ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE II INVESTIGATION

Hebron Valley Products Corporation

Site No. 558016
Town of Hebron, Washington County, New York

DATE: June 1991

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233-7010
Thomas C. Jorling, *Commissioner*

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

By:

YEC, Inc.

Under contract to:

Gibbs & Hill, Inc.

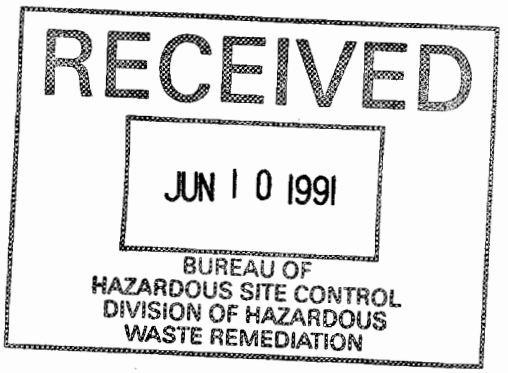
ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE II INVESTIGATION

HEBRON VALLEY PRODUCTS CORPORATION
TOWN OF HEBRON, WASHINGTON COUNTY, NEW YORK

NYSDEC I.D. NO. 558016

PREPARED FOR

DIVISION OF HAZARDOUS WASTE REMEDIATION
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 WOLF ROAD
ALBANY, NEW YORK 12233-7010



PREPARED BY

YEC, INC.
Clarkstown Executive Park
612 Corporate Way
Valley Cottage, New York 10989

In Association With

GIBBS & HILL, INC.
11 Penn Plaza
New York, NY 10001

June 1991

CONTENTS

LIST OF TABLES

LIST OF FIGURES

CONTENTS (Continued)

APPENDICES

I. EXECUTIVE SUMMARY

YEC, Inc. entered into an agreement with Gibbs & Hill, Inc. who is in turn under agreement with the New York State Department of Environmental Conservation (NYSDEC) Division of Hazardous Waste Remediation to conduct preliminary investigations (Phase I) and field investigations (Phase II) at inactive hazardous waste disposal sites in New York State. This report presents the results of the Phase II investigation of the Hebron Valley Products Corporation Site (NYSDEC Site ID No. 558016). A Phase I investigation of this site was completed in February, 1987 by URS Company, Inc.

The 0.5-acre Hebron Valley Products Corporation (HVPC) site, is located on Tiplady Road 200 feet south of the intersection of Tiplady and Chamberlain Mills Road. The site is 1 1/2 miles west of Route 22 in the town of Hebron, New York. The HVPC was a charcoal production facility, in operation from 1965 to 1979. The site location map and the detailed site map are presented in Figures 1.1 and 1.2, respectively.

A Phase II investigation of the site was conducted to gather information to classify the site and to calculate the final Hazard Ranking System (HRS) scores. Field investigations included a site reconnaissance, installation of four groundwater monitoring wells, collection of five groundwater samples, two surface water/sediment sample pairs, one spring sample, four soil samples and two drum samples. Groundwater, surface water, sediment, soil and drum samples were analyzed to define the extent of potential contamination at Hebron Valley Products Corporation. The analytical results are presented in Section IV.

The groundwater and surface water sample analyses do not indicate migration of contaminants from the site to the aquifer or surface water bodies.

The final HRS score for Hebron Valley Products Corporation Site, based on the results of this Phase II investigation, have been calculated as follows:

S_M = 0.00

S_{GW} = 0.00

S_{SW} = 0.00

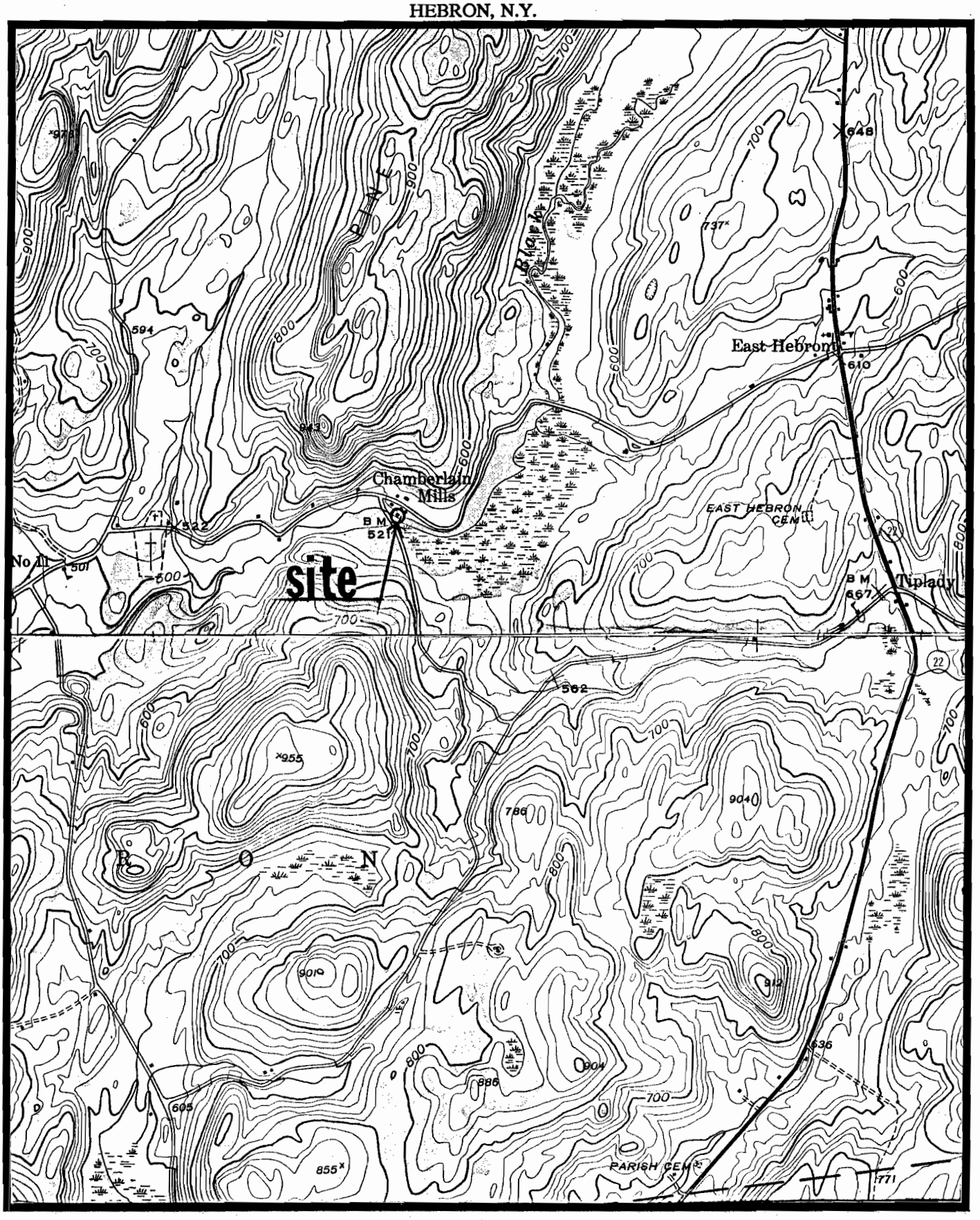
S_A = 0.00

S_{DC} = 25.00

S_{FE} = N/A

The S_M score reflects the potential for harm due to migration of hazardous substances away from the facility. This score is the composite of scores for (S_{GW}), surface water (S_{SW}), and air (S_A) transport routes. The S_{FE} score reflects the potential for harm from substances that can cause fires or explode, and the S_{DC} score reflects the potential for harm from direct contact with hazardous substances.

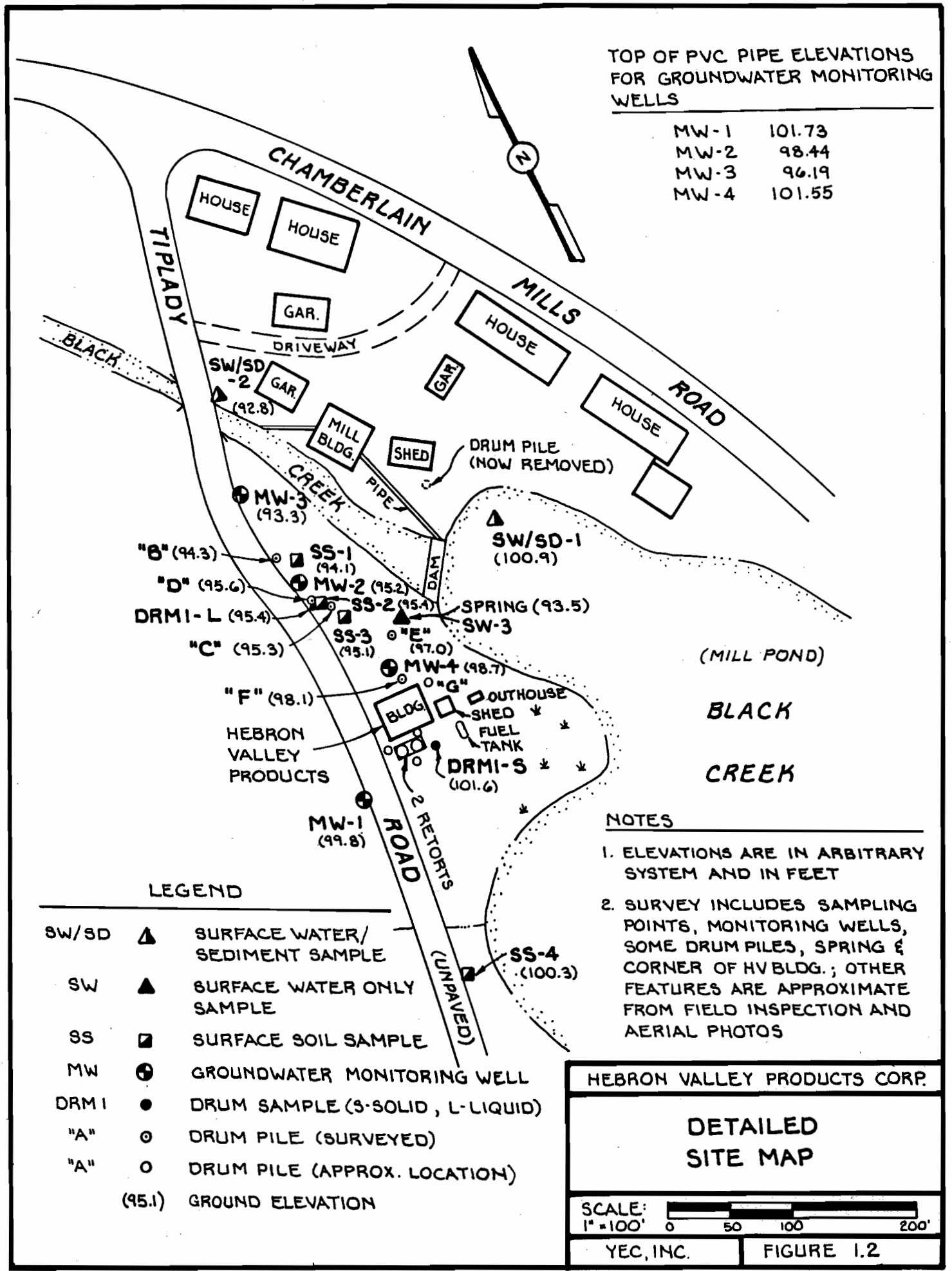
FIGURE 1.1
SITE LOCATION MAP
HEBRON VALLEY CORP. SITE - PHASE II INVESTIGATION
HEBRON, N.Y.



SITE COORDINATES:

LATITUDE: 43^0 15' 15" N
LONGITUDE: 73^0 18' 43" W

QUADRANGLE MAP (S)
(USGS) West Pawlet, NY-VT (1944)
(USGS) Salem, NY-VT (1944)
SCALE: 1:24000


TOP OF PVC PIPE ELEVATIONS FOR GROUNDWATER MONITORING WELLS
MW-1 101.73
MW-2 98.44
MW-3 96.19
MW-4 101.55
N
CHAMBERLAIN
MILLS
ROAD
TIPLADY
BLACK
CREEK
HOUSE
HOUSE
HOUSE
HOUSE
GAR.
GAR.
GAR.
DRIVEWAY
SW/SD-2 (92.8)
MILL BLDG.
SHED
DRUM PILE (NOW REMOVED)
PIPE
DAM
MW-3 (93.3)
SW/SD-1 (100.9)
"B" (94.3)
SS-1 (94.1)
"D" (95.6)
MW-2 (95.2)
SS-2 (95.4)
SPRING (93.5)
SW-3
DRM1-L (95.4)
SS-3 (95.1)
"E" (97.0)
"C" (95.3)
MW-4 (98.7)
"G"
"F" (98.1)
OUTHOUSE
SHED
FUEL TANK
BLDG.
HEBRON VALLEY PRODUCTS
DRM1-S (101.6)
2 RETORTS
MW-1 (99.8)
ROAD
(UNPAVED)
SS-4 (100.3)
(MILL POND)
BLACK
CREEK
NOTES
1. ELEVATIONS ARE IN ARBITRARY SYSTEM AND IN FEET
2. SURVEY INCLUDES SAMPLING POINTS, MONITORING WELLS, SOME DRUM PILES, SPRING & CORNER OF HV BLDG.; OTHER FEATURES ARE APPROXIMATE FROM FIELD INSPECTION AND AERIAL PHOTOS
LEGEND
SW/SD SURFACE WATER/ SEDIMENT SAMPLE
SW SURFACE WATER ONLY SAMPLE
SS SURFACE SOIL SAMPLE
MW GROUNDWATER MONITORING WELL
DRM1 DRUM SAMPLE (S-SOLID, L-LIQUID)
"A" DRUM PILE (SURVEYED)
"A" DRUM PILE (APPROX. LOCATION)
(95.1) GROUND ELEVATION
HEBRON VALLEY PRODUCTS CORP.
DETAILED SITE MAP
SCALE: 1" = 100'
0 50 100 200'
YEC, INC.
FIGURE 1.2

II PURPOSE

The objective of a New York State Superfund Phase II investigation is to determine if contaminants are present at an inactive hazardous waste site with a resulting adverse impact on human population and/or the environment.

The goal of this investigation was to collect the information required to classify the site and to develop final HRS scores. This included collecting the field data necessary to identify the occurrence and characteristics of contamination and determine if a release of contaminants from the site has occurred. This information will be used by the NYSDEC to determine if any imminent and/or significant environmental or health hazards exist. These objectives were accomplished through the installation of groundwater monitoring wells and the sampling and analysis of groundwater, surface water, sediment, surface soil, and drum contents in accordance with NYSDEC protocols and guidelines.

III. SCOPE OF WORK

A. INTRODUCTION

On April 11, 1990 YEC, Inc. entered into an agreement with Gibbs & Hill, Inc. who is in turn under contract to the New York State Department of Environmental Conservation (NYSDEC), to conduct a Phase II Hazardous Waste Site Investigation at the Hebron Valley Products Corporation Site (NYSDEC Site ID No. 558016). A Phase I Investigation of this site was completed in February 1990 by URS Company, Inc.

The Phase II investigation consisted of a review of relevant literature, field investigations, and preparation of a report document which is in accordance with the NYSDEC Phase II format. Field activities included an initial site reconnaissance, groundwater monitoring well installation, sampling of groundwater, surface water, sediment, surface soil, drum contents, and air quality monitoring. The scope of work of the investigation is summarized in Table 3.1.

B. TEST BORING AND MONITORING WELL INSTALLATION

In order to determine the hydrogeologic characteristics of the Hebron Valley Products Corporation Site, four test borings were drilled and four bedrock monitoring wells constructed. The test borehole/bedrock wells are identified as MWHV-1, MWHV-2, MWHV-3 AND MWHV-4. The locations of the monitoring wells are shown in Figure 1.2.

Test borehole/bedrock monitoring wells were used to identify and characterize the site geology. The hydrogeology (groundwater quality and flow direction) were determined after monitoring well installation.

Associated Drilling Company (ADC) of Meriden, Connecticut began drilling on August 14,

1990. Drilling was suspended on August 16, 1990 when the drill rig malfunctioned and the core barrel jammed. ADC completed the construction of MWHV-1 and began, but did not complete, the construction of MWHV-4. Buffalo Drilling Company of Buffalo, New York was contracted to complete the monitoring well installation. They began on September 17 and finished September 20, 1990. Utilizing a Diedrich D-50 drill rig, the hollow stem auger method of drilling was employed. A carbide/diamond bit core barrel was used to core NX-sized rock core in the boreholes.

MONITORING WELL LOCATION AND SPECIFICATION

Well No.	Location	Boring Depth (ft.)	Well Type
MWHV-1	Upgradient	14.0	Bedrock
MWHV-2	Downgradient	14.4	Bedrock
MWHV-3	Downgradient	20.0	Bedrock
MWHV-4	Sidegradient	16.5	Bedrock

Each well was logged during the drilling, and split spoon samples were taken at 5-foot intervals during the drilling in overburden and classified according to the Unified Soil Classification System. NX coring samples were taken continuously in each well. Aquifer characteristics were evaluated by means of slug permeability tests. To determine flow direction of the aquifer beneath the site, all monitoring wells were surveyed for elevations, and the relative depths to groundwater were measured. All field procedures, well schematics, and boring logs are included in Appendix B.

C. SAMPLING AND ANALYSIS

Four groundwater samples, one blind duplicate sample (GWHV-5), two surface water/sediment sample pairs, one surface water sample (at the spring), four surface soil samples, and two drum samples were collected. The groundwater, surface water, sediment,

and soil samples were tested for the Target Analyte List (TAL) inorganics, TAL volatiles, and semi-volatiles. The drum samples were tested for Partial EP Toxicity parameters that included ignitability, flammability, corrosivity, and EP toxicity.

H2M Labs (Melville, New York) performed the analyses in accordance with November 1987 NYSDEC Contract Laboratory Protocols (CLP). Aquatec, Inc. (South Burlington, Vt.) performed an independent data validation. The chemical analytical results are discussed in section IV and included in their entirety in Appendix C.

D. AIR SURVEY

In accordance with appropriate health and safety procedures, a portable photoionization analyzer (HNU), and an organic vapor analyzer (OVA) were used to monitor the air in the working zone for organic vapors during site activities. A combustible gas and oxygen alarm was situated approximately 10 feet downwind of working zone. In addition, split spoon samples were scanned with an HNU and OVA immediately upon their removal from the split spoon.

E. SOURCES OF INFORMATION

The following individuals and agencies with knowledge of the site were contacted:

Contact	Information Received
Lawrence Alden NYSDEC 50 Wolf Road, Room 220 Albany, NY 12233 518/457-0639	NYSDEC files Phase I report
Burrell Buffington Wildlife Resources Center Information Services 700 Troy-Schenectady Road Latham, NY 12110-2400 518/783-3901	Critical habitat of an endangered species or national wildlife refuge location
Alan L. Koechlein Bureau of Wildlife Hudson Street Warrensburg, NY 12885-0220 518/623-3671	Wildlife information
James Perry U.S. Department of Agriculture Soil Conservation Service RD 1, Box 15C Hudson Falls, NY 12839 518/747-2154	Irrigated and agricultural lands
Harriett G. Smalls U.S. Department of Commerce Bureau of the Census New York, NY 10278 212/997-1990	Population data

Contact	Information Received
Charles D. Swift (Owner) RD 2, Box 132 Salem, NY 12865 518/854-7291	Site history
Ken Kogut Senior Wildlife Biologist NYSDEC Division of Fish and Wildlife Route 86 Ray Brook, NY 12977 518/747-2154	Wetlands, National/State Park, and Wildlife Reserve information
Soil and Water Conservation District Washington County County Annex Building Lower Main Street Hudson Falls, NY 12839 518/747-2154	Aerial photos, soil survey
Brian Fear NYSDOH 21 Bay Street Glens Falls, NY 12801 518/793-3893	No additional information
Nelson Greene Fire Chief RD 3 Granville, NY 12832 518/854-3037	Fire or explosion threat
Dennis Weiss NYSDOH Empire State Plaza Corning Tower Building Albany, N.Y. 12237	No additional information
Dave Mead NYSDOH Empire State Plaza Corning Tower Building Albany, N.Y. 12237	No additional information

D.L. Steenberge, P.E.
NYSDEC
Region 5 - Environmental Quality
Hudson Street
Warrensburg, New York 12885-0220

No additional information

George A. Stahler, P.E.
Senior Sanitary Engineer
NYSDEC Region 5 Headquarters
Route 86
Ray Brook, N.Y. 12977

No additional information

TABLE 3.1

SCOPE OF WORK

TASK	DESCRIPTION
Record search and data compilation	Review information that is available.
Site reconnaissance	Note site changes since NYSDEC initial reconnaissance, assess access to monitoring well and sampling locations, and become familiar with the site.
Update work plan	Revise preliminary NYSDEC work plan based on results of record search, and site reconnaissance. Prepare health and safety plan and define drilling and sampling protocols and procedures.
Drilling	Drill four monitoring wells through consolidated shale to a target depth using a mobile drill rig. Perform monitoring of all drill holes with an HNU Photoionization detector.
Sampling and analysis	Collect four groundwater, two surface water, one spring, two sediment, four surface soil, and two drum samples for laboratory analysis of TCL organics and TAL inorganics.

IV. SITE ASSESSMENT

A. SITE DESCRIPTION AND HISTORY

The Hebron Valley Products Corporation (HVPC) is a 0.5-acre inactive lump charcoal production facility, located in the town of Hebron, on Tiplady Road 200' south of the intersection of Chamberlain Mills Road. The C. D. Swift Family purchased the property in 1945 but the title to the property is actually held by the Hebron Valley Products Corporation. Lump charcoal production began at the site in 1965 and continued through 1971. Production diminished to a very limited level until 1979 when operations ceased. The charcoal facility operated on a stretch of land about 200' long by 50' to 150' wide between the east side of Tiplady Road and the property's large pond (See Figure 1.2).

The HVPC site was placed on the New York State Department of Environmental Conservation Division Hazardous Waste Disposal Sites List in 1983. A Phase I investigation was issued in February, 1990 by URS Company, Inc.

A large creosote-stained storage shed, two 50' tall steel charcoal retorts, an outhouse, and nearly two hundred drums are located on the site. The drums are stacked upright and sideways directly on the ground in eight piles. A 1000-gallon capacity fuel tank, reportedly containing 200 gallons of #2 fuel oil, is oriented on its side near the retorts. The #2 fuel oil was used to fire the charcoal retort burner.

Bedrock is at or very near the surface of the ground over much of the site. Vegetation consisting of trees, bushes, vines, sumac, grass and weeds partially obscures some of the drum piles. Black Creek flows northwesterly from the base of a 14' high waterfall, located between the site and the Swift Residence.

B. TOPOGRAPHY AND DRAINAGE

Physiographically, the Hebron Valley site is situated in the Taconic Section of the New England Uplands Province. The geomorphic grain of the landscape is essentially bedrock, with glacial advances and retreats eroding and elongating the topography into North-South trending ridges. The general drainage pattern is trellis shaped along this North-South trend. Tectonic movement during the Taconic and Acadian Orogenies caused the low angle thrust faulting and gravity sliding of allochthonous rock masses to the west. Shale, slate, and graywacke rock types are frequently visible in road cuts or occasional outcrops. Outcrops are present on-site at the waterfall and near the charcoal shed.

The facility, located within the Black Creek Class C drainageway, is bounded by hills. Elevations at the site range from about 500' above mean sea level at Black Creek, to 521' at the dam, to about 530' at the charcoal shed. Pine Hill, 300' north of the site, rises to an elevation of 1051'. The panorama of the region is one of rolling hill country.

Black Creek flows from east to west between the site's drum storage area and the Swift barns and houses. The watercourse is approximately 12' wide below the base of the waterfall. The 14' high dam impounds the 40-acre mill pond. The dam failed in 1923 as a result of high water levels and was subsequently rebuilt using concrete. The field investigators observed a substantial flow over the waterfall and through the channel during the Phase II investigation. The Black Creek drainage system extends about 10 to 11 miles upstream of the site. The creek and adjacent wetlands are 1000' wide in many places and roughly cover an upstream area in excess of 1000 acres. The actual drainage area that contributes runoff and baseflow to this hydrologic system is about 12 square miles.

C. GEOLOGY

An interpretation of the subsurface conditions at the Hebron Valley Products Corporation has been prepared based on the test borings drilled during the Phase II investigation.

Figure 4.1 shows the location of the cross-section drawn and Figure 4.2 illustrates the geological cross-section drawn from the boring numbers HV-1, HV-2, HV-3 and HV-4. Individual geologic logs for each borehole are contained in Appendix B.

During the Phase II investigation, thin soil profiles were observed to be 0.25 to 0.40 feet below ground surface. This soil may be classified in the Nassau-Rock Outcrop Association. The US Department of Agriculture Soil Conservation Survey of Washington County, New York describes the Nassau soil series as one consisting of shallow somewhat excessively drained, medium textured soils that have shale or slate within 10 inches to 20 inches of the surface. The actual soils mapping in the survey assigns the soils at HVPC to the Fluvaquents. This soil category is described as recent unconsolidated deposits of alluvial materials on flood plains. Little evidence of glacial materials was seen during the subsurface exploration program. However, the surficial geologic map of the area indicates a variable mantle of rock debris or glacial till for the site with the exception of MWHV-3, the mechanically weathered rock surface was encountered at 0.25 to 0.40 feet from the ground surface. The rock exhibited considerable breakage mainly along the cleavage planes. Rust precipitate and staining were in evidence along the rock's parting planes of cleavage. A small amount of gray-whitish rock flour was also present. At deeper intervals, the rock became more competent and was identified as a medium to light gray fine-grained slate exhibiting variably spaced sub-horizontal cleavage partings.

The rock was found to be moderately hard and appeared to be fresh to slightly altered. Rock Quality Designations (RQDs) ranged from 0 to 7.5% in the 15'to 20' interval of the HV-3 borehole but were 0% in all the other boreholes. The strike and dip of the cleavage planes, were measured with a pocket transit on the outcrops at the dam and 20' west of HV-4. The dip angle ranges from 15 to 35 degrees from the horizontal. The strike direction was measured and found to be 20 degrees N-NE. The dip direction is 110 degrees E-SE. Most of the rock outcrops in the channel, near the base of the waterfall, had their cleavage planes dipping upstream. The angle of cleavage breaks in the retrieved rock core was measured at 10 to 30 degrees.

Although rock was cored in HV-3, coring times were short and recovery was poor. Rounded quartz pebbles, slate fragments and very coarse-grained gneiss fragments were logged for the interval from 5' to 15'. The materials encountered in HV-3 were interpreted to be transported rock blocks and fragments with a possible source being construction materials from a roadway and bridge that existed in the vicinity of HV-3. The dam breach of 1923 is also a possible contributor to the geology of HV-3. No matrix support material was in evidence to suggest glacial till.

D. HYDROGEOLOGY

A groundwater contour map was prepared using groundwater levels measured on October 4, 1990. Illustrations of groundwater contour configuration and the direction of groundwater flow for HV-1, HV-2, HV-3 and HV-4 are presented in Figure 4.3.

The Hebron Valley Products site, like over one half of Washington County, is part of the Taconic Upland. The Taconic Upland is underlain by a 2000-3000 foot sequence of Cambrian and Ordovician metamorphosed grits, slates, shales, and interbedded limestones. The slate sequence identified at the site is the Mettawee slate, which is a fine-grained purple, green, gray, or mottled gray slate interbedded locally with layers of calcareous quartzite.

In general, bedrock in Washington County has a low effective porosity but is commonly broken by a well-developed system of joints. It is this system of joints and cleavage planes that controls the movement and storage of water. This is true of the slate at the site, which is cut by multiple cleavage and joint planes which intersect at various angles and divide the rock. Yields of bedrock wells in the county range from 1 gallon per minute (gpm) to 80 gpm and overall average only 9 gpm. Locally, wells in the rocks of the Taconic Sequence will yield on an average, 8.8 gpm and the average depth of wells installed in the Taconic Sequence is 136 feet. By comparison, the most productive water-bearing bedrock unit in the county only yields on an average, 9.4 gpm. An increase in well yield cannot be

guaranteed by simply drilling to deeper depths in these formations. Unconsolidated deposits ,virtually absent from the site, still contain the most productive water bearing deposits in Washington County.

