

PRELIMINARY SITE ASSESSMENT **REPORT**

CORNELL UNIVERSITY
LONG ISLAND HORTICULTURAL RESEARCH
LABORATORY

PREPARED FOR:

CORNELL UNIVERSITY
126 HUMPHREYS SERVICE BUILDING
ITHACA, NEW YORK, 14853-3701

PREPARED BY:

HOLZMACHER, MCLENDON & MURRELL, P.C.
575 BROAD HOLLOW ROAD
MELVILLE, NEW YORK 11747

H2M PROJECT CORN 95-01

FEBRUARY 1998

H2MGROUP

Engineers • Architects • Scientists • Planners

HOLZMACHER, MCLENDON & MURRELL, P.C.
575 Broad Hollow Road
Melville, New York 11747-5076

PRELIMINARY SITE ASSESSMENT REPORT
LONG ISLAND HORTICULTURAL RESEARCH LABORATORY
RIVERHEAD, NEW YORK

TABLE OF CONTENTS (cont'd.)

<u>SECTION</u>	<u>PAGE NO.</u>
4.2 Nature and Extent of Contamination in Temporary Groundwater Monitoring Wells	4-4
4.2.1 Evaporation Pit	4-4
4.2.2 Overflow Drywell	4-5
4.2.3 Rock-Drain Area	4-5
4.3 Nature and Extent of Contamination in Groundwater Monitoring Wells	4-6
5.0 CONCLUSIONS AND RECOMMENDATIONS	5-1
5.1 Conclusions	5-1
5.2 Recommendations	5-3

LIST OF FIGURES

Figure 1.1	Site Location Map
Figure 1.2	LIHRL Facility Map
Figure 2.1	Site Map with Soil Boring and Monitoring Well Locations
Figure 3.1	Groundwater Contour Elevation Map

LIST OF TABLES

Table 1.3	Previous Pesticide Analytical Results
Table 4.1.1	Pesticide Results – Evaporation Pit
Table 4.1.2	Pesticide Results – Overflow Drywell
Table 4.1.3	Pesticide Results – Former Rock Drain Area
Table 4.2	Pesticide Results – Temporary Groundwater Wells
Table 4.3	Pesticide Results – Groundwater Monitoring Wells

PRELIMINARY SITE ASSESSMENT REPORT
LONG ISLAND HORTICULTURAL RESEARCH LABORATORY
RIVERHEAD, NEW YORK

FEBRUARY 1998

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE NO.</u>
1.0 INTRODUCTION	1-1
1.1 Purpose of Report	1-1
1.2 Site Background	1-2
1.2.1 Site Description	1-2
1.2.2 Site History	1-3
1.2.3 Previous Investigations	1-4
2.0 STUDY AREA INVESTIGATION TECHNIQUES	2-1
2.1 Evaporation Pit/Drywell System	2-1
2.2 Rock-Drain Area	2-2
2.3 Well Drilling and Construction	2-3
3.0 GEOLOGY AND HYDROGEOLOGY	3-1
3.1 Site Specific Groundwater Flow Direction	3-2
4.0 NATURE AND EXTENT OF CONTAMINATION	4-1
4.1 Nature and Extent of Contamination in Soil	4-1
4.1.1 Evaporation Pit	4-1
4.1.2 Overflow Drywell	4-2
4.1.3 Rock-Drain Area	4-3

PRELIMINARY SITE ASSESSMENT REPORT

LONG ISLAND HORTICULTURAL RESEARCH LABORATORY
RIVERHEAD, NEW YORK

TABLE OF CONTENTS (cont'd.)

LIST OF APPENDICES

- Appendix A Soil Boring/Monitoring Well Logs
- Appendix B Analytical Data
- Appendix C Monitoring Well Groundwater Sampling Record Sheets
- Appendix D Well Construction Diagrams

PRELIMINARY SITE ASSESSMENT REPORT
LONG ISLAND HORTICULTURAL RESEARCH LABORATORY
RIVERHEAD, NEW YORK

FEBRUARY 1998

1.0 INTRODUCTION

Cornell University has retained Holzmacher, McLendon & Murrell P.C. (H2M) to conduct a Preliminary Site Assessment (PSA) to evaluate the nature and extent of subsurface contamination at two specific locations within the Long Island Horticultural Research Laboratory (LIHRL), located at 39 Sound Avenue in Riverhead, New York. The objective of this PSA is to evaluate the nature and extent of suspected pesticide contamination associated with an evaporation pit/drywell system and former rock drain area.

1.1 Purpose of Report

The overall purpose of the Report is to evaluate the nature and extent of contaminants at the site. The information in this report will be presented to the NYSDEC and used to initiate remedial measures, if and where appropriate. The specific objectives of the investigation are as follows:

1. Provide sufficient analytical data on the site so that areas that have been previously identified or suspected as potential source areas of contamination are confirmed or are determined to be either free of contamination or below applicable regulatory levels.

2. If source areas are present, determine the nature, type, physical extent and migratory path of contamination at and/or emanating from that location so that appropriate remedial measures can be implemented.
3. Determine the impact of contamination, if any, on the environment.
4. Document areas that are free of contamination or are already properly remediated.
5. Present and discuss the data necessary to support the development of remedial measures, if necessary.

Analytical data have been collected using methods in accordance with NYSDEC protocols and analyzed by approved methods subject to NYSDEC Analytical Services Protocol (ASP) procedures. Additionally, data acquired in previous investigations conducted at the site have been used where applicable.

1.2 Site Background

This section of the report provides a summary of the site including a site description, history and a discussion of previous investigative/remedial activities conducted at the facility.

1.2.1 Site Description

The LIHRL is a horticultural research center administered by Cornell University and the State University of New York. The facility is located on the north fork of Long Island (USGS Map – Figure 1.1). Horticultural research conducted at the facility includes the planting and care of diverse crops in small experimental land plots located both in open fields and in greenhouses. Various pesticides, including proprietary products, were mixed and applied to crops in the different experimental plots. Reportedly, once a pesticide container was emptied of its

product, the container was rinsed with water prior to disposal. In most cases, the rinse water was added to the pesticide application tanks. Upon completing a specific pesticide application, the application tank was rinsed clean. The rinsate water from the application tank was discharged into an evaporation pit/drywell system for disposal. Additionally, there was reportedly a rock-drain area where rinse water was discharged prior to the construction of the evaporation pit/drywell system.

1.2.2 Site History

According to LIHRL records, the evaporation pit/drywell system was constructed in 1979 and consisted of a rectangular poured-concrete treatment pit with dimensions of 10 by 6 by 6 feet. The walls and bottom of the pit were constructed with 6-inch thick concrete. A valved 4-inch diameter overflow line, set one foot off the bottom of the evaporation pit, connected the pit with an adjacent drywell (i.e., leaching pool) consisting of two 8-foot diameter, four foot high leaching pool rings and one 8-foot diameter, 4-foot high chimney. The base of the leaching pool structure is approximately 12 feet below ground surface (bgs) according to the LIHRL-supplied drawings. When the liquid level in the evaporation pit exceeded one foot, the rinse waters would overflow into the drywell. When originally constructed, the evaporation pit had an open top allowing rain water to enter. In 1981, a rain hood was constructed over the evaporation pit, thereby, preventing rain water from entering. In 1989, the overflow line was valved closed to prevent further overflow discharge to the drywell. The location of the evaporation pit/drywell system is approximately 1,700 feet south of the lab's main buildings and 280 feet east of Horton Road (see Figure 1.2).

The location of the rock-drain area is approximately 1,700 feet south of the lab's main buildings and is marked by an area of one- to two-inch diameter gravel along the east side of Horton Avenue (see Figure 1.2). According to LIHRL personnel, rinsate waters were disposed of in the rock-drain area prior to the construction of the evaporation pit/drywell system.

1.2.3 Previous Investigations

In November 1993, the NYSDEC collected a liquid and sediment sample from the evaporation pit and a sediment sample from the bottom of the overflow drywell, and analyzed the samples for pesticides by EPA Method 8080. Five inches of sediment and 12 inches of liquid were present in the bottom of the evaporation pit at the time the samples were collected.

The samples were submitted to two NYSDEC-contracted laboratories and to a LIHRL-contracted laboratory. Results of these analyses are summarized in Table 1.2. Endosulfan I, Endosulfan II, Endosulfan Sulfate and Chlordane were detected in the liquid sample collected from the evaporation pit at 80, 80, 80, and 320 micrograms per liter ($\mu\text{g}/\text{l}$), respectively by one of the NYSDEC-contracted laboratories. Pesticides were not detected above contract-required detection limits (CRDLs) in the liquid sample analyzed by the other NYSDEC-contracted laboratory. Chlordane, at $529 \mu\text{g}/\text{l}$, was the only pesticide detected in the evaporation pit liquid sample submitted to the LIHRL-contracted laboratory.

Heptachlor, Alpha Chlordane, and Gamma Chlordane were detected in the bottom sediment collected from the evaporation pit by one of the NYSDEC-contracted laboratories (Weston) at 720,000, 1,900,000, and 2,000,000 micrograms per kilogram ($\mu\text{g}/\text{kg}$), respectively. The second NYSDEC-contracted laboratory (NYSDOH) detected Endosulfan I, Endosulfan II, and Chlordane in the bottom sediments from the evaporation pit at 7,900,000, 2,900,000, and 4,000,000 $\mu\text{g}/\text{kg}$, respectively. Chlordane, at 251,000 $\mu\text{g}/\text{kg}$, was the only pesticide detected by the LIHRL-contracted laboratory in the evaporation pit sediments.

Both NYSDEC-contracted laboratories detected high concentrations of Endosulfan I, Endosulfan II and Chlordane in the bottom sediments collected from the bottom of the leaching pool. Chlordane (75,300 $\mu\text{g}/\text{kg}$) was the only pesticide detected in the bottom sediments from the

leaching pool by the LIHRL-contracted laboratory. Table 1.2 presents a summary of these previous sampling results.

2.0 STUDY AREA INVESTIGATION TECHNIQUES

To evaluate the nature and extent of suspected pesticide-related contamination at the site, H2M completed two (2) soil borings/temporary wells points at each of the areas where rinse waters were reportedly discharged. These areas are the evaporation pit/drywell system and the rock-drain area. The locations of the evaporation pit/drywell system and rock-drain area, together with the locations of the soil borings, are shown in Figure 2.1.

2.1 EVAPORATION PIT/DRYWELL SYSTEM

A total of two (2) soil borings/temporary well points were completed in the evaporation pit area. One (1) soil boring was drilled directly through the concrete evaporation pit and the other boring directly through the associated overflow drywell. The soil borings/temporary well points were drilled and sampled using the Hollow Stem Auger Method. To effectively delineate the depth extent of pesticide contamination in the subsurface soils, H2M collected a series of soil samples at discrete intervals. The soil sampling procedure for the evaporation pit included the following:

- Collection of one (1) soil sample from just beneath the evaporation pit's concrete bottom (approximately 4 feet below grade). This sample was submitted to H2M Labs for pesticide analysis by EPA Method 8080.
- As the soil boring was advanced, split spoon soil samples were obtained at 10, 15, 20, 30, 40, 50, 60 and 80 feet bgs. Although the contaminants of concern at the LIHRL are pesticides, each split spoon soil sample was screened for evidence of VOC contamination using a photoionization detector (PID).
- The soil samples obtained from 30 and 60 feet bgs were submitted to H2M Labs for pesticide analysis by EPA Method 8080.

- The soil samples obtained from 10, 15, 20, 40, 50 and 80 feet bgs were held pending the analytical results from the 30 and 60 foot samples. Due to holding time restrictions, these samples were extracted when received by the laboratory. Based upon the analysis of the 4, 30 and 60 foot samples, one additional soil sample was analyzed from the overflow drywell (10 to 12 foot interval). No additional soil samples were analyzed from the evaporation pit.
- Collection of one (1) field blank per day on the split spoon sampler and analyze for pesticides by EPA Method 8080.

Upon completing the soil boring, a groundwater sample was extracted from a temporary well point. To collect the groundwater sample, the hollow stem augers were advanced approximately 10 feet into the groundwater table. A two-inch PVC casing and screen was lowered into the hollow stem augers. The groundwater level was measured and a total of three (3) well volumes were removed from the casing. Once the three (3) well volumes had been removed, a groundwater sample was collected using a disposable polyethylene bailer and retained for pesticide analysis by EPA Method 8080.

Similar soil and groundwater investigation methodologies were used beneath the evaporation pit's overflow drywell, with the exception that the first soil sample retained for analysis was collected from the bottom of the drywell (approximately 10 feet below grade). All subsequent sampling depths were identical as those in the evaporation pit.

2.2 ROCK-DRAIN AREA

A total of two (2) soil borings/temporary well points were completed in the rock-drain area. The boring locations are depicted in Figure 2.1. The soil and groundwater investigation completed in the rock-drain area was consistent with the investigation completed for the

evaporation pit/drywell system. Soil samples were collected from just below grade (2 feet) and at depths of 10, 20, 30, 40, 50, 60 and 80 feet below grade. Soil samples collected from 2, 20 and 60 feet below grade were analyzed for pesticides by EPA Method 8080. At each of the two soil boring locations, the 10 to 12-foot intervals was also analyzed for pesticides. Section 4.0 details the analytical findings at each sampling interval. At each soil boring location, one (1) groundwater sample was collected from a temporary well point and retained for analysis by EPA Method 8080.

2.3 WELL DRILLING AND CONSTRUCTION

Upon completing the initial site investigation, permanent monitoring wells were installed based on the results of the temporary groundwater sampling results. The original work plan for LIHRL estimated that a total of four monitoring wells would be installed at the site. However, the results of the rock drain area subsurface soils and groundwater did not warrant the installation of a permanent monitoring well in this area. The number of monitoring wells and approximate locations of the wells were discussed with NYSDEC prior to installation. A total of one upgradient and two downgradient monitoring wells were installed. The downgradient wells were installed to target the groundwater downgradient of the evaporation pit and overflow drywell. Figure 2.1 shows the locations of the three monitoring wells.

Based on the regional groundwater contour maps prepared by the Suffolk County Department of Health Services, groundwater flow direction in the area of the LIHRL is toward the north. From September 15 through September 17, Land, Air, Water Environmental Services installed the three groundwater monitoring wells at the LIHRL facility. As depicted in Figure 2.1, one downgradient well was installed approximately 150 feet north of the evaporation pit. The second downgradient well was installed approximately 190 feet northwest of the overflow drywell. One upgradient monitoring well was installed approximately 1,500 ft. southeast of the rock-drain area.

Prior to installing the wells, site-specific underground utilities, overhead structures and other surface features that may impede drilling were identified. Drill cuttings (soils) generated during the installation of the wells were spread over the ground surface in the general vicinity of the monitoring wells. All drilling equipment was steam cleaned prior to work and between monitoring well locations.

The groundwater monitoring wells were constructed with 4-inch I.D. PVC flush-joint risers with a 15 foot section of 0.010 inch (#10) slot-size PVC well screen set 5 feet above and 10 feet below the water table. Each of the three monitoring wells measure 90 feet in depth and have an average groundwater depth of 78 feet below grade.

All threaded joints in the monitoring wells were sealed using Teflon tape. The annular space around the well screens was filled with a sand filter pack extending from 6-inches below the bottom of the screen to a height of 2 feet above the top of screen. A 2-foot seal of bentonite pellets was placed above the filter pack. The bentonite pellets were continuously hydrated for sixty minutes prior to installation of a cement/bentonite grout. The depth to the bottom and top of each seal was measured in the borehole to the nearest 0.1 foot using a weighted tape. The remaining annular space was grouted with a bentonite/cement slurry using the tremie method. A cement/bentonite surface seal was constructed by filling the annular space of the borehole and extended from approximately three (3) feet below grade to ground surface where a flush mounted well manhole was installed. A watertight locking cap was attached to the top of the PVC casing. A 6-inch diameter protective steel casing in a cement collar was installed over each well. Well Construction Diagrams are provided in Appendix D.

On September 19, each monitoring well was developed by pumping. The development water was discharged to the ground near the monitoring well. Specific conductivity and pH measurements were taken of the discharge until both parameters stabilized, to confirm adequate development. Depth of groundwater measurements were made before and after well development.

3.0 GEOLOGY AND HYDROGEOLOGY

The geologic formations that underlie Suffolk County are composed of a series of thick deposits of unconsolidated water-bearing sediments of late Cretaceous and Pleistocene age. These unconsolidated deposits are underlain by crystalline bedrock of Precambrian age.

There are three primary water-yielding aquifers underlying Suffolk County. These aquifers, from shallow to deep are: (1) Upper Glacial; (2) Magothy; and (3) Lloyd aquifers. The Magothy aquifer has been reported to be semi-confined (confined in areas where the Gardiners clay unit is present). The underlying Lloyd aquifer is confined due to an overlying clay unit identified as the Raritan clay.

