	
Other DISPOSABLE POLYETHILENE	X

	No. of Bottles Filled	I.D. No.	Analyses
Trip Blank			
Field Blank - Wash/Atmospheric. .(circle one)			
Ground-water Sample	16	LACKAWANNA GW-3	VOA, BNA, PEST, METAL, CN-

Physical Appearance and Odor LIGHT BROWN, LOW TURBIDITY

Refrigerate: Date 5/25/90 Time 10:45 a.m.

Field Tests:

Temperature (C°/°F)	10.2°C	
pH	6.35	
Spec. Conduc (umhos/cm)	806	

Weather PARTLY SUNNY HIGH 50's - LOW 60's

Comments MS/MSD SAMPLES COLLECTED

FIGURE 6.3

FIELD SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. GW-4 Date: 5/29/90
well

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

Initial Static Water Level. 4.17
(from top of well casing)

Evacuation:
Using: Submersible ____ Centrifugal ____
Airlift ____ Positive Displacement ____
Bailed X ____ Times

Well Volume Calculation:
2" Casing: 7.83 ft. of water x .16 = 1.25 gals.
3" Casing: ____ ft. of water x .36 = ____ gals.
4" Casing: ____ ft. of water x .65 = ____ gals.

Depth to intake from top of protective well casing ____
Volume of Water removed 5 Gals. (> 3 Well Volumes)

Sampling: Time 9:45 X a.m. ____ p.m.

Bailer Type: Stainless Steel ____
Teflon ____
From Pos. Dis. Pump Discharge Tube ____
Other DISPOSABLE POLYETHILENE X

	No. of Bottles Filled	I.D. No.	Analyses
Trip Blank	____	____	____
Field Blank - Wash/Atmospheric. (circle one)	____	____	____
Ground-water Sample	6	LACKAWANNA GW-4	VOA, BNA, PEST, METAL, LW

Physical Appearance and Odor GRAYISH BROWN HIGH TURBIDITY

Refrigerate: Date 5/29/90 Time 10:45 a.m.

Field Tests:
Temperature (C°/°F) 10.6°C
pH 6.83
Spec. Conduc (~~umhos/cm~~) 4.03 mS

Weather PARTLY SUNNY HIGH 50's - LOW 60's

Comments CONDUCTIVITY ABOVE 2000 µS SCALE - MEASURED IN mS

FIGURE 6.3

FIELD SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. GW-5 Date: 5/25/90
well

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

Initial Static Water Level. 3.45
(from top of well PVC casing)

Evacuation:

Using: Submersible ____ Centrifugal ____
Airlift ____ Positive Displacement ____
Bailed X ____ Times

Well Volume Calculation:
2" Casing: 10.55 ft. of water x .16 = 1.68 gals.
3" Casing: ____ ft. of water x .36 = ____ gals.
4" Casing: ____ ft. of water x .65 = ____ gals.

Depth to intake from top of protective well casing ____
Volume of Water removed 5 Gals. (> 3 Well Volumes)

Sampling: Time 8:55 X a.m. ____ p.m.

Bailer Type: Stainless Steel ____
Teflon ____
From Pos. Dis. Pump Discharge Tube ____
Other DISPOSABLE POLYETHILENE X

	No. of Bottles Filled	I.D. No.	Analyses
Trip Blank	____	____	____
Field Blank - Wash/Atmospheric. (circle one)	____	____	____
Ground-water Sample	6	LACKAWANNA GW-5	VOA, BNA, PEST, METAL, CN-

Physical Appearance and Odor CLOUDY BROWNISH GRAY, HIGH FINES

Refrigerate: Date 5/25/90 Time 10:45 a.m.

Field Tests:

Temperature (C°/°F)	11.4° C	____
pH	7.05	____
Spec. Conduc (umnos/cm)	651	____

Weather PARTLY SUNNY HIGH 50's - LOW 60's

Comments ____

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SW-1 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time 12 45 ___ a.m. X p.m.