The Mettawee Slate has the lowest yield of all the rocks in Washington County, 2.8 gpm. Despite its extensive joint and crevice system, it is basically dense and impermeable. Average depth of wells in the Mettawee Slate is 188 feet. One local well (located .8 miles east of the site) drilled to a depth of 196 feet in the Taconic Sequence encounters bedrock at 25 feet below the ground surface and yields only 3.5 gpm. Another well (located 4.75 miles northeast of the site) drilled to a depth of 166 feet encounters bedrock at a depth of 23 feet and yields only 2 gpm.

Water in this latter well is recorded as being found at 48 feet below the ground surface. This well lies at about the same elevation above sea level as the site. The groundwater elevations at the site are artificially high because of the influence of the impounded mill pond and because of their proximity to the creek. The groundwater contour map shows two components of groundwater flow, above the dam a component to the north but below the dam, a component sharply to the northeast towards the creek. Both Black Creek and the mill pond recharge the slate aquifer. The absence of the creek, dam, and the mill pond would leave the dense and impermeable but fractured slate at the site devoid of any true water table or appreciable amounts of water that are found there now.

The hydraulic conductivity of the slate at the HVPC site is considered to be low and can be variable from well to well depending upon the amount of fracturing and the degree of interconnection of the joints in each area. Hydraulic conductivity is estimated to be in the range of 1.8 up to almost 60 feet/day. The hydraulic conductivities for wells MWHV-1 and 2 were 1.84 and 1.91 feet/day, respectively. The hydraulic conductivity of MWHV-4 though was much higher, 58.97 feet/day. MWHV-3, which was a screened well in an overburden material, (not an open corehole like the other wells), exhibited the lowest hydraulic conductivity, .03 feet/day.

E. SITE CONTAMINATION ASSESSMENT

Potential contamination of the environment within the site boundary was assessed by a review of the character of wastes suspected at the site and chemical analysis of the samples. The character of wastes suspected at the site was evaluated by a review of information from historic literature collected in Appendix D. The process by which analytical data is evaluated was based on criteria presented in Appendix C. Tables 4.2 through 4.9 summarize the results from chemical analyses performed at the site.

1. WASTE CHARACTERISTICS

The Hebron Valley Products Corporation Site is the location of an inactive charcoal production facility. The process involved the distillation of hardwood to produce lump charcoal. Materials produced from the condensation of vapors during the distillation process consist of wood creosote, wood tars, and water and non-water soluble compounds. Therefore, given the nature of the waste products produced, contaminants typical of the charcoal production process would be expected. These include phenols and cresol.

2. GROUNDWATER

A total of four groundwater monitoring wells were sampled from the Hebron Valley Products Corporation Site and tested for TAL metals and cyanide, TCL volatile, and semivolatile organic compounds.

Inorganics

Thirteen TAL metals were detected in the groundwater samples above the Contract Required Quantitation Limits (CRQL). Of these, only the concentrations of iron, manganese, and sodium were found to be in excess of the New York State drinking water standards. Monitoring well GWHV-1 had a total concentration of iron and manganese of

2,530 ug/L which exceeds the standard for total iron and manganese of 500 ug/L. Monitoring well GWHV-2 had a total concentration for both these metals of 11,714 ug/L. Wells 3 and 4 had concentrations of 13,330 ug/L and 5,120 ug/L respectively. Sample GWHV-5 was taken from monitoring well GWHV-1 and sent to the laboratory as a blind duplicate for quality control. The concentrations of metals found in GWHV-5 corresponded well to those found in GWHV-1. Well 4 had a 21,000 ug/L concentration of sodium, which exceeds the standard of 20,000 ug/L.

GWHV-1 is an upgradient well. None of the concentrations detected in the downgradient wells exceed those in the upgradient well by a factor of ten or more. In some cases the upgradient well concentrations are greater than those found in the downgradient wells. It is therefore concluded that while there are some elevated levels of metals detected in the samples, the groundwater sampled on the site is not significantly contaminated. Rusted drums were noted in the vicinity of the ground water monitoring wells and may be source of the elevated levels of iron and manganese in the groundwater samples. It is also possible that the migration of road salt may be responsible for the elevated level of sodium detected in GWHV-4. See Table 4.2 for the groundwater inorganic analysis results.

Volatile and Semivolatile Organic Compounds

There were no reported volatile or semivolatile organic compounds detected above the CRQL in any of the groundwater samples.

3. SURFACE WATER

A total of three surface water samples were collected from the site and analyzed for TAL metals and cyanide, TCL volatile, and semivolatile organic compounds.

Inorganics

Surface water samples SWHV-1 and SWHV-2 were collected from Black Creek. SWHV-1 was collected behind the dam in Black Creek (mill pond) and is considered an upgradient sample. SWHV-2 was collected downstream from the dam in Black Creek below the pond. SWHV-3 was collected from a spring on the slope adjacent to Black Creek. See Figure 1.2 for sampling locations.

Both SWHV-1 and SWHV-2 had concentrations of aluminum, iron, and zinc that exceeded the NYS Standards and Guidance Values for a Class C surface water body. The downgradient sample SWHV-2 did not have concentrations of metals equal to or in excess of ten times those found in the upgradient sample, indicating that there is no effect on the surface water caused by the site.

It is possible that the spring from which SWHV-3 was collected was formed by the water behind the dam percolating through the loose upper layers of rock below the dam. The analytical results when compared to SWHV-1 and SWHV-2, indicate elevated levels of aluminum, cobalt, iron, lead, and zinc. These results may be attributable to the percolation of surface water through the loose upper layers of rock. The sample was turbid and was not filtered before analysis. See Table 4.3 for the results of the surface water inorganic analysis.

Volatile and Semivolatile Organic Compounds

Carbon disulfide was detected in the upgradient sample SWHV-1 at 7 ug/L. There is no NYS surface water standard or guidance value for this compound. The source of this compound is unknown. No other volatile or semivolatile organic compounds were detected in the surface water samples.

4. SEDIMENT

A total of two sediment samples were collected to correspond to surface water samples SWHV-1 and SWHV-2. These samples were analyzed for TAL metals and cyanide, TCL volatile, and semivolatile organic compounds.

Inorganics

As there are no New York State standards for soil or sediments, the reported concentrations of TAL metals were compared to published naturally occurring ranges (Appendix D, Ref.1,). Magnesium was the only metal found to be in excess of the naturally occurring range in both sediment samples (600-6,000 mg/Kg). SDHV-1 had a reported concentration of 7,240 mg/Kg. Sediment sample SDHV-2 had a magnesium concentration of 6,150 mg/Kg. SDHV-1 is an upgradient sample and therefore the elevated level of magnesium may be due to an offsite source. In " The Nature and Properties of Soils", the authors list the common range of magnesium in soil as 5000 to 50,000 mg/Kg. The concentrations of magnesium detected in the sediment samples are well within this range. See Table 4.4 for the TAL inorganic analytical results.

Volatile and Semivolatile Organic Compounds

There were no volatile or semivolatile organic compounds reported that exceeded the CRQL for either of the sediment samples.

5. SOIL

Four soil samples were collected and analyzed for TAL metals and cyanide, TCL volatile and semivolatile organic compounds. Soil samples SSHV-1 through SSHV-3 were collected from a black stained area where rusted drums had obviously leaked onto the soil. SSHV-4 was collected as a background soil sample. See Figure 1.2 for the soil sample locations.

Inorganics

As there were no NYS standards for soil and sediments, the reported concentrations of TAL metals were compared to the typical range of concentrations found in native soils (Appendix D, Ref.1). Concentrations of cadmium, magnesium, and mercury were outside the typical range for these elements in samples SSHV-2 through SSHV-4. The background soil sample, SSHV-4, had concentrations of cadmium and mercury that exceeded the concentrations detected in the other samples. It is possible that the elevated levels detected in the other samples may be attributable to an offsite source. In " The Nature and Properties of Soils", the authors list the common range of magnesium in soil as 5000 to 50,000 mg/Kg. The concentrations of magnesium detected in the soil samples are well within this range. See Table 4.5 for the TAL inorganic analytical results.

Volatile and Semivolatile Organics

A total of seven different volatile organic compounds were detected in the four soil samples. Of these, five were reported as having estimated concentrations. Acetone was detected in both SSHV-1 at 100 ug/Kg and SSHV-4 at 66 ug/Kg. The CRQL for this compound is 10 ug/Kg. Acetone is often used in laboratory procedures and its presence in these samples may be due to laboratory contamination. Xylene was detected in SSHV-1 at 20 ug/Kg which exceeds the CRQL of 5 ug/Kg. Xylene is a constituent of wood tar. Wood tar is derived from the destructive distillation of hardwoods and is probably attributable to the charcoal production process that occurred at the site. For a complete list of the volatile organic analytical results see Table 4.6.

There were several semivolatile organic compounds detected in the surficial soil samples. These included 2,4-dimethylphenol (2,740 ug/Kg), pentachlorophenol (7,000 ug/Kg), phenanthrene (18,120 ug/Kg), anthracene (4,000 ug/Kg), fluoranthene (7,390 ug/Kg), pyrene (17,170 ug/Kg), benzo (a) anthracene (5,240 ug/Kg), chrysene (5,650 ug/Kg), benzo (b) fluoranthene (5,210 ug/Kg), benzo (a) pyrene (3,530 ug/Kg), indeno (1,2,3-cd) pyrene (2,880

ug/Kg), and benzo (g,h,i) perylene (3,100 ug/Kg). Complex phenols are among the chief constituents of wood tar. The other above-mentioned compounds may be formed from the incomplete combustion of organic material. The presence of these compounds in the soil is probably attributable to the charcoal production process. Bis (2-ethylhexyl) phthalate was detected in the laboratory blank samples and the concentrations were estimated. Soil samples SSHV-1 RA and SSHV-2 RERA were outside the analytical holding time and the extraction holding time respectively. All concentrations for these two samples are to be considered estimated and may be falsely low. The total gross semivolatile contamination of the soil is less than 75 ppm (not including estimated concentrations) and is not particularly significant. See Table 4.7 for the semivolatile organic analysis for soils.

6. DRUM SAMPLES

Two samples were collected, one from each of two drums, and analyzed for hazardous waste characteristics.

Hazardous Waste Characteristics

Both a sludge and a liquid sample were collected from two different drums. The sludge sample was collected from a drum beneath the retort. The liquid sample was collected from a stored drum that was leaking onto the soil. Both samples were analyzed for corrosivity, flash point, total solids, reactivity, and EP toxicity. A hazardous waste exhibits the characteristic of corrosivity if the pH of the sample is less than or equal to 2.0 or greater than or equal to 12.5. Neither sample was found to be corrosive. A flash point of less than 60° C exhibits the characteristic of ignitability. Both samples had flash points of greater than 60° C. The samples were also tested for reactivity and it was determined that they were not reactive to water, and did not release cyanide or sulfide (Appendix C) . The drum samples were also tested for EP toxicity (metals). A solid waste exhibits the characteristic of EP toxicity if, using prescribed test methods, the extract contains certain contaminants equal to or greater than a particular value (6 NYCRR Part 371.3 (e)). Both samples were

tested for the presence of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. The reported concentrations of barium, cadmium, and chromium in the samples were neither equal to nor greater than the maximum concentrations allowed for these contaminants. See Tables 4.8 and 4.9 for the analytical results.

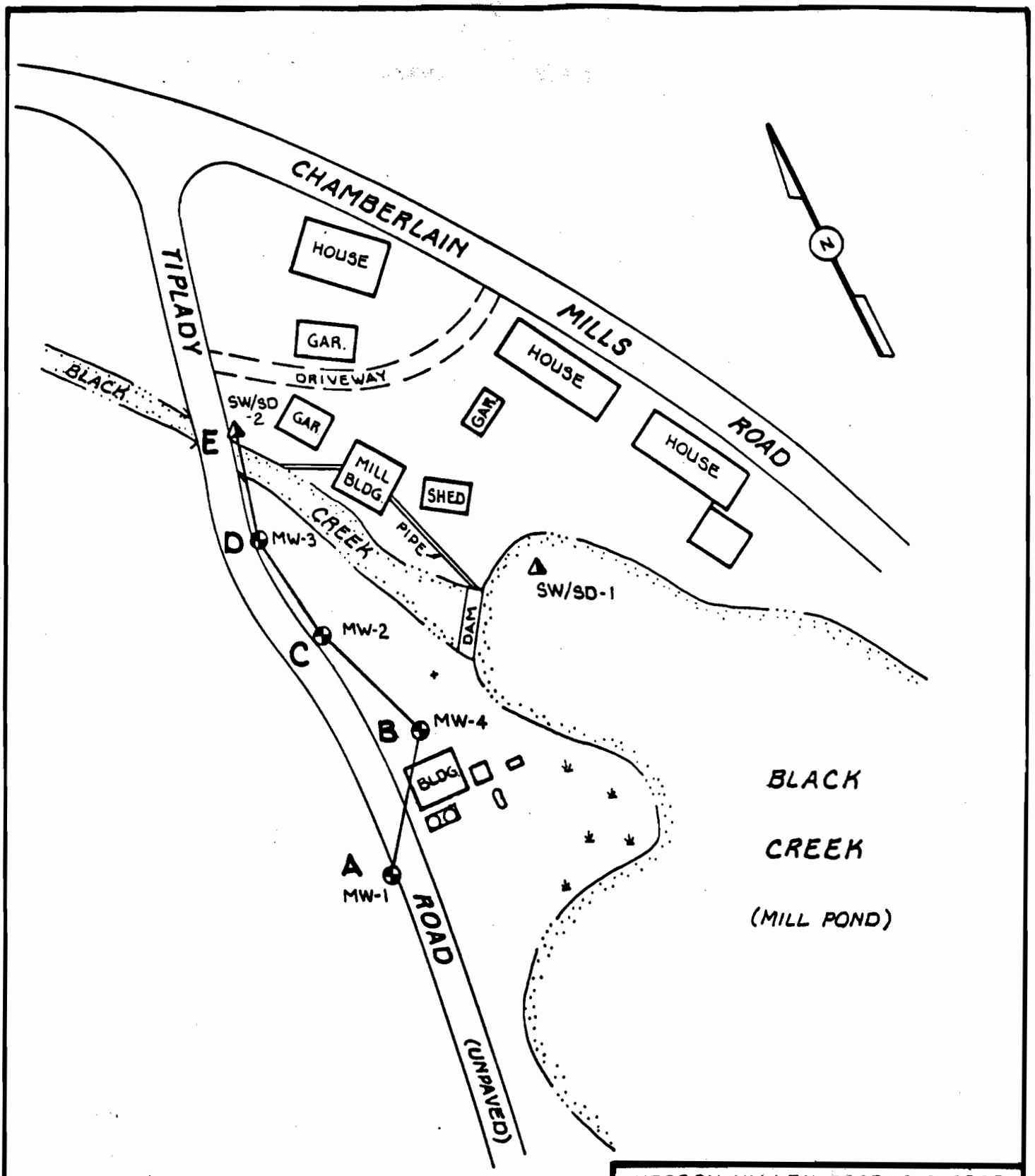
7. AIR SURVEY

Air quality surveys were conducted with a portable photoionization analyzer (HNU) during site reconnaissance. Both an HNU and an organic vapor analyzer (OVA) were used during well installation and sampling activities in accordance with appropriate health and safety precautions. Instruments registered < 2 ppm above background, on and around site. No detectable levels of organic contaminants above background were registered, except at HV-2, where an OVA reading of 30 ppm was monitored while augering at a depth of 5 feet.

F. CONCLUSIONS

All tasks of the Phase II investigation of the Hebron Valley Products site have been completed. Enough data has been collected to prepare a final HRS score.

The organic analytical results clearly demonstrate elevated levels of semivolatile organic compounds in the surface soil samples. These compounds may be derived from the incomplete combustion of organic material or from wood tar and are most likely attributable to the charcoal manufacturing process. There is no indication of these compounds in the groundwater, surface water, or sediment samples collected from the site. Therefore, migration of contaminants from the site is not in evidence.



LEGEND

A—B—C—D—E CROSS SECTION SHOWN ON FIG 4.2

⊕ MONITORING WELL

▲ SURFACE WATER/ SEDIMENT SAMPLE

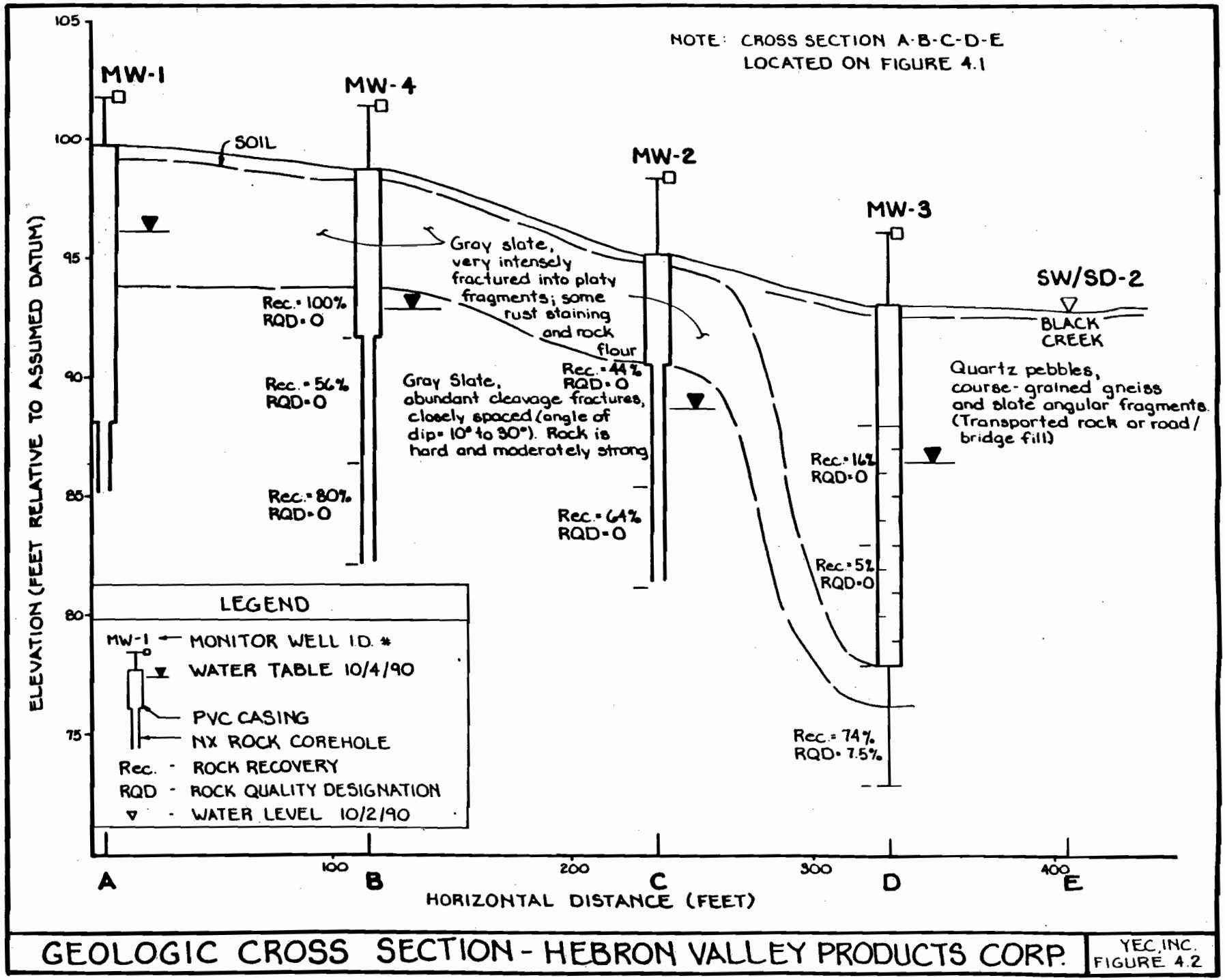
HEBRON VALLEY PRODUCTS CORP.

CROSS SECTION LOCATION MAP

SCALE: 1" = 100' 0 50 100 200'

YEC, INC.

FIGURE 4.1



GEOLOGIC CROSS SECTION - HEBRON VALLEY PRODUCTS CORP.

YEC, INC.
FIGURE 4.2

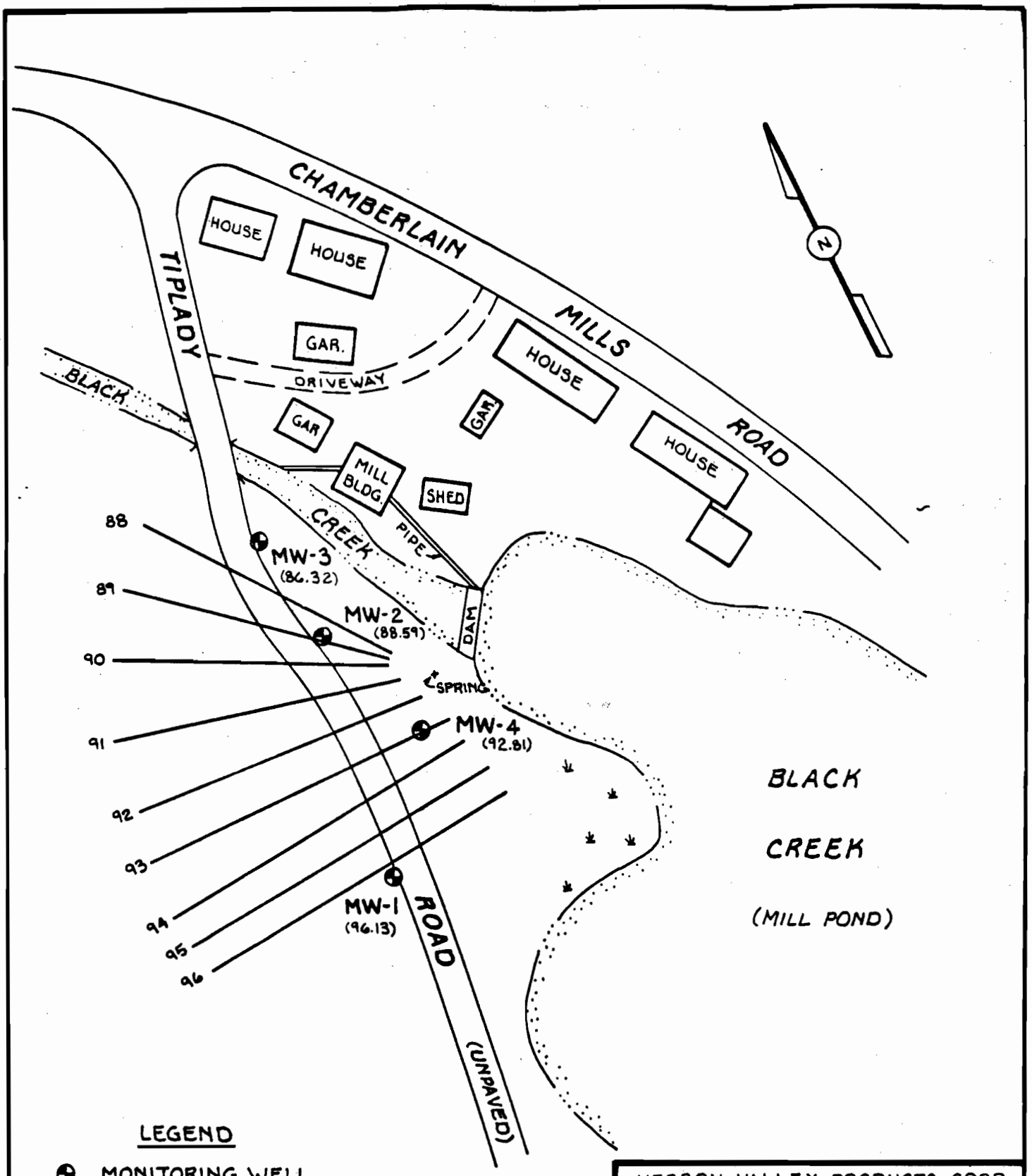

CHAMBERLAIN MILLS ROAD
TIPLADY
BLACK
HOUSE
HOUSE
GAR.
DRIVEWAY
GAR
GAR
HOUSE
HOUSE
MILL BLDG.
SHED
PIPE
CREEK
DAM
MW-3
(86.32)
MW-2
(88.59)
MW-4
(92.81)
MW-1
(96.13)
SPRING
88
89
90
91
92
93
94
95
96
ROAD (UNPAVED)
BLACK CREEK
(MILL POND)
N
LEGEND
MONITORING WELL
(WITH WATER LEVEL ELEV.)
GROUNDWATER CONTOURS
NOTE:
CONTOURS WERE DERIVED FROM MEASUREMENTS TAKEN ON 10/4/90 AS ON TABLE 4.1
HEBRON VALLEY PRODUCTS CORP.
GROUNDWATER CONTOUR MAP
SCALE: 1" = 100'
0 50 100 200'
YEC, INC.
FIGURE 4.3

TABLE 4.1
MONITORING WELL SPECIFICATIONS/WATER LEVELS
HEBRON VALLEY PRODUCTS CORPORATION

Well ID	Ground Surface Elevation (Feet)*	Top of Steel Well Pipe Elevation (Feet)*	Well Screen Interval Elevation (Feet)*	Water Level (Feet)**	Water Level Elevation (Feet)*
MW-1	99.80	101.73	88.30-85.80	5.60	96.13
MW-2	95.20	98.44	90.20-80.70	9.85	88.59
MW-3	93.30	96.19	88.30-78.30	9.87	86.32
MW-4	98.70	101.55	92.20-82.70	8.74	92.81

* Arbitrary Elevation
** Feet Below Top of Steel Casing taken on 10/4/90

Additional Water Level Measurements

1) Measurements below were taken below the top of the steel casing in Feet.
2) Number in parenthesis is corresponding elevation in Feet.

10/3/90	9/20/90
MW-1 5.65 (96.08)	MW-1 5.00 (96.73)
MW-2 9.84 (88.60)	MW-2 6.15 (89.05)
MW-3 9.92 (86.32)	MW-3 6.38 (86.92)
MW-4 9.02 (92.53)	MW-4 4.21 (94.49)

Water Levels in Creek at Two Locations

SW-1/S-1 100.90 Feet
SW-2/S-2 92.80 Feet

TABLE 4.2

SUMMARY OF INORGANIC ANALYSIS GROUNDWATER (ug/L)

CAS No.	Parameter	GWHV-1	GWHV-2	GWHV-3	GWHV-4	GWHV-5	NYS Groundwater Standards Guidance Values (ug/L)
7429-90-5	Aluminum	970	8770	6460	2240	580	NS
7440-36-0	Antimony	60 U	60 U	60 U	60 U	60 U	3 GV
7440-38-2	Arsenic	3.4 UW(10)	7.5 B	8.1 B	4.6 B	4.2 B	25
7440-39-3	Barium	221	168 B	164 B	141 B	226	1000
7440-41-7	Beryllium	1.0 B	1.5 B	1.5 B	5 U	1.0 B	3 GV
7440-43-9	Cadmium	5 U	5 U	5 U	5 U	3.6 U	10
7440-70-2	Calcium	38500	34600	23300	30900	40000	NS
7440-47-3	Chromium	10 U	13.0	12.0	10 U	9.2 U	50
7440-48-4	Cobalt	39.4 B	7.0 B	6.8 B	50 U	54.8	NS
7440-50-8	Copper	15.1 B	23.6 B	30.0	16.2 B	11.6 B	200
7439-89-6	Iron	1590	11400	11600	3730	1190	300*
7439-92-1	Lead	4.9	6.3	20.1	6.5	3.4	25
7439-95-4	Magnesium	7580	8470	4370 B	8700	8090	35000 GV
7439-96-5	Manganese	940	314	1730	1390	1040	300*
7439-97-6	Mercury	.2 U	.2 U	.2 U	.2 U	.2 U(.2)	2
7440-02-0	Nickel	15.9 B	17.6 B	27.5 B	9.7 B	8.7 B	NS
7440-09-7	Potassium	5270	10600	2200 B	5960	5640	NS
7782-49-2	Selenium	1.2 UWN(5)	1.2 UWN(5)	1.2 UWN(5)	1.2 UWN(5)	1.2 UWN(5)	10
7440-22-4	Silver	10 U	10 U	10 U	10 U	10 U (10)	50
7440-23-5	Sodium	18700	16600	4780 B	21000	20000	20000
7440-28-0	Thallium	1.1 B	10 U	1.2 B	10 U	1.6 B	4 GV
7440-62-2	Vanadium	50 U	50 U	9.8 B	50 U	4.8 U (50)	NS
7440-66-6	Zinc	26.6	57.3	52.3	31.4	25.2	300
	Cyanide	10 U	10 U	10 U	10 U	10 U (10)	100

U.- Indicates analyte was analyzed for but not detected. Number in parentheses is the Contract Required Detection Limit

B - The reported value is less than the CRDL but greater than the Instrument Detection Limit.