The Upper Glacial aquifer, consisting of highly permeable sand and gravel with occasional thin clay beds, has a glacial outwash origin. The saturated section of the Upper Glacial aquifer is approximately 310 feet thick in the LIHRL area of Long Island. Based upon the available data, groundwater occurs at approximately 80 to 90 feet below ground surface (bgs) at the facility.

The Magothy aquifer is the principal water supply aquifer underlying Suffolk County. It consists primarily of lenticular beds of very fine to medium sand that are interbedded with clay and sandy clay, silt and some gravel and sand. Beds of coarse sand with gravel are common in the lower 100 to 150 feet of the aquifer. The Magothy aquifer reaches a thickness of approximately 400 feet beneath the LIHRL area.

Below the Magothy aquifer is the Raritan clay formation. This formation is a significant confining unit above the Lloyd aquifer that consists mainly of clay and silty clay and is approximately 100-feet thick in the LIHRL area. The clay has a very low hydraulic conductivity, but does not totally prevent movement of water between the Magothy aquifer and the underlying Lloyd aquifer.

The Lloyd aquifer is the oldest and deepest water-bearing unit. It unconformably rests on impermeable crystalline bedrock and consists of lenticular deposits of clay, silt, sandy clay, sand and gravel. The upper surface of the Lloyd occurs at approximately 900 feet bgs and is approximately 100 feet thick in the LIHRL area.

3.1 Site Specific Groundwater Flow Direction

Upon completion of the three site monitoring wells, a well casing survey was completed. The well casing elevations were used in conjunction with the depth to groundwater to calculate the site specific groundwater flow direction. As shown on Figure 3.1, the groundwater flows in a northerly direction, with a slight westerly component.

4.0 NATURE AND EXTENT OF CONTAMINATION

This section of the Preliminary Site Investigation Report presents and evaluates the nature and extent of contamination present at the LIHRL facility. The section is organized based upon the media sampled. Section 4.1 discusses the results of the sediment/soil sampling from the evaporation pit/drywell area and former rock drain area. Section 4.2 discusses all the groundwater results from each of these areas.

The initial applicable or relevant and appropriate requirements (ARARs) selected for soils and sediments analyzed as part of the investigation were the Recommended Soil Cleanup Objectives (RSCOs) presented in the NYSDEC Division Technical and Administrative Guidance Memo (TAGM): Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, April 1995 (revised). The initial ARARs for groundwater are the Class GA Groundwater Standards presented in the NYSDEC Division of Water Technical and Operational Guidance Series: Ambient Water Quality and Guidance Values, October, 1993.

4.1 Nature and Extent of Contamination In Soil

4.1.1 Evaporation Pit

As part of the PSA, a soil boring/temporary groundwater monitoring well was completed through the center of the evaporation pit. Split spoon soil samples were collected at 10 foot intervals and continued down to the groundwater table. A total of three soil sampling intervals were submitted for pesticide analysis (4 to 6, 30 to 32, and 60 to 62 feet bgs.). The remaining sampling intervals were extracted by the analytical laboratory and held for future analysis, if required.

The analytical results of the subsurface soil investigation have been tabulated and are summarized on Table 4.1.1. For purposes of comparison, the NYSDEC's RSCOs are also

included in Table 4.1.1. Each soil sample was screened for evidence of VOCs with a PID. There were no PID responses above background in the soil samples obtained beneath the evaporation pit. The first soil sample retained for analysis was collected directly beneath the bottom of the concrete pit (4 feet bgs). A total of three pesticide parameters were quantified above laboratory detection limits (LDLs). Endosulfan I and Endosulfan Sulfate were reported above LDLs with a concentration of 54 and 110 $\mu\text{g/kg}$, respectively. The results are well below the NYSDEC Recommended Soil Cleanup Objective (RSCO) of 900 and 1,000 $\mu\text{g/kg}$, respectively. The only other pesticide parameter quantified in the 4 to 6 foot interval was P,P' DDT, reported at 240 $\mu\text{g/kg}$. This result was also well below the RSCO of 2,100 $\mu\text{g/kg}$.

The second sampling interval was collected from 30 to 32 feet below grade. Lower concentrations were reported at this interval. P,P DDT decreased to below LDLs and Endosulfan I concentrations decreased to 46 $\mu\text{g/kg}$. None of the parameters detected in the 30 to 32 foot sampling interval were present at concentrations above RSCOs. The last sampling interval beneath the evaporation pit was from 60 to 62 feet below grade. Similar concentrations were reported for both Endosulfan I and Endosulfan II (44 and 24 $\mu\text{g/kg}$, respectively). These concentrations are slightly above LDLs, but well below the RSCO.

Based on the results of the three subsurface soil samples, the extent of vertical contamination has been identified, and therefore, no additional soil samples from beneath the evaporation pit were analyzed.

4.1.2 Overflow Drywell

As part of the PSA, one soil boring/temporary groundwater monitoring well was completed through the center of the overflow drywell. Split spoon soil samples were collected at 10 foot intervals and continued down to the groundwater table. A total of three soil sampling intervals were submitted for pesticide analysis (10 to 12 (bottom of pool), 30 to 32 and 60 to 62 feet bgs.).

The analytical results have been tabulated and are summarized on Table 4.1.2. Each soil sample from the overflow drywell was screened for evidence of VOCs with a PID. There were no PID responses above background. As shown in Table 4.1.2, the soil sample collected from the bottom of the drywell (10' to 12') is the most impacted by pesticide contamination. A total of seven pesticide parameters were reported above the RSCOs. Concentrations ranged from 2,400 µg/kg (P,P-DDE) to 580,000 µg/kg (Chlordane). The RSCO for P,P-DDE is 2,100 µg/kg and 540 µg/kg for chlordane. Other parameters quantified above their respective RSCO at the 10 to 12 foot sampling interval were Heptachlor (4,700 µg/kg), Aldrin (3,200 µg/kg), Endosulfan I (310,000 µg/kg), Endosulfan II (97,000 µg/kg) and Endosulfan Sulfate (4,800 µg/kg).

The second sampling interval (30 to 32') showed reduced concentrations of pesticides. Only two parameters were quantified above the RSCO. Endosulfan I and Endosulfan II were quantified at 22,000 and 9,300 µg/kg, respectively. The third sampling interval submitted for analysis from the overflow drywell was from the 60 to 62 foot zone. The sample reported even lower levels of Endosulfan I (8,600 µg/kg) and Endosulfan II (3,700 µg/kg). However, both parameters exceeded RSCOs. Based on the results of the 60 to 62 foot interval, an additional soil sample was submitted for analysis. The last sample collected was from the zone just above the groundwater table (78 feet). Analytical results for this sample reveal that both Endosulfan I (6,600 µg/kg) and Endosulfan II (3,100 µg/kg) were reported above the RSCO.

4.1.3 Rock Drain Area

As part of the PSA, a total of two soil borings/temporary groundwater monitoring wells were completed in the area of the former Rock Drain. In each soil boring, split spoon soil samples were collected at 10 foot intervals and continued down to the groundwater table. A total of three soil sampling intervals were submitted for pesticide analysis from each boring (2 to 4, 20 to 22 and 60 to 62 feet bgs.). The remaining sampling intervals were extracted by the analytical laboratory and held for future analysis, if required. The exact locations of the rock drain soil borings are depicted on Figure 2.1.

Results of the soil analyses from both soil borings are summarized in Table 4.1.3. The first soil boring (RD-1) was completed on the south side of the rock drain area. The first soil sample retained for analysis (2 to 4 ft.) contained four pesticide parameters above the RSCO. Concentrations ranged from 7,300 µg/kg (P,P-DDT) to 86,000 µg/kg (Endosulfan I). The sampling results of the 20 to 22 ft. and the 60 to 62 ft. intervals did not reveal any pesticide parameters above the RSCOs. To better determine the vertical extent of pesticide contamination reported in the 2 to 4 ft. interval, the soil sample from the 10 to 12 ft. interval was analyzed. The 10 to 12 ft. sampling interval in RD-1 showed a significant reduction in pesticide parameters. Endosulfan I reduced from 86,000 µg/kg (2-4 ft.) to 5,500 µg/kg, while Endosulfan II reduced from 34,000 µg/kg to 2,400 µg/kg. The results indicate that while pesticides are present at the 10-12 ft. sampling interval, their concentrations are reduced dramatically below that depth. Similar concentrations of pesticides were reported in the RD-2 soil boring. As was the case in RD-1, pesticides have impacted the rock drain area down to a total depth of 10-12 ft. below grade surface. Pesticides at the 20-22 ft. sampling interval were either non-detectable or present at concentrations well within their respective RSCOs.

4.2 Nature and Extent of Contamination In Temporary Groundwater Monitoring Wells

4.2.1 Evaporation Pit

As described in Section 2.1, a groundwater sample (TW-4) was collected from a temporary well point in the soil boring completed directly through the center of the evaporation pit. The analytical results were tabulated and are presented in Table 4.2. As shown in the Table 4.2, there were no pesticide parameters reported above the laboratory quantification limits (LQLs) in the groundwater beneath the evaporation pit.

4.2.2 Overflow Drywell

Upon completing the soil boring through the evaporation pit overflow drywell, a groundwater sample (TW-3) was collected from a temporary well point and retained for analysis. A total of three pesticide parameters were quantified above LQLs. The three parameters quantified included chlordane, Endosulfan I and Endosulfan II. Chlordane was reported at 170 µg/λ. The chlordane results were reported above the NYSDEC Ambient Water Quality Standard of 0.1 µg/λ. Endosulfan I and II were reported at 430 and 180 ug/λ, respectively. Presently, there are no Water Quality Standards established for Endosulfan I or II.

4.2.3 Rock Drain Area

To assess whether groundwater quality beneath the rock drain area has been impacted, groundwater samples (TW-1 and TW-2) were collected from two temporary well points and retained for laboratory analysis. Both groundwater samples reported pesticide parameters above LQLs. TW-1 reported P,P DDT at 0.74 µg/λ. The Water Quality Standard for P,P DDT is non-detectable. Endosulfan I and II were reported at 11 and 4.7 µg/λ, respectively. Endosulfan Sulfate was reported at 1.1 µg/λ. There are no Water Quality Standards established for Endosulfans.

The second groundwater sample collected from the rock drain area (TW-2), reported three pesticide parameters above LQLs, however none of the three were above Water Quality Standards. Methoxychlor was reported at 8.0 µg/λ in TW-2. The Water Quality Standard for Methoxychlor is 35 µg/λ. Endosulfan I and II were quantified at 8.4 and 4.3 µg/λ, respectively.

4.3 Nature and Extent of Contamination in Groundwater Monitoring Wells

Based on the preliminary results from the temporary well points, and after consultation with NYSDEC, a total of three permanent groundwater monitoring wells were installed at the site (see Figure 2.1). One upgradient and two downgradient groundwater monitoring wells were installed, developed and sampled. The purpose of the two downgradient monitoring wells were to confirm the preliminary data from the temporary well points and assess whether the pesticides detected directly beneath the evaporation pit overflow drywell were migrating with groundwater flow.

Approximately one week after well development, all three groundwater monitoring wells were sampled. Groundwater sampling results have been tabulated and are presented in Table 4.3. As shown on Table 4.3, pesticides were non-detectable in all three monitoring wells.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the results of the field investigation, the nature and extent of pesticide contamination in the two suspected source areas and underlying groundwater has been adequately characterized. Our conclusions and recommendations are discussed in the following sections.

5.1 Conclusions

Evaporation Pit

One soil boring and one temporary groundwater sampling point were completed directly beneath the evaporation pit. There was a total of three soil samples retained for analysis from the soil boring. Quantified levels of Endosulfan I and II and P, P-DDT were reported above LQLs at both four and thirty feet below grade. The quantified levels reported were well below their respective RSCOs. The pesticide contamination present in the soil samples decreased in concentrations with depth within the soil boring. Pesticides were non-detectable in the groundwater sample collected beneath the evaporation pit.

Overflow Drywell

One soil boring and one temporary groundwater sampling point were completed directly through the bottom of the overflow drywell connected to the evaporation pit. There were a total of four soil samples retained for analysis from the soil boring. Quantified levels of seven pesticide parameters were reported in all four soil samples above the RSCOs. Although pesticide concentrations decreased significantly with depth, Endosulfan I and Endosulfan II exceeded their RSCOs throughout the boring. The highest pesticide concentrations were reported just below the bottom of the drywell (ten feet below grade). At this sampling interval, chlordane was reported at 580,000 µg/kg. Similar pesticide parameters were found in the groundwater sample collected from a temporary well point directly beneath the drywell. Three parameters were quantified in the

groundwater sample, with only chlordane (170 µg/λ) reported above the NYSDEC Water Quality Standards (0.1 µg/λ).

Rock Drain Area

A total of two soil borings and two temporary groundwater sampling points were completed in the former rock drain area. At each of the soil boring locations, a total of four soil samples and one groundwater sample were retained for analysis. As with the evaporation pit overflow drywell, pesticides were detected at levels exceeding their respective RSCOs in the shallow soils, with concentrations dropping significantly with depth. At each of the two soil boring locations, pesticides were present above RSCOs to a total depth of ten feet below grade. The twenty foot below grade soil sample in each soil boring did not contain any pesticide concentrations above RSCOs. Of the two groundwater samples collected from temporary well points directly beneath the rock drain area, only one pesticide parameter (P,P-DDT) was quantified above Ambient Water Quality Standards.

Permanent Groundwater Monitoring Wells

Based on the preliminary groundwater data from the temporary well points directly beneath the potential source areas, and after consultation with the NYSDEC, one upgradient and two downgradient monitoring wells were installed. Based on regional groundwater flow direction, the monitoring wells were placed downgradient, approximately 150 and 190 feet north of the evaporation pit and overflow drywell, respectively. The upgradient well was placed approximately 1,500 feet south of the evaporation pit. Pesticides were non-detectable in all three wells.

Summary

Two of the three potential sources reported pesticides above RSCOs. However, the most highly impacted soils are shallow and can be addressed through soil removal. The deeper

subsurface soils revealed that pesticides were either non-detectable or present at concentrations well within their respective RSCOs.

Groundwater samples collected from temporary well points directly beneath the overflow drywell revealed pesticide concentrations above water quality standards. However, the impact to the groundwater may have been caused by the migration of contaminants from the shallow soils during drilling activities. The permanent groundwater monitoring wells installed downgradient of the source areas reveal that pesticides were non-detectable in all three monitoring wells.

5.2 Recommendations

During the preliminary site assessment (PSA), an extensive subsurface investigation program was completed examining the two suspected source areas and the surrounding groundwater as documented in this report. Given the findings of PSA, we provide the following recommendations for each area:

1. Rock Drain Area

The subsurface soil results indicate that the former rock drain area has impacted soils above RSCOs, from grade to a total depth of ten feet. Based on the above results, it is recommended that the top ten feet of soils from the rock drain area be excavated and disposed of at an approved facility. Based on the size of the former rock drain (10 ft. x 10 ft.), it is estimated that approximately 37 cubic yards of pesticide contaminated soils will be removed. After removal, the excavation should be backfilled with clean sand, compacted and finished to grade.

2. Evaporation Pit

The soil borings completed through the bottom of evaporation pit indicate that the subsurface soils beneath the pit have not impacted by pesticides. These results indicate that no

remedial actions are required beneath the evaporation pit, however, it is recommended that the evaporation pit be decommissioned by either removal of the concrete vault or abandonment in place.