Sample Type: SURFACE WATER

Sampling Method: STAINLESS STEEL DIPPER

Depth of Sample: SURFACE

Description of Sampling Point:
Drainage Direction: WEST
Upstream From: SW-3
Downstream From: SW-5
Physical Appearance/Odor: POND NORTHEAST OF SITE

Wildlife Observed:

Sampling Description:
Suspended Matter: ORGANICS, NO FINES
Color/Stain: LIGHT YELLOW
Odor:
Other:
Texture:
Analyze for: VOA, BNA, METALS, PEST, CN-

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:
Temperature (C°/°F) 18° C
pH 3.38
Conductivity 1277
Weather PARTLY SUNNY, 55-65°F

Comments: HIGH pH

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SW-2 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time 14:45 ___ a.m. X p.m.

Sample Type: SURFACE WATER

Sampling Method: STAINLESS STEEL DIPPER

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction:

Upstream From:

Downstream From:

Physical Appearance/Odor: SWAMPY AREA BETWEEN SOUTH SIDE OF SITE AND NYS THRUWAY

Wildlife Observed:

Sampling Description:

Suspended Matter: LOW TURBIDITY

Color/Stain: LIGHT BROWN

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN^-

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F)

pH

Conductivity 1483

Weather PARTLY SUNNY, 55-65°F

Comments:

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SW-3 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time ____ ___ a.m. ___ p.m.

Sample Type: SURFACE WATER

Sampling Method: STAINLESS STEEL DIPPER

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction: WEST

Upstream From: SW-4

Downstream From: POND, SW-1 AND SW-5

Physical Appearance/Odor: STREAM DRAWING POND

Wildlife Observed:

Sampling Description:

Suspended Matter: LOW TURBIDITY

Color/Stain: LIGHT BROWN

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN^-

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F) ____ Weather PARTLY SUNNY, 55-65°F

pH 8.48

Conductivity 1286

Comments: HIGH pH

FIGURE 6.4

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SW-4 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time 13.45 ___ a.m. X p.m.

Sample Type: SURFACE WATER

Sampling Method: STAINLESS STEEL DIPPER

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction: WEST - SOUTHWEST

Upstream From: ~~SW-3~~ ABBOT ROAD

Downstream From: SW-3

Physical Appearance/Odor: MARSHY AREA

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain: BROWN - ORANGE

Odor:

Other: SHEEN ON TOP

Texture: MEDIUM TURBIDITY

Analyze for: VOA, BNA, METALS, PEST, CN⁻

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F) ___ Weather PARTLY SUNNY, 55-65°F

pH 7.33

Conductivity 1136

Comments: APPEARS TO CONTAIN LEACHATE

SY053

ENGINEERING-SCIENCE

FIGURE 6.4

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SW-5 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time 14:45 ___ a.m. X p.m.

Sample Type: SURFACE WATER

Sampling Method: STAINLESS STEEL DIPPER

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction: WEST

Upstream From: GW-1

Downstream From: TOLL BOOTH

Physical Appearance/Odor:

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain: BROWN

Odor:

Other:

Texture: MEDIUM TURBIDITY

Analyze for: VOA, BNA, METALS, PEST, CN^-

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F)		Weather PARTLY SUNNY, 55-65°F
pH	7.31	
Conductivity	6.15 mS	

Comments: SOUTHEAST CORNER OF SITE

CONDUCTIVITY ABOVE 2000 MS SCALE - MEASURED IN MS

SY053

ENGINEERING-SCIENCE

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SED - 1 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time ____ ___ a.m. ___ p.m.

Sample Type: SEDIMENT

Sampling Method: STAINLESS STEEL

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction:

Upstream From:

Downstream From:

Physical Appearance/Odor:

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain:

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN⁻

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F) ____ Weather PARTLY SUNNY, 55-65°F

pH ____

Conductivity ____

Comments:

FIGURE 6.4

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SED-2 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE

of

SAMPLING: Time ____ ___ a.m. ___ p.m.

Sample Type: SEDIMENT

Sampling Method: STAINLESS STEEL SPOON

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction:

Upstream From:

Downstream From:

Physical Appearance/Odor:

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain:

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN^-

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F) ____ Weather PARTLY SUNNY, 55-65°F

pH ____

Conductivity ____

Comments:

FIGURE 6.4

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SED-3 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time ____ ___ a.m. ___ p.m.