N - Spiked sample recovery not within control limits.

W - Post-digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Total Fe and Mn = 500 ug/L.

GV Guidance Value NS - Not Specified

TABLE 4.3

SUMMARY OF INORGANIC ANALYSIS
SURFACE WATER
(ug/L)

CAS No.	ANALYTE	SW-1	SW-2	SW-3	NYS STANDARDS/ GUIDANCE VALUES SURFACE WATER (ug/L)
7429-90-5	Aluminum	149 B	109 B	895	100
7440-36-0	Antimony	U (60)	U (60)	U (60)	NS
7440-38-2	Arsenic	U (10)	U (10)	28.9	190
7440-39-3	Barium	40.0 B	38.4 B	302	NS
7440-41-7	Beryllium	1.0 B	U (5)	U (5)	1,100 [1]
7440-43-9	Cadmium	U (5)	U (5)	U (5)	1.2 [2]
7440-70-2	Calcium	28800	28100	35900	NS
7440-47-3	Chromium	U (10)	U (10)	U (10)	220.0 [3]
7440-48-4	Cobalt	U (50)	U (50)	18.2 B	5
7440-50-8	Copper	7.0 B	7.7 B	11.7 B	12.6 [4]
7439-89-6	Iron	530	627	29900	300
7439-92-1	Lead	1.8 B	2.2 B	7.2	3.53 [5]
7439-95-4	Magnesium	4650 B	4460 B	4330 B	NS
7439-96-5	Manganese	135 E	118	12200	NS
7439-97-6	Mercury	U (.2)	U (.2)	U (.2)	0.2 GV
7440-02-0	Nickel	U (40)	U (40)	46.1	101 [6]
7440-09-7	Potassium	1530 B	1530 B	1240 B	NS
7782-49-2	Selenium	U (5)	1.2 U N	1.2 U N	1.0
7440-22-4	Silver	U (10)	U (10)	U (10)	0.1
7440-23-5	Sodium	6490	5550	4070 B	NS
7440-28-0	Thallium	U (10)	U (10)	U (10)	8
7440-62-2	Vanadium	U (50)	U (50)	U (50)	14
7440-66-6	Zinc	35.0	71.7	59.2	30
	Cyanide	U (10)	U (10)	U (10)	5.2

B - Entered if the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL)

GV - Guidance Value

N - Matrix spiked sample recovery not within control limits

NS - No standard

U - Entered if the analyte was analyzed for but not detected.
Number in parentheses following "U" is the Contract Required Detection Limit.

[1]- For water with hardness greater than 75 ppm. Standard is 11 ug/L for water with hardness less than 75 ppm.

[2]- exp (0.7852 [In (ppm hardness)] - 3.490)

[3]- exp (0.8190 [In (ppm hardness)] + 1.561)

[4]- exp (0.8545 [In (ppm hardness)] - 1.465)

[5]- exp (1.266 [In (ppm hardness)] - 4.661)

[6]- exp (0.76 [In (ppm hardness)] + 1.06)

TABLE 4.4

SUMMARY OF INORGANIC ANALYSIS
SEDIMENT SAMPLES
(mg/Kg)

CAS No.	Parameter	SDHV-1	SDHV-2	Typical Range (1) of Concentrations (mg/Kg)
7429-90-5	Aluminum	15500	19100	10,000-300,000
7440-36-0	Antimony	U	U	NS
7440-38-2	Arsenic	2.4 B S	10.1 S	1.0-40
7440-39-3	Barium	65.8	87.1	100-3500
7440-41-7	Beryllium	0.58 B	1.0 B	0.1-40
7440-43-9	Cadmium	3.6	4.2	0.01-7.0
7440-70-2	Calcium	1990 E	1400 E	100-400,000
7440-47-3	Chromium	17.5	22.6	5.0-3,000
7440-48-4	Cobalt	9.8 B	17.7	1.0-40
7440-50-8	Copper	35.0 N*	30.6 N*	2.0-100
7439-89-6	Iron	31100*	39100*	7,000-550,000
7439-92-1	Lead	11.9 N	9.3 N	2.0-200
7439-95-4	Magnesium	7240	6150	600-6,000
7439-96-5	Manganese	359 N*	989 N*	100-4000
7439-97-6	Mercury	U	U	0.01-0.08
7440-02-0	Nickel	31.0	36.5	5.0-1,000
7440-09-7	Potassium	1250 E	1720 E	400-30,000
7782-49-2	Selenium	0.30 U N	0.28 U N	0.1-2.0
7440-22-4	Silver	U	U	0.1-5.0
7440-23-5	Sodium	123 B	97.4 B	750-7500
7440-28-0	Thallium	U	U	0.1-12.0
7440-62-2	Vanadium	20.4	19.8	20-500
7440-66-6	Zinc	94.8 N	97.6 N	10-300
	Cyanide	U	U	NS

(1) "The Soil Chemistry of Hazardous Materials", James Dragun, Ph.D.
Hazardous Materials Control Research Institute, Silver Spring, Maryland.

U - Indicates analyte was analyzed for but not detected.

B - The reported value is less than the CRDL but greater than the instrument detection limit.

E - The reported value is estimated because of the presence of interference.

N - Spiked sample recovery not within control limits.

S - Reported value was determined by the Method of Standard Additions (MSA).

W - Post-digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

NS - Not Specified

* - Duplicate analysis not within control limits.

TABLE 4.5

SUMMARY OF INORGANIC ANALYSIS
SOIL SAMPLES
(mg/Kg)

CAS No.	Parameter	SSHV-1	SSHV-2	SSHV-3	SSHV-4	Typical Range (1) of Concentrations (mg/Kg)
7429-90-5	Aluminum	8800	16500	12500	14800	10,000-300,000
7440-36-0	Antimony	U	U	12.1 B	U	-
7440-38-2	Arsenic	2.9 B W	12.2	8.8 S	10.9	1.0-40
7440-39-3	Barium	84.4	84.1	107	74.3 B	100-3500
7440-41-7	Beryllium	0.45 B	0.62 B	0.60 B	U	.1-40
7440-43-9	Cadmium	1.2 UN	11.5 N	3.8 N	35.8 N	.01-7
7440-70-2	Calcium	2280 E	2830 E	4680 E	3090 E	100-400,000
7440-47-3	Chromium	12.6	25.8	18.2	40.7	5.0-3,000
7440-48-4	Cobalt	5.2 B	11.1 B	8.9 B	9.5 B	1.0-40
7440-50-8	Copper	20.8 *	54.1 *	43.2 *	60.2 *	2.0-100
7439-89-6	Iron	12300 *	97800 *	32000 *	321000 *	7,000-550,000
7439-92-1	Lead	12.6 N	44.9 SN	38.4 SN	29.6 NS	2.0-200
7439-95-4	Magnesium	2820	8190	6080	6660	600-6,000
7439-96-5	Manganese	224 N*	608 N*	746 N*	502 N*	100-4000
7439-97-6	Mercury	0.15 U*	0.11 U*	0.11*	0.34*	.01-.08
7440-02-0	Nickel	11.1 B	31.7	26.0	27.5	5.0-1,000
7440-09-7	Potassium	1590 B	2330	2420	2690 B	400-30,000
7782-49-2	Selenium	0.41 UN	0.29 U WN	0.30 U W	0.67 U N	.1-2.0
7440-22-4	Silver	U	U	U	U	.1-5.0
7440-23-5	Sodium	106 B	95.4 B	77.3 B	149 B	750-7500
7440-28-0	Thallium	0.48	U	U	U	.1-12
7440-62-2	Vanadium	13.4 B	38.1	20.7	68.2	20-500
7440-66-6	Zinc	72.0	155	92.8	120	10-300
	Cyanide	U	U	U	U	-

(1) "The Soil Chemistry of Hazardous Materials", James Dragun, Ph.D.
Hazardous Materials Control Research Institute, Silver Spring, Maryland.

U - Indicates analyte was analyzed for but not detected.

B - The reported value is less than the CRDL but greater than the Instrument Detection Limit.

E - The reported value is estimated because of the presence of interference.

N - Spiked sample recovery not within control limits.

S - Reported value was determined by the Method of Standard Additions (MSA).

W - Post-digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

NR - Analyte not required to be analyzed for.

TABLE 4.6

SUMMARY OF VOLATILE ORGANIC ANALYSIS
SOIL SAMPLES
(ug/Kg)

CAS #	COMPOUND	SS-1	SS-2	SS-3	SS-4
67-64-1	Acetone	100	-	-	66
71-43-2	Benzene	9 J	-	-	7 J
108-88-3	Toluene	11 J	-	-	7 J
100-41-4	Ethylbenzene	3 J	-	-	-
1330-20-7	Xylene (total)	20	-	-	-
75-09-2	Methylene Chloride	-	6 J	8 J	11 J
100-41-4	Chlorobenzene	-	-	-	6 J

J : Indicates an estimated value. Used when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified quantification limit but greater than zero.

V. FINAL APPLICATION OF HAZARD RANKING SYSTEM

A. NARRATIVE SUMMARY

The Hebron Valley Products site is a small inactive charcoal producing facility located on Tiplady Road about 200 miles south of the intersection of Chamberlain Mills Road and 1 1/2 miles west of Route 22 in the town of Hebron, Washington County, New York. The production of lump charcoal took place over a fourteen year period which ended in 1979. The site is surrounded by a sparsely settled rural area. The nearest downslope surface water is the Black Creek which is located along the northern boundary of the site and flows to the northwest in the vicinity of the site. The nearest residence is the Swift family home which is located about 300 feet north of the site. There are no commercial facilities within a one mile radius of the site. The nearest well is located about 300 feet north of the site.

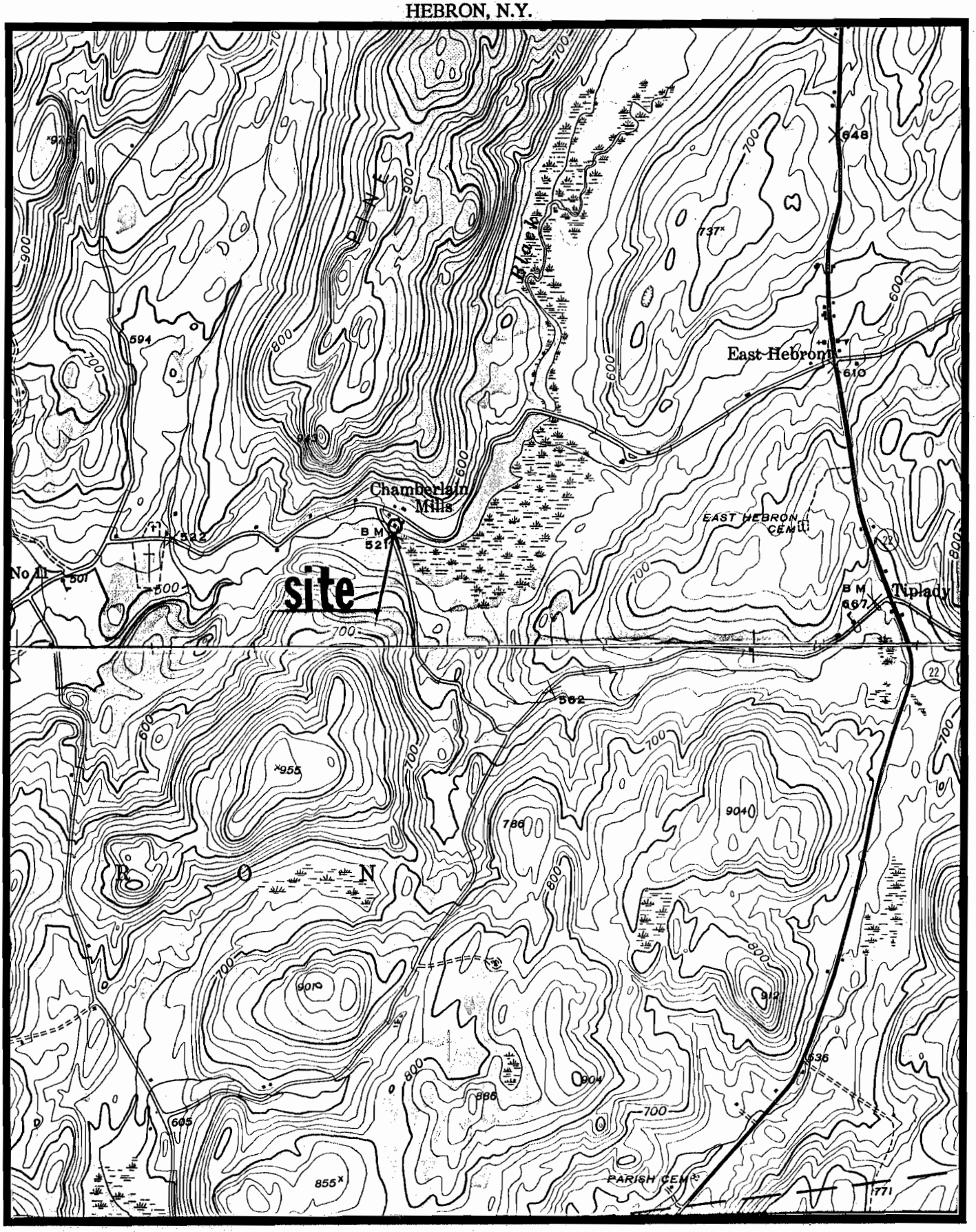
The analytical results clearly demonstrate elevated concentrations of semivolatile organic compounds in the surface soil samples. There is no evidence of any off site migration of contaminants to the aquifer or the surface water.

FIGURE 5.1

SITE LOCATION MAP

HEBRON VALLEY CORP. SITE - PHASE II INVESTIGATION

HEBRON, N.Y.



SITE COORDINATES:

LATITUDE: 43^0 15' 15" N

QUADRANGLE MAP (S)

(USGS) West Pawlet, NY-VT (1944)

(USGS) Salem, NY-VT (1944)

Facility name: Hebron Valley Products Corporation

Location: Tiplady Road - Town of Hebron, Washington County

EPA Region: II, NYSDEC Region 5

Person(s) in charge of the facility: Charles D. Swift

R.D. 2 Box 132

Salem, N.Y. 12856

Name of Reviewer: YEC, Inc. Date: 10-15-1990

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

The Hebron Valley Products Corporation Site (HVPC) is a half acre property located on Tiplady Road, near the intersection with Chamberlain Mills Road, in the Town of Hebron in Washington County, NY. From the period of July 1965 to 1971 and intermittently from 1972 through 1979, a charcoal producing business was active on the site. During the process of making charcoal, creosote and wood tars were stored on site.

Scores: S_M =0.00 (S_{gw} = 0.00 S_{sw} =0.00 S_a =0.00)

S_{FE} = N/A

S_{DC} = 25.00

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 (3)	2	6	6	
Net Precipitation	0 1 (2) 3	1	2	3	
Permeability of the Unsaturated Zone	0 1 (2) 3	1	2	3	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			13	15	
3 Containment	0 1 2 (3)	1	3	3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	(0) 3 6 9 12 15 18	1	0	18	
Hazardous Waste Quantity	(0) 1 2 3 4 5 6 7 8	1	0	8	
Total Waste Characteristics Score			0	26	
5 Targets					3.5
Ground Water Use	0 1 2 (3)	3	9	9	
Distance to Nearest Well/Population Served	0 4 6 (8) 10 12 16 18 (20) 24 30 32 35 40	1	20	40	
Total Targets Score			29	49	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0	57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} =	0.00		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	(0) 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 (2) 3	1	2	3	
Distance to Nearest Surface Water	0 1 2 (3)	2	6	6	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			11	15	
3 Containment	0 1 2 (3)	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	(0) 3 6 9 12 15 18	1	0	18	
Hazardous Waste Quantity	(0) 1 2 3 4 5 6 7 8	1	0	8	
Total Waste Characteristics Score			0	26	
5 Targets					4.5
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	0 1 2 (3)	2	6	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			12	55	
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			0	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	0.00		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5 If line 1 is 45, then proceed to line 2					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	(0) 1 2 3	1	0	3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	(0) 1 2 3 4 5 6 7 8	1	0	8	
Total Waste Characteristics Score			0	20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 (12) 15 18 21 24 27 30	1	12	30	
Distance to Sensitive Environment	(0) 1 2 3	2	0	6	
Land Use	0 1 2 (3)	1	3	3	
Total Targets Score			15	39	
4 Multiply 1 x 2 x 3			0.00	35,100	
5 Divide line 4 by 35,100 and multiply by 100		S_a = 0.00			

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	0.00	0.00
Surface Water Route Score (S_{sw})	0.00	0.00
Air Route Score (S_a)	0.00	0.00
$S_{gw}^2 + S_{sw}^2 + S_a^2$		0.00
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		0.00
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} \,/\, 1.73 = S_M =$		0.00

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} = * NS			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

*S_{FE} is scored if a Fire Marshal has certified that the site is a fire and explosion theat or field observation documented a fire and explosion threat. Since neither of these is true, S_{FE} is not scored.

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Incident	(0) 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 (3)	1	3	3	8.2
3 Containment	0 (15)	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 2 (3)	5	15	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 (2) 3 4 5	4	8	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			8	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			5400	21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =	25.0		

FIGURE 12
DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

Instructions: **As briefly as possible summarize the information you used to assign the score for each factor (e.g.,"Waste quantity = 4,230 drums plus 80 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference. Include the location of the document.**

Facility Name: Hebron Valley Products Corporation

Location: Tiplady Road, Town of Hebron, Washington County, New York

Date Scored: October 15, 1990

Person Scoring: Ira Bickoff

Primary Source(s) of Information (e.g., EPA region, state, FIT, etc.):

New York State Department of Environmental Conservation, Region 5 files.
New York State Department of Health files.
YEC, Inc. Phase II site inspection.
USGS 7.5 minute Quadrangle Maps: Salem, West Pawlet.
New York State Department of Agriculture, Soil Conservation Service.
Phase I Investigation Report, URS Company, Inc., February 1990.

Factors Not Scored Due to Insufficient Information:

Comments or Qualifications:

GROUNDWATER ROUTE

1. OBSERVED RELEASE

Contaminants detected (5 maximum):

None

Rationale for attributing the contaminants to the facility:

N/A

* * *

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

The Bedrock consists of the Bomoseen Formation, a sequence of relatively hard, micaceous quartzwackes with minor occurrences of slightly softer micaceous slates. Bedrock outcrops on the site, with a thin layer of sediment of glacial and glaciofluvial origin. These two layers appear to be hydraulically connected.

Reference #2: Page 2.
Reference #3: Page 2.

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water tables(s)] of the aquifer of concern:

N/A. Except for a thin layer of sediment at the surface, the wells penetrate the aquifer of concern -- The Bomoseen Formation.

Depth from the ground surface to the lowest point of waste disposal/storage:

Wastes were stored in 55 gallon steel drums on the ground surface.

Score = 3.
Reference #7: Page 2,3.

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

39 Inches
Reference #5: Page 2

Mean annual lake or seasonal evaporation (list months for seasonal):

26 Inches
Reference #5: Page 3

Net precipitation (subtract the above figures):

13 Inches
Score = 2.

Permeability of Unsaturated Zone
Soil type in unsaturated zone:

Soil at site is classified as Fluvaquents (FL) and consists of alluvial floodplain deposits comprised of gravel to clay size factions.
Reference #3: Page 4.

Permeability associated with soil type:

10^{-3} cm/sec - 10^{-5} cm/sec.
Score = 2.
Reference #5.

Physical State

Physical state of substances at time of disposal (or at present time for gases):

Liquid.
Score = 3.
Reference #6: Page 1.

* * *

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:
Liquid condensate stored in unsound, rusted steel 55 gallon drums on ground surface.
No containment. Black tar leaked from drums onto nearby soil.
Score = 3. Reference #7: Page 2.

Method with highest score:
Drums.
Score = 3.

* * *

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:
None

Compound with highest score:
N/A Score = 0

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those containment score of 0. (Give a reasonable estimate even if quantity is maximum.):

None Score = 0

Basis of estimating and/or computing waste quantity:

None

5. **TARGETS**

Groundwater Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Groundwater used for drinking water (private wells). There is no municipal water supply system presently available.
Reference #8: Page 1.
Score = 3.

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Residences at the intersection of Tipladys and Chamberlain Mills Roads are all served by private wells.

Distance to above well or building:

Approximately 300 feet north of site.
Reference #9: Page 1.
Score = 4.

Population Served by Groundwater Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and population served by each:

No municipal water supply system in area; the entire population is served by private wells.
138 houses (within 3-mile radius) X 3.8 people/house = 524 people
Reference#9: Page 2.

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

No commercial irrigation of land by groundwater.
Reference #10: Pages 1,2.

Total population served by groundwater within a 3-mile radius:

524 people.
Reference #9: Page 2. Score = 2.

1. **OBSERVED RELEASE**

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

None
See Appendix C.2
Score = 0

Rationale of attributing the contaminants to the facility:

None

* * *

2. **ROUTE CHARACTERISTICS**

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Approximately 1% to NW
Reference #9: Page 1.
Score = 0.

Name/description of nearest downslope surface water:

Black Creek which flows northwest in the vicinity of the site.
Reference #9: Page 1.

Average slope of terrain between facility and above-cited surface water body in percent:

Approximately 1% slope to northwest.
Reference #9: Page 1.
Score = 0.

Is the facility located either totally or partially in surface water?

No, however Black Creek flows adjacent to site, along the northern boundary.
Reference #9: Page 1.

Is the facility completely surrounded by areas of higher elevation?

No.
Reference #9: Page 1.

1-Year 24-Hour Rainfall in Inches

2.3 Inches.
Reference #5: Page 4.
Score = 2.

Distance to Nearest Downslope Surface Water

Black Creek flows along northern boundary.
Reference #9: Page 1.
Score = 3.

Physical State of Waste

Liquid condensate and wood tars.
Reference #6: Page 1.
Score = 3.

* * *

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Liquid condensate and wood tars were stored in steel 55 gallon drums. No Containment

Reference #7: Page 5. Score = 3.

Method with highest score:

Drums; leaking with no diversion structures.
Score = 3.
Reference #6: Page 1.

* * *

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

None
Score = 0

Compound with highest score:
N/A

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0. (Give a reasonable estimate even if quantity is above maximum.):

None
Score = 0

Basis of estimating and/or computing waste quantity:

None

* * *

5. TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Surface water within 3-miles downstream includes Black Creek, which is used for recreation as a trout fishing stream.

Reference #5.
Score = 2.

Is there tidal influence?

No.
Reference #9: Page 1.

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles of less:

None within 2 miles of site.
Reference #9: Page 1.
Score = 0.

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Site falls within and is adjacent to regulated wetland W-19.
Reference #12: Page 3.
Score = 3.

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

No significant habitats or rarities exist within a 1-mile radius of the site.
Reference #11: Page 1.
Score = 0.

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

No surface water supply intakes within 3 miles downstream from site, therefore population served is 0.
Reference #10: Page 1.

Computation of land area irrigated by above-cited intakes(s) and conversion to population (1.5 people per acre):

No irrigation of land by surface water.
Reference #10: Page 1.

Total population served:

Score = 0.

Name/description of nearest of above water bodies:

N/A

Distance to above-cited intakes, measured in stream miles:

N/A
Score = 0.

AIR ROUTE

1. OBSERVED RELEASE

Contaminants detected:

An HNU and OVA were used throughout this investigation. The instruments registered < 2 ppm above noticeable background, however a strong steady charcoal odor was present.
Reference #7: Page 3.
Score = 0.

Date and location of detection of contaminants:

No quantitative sampling program used.

Methods used to detect the contaminants:

HNU Photoionizer and OVA
Reference #7: Page 3.

Rationale for attributing the contaminants to the site:

No quantitative sampling program used.
Reference #7: Page 3.
Score = 0.

* * *

2. WASTE CHARACTERISTICS

<u>Reactivity and Incompatibility</u>

Most reactive compounds:

N/A.
Score = 0.

Most incompatible pair of compounds:

N/A

<u>Toxicity</u>

Most toxic compound:

N/A.
Score = 0.

<u>Hazardous Waste Quantity</u>

Total quantity of hazardous waste:

Unknown

Basis of estimating and/or computing waste quantity:

N/A.
Score = 0.

3. TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:
0 to 4 mi **0 to 1 mi** **0 to 1/2 mi** **0 to 1/4 mi**
22 houses (within a 1 mile radius) X 3.8 people/house = 84 people
Reference #9: Page 1.

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles of less:
None.
Reference #9: Page 1.
Score = 0.

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile of less:
Adjacent to site.
Reference #12: Page 3.
Score = 0.

Distance to critical habitat of an endangered species, if 1 mile or less:
None.
Reference #11: Page 1.
Score = 0.

Land Use

Distance to commercial/industrial area, if 1 mile of less:
None.
Reference #9: Page 1.
Score = 0.

Distance to national or state park, forest, wildlife reserve, if 2 miles or less:
None.
Reference #9: Page 1.
Score = 0.

Distance to residential area, if 2 miles of less:
Mr. Swift's house is approximately 300 feet north of site.
Reference #9: Page 1.
Score = 3.

Distance to agricultural land in production within past 5 years, if 1 mile or less:
None.
Reference #10: Page 2.
Score = 0.

Distance to prime agricultural land in production within past 5 years, if 2 miles of less:
2000 feet.
Reference #10: Page 2.
Score = 3.

Is a historic or landmark site (National Register of Historic Places and National Natural Landmarks) within the view of the site?

No.
Reference #9: Page 1.

FIRE AND EXPLOSION

1. CONTAINMENT

N/A

Reference # 13: Page 1

Type of containment, if applicable

N/A

* * *

2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

None

Ignitability

Compound used:

N/A

Reactivity

Most reactive compound:

N/A

Incompatibility

Most incompatible pair of compounds:

N/A

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

N/A

Basis of estimating and/or computing waste quantity:

N/A

* * *

3. TARGETS

Distance to Nearest Population

N/A

Distance to Nearest Building

N/A

Distance to a Sensitive Environment

Distance to wetlands:

N/A

Distance to critical habitat:

N/A

Land Use

Distance to commercial/industrial area, if 1 mile or less:

N/A

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

N/A

Distance to residential area, if 2 miles or less:

N/A

Distance to agricultural land in production within past 5 years, if 1 mile or less:

N/A

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

N/A

Is a historic or landmark site (National Register of Historic Places and National Natural Landmarks) within the view of the site?

N/A

Population Within 2-Mile Radius

N/A

Buildings Within 2-Mile Radius

N/A

DIRECT CONTACT

1. **OBSERVED INCIDENT**

Date, location, and pertinent details of incident:

None reported.

* * *

2. **ACCESSIBILITY**

Describe type of barrier(s):

There are no barriers to prevent access to the site.
Reference #7
Score = 3.

* * *

3. **CONTAINMENT**

Type of containment, if applicable:

Black tars are on the ground surface outside of unsound drums.
Reference #7.
Score = 15.

* * *

4. **WASTE CHARACTERISTICS**

Toxicity

Compounds evaluated:

Anthracene
Phenanthrene
Pentachlorophenol (PCP)

Compound with highest score:

Pentachlorophenol (PCP)
Score = 3
Reference #5: Page 5.

* * *

5. **TARGETS**

Population Within One-mile Radius

22 houses X 3.8 people/house = 84 people
Reference #9: Page 2.
Score = 2.

Distance to Critical Habitat (of endangered species)

No significant habitats or rarities at this site.
Reference #11 Page 1.
Score = 0.