3. Overflow Drywell

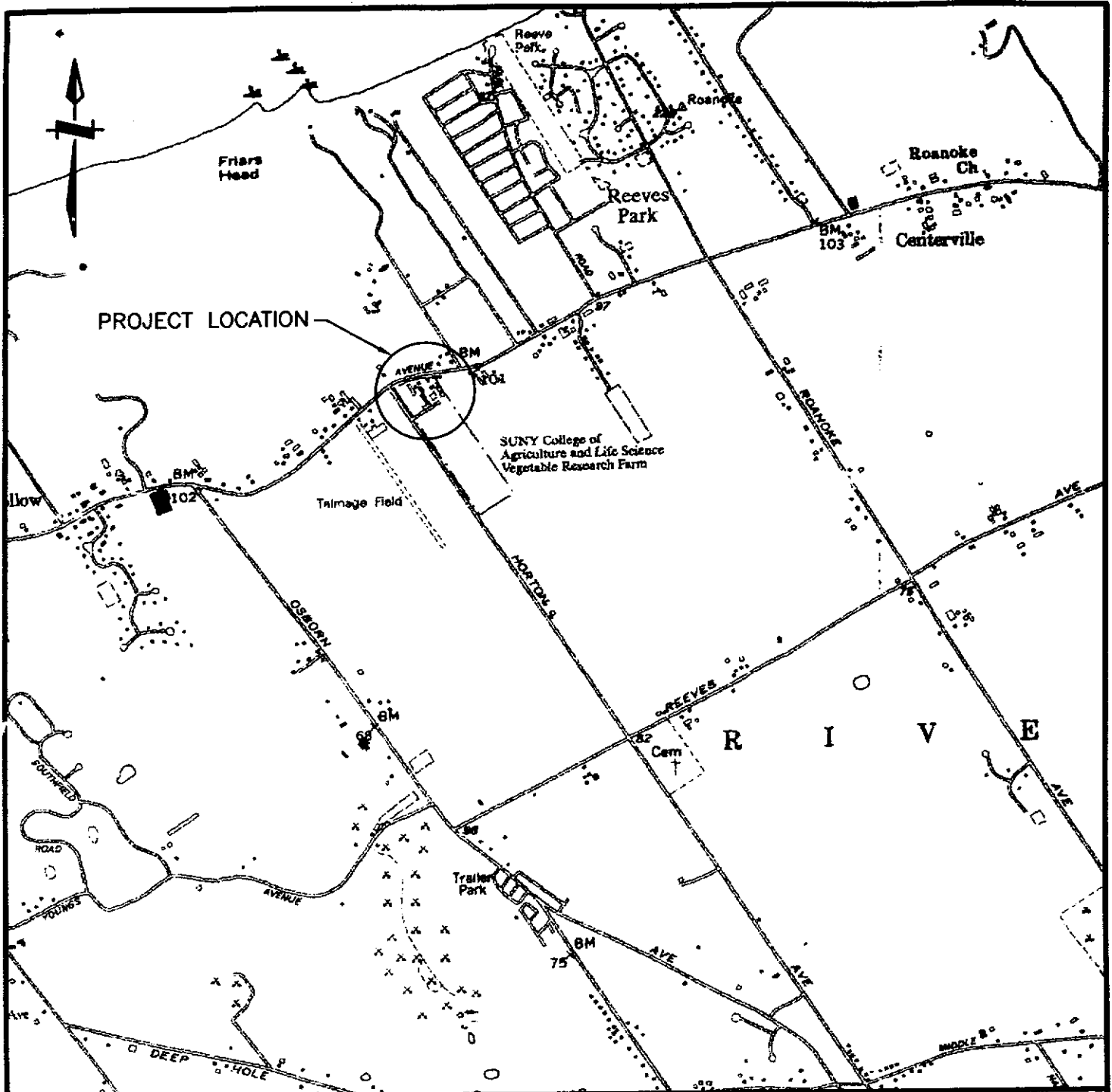
The soil boring completed through the center of the overflow drywell revealed that pesticide contaminated is present from the bottom of the drywell down to the groundwater table. However, the highest pesticide contamination is present within the top two feet of the drywell. It is, therefore, recommended that the overflow drywell be taken out of service by removing two to three feet of bottom sediment from the drywell basin bottom. After removing the bottom sediment, the drywell should be backfilled and abandoned in place to prevent stormwater infiltration. Sealing the drywell will prevent the downward migration of contaminants, and thereby limit any potential impact to the groundwater aquifer.

4. Groundwater

Although groundwater samples from temporary well points directly beneath the rock drain area and evaporation pit overflow drywell revealed pesticide concentrations above water quality standards, the detected pesticides may have been caused by the migration of contaminants from the shallower soils during drilling activities. Pesticides were non-detectable in permanent monitoring wells positioned downgradient of the source areas. To ensure that no significant levels of pesticides enter groundwater, it is recommended that the upgradient well and two downgradient wells be monitored for pesticides on an annual basis. The first round of annual monitoring should be conducted after the remedial actions recommended for the rock drain and overflow leaching pool have been completed.

FIGURES

FIGURE 1.1



LOCATION MAP

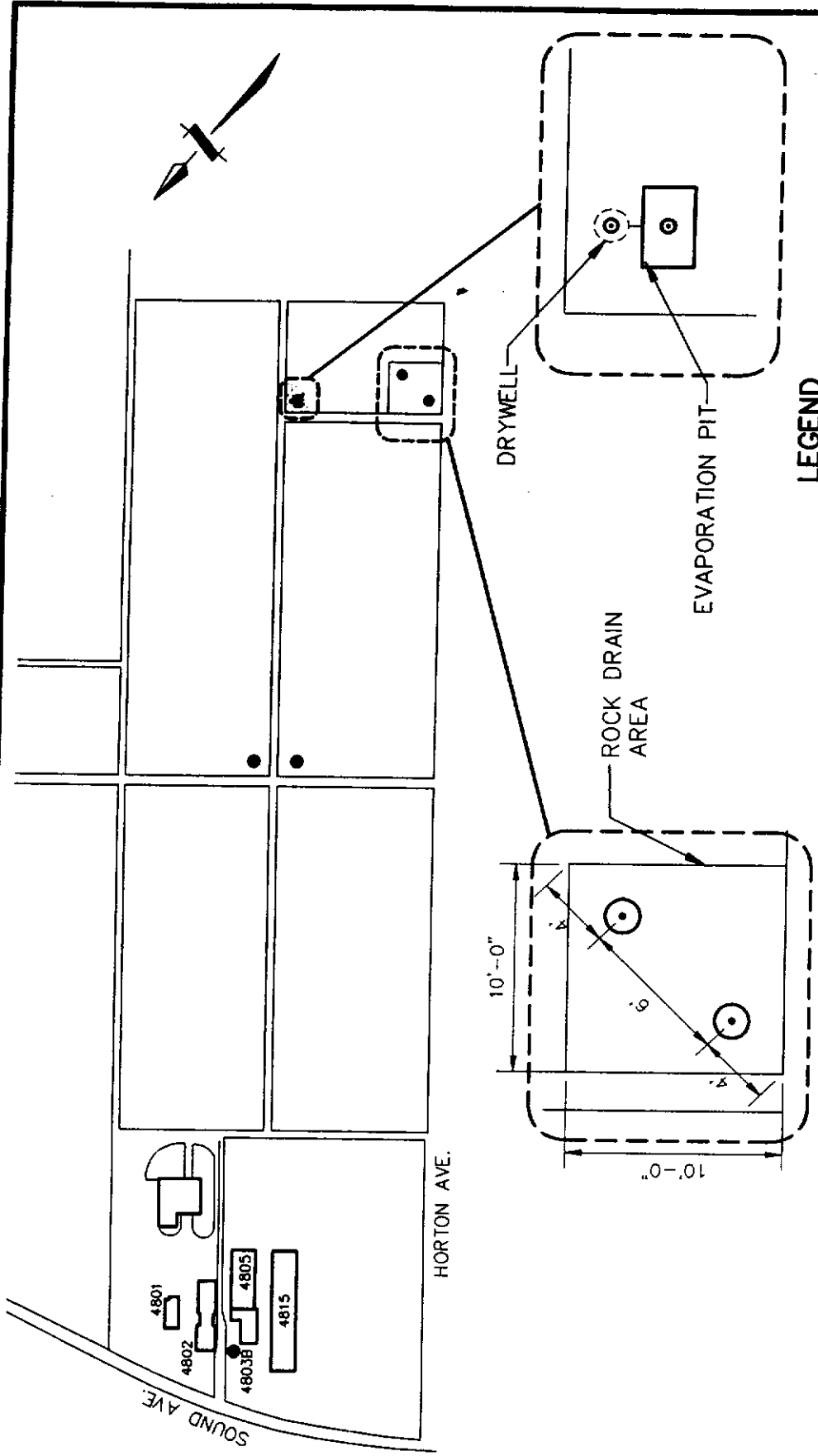
SCALE: 1" = 2000'

CORNELL UNIVERSITY LONG ISLAND HORTICULTURAL RESEARCH LABORATORY

H2MGROUP

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

FIGURE 1.2



LEGEND

- ⊙ SOIL BORING / TEMPORARY MONITORING WELL LOCATION
- OUT OF SERVICE IRRIGATION AND SUPPLY WELLS

**CORNELL UNIVERSITY
LONG ISLAND HORTICULTURAL
RESEARCH LABATORY
SITE MAP WITH SOIL
BORING LOCATIONS**

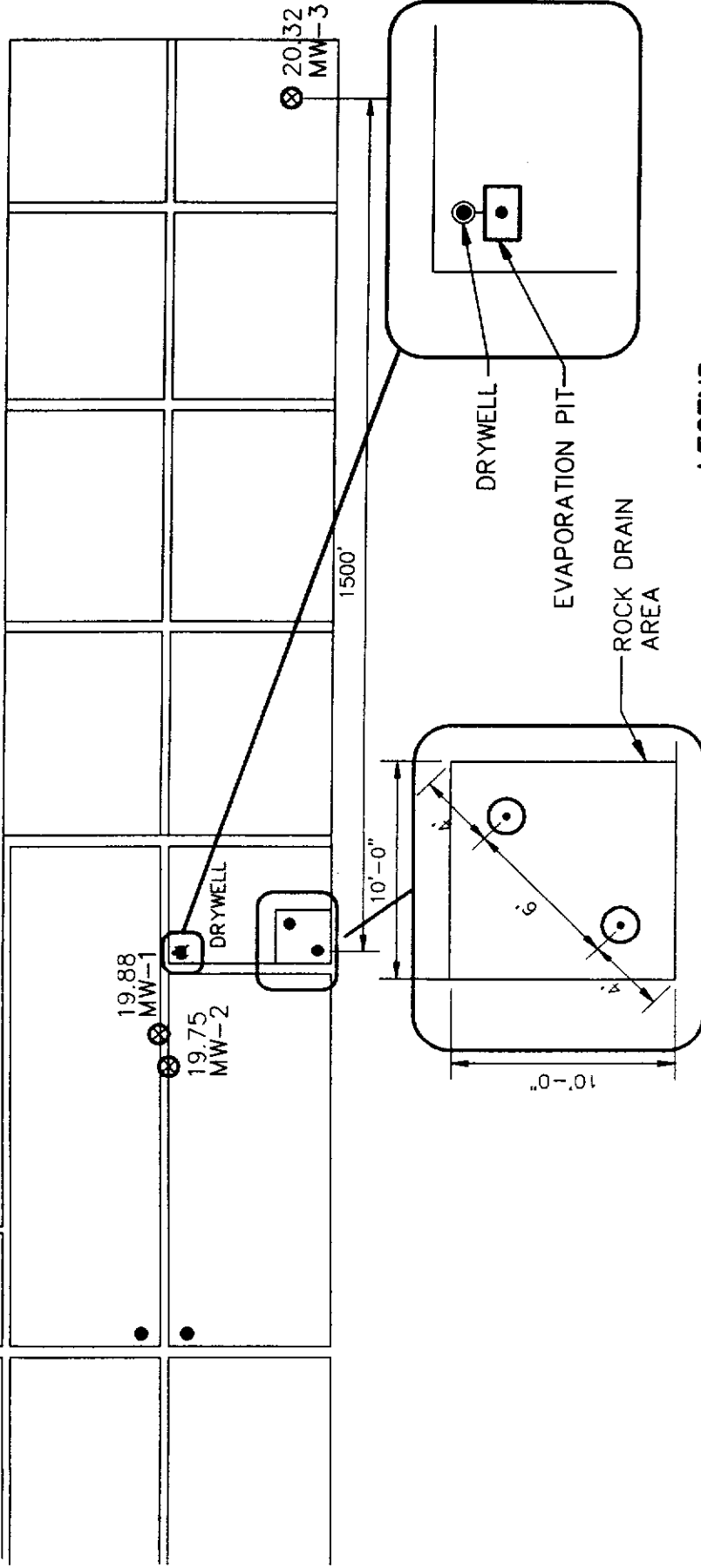
SCALE: 1" = 300'

FIG1-2.DWG 11-14-97 4:12:33 pm

H2MGROUP

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

FIGURE 2.1



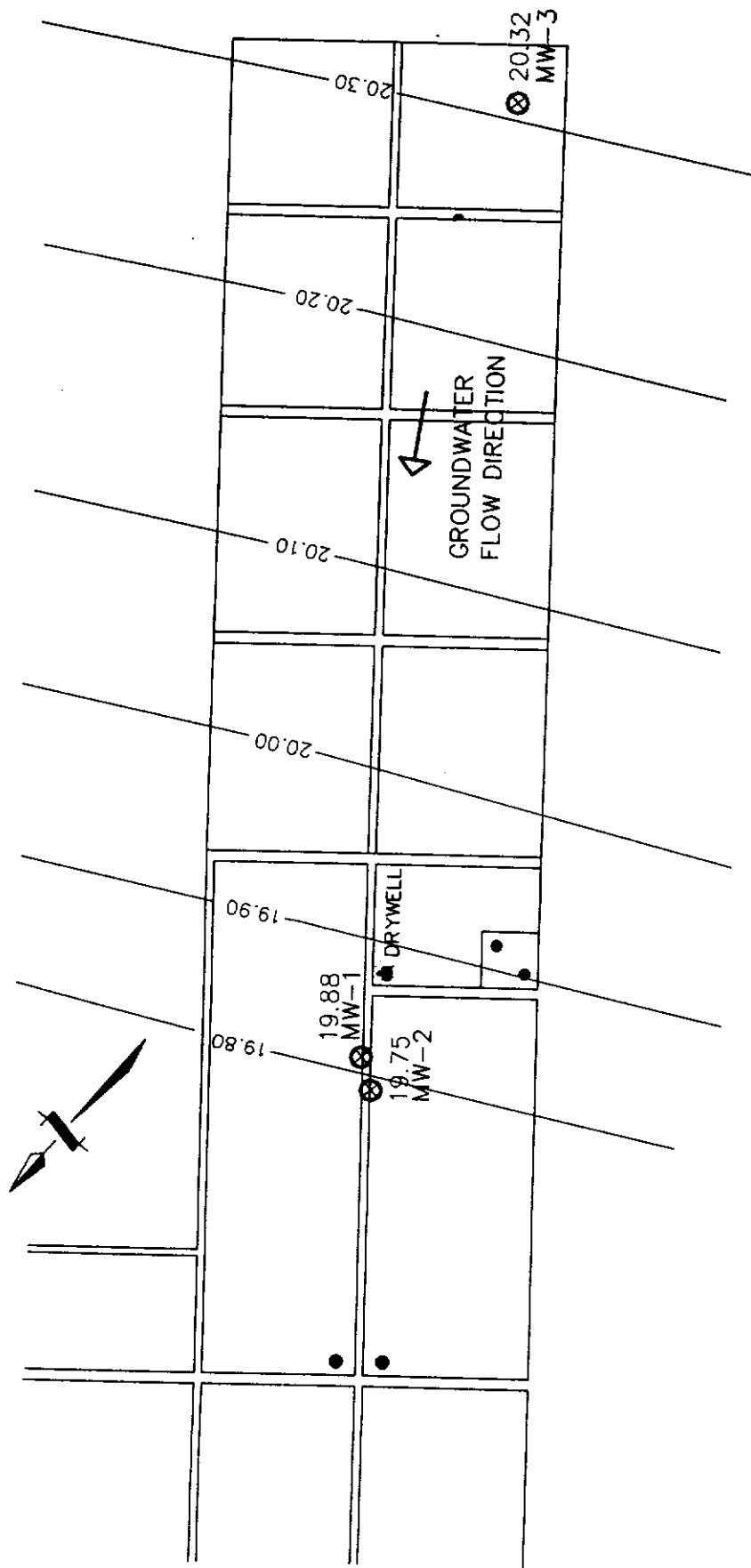
CORNELL UNIVERSITY
LONG ISLAND HORTICULTURAL
RESEARCH LABATORY
SITE MAP WITH SOIL
BORING LOCATIONS

SCALE: 1" = 300'

FIG2-1.DWG 11-3-97 10:16:51 am

TABLES

FIGURE 3.1



CORNELL UNIVERSITY
LONG ISLAND HORTICULTURAL
RESEARCH LABORATORY
GROUNDWATER CONTOUR ELEVATION
MAP & FLOW DIRECTION

SCALE: 1" = 300'

FIG3-1.DWG 11-3-97 10:18:44 am

LEGEND

- ⊗ GROUNDWATER MONITORING WELL
- OUT OF SERVICE IRRIGATION AND SUPPLY WELLS
- 20.3 — GROUNDWATER ELEVATION CONTOUR

H2M GROUP

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS
 MELVILLE, N.Y.

TOTOWA, N.J.