Sample Type: SEDIMENT

Sampling Method: STAINLESS STEEL SPOON

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction:

Upstream From:

Downstream From:

Physical Appearance/Odor:

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain:

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN^-

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F) ____ Weather PARTLY SUNNY, 55-65°F
pH ____
Conductivity ____

Comments:

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SED-4 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time 13:45 ___ a.m. X p.m.

Sample Type: SEDIMENT

Sampling Method: STAINLESS STEEL SPOON

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction:

Upstream From:

Downstream From:

Physical Appearance/Odor: GRAY CLAY AND BLACK ORGANICS

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain:

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN⁻

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F) ____ Weather PARTLY SUNNY, 55-65°F

pH ____

Conductivity ____

Comments:

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SED-5 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time 14:45 ___ a.m. X p.m.

Sample Type: SEDIMENT

Sampling Method: STAINLESS STEEL SPOON

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction:

Upstream From:

Downstream From:

Physical Appearance/Odor:

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain:

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN⁻

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F) ___ Weather PARTLY SUNNY, 55-65°F

pH ___

Conductivity ___

Comments:

FIGURE 6.4

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SS-2 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time 14:30 ___ a.m. X p.m.

Sample Type: SOIL

Sampling Method: STAINLESS STEEL SPOON

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction:

Upstream From:

Downstream From:

Physical Appearance/Odor: STAINED AREA ON SOUTHWEST BORDER OF LANDFILL

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain:

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN^-

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F)
pH
Conductivity

Weather PARTLY SUNNY, 55-65°F

Comments:

FIGURE 6.4

FIELD SURFACE SAMPLING RECORD

Site LACKAWANNA LANDFILL Site No. SS-1 Date: 5/24/90

Samplers: NICHOLAS A. SMITH, DALE R. DOLPH of ENGINEERING-SCIENCE
of

SAMPLING: Time 14:15 ___ a.m. X p.m.

Sample Type: SOIL

Sampling Method: STAINLESS STEEL SPOON

Depth of Sample: SURFACE

Description of Sampling Point:

Drainage Direction:

Upstream From:

Downstream From:

Physical Appearance/Odor: DARK COLORED SOIL NEAR CENTER OF LANDFILL

Wildlife Observed:

Sampling Description:

Suspended Matter:

Color/Stain:

Odor:

Other:

Texture:

Analyze for: VOA, BNA, METALS, PEST, CN⁻

Refrigerated: Date: 5/24/90 Time ___ a.m. X p.m.

Field Tests:

Temperature (C°/°F) ___ Weather PARTLY SUNNY, 55-65°F

pH ___

Conductivity ___

Comments:

Versar INC.

CHAIN OF CUSTODY RECORD

Pl of 1

PROJECT NO.	PROJECT NAME	PARAMETERS	INDUSTRIAL HYGIENE SAMPLE (Y/N)
54053.12.01	LACKAWANNA / NYSDEC		

SAMPLERS: *(Signature)* Mark J Schumacher (Printed) MARK J SCHUMACHER

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TCL VOA	TCL BNA/PEST	TCL METALS/CN							REMARKS
	5-14	1630	X		LA-GW-5-51 MS/MSD	6	2	2	2							SOIL
	5-15	1100	X		LA-GW-4-51	3	1	1	1							
	5-15	1109	X		LA-GW-3-51	3	1	1	1							
	5-14	1800	X		LA-GW-2-51	3	1	1	1							
	5-14	1330	X		LA-GW-1-51	3	1	1	1							

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Mark J Schumacher	5-15-90 1730	FED EXP/AIRBILL # 6091772724			
(Printed) MARK J SCHUMACHER		(Printed)	(Printed)		(Printed)
Relinquished by: *(Signature)*	**Date / Time**	**Received for Laboratory by:** *(Signature)*	**Date / Time**	**Remarks**	
		Sólenn Murphy	5/16/90 0900	RESULTS TO GEORGE MORGAN ENGINEERING - SCIENCE, INC 290 ELMWOOD DAVIS RD LIVONIA, NY 13088	
(Printed)		(Printed)			

100008

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Versar INC.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME
SY053.10	NYSDEC PHASE II - LACKAWANNA LANDFILL