HRS DOCUMENTATION REFERENCES

Ref. No.	Description of Reference
1.	The Groundwater Resources of Washington County New York USGS Geological Survey, Cushman, R.V.
2.	Geologic Map of New York State, 1970, Hudson-Mohawk Sheet
3.	Soil Survey of Washington County, New York USDA Soil Conservation Service
4.	Letter of 6/5/1987 to NYSDEC from Hebron Valley Products Corp.
5.	HRS, A Users Manual, USEPA, August 1982
6.	Letter of 9/25/1987 to Mr.C.Swift from URS Co.
7.	YEC, Inc. Hebron Valley Site Reconnaisance Report, 6/19/1990
8.	Letter of 9/29/1990 to Town of Hebron Highway Dept. from URS Corp.
9.	USGS 7 1/2 Minute Quadrangle Map; US Census Bureau Census of Population and Housing,1980
10.	Letter of 9/10/1990 to YEC, Inc. from USDA Soil Conservation Service
11.	Letter of 9/5/1990 to YEC, Inc. from NYSDEC Wildlife Resources Center
12.	Letter of 10/15/1990 to YEC, Inc. from NYSDEC Bureau of Wildlife
13.	Interview acknowledgement form from Fire Chief Nelson Greene

STATE OF NEW YORK
DEPARTMENT OF CONSERVATION
WATER POWER AND CONTROL COMMISSION

THE GROUND-WATER RESOURCES OF WASHINGTON COUNTY NEW YORK

By
R. V. Cushman
Geologist, U. S. Geological Survey

Prepared by the
U.S. GEOLOGICAL SURVEY IN COOPERATION WITH THE
WATER POWER AND CONTROL COMMISSION

BULLETIN GW-33
ALBANY, N. Y.
1953

GEOGRAPHY

TOPOGRAPHY

Washington County comprises parts of four physiographic areas of the northeaster United States: the Adirondack province, the Hudson Valley section of the Appalachian Valley and Ridge province, the Champlain section of the St. Lawrence Valley, and the Taconic section of the New England province (fig. 2). In Washington County the Hudson and Champlain Valleys form one physiographic unit, which is here referred to as the Hudson-Champlain lowland.

The Adirondack Mountain area is underlain by ancient (pre-Cambrian) crystalline rocks which have resisted the effects of prolonged erosion. The surface is rugged, altitudes ranging from 2,334 feet at Buck Mountain in the northwestern part of the township of Fort Ann to 100 feet on Lake Champlain. The mountain masses tend to be arranged in short ridges roughly parallel and trending northeast by southwest. This topography reflects a series of large normal faults that divide the Adirondack area into huge blocks, which tilt downward to the northwest. Bedrock is frequently exposed at the land surface and the soils, where they exist, are generally thin and of poor quality. Most of the area is heavily wooded, and habitations are few and scattered.

The Hudson-Champlain lowland is essentially a broad depression eroded in soft shale and limestone by the preglacial and interglacial Hudson River and by glacial ice. The rock trench, filled with a thick series of clay and sand, at present is occupied by the more or less winding course of the Hudson River on the south and the channel of Wood Creek on the north. The altitude of the land surface in the center of the depression rises gradually from about 100 feet at Fort Edward on the south to about 150 feet in the vicinity of Dunham Basin east of Hudson Falls, descending again to about 100 feet at Lake Champlain. The high point is the divide between the Hudson River and Lake Champlain basins. The banks of the Hudson River south of Fort Edward nearly everywhere ascend gradually but in some places abruptly, to benches or terraces with altitudes of 200, 300, and 400 feet above sea level. These terraces are being dissected by small tributaries leading to the Hudson River.

The Taconic area in the east covers more than 55 percent of the County. The western boundary, along the Hudson-Champlain lowland, is abrupt and is marked by a low range of hills which extends the length of the County, and includes such elevations as Willard Mountain, Schuyler Mountain, Bald Mountain, Marion Hill, and the Pinnacle. The upland is a westward-sloping plateau whose altitude decreases from about 600 feet to 400 feet above sea level. The area is underlain by sedimentary rocks, which have been strongly metamorphosed and thus strengthened to resist erosion, and presents a highly irregular surface. The topography is marked locally by numerous elongated steep hills and oval hillocks, which have a general north-south trend, though in much of the area there is no alinement of the ridges and valleys. The surface was considerably modified by the passage of the ice sheet, which abraded the rock surfaces, deposited a thin mantle of glacial till over much of the area, and here and there formed rounded or conical glacial hills known as kames and drumlins.

DRAINAGE

The Champlain-Hudson divide traverses the County about midway between its northern and southern limits, and the drainage from the land surface is about equally divided between the two basins. North of the divide the drainage is by Lake Champlain and the St. Lawrence River to the Atlantic Ocean, and south of the divide by the Hudson River, also to the Atlantic. The surface water of the northern area is discharged by three large streams: the Poultney River which forms the northeastern boundary of the County, the Mettawee River, and Wood Creek (pl. 1). Numerous smaller streams flow directly into Lake Champlain and Lake George. Al-

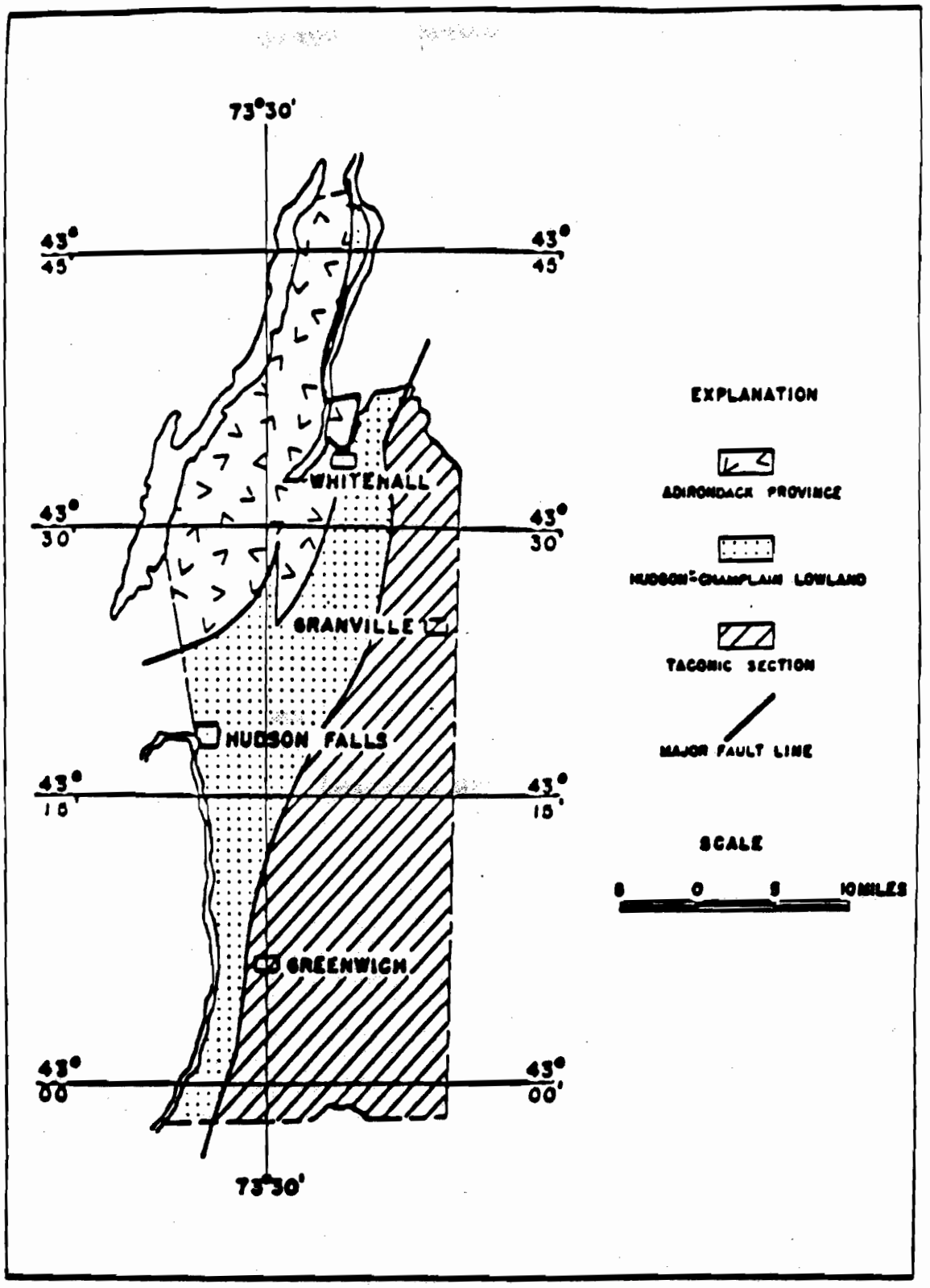


Figure 2.—Map of physiographic divisions in Washington County.

GENERAL RELATIONS

It has been stated in this report (see section "Geography, topography") that Washington County is broadly divided into three physiographic areas: (1) the Adirondack mountains, (2) the Hudson-Champlain lowland, and (3) the Taconic upland. These three regions are an expression of differences in geologic structure and rock type.

The Adirondack area is underlain by pre-Cambrian crystalline rocks known as the Grenville series (pl. 2). On the south and east is the Hudson-Champlain lowland, an area of nearly flat-lying sandstones, limestones, and shales of early Paleozoic age—the Potsdam sandstone, the Beekmantown limestone and limestone of the Trenton group, and the Snake Hill formation. They are separated from the rocks of the Adirondack area by major high-angle faults. The Taconic area, east of the Hudson-Champlain lowland, is underlain by a series of metamorphosed grits, slates, shales, and interbedded limestones, and is separated from the rocks of the Hudson-Champlain lowland by great thrust faults. The sediments of these formations were deposited at about the same time as those in the Hudson-Champlain lowland but in an entirely separate basin to the east. They have been brought into their present position by movement westward in great thrust sheets so that they overlie, in part, the eastward extension of the strata exposed in the Hudson-Champlain lowland. These rocks make up the slate hills in the eastern part of the County and are represented on the geologic map (pl. 2) by the rocks of the Taconic sequence and the Walloomsac slate. Geologic sections across Washington County are also shown on plate 2.

The consolidated rocks are mantled in most places by unconsolidated material deposited during the Pleistocene epoch (pl. 3). During this epoch continental ice sheets from the north several times advanced across the County and then melted away. The glaciers eroded and smoothed the bedrock surface and in some areas laid down thick deposits of unconsolidated material. The deposits consist mainly of glacial till or ground moraine (sometimes referred to popularly as "hardpan") and of beds of sand, gravel, and clay, which were sorted and laid down by meltwaterse from the glacier. In addition, small amounts of clay, silt, and sand have been deposited on the flood plains of the larger streams of the County during Recent time.

The sequence, physical character, and water-bearing properties of the rock units are summarized in table 3. More detailed descriptions of the physical character of the rocks of Washington County are given in the section on Stratigraphy.

GEOLOGIC STRUCTURE

The geologic structure of the rocks in Washington County is varied and complex. The complexity becomes progressively greater in an easterly direction as the major forces producing mountain building and rock movement were from that direction. The mass of the Adirondack Mountains in the County is composed of dense and compact rocks that have withstood the compressive force from the east. They have been moved upward with respect to the sedimentary deposits of the Hudson-Champlain lowland and are broken into huge blocks by intersecting high-angle faults. These faults in many places separate the crystalline rocks from the valley sediments. Earlier forces, however, altered the original crystalline and sedimentary rocks so that they now have a squeezed and metamorphosed appearance. This pressure and alteration has reduced the primary porosity to almost zero, but the rocks are broken by intersecting joint sets that divide them into rhomboidal blocks. It is believed that the joint openings become essentially closed below depths of several hundred feet owing to the pressure of the rocks above them.

Table 3.—Geologic formations in Washington County and their water-bearing properties

Age		Geologic formation	Maximum thickness (feet)	Character of material	Water bearing properties
System	Series				
Quaternary	Recent	Alluvium	20	Clay, silt, sand, and gravel.	Yields moderate supplies of good quality water to a few dug and driven wells.
	Pleistocene	Wisconsin drift	240+	Outwash—interbedded sand and gravel deposited by streams.	Yields moderately large supplies to driven wells and springs; could probably be developed to a much greater extent.
			200	Lacustrine deposits—clay and silt deposited in glacial Lake Albany.	Generally not water bearing.
			150	Delta deposits—fine gravel and sand deposited as deltas in standing bodies of water.	Yields moderately large supplies to driven wells and springs; could probably be developed to a much greater extent.
			25	Till—heterogeneous mixture of gravel, sand, and clay with a predominance of clay.	Yields small supplies of water to many shallow dug wells for domestic and stock use.
Ordovician	Middle Ordovician	Snake Hill formation	800	Black to green argillaceous shale possessing a glazed appearance due to metamorphism.	Yields small supplies of ground water to many drilled wells averaging 125 feet in depth; average yield 8 gallons per minute (gpm). Water is quite hard and may contain hydrogen sulfide. Mineral waters in Washington County may be obtained from this formation.
	Middle and Lower Ordovician	Walloomsac slate	Unknown	Greenish gray to black slate and schist showing considerable metamorphism.	Supplies a few springs but is relatively unimportant as a source of ground water.
		Trenton group and Beekmantown limestone	1,100	Dark blue fine grained thin- to thick bedded limestone and dolomite locally containing beds of sandstone and chert; shaly partings in upper 50 feet.	Yields moderately large supplies to many drilled wells which encounter fractures or joints; average yield is 12 gpm; very few dry holes reported. Water is moderately concentrated and quite hard.
Ordovician and Cambrian		Taconic sequence of rocks	3,000	Consists of the Bomoseen grit, Mettawee slate, Schodack formation, and Normanskill shale. Reddish grit, black, gray green, and purple slate and shale with interbedded limestone and white weathering chert; metamorphosed to varying degrees.	Yields small but reliable supplies of ground water to drilled wells averaging 130 feet in depth; average yield is 8 gpm. Water is moderately hard and contains some iron, but is generally satisfactory. Only small supplies can be developed from slate.
Cambrian	Upper Cambrian	Potsdam sandstone and associated dolomite	400	Coarse- to fine grained almost pure sandstone, grains well cemented. Grades upward into alternating sandstone and dolomite beds.	Yields very small supplies to a few drilled wells, but is relatively unimportant as a source of ground water. Water is quite hard and may contain some iron.
Pre-Cambrian		Grenville series and associated igneous rocks	Unknown	Crystalline metamorphic rocks intruded by syenite and granite masses.	Supplies small springs but is unimportant as a source of ground water. Water is soft.

features are characteristically sand plains, with the marginal limits of the plains indicated by changes in the topography and in the character of the surface material. Each delta plain is now trenched by the valley of its parent river.

The finest example of the delta deposits in Washington County is the one formed near the mouth of the Batten Kill below Greenwich. The glacial delta of the Batten Kill maintains a comparatively flat-topped surface for 5 miles, both north and south of its apex at Middle Falls, at the western base of Bald Mountain and Schuyler Mountain. The material at the surface consists of sand and gravel, which gives way to the outer margins of the delta to the varved red clay so typical of this section of the Hudson River valley. The present stream has cut deeply into the delta and is flowing on bedrock at an elevation of about 120 feet above sea level. The average altitude above sea level of the bedrock surface is about 200 feet. Detailed logs of the material overlying the rock are generally lacking, as most of the drilled wells in the area are cased through the delta deposit and obtain water from the bedrock. Well W 228, situated on the inner portion of the delta, is reported to penetrate sand and gravel to a depth of 114 feet. Well W 227 is reported to pass through 195 feet of hardpan, clay, and gravel. Well W 224 ends in gravel at a depth of 110 feet below land surface (table 9). From the available records it appears that there is considerable sand and gravel in the deposit, at least at its upper end, and that the deposit may reach the greatest thickness at the southern end of the delta approximately on a line between wells W 227 and W 220.

The delta of the glacial Hudson River at Hudson Falls extends outward from the village to the north, south, and east, and terminates its outer portions in lake clay at an elevation of about 300 feet above sea level. The material at the surface is chiefly sand having a yellowish-brown color. All drilled wells for which records are available pass through this overlying deposit and obtain water from the bedrock. Well W 51 is reported to pass through 65 feet of brown sand, 55 feet of blue clay, and 15 feet of fine sand before entering bedrock. Well W 53 is reported to pass through 27 feet of sand and 23 feet of yellow clay into bedrock. Thus, the records of these wells indicate that the coarser material composing the delta overlies lake clay at this point at a depth 25 to 60 feet below land surface.

Few deep wells or borings penetrate the glacial delta of the Mettawee River at West Granville. The material at the surface consists of porous sand and gravel. The total thickness of the deposit is considered to be less than of the delta deposits previously described, although Well W 79 is reported to penetrate 117 feet of unconsolidated material before reaching bedrock.

GROUND WATER

OCCURRENCE AND AVAILABILITY

With respect to the occurrence of ground water, the geologic formations of Washington County can be classified in two groups: (1) igneous, sedimentary, and metamorphic rocks of pre-Cambrian and early Paleozoic age; and (2) unconsolidated Pleistocene and Recent deposits. The first group, the bedrock, yields only small supplies and is significant chiefly because it occurs everywhere in the County. The unconsolidated deposits contain the most productive water-bearing materials in Washington County. Accordingly, the occurrence and availability of ground water in these deposits are discussed before the corresponding discussion of the consolidated rocks.

Unconsolidated Deposits

The unconsolidated deposits include outwash, delta sediments, till, and lake clay, of glacial and glaciofluvial origin, and the Recent deposits of river alluvium. These deposits vary

considerably in lithologic composition and hence have different effects on the movement of ground water and yield of wells.

Ground water occurs in outwash deposits in pore spaces between the particles of sand and gravel. In general, the particles are relatively well sorted within individual beds and the porosity is relatively high, as shown in tables 4 and 5. Because of these characteristics the permeability of much of the outwash is high. In fact, outwash deposits, together with the delta deposits, are believed to be the most productive aquifers in Washington County. Unfortunately, the areas underlain by outwash materials in Washington County are of small extent (pl. 3), being limited to those valleys whose streams either carried away glacial melt waters or were dammed by the ice itself. The principal outwash deposits occur in the Owl Kill valley near Cambridge and the White Creek valley near Salem. The available data concerning the water-bearing characteristics of outwash in these two areas are discussed in detail below. Little information of this nature is available for the smaller areas of outwash, and for that reason they are not discussed in this report. However, much of the discussion of the water-bearing characteristics of outwash near Cambridge and Salem may also be applied in a limited way to the smaller areas.

Outwash in Owl Kill Valley

Origin.—Outwash occupies the Owl Kill valley below an elevation of about 600 feet above sea level from its intersection with the Hoosic River northward to the Batten Kill. During the deposition of the material it is believed that a tongue or lobe of stagnant ice occupied the center of the Owl Kill valley. The southern terminus of this ice lobe probably stood at a latitude slightly south of Center White Creek. Under these conditions the flow of glacial melt water was down the sides of the valley between the ice lobe and the bedrock valley walls, and sediments derived from glacial till and from the ice surface were deposited in these lateral channels. These deposits form kames and kame terraces and consist of irregularly stratified sand and gravel. Some of the lateral outwash may have been deposited around and over the terminus of ice lobe, for eventually the narrow portion of the valley between Center White Creek and the Hoosic River was filled with outwash sand and gravel. The material deposited here acted as a temporary dam to the movement of water down the valley, and a lake formed behind the dam. In the quiet water of the lake, deposits consisting mainly of clay and silt were laid down. Coarser material was deposited along the shores as reworked kame-terrace gravels or as deltas at the mouths of small side streams. A large delta of sand and gravel was formed at the north end of the valley, evidently by a stream flowing southward from the present site of East Salem. This stream is thought to have flowed across a large block of ice which melted and collapsed near the close of the glacial period, leaving the present large depression at the north end of the valley near the great bend in the Batten Kill. At about this same time, it appears, a tributary of White Creek worked headward through the present narrow bedrock gorge at Shushan and captured the Batten Kill, diverting the drainage above East Salem into the Hudson River below Greenwich.

Character.—The coarser and probably the more permeable materials are thus in the kame and delta deposits, which are concentrated at the northern and southern ends and along the sides of the Owl Kill valley. The character of the outwash in the valley was determined chiefly from surface exposures and from a few well logs. The best exposures are in pits on the west side of the valley below Cambridge. The kame deposits consist of irregularly bedded sand and gravel. The material of individual beds is uniform in grain size, but there may be considerable variation between adjacent beds. Very few clay or silt lenses are noted in the exposures. Wells W 338 and W 346, on the east and west sides of the valley respectively, penetrated 94 and 84 feet of sand gravel. No clay was reported in the logs of these wells.

Lacustrine Deposits

Water occurs in lacustrine deposits in the pore spaces between individual particles. The particles of clay are relatively well graded as to size but they are extremely small, and the pore spaces, although open, are small; thus their permeability is not unlike that of till. Clay yields water very slowly, and few wells in Washington County obtain water from this material. Those wells that end in clay probably obtain their water from some overlying deposits of a coarser and more permeable nature. Where the clay occurs at the base of the section of unconsolidated deposits, it forms a thick relatively impervious layer over the bedrock, and it may in some cases be responsible for low yields from wells in bedrock. Where the lacustrine clay underlies a considerable thickness of sand and gravel along a river valley, a series of springs may originate at the contact of the clay with the overlying gravel. Such contact occurs along the outer flanks of the Batten Kill delta, where downward percolating water gives rise to springs (W 5Sp—W 10Sp, shown on pl. 1).

Alluvium

In most places in Washington County the alluvium is not coarse enough or of sufficient thickness to be of importance as a source of ground water. Shallow wells that obtain water from the alluvial deposits probably intercept one or more lenses of sand. The average yield of 4 wells in alluvium is 9 gpm. Where the coarser alluvial deposits are in contact with a surface stream, they may yield sufficient water for small industries.

Consolidated Rocks

Consolidated rocks which occur everywhere in Washington County, consist of igneous and metamorphic crystalline rocks, and sedimentary sandstone, limestone, and shale (see section "Geology"). All these rock types, however, are dense and compact, and the movement and storage of ground water in them are controlled by fractures. The degree of fracturing causes some small differences in the water-yielding capacity, but generally the consolidated rocks have relatively small yields. The average yield of 231 wells drilled in bedrock for which records were collected is 9 gpm. The average depth of these wells is 144 feet. The yield is sufficient for domestic needs and for small industries and dairies, but consolidated rocks generally do not yield sufficient water for municipal or large industrial supplies.

Grenville Series

The Grenville series underlies most of the northwestern part of Washington County. It is exposed at the surface over much of Dresden and Putnam Townships and those parts of Fort Ann and Whitehall Townships that lie to the north and west of Halfway Creek and Wood Creek (see pls. 1 and 2). The area is inhabited largely by summer residents, and the small water supplies that are required commonly are obtained from unconsolidated deposits overlying the bedrock; therefore, the Grenville series is used as a source of water supply in only a few places in the County

In general, the crystalline rocks of the Grenville series yield only small supplies of water, as the rocks are dense and circulation of water is restricted to joint fractures. One well, W 4, is reported to flow at the rate of 1 gpm. Small springs are numerous and furnish comparatively soft water. The flow of these springs fluctuates with the season and may cease entirely in summer.

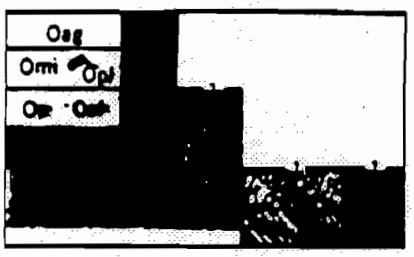
Potsdam Sandstone

The Potsdam sandstone usually is found along the border of the crystalline mass of the Adirondack Mountains. In Washington County it crops out in bold ledges along the valley of

PALEOZOIC

Ordovician

Cambrian



EUGEOSYNCLINAL (ALLOCHTHONOUS) SEQUENCE
up to 6,000 ft.? (2000 m.)

- **Oag** Austin Glen Formation — graywacke, shale.
- **Omi** Mount Merino and Indian River Formations—shale, slate, chert.
- **Opl** Pillow lava at Stark's Knob near Schuylerville, Saratoga County.
- **Op** North of Troy: Poultney Formation ("B" and "C" Members)—shale, slate, siltstone.
- **Osf** South of Troy: Stuyvesant Falls Formation —shale, siltstone.
- **OCe** Elizaville Formation—shale, argillite, quartzite.
- **OCu** Undifferentiated Middle Ordovician thru Lower Cambrian (or older?) allochthonous rocks—principally pelite; lesser quartzite, limestone, conglomerate, graywacke.
- **Cpw** North of Troy: Poultney Formation ("A" Member)—shale, limestone; Hatch Hill Formation—shale, dolostone; West Castleton Formation—shale, limestone, conglomerate.
- **Cg** South of Troy: Germantown Formation—shale, conglomerate, limestone.
- **?Cm** North of 43°: Mettawee Slate, includes Castleton (North Brittain) Conglomerate, Mudd Pond Quartzite, Zion Hill Quartzite, and Bomoseen Graywacke Members.
- **?Cn** South of 43°: Nassau Formation—slate, shale, thin quartzite, includes Stuyvesant Conglomerate, Diamond Rock Quartzite, Curtis Mountain Quartzite, and Bomoseen Graywacke Members.
- **?Ca** Austerlitz Phyllite—minor quartzite.
- **?Cgt** Greenstones and tuffs and/or basalts.
- **?Cr** Rensselaer Graywacke—minor shale.
- **?Cev** Everett Schist—minor meta-graywacke lenses. Includes Greylock Schist in Massachusetts.

GEOLOGIC MAP OF NEW YORK

1970

Hudson-Mohawk Sheet

Scale 1:250,000

5 0 5 10 15 Statute Miles 20

5 0 5 10 15 20 25 Kilometers 30

CONTOUR INTERVAL 100 FEET


Saratoga Springs
Saratoga Lake
Saratoga Center
RIVER
Stillwater
Round Lake
Mechanicville
Halfmoon
Waterford
Troy
Hoosick Falls
Petersburgh
Schaghticoke
Pittstown
Easton
Greenwich
Cambridge
Argyle
Fort Edward
Fort Miller
Glens Falls
Queensbury
Lake George
Lake Luzerne
Corinth
Moreau
Wilton
Gansevoort
Clifton Park
Ballston Spa
Ballston Lake
Malta
Stillwater
Schuylerville
Greenfield Center
Greenfield
Milton
Ballston
Charlton
Galway
Edinburg
Providence
Northumberland
Hadley
Luzerne
Day
Wilton
Saratoga
Halfmoon
Waterford
Troy
Hoosick Falls
Petersburgh
Schaghticoke
Pittstown
Easton
Greenwich
Cambridge
Argyle
Fort Edward
Fort Miller
Glens Falls
Queensbury
Lake George
Lake Luzerne
Corinth
Moreau
Wilton
Gansevoort
Clifton Park
Ballston Spa
Ballston Lake
Malta
Stillwater
Schuylerville
Greenfield Center
Greenfield
Milton
Ballston
Charlton
Galway
Edinburg
Providence
Northumberland
Hadley
Luzerne
Day

SOIL SURVEY OF

Washington County, New York

United States Department of Agriculture
Soil Conservation Service
in cooperation with
Cornell University Agricultural Experiment Station

WASHINGTON COUNTY, NEW

For a full description of a mapping unit, read both the description of the mapping unit and the

Acreage and extent, table 1, page 15.
Estimated yields, table 2, page c6.
Woodland, table 3, page c8.
Wildlife, table 4, page 7c.