TABLE 1.3
LIHRL
PREVIOUS PESTICIDE ANALYTICAL RESULTS
TREATMENT PIT

SAMPLE ID LABORATORY/CLIENT DATE	TREATMENT PIT LIQUID				TREATMENT PIT SEDIMENT			
	NYSDOH/NYSDEC 05-20-93 ug/l	Western/NYSDEC 11-09-93 ug/l	NYSDOH/NYSDEC 11-09-93 ug/l	Pennsylvania/HRRC 11-10-93 ug/l	NYSDOH/NYSDEC 05-20-93 ug/l	Western/NYSDEC 11-09-93 ug/l	NYSDOH/NYSDEC 11-09-93 ug/l	Pennsylvania/HRRC 11-10-93 ug/l
PESTICIDES								
Alpha-BHC	ND	ND	ND	ND	ND	390,000 U	ND	ND
Beta-BHC	ND	ND	ND	ND	ND	390,000 U	ND	ND
Gamma-BHC	ND	ND	ND	ND	ND	390,000 U	ND	ND
Gamma-BHC (Lindane)	ND	ND	ND	ND	ND	390,000 U	ND	ND
Heptachlor	ND	ND	ND	ND	ND	720,000	ND	ND
Aldrin	ND	ND	ND	ND	ND	390,000 U	ND	ND
Heptachlor Epoxide	ND	ND	ND	ND	ND	390,000 U	ND	ND
Endosulfan I	ND	ND	80	ND	70,000	390,000 U	7,900,000	ND
Dieldrin	ND	ND	ND	ND	ND	790,000 U	ND	ND
4,4'-DDE	ND	ND	ND	ND	50,000	790,000 U	ND	ND
Endrin	ND	ND	ND	ND	ND	790,000 U	ND	ND
Endosulfan II	ND	ND	80	ND	10,000	790,000 U	2,900,000	ND
4,4'-DDT	ND	ND	ND	ND	ND	790,000 U	ND	ND
Endosulfan Sulfate	ND	ND	80	ND	ND	790,000 U	ND	ND
4,4'-DDT	ND	ND	ND	ND	ND	790,000 U	ND	ND
Methoxychlor	ND	ND	ND	ND	ND	3,900,000 U	ND	ND
Lindrin Ketone	ND	ND	ND	ND	ND	790,000 U	NA	NA
Alpha-Chlordane	ND	ND	NA	NA	NA	1,900,000	NA	NA
Gamma-Chlordane	ND	ND	NA	NA	NA	2,000,000 J	NA	NA
Chlordane	130	NA	320	529	6,000,000	NA	4,000,000	251,000
Toxaphene	ND	ND	ND	ND	ND	7,900,000 U	ND	ND
Lindrin Aldehyde	ND	NA	ND	ND	ND	NA	ND	ND

NOTES:

U - Analyte was analyzed for but not detected.

NA - Not Applicable

ND - Not detected above laboratory quantification limit.

J - Indicates an estimated value.

TABLE 1.3 (cont'd.)
LJHRI.
PREVIOUS PESTICIDE ANALYTICAL RESULTS
OVERFLOW DRYWELL STORMDRAINS

SAMPLE ID	LABORATORY/CLIENT	DATE	UNITS	PESTICIDES	NYSDOH/NSDEC 65-26-93 ug/g	Wetland/NSDEC DL ² 11-09-93 ug/g	DRYWELL SEDIMENT NYSDOH/NSDEC 11-09-93 ug/g	Pesticide/LHRC 11-16-93 ug/g	DRYWELL LIQUID NYSDOH/NSDEC 65-26-93 ug/g	STORM WATER DRYWELL NEAR GARAGE NYSDOH/NSDEC 65-26-93 ug/g	STORM WATER DRYWELL POND MIXING AREA NYSDOH/NSDEC 65-26-93 ug/g
				Alpha-BHC	ND	170,000 U	ND	ND	ND	ND	ND
				Beta-BHC	ND	170,000 U	ND	ND	ND	ND	ND
				Delta-BHC	ND	170,000 U	ND	ND	ND	ND	ND
				Gamma-BHC (lindane)	ND	170,000 U	ND	ND	ND	ND	ND
				Heptachlor	ND	170,000 U	ND	ND	ND	ND	ND
				Aldrin	ND	170,000 U	ND	ND	ND	ND	ND
				Heptachlor Epoxide	ND	170,000 U	ND	ND	ND	ND	ND
				Endosulfan I	400,000	4,800,000	1,300,000	ND	ND	ND	ND
				Dieldrin	ND	340,000 U	ND	ND	ND	ND	ND
				4,4'-DDE	5,000	340,000 U	ND	ND	ND	ND	ND
				Endrin	ND	340,000 U	ND	ND	ND	ND	ND
				Endosulfan II	40,000	2,400,000	1,300,000	ND	ND	ND	ND
				4,4'-DIDD	ND	340,000 U	ND	ND	ND	ND	ND
				Endosulfan Sulfate	ND	340,000 U	ND	ND	ND	ND	ND
				4,4'-DIDT	ND	340,000 U	ND	ND	ND	ND	ND
				Methoxychlor	ND	1,700,000 U	ND	ND	ND	ND	ND
				Endrin Ketone	ND	340,000 U	ND	ND	ND	ND	ND
				Alpha-Chlordane	NA	1,700,000 U	NA	NA	ND	ND	ND
				Gamma-Chlordane	NA	340,000	25,000,000	NA	ND	ND	ND
				Chlordane	400,000	NA	75,300	120,000	ND	ND	ND
				Toxaphene	ND	3,400,000	ND	ND	ND	ND	ND
				Endrin Aldohyde	ND	NA	ND	ND	ND	ND	ND

NOTES:

- U - Analyte was analyzed for but not detected.
- NA - Not Applicable.
- ND - Not detected above laboratory quantification limit.
- J - Indicates an estimated value.
- DL - Result from diluted analysis

TABLE 1.3 (cont'd.)
LIHRL
ROCK DRAIN AREA ANALYTICAL RESULTS

SAMPLE ID	ROCK DRAIN AREA SOILS
LABORATORY/CLIENT	NYSDOH/NYSDEC
DATE	05-20-93
UNITS	ug/kg
PESTICIDES	
Alpha-BHC	<0.8
Beta-BHC	<0.8
Delta-BHC	<0.8
Gamma-BHC (Lindane)	<0.8
Heptachlor	<1.0
Aldrin	<0.4
Heptachlor Epoxide	<1.0
Endosulfan I	160
Dieldrin	73
4,4'-DDE	97
Endrin	<0.4
Endosulfan II	100
4,4'-DDD	300
Endosulfan Sulfate	40
4,4'-DDT	1400
Methoxychlor	120
Chlordane	50
Toxaphene	<20
Endrin Aldehyde	<0.4

TABLE 4.1.1
PESTICIDE RESULTS - EVAPORATION PIT
LONG ISLAND HORTICULTURAL RESEARCH LABORATORY

PARAMETER (ug/kg)	EVAPORATION PIT			RSC0*
	4'-6'	30'-32'	60'-62'	
LINDANE	<18	<3.4	<8.6	NA
HEPTACHLOR	<18	<3.4	<8.6	100
ALDRIN	<18	<3.4	<8.6	41
HEPTACHLOR EPOXIDE	<18	<3.4	<8.6	20
DIELDRIN	<36	<6.6	<17	44
ENDRIN	<36	<6.6	<17	100
P,P' DDT	240	<6.6	<17	2100
METHOXYCHLOR	<180	<34	<86	10000
TOXAPHENE	<1800	<340	<860	N/A
CHLORDANE	<360	<66	<170	540
BETA-BHC	<18	<3.4	<8.6	200
DELTA-BHC	<18	<3.4	<8.6	300
ALPHA-BHC	<18	<3.4	<8.6	110
P,P'-DDD	<36	<6.6	<17	2900
P,P'-DDE	<36	<6.6	<17	2100
ENDOSULFAN I	54	46	44	900
ENDOSULFAN II	<36	24	17	900
ENDOSULFAN SULFATE	110	<6.6	<17	1000
ENDRIN ALDEHYDE	<36	<6.6	<17	NA
O,P' DDT	<36	<6.6	<17	2100
ENDRIN KETONE	<36	<6.6	<17	NA

NOTES:

*NYSDEC - Division Technical and Administrative Guidance Memorandum (TAGM)
Determination of Soil Cleanup Objectives and Cleanup Levels - Table 3

NA - Soil Cleanup Objective Not Established

TABLE 4.1.2
PESTICIDE RESULTS - OVERFLOW DRYWELL
LONG ISLAND HORTICULTURAL RESEARCH LABORATORY

16

PARAMETER (ug/kg)	OVERFLOW DRYWELL				RSC0
	10'-12'	30'-32'	60'-62'	73'-79'	
LINDANE	<860	<840	<35	<18	NA
HEPTACHLOR	4300	<840	56	<185	100
ALDRIN	3200	<840	<35	<18	41
HEPTACHLOR EPOXIDE	<860	<840	<35	<18	20
DIELDRIN	<1700	<1700	<70	<37	44
ENDRIN	<1700	<1700	<70	<37	100
P,P' DDT	<1700	<1700	<70	<37	2100
METHOXYCHLOR	<8600	<8400	<350	<180	10000
TOXAPHENE	<8600	<84000	<3500	<1800	N/A
CHLORDANE	580000 * 1100	<17000	80000	<18	540
BETA-BHC	<860	<840	<35	<18	200
DELTA-BHC	<860	<840	<35	<18	300
ALPHA-BHC	<860	<840	<35	<18	110
P,P'-DDD	<1700	<1700	<70	<37	2900
P,P'-DDE	2400	<1700	<70	<37	2100
ENDOSULFAN I	310000	22000	8600	6600	900
ENDOSULFAN II	97000	9300	3700	3100	900
ENDOSULFAN SULFATE	4800	<1700	<70	<37	1000
ENDRIN ALDEHYDE	<1700	<1700	<70	<37	NA
O,P DDT	<1700	<1700	<70	<170	2100
ENDRIN KETONE	<1700	<1700	<70	<37	NA

NOTES:

*NYSDEC - Division Technical and Administrative Guidance Memorandum (TAGM)
Determination of Soil Cleanup Objectives and Cleanup Levels - Table 3

NA - Soil Cleanup Objective Not Established

TABLE 4.1.3
PESTICIDE RESULTS - FORMER ROCK DRAIN AREA
LONG ISLAND HORTICULTURAL RESEARCH LABORATORY

PARAMETER (ug/kg)	RD-1					RD-2					RSC0
	2'-4'	10'-12'	20'-22'	60'-62'		2'-4'	10'-12'	20'-22'	60'-62'		
LINDANE	<88	<87	<1.7	<1.7	<1.7	<1100	<7	<18	<1.7	NA	
HEPTACHLOR	<88	<87	<1.7	<1.7	<1.7	<1100	<7	<18	<1.7	100	
ALDRIN	<88	<87	<1.7	<1.7	<1.7	<1100	<7	<18	<1.7	41	
HEPTACHLOR EPOXIDE	<88	<87	<1.7	<1.7	<1.7	<1100	<7	<18	<1.7	20	
DIELDRIN	<180	<174	<3.3	<3.3	<3.3	<2100	<34	<35	<3.3	44	
ENDRIN	<180	<174	<3.3	<3.3	<3.3	<2100	<34	<35	<3.3	100	
P,P' DDT	7300	3200	<3.3	<3.3	<3.3	11230	700	42	<3.3	2100	
METHOXYCHLOR	<890	1800	<17.0	<17.0	<17.0	160000	1100	<180	<17.0	10000	
TOXAPHENE	<8800	8700	<170	<170	<170	<11000	<1700	<1800	<170	N/A	
CHLORDANE	<88	<87	<1.7	<1.7	<1.7	<21000	<17	<350	<1.7	540	
BETA-BHC	<88	<87	<1.7	<1.7	<1.7	<1100	<17	<18	<1.7	200	
DELTA-BHC	<88	<87	<1.7	<1.7	<1.7	<1100	<17	<18	<1.7	300	
ALPHA-BHC	<88	<87	<1.7	<1.7	<1.7	<1100	<17	<18	<1.7	110	
P,P'-DDD	<180	670	<3.3	<3.3	<3.3	<2100	<34	<18	<3.3	2900	
P,P'-DDE	310	<174	<3.3	<3.3	<3.3	<2100	<34	<35	<3.3	2100	
ENDOSULFAN I	86000	5500	<1.7	<1.7	<1.7	24000	1100	<35	3.8	900	
ENDOSULFAN II	34000	2400	<3.3	<3.3	3.3	12000	500	110	<3.3	900	
ENDOSULFAN SULFATE	7700	<174	<3.3	<3.3	<3.3	<2100	<34	63	<3.3	1000	
ENDRIN ALDEHYDE	<180	<174	<3.3	<3.3	<3.3	<2100	<34	<35	<3.3	NA	
O,P DDT	<180	<870	15.5	<3.3	<3.3	<2100	<170	<35	<3.3	2100	
ENDRIN KETONE	<180	<174	<3.3	<3.3	<3.3	<2100	<34	<35	<3.3	NA	

NOTES:

*NYSDEC - Division Technical and Administrative Guidance Memorandum (TAGM)
Determination of Soil Cleanup Objectives and Cleanup Levels - Table 3

NA - Soil Cleanup Objective Not Established

TABLE 4.2

PESTICIDE RESULTS - TEMPORARY GROUNDWATER WELLS
LONG ISLAND HORTICULTURAL RESEARCH LABORATORY

PARAMETER (ug/l)	ROCK DRAIN AREA #1 TW-1	ROCK DRAIN AREA #2 TW-2	EVAPORATION PIT TW-4	OVERFLOW DRYWELL TW-3	AWQS*
LINDANE	<0.05	<0.5	<0.05	<5.0	NA
HEPTACHLOR	<0.05	<0.5	<0.05	<5.0	ND
ALDRIN	<0.05	<0.5	<0.05	<5.0	ND
HEPTACHLOR EPOXIDE	<0.05	<0.5	<0.05	<5.0	ND
DIELDRIN	<1.0	<1.0	<0.1	<10	ND
ENDRIN	<1.0	<1.0	<0.1	<10	ND
P,P' DDT	0.74	<1.0	<0.1	<10	ND
METHOXYCHLOR	<5.0	8.0	<0.5	<50	35
TOXAPHENE	<50	<50	<1.0	<500	ND
CHLORDANE	<10	<10	<0.5	170	0.1
BETA-BHC	<0.50	<0.5	<0.1	<5.0	NA
DELTA-BHC	<0.50	<0.5	<0.1	<5.0	NA
ALPHA-BHC	<0.50	<0.5	<0.1	<5.0	NA
P,P'-DDD	<1.0	<1.0	<0.1	<10	ND
P,P'-DDE	<1.0	<1.0	<0.1	<10	ND
ENDOSULFAN I	11	8.4	<0.1	430	NA
ENDOSULFAN II	4.7	4.3	<0.1	180	NA
ENDOSULFAN SULFATE	1.1	<1.0	<0.1	<10	NA
ENDRIN ALDEHYDE	<1.0	<1.0	<0.1	<10	NA
O,P DDT	<1.0	<1.0	<0.1	<10	ND

NOTES:

*AWQS - NYSDEC - Ambient Water Quality Standards and Guidance Values, October 1993.

NA - Soil Cleanup Objective Not Established

ND - Non-Detectable at Method Detection Limits

APPENDIX "A"
SOIL BORING/MONITORING WELL
LOGS

TABLE 4.3
PESTICIDE RESULTS - GROUNDWATER MONITORING WELLS
LONG ISLAND HORTICULTURAL RESEARCH LABORATORY

PARAMETER (ug/l)	MW-1	MW-2	MW-3	AWQS*
LINDANE	<0.05	<0.05	<0.05	NA
HEPTACHLOR	<0.05	<0.05	<0.05	ND
ALDRIN	<0.05	<0.05	<0.05	ND
HEPTACHLOR EPOXIDE	<0.05	<0.05	<0.05	ND
DIELDRIN	<0.1	<0.1	<0.1	ND
ENDRIN	<0.1	<0.1	<0.1	ND
P,P' DDT	<0.1	<0.1	<0.1	ND
METHOXYCHLOR	<0.5	<0.5	<0.5	ND
TOXAPHENE	<5.0	<5.0	<5.0	35
CHLORDANE	<1.0	<1.0	<1.0	ND
BETA-BHC	<0.1	<0.1	<0.1	0.1
DELTA-BHC	<0.1	<0.1	<0.1	NA
ALPHA-BHC	<0.1	<0.1	<0.1	NA
P,P'-DDD	<0.1	<0.1	<0.1	NA
P,P'-DDE	<0.1	<0.1	<0.1	ND
ENDOSULFAN I	<0.1	<0.1	<0.1	ND
ENDOSULFAN II	<0.1	<0.1	<0.1	NA
ENDOSULFAN SULFATE	<0.1	<0.1	<0.1	NA
ENDRIN ALDEHYDE	<0.1	<0.1	<0.1	NA
O,P DDT	<0.1	<0.1	<0.1	ND

NOTES:

*AWQS - NYSDEC - Ambient Water Quality Standards and Guidance Values, October 1993.

NA - Soil Cleanup Objective Not Established

ND - Non-Detectable at Method Detection Limits

**LAND, AIR, WATER
ENVIRONMENTAL SERVICES, INC.**



32 CHICHESTER AVE. PO BOX 372 CENTER MORICHES, NY 11934

(516) 874-2112 FAX (516) 874-4547

DRILLER'S LOGS

Cornell Research Lab
Riverhead, NY

July 1997

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.