SAMPLERS: (Signature) Nicholas A Smith (Printed) NICHOLAS A. SMITH

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA	BNA	PEST	METALS	CN-				REMARKS
							PARAMETERS								INDUSTRIAL HYGIENE SAMPLE Y / N
GW-1	5/25	9:45		X	LACKAWANNA GW-1	6	X	X	X	X	X				
GW-2	5/25	10:00		X	LACKAWANNA GW-2	6	X	X	X	X	X				
GW-3	5/25	8:30		X	LACKAWANNA GW-3	16	X	X	X	X	X				CONTAINS MS/MSD SAMPLES
GW-4	5/25	9:45		X	LACKAWANNA GW-4	6	X	X	X	X	X				
GW-5	5/25	8:55		X	LACKAWANNA GW-5	6	X	X	X	X	X				
WASH BLANK	5/25	8:45			LACKAWANNA WASH BLANK	6	X	X	X	X	X				
TRIP BLANK					TRIP BLANK	2	X	X	X	X	X				
								B	A	B	A				

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Nicholas A Smith	5/25/00 11:00				
(Printed) NICHOLAS A. SMITH		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
			5/26/00 0940	Trip blank not received. KB	
(Printed)		(Printed)			

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1000015

Versar INC.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME
SY053.10	NYSDEC PHASE II - LACKAWANNA LANDFILL

SAMPLERS: (Signature) Nicholas A Smith (Printed) NICHOLAS A. SMITH

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETERS: VOA	BNA	PEST	METALS	CN-				REMARKS
SW-1	5/24	12:45		X	LACKAWANNA SW-1	6	X	X	X	X	X				
SW-2	5/24	14:45		X	LACKAWANNA SW-2	6	X	X	X	X	X				
SW-3	5/24	13:40		X	LACKAWANNA SW-3	6	X	X	X	X	X				
SW-4	5/24	13:45		X	LACKAWANNA SW-4	6	X	X	X	X	X				
SW-5	5/24	14:45		X	LACKAWANNA SW-5	6	X	X	X	X	X				
SW-6	5/24	12:45		X	LACKAWANNA SW-6	6	X	X	X	X	X				
SED-1	5/24	12:45		X	LACKAWANNA SED-1	3	X	X	X	X	X				
SED-2	5/24	14:45		X	LACKAWANNA SED-2	3	X	X	X	X	X				
SED-3	5/24	13:40		X	LACKAWANNA SED-3	6	X	X	X	X	X				MS/MSD TAKEN (6 TOTAL CONTAINERS)
SED-4	5/24	13:45		X	LACKAWANNA SED-4	3	X	X	X	X	X				
SED-5	5/24	14:45		X	LACKAWANNA SED-5	3	X	X	X	X	X				
SED-6	5/24	12:45		X	LACKAWANNA SED-6	3	X	X	X	X	X	N/A			NO SAMPLE SED-6 - N/A

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Nicholas A Smith	5/24/90 17:00				
(Printed) NICHOLAS A. SMITH		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) D. J. Morrison	Date / Time 5/25/90 9:30 AM	Remarks	
(Printed)		(Printed)			

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2 OF 2

Versar INC.

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME
SY053.10	NYSDEC PHASE II - LACKAWANNA LANDFILL

SAMPLERS: (Signature) Nicholas A. Smith (Printed) NICHOLAS A. SMITH

FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PARAMETERS: VOA	BNA	PEST	METALS	CN-				INDUSTRIAL HYGIENE SAMPLE	REMARKS
SS-1	5/24	14:15		X	LACKAWANNA SS-1	3	X	X	X	X	X					
SS-2	5/24	14:30		X	LACKAWANNA SS-2	3	X	X	X	X	X	1				
TRIP BLANK					TRIP BLANK	2	X	~~X~~								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Nicholas A. Smith	5/24/90 17:00				
(Printed) NICHOLAS A. SMITH		(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	**Date / Time**	**Received for Laboratory by:** (Signature) J. L. Morrison	**Date / Time** 5/25/90 9:30 AM	**Remarks**	
(Printed)		(Printed)			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field (pink).

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