Map symbol	Mapping unit	Page	Capability unit: Symbol	Capability unit: Page	Woodland group: Number
AmB	Amenia silt loam, 3 to 8 percent slopes	16	IIw-3	57	3o1
BeA	Belgrade silt loam, 0 to 2 percent slopes	17	IIw-1	57	3o2
BeB	Belgrade silt loam, 2 to 6 percent slopes	17	IIe-1	55	3o1
BrB	Bernardston gravelly silt loam, 3 to 8 percent slopes	18	IIe-4	5c	3o1
BrC	Bernardston gravelly silt loam, 8 to 15 percent slopes	19	IIIe-5	c0	3o1
BrD	Bernardston gravelly silt loam, 15 to 25 percent slopes	19	IVe-1	62	3r-
BrE	Bernardston-Nassau shaly silt loams, 3 to 8 percent slopes	19	IIe-5	56	------
	Bernardston part	----	------	----	3o1
	Nassau part	----	------	----	5d1
BrC	Bernardston-Nassau shaly silt loams, 8 to 15 percent slopes	19	IIIe-6	c0	------
	Bernardston part	----	------	----	3o1
	Nassau part	----	------	----	5d1
BSDK	Bernardston-Nassau shaly silt loams, rolling and hilly	20	IVe-1	62	------
	Bernardston part	----	------	----	3r2
	Nassau part	----	------	----	5d1
BTC	Bernardston very stony soils, gently sloping through moderately steep	20	VIs-1	64	3r-
BUF	Bernardston soils, steep and very steep	20	VIIe-1	65	3r-
Ca	Carlisle muck	21	IIIw-5	61	5w1
CHC	Charlton association, very stony, gently sloping and sloping	22	VIs-1	64	-r1
CHE	Charlton association, very stony, moderately steep and steep	22	VIIs-1	c5	-r1
CkA	Claverack loamy fine sand, 0 to 2 percent slopes	23	IIw-1	57	3s1
CkB	Claverack loamy fine sand, 2 to 6 percent slopes	23	IIw-2	57	3s1
Cs	Cosad fine sandy loam	24	IIIw-2	c1	-w2
Cv	Covington silty clay loam	25	IVw-1	c3	5w1
FaB	Farmington loam, 0 to 8 percent slopes	25	IIIs-2	c2	5d1
FCC	Farmington-Rock outcrop association, nearly level through moderately steep	26	------	----	------
	Farmington part	----	VIs-2	64	5x1
	Rock outcrop part	----	VIIIs-1	65	------
FCF	Farmington-Rock outcrop association, steep and very steep	26	------	----	------
	Farmington part	----	VIIs-2	65	5x2
	Rock outcrop part	----	VIIIs-1	65	------
Fl	Fluvaquents	26	------	----	------
Fr	Fredon silt loam	27	IIIw-2	c0	5w1
Hs	Halsey mucky silt loam	28	IVw-2	63	5w1
Hn	Hamlin silt loam	28	I-2	55	2o1
HcA	Hartland very fine sandy loam, 0 to 2 percent slopes	29	I-1	55	3o1
HcB	Hartland very fine sandy loam, 2 to 6 percent slopes	29	IIe-1	55	3o1
HcC	Hartland very fine sandy loam, 6 to 12 percent slopes	29	IIIe-3	59	3r1
HcD	Hartland very fine sandy loam, 12 to 20 percent slopes	29	IVe-4	62	3r1
HeA	Herkimer gravelly silt loam, 0 to 3 percent slopes	30	IIw-1	57	3o1
HeB	Herkimer gravelly silt loam, 3 to 8 percent slopes	30	IIw-3	57	3o1
HLE	Hollis-Charlton association, moderately steep and steep	31	------	----	------
	Hollis part	----	VIIs-2	65	5x1
	Charlton part	----	VIIs-1	65	-r1
HNC	Hollis-Rock outcrop association, gently sloping and sloping	31	------	----	------
	Hollis part	----	VIs-2	64	5x1
	Rock outcrop part	----	VIIIs-1	65	------
HoA	Hoosic gravelly sandy loam, 0 to 3 percent slopes	33	IIs-1	58	3o1
HoB	Hoosic gravelly sandy loam, 3 to 8 percent slopes	33	IIs-1	58	3o1
HoC	Hoosic gravelly sandy loam, 8 to 15 percent slopes	33	IIIe-2	59	3o1
HSDK	Hoosic gravelly sandy loam, rolling and hilly	33	IVe-5	63	3r2
HTF	Hoosic and Ottisville soils, steep and very steep	33	VIIs-1	65	------
	Hoosic part	----	------	----	3r-
	Ottisville part	----	------	----	-s1

Farmington-Rock outcrop association, nearly level through moderately steep (FCC).—This association is about 50 percent Farmington soil, 20 percent Rock outcrop, and 30 percent soils of minor extent. It is on flat-topped hills that are parts of small to large islands protruding above the lake plain. Areas are irregularly shaped and range from about 40 to more than 200 acres in size.

The Farmington soil in this association has a profile similar to the one described as representative of the series, but very rocky phases dominate the landscape, depth to bedrock is more variable within short distances, and rock outcrops are common. Intermingled throughout the areas are exposures of limestone bedrock, which make up the Rock outcrop part of the association. In places escarpments of this bedrock are short and vertical. Of minor extent are the deep, well drained Pittsfield soils and moderately well drained Amenia soils. These deep soils are intermingled with the Farmington soil and Rock outcrop at higher elevations.

Included with these soils in mapping around fringe areas adjacent to the lake plain are small areas of the somewhat poorly drained Kingsbury soils and the moderately well drained Vergennes soils, which formed in a thin veneer of glacial lake or estuarine clay over rock.

Most of the acreage is in woody vegetation or is idle. Part is used for spring pasture. Shallowness, droughtiness, and the numerous rock outcrops are limitations. Farmington soil in capability unit VIs–2, woodland group 5x1; Rock outcrop in capability unit VIIIs–1, woodland group not assigned.

Farmington-Rock outcrop association, steep and very steep (FCF).—This association is about 70 percent Farmington soil, 20 percent Rock outcrop, and 10 percent soils of minor extent. It is in hilly areas that are parts of small to large islands protruding above the lake plain. Areas are irregularly shaped and range from about 40 to more than 100 acres in size.

The Farmington soil in this association has a profile similar to the one described as representative of the series, but very rocky phases dominate the landscape, depth to bedrock is extremely variable within short distances, and rock outcrops are common. Intermingled throughout the areas are exposures of limestone bedrock, which make up the Rock outcrop part of the association. In places escarpments of this bedrock are vertical. Of minor extent are mainly the deep, well-drained Pittsfield soils. They are intermingled in varying patterns with the shallow Farmington soil and Rock outcrop.

Most of the acreage is in woody vegetation or is idle. Steep and very steep slopes, shallowness, droughtiness, and the numerous rock outcrops are limitations. Farmington soil in capability unit VIIs–2, woodland group 5x2; Rock outcrop in capability unit VIIIs–1, woodland group not assigned.

Fluvaquents

Fluvaquents (FCF) consists of recent, unconsolidated deposits of alluvial material, on flood plains, that is frequently flooded, generally wet, and subject to frequent changes through overflow. The deposits are generally stratified and range from gravel and sand to clay. Drainage ranges from excessive to very poor, but is generally poor or very poor.

Many areas are cut by old drainage channels. Mounds between the channels are typically sandy and gravelly. Sand bars occur along the larger streams. This mapping unit is influenced by the kind of area through which the stream flows. In areas of glacial till stones are common. Near clay areas the material is finer textured, and near gravelly areas it contains a large amount of gravel.

Because these areas are subject to flooding, are wet, and vary in texture, they are not generally suitable for crops or many nonfarm uses. Some areas are used for pasture. Brush and hardwood trees grow in many places. Capability unit and woodland group not assigned.

Fredon Series

The Fredon series consists of deep, somewhat poorly drained or poorly drained, medium-textured soils. These soils formed in water-sorted sand and gravel deposits. They are nearly level and are in depressions in outwash plains and terraces.

A representative profile in a cultivated area has a surface layer of very dark gray silt loam 7 inches thick. Below this is a 6-inch leached layer of mottled grayish-brown silt loam. The subsoil is mottled gray, friable gravelly fine sandy loam that extends to a depth of 22 inches. The substratum is loose, water-sorted, dark grayish-brown fine gravelly loamy sand that extends to a depth of 50 inches. Between depths of 50 and 80 inches or more, the substratum is interbedded loose very gravelly sand.

In spring and during wet periods, the water table rises to within 6 to 12 inches of the surface. During drier periods it recedes quickly through the rapidly permeable substratum. Permeability is moderate to moderately rapid. The depth of rooting is strongly influenced by the water table. In spring, roots are confined mainly to the upper 8 to 10 inches and, as the season progresses, extend to a depth of 20 to 25 inches or more. Available moisture capacity is only moderate in the main root zone, but the water table fluctuates and plants seldom show moisture stress during periods of normal rainfall. The total content of nitrogen is high, but nitrogen is released very slowly in spring and plants respond to additional applications. These soils are medium to high in content of lime. Their capacity to supply potassium and phosphorus is medium to low.

Seasonal wetness is the main limitation for most farm and nonfarm uses. The substratum of Fredon soils is a possible source of sand and gravel.

Representative profile of Fredon silt loam, in a hayfield; town of Cambridge, 150 feet south of Perry Lane, one-half mile west of Perry Lane at N.Y. Route 372:

Ap—0 to 7 inches, very dark gray (10YR 3/1) silt loam; weak, fine, granular structure; very friable; many

TABLE 8.—*Degree and kind of limitations to*

[An asterisk in the first column indicates that at least one mapping unit in this series is made up of two or more kinds of soil. The soils in such to other series that appear in

Map symbols	Soils	Homesites	Shopping centers and small industrial buildings	Local roads and streets	Septic tank absorption fields	Lawns and landscaping
AmB	Amenia silt loam, 3 to 8 percent slopes.	Moderate: moderately well drained.	Moderate: moderately well drained; slope.	Slight	Severe: slow permeability.	Slight
BeA	Belgrade silt loam, 0 to 2 percent slopes.	Moderate: moderately well drained.	Moderate: moderately well drained.	Slight	Severe: moderate to slow permeability.	Slight
BeB	Belgrade silt loam, 2 to 6 percent slopes.	Moderate: moderately well drained.	Moderate: moderately well drained; slope.	Slight	Severe: moderate to slow permeability.	Slight
BnB	Bernardston gravelly silt loam, 3 to 8 percent slopes.	Slight to moderate: moderately well drained in places.	Moderate: slope; moderately well drained in places.	Slight	Severe: slow permeability.	Moderate: gravelly surface layer.
BnC	Bernardston gravelly silt loam, 8 to 15 percent slopes.	Moderate: moderately well drained in places; slope.	Severe: slope	Moderate: slope	Severe: slow permeability.	Moderate: slope; gravelly surface layer.
BnD	Bernardston gravelly silt loam, 15 to 25 percent slopes.	Severe: slope	Severe: slope	Severe: slope	Severe: slow permeability; slope.	Severe: slope
*BrB	Bernardston-Nassau shaly silt loams, 3 to 8 percent slopes. For Bernardston part of BrB, see BnB of Bernardston series; for Nassau part of BrB, see NAC of Nassau series.					
*BrC	Bernardston-Nassau shaly silt loams, 8 to 15 percent slopes. For Bernardston part of BrC, see BnC of Bernardston series; for Nassau part of BrC, see NAC of Nassau series.					

See footnote at end of table.

TABLE 8.—*Degree and kind of limitations to*

Map symbols	Soils	Homesites	Shopping centers and small industrial buildings	Local roads and streets	Septic tank absorption fields	Lawns and landscaping
*BSCK	Bernardston-Nassau shaly silt loams, rolling and hilly. For Bernardston part of BSCK, see BnD of Bernardston series; for Nassau part of BSCK, see NAC of Nassau series.					
BTC	Bernardston very stony soils, gently sloping through moderately steep.	Moderate: moderately well drained in places; slope. Severe in places: moderately steep slope.	Severe: slope....	Moderate: slope. Severe in places.	Severe: slow permeability; slope in places.	Severe: very stony surface layer.
BUF	Bernardston soils, steep and very steep.	Severe: slope.....	Severe: slope....	Severe: slope....	Severe: slope; slow permeability.	Severe: slope....
Ce	Carlisle muck.....	Severe: very poorly drained organic deposit.	Severe: very poorly drained organic deposit.	Severe: very poorly drained organic deposit.	Severe: frequent ponding.	Severe: very poorly drained organic deposit.
CHC	Charlton association, very stony, gently sloping and sloping.	Moderate: very stony surface layer; slope.	Severe: slope....	Moderate: slope.	Moderate: slope; moderate permeability; very stony surface layer.	Severe: very stony surface layer.
CHE	Charlton association, very stony, moderately steep and steep.	Severe: slope.....	Severe: slope....	Severe: slope....	Severe: slope....	Severe: slope; very stony surface layer.
CIA	Claverack loamy fine sand, 0 to 2 percent slopes.	Moderate: moderately well drained.	Moderate: moderately well drained.	Slight.....	Severe: very slow permeability in clayey substratum.	Severe: loamy fine sand surface layer.
CIB	Claverack loamy fine sand, 2 to 6 percent slopes.	Moderate: moderately well drained.	Moderate: moderately well drained; slope.	Slight.....	Severe: very slow permeability in clayey substratum.	Severe: loamy fine sand surface layer.
Cs	Cosad fine sandy loam.	Severe: somewhat poorly drained.	Severe: somewhat poorly drained.	Moderate: somewhat poorly drained.	Severe: very slow permeability in clayey substratum.	Moderate: somewhat poorly drained.
Cv	Covington silty clay loam.	Severe: poorly drained.	Severe: poorly drained.	Severe: poorly drained.	Severe: very slow permeability.	Severe: poorly drained.
FaB	Farmington loam, 0 to 8 percent slopes.	Severe: bedrock at depth of 10 to 20 inches.	Severe: bedrock at depth of 10 to 20 inches.	Severe: bedrock at depth of 10 to 20 inches.	Severe: bedrock at depth of 10 to 20 inches.	Severe: bedrock at depth of 10 to 20 inches.

See footnote at end of table.

TABLE 8.—*Degree and kind of limitations to*

Map symbols	Soils	Homesites	Shopping centers and small industrial buildings	Local roads and streets	Septic tank absorption fields	Lawns and landscaping
*FCC	Farmington-Rock outcrop association, nearly level through moderately steep. For Rock outcrop part, see Rock outcrop ROF.	Severe: bedrock at depth of 10 to 20 inches; very rocky.	Severe: bedrock at depth of 10 to 20 inches; slope in places.	Severe: bedrock at depth of 10 to 20 inches; slope in places.	Severe: bedrock at depth of 10 to 20 inches; slope in places.	Severe: bedrock at depth of 10 to 20 inches; slope in places; very rocky.
*FCF	Farmington-Rock outcrop association, steep and very steep. For Rock outcrop part of FCF, see Rock outcrop ROF.	Severe: slope; bedrock at depth of 10 to 20 inches; very rocky.	Severe: slope; bedrock at depth of 10 to 20 inches.	Severe: slope; bedrock at depth of 10 to 20 inches.	Severe: slope; bedrock at depth of 10 to 20 inches.	Severe: slope; bedrock at depth of 10 to 20 inches; very rocky.
FL	Fluvaquents.....	Severe: frequent flooding; dominantly poorly drained or very poorly drained.	Severe: frequent flooding; dominantly poorly drained or very poorly drained.	Severe: frequent flooding; dominantly poorly drained or very poorly drained.	Severe: frequent flooding; dominantly poorly drained or very poorly drained.	Severe: poorly drained; very gravelly and sandy surface layer in places.
Fr	Fredon silt loam.....	Severe: somewhat poorly drained or poorly drained.	Severe: somewhat poorly drained or poorly drained.	Moderate or severe: somewhat poorly drained or poorly drained.	Severe: somewhat poorly drained or poorly drained.	Moderate or severe: somewhat poorly drained or poorly drained.
Ha	Halsey mucky silt loam.	Severe: very poorly drained.	Severe: very poorly drained.	Severe: very poorly drained.	Severe: very poorly drained.	Severe: very poorly drained.
Hb	Hamlin silt loam....	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Moderate: subject to flooding.
HcA	Hartland very fine sandy loam, 0 to 2 percent slopes.	Slight.....	Slight.....	Slight.....	Slight.....	Slight.....
HcB	Hartland very fine sandy loam, 2 to 6 percent slopes.	Slight.....	Moderate: slope.	Slight.....	Slight.....	Slight.....
HcC	Hartland very fine sandy loam, 6 to 12 percent slopes.	Moderate: slope....	Severe: slope....	Moderate: slope.	Moderate: slope.	Moderate: slope.
HcD	Hartland very fine sandy loam, 12 to 20 percent slopes.	Severe: slope.....	Severe: slope....	Severe: slope....	Severe: slope....	Severe: slope....
HeA	Herkimer gravelly silt loam, 0 to 3 percent slopes.	Moderate: dominantly moderately well drained.	Moderate: dominantly moderately well drained.	Slight.....	Moderate: dominantly moderately well drained.	Moderate: gravelly surface layer.
HeB	Herkimer gravelly silt loam, 3 to 8 percent slopes.	Moderate: dominantly moderately well drained.	Moderate: dominantly moderately well drained; slope.	Slight.....	Moderate: dominantly moderately well drained.	Moderate: gravelly surface layer.

See footnote at end of table.

TABLE 8.—*Degree and kind of limitations to*

Map symbols	Soils	Homesites	Shopping centers and small industrial buildings	Local roads and streets	Septic tank absorption fields	Lawns and landscaping
*HLE	Hollis-Charlton association, moderately steep and steep. For Charlton part, see Charlton series, unit CHE.	Severe: bedrock at a depth of 10 to 20 inches; very rocky; slope.	Severe: bedrock at a depth of 10 to 20 inches; very rocky; slope.	Severe: slope; bedrock at a depth of 10 to 20 inches; very rocky.	Severe: slope; bedrock at a depth of 10 to 20 inches; very rocky.	Severe: slope; bedrock at a depth of 10 to 20 inches; very rocky.
*HNC	Hollis-Rock outcrop association, gently sloping and sloping. For Rock outcrop part, see Rock outcrop ROF.	Severe: bedrock at a depth of 10 to 20 inches; very rocky.	Severe: bedrock at a depth of 10 to 20 inches; very rocky; slope in places.	Severe: bedrock at a depth of 10 to 20 inches; very rocky.	Severe: bedrock at a depth of 10 to 20 inches; very rocky.	Severe: bedrock at a depth of 10 to 20 inches; very rocky.
HoA	Hoosic gravelly sandy loam, 0 to 3 percent slopes.	Slight	Slight	Slight	Slight [1]	Moderate: gravelly surface layer.
HoB	Hoosic gravelly sandy loam, 3 to 8 percent slopes.	Slight	Moderate: slope	Slight	Slight [1]	Moderate: gravelly surface layer.
HoC	Hoosic gravelly sandy loam, 8 to 15 percent slopes.	Moderate: slope	Severe: slope	Moderate: slope	Moderate: [1] slope.	Moderate: slope; gravelly surface layer.
HSDK	Hoosic gravelly sandy loam, rolling and hilly.	Severe: slope	Severe: slope	Severe: slope	Severe [1]: slope	Severe: slope
HTF	Hoosic and Otisville soils, steep and very steep.	Severe: slope	Severe: slope	Severe: slope	Severe [1]: slope	Severe: slope
HvB	Hudson silt loam, 2 to 6 percent slopes.	Moderate: moderately well drained; moderate shrink-swell potential.	Moderate: slope; moderately well drained; moderate shrink-swell potential.	Moderate: moderate shrink-swell potential.	Severe: very slow permeability.	Slight
HvC	Hudson silt loam, 6 to 12 percent slopes.	Moderate: slope; moderately well drained; moderate shrink-swell potential.	Severe: slope	Moderate: slope; moderate shrink-swell potential.	Severe: very slow permeability.	Moderate: slope.
HvD	Hudson silt loam, 12 to 20 percent slopes.	Severe: slope	Severe: slope	Severe: slope	Severe: slope; very slow permeability.	Severe: slope
HWE	Hudson and Vergennes soils, steep and very steep.	Severe: slope	Severe: slope	Severe: slope	Severe: slope; very slow permeability.	Severe: slope
KbA	Kingsbury silty clay, 0 to 2 percent slopes.	Severe: somewhat poorly drained.	Severe: somewhat poorly drained.	Moderate: somewhat poorly drained; moderate shrink-swell potential.	Severe: very slow permeability; somewhat poorly drained.	Severe: silty clay surface layer.
KbB	Kingsbury silty clay, 2 to 6 percent slopes.	Severe: somewhat poorly drained.	Severe: somewhat poorly drained.	Moderate: somewhat poorly drained; moderate shrink-swell potential.	Severe: very slow permeability; somewhat poorly drained.	Severe: silty clay surface layer.

See footnote at end of table.

TABLE 8.—*Degree and kind of limitations to*

Map symbols	Soils	Homesites	Shopping centers and small industrial buildings	Local roads and streets	Septic tank absorption fields	Lawns and landscaping
*RPf	Rock outcrop-Vergennes association, steep and very steep. For Rock outcrop part, see Rock outcrop ROF.	Severe: slope; very rocky.	Severe: slope; very rocky.	Severe: slope; very rocky.	Severe: slope; very slow permeability; very rocky.	Severe: slope; very rocky.
Sa	Saco silt loam.....	Severe: frequent flooding; very poorly drained.	Severe: frequent flooding; very poorly drained.	Severe: frequent flooding; very poorly drained.	Severe: frequent flooding; very poorly drained.	Severe: frequent flooding; very poorly drained.
SB	Saprists, Aquepts, and Aquents.	Severe: flooded with shallow water.	Severe: flooded with shallow water.	Severe: flooded with shallow water.	Severe: flooded with shallow water.	Severe: flooded with shallow water.
ScA	Scriba gravelly silt loam, 0 to 3 percent slopes.	Severe: somewhat poorly drained.	Severe: somewhat poorly drained.	Moderate: somewhat poorly drained.	Severe: slow permeability; somewhat poorly drained.	Moderate: gravelly silt loam surface layer; somewhat poorly drained.
ScB	Scriba gravelly silt loam, 3 to 8 percent slopes.	Severe: somewhat poorly drained.	Severe: somewhat poorly drained.	Moderate: somewhat poorly drained.	Severe: slow permeability; somewhat poorly drained.	Moderate: gravelly silt loam surface layer; somewhat poorly drained.
SDC	Scriba very stony soils, nearly level through sloping.	Severe: somewhat poorly drained.	Severe: slope; somewhat poorly drained.	Moderate: slope; somewhat poorly drained.	Severe: slow permeability; somewhat poorly drained.	Severe: very stony surface layer.
Su	Sun loam.....	Severe: poorly drained and very poorly drained.	Severe: poorly drained and very poorly drained.	Severe: poorly drained and very poorly drained.	Severe: slow permeability; poorly drained and very poorly drained.	Severe: poorly drained and very poorly drained.
V	Sun very stony soils.	Severe: poorly drained and very poorly drained.	Severe: poorly drained and very poorly drained.	Severe: poorly drained and very poorly drained.	Severe: poorly drained and very poorly drained; slow permeability.	Severe: very stony surface layer; poorly drained and very poorly drained.
Te	Teel silt loam.....	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject flooding.	Moderate: subject to flooding.
VeB	Vergennes silty clay loam, 2 to 6 percent slopes.	Moderate: moderately well drained; moderate shrink-swell potential.	Moderate: moderately well drained; moderate shrink-swell potential.	Moderate: moderate shrink-swell potential.	Severe: very slow permeability.	Moderate: silty clay loam surface layer.
VeC	Vergennes silty clay loam, 6 to 12 percent slopes.	Moderate: slope; moderately well drained; moderate shrink-swell potential.	Severe: slope....	Moderate: slope; moderate shrink-swell potential.	Severe: very slow permeability.	Moderate: silty clay loam surface layer; slope.
VeD	Vergennes silty clay loam, 12 to 20 percent slopes.	Severe: slope.....	Severe: slope....	Severe: slope....	Severe: slope; very slow permeability.	Severe: slope....
Wa	Wallington silt loam, sandy substratum.	Severe: somewhat poorly drained.	Severe: somewhat poorly drained.	Moderate: somewhat poorly drained.	Severe: slow permeability; somewhat poorly drained.	Moderate: somewhat poorly drained.

Pollution of water supply is a hazard.

HV

HEBRON VALLEY PRODUCTS CORPORATION

CHAMBERLIN MILLS ROAD, RD 2, SALEM, NEW YORK 12865

June 5, 1987

New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Attention: Mr. Charles P. Goddard, Chief
Bureau of Hazardous Waste Control
Division of Solid and Hazardous Wastes

Gentlemen:

This is in response to your letter of May 1, 1987 regarding waste material deposited at Hebron Valley Products Corporation #553016 site in Hebron, Washington County. Answers to the questions outlined in your letter are given below.

a. Hebron Valley Products Corporation was the only generator using this site.

b. The material stored at this site is derived from the vapors which are distilled from the hardwood feedstock during the production of lump charcoal. It consists mainly of condensed water-soluble compounds, generally known as wood creosote and also some heavier non-water-soluble wood tars. The material collected resulted from condensation in the piping associated with the charcoal production retorts. Most of the vapors generated in the charcoaling process were either burned in the process or were vented to the atmosphere. There are approximately 55 partially filled 50 gallon steel drums stored at the site.

c. The charcoal plant was in active operation from July 1965 through 1971. From 1972 through 1979 it operated on an intermittent and very limited basis, after which it was shut down.

d. Hardwood slabs from sawmill discard were saved into 12 to 15 inch lengths and were elevated to the charging gates at the top of the two vertical steel charcoal retorts. After filling, the retorts were sealed and an auxiliary oil burner was lighted off to heat the wood and a circulating fan was started to pull the hot burner gases up through the wood in the retort. The hot gases gradually warmed the wood and distilled off the moisture and very light volatiles in the wood. When wood temperature reached about 300F the oil burner was shut down and the gases being distilled from the wood were used to further heat the wood. The heating was then continued over a period of 6 to 10 hours until a wood temperature of 600F was reached and practically all of the volatile matter had been distilled off, leaving the pure carbon charcoal residue. The retort was then tightly sealed to prevent further heating or combustion of the charcoal and the retort was then allowed to cool from 24 to 60 hours. The charcoal was then removed through the bottom gate of the retort, sized, seived and packaged for sale.

The creosote condensing in the vapor recirculating ducts associated with the circulating fan gradually accumulated at a low spot in the system and was periodically drawn off into a steel barrel in order to keep the ducts clear. When the barrel became full it was capped and moved to the storage site. A small amount of the creosote was sold for dipping fence posts and for use as a stain on farm building exteriors, but most of the production is still at the site.

e. There has been no testing or special monitoring of the site. The tops of perhaps half of the steel barrels have rusted through, allowing rain water to enter and mix with the lighter creosote compounds and to a degree allowing gradual leakage onto the ground and into the adjacent Black Creek. The heavier tars remain at the bottom of the barrels. We have no plans for testing or remedial action at present.

f. There are no known adverse health or environmental problems associated with the site. Adjacent vegetation has if anything been stimulated. The trout in Black Creek do not seem to have been affected. A growth of sumach bushes and vines covers the barrels so that they do not adversely affect the area's looks.
g. In the distillation of wood as many as 40 different compounds may be formed, depending on the type of wood being heated and the temperature at which the vapors are released from the wood. Since the creosote is partially effective as a fence post life extender, there is some slowing on the degradation of the wood. One customer for the creosote used it to paint his horse stalls to keep the horses from chewing on the boards lining the stalls, with no adverse effect on the horses. We believe the subject site is thus a relatively harmless one.

If we can be of further assistance in this matter kindly advise us.

Yours truly,

Charles D. Swift

Charles D.Swift
President

YEC, INC.
Forest View Professional Building
10 Pine Crest Road
Valley Cottage, NY 10989

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual

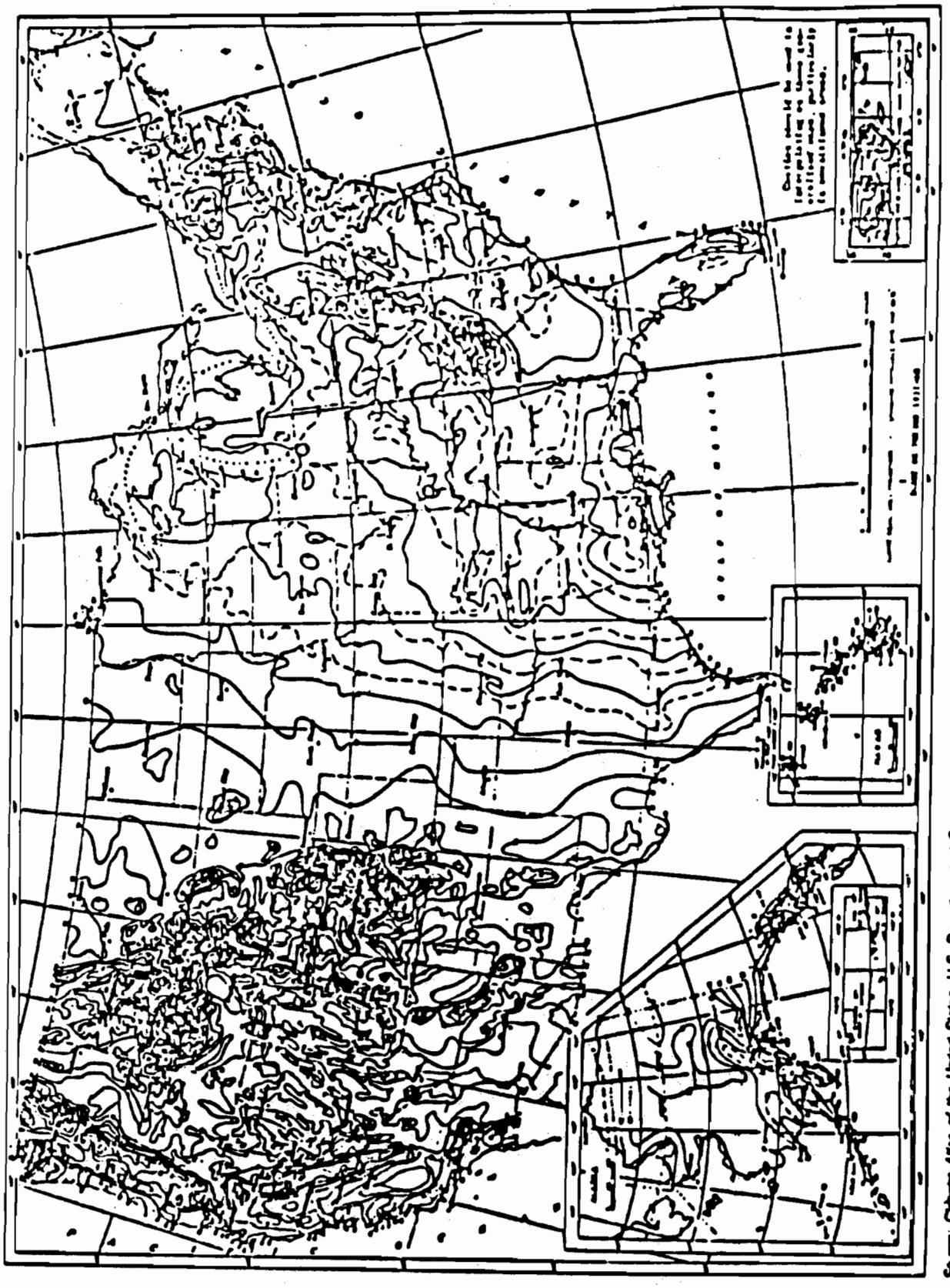
Kris W. Barrett
S. Steven Chang
Stuart A. Haus
Andrew M. Platt

August 1982

MTR-82W111

SPONSOR:
U.S. Environmental Protection Agency
CONTRACT NO.:
68-01-6278

The MITRE Corporation
Metrek Division
1820 Dolley Madison Boulevard
McLean, Virginia 22102



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Asheville, N.C., 1979.