DRILLER'S LOGS

Boring: Drywell

page: 1 of 2

DATE: July 23, 1997 and July 24, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT: H2M Group
Melville, New York

DEPTH DRILLED: 52 feet

DEPTH TO WATER: Not encountered

DRILLER: C. Pedersen

HELPER: T. Lamprecht

DEPTH FROM TO		Recovery	BLOWS / 6 INCHES	SAMPLE DESCRIPTION
0 ft	10 ft			Open drywell
10 ft	12 ft	6 inches	1-1-push	Light brown/tan sand, coarse/medium, 5% gravel, (SP)
12 ft	15 ft		auger cuttings	Light brown/tan sand, coarse/medium, 5% gravel
15 ft	17 ft	18 inches	7-7-9-12	Light tan sand, coarse/medium, 20% gravel
17 ft	20 ft		auger cuttings	Light tan sand, coarse/medium, 5% gravel
20 ft	22 ft	12 inches	7-9-10-11	Light tan/brown sand, coarse/medium, 10% gravel, (SP)
22 ft	30 ft		auger cuttings	Light tan/white sand, coarse/medium, 20% gravel
30 ft	32 ft	15 inches	4-7-8-7	Light tan/white sand, coarse/medium, trace gravel, (SP)
32 ft	40 ft		auger cuttings	Light tan/white sand, coarse/medium, 5% gravel
40 ft	42 ft	15 inches	6-7-12-14	Light tan/white sand, coarse/medium, 5% gravel, (SP)
42 ft	50 ft		auger cuttings	Light tan/white sand, coarse/medium, 5% gravel
50 ft	52 ft	14.5 inches	4-6-7-7	White sand, coarse/medium, 5% gravel, (SP)

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.

DRILLER'S LOGS

Boring: Drywell

page: 2 of 2

DATE: July 23, 1997 and July 24, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT: H2M Group
Melville, New York

DEPTH FROM TO		Recovery	BLOWS / 6 INCHES	SAMPLE DESCRIPTION
52 ft	60 ft		auger cuttings	Light tan sand, coarse/medium, 5% gravel
60 ft	62 ft	16 inches	7-12-17-28	White sand, light brown laminations, coarse/medium, 5% gravel, (SP), light brown lamination
62 ft	70 ft		auger cuttings	Light tan/white sand, coarse/medium, 5% gravel
70 ft	72 ft	18 inches	9-15-22-26	White sand, light brown laminations, medium, 10% gravel, (SP)
72 ft	75 ft		auger cuttings	White sand, coarse/medium, 5% gravel
75 ft	77 ft	15 inches	8-10-13-17	Light brown/white silty sand/sand, very fine/medium fine, none/trace gravel, (SM)(SP)
77 ft	79 ft	14 inches	9-12-16-19	Light brown/white silty sand, medium/fine, wet, (SM)
79 ft	90 ft		auger cuttings	Light tan/white sand, coarse/medium, 5% gravel

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.

DRILLER'S LOGS

Temporary Well RD #1

page: 1 of 2

DATE: July 22, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT: H2M Group
Melville, New York

DEPTH DRILLED: 88 feet

DEPTH TO WATER: 77' 9"

DRILLING METHOD: Hollow Stem Auger 4 1/4

WELL GROUTED: yes

CASING INSTALLED: 80 feet

SCREEN INSTALLED: 10 feet

CASING DIAMETER: 2 inches

SLOT SIZE: 0.01 inches

DRILLING FLUID: None

DRILLER: C. Pedersen

HELPER: T. Lamprecht

DEPTH FROM	TO	Recovery	BLOWS / 6 INCHES	SAMPLE DESCRIPTION
0 ft	2 ft	Hand		Brown silty loamy sand, medium/fine, 3" large gravel
2 ft	4 ft	6 inches	4-6-6-7	Brown sand, fine, 10% gravel, (SM)
*2 ft	4 ft	9 inches	11-10-8-6	Brown sand, medium/fine, 10% gravel, (SP)
4 ft	10 ft		auger cuttings	Brown/medium sand, fine, 80% gravel
10 ft	12 ft	14 inches	7-14-17-20	Light tan sand, coarse/medium, 5% gravel, (SP)
12 ft	20 ft		auger cuttings	Brown sand, medium/fine, 5% gravel
20 ft	22 ft	2 inches	5-14-19-23	Tan sand, coarse/medium, trace, (SP), rock in spoon
22 ft	24 ft	9 inches	6-10-11-13	Light tan sand, coarse/medium, 5% gravel, (SP)
24 ft	30 ft		auger cuttings	Light brown sand, coarse/medium, 20% gravel
30 ft	32 ft	17 inches	6-12-17-21	Light tan sand, coarse/medium, 10% gravel, (SP)

*Second Attempt

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.

DRILLER'S LOGS

Temporary Well RD #1

page: 2 of 2

DATE: July 22, 1997
 SITE: Cornell Research Lab
 Riverhead, NY

CONSULTANT: H2M Group
 Melville, New York

32 ft	40 ft		auger cuttings	Light brown sand, coarse/medium, 10% gravel
40 ft	42 ft	3 inches	5-9-19-25	Light tan sand, coarse/medium, 10% gravel, (SP)
42 ft	44 ft	4 inches	6-14-16-19	Light tan sand, coarse/medium, 5% gravel, (SP)
44 ft	50 ft		auger cuttings	Light tan sand, coarse/medium, 10% gravel
50 ft	52 ft	2 inches	12-17-16-17	Light tan sand, coarse/medium, 5% gravel, (SP)
52 ft	54 ft	2 inches	11-12-15-20	Light tan/white sand, coarse/medium, 5% gravel, (SP)
54 ft	60 ft		auger cuttings	Light tan sand, coarse/medium, 10% gravel
60 ft	62 ft	16 inches	4-6-13-15	White sand, medium, trace gravel, (SW)
62 ft	70 ft		auger cuttings	Light brown/tan sand, coarse/medium, 5% gravel
70 ft	72 ft		6-9-15-22	Light tan/white sand, orange laminations, coarse/medium/fine, 5% gravel, (SP)
72 ft	75 ft		auger cuttings	Light brown/tan sand, coarse/medium, 10% gravel
75 ft	77 ft	16 inches	3-6-8-11	Light tan sand, light brown laminations, coarse/medium, trace gravel, (SP) bottom 3" brown silty sand, fine, (SM) wet at tip
77 ft	79 ft		6-8-9-11	Light brown/tan sand, coarse/medium/fine, trace gravel, wet, (SP)
79 ft	88 ft		auger cuttings	Tan sand, coarse/medium, 10% gravel, dry

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.

DRILLER'S LOGS

Temporary Well RD #2

page: 1 of 2

DATE: July 23, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT: H2M Group
Melville, New York

DEPTH DRILLED: 89 feet

DEPTH TO WATER: 78 feet

DRILLING METHOD: Hollow Stem Auger 4 1/4

WELL GROUTED: no

CASING INSTALLED: 80 feet

SCREEN INSTALLED: 10 feet

CASING DIAMETER: 2 inches

SLOT SIZE: 0.01 inches

DRILLING FLUID: None

DRILLER: C. Pedersen

HELPER: T. Lamprecht

DEPTH FROM	TO	Recovery	BLOWS / 6 INCHES	SAMPLE DESCRIPTION
0 ft	2 ft	Hand		Brown sand, medium/fine, 80% gravel
2 ft	4 ft	2 inches	10-13-7-10	Brown sand, medium/fine, 80% gravel, (GP)
4 ft	6 ft	2 inches	4-7-8-6	Brown sand, fine, 80% gravel, (GP)
6 ft	10 ft		auger cuttings	Brown sand, medium/fine, 75% gravel
10 ft	12 ft	15 inches	34-7-10-11	Light tan sand, coarse/medium, 5% gravel, (SP)
12 ft	20 ft		auger cuttings	Light brown/tan sand, coarse/medium, 5% gravel
20 ft	22 ft	15 inches	4-6-9-11	Light tan sand, coarse/medium, 10% gravel, (SP)
22 ft	30 ft		auger cuttings	Light tan/brown sand, coarse/medium, 5% gravel
30 ft	32 ft	17 inches	6-10-13-15	Light tan sand, coarse/medium, 10% gravel, (SP)
32 ft	40 ft		auger cuttings	Light brown/tan sand, coarse/medium, 5% gravel

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.

DRILLER'S LOGS

Temporary Well: RD #2

page: 2 of 2

DATE: July 23, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT:

H2M Group
Melville, New York

40 ft	42 ft	20 inches	4-7-13-12	Light tan/white sand, coarse/medium, 5% gravel, (SP)
42 ft	50 ft		auger cuttings	Tan sand, coarse/medium, 5% gravel
50 ft	52 ft	3 inches	5-9-12-16	Light tan/white sand, coarse/medium, 5% gravel, (SP)
52 ft	54 ft	21 inches	11-13-14-16	White sand, light brown laminations, coarse/medium, 5% gravel, (SP)
54 ft	60 ft		auger cuttings	Tan/white sand, coarse/medium, 5% gravel
60 ft	62 ft	14 inches	4-7-8-10	White sand, light brown laminations, coarse/medium, trace gravel, (SP)
62 ft	70 ft		auger cuttings	Tan/white sand, coarse/medium, 5% gravel
70 ft	72 ft		5-8-10-13	White sand, light brown laminations, coarse/medium, 5% gravel, (SP), 1" clay in top of spoon
72 ft	75 ft		auger cuttings	White sand, coarse/medium, 5% gravel
75 ft	77 ft		4-10-15-16	Tan/white sand, brown laminations, coarse/medium/fine, trace gravel, (SP)
77 ft	89 ft		auger cuttings	White sand, coarse/medium, 5% gravel

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.

DRILLER'S LOGS

Boring: Evap Pit

page: 1 of 1

DATE: July 24, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT: H2M Group
Melville, New York

DEPTH DRILLED: 90 feet

DEPTH TO WATER: 78 feet

DRILLING METHOD: Hollow Stem Auger 4 1/4

WELL GROUTED: no

CASING DIAMETER: 2 inches

2" TEMPORARY WELL: 90 feet

DRILLING FLUID: None

DRILLER: C. Pedersen

HELPER: T. Lamprecht

DEPTH FROM TO		Recovery	BLOWS / 6 INCHES	SAMPLE DESCRIPTION
0 ft	4 ft			Open pit
4 ft	6 ft	10 inches	2-3-4-7	Tan sand, coarse/medium, 10% gravel, (SP)
10 ft	12 ft	14 inches	6-9-10-13	Tan sand, coarse/medium, 5% gravel, (SP)
20 ft	22 ft	12 inches	7-8-14-16	Light tan/white sand, coarse/medium, 5% gravel, (SP)
30 ft	32 ft	15 inches	5-9-12-15	Light tan/white sand, light brown laminations, coarse/medium, 10% gravel, (SP)
40 ft	42 ft	14 inches	4-6-10-12	White sand, coarse/medium, 20% gravel, (SP)
50 ft	52 ft	15 inches	4-7-11-12	White sand, coarse/medium, 5% gravel, (SP)
60 ft	62 ft	17 inches	7-12-15-17	White sand, brown laminations, coarse/medium, 20% gravel, (SP)
70 ft	72 ft	21 inches	8-14-19-23	White sand, brown laminations, coarse/medium, 5% gravel, (SP)
75 ft	77 ft	15 inches	7-11-14-18	White/light brown sand/silty sand, medium/very fine, trace gravel/none, (SP)(SM)
77 ft	79 ft	16 inches	6-9-12-14	Tan/white sand, coarse/medium/fine, 5% gravel, wet, (SP)

**LAND, AIR, WATER
ENVIRONMENTAL SERVICES, INC.**



32 CHICHESTER AVE. PO BOX 372 CENTER MORICHES, NY 11934

(516) 874-2112 FAX (516) 874-4547

DRILLER'S LOGS

Cornell Research Lab
Riverhead, New York

September 1997

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.
DRILLER'S LOGS

WELL: MW-1

page: 1 of 1

DATE: September 15, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT: H2M Group
Melville, New York

DEPTH DRILLED: 92 feet

DEPTH TO WATER: 78' 4"

CASING INSTALLED: 75 feet PVC

SCREEN INSTALLED: 15 feet PVC

CASING DIAMETER: 4 inches

SLOT SIZE: 0.10 inches

DRILLING METHOD: Hollow Stem Auger 6 5/8

WELL GROUTED: yes

DRILLING FLUID: None

DRILLER: C. Pedersen

HELPER: J. Conte

DEPTH FROM TO		RECOVERY	SAMPLE DESCRIPTION
0 ft	4 ft	Hand	Brown sand, medium/fine, 20% gravel
4 ft	20 ft	auger cuttings	Light tan sand, coarse/medium, 25% gravel
20 ft	55 ft	auger cuttings	Light tan sand, coarse/medium, 10% gravel
55 ft	75 ft	auger cuttings	White sand, coarse/medium, 5% gravel
75 ft	92 ft	auger cuttings	Tan /white sand, coarse/medium, 5% gravel

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.

DRILLER'S LOGS

WELL: MW-2

page: 1 of 1

DATE: September 16, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT:

H2M Group
Melville, New York

DEPTH DRILLED: 92 feet

DEPTH TO WATER: 78.3 feet

CASING INSTALLED: 75 feet PVC

SCREEN INSTALLED: 15 feet PVC

CASING DIAMETER: 4 inches

SLOT SIZE: 0.10 inches

DRILLING METHOD: Hollow Stem Auger 6 5/8

WELL GROUTED: yes

DRILLING FLUID: None

DRILLER: C. Pedersen

HELPER: J. Conte

DEPTH		RECOVERY	SAMPLE DESCRIPTION
FROM	TO		
0 ft	5 ft	Hand	Light brown sand, coarse/medium, 10% gravel
5 ft	18 ft	auger cuttings	Light tan sand, coarse/medium, 5% gravel
18 ft	30 ft	auger cuttings	White sand, coarse/medium, 5% gravel
30 ft	55 ft	auger cuttings	Light tan/white sand, coarse/medium, 5% gravel
55 ft	70 ft	auger cuttings	Light tan/white sand, coarse/medium, 5% gravel
70 ft	92 ft	auger cuttings	Light tan/white sand, coarse/medium, 5% gravel

LAND, AIR, WATER ENVIRONMENTAL SERVICES, INC.
DRILLER'S LOGS

WELL: **MW-3**

page: 1 of 1

DATE: September 17, 1997

SITE: Cornell Research Lab
Riverhead, NY

CONSULTANT:

H2M Group
Melville, New York

DEPTH DRILLED: 92 feet

DEPTH TO WATER: 78 feet

CASING INSTALLED: 75 feet PVC

SCREEN INSTALLED: 15 feet PVC

CASING DIAMETER: 4 inches

SLOT SIZE: 0.10 inches

DRILLING METHOD: Hollow Stem Auger 6 5/8

WELL GROUTED: yes

DRILLING FLUID: None

DRILLER: C. Pedersen

HELPER: J. Conte

DEPTH FROM TO		RECOVERY	SAMPLE DESCRIPTION
0 ft	5 ft	Hand	Light brown/tan/white sand, coarse/medium, trace gravel
5 ft	20 ft	auger cuttings	Light tan sand, coarse/medium, 10% gravel
20 ft	60 ft	auger cuttings	Light tan/white sand, coarse/medium, 90% gravel
60 ft	75 ft	auger cuttings	Light tan/white sand, coarse/medium, 5% gravel
75 ft	92 ft	auger cuttings	Light tan/white sand, coarse/medium, 5% gravel

APPENDIX "B"
ANALYTICAL DATA

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720746

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 10'-12'
REMARKS: LIHRL
DRYWELL

PARAMETER (S)

RESULTS UNITS

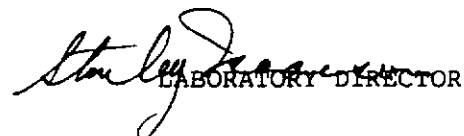
TOTAL SOLIDS

97.3 %

COPIES TO: MNG

DATE ISSUED 08/12/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSOEH 100 10478

LAB NO: 9720749

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

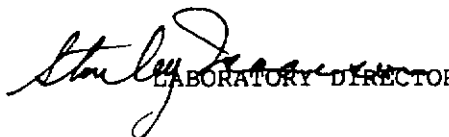
POINT NO:
LOCATION: 30'-32'
REMARKS: LIHRL
DRYWELL

<u>PARAMETER (S)</u>	<u>RESULTS</u>	<u>UNITS</u>
TOTAL SOLIDS	97.3	%

COPIES TO: MNG

DATE ISSUED 08/12/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720746

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 10'-12'
REMARKS: LIHRL
DRYWELL

PESTICIDES (METHOD 608) - (ug/kg)