FIGURE 5
NORMAL ANNUAL TOTAL PRECIPITATION
(INCHES)

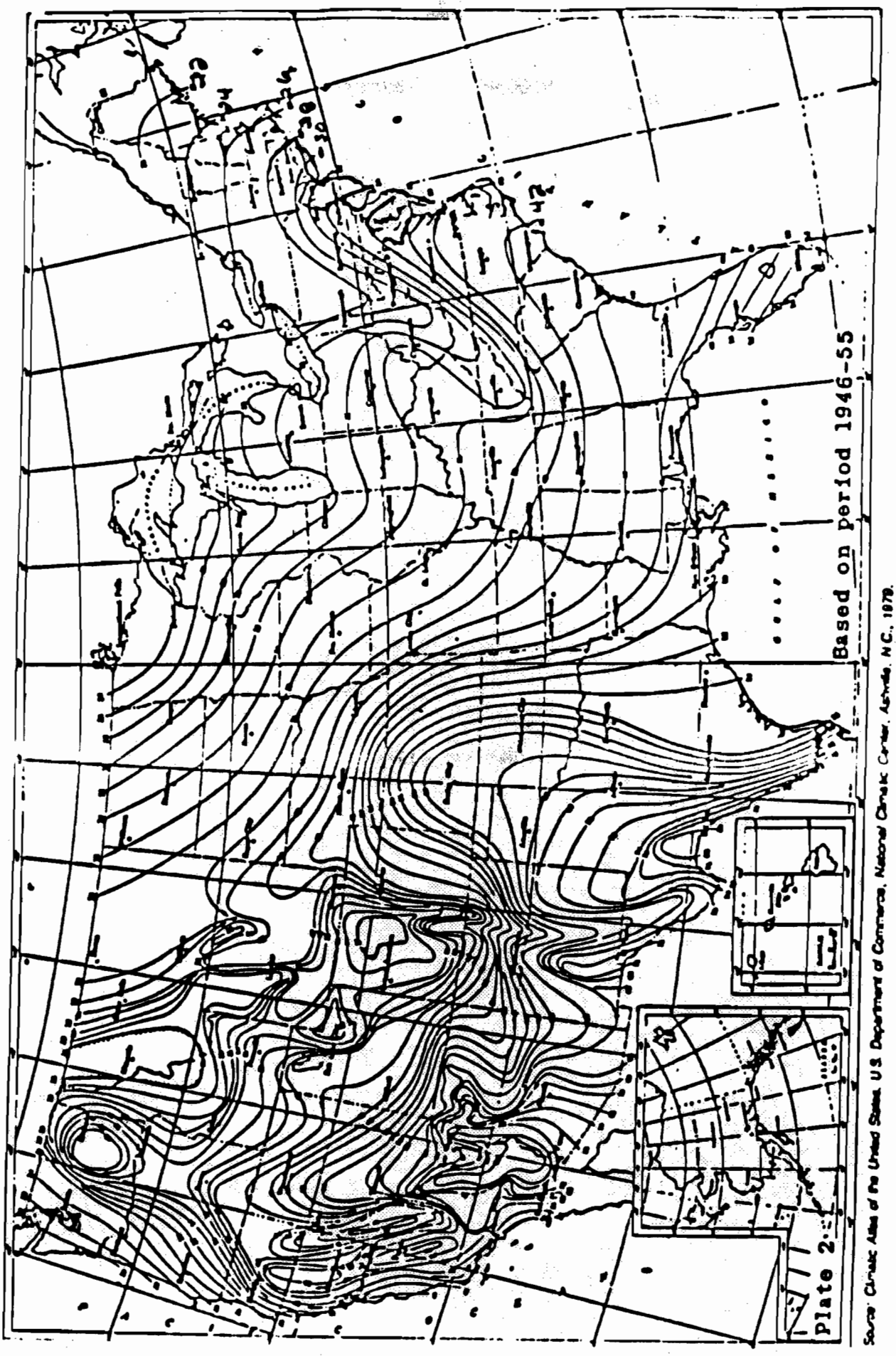
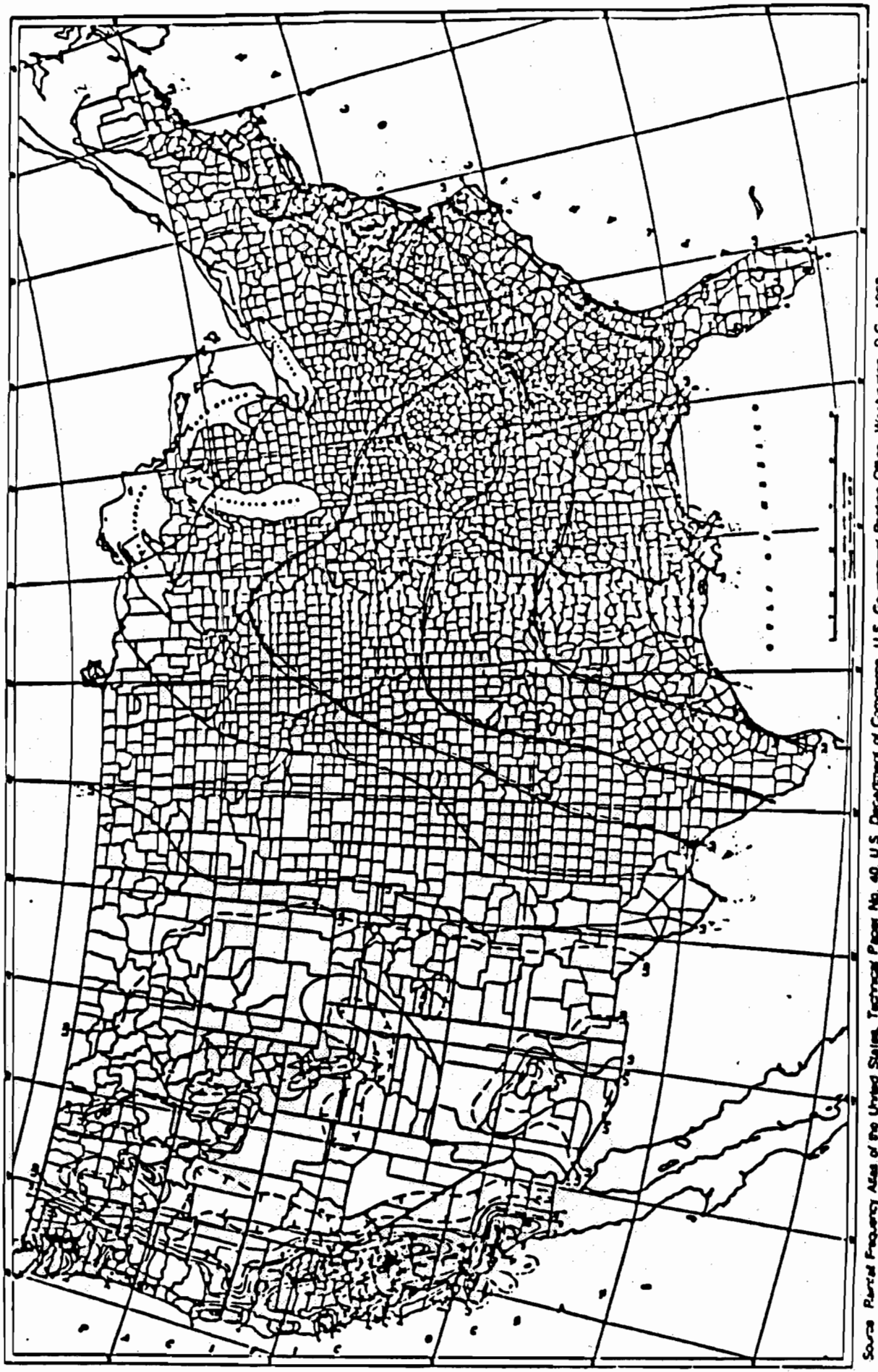


FIGURE 4
MEAN ANNUAL LAKE EVAPORATION
(IN INCHES)



Source: Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington D.C., 1963

FIGURE 8
1-YEAR 24-HOUR RAINFALL
(INCHES)

Table 4 (cont.)

DRAFT
1/11/84

Chemical/Compound	Toxicity/ Persistence[1]	Toxicity[2]	Reactivity[2]
Nitric Acid	9	9	2
Nitroaniline, NOS	18	9	3
Nitrogen Compounds, NOS	12	0	
Nitroguanidine	12	9	3
Nitrophenol, NOS	15	9	2
Parathion	9	9	0
Pentachlorophenol (PCP)	18	9	0
Pesticides, NOS	18	9	0
Phenanthrene	15	9	0
Phenol	12	9	2*
Phosgene	9	9	1
Polybrominated Biphenyl (PBB), NOS	18	9	0
Polychlorinated Biphenyls, NOS	18	9	0
Potassium Chromate	18	9	0
Radium & Compounds, NOS (Ra)	18	9	2
Radon & Compounds, NOS (Rn)	15	9	0
2, 4-D, Salts & Esters	18	9	0
Selenium (Se)	18	9	0
Sevin (Carbaryl)	18	9	0
Sodium Cyanide	12	9	0
Styrene	9	6	1
Sulfate	9	0	0
Sulfuric Acid	9	9	2
1, 1, 2, 2-Tetrachloroethane	18	9	0
Tetrachloroethane, NOS	18	9	0
1, 1, 2, 2-Tetrachloroethene	12	6	0
Tetraethyl Lead	18	9	0
Tetrahydrofuran (I)	~~18~~ 15	6	0
Thorium & Compounds, NOS (Th)	18	9	2
Toluene	9	6	0
Toxaphene	18	9	0
Tribromomethane	18	9	1
1, 2, 4-Trichlorobenzene	15	6	0
1, 1, 1-Trichloroethane	12	6	0

DRAFT
1/11/84

Table 4 (cont.)

Chemical/Compound	Toxicity/ Persistence[1]	Toxicity[2]	Reactivity[2]
Heavy Metals, NOS	18	9	0
Heptachlor	18	9	0
Hexachlorobenzene	18	6	0
Hexachlorobutadiene (C_{16})	18	9	1
Hexachlorocyclohexane, NOS	18	9	0
Hexachlorocyclopentadiene ($C_{5,6}$)	18	9	2
Hydrochloric Acid	9	6	2
Hydrogen Sulfide	18	9	0
Indene	12	6	2
Iron & Compounds, NOS (Fe)	~~18~~ 12	9	0
Isophorone	12	6	0
Isopropyl Ether	9	3	1
Kelthane	15	6	0
Kepone	18	9	0
Lead (Pb)	18	9	0
Lindane	18	9	0
Magnesium & Compounds, NOS (Mg)	15	6	0
Manganese & Compounds, NOS (Mn)	~~18~~ 12	9	0
Mercury (Hg)	18	9	0
Mercury Chloride	18	9	0
Methoxychlor	15	6	0
4, 4-Methylene-Bis-(2-Chloroaniline)	18	9	0
Methylene Chloride	12	6	1
Methyl Ethyl Ketone	6	6	0
Methyl Isobutyl Ketone	12	6	0
4-Methyl-2-Nitroaniline	12	9	3
Methyl Parathion	9	9	0
2-Methylpyridine	12	6	0
Mirex	18	9	0
Napthalene	9	6	0
Nickel & Compounds, NOS (Ni)	18	9	0

URS

AN INTERNATIONAL PROFESSIONAL SERVICES ORGANIZATION

URS COMPANY, INC.
CONSULTING ENGINEERS
570 DELAWARE AVENUE
BUFFALO, NEW YORK 14202
TEL: (716) 883-5525

NEW YORK
MONTVALE NJ
BUFFALO
ATLANTA
TAMPA
HATO REY PR
WASHINGTON DC
BOSTON
CLEVELAND
DENVER
DALLAS
SEATTLE
SAN FRANCISCO
SAN MATEO, CA

FRAMED
URS COMPANY

September 25, 1987

Mr. Charles D. Swift
RD 2 Box 132
Salem, New York 12865

JOB # _____

Dear Mr. Swift:

As discussed during our meeting on September 16, 1987, URS Company, Inc. is currently conducting a Phase I investigation of the Hebron Valley Products site located on Tiplady Road, Town of Hebron, Washington County, New York.

We are performing this investigation for the New York State Department of Environmental Conservation pursuant to the requirements of the New York State Superfund Law (Chapter 857 of the Laws of 1982).

The following information was provided during the site inspection and subsequent phone call on September 23, 1987:

- Charles D. Swift has owned and operated the on-site charcoal production facility (Hebron Valley Products) since about 1965. The facility ceased operation in 1979.

- The property, which is estimated at 1/4-1/2 acre in size, has been owned by Mr. Swift from about 1945 to present. Hebron Valley Products Corporation (a privately owned corporation) actually holds title to the property.

- Approximately fifty-five 50-gallon drums, which stored the liquid resulting from condensation during the charcoaling process, remain at the site. These drums were originally full to nearly-full; however, the majority of the drums are presently empty as a result of leakage. Approximately 1/3 of the drums still contain some liquid waste (as well as rainwater resulting from the open tops). A few of the drums containing ~~the liquid waste~~ are presently full of corn cobs. These were dry empty drums when filled with the corn cobs.

- The on-site drums were rusted; holes were visible in several; the top lids were missing from many; and several were observed laying on their sides. The drums are stored in piles on the unlined ground surface.

- One 1,000-gallon tank (which contained #2 fuel oil for the burning process of the operation) is currently on-site. The tank is positioned on its side and lies on the unlined ground surface. An estimated 200 gallons of the fuel oil remain in the tank. A slight oily film was observed on the small area of ponded water around the tank. There was no other apparent leaking from the tank (from the top and sides).

URS

AN INTERNATIONAL PROFESSIONAL SERVICES ORGANIZATION

- The site is not fenced.

- The residences near the intersection of Chamberlin Mill Road and Tiplady Road use private wells for a sole source of water. There are no public water systems serving these houses.

We would appreciate if you would review this information, note any necessary corrections, and return a signed and dated copy to indicate your concurrence. Your prompt attention to this would be appreciated, as the information is necessary to complete our evaluation of the site.

Sincerely,

URS COMPANY, INC.

Linda J. Clark

Linda J. Clark
Project Geologist

LJC/bc
9/25/87L5
35154-01

I agree with the information as it is presented. (with minor deletions as noted)

(Charles Donald Swift)
Charles D. Swift

10/6/87
Date

GUIDELINES FOR THE PHASE II INVESTIGATION OF THE HEBRON VALLEY CORPORATION INACTIVE HAZARDOUS WASTE SITE

TOWN OF HEBRON
WASHINGTON COUNTY, NY

YEC, INC.

Date: June 19, 1990

Time: 0930

Present: Judith A. Singer, Hydrogeologist, YEC, INC.
Mark Mecca, Staff Geologist, YEC, INC.
Charles Swift, Site and Property Owner

Contact Person: Charles Swift
Property Owner and Hebron Valley Prod. Corp. owner.
Chamberlain Mills Road
Hebron, NY.

General Site Access:

The site is located in the town of Hebron adjacent to the intersection of Chamberlain Mills Road and Tiplady Road. Mr. Swift's home is located on Chamberlain Mills Road and the site is visible from there. The site is most easily accessed from Tiplady Road.

Site Owners: Charles D. Swift
Hebron Valley Products
1-518-854-7291

Site Changes Since DEC Reconnaissance:

(1) There are Twenty-Five 55-gallon drums located next to the mill building that were not noted in the original DEC work plan.

(2) To the south of the retorts along Tiplady Road on the east side of the road is a pile of trash containing 3 to 4 empty chemical containers.

(3) Drum piles E-F-G, see revised site map in Section III.) are continuous piles with little to no separation between each making the proposed MW-2 and MW-4 completely inaccessible. Structures behind the HVP building also impede any possible well placement in that area.

(4) Vegetation has overgrown piles B, C, and D.

(5) If Surface Water Sampling point #3 can not be located because of overgrowth or the fact that it has dried up, it will not bes sampled.

(6) Since the monitoring well locations of MW-4 and MW-2 are presently inaccessible, moving the wells would considerably decrease the chance of detecting any contamination. Since MW-1 is going to be installed only 50 to 100 feet west of the proposed MW-4 location, it is suggested that only three wells be installed at the Hebron Valley Site with the third well(MW-2) being placed west of the original proposed location of MW-2.

Air Monitoring:

HNU - < 1 ppm
OVA - Background - 12 ppm, < 1 ppm above background

Though instruments registered <2 ppm above background, a strong steady charcoal odor is easily detectable in the vicinity of the drum piles and the HVP building.

Utility Clearance

Yec, Inc. will notify the appropriate utilities for the purposes of underground clearance prior to the scheduled drilling date.

Monitoring Well Access:

PROPOSED LOCATIONS:

MW-1 and MW-3 are easily accessible.
MW-2 and MW-4 presently are inaccessible.
YEC proposed well MW-2 is easily accessible.

Overhead power lines are in the direct vicinity of MW-3 and care should be taken when moving the drill rig around in this area.

Usable Potable Water Source:

All water is derived from private wells in the area.

Installation of rock wells in this area is expected to consume large amounts of water.

Possible Sources are:

* Water from the creek upstream and at a practical distance away from the site. (See Revised Site Map-Section III.)

Recommended Relocation of Monitoring Wells:

Final locations of proposed monitoring wells will be decided in the field by Yec, Inc. and the NYSDEC representative.

MW-1 No Change
MW-3 No Change
MW-2 New Location Proposed

Presently, there is no information regarding flow direction in the bedrock in the vicinity of the site. The highly fractured nature of the bedrock underlying the site makes it difficult to determine the fracture flow patterns and this makes the placement of the monitoring wells crucial to detect any contamination.

If the drum piles are not moved, the wells will have to be placed to the western side of the drum piles instead of in their midst, reducing the chance of detecting contamination in an area where the gradient is in question. The drilling of monitoring wells one and three first might provide insight into the flow characteristics of the bedrock aquifer and thus enable more insight into the placement of well MW-3. It is also noted that the basement of Mr. Swift's house which is at a depth of approximately 8 feet below ground level shows signs of groundwater infiltration from the overburden thus, the wells installed in the bedrock at this site may be shallow, about 20-25 feet.

Sampling Point Access:

Surface Water-Sediment Sample locations 1 and 2 are easily accessible. Waders or knee-high boots should be used though.

Recommended Relocation of Sampling Points:

Surface water sample #3 should be taken from the spring on the bank of the creek if the spring is flowing at the time of sampling.

SW-1,2/S-1,2 - No Change
SS-1,2, and 3 - No Change
SW-3 - No Change if spring is located.

On-Site Drum Inventory

Refer to Revised Site Map for location of drums at Hebron Valley Products site.

The following summaries describe the quantities and condition of the drums at locations labelled A through G.

A - 25 upright 55-gallon drums appear to be empty and are all covered, some rusted, side bung holes.

B - 30 rusted 55-gallon drums, upright, overgrown by vegetation, some empty and opened at top.

C - 25-30 rusted empty 55-gallon drums, opened top

D - 25 rusted empty 55-gallon drums, some opened topped. One drum is opened at the top and filled with rainwater. Condensation product can be easily sampled.**

E - Empty rusted 55-gallon drums on side.

F - 20-25 empty upright 55-gallon drums, some rusted.

G - 25-30 full closed 55-gallon drums stacked on side directly on ground. Can be sampled if opened. Some are rusted and leaking under pile.**

Important Note: One drum under easternmost retort directly under condensation pipe spigot can be easily sampled.

Drill Cuttings and Water Placement:

Drill cuttings and water from well development and coring may not need to be drummed pending field consultant's and state representatives decision.

Changes to Site Sketch:

(1) Waste pile south of site noted.

(2) No connecting road from Chamberlain Mills to Tiplady Road exists.

(3) 25 55-gallon drums next to Mill Building noted.

(4) Surface water sampling point #3 will be removed from sampling plan if spring is not located or has dried up.

(5) House locations have been revised.

RECOMMENDED Plan of action considering that the full drums as well as the empty drums on-site present and could present an impediment to monitoring well access and can cause a continuous source of groundwater contamination in a hydrologically active area adjacent to an active trout creek:

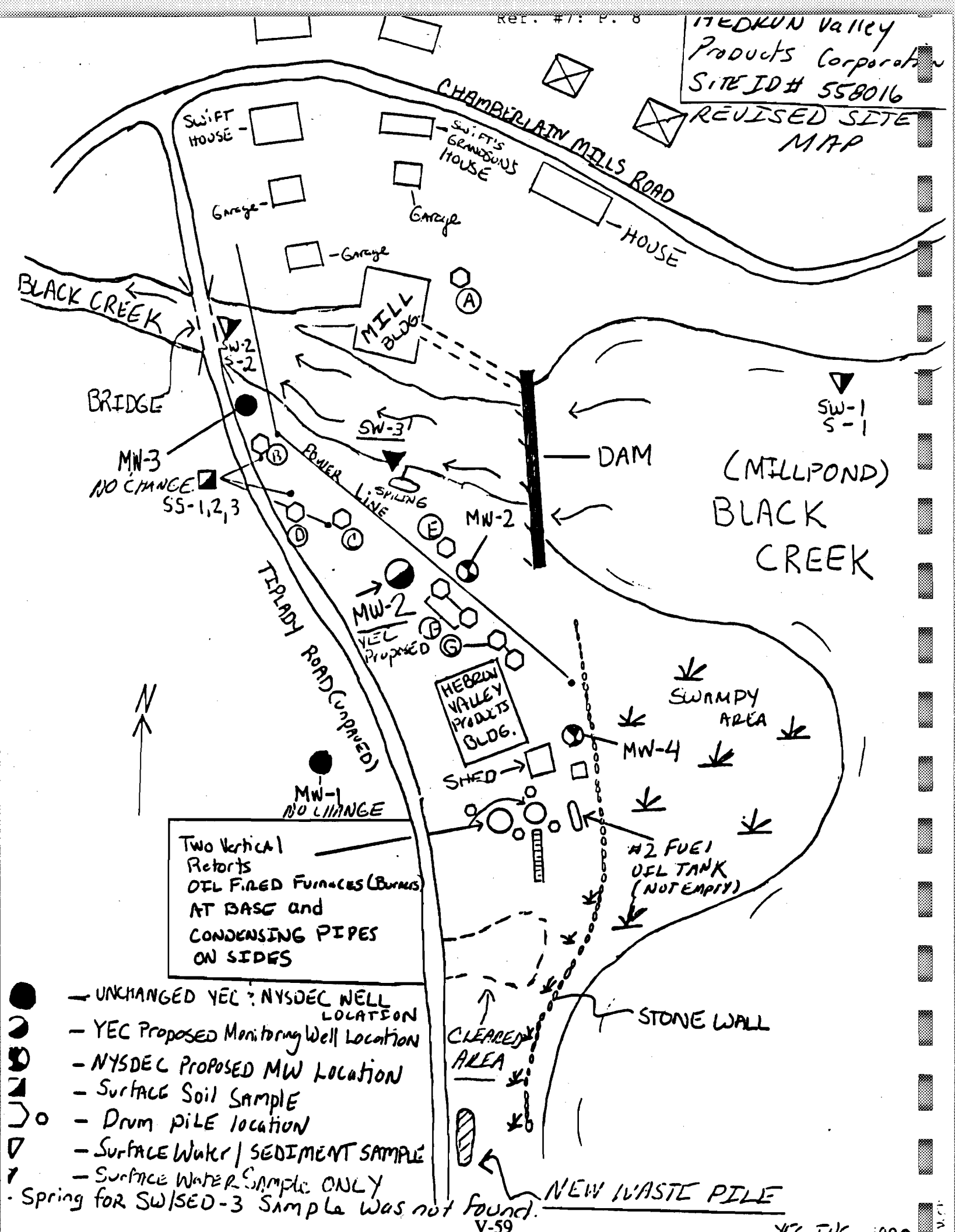
PLAN #1 (See Revised Site Map in Section III for well and sampling locations.

- Install monitoring wells in revised locations
  ↓
- Sample as planned (gw/sw/sed/soil/drums)
  ↓
- Assess contamination migration
  ↓
- Compile phase II report

III. REVISED SITE MAP

HEBRON Valley Products Corporation SITE ID # 558016

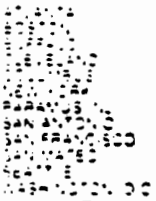
REVISED SITE MAP



- Spring for SW/SED-3 Sample Was not found.

URS

URS CORPORATION
570 DELAWARE AVENUE
BUFFALO, NEW YORK 14202-1207
(716) 883-5525



September 29, 1987

Mr. Ivan Watrous
Town of Hebron Highway Dept.
R.D. #3, Box #79
Granville, New York 12865

JOB # 5717-01

Dear Mr. Watrous:

As I mentioned during our telephone conversation on September 28, 1987, URS Corporation is currently conducting a Phase I investigation of the Hebron Valley Products Site located on Tiplady Road, Town of Hebron, Washington County, New York.

We are performing this investigation for the New York State Department of Environmental Conservation pursuant to the requirements of the New York State Superfund Law (Chapter 857 of the Laws of 1982).

This is to confirm our telephone conversation wherein you provided the following information:

- The entire population within the Town of Hebron and the Town of Salem within a 3-mile radius of the site (as indicated on the accompanying map) is served by private wells as a sole source of drinking water. There is no public water supply available to these areas.

- Surface water within 3 miles downstream from the site includes Black Creek, which is currently best categorized as "not currently used" from the following:

  - Not currently used
  - Commercial or industrial
  - Irrigation, economically important resources (e.g., shellfish), commercial food preparation, or recreation (e.g., fishing, boating, swimming)
  - Drinking Water

URS

We would appreciate if you would review this information, note any necessary corrections, and return a signed and dated copy to indicate your concurrence. Your prompt attention to this would be appreciated, as the information is necessary to complete our evaluation of the site.