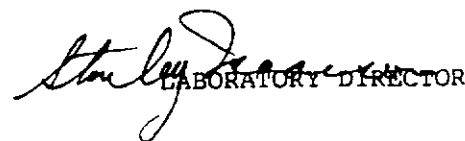
<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<860		
HEPTACHLOR	4700		
ALDRIN	3200		
HEPTACHLOR EPOXIDE	<860		
DIELDRIN	<1700		
ENDRIN	<1700		
P,P'DDT	<1700		
METHOXYCHLOR	<8600		
TOXAPHENE	<86000		
CHLORDANE	580000		
BETA-BHC	<860		
DELTA-BHC	<860		
ALPHA-BHC	<860		
P,P'-DDD	<1700		
P,P'-DDE	2400		
ENDOSULFAN I	310000		
ENDOSULFAN II	97000		
ENDOSULFAN SULFATE	4800		
ENDRIN ALDEHYDE	<1700		
O,P DDT	<1700		
AROCLOR 1016	<1700		
AROCLOR 1221	<34000		
AROCLOR 1232	<17000		
AROCLOR 1242	<17000		
AROCLOR 1248	<17000		
AROCLOR 1254	<17000		
AROCLOR 1260	<17000		
ENDRIN KETONE	<1700		

COPIES TO: MNG

DATE EXTRACTED. 07/25/97
DATE RUN..... 08/07/97
DATE REPORTED.. 08/12/97

DATE ISSUED 08/12/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 691-3040 FAX: (516) 694-4122

LAB NO: 9720915

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 0915 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 60-62' DRYWELL
REMARKS: LIHRL

<u>PARAMETER (S)</u>	<u>RESULTS</u> <u>UNITS</u>
----------------------	-----------------------------

TOTAL SOLIDS	96.1 %
--------------	--------

COPIES TO: CJF^

DATE ISSUED 08/12/97

QA/QC

LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720749

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 30'-32'
REMARKS: LIHRL
DRYWELL

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<840		
HEPTACHLOR	<840		
ALDRIN	<840		
HEPTACHLOR EPOXIDE	<840		
DIELDRIN	<1700		
ENDRIN	<1700		
P,P'DDT	<1700		
METHOXYCHLOR	<8400		
TOXAPHENE	<84000		
CHLORDANE	<17000		
BETA-BHC	<840		
DELTA-BHC	<840		
ALPHA-BHC	<840		
P,P'-DDD	<1700		
P,P'-DDE	<1700		
ENDOSULFAN I	22000		
ENDOSULFAN II	9300		
ENDOSULFAN SULFATE	<1700		
ENDRIN ALDEHYDE	<1700		
O,P DDT	<1700		
AROCLOR 1016	<17000		
AROCLOR 1221	<33000		
AROCLOR 1232	<17000		
AROCLOR 1242	<17000		
AROCLOR 1248	<17000		
AROCLOR 1254	<17000		
AROCLOR 1260	<17000		
ENDRIN KETONE	<1700		

COPIES TO: MNG

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/25/97
DATE RUN..... 08/07/97
DATE REPORTED.. 08/11/97


LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 894-3040 FAX: (516) 420-8436 NYS DOH ID# 10478

LAB NO: 9720916

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1015 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 78-79' DRYWELL
REMARKS: LIHRL

PARAMETER (S)

RESULTS UNITS

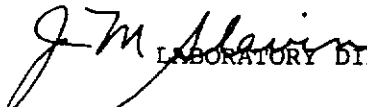
TOTAL SOLIDS

90.0 %

COPIES TO: MNG

DATE ISSUED 08/20/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 420-9436 NYSDOH 100 10478

LAB NO: 9720916

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1015 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 78-79' DRYWELL
REMARKS: LIHRL

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<18		
HEPTACHLOR	<185		
ALDRIN	<18		
HEPTACHLOR EPOXIDE	<18		
DIELDRIN	<37		
ENDRIN	<37		
P,P'DDT	<37		
METHOXYCHLOR	<180		
TOXAPHENE	<1800		
CHLORDANE	<18		
BETA-BHC	<18		
DELTA-BHC	<18		
ALPHA-BHC	<18		
P,P'-DDD	<37		
P,P'-DDE	<37		
ENDOSULFAN I	6600		
ENDOSULFAN II	3100		
ENDOSULFAN SULFATE	<37		
ENDRIN ALDEHYDE	<37		
O,P DDT	<170		
AROCLOR 1016	<370		
AROCLOR 1221	<740		
AROCLOR 1232	<370		
AROCLOR 1242	<370		
AROCLOR 1248	<370		
AROCLOR 1254	<370		
AROCLOR 1260	<370		
ENDRIN KETONE	<37		

COPIES TO: MNG

DATE ISSUED 08/20/97

DATE EXTRACTED. 07/28/97
DATE RUN..... 08/18/97
DATE REPORTED.. 08/20/97

ORIGINAL

J. M. Alavin
LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720620

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1100 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: RD-1 2-4'
REMARKS: LIHRL
ROCK DRAIN AREA

PARAMETER (S)

RESULTS UNITS

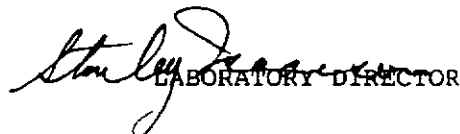
TOTAL SOLIDS

95.1 %

COPIES TO: MNG

DATE ISSUED 08/12/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 WTS00H ID# 10478

LAB NO: 9720620

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1100 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: RD-1 2-4'
REMARKS: LIHRL
ROCK DRAIN AREA

PESTICIDES (METHOD 608) - (ug/kg)

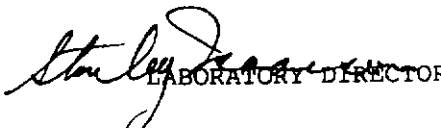
<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<88		
HEPTACHLOR	<88		
ALDRIN	<88		
HEPTACHLOR EPOXIDE	<88		
DIELDRIN	<180		
ENDRIN	<180		
P,P' DDT	7300		
METHOXYCHLOR	<890		
TOXAPHENE	<8800		
CHLORDANE	<88		
BETA-BHC	<88		
DELTA-BHC	<88		
ALPHA-BHC	<88		
P,P'-DDD	<180		
P,P'-DDE	310		
ENDOSULFAN I	86000		
ENDOSULFAN II	34000		
ENDOSULFAN SULFATE	7700		
ENDRIN ALDEHYDE	<180		
O,P DDT	<180		
AROCLOR 1016	<1800		
AROCLOR 1221	<3500		
AROCLOR 1232	<1800		
AROCLOR 1242	<1800		
AROCLOR 1248	<1800		
AROCLOR 1254	<1800		
AROCLOR 1260	<1800		
ENDRIN KETONE	<180		

COPIES TO: MNG

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/23/97
DATE RUN..... 08/11/9
DATE REPORTED.. 08/12/9

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 420-8436 NYSDOH ID# 10478

LAB NO: 9720615

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1100 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9601

POINT NO:
LOCATION: RD-1 10-12'
REMARKS: LIHRL
ROCK DRAIN AREA

PARAMETER (S)

RESULTS UNITS

TOTAL SOLIDS

95.7 %

COPIES TO: MNG

DATE ISSUED 08/18/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 420-8436 NYSBOM ID# 10478

LAB NO: 9720615

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1100 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9601

POINT NO:
LOCATION: RD-1 10-12'
REMARKS: LIHRL
ROCK DRAIN AREA

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<87		
HEPTACHLOR	<87		
ALDRIN	<87		
HEPTACHLOR EPOXIDE	<87		
DIELDRIN	<174		
ENDRIN	<174		
P,P' DDT	3200		
METHOXYCHLOR	1800		
TOXAPHENE	8700		
CHLORDANE	<87		
BETA-BHC	<87		
DELTA-BHC	<87		
ALPHA-BHC	<87		
P,P'-DDD	670		
P,P'-DDE	<174		
ENDOSULFAN I	5500		
ENDOSULFAN II	2400		
ENDOSULFAN SULFATE	<174		
ENDRIN ALDEHYDE	<174		
O,P DDT	<870		
AROCLOR 1016	<1740		
AROCLOR 1221	<3480		
AROCLOR 1232	<1740		
AROCLOR 1242	<1740		
AROCLOR 1248	<1740		
AROCLOR 1254	<1740		
AROCLOR 1260	<1740		
ENDRIN KETONE	<174		

COPIES TO: MNG

DATE ISSUED 08/18/97

DATE EXTRACTED. 07/23/97
DATE RUN..... 08/15/97
DATE REPORTED.. 08/18/97

ORIGINAL

J. M. Slawin
LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 420-8436 NYSDOH ID# 10478

LAB NO: 9720621

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1130 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: RD-1 20+22'
REMARKS: LIHRL
ROCK DRAIN AREA

PARAMETER (S)

RESULTS UNITS

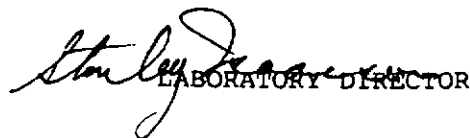
TOTAL SOLIDS

96.8 %

COPIES TO: MNG

DATE ISSUED 08/12/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720621

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1130 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: RD-1 20-22'
REMARKS: LIHRL
ROCK DRAIN AREA

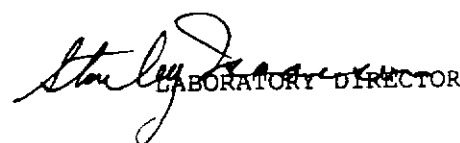
PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<1.7		
HEPTACHLOR	<1.7		
ALDRIN	<1.7		
HEPTACHLOR EPOXIDE	<1.7		
DIELDRIN	<3.3		
ENDRIN	<3.3		
P,P' DDT	<3.3		
METHOXYCHLOR	<17.0		
TOXAPHENE	<170		
CHLORDANE	<1.7		
BETA-BHC	<1.7		
DELTA-BHC	<1.7		
ALPHA-BHC	<1.7		
P,P'-DDD	<3.3		
P,P'-DDE	<3.3		
ENDOSULFAN I	<1.7		
ENDOSULFAN II	<3.3		
ENDOSULFAN SULFATE	<3.3		
ENDRIN ALDEHYDE	<3.3		
O,P DDT	15.5		
AROCLOR 1016	<33.0		
AROCLOR 1221	<67.0		
AROCLOR 1232	<33.0		
AROCLOR 1242	<33.0		
AROCLOR 1248	<33.0		
AROCLOR 1254	<33.0		
AROCLOR 1260	<33.0		
ENDRIN KETONE	<3.3		

COPIES TO: MNG

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/23/97
DATE RUN..... 07/31/97
DATE REPORTED.. 08/05/97


LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720622

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1340 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: RD-1 60-62'
REMARKS: LIHRL
ROCK DRAIN AREA

PARAMETER (S)

RESULTS UNITS

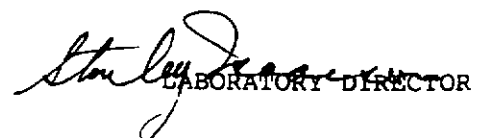
TOTAL SOLIDS

96.8 %

COPIES TO: MNG

DATE ISSUED 08/12/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720622

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1340 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: RD-1 60-62'
REMARKS: LIHRL
ROCK DRAIN AREA

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<1.7		
HEPTACHLOR	<1.7		
ALDRIN	<1.7		
HEPTACHLOR EPOXIDE	<1.7		
DIELDRIN	<3.3		
ENDRIN	<3.3		
P,P'DDT	<3.3		
METHOXYCHLOR	<17.0		
TOXAPHENE	<170		
CHLORDANE	<1.7		
BETA-BHC	<1.7		
DELTA-BHC	<1.7		
ALPHA-BHC	<1.7		
P,P'-DDD	<3.3		
P,P'-DDE	<3.3		
ENDOSULFAN I	<1.7		
ENDOSULFAN II	3.3		
ENDOSULFAN SULFATE	<3.3		
ENDRIN ALDEHYDE	<3.3		
O,P DDT	<3.3		
AROCLOR 1016	<33.0		
AROCLOR 1221	<67.0		
AROCLOR 1232	<33.0		
AROCLOR 1242	<33.0		
AROCLOR 1248	<33.0		
AROCLOR 1254	<33.0		
AROCLOR 1260	<33.0		
ENDRIN KETONE	<3.3		

COPIES TO: MNG

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/23/97
DATE RUN..... 07/31/97
DATE REPORTED.. 08/05/97

ORIGINAL

Stanley J. [Signature]
LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

LAB NO: 9720752

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 2'-4'

REMARKS: LIHRL
ROCK DRAIN AREA-2

PARAMETER (S)

RESULTS UNITS

TOTAL SOLIDS

79.3 %

COPIES TO: CJF^

DATE ISSUED 08/12/97

QA/QC

LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 894-3040 FAX: (516) 4122

LAB NO: 9720752

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
METHOD.... SPECIAL
 GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 2'-4'

REMARKS: LIHRL
ROCK DRAIN AREA-2

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<1100		
HEPTACHLOR	<1100		
ALDRIN	<1100		
HEPTACHLOR EPOXIDE	<1100		
DIELDRIN	<2100		
ENDRIN	<2100		
P,P'DDT	x11230	2100	
METHOXYCHLOR	x160000	10,000	
TOXAPHENE	<11000		
CHLORDANE	<21000		
BETA-BHC	<1100		
DELTA-BHC	<1100		
ALPHA-BHC	<1100		
P,P'-DDD	<2100		
P,P'-DDE	<2100		
ENDOSULFAN I	x24000	900	
ENDOSULFAN II	x12000	900	
ENDOSULFAN SULFATE	<2100		
ENDRIN ALDEHYDE	<2100		
O,P DDT	<2100		
AROCLOR 1016	<2100		
AROCLOR 1221	<42000		
AROCLOR 1232	<21000		
AROCLOR 1242	<21000		
AROCLOR 1248	<21000		
AROCLOR 1254	<21000		
AROCLOR 1260	<21000		
ENDRIN KETONE	<2100		

COPIES TO: CJF^

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/25/97
DATE RUN..... 08/08/97
DATE REPORTED.. 08/12/97

LABORATORY DIRECTOR

QA/QC

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720753

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 10'-12'

REMARKS: LIHRL
ROCK DRAIN AREA-2

PARAMETER (S)

RESULTS UNITS

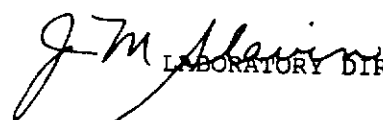
TOTAL SOLIDS

96.3 %

COPIES TO: MNG

DATE ISSUED 08/20/97

ORIGINAL


LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSDOH ID# 10478

LAB NO: 9720753

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 10'-12'
REMARKS: LIHRL
ROCK DRAIN AREA-2

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<17		
HEPTACHLOR	<17		
ALDRIN	<17		
HEPTACHLOR EPOXIDE	<17		
DIELDRIN	<34		
ENDRIN	<34		
P,P'DDT	700		
METHOXYCHLOR	1100		
TOXAPHENE	<1700		
CHLORDANE	<17		
BETA-BHC	<17		
DELTA-BHC	<17		
ALPHA-BHC	<17		
P,P'-DDD	<34		
P,P'-DDE	<34		
ENDOSULFAN I	1100		
ENDOSULFAN II	500		
ENDOSULFAN SULFATE	<34		
ENDRIN ALDEHYDE	<34		
O,P DDT	<170		
AROCLOR 1016	<340		
AROCLOR 1221	<680		
AROCLOR 1232	<340		
AROCLOR 1242	<340		
AROCLOR 1248	<340		
AROCLOR 1254	<340		
AROCLOR 1260	<340		
ENDRIN KETONE	<34		

COPIES TO: MNG

DATE ISSUED 08/20/97

DATE EXTRACTED. 07/25/97
DATE RUN..... 08/18/97
DATE REPORTED.. 08/20/97

ORIGINAL

J. M. Flavin
LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9720754

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 20'-22'
REMARKS: LIHRL
ROCK DRAIN AREA-2

PARAMETER (S)

RESULTS UNITS

TOTAL SOLIDS

95.7 %

COPIES TO: CJF^

DATE ISSUED 08/12/97

QA/QC

LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-1222

LAB NO: 9720754

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 20'-22'
REMARKS: LIHRL
ROCK DRAIN AREA-2

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<18		
HEPTACHLOR	<18		
ALDRIN	<18		
HEPTACHLOR EPOXIDE	<18		
DIELDRIN	<35		
ENDRIN	<35		
P,P'DDT	42 ✓ 2100		
METHOXYCHLOR	<180		
TOXAPHENE	<1800		
CHLORDANE	<350		
BETA-BHC	<18		
DELTA-BHC	<18		
ALPHA-BHC	<18		
P,P'-DDD	<35		
P,P'-DDE	<35		
ENDOSULFAN I	110 ✓ 900		
ENDOSULFAN II	63 ✓ 900		
ENDOSULFAN SULFATE	<35		
ENDRIN ALDEHYDE	<35		
O,P DDT	<35		
AROCLOR 1016	<350		
AROCLOR 1221	<700		
AROCLOR 1232	<350		
AROCLOR 1242	<350		
AROCLOR 1248	<350		
AROCLOR 1254	<350		
AROCLOR 1260	<350		
ENDRIN KETONE	<35		