Sincerely,

URS CORPORATION

Linda J. Clark

Linda J. Clark
Project Geologist

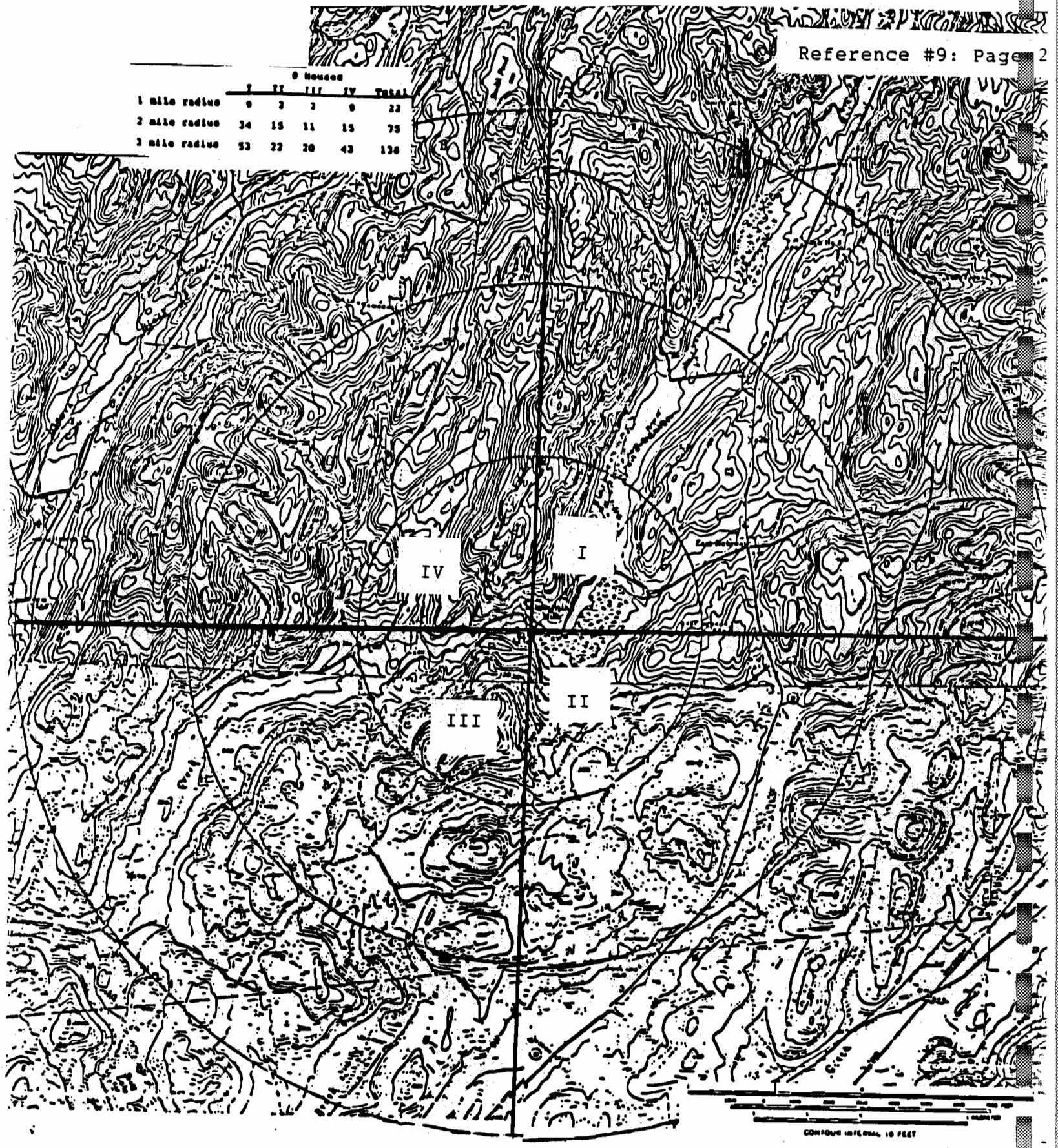
I agree with the information as it is presented.

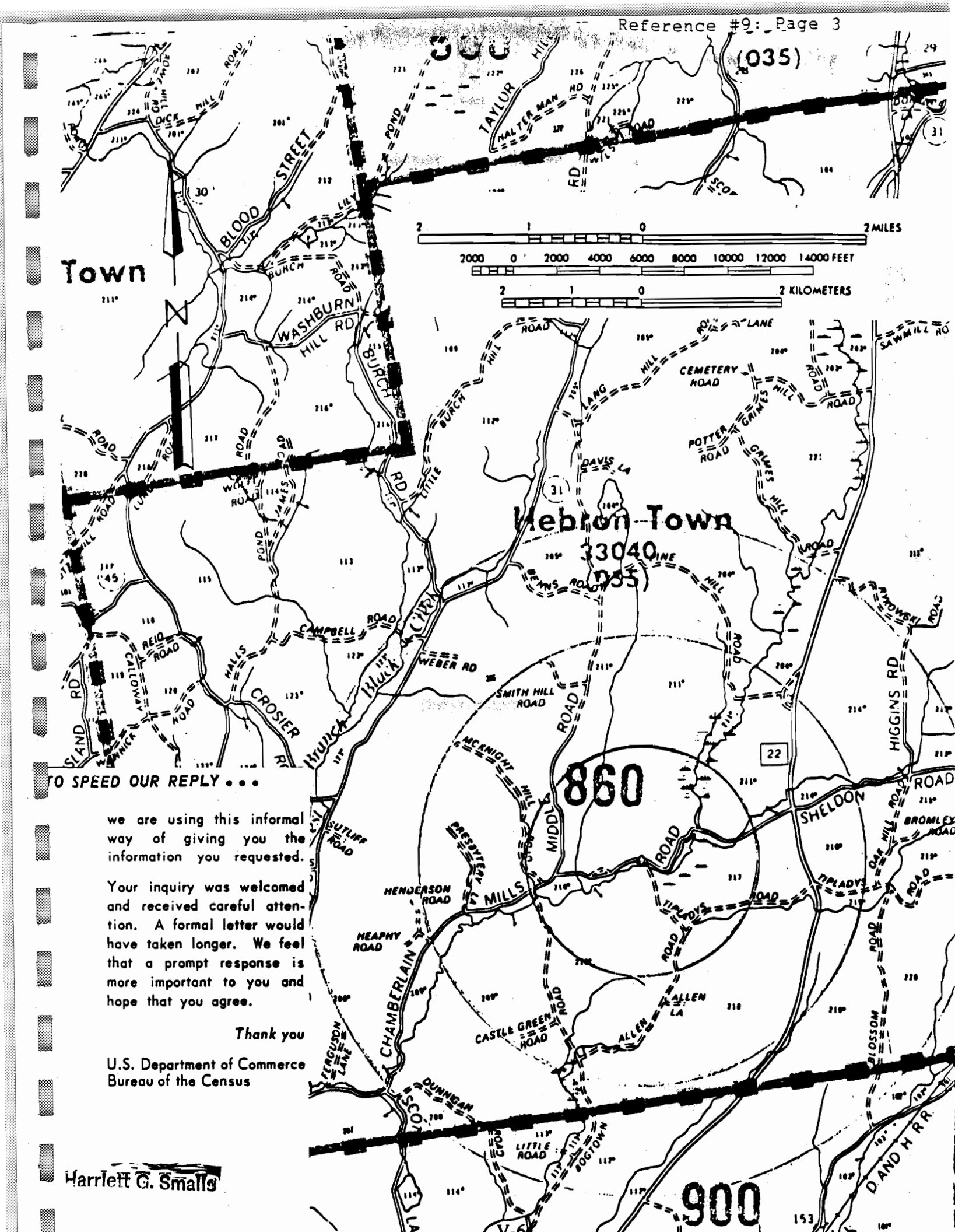
Ivan R. Watrous
Ivan Watrous

10/5/87
Date

LJC/mb
35154/L4


HEBRON
East Hebron
SITE
Chamberlain Mills
Sch No 11
Black
(Salem)
6370 III NE
SCALE 1:24000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL
AND 1944 MAGNETIC NORTH
14½°
1°09'
20 MILS


0 Houses
I
II
III
IV
Total
1 mile radius
9
3
2
8
22
2 mile radius
34
15
11
15
75
3 mile radius
53
22
20
43
136
IV
I
III
II
CONTOUR INTERVAL 10 FEET



TO SPEED OUR REPLY . . .

we are using this informal way of giving you the information you requested.

Your inquiry was welcomed and received careful attention. A formal letter would have taken longer. We feel that a prompt response is more important to you and hope that you agree.

Thank you

U.S. Department of Commerce
Bureau of the Census

Harriett G. Smalls

Census of Population and Housing, 1980--P.L. 94-171 Counts
(for definition of items and footnotes, see technical documentation)

ST	COU	MCD or CCD	Place	Precincts	Area Name	Total Population	White	Black	Amer. Indian, Eskimo and Aleut	Asian and Pacific Islander [1]	Other [2]	Persons of Spanish Origin [3]
							RACE					
36	115	050			Hartford town --Con.							
					Tract 0850 --Con.							
					Block 111.	62	62	-	-	-	-	-
					Block 112.	22	22	-	-	-	-	-
					Block 113.	99	99	-	-	-	-	1
					Block 114.	36	36	-	-	-	-	-
					Block 115.	26	26	-	-	-	-	-
					Block 116.	10	10	-	-	-	-	-
					Block Group 2.	1111	1110	-	1	-	-	8
					Block 201.	86	86	-	-	-	-	-
					Block 202.	51	51	-	-	-	-	-
					Block 203*	30	30	-	-	-	-	-
					Block 204.	-	-	-	-	-	-	-
					Block 205.	38	38	-	-	-	-	1
					Block 206.	188	188	-	-	-	-	-
					Block 207.	32	32	-	-	-	-	-
					Block 208.	56	56	-	-	-	-	-
					Block 209.	74	76	-	-	-	-	1
					Block 210.	118	117	-	1	-	-	6
					Block 211.	263	263	-	-	-	-	-
					Block 212.	51	51	-	-	-	-	-
					Block 213.	18	18	-	-	-	-	-
					Block 214*	12	12	-	-	-	-	-
					Block 215.	3	3	-	-	-	-	-
					Block 216.	15	15	-	-	-	-	-
					Block 217.	1	1	-	-	-	-	-
					Block 218.	6	6	-	-	-	-	-
					Block 219.	-	-	-	-	-	-	-
					Block 220.	4	[illegible]	-	-	-	-	-
					Block 221.	6	6	-	-	-	-	-
					Block 222.	16	16	-	-	-	-	-
					Block 223.	21	21	-	-	-	-	-
					Block 224.	20	20	-	-	-	-	-
36	115	055			Hebron town.	1288	1283	-	-	2	3	7
					Tract 0860.	1288	1283	-	-	2	3	7
					Block Group 1.	628	626	-	-	2	-	-
					Block 101.	9	9	-	-	-	-	-
					Block 102.	6	6	-	-	-	-	-
					Block 103.	-	-	-	-	-	-	-
					Block 104.	44	44	-	-	-	-	-
					Block 105.	23	23	-	-	-	-	-
					Block 106.	2	2	-	-	-	-	-
					Block 107.	35	35	-	-	-	-	-
					Block 108.	22	22	-	-	-	-	-
					Block 109.	27	27	-	-	-	-	-
					Block 110.	-	-	-	-	-	-	-
					Block 111.	29	27	-	-	2	-	-
					Block 112.	58	58	-	-	-	-	-
					Block 113.	19	19	-	-	-	-	-
					Block 114.	5	5	-	-	-	-	-
					Block 115.	55	55	-	-	-	-	-
					Block 116.	6	6	-	-	-	-	-
					Block 117.	12	12	-	-	-	-	-
					Block 118.	11	11	-	-	-	-	-
					Block 119.	10	10	-	-	-	-	-
					Block 120.	9	9	-	-	-	-	-
					Block 121.	3	3	-	-	-	-	-
					Block 122.	24	24	-	-	-	-	-
					Block 123.	27	27	-	-	-	-	-
					Block 124.	24	24	-	-	-	-	-
					Block 125.	30	30	-	-	-	-	-
					Block 126.	25	25	-	-	-	-	-
					Block 127.	59	59	-	-	-	-	-
					Block 128.	54	54	-	-	-	-	-
					Block Group 2.	660	657	-	-	-	3	7
					Block 201.	20	20	-	-	-	-	-
					Block 202.	13	13	-	-	-	-	-
					Block 203.	5	5	-	-	-	-	-
					Block 204.	67	67	-	-	-	-	-
					Block 205.	48	48	-	-	-	-	-
					Block 206.	160	158	-	-	-	2	3
					Block 207.	22	22	-	-	-	-	-
					Block 208.	-	-	-	-	-	-	-
					Block 209.	45	45	-	-	-	-	-
					Block 210.	13	13	-	-	-	-	-
					Block 211.	54	53	-	-	-	1	4
					Block 212.	-	-	-	-	-	-	-
					Block 213.	75	75	-	-	-	-	-
					Block 214.	41	41	-	-	-	-	-
					Block 215.	6	6	-	-	-	-	-
					Block 216.	13	13	-	-	-	-	-
					Block 217.	32	32	-	-	-	-	-
					Block 218.	15	15	-	-	-	-	-
					Block 219.	20	20	-	-	-	-	-
					Block 220.	-	-	-	-	-	-	-
					Block 221.	11	11	-	-	-	-	-
36	115	060			Jackson town	1228	1220	2	1	4	1	11
					Tract 0910.	1228	1220	2	1	4	1	11

United States Department of Agriculture
Soil Conservation Service
RD 1 Box 15C, Hudson Falls, NY 12839
Tel: (518) 747-2154

September 10, 1990

YEC, Inc.
Clarkstown Executive Park
612 Corporate Way, Suite 4M
Valley Cottage, NY 10989

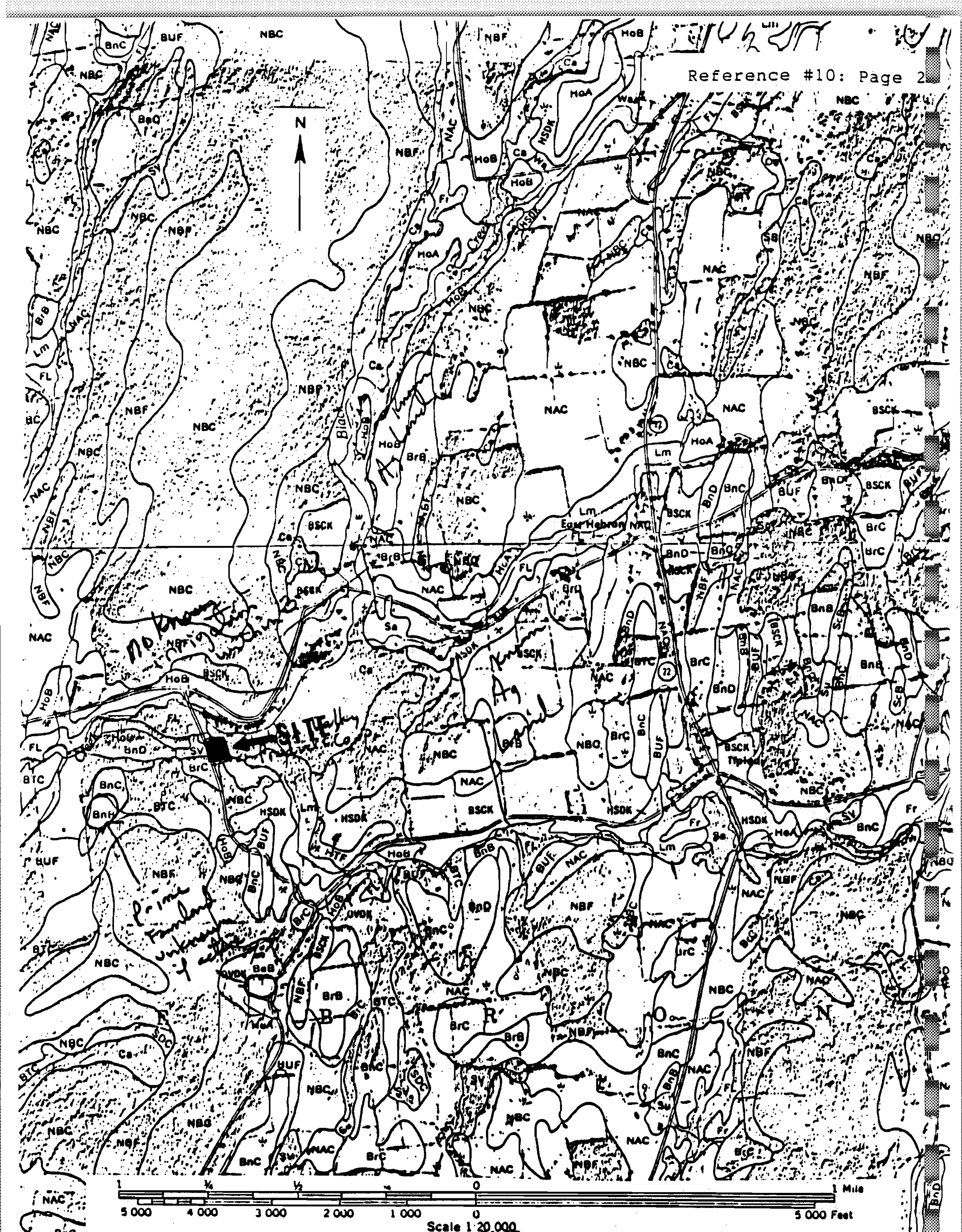
Dear Sirs:

Enclosed find some information as requested. To my knowledge, there are no public water supply intakes within 3 miles downstream of the sites. That's not to say some don't use water for livestock and irrigation of small gardens, etc.

I just marked on the maps known information. You may be able to obtain more information from ASCS located at RD1 Box 15B, Moss St., Hudson Falls, New York 12839.

Sincerely,

James K. Perry
District Conservationist


N
East Hebron
SITE
72
B R O N
NBC
NBF
NAC
BSCK
HSDK
BnC
BrC
BrB
BnD
HoB
HoA
Lm
FL
Ca
Sa
SV
BUF
BTC
OVDK
SDC
1 Mile
¾
½
0
5 000
4 000
3 000
2 000
1 000
0
5 000 Feet
Scale 1 20,000

WASHINGTON COUNTY, NEW YORK, PRIME FARMLAND MAPPING UNITS:

AmB Amenia silt loam, 3 to 8 percent slopes

BeA Belgrade silt loam, 0 to 2 percent slopes
BeB Belgrade silt loam, 2 to 6 percent slopes

BnB Bernardston gravelly silt loam, 3 to 8 percent slopes

ClA Claverack loamy fine sand, 0 to 2 percent slopes
ClB Claverack loamy fine sand, 2 to 6 percent slopes

Cs Cosad fine sandy loam - where drained

Fr Fredon silt loam - where drained

Hb Hamlin silt loam

HcA Hartland very fine sandy loam, 0 to 2 percent slopes
HcB Hartland very fine sandy loam, 2 to 6 percent slopes

HeA Herkimer gravelly silt loam, 0 to 3 percent slopes
HeB Herkimer gravelly silt loam, 3 to 8 percent slopes

OaB Oakville loamy fine ~~loam~~ Sand, 0 to 5 percent slopes

PaB Palatine shaly silt loam, 3 to 8 percent slopes

PtB Pittsfield stony fine sandy loam, 3 to 8 percent slopes

Te Teel silt loam

Wa Wallington silt loam, sandy substratum - where drained

New York State Department of Environmental Conservation

Wildlife Resources Center
Information Services
700 Troy-Schenectady Road
Latham, New York 12110-2400

Thomas C. Jorling
Commissioner

September 5, 1990

Ira Bickoff
YEC, Inc.
612 Corporate Way, Suite 4M
Valley Cottage, NY 10989

Dear Ms. Bickoff:

We have reviewed the Significant Habitat Unit and the NY Natural Heritage Program files with respect to your request for biological information for the two Phase II investigation sites in the Towns of Hebron and Argyle, Washington County.

We did not identify any significant habitats or rarities on the Hebron Valley Products site.

There are no rarities on the Doetsch Residence site but there is one significant habitat. This is the North Argyle Tamarack Swamp which is immediately adjacent to the site you identified. This area is known to contain a heron rookery, beavers, and a significant population of breeding waterfowl.

Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

This response applies only to known occurrences of rare animals, plants and natural communities and/or significant wildlife habitats. You should contact our regional office, Division of Regulatory Affairs, at the address enclosed for information regarding any regulated areas or permits that may be required (e.g., regulated wetlands) under State law.

If this project is still active one year from now we recommend that you contact us again so that we may update this response.

Sincerely,

B. Buffington

Burrell Buffington
Significant Habitat Unit

Enc.
cc: Reg. 5, Wildlife Regional Mgr.

PLEASE TAKE NOTE OF OUR ABOVE CHANGE OF ADDRESS

New York Heritage Program is supported in part by The Nature Conservancy

New York State Department of Environmental Conservation
Bureau of Wildlife
Hudson Street, Warrensburg, NY 12885-0220
Tel.: (518) 623-3671, 668-5441

Thomas C. Jorling
Commissioner

October 15, 1990

Ms. Ira Bickoff
Staff Geologist
YEC, Inc.
Clarkstown Executive Park
612 Corporate Way - Suite 4M
Valley Cottage, New York 10989

Dear Ms. Bickoff:

We have reviewed the Significant Habitat Program and the Natural Heritage Program files with respect to the property identified as Hebron Valley Products site (ID #558016) and Doetsch Residence (ID #558012).

We did not identify any potential impacts on endangered, threatened or special concern wildlife species, rare plant, animal or natural community occurrences or other significant habitats.

This response applies only to known occurrences of rare animals, plant and natural communities and/or significant wildlife habitats. However, in response to your request, the table that is attached lists DEC regulated freshwater wetlands within five miles of the three sites. The absence of data does not necessarily mean that rare or endangered elements, natural communities or other significant habitats do not exist on or adjacent to the proposed site, but rather our files currently do not contain any information which indicates the presence of these. Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should **not** be substituted for on-site surveys that may be required for environmental assessment.

If this proposed project is still active one year from now, we recommend that you contact us again so that we can update this response.

If we can be of further assistance, please do not hestiate to contact us.

Sincerely,

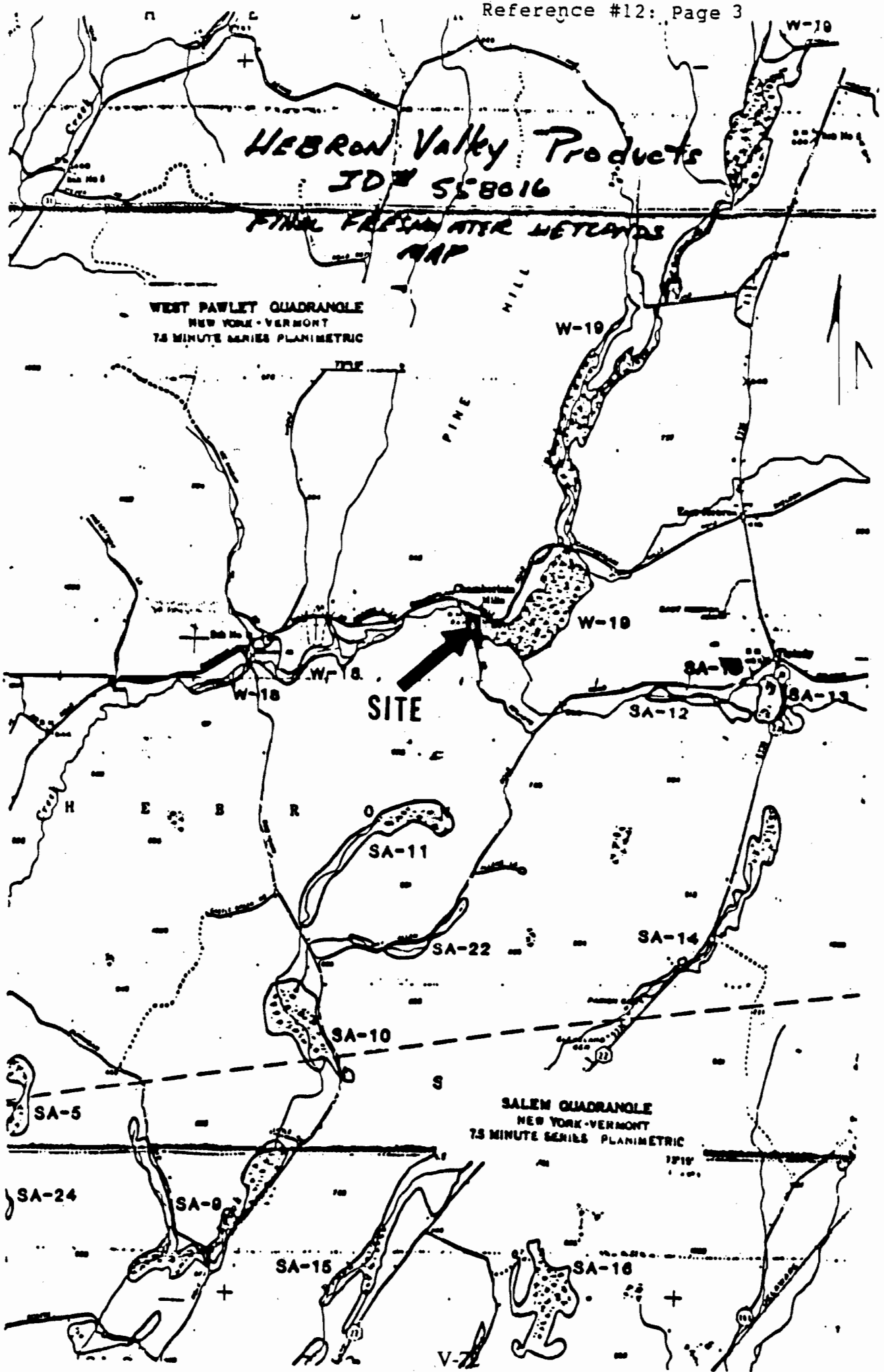
Alan Koechlein

Alan L. Koechlein
Senior Wildlife Biologist

ALK:slg
Attachment

The wetland along with the classification that within five miles of the three sites are listed below:

Hartford Quadrangle	Class	West Pawlet & Salem Quadrangle	
HA - 1	II	W - 18	II
HA - 2	II	W - 19	II
HA - 5	II	SA - 10	II
HA - 6	II	SA - 11	III
HA - 7	II	SA - 12	II
HA -10	I	SA - 13	II
HA -15	II	SA - 22	II
HA -16	III		


Hebron Valley Products
JD# 55-8016
Final Reclamation Wetlands
Map
WEST PAWLET QUADRANGLE
NEW YORK - VERMONT
7.5 MINUTE SERIES PLANIMETRIC
PINE HILL
W-19
W-18
SITE
SA-12
SA-11
SA-22
SA-14
SA-10
SA-5
SA-24
SA-9
SA-15
SA-16
SALEM QUADRANGLE
NEW YORK-VERMONT
7.5 MINUTE SERIES PLANIMETRIC

2-2=3 p1

INTERVIEW ACKNOWLEDGEMENT FORM

SITE NAME: Hebron Valley Products Corp.

I.D. NUMBER:

PERSON CONTACTED: Nelson Greene

DATE: 2/4/91

AFFILIATION: Fire Chief

PHONE NUMBER: 518/854-3037

TYPE OF CONTACT: Telephone

CONTACT PERSON(S): Ira Bickoff

INTERVIEW SUMMARY:

This is in regard to our phone conversation concerning the Hebron Valley Products Corp. Site, which to the best of your knowledge does not pose a fire or explosion threat to the public or environment.

ACKNOWLEDGEMENT

I have read the above transcript and I agree that it is an accurate summary of the information verbally conveyed to the YEC, Inc. interviewer (as revised below, if necessary).

Revisions (please write in any corrections needed to above transcript):

Signature:

Date:

YEC, Inc.

5.5 USEPA SITE INSPECTION FORM 2071-13

Site Inspection Report

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 • SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: NEW

II. SITE NAME AND LOCATION

01 SITE NAME	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Hebron Valley Products Corp.	Tiplady Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Town of Hebron	NY	12865	Washington		

09 COORDINATES	10 TYPE OF OWNERSHIP (Check one)
LATITUDE 43°15'15".N / LONGITUDE 73°18'43".W	[X] A. PRIVATE [ ] B. FEDERAL _____ [ ] C. STATE [ ] D. COUNTY [ ] E. MUNICIPAL [ ] F. OTHER _____ [ ] G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
6 / 19 / 90 (MONTH DAY YEAR)	[ ] ACTIVE [X] INACTIVE	1965 (BEGINNING YEAR) / 1979 (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
[ ] A. EPA [ ] B. EPA CONTRACTOR _____ (Name of firm) [ ] C. MUNICIPAL [ ] D. MUNICIPAL CONTRACTOR _____ (Name of firm)
[ ] E. STATE [X] F. STATE CONTRACTOR YEC, Inc. (Name of firm) [ ] G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Judy Singer	RPG	YEC, Inc.	(914268-3203
Mark Mecca	Staff Geologist	YEC, Inc.	(914268-3203
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Charles D. Swift	Owner	R.D. 2, Box 132 Salem, NY 12865	(518854-7291
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
[X] PERMISSION [ ] WARRANT	0900	Hazy, 80 F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Judy Singer	YEC, Inc.	(914)2683203

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Ira Bickoff		YEC, Inc.	914 268-3203	10-15-90 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	NEW

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A. SOLID
- ☐ B. POWDER, FINES
- ☐ C. SLUDGE
- ☐ D. SLURRY
- ☒ F. LIQUID
- ☐ G. GAS
- ☒ O. OTHER wood tars (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS: ____
- CUBIC YARDS: ____
- NO. OF DRUMS: Approx. 34

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A. TOXIC
- ☐ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☒ D. PERSISTENT
- ☐ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☐ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE	200	gallons	#2 fuel oil in above ground tank.
SOL	SOLVENTS			
PSO	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	1500	gallons	wood creosote and tars
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
Soil	Pentachlorophenol (PCP)	87-86-5	Drum	7000	ug/L

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

New York State Department of Environmental Conservation (NYSDEC)
United States Department of Agriculture, Soil Conservation Service
Hebron Valley Products Corporation - Charles D. Swift (Owner)

EPA FORM 2070-13(7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: NEW

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 524
02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

The entire population within a 3 mile radius of the site (524) is served by private wells.