COPIES TO: CJF^

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/25/97
DATE RUN..... 08/01/97
DATE REPORTED.. 08/05/97

LABORATORY DIRECTOR

QA/QC

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

LAB NO: 9720758

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 60'-62'

REMARKS: LIHRL
ROCK DRAIN AREA-2

PARAMETER (S)

RESULTS UNITS

TOTAL SOLIDS

97.1 %

COPIES TO: CJF^

DATE ISSUED 08/12/97

QA/QC

LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville N.Y. 11747
(516) 694-3040 FAX: (516) 4122

LAB NO: 9720758

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: 60'-62'
REMARKS: LIHRL
ROCK DRAIN AREA-2

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<1.7		
HEPTACHLOR	<1.7		
ALDRIN	<1.7		
HEPTACHLOR EPOXIDE	<1.7		
DIELDRIN	<3.3		
ENDRIN	<3.3		
P,P'-DDT	<3.3		
METHOXYCHLOR	<17.0		
TOXAPHENE	<170		
CHLORDANE	<1.7		
BETA-BHC	<1.7		
DELTA-BHC	<1.7		
ALPHA-BHC	<1.7		
P,P'-DDD	<3.3		
P,P'-DDE	<3.3		
ENDOSULFAN I	3.8 ✓ 900		
ENDOSULFAN II	<3.3		
ENDOSULFAN SULFATE	<3.3		
ENDRIN ALDEHYDE	<3.3		
O,P DDT	<3.3		
AROCLOR 1016	<33.0		
AROCLOR 1221	<67.0		
AROCLOR 1232	<33.0		
AROCLOR 1242	<33.0		
AROCLOR 1248	<33.0		
AROCLOR 1254	<33.0		
AROCLOR 1260	<33.0		
ENDRIN KETONE	<3.3		

COPIES TO: CJF^

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/25/97
DATE RUN..... 07/30/97
DATE REPORTED.. 08/05/97

LABORATORY DIRECTOR

CA/QC

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

LAB NO: 9720906

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1345 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: EVAP.PIT 4'-6'
REMARKS: LIHRL

PARAMETER (S)

RESULTS UNITS

TOTAL SOLIDS

91.8 %

COPIES TO: CJF^

DATE ISSUED 08/12/97

LABORATORY DIRECTOR

QA/QC

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 4122

LAB NO: 9720906

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1345 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: EVAP.PIT 4'-6'
REMARKS: LIHRL

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<18		
HEPTACHLOR	<18		
ALDRIN	<18		
HEPTACHLOR EPOXIDE	<18		
DIELDRIN	<36		
ENDRIN	<36		
P,P'DDT	240 ✓ 2100		
METHOXYCHLOR	<180		
TOXAPHENE	<1800		
CHLORDANE	<360		
BETA-BHC	<18		
DELTA-BHC	<18		
ALPHA-BHC	<18		
P,P'-DDD	<36		
P,P'-DDE	<36		
ENDOSULFAN I	54 ✓ 900		
ENDOSULFAN II	<36		
ENDOSULFAN SULFATE	110 ✓ 1000		
ENDRIN ALDEHYDE	<36		
O,P DDT	<36		
AROCLOR 1016	<360		
AROCLOR 1221	<720		
AROCLOR 1232	<360		
AROCLOR 1242	<360		
AROCLOR 1248	<360		
AROCLOR 1254	<360		
AROCLOR 1260	<360		
ENDRIN KETONE	<36		

COPIES TO: CJF^

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/28/97
DATE RUN..... 08/05/97
DATE REPORTED.. 08/12/97

LABORATORY DIRECTOR

QA/QC

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

LAB NO: 9720910

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1435 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: EVAP.PIT 30-32'
REMARKS: LIHRL

PARAMETER (S)

RESULTS UNITS

TOTAL SOLIDS

97.5 %

COPIES TO: CJF~

DATE ISSUED 08/12/97

QA/QC

LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 4122

LAB NO: 9720910

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1435 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: EVAP.PIT 30-32'
REMARKS: LIHRL

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<3.4		
HEPTACHLOR	<3.4		
ALDRIN	<3.4		
HEPTACHLOR EPOXIDE	<3.4		
DIELDRIN	<6.6		
ENDRIN	<6.6		
P,P'DDT	<6.6		
METHOXYCHLOR	<34		
TOXAPHENE	<340		
CHLORDANE	<66		
BETA-BHC	<3.4		
DELTA-BHC	<3.4		
ALPHA-BHC	<3.4		
P,P'-DDD	<6.6		
P,P'-DDE	<6.6		
ENDOSULFAN I	46 ✓ 900		
ENDOSULFAN II	24 ✓ 900		
ENDOSULFAN SULFATE	<6.6		
ENDRIN ALDEHYDE	<6.6		
O,P DDT	<6.6		
AROCLOR 1016	<66		
AROCLOR 1221	<124		
AROCLOR 1232	<66		
AROCLOR 1242	<66		
AROCLOR 1248	<66		
AROCLOR 1254	<66		
AROCLOR 1260	<66		
ENDRIN KETONE	<6.6		

COPIES TO: CJF^

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/28/97
DATE RUN..... 07/30/97
DATE REPORTED.. 08/05/97

LABORATORY DIRECTOR

QA/QC

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9720913

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1510 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: EVAP.PIT 60-62'
REMARKS: LIHRL

PARAMETER (S)

RESULTS UNITS

TOTAL SOLIDS

97.5 %

COPIES TO: CJF^

DATE ISSUED 08/12/97

QA/QC

LABORATORY DIRECTOR

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 4-4122

LAB NO: 9720913

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... SOIL
ROUTINE
METHOD.... GRAB

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1510 HRS.
DATE RECEIVED.. 07/25/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: EVAP.PIT 60-62'
REMARKS: LIHRL

PESTICIDES (METHOD 608) - (ug/kg)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<8.6		
HEPTACHLOR	<8.6		
ALDRIN	<8.6		
HEPTACHLOR EPOXIDE	<8.6		
DIELDRIN	<17		
ENDRIN	<17		
P,P'DDT	<17		
METHOXYCHLOR	<86		
TOXAPHENE	<860		
CHLORDANE	<170		
BETA-BHC	<8.6		
DELTA-BHC	<8.6		
ALPHA-BHC	<8.6		
P,P'-DDD	<17		
P,P'-DDE	<17		
ENDOSULFAN I	44 ✓ 900		
ENDOSULFAN II	17 ✓ 900		
ENDOSULFAN SULFATE	<17		
ENDRIN ALDEHYDE	<17		
O,P DDT	<17		
AROCLOR 1016	<170		
AROCLOR 1221	<340		
AROCLOR 1232	<170		
AROCLOR 1242	<170		
AROCLOR 1248	<170		
AROCLOR 1254	<170		
AROCLOR 1260	<170		
ENDRIN KETONE	<17		

COPIES TO: CJF^

DATE ISSUED 08/12/97

DATE EXTRACTED. 07/28/97
DATE RUN..... 08/07/97
DATE REPORTED.. 08/11/97

LABORATORY DIRECTOR

QA/QC

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSOCH 104 10478

LAB NO: 9720623

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 07/22/97
TIME COLLECTED. 1530 HRS.
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: TW-1
REMARKS: LIHRL
ROCK DRAIN AREA

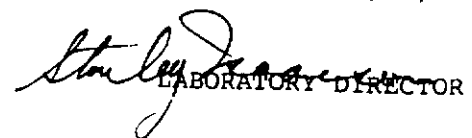
PESTICIDES (METHOD 608) - (ug/l)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<0.05		
HEPTACHLOR	<0.05		
ALDRIN	<0.05		
HEPTACHLOR EPOXIDE	<0.05		
DIELDRIN	<1.0		
ENDRIN	<1.0		
P,P' DDT	0.74		
METHOXYCHLOR	<5.0		
TOXAPHENE	<50		
CHLORDANE	<10		
BETA-BHC	<0.50		
DELTA-BHC	<0.50		
ALPHA-BHC	<0.50		
P,P'-DDD	<1.0		
P,P'-DDE	<1.0		
ENDOSULFAN I	11		
ENDOSULFAN II	4.7		
ENDOSULFAN SULFATE	1.1		
ENDRIN ALDEHYDE	<1.0		
O,P DDT	<1.0		
AROCLOR 1016	<10		
AROCLOR 1221	<20		
AROCLOR 1232	<10		
AROCLOR 1242	<10		
AROCLOR 1248	<10		
AROCLOR 1254	<10		
AROCLOR 1260	<10		

COPIES TO: MNG

DATE EXTRACTED. 07/24/97
DATE RUN..... 08/07/97
DATE REPORTED.. 08/12/97

DATE ISSUED 08/12/97


LABORATORY DIRECTOR

ORIGINAL

HLM LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)420-8436 NYSBOM ID# 10478

LAB NO: 9720760

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... GROUND WATER
SPECIAL

DATE COLLECTED. 07/23/97
DATE RECEIVED.. 07/23/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: TW-2
REMARKS: LIHRL
ROCK DRAIN AREA-2


PESTICIDES (METHOD 608) - (ug/l)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<0.5		
HEPTACHLOR	<0.5		
ALDRIN	<0.5		
HEPTACHLOR EPOXIDE	<0.5		
DIELDRIN	<1.0		
ENDRIN	<1.0		
P,P'DDT	<1.0		
METHOXYCHLOR	8.0		
TOXAPHENE	<50		
CHLORDANE	<10		
BETA-BHC	<0.5		
DELTA-BHC	<0.5		
ALPHA-BHC	<0.5		
P,P'-DDD	<1.0		
P,P'-DDE	<1.0		
ENDOSULFAN I	8.4		
ENDOSULFAN II	4.3		
ENDOSULFAN SULFATE	<1.0		
ENDRIN ALDEHYDE	<1.0		
O,P DDT	<1.0		
AROCLOR 1016	<10		
AROCLOR 1221	<20		
AROCLOR 1232	<10		
AROCLOR 1242	<10		
AROCLOR 1248	<10		
AROCLOR 1254	<10		
AROCLOR 1260	<10		

COPIES TO: MNG

DATE EXTRACTED. 07/28/97
DATE RUN..... 08/01/97
DATE REPORTED.. 08/05/97

DATE ISSUED 08/12/97


LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 420-8436 NYS DOH ID# 10478

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

LAB NO: 9720917

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1455 HRS.
DATE RECEIVED.. 07/24/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: TW-4

REMARKS: LIHRL

PESTICIDES (METHOD 608) - (ug/l)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<0.05		
HEPTACHLOR	<0.05		
ALDRIN	<0.05		
HEPTACHLOR EPOXIDE	<0.05		
DIELDRIN	<0.1		
ENDRIN	<0.1		
P,P' DDT	<0.1		
METHOXYCHLOR	<0.5		
TOXAPHENE	<1.0		
CHLORDANE	<0.5		
BETA-BHC	<0.1		
DELTA-BHC	<0.1		
ALPHA-BHC	<0.1		
P,P'-DDD	<0.1		
P,P'-DDE	<0.1		
ENDOSULFAN I	<0.1		
ENDOSULFAN II	<0.1		
ENDOSULFAN SULFATE	<0.1		
ENDRIN ALDEHYDE	<0.1		
O,P DDT	<0.1		
AROCLOR 1016	<0.5		
AROCLOR 1221	<0.5		
AROCLOR 1232	<0.5		
AROCLOR 1242	<0.5		
AROCLOR 1248	<0.5		
AROCLOR 1254	<1.0		
AROCLOR 1260	<1.0		

COPIES TO: MNG

DATE EXTRACTED. 07/28/97
DATE RUN..... 08/01/97
DATE REPORTED.. 08/05/97

DATE ISSUED 08/12/97

Stanley J. ...
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 420-8436 NYS00H ID# 10478

LAB NO: 9720918

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 07/24/97
TIME COLLECTED. 1120 HRS.
DATE RECEIVED.. 07/24/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: TW-3
REMARKS: LIHRL

PESTICIDES (METHOD 608) - (ug/l)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<5.0		
HEPTACHLOR	<5.0		
ALDRIN	<50		
HEPTACHLOR EPOXIDE	<5.0		
DIELDRIN	<10		
ENDRIN	<10		
P,P'DDT	<10		
METHOXYCHLOR	<50		
TOXAPHENE	<500		
✓ CHLORDANE	170		
BETA-BHC	<5.0		
DELTA-BHC	<5.0		
ALPHA-BHC	<5.0		
P,P'-DDD	<10		
P,P'-DDE	<10		
ENDOSULFAN I	430		
ENDOSULFAN II	180		
ENDOSULFAN SULFATE	<10		
ENDRIN ALDEHYDE	<10		
O,P DDT	<10		
AROCLOR 1016	<100		
AROCLOR 1221	<200		
AROCLOR 1232	<100		
AROCLOR 1242	<100		
AROCLOR 1248	<100		
AROCLOR 1254	<100		
AROCLOR 1260	<100		

COPIES TO: MNG

DATE EXTRACTED. 07/28/97
DATE RUN..... 08/08/97
DATE REPORTED.. 08/12/97

DATE ISSUED 08/12/97

Stanley J. ...
LABORATORY DIRECTOR

ORIGINAL

MTA LABS, INC.

373 BROAD HOLLOW ROAD, NEWVILLE, N.Y. 11787
(516)694-3040 FAX:(516)420-8436 NYSCLD# 10.78

LAB NO: 9727716

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 09/24/97
TIME COLLECTED. 1040 HRS.
DATE RECEIVED.. 09/24/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: MW-1
REMARKS:

PESTICIDES (METHOD 608) - (ug/l)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<0.05		
HEPTACHLOR	<0.05		
ALDRIN	<0.05		
HEPTACHLOR EPOXIDE	<0.05		
DIELDRIN	<0.1		
ENDRIN	<0.1		
P,P'DDT	<0.1		
METHOXYCHLOR	<0.5		
TOXAPHENE	<5.0		
CHLORDANE	<1.0		
BETA-BHC	<0.1		
DELTA-BHC	<0.1		
ALPHA-BHC	<0.1		
P,P'-DDD	<0.1		
P,P'-DDE	<0.1		
ENDOSULFAN I	<0.1		
ENDOSULFAN II	<0.1		
ENDOSULFAN SULFATE	<0.1		
ENDRIN ALDEHYDE	<0.1		
O,P DDT	<0.1		
AROCLOR 1016	<1.0		
AROCLOR 1221	<2.0		
AROCLOR 1232	<1.0		
AROCLOR 1242	<1.0		
AROCLOR 1248	<1.0		
AROCLOR 1254	<1.0		
AROCLOR 1260	<1.0		

COPIES TO: CJF

DATE ISSUED 10/07/97

DATE EXTRACTED. 09/29/97
DATE RUN..... 10/03/97
DATE REPORTED.. 10/07/97

ORIGINAL

J. M. Alvarino
LABORATORY DIRECTOR

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 09/24/97
TIME COLLECTED. 1125 HRS.
DATE RECEIVED.. 09/24/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: MW-2

REMARKS:

PESTICIDES (METHOD 608) - (ug/l)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<0.05		
HEPTACHLOR	<0.05		
ALDRIN	<0.05		
HEPTACHLOR EPOXIDE	<0.05		
DIELDRIN	<0.1		
ENDRIN	<0.1		
P,P'DDT	<0.1		
METHOXYCHLOR	<0.5		
TOXAPHENE	<5.0		
CHLORDANE	<1.0		
BETA-BHC	<0.1		
DELTA-BHC	<0.1		
ALPHA-BHC	<0.1		
P,P'-DDD	<0.1		
P,P'-DDE	<0.1		
ENDOSULFAN I	<0.1		
ENDOSULFAN II	<0.1		
ENDOSULFAN SULFATE	<0.1		
ENDRIN ALDEHYDE	<0.1		
O,P DDT	<0.1		
AROCLOR 1016	<1.0		
AROCLOR 1221	<2.0		
AROCLOR 1232	<1.0		
AROCLOR 1242	<1.0		
AROCLOR 1248	<1.0		
AROCLOR 1254	<1.0		
AROCLOR 1260	<1.0		

COPIES TO: CJF

DATE EXTRACTED. 09/29/97
DATE RUN..... 10/03/97
DATE REPORTED.. 10/07/97

DATE ISSUED 10/07/97

ORIGINAL

J. M. Slavin
LABORATORY DIRECTOR

APPENDIX "C"

MONITORING WELL
GROUND WATER SAMPLING
RECORD SHEETS

10/27/97 11:41 AM 3 UN 10

375 BROAD HOLLOW ROAD, REIVILLE, N.Y. 11747
(516)894-3040 FAX:(516)420-8436 NYSOCH ID# 10478

LAB NO: 9727715

CORNELL L.I. H.R.L.
BEN ORLOWSKI
39 SOUND AVE.
RIVERHEAD, NY 11901

TYPE..... GROUND WATER
ROUTINE

DATE COLLECTED. 09/24/97
TIME COLLECTED. 0945 HRS.
DATE RECEIVED.. 09/24/97
COLLECTED BY... CJF03
PROJECT NO..... CORN9501

POINT NO:
LOCATION: MW-3
REMARKS:

PESTICIDES (METHOD 608) - (ug/l)

<u>PARAMETER (S)</u>	<u>RESULT</u>	<u>PARAMETER (S)</u>	<u>RESULT</u>
LINDANE	<0.05		
HEPTACHLOR	<0.05		
ALDRIN	<0.05		
HEPTACHLOR EPOXIDE	<0.05		
DIELDRIN	<0.1		
ENDRIN	<0.1		
P,P'DDT	<0.1		
METHOXYCHLOR	<0.5		
TOXAPHENE	<5.0		
CHLORDANE	<1.0		
BETA-BHC	<0.1		
DELTA-BHC	<0.1		
ALPHA-BHC	<0.1		
P,P'-DDD	<0.1		
P,P'-DDE	<0.1		
ENDOSULFAN I	<0.1		
ENDOSULFAN II	<0.1		
ENDOSULFAN SULFATE	<0.1		
ENDRIN ALDEHYDE	<0.1		
O,P DDT	<0.1		
AROCLOR 1016	<1.0		
AROCLOR 1221	<2.0		
AROCLOR 1232	<1.0		
AROCLOR 1242	<1.0		
AROCLOR 1248	<1.0		
AROCLOR 1254	<1.0		
AROCLOR 1260	<1.0		

COPIES TO: CJF

DATE EXTRACTED. 09/29/97
DATE RUN..... 10/03/97
DATE REPORTED.. 10/07/97

DATE ISSUED 10/07/97

ORIGINAL

JM Flavin
LABORATORY DIRECTOR

GROUNDWATER SAMPLING RECORD SHEET

SITE: *LIHPL, Riverhead*

DATE: *9/24/97* TIME: *10:45*

JOB#: *CORN 9561*

SAMPLERS: *ETF / HNL*

SAMPLE LOCATION: *11W-1*

MEASURING PT: *TOL*

DEPTH TO WATER: *77.97* FT.

WELL DEPTH: *91.1* FT.

STATIC WATER LEVEL: *13.17* FT.

STATIC VOLUME: *8.57* GALS.

MIN. VOLUME TO BE REMOVED: *25.72* GALS.

EVACUATION TECHNIQUE:

SUBM. PUMP



CENT. PUMP



BLADDER PUMP



BAILER



DEPTH TO PUMP INTAKE: FT.

FLOW RATE: *1.6*

GPM

GALS. PER LINEAR FT.

TIME PUMPED: *10:26-10:31* MINS.

2 INCH x .163

TOTAL VOLUME PURGED: *50* GALS.

4 INCH x .653

SAMPLING ANALYSIS: *Fertilizer by EPA method 8032*

FIELD PARAMETERS:

TEMP: *11.5* °C

CONDUCTIVITY: *52.5* us

pH: *6.21*

TURBIDITY: *N/A* NTU

NOTES:

SIGNATURE: *[Signature]*

H2M GROUP

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS
MELVILLE, N.Y. TOTOVA, N.J.

GROUNDWATER SAMPLING RECORD SHEET

SITE: *LINRL, Riverhead*

DATE: *9/24/17*

TIME: *11:25*

JOB#: *CORN 950i*

SAMPLERS: *CTF/MVG*

SAMPLE LOCATION: *MU-2*

MEASURING PT: *TOL*

DEPTH TO WATER: *78.14* FT.

WELL DEPTH: *90.25* FT.

STATIC WATER LEVEL: *78.04* FT.

STATIC VOLUME: *7.97* GALS.

MIN. VOLUME TO BE REMOVED: *23.92* GALS.

EVACUATION TECHNIQUE:

SUBM. PUMP



CENT. PUMP



BLADDER PUMP



BAILER



DEPTH TO PUMP INTAKE: FT.

FLOW RATE: *1.6*

GPM

GALS. PER LINEAR FT.

TIME PUMPED: *11:10 -> 11:15* MINS.

2 INCH x .163

TOTAL VOLUME PURGED: *5.8* GALS.

4 INCH x .653

SAMPLING ANALYSIS: *Fertilizer*

by EPA method 8080

FIELD PARAMETERS:

TEMP: *13.7* °C

CONDUCTIVITY: *53.6*

us

pH: *6.5*

TURBIDITY: *1.14*

NTU

NOTES:

SIGNATURE: *[Signature]*

H2M GROUP

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

GROUNDWATER SAMPLING RECORD SHEET

SITE: CORN 9501 - LIHRL, Riverhead DATE: 9/24/01 TIME: 9:45

JOB#: CORN 9501 SAMPLERS: CTF/MNG

SAMPLE LOCATION: MW-3 MEASURING PT: TOL

DEPTH TO WATER: 71.29 FT. WELL DEPTH: 90 FT.

STATIC WATER LEVEL: 18.71 FT. STATIC VOLUME: 12.21 GALS.

MIN. VOLUME TO BE REMOVED: 36.6 GALS.

EVACUATION TECHNIQUE: SUBM. PUMP ☒ CENT. PUMP ☐

BLADDER PUMP ☐ BAILER ☐

DEPTH TO PUMP INTAKE: FT.

FLOW RATE: 16.6 GPM GPM GALS. PER LINEAR FT.

TIME PUMPED: 9:45 - 9:56 AM MINS. 2 INCH x .163

TOTAL VOLUME PURGED: 50 GALS. 4 INCH x .653

SAMPLING ANALYSIS: Performed by EPA method 803

FIELD PARAMETERS:

TEMP: 11.7 °C

CONDUCTIVITY: 53 us

pH: 6.08

TURBIDITY: NM 20 NTU

NOTES:

SIGNATURE: [Signature]

H2MGROUP

ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS • SURVEYORS
MELVILLE, N.Y. TOTOWA, N.J.

APPENDIX "D"

WELL CONSTRUCTION DIAGRAMS

GROUNDWATER MONITORING WELL REPORT

SITE: LIHRL, Riverhead INSTALLATION DATE: 9/15/14 PROJECT NO.: CORN 9501
 WELL NO.: MW-1 LOCATION: As per work plan
 DRILLER: Land, Air, Water Environmental Services, Inc. HYDROGEOLOGIST: CJE

DRILLING METHOD

#5A

PADLOCK ID NUMBER

N/A

PROTECTIVE CASING

8"

12"

DIAMETER (I.D.)

LENGTH

THICKNESS OF SURFACE SEAL/CONCRETE

2'±

[INDICATE ALL SCALE SHOWING DEPTH THICKNESS AND TYPE]

MATERIAL OF MANUFACTURE AND INSIDE DIAMETER OF RISER PIPE

PVC 4"

MATERIAL DIAMETER (I.D.)

TYPE OF SUBSURFACE SEAL/GROUT

Portland cement/bentonite

DEPTH OF BOTTOM OF RISER

75'±

TYPE OF POINT OR SCREEN (PIPE SIZE TELESCOPING) AND MANUFACTURE

Schedule 40 PVC

SCREEN CAGE OR SIZE OF OPENINGS

#10 slots

MATERIAL OF MANUFACTURE AND DIAMETER OF WELLPOINT/SCREEN

PVC 4"

TYPE OF BACKFILL

Mixie gravel

DEPTH OF BOTTOM OF SCREEN

90'±

DEPTH OF BOTTOM OF BOREHOLE

92'±

GROUND ELEVATION

(L1) LENGTH OF RISER

75'±

(L2) LENGTH OF SCREEN

15'

CASING ELEVATION

STANDPIPE ELEV.

N/A

ACTUAL ELEVATIONS - WHERE AVAILABLE

GROUNDWATER MONITORING WELL REPORT

SITE: LIHRL, Riverhead INSTALLATION DATE: 9/16/89 PROJECT NO.: CORN 9501
 WELL NO.: MW-2 LOCATION: As per work plan
 DRILLER: Land, Air, Water Environmental Services, Inc. HYDROGEOLOGIST: CJT

DRILLING METHOD

HSA

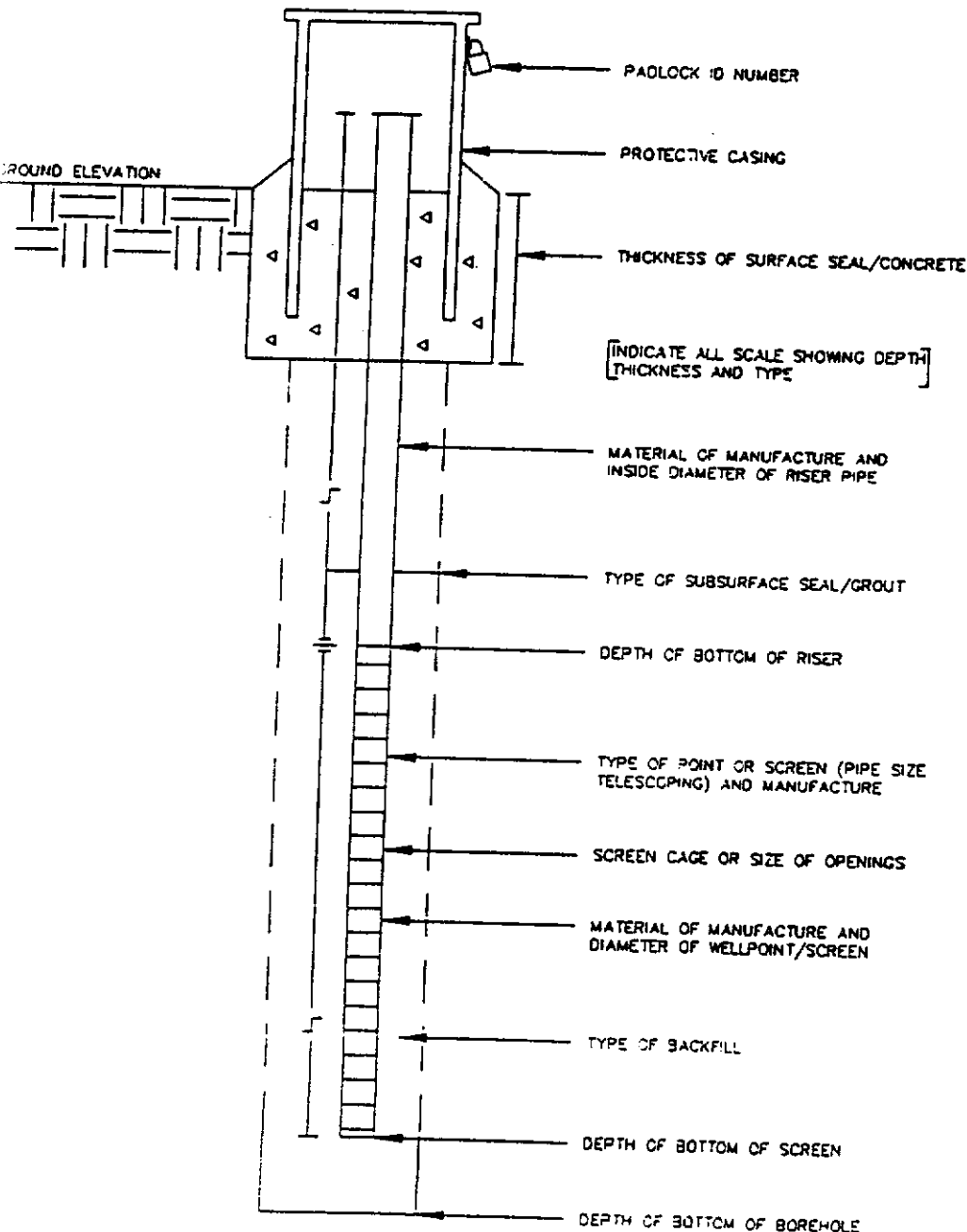
N/A

8"

12"

DIAMETER (I.D.) LENGTH

2'±



[INDICATE ALL SCALE SHOWING DEPTH]
THICKNESS AND TYPE

PVC 4"

MATERIAL DIAMETER (I.D.)

Portland cement / bentonite

75'±

Schedule 40 PVC

#10 5/8"

PVC 4"

Marine gravel / pack

90'±

92'±

FIGURE

(L1) LENGTH OF RISER

(L2) LENGTH OF SCREEN

CASING ELEVATION

STANDPIPE ELEV.

ACTUAL ELEVATIONS - WHERE AVAILABLE

GROUNDWATER MONITORING WELL REPORT

SITE: LIHRL, Riverbank INSTALLATION DATE: 9/17/01 PROJECT NO.: CORN 451
 WELL NO.: MW-3 LOCATION: As per work plan
 DRILLER: Land, Air, Water Environmental Services, Inc. HYDROGEOLOGIST: CTF

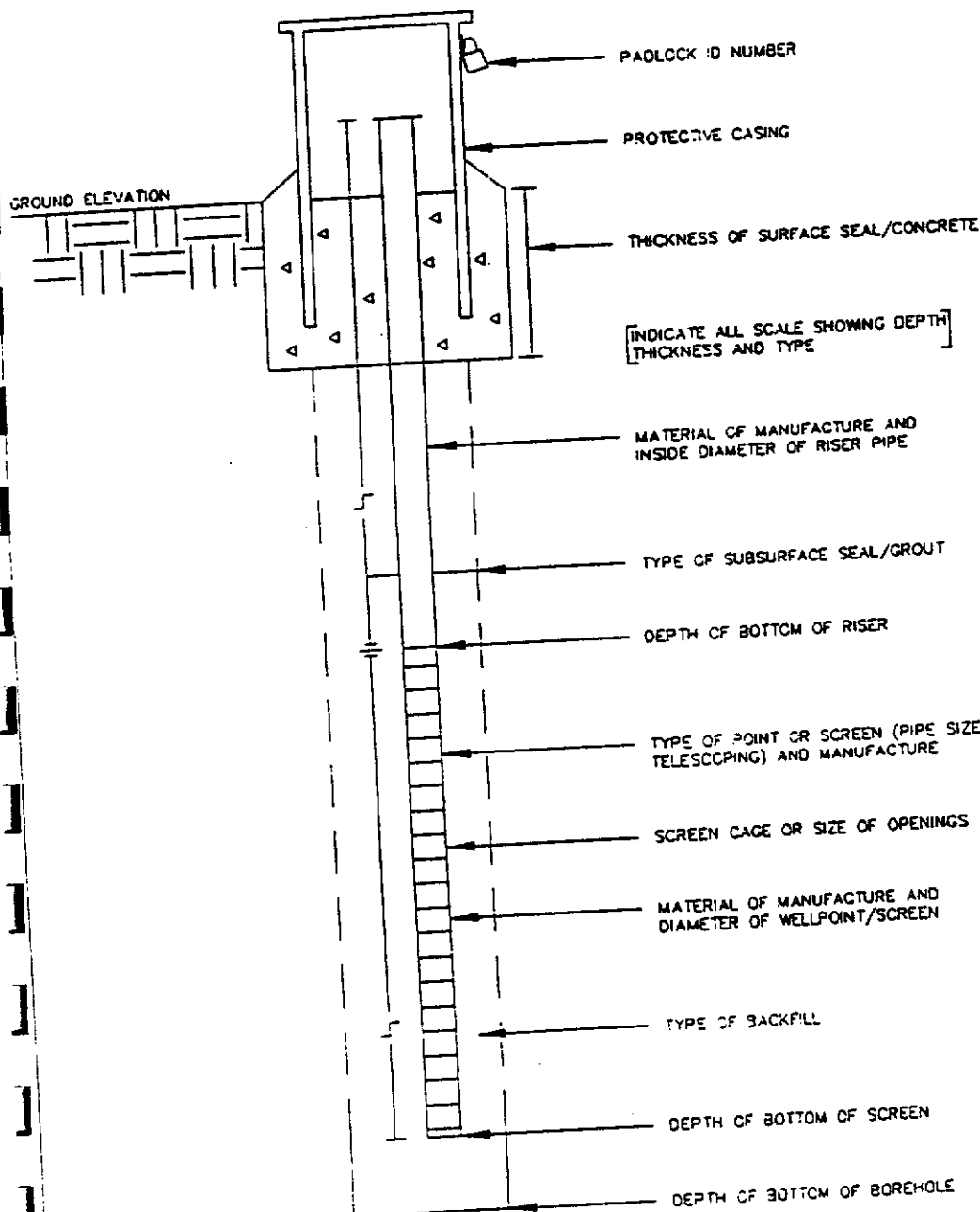
DRILLING METHOD

HSA

N/A

8" 12"
DIAMETER (I.D.) LENGTH

2'±



PVC 4"
MATERIAL DIAMETER (I.D.)

Porting cement / bitumen

75'±

Schedule 40 PVC

#10 slots

PVC 4"

More gravel pack

70'±

92'±

UNIFORM CODE

(L1) LENGTH OF RISER

(L2) LENGTH OF SCREEN

CASING ELEVATION

STANDPIPE ELEV.

ACTUAL ELEVATIONS - WHERE AVAILABLE

N/A