01 ☒ B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Black Creek and NYSDEC wetlands (W-19) lie adjacent to site.

01 ☐ C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

The site does not pose a significant fire and explosion threat.

01 ☐ E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: 84
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Approximate population within a 1 mile radius of site.

01 ☒ F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: 0.5 (ACRES)
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Area affected by leaky drums.

01 ☒ G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 524
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

The entire population within a 3 mile radius of site (524) is served by private wells.

01 ☐ H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 524
02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Population within 3 miles could be affected by groundwater contamination.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	NEW

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include names of species)

None reported.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoffs/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 524 — 04 NARRATIVE DESCRIPTION

Approximate population within 3 mile radius.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None in area.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

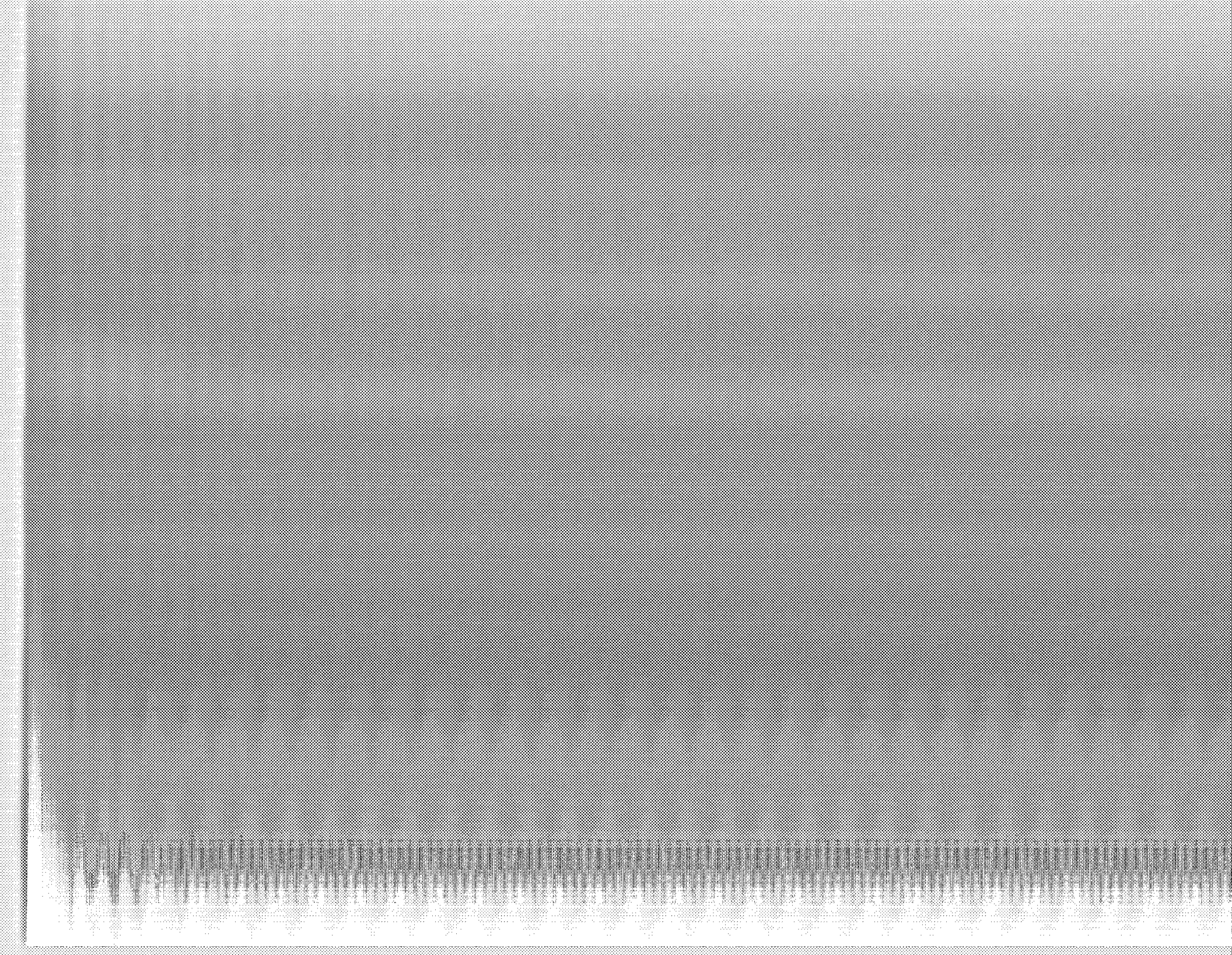
None known.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 524 (3 mile radius)

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NYSDEC
Charles D. Swift (Owner)



EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	NFW

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND	1500	gallons
☒ D. TANK, ABOVE GROUND	200	gallons
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

- ☒ A. BUILDINGS ON SITE

06 AREA OF SITE

Approx. 1.0 (Acres)

07 COMMENTS

Drums contain wood creosote and/or tars and stored on unlined ground surface.
A large tank containing #2 fuel oil is stored on its side on an unlined ground surface.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☒ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

The majority of drums are empty, either never having been filled or having spilled their contents on the ground.
The large fuel oil tank is intact and sound.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

The facility is not surrounded by fences or other artificial or natural barriers.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

NYSDEC
Charles D. Swift (Owner)
Site inspection

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	NEW

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☒ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

N/A

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

APPENDIX A
UPDATED WORK PLAN

GUIDELINES FOR THE PHASE II INVESTIGATION OF THE HEBRON VALLEY CORPORATION INACTIVE HAZARDOUS WASTE SITE

TOWN OF HEBRON
WASHINGTON COUNTY

YEC, INC.
CLARKSTOWN EXECUTIVE PARK
612 CORPORATE WAY
SUITE 4M
VALLEY COTTAGE, NY 10989

I.NYSDEC WORK PLAN

(1) Work Plan Update
(2) Rock Wells
(4)

PHASE II WORK PLAN

ENGINEERING INVESTIGATIONS OF

INACTIVE HAZARDOUS WASTE DISPOSAL SITES

HEBRON VALLEY PRODUCTS CORPORATION, SITE ID #558016

TOWN OF HEBRON / WASHINGTON COUNTY

JANUARY, 1989

Prepared For:
New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Prepared By:
Division of Hazardous Waste Remediation
Bureau of Hazardous Site Control
Eastern Investigation Section

Phase II Work Plan

Hebron Valley Products Corp., ID #558016

Town of Hebron / Washington County

January, 1989

General

Based on this work plan, the consultant must develop a detailed cost estimate for each task identified in Table 1. The cost estimate and work plan will be incorporated into the cost plus fixed fee contract with a limited upset figure. Unless it is otherwise stated, work shall conform to the concept of Schedule 4, Exhibits 1 (Generic Work Plan - State Superfund Program - Phase II Investigations) and 3 (Guidelines for Exploratory Boring, Monitoring Well Installation, and Documentation of These Activities) of the contract document.

A copy of this work plan and Exhibits 1 and 3 of the contract must be taken to the field by the consultant during Phase II field activities, since these documents are crucial to proper implementation of Departmental field protocols. Through his actions, the field representative will display familiarity with the provisions of the work plan and exhibits. Failure to provide any of the above documents at the New York State Department of Environmental Conservation (NYSDEC) representative's request, or for the consultant to show inadequate comprehension of their contents are sufficient grounds for NYSDEC to halt Phase II field work.

Introduction

The Hebron Valley Products Corporation site (HVPC) is a half-acre property located on Tiplady Road, near the intersection with Chamberlain Mills Road, in the Town of Hebron in Washington County, New York. From the period of July 1965 through 1971 and intermittently from 1972 through 1979, a charcoal-producing business was active on the site. During the process of making charcoal, creosote and wood tars were formed and periodically drummed and stored on-site. Very few drums were ever removed from the site. Since 1979, the drums stored on the property have been exposed to the elements. The majority of the approximately fifty 55-gallon drums are empty, either never having been full, or having spilled their contents on the ground. Some drums still contain wood creosote and/or tars, and the smell of these compounds permeates the air around the drums.

An investigation was done on the HVPC site as part of the fifth round of Phase 1's by NYSDEC. Sufficient information exists to fill out the draft Hazard Ranking System score, but specific information on the groundwater and surface water quality at the site does not exist. In order to determine the impact the site may have on the groundwater, surface water, soil, and air, a Phase II investigation will be performed on the site.

Objective

The objective of this Phase II investigation is to collect the information required to classify the site for further action and to develop a final Hazard Ranking System (HRS) score. This includes collecting the field data necessary to identify the occurrence and characteristics of contamination and if a release of contaminants from the site has occurred. This information will be used to determine if any imminent and/or significant environmental or health hazard exists.

Specifically, these objectives will be accomplished through the drilling of test borings, installation of groundwater monitoring wells, and sampling and analysis of groundwater, surface water, soil, wastes, and sediments (where any or all of these media are applicable).

For the purpose of report preparation, the consultant shall compile all pertinent file information and data obtainable from the NYSDEC and various other agencies.

Site Reconnaissance

The HVPC site was visited by NYSDEC and Health Department personnel on May 20, 1988 in order to familiarize them with the site characteristics, note access to the site, and to discuss possible sampling and monitoring well locations.

The site consists of a barn and several outbuildings situated between Tiplady Road and a pond formed by Black Creek. A mill and a number of other buildings are located across the creek along Chamberlain Mills Road. To the south of the barn are two vertical retorts used to produce the charcoal. Next to the retorts is a fuel tank used to store No.2 fuel oil which was used to fire burners during the charcoal manufacturing process. A small spring issues from the rock near the stream in the vicinity of the dam.

Numerous drums, some with no tops, are stored around the site in several clusters. The majority of the drums appeared to be empty, but several in the vicinity of the stream bank appeared to have creosote and/or wood tar in them. The smell of hydrocarbons was strongest in this area.

The site is relatively flat, with a slight rise in elevation to the south, up Tiplady Road. Access to the site for a drill rig is not difficult, but care must be taken to avoid the piles of drums and overhead electrical lines. Beyond a rock wall to the east of the main building is a wet, swampy area formed by the millpond. Since access is limited, no monitoring wells are proposed for this area.

Field Investigation

This project has been divided into specific tasks, summarized in Table 1. Field efforts to complete this investigation are described in greater detail below.

Geophysics: Some of the goals of the geophysical survey are to characterize the subsurface geology, locate contaminant plumes, define the boundaries of buried waste, and to determine groundwater flow direction.

Due to the nature of the contaminants and the proximity of bedrock to the surface, a geophysical survey is not recommended at the HVPC site. Proposed monitoring well locations will be checked with a magnetometer to locate any buried metal or utilities. The consultant must submit a work plan for this survey for the Bureau's review.

Since final placement of monitoring wells is contingent on the results of the geophysical investigation, reduced geophysical data and a written interpretation of it will be present at the site in the field representative's possession, and fully understood by the representative, at the time of drilling and placement of monitoring wells.

Test Borings and Monitoring Wells: Monitoring wells will be installed to provide data pertinent to both groundwater chemistry and characterization of the stratigraphy and groundwater regime at the site.

Well construction shall adhere strictly to the NYSDEC protocols enumerated in Exhibit 3 of the Phase II Generic Work Plan, a copy of which is included in the contract document. These protocols govern not only well installation and development, but classification and physical testing of soil, containment of drill cuttings and fluids, recording blow counts, etc. They also govern the proper procedures regarding decontamination of drilling equipment, split spoon samplers, and all other downhole materials.

It is anticipated that 4-inch I.D. riser pipe will be set into bedrock at the approximate locations shown in Figure 1, with NX coring below the rock socket to form open-hole bedrock wells. Refer to the diagram of a bedrock well in Schedule 4, Exhibit 3 of the consultant contract. If the consultant uses air rotary to drill into bedrock, a recently installed and effective high efficiency carbon filter must be in-line at the outlet of the compressor. This will be inspected by NYSDEC prior to use.

Finalized well locations will depend on the results of the geophysical study and local conditions. The consultant must determine, through proper utilities searches, that no buried utilities exist at the chosen well locations. The consultant, in conjunction with NYSDEC representatives, shall determine the final well locations in the field, as necessary. The consultant will provide an experienced engineer, geologist, or other adequately experienced technical staff to be on-site at all times during drilling activities and monitoring well construction.

Four test borings/monitoring wells will be installed at the HVPC site. Refer to Figure 1 for approximate well locations.

The HVPC site is situated next to Black Creek, which distinctly cuts into slate bedrock in the vicinity of the mill dam. The slate is

also noticeable in a small outcrop along Tiplady Road near the main building on the site. From this information, it is assumed that bedrock will be encountered within two feet of the surface in all proposed well locations at the site.

Site-specific geology in this section was taken from an unpublished master's thesis on the geology of the area. The bedrock is reported to be Bomoseen Formation, a sequence of relatively hard, micaceous quartz wackes with minor occurrences of slightly softer, micaceous quartzose slates. From the site visit, it is evident that the site lies on an area of slate.

The Bomoseen Formation is the lowest stratigraphic sequence found in the West Pawlet quadrangle. Due to its resistant nature, this formation has extensive exposure in the area. Pine Hill, to the north of the site, is also Bomoseen Formation. It is likely that well drilling will be slow through the bedrock at this site.

If borings are not completed on the same day they are started, a mechanism to ensure their integrity will be devised. The consultant will provide NYSDEC with their plan for this contingency.

Installation of the bentonite seal above the groundwater table during monitoring well construction shall be done in accordance with the following method. Following installation of the filter pack, a slurry of bentonite powder and water mixed to the consistency of pudding shall be introduced into the well to a height of one foot above the filter pack by using a tremie. If this mixture is pumped into place, a side-discharge tremie shall be used. Bentonite pellets shall then be added and tamped into the slurry to complete the seal to at least two feet above the filter pack. The pellets must then be hydrated with clean water and allowed to swell per manufacturer's recommendations. If these are not available, then a slow stream of water must be introduced on the bentonite pellets for at least one hour. After the pellets have been given sufficient hydration time, cement-bentonite grout may then be pumped into place with a side-discharge tremie pipe. All bentonite must be 100% pure, with no additives or conditioners.

During drilling operations, the open hole and split spoon samples, if any, will be monitored with an HNU, OVA, or similar instrument. Drilling operations will also be closely monitored with an explosimeter/oxygen meter to measure oxygen levels and detect discharges of explosive gases.

Following construction of the monitoring wells, each well will be developed as soon as it has fully stabilized but no sooner than 24 hours after completion. Groundwater elevations will be taken in each well before and immediately following proper development. Each well will be developed to the point that the turbidity of the recovered well water is 50 Nephelometric Turbidity Units (NTU's) or less. A nephelometer shall be brought to the field to make this measurement. If the above criterion is not met within two hours, well development must cease and the NYSDEC representative contacted to determine how to proceed. For costing purposes, allow four hours of development per

well. A signed statement indicating that the turbidity in each well met the 50 NTU standard immediately after development will be provided to NYSDEC if a Department representative is not present when measurements are made.

Permeability testing by means of a slug test of each monitoring well will be performed after well development.

All well locations shown in Figure 1 are approximate. Final locations will be determined after the geophysical analysis has been performed and data has been reduced and interpreted. Completed well logs shall be prepared and submitted as part of the Phase II report.

Refer to the Generic Work Plan and Exhibits 3 and 4 for specific monitoring well construction and soil classification requirements.

Site Survey: Well locations and elevations for all on-site wells will be surveyed by a licensed surveyor to allow for accurate water level measurements and groundwater contour maps. Each well elevation will be determined relative to a USGS datum, if available within 200 feet of the site, or relative to a permanent point set in the field. The top-of-casing measurement for each well will be accurate to the nearest 0.01 foot, and the distance between wells will be measured to a two-foot accuracy.

Prominent surface water levels will also be measured to the nearest 0.01 foot in order to augment groundwater measurements, particularly when the surface water is known or believed to represent an aboveground extension of the water table. For the HVPC site, surface water measurements should be made in the millpond at the dam, and at the end of the rapids below the dam where the stream becomes calmer. This information should be utilized when developing groundwater elevation maps.

Sampling and Analysis: Sampling and chemical analysis will be the responsibility of the consultant. This includes split spoon samples for chemical analysis when it is suspected or confirmed by HNU or OVA that soils are contaminated. During all sampling episodes, the consultant will follow the QA/QC and chain-of-custody protocols as referred to in the Generic Work Plan and as described in the New York State Contract Laboratory Protocols document, dated November 1987. NYSDEC's selected sampling locations (which may be upgraded or modified by the consultant) are indicated in Figure 1. Sampling and chemical analyses are summarized in Tables 2 and 3, respectively.

Where dilution of any Phase II sample is to be done by the chemical analytical laboratory prior to analysis, NYSDEC is to be advised immediately. The concern is that a component of low concentration, but of significant environmental impact, could become so diluted that its presence in the final extract will not be detected.

During this contact, the NYSDEC chemist will discuss alternatives with the laboratory's chemist on how best to conduct the analysis. NYSDEC's chemist is Mr. John Rankin, telephone (518) 457-3252.

Although a method or extra work may be agreed upon by both chemists, clearance for any extra cost must be obtained by the consultant from the NYSDEC contract manager. Such cost will be paid from the contingency amount in the contract, and clearance must be confirmed by NYSDEC in writing.

At the HVPC site, one water sample will be collected from each monitoring well for analysis, for a total of four groundwater samples. Two surface water/sediment pairs (one upgradient, one downgradient) will be collected from Black Creek, and three soil samples will be collected from areas with visibly stained soil or high readings on the detection instrument. It seems likely that stained soil will be found near the drums in the vicinity of the creek. One surface water sample should be collected from the spring discharging near the dam if there is any water present during the sampling episode.

Since wells will be installed in bedrock, no soil samples for laboratory analysis will be collected during well installation activity.

Soil and water samples will be analyzed for Target Compound List parameters. Only volatile organics (VOAs), base-neutral-acid extractable compounds (BNAs), and inorganics will be analyzed for. Pesticide and PCB contamination is not suspected due to the nature of the activities at the site.

One trip blank (VOA only) and one field blank (VOAs, BNAs, and inorganics) will be analyzed with the other water samples.

All samples taken for chemical analysis shall be delivered to the laboratory within 24 hours of their collection. Express courier service shall be used to transport the samples unless the laboratory is close enough to the site for the consultant to make direct delivery.

Air monitoring, consisting of an initial perimeter survey with a detection instrument such as an OVA or HNU, shall occur upon arrival at the site. A survey within the boundary of the site shall follow the perimeter survey. This air monitoring is separate from monitoring that is part of the health and safety plan. If a source of air contamination is identified, the air will be sampled using appropriate equipment to determine the nature and concentration of the contaminant. Upwind air samples will also be analyzed at the same time. Wind direction must be continuously monitored and documented during any sampling and on-site analysis of air samples.

The consultant shall provide an estimate of the cost for subcontracting the task of reviewing the CLP QA/QC documents by an independent laboratory not involved with the Phase II investigations under this contract.

Health and Safety Plan

The consultant will observe the provisions of the health and safety plan during all on-site activities.

It is anticipated that Level D protection will be necessary on the site. If, during the investigation, it is determined that the level of protection should be upgraded, the consultant shall prepare a site-specific health and safety plan appropriate for the level of protection required. The Department will review the plan only to ensure the safety of NYSDEC and other State personnel who may be present during on-site activities.

Report Preparation

The consultant's report shall follow the format outlined in the Phase II Generic Work Plan, and shall be in accordance with Article 49 of the consultant contract.

Quality Assurance Plan

The QA requirements for the Phase II investigation must be addressed. Sample control forms attached to the contract amendment, as Exhibit 1, must be supplied to the analytical laboratory for completion and inclusion with the data package.

The Quality Assurance Plan will be submitted as a separate document.

Table 1

Phase II Work Plan - Task Description

Hebron Valley Products Corp.

	TASK		DESCRIPTION OF TASK
	II-A	Prepare and update work plan	Done by NYSDEC.
1	II-B	Conduct records search/data compilation	Review Phase I report and any additional information.
2	II-C	Site reconnaissance	Has been done by NYSDEC.
3	II-D	Conduct geophysical studies	Conduct geophysical survey. Based on the results, revise the locations of monitoring wells, if needed, for approval by NYSDEC.
4	II-E	Install and develop monitoring wells	Install four wells. The borings will be drilled to a depth of approximately 20 feet into bedrock.
		Rock samples during drilling	Rock core samples will be collected continuously.
5	II-F	Site survey	Survey monitoring well and sampling locations, water levels, and distances to a USGS datum, if available.
6	II-G	Sampling and analysis	Refer to Tables 2, 3, and "Sampling and Analysis" in text.
		CLP QA/QC documentation	To be reviewed by an independent, subcontracted laboratory.

Table 1 (continued)

7	II-H Report preparation	Conduct site contamination assessment to complete the final HRS score and HRS documentation records. Prepare final report containing significant Phase I information, additional field data, final HRS score, HRS documentation records, and site assessments.
8	II-I Project management	Project coordination, administration, and reporting.

Table 2

Phase II Work Plan - Sampling Summary

Hebron Valley Products Corp.

Designation	Location	Aquifer Screened	Approx. Boring Depth (ft)	Length of Screen (ft)
Groundwater				
MW-1	Upgradient	Bedrock	20	N/A
MW-2	Downgradient	Bedrock	20	N/A
MW-3	Downgradient	Bedrock	20	N/A
MW-4	Downgradient	Bedrock	20	N/A
Surface Water	(see Figure 1)			
SW-1	Upgradient, from millpond			
SW-2	Downgradient, below spillway			
SW-3	Spring			
Sediment	(at surface water locations)			
S-1	Upgradient, from millpond			
S-2	Downgradient, below spillway			
Soil				
SS-1	Stained soil in vicinity of old drums near stream			
SS-2				
SS-3				

Note: Locations, aquifer screened, approximate boring depth, and length of screen are based on existing data and are the basis of the cost estimate. These criteria may change based on the results of the geophysical surveys and/or field conditions.

Table 3

Recommended Chemical Analyses - Hebron Valley Products Corp.

Type of Sample	Type of Analysis[1] TCL[2] Metals	TCL[3] Volatiles	TCL[4] Semi-Volatiles	TCL[5] Pesticides/ PCBs	Spike/ Duplicate[6]
Groundwater[7]	5	5	5	---	1/1
Surface Water	3	3	3	---	1/1
Sediment	2	2	2	---	1/1
Surficial Soil	3	3	3	---	1/1
Leachate	---	---	---	---	---
Drums	---	---	---	---	---
Waste	---	---	---	---	---
Field Blank	1	1	1	---	---
Trip Blank	---	1	---	---	---

No Field Blank

(1) Complete identification per NYSDEC Generic Work Plan, Section 3(b)(11)(B). Field pH, conductivity, and temperature measurements will be conducted on all water samples.

(2) TCL Metals - Preparation and analysis of the 15 Task 1 and 9 Task 2 inorganic compounds using the specified CLP methods.

(3) TCL Volatiles - Preparation and analysis using the CLP-specified GC/MS method for TCL purgeable organics plus a library search and quantification of any non-TCL compounds. The CLP requires the library search only for the 10 non-TCL compounds of largest apparent concentration.

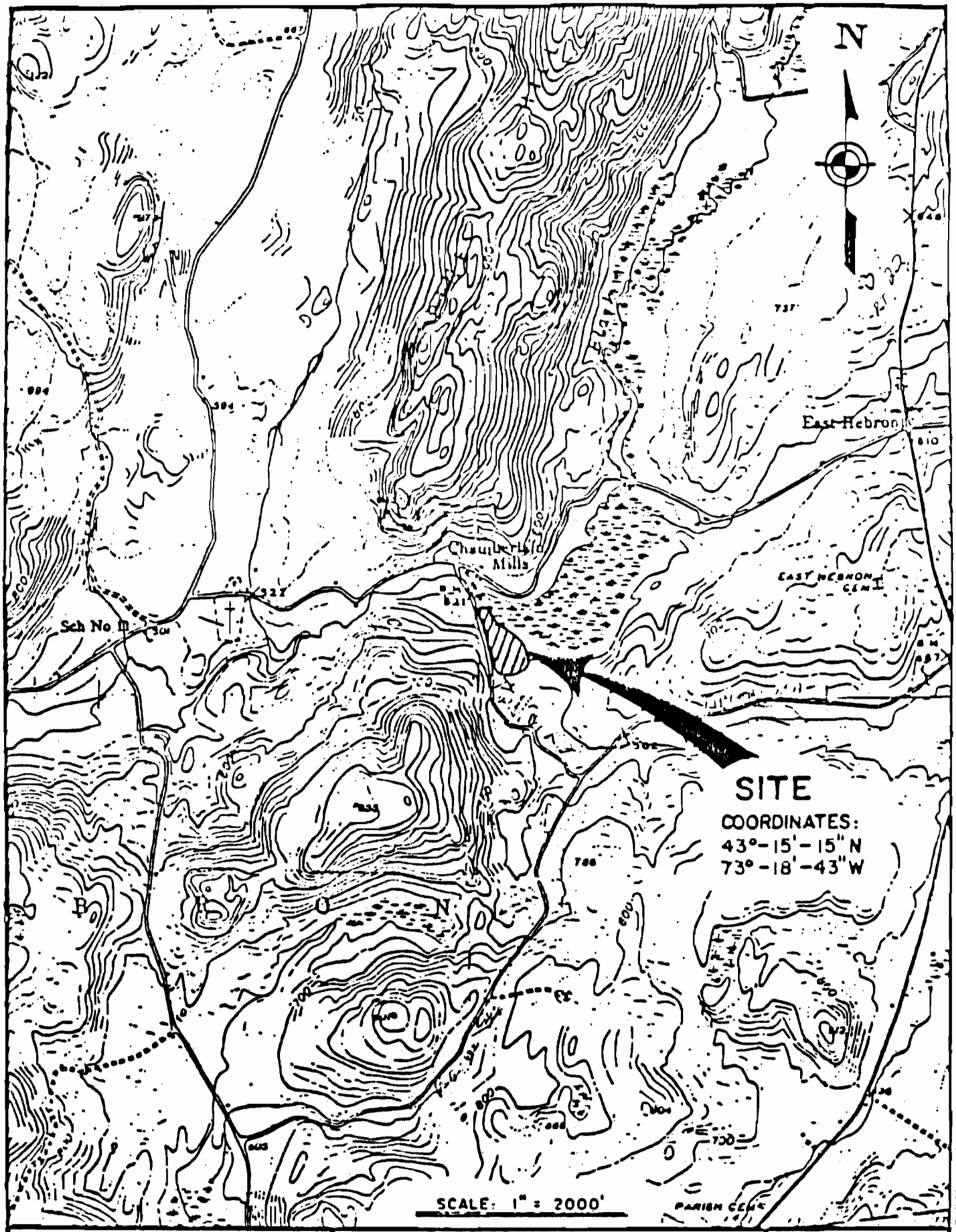
(4) TCL Semi-Volatiles - Preparation and analysis using the CLP-specified GC/MS method for TCL extractable base/neutral and acid organic compounds plus a library search and quantification of any non-TCL compounds. The CLP requires the library search only for the 20 non-TCL compounds of largest apparent concentration.

(5) TCL Pesticides/PCBs - Preparation and pre-extraction of the TCL organo-chloride pesticides and polychlorinated biphenyls using the CLP-specified GC-ECD method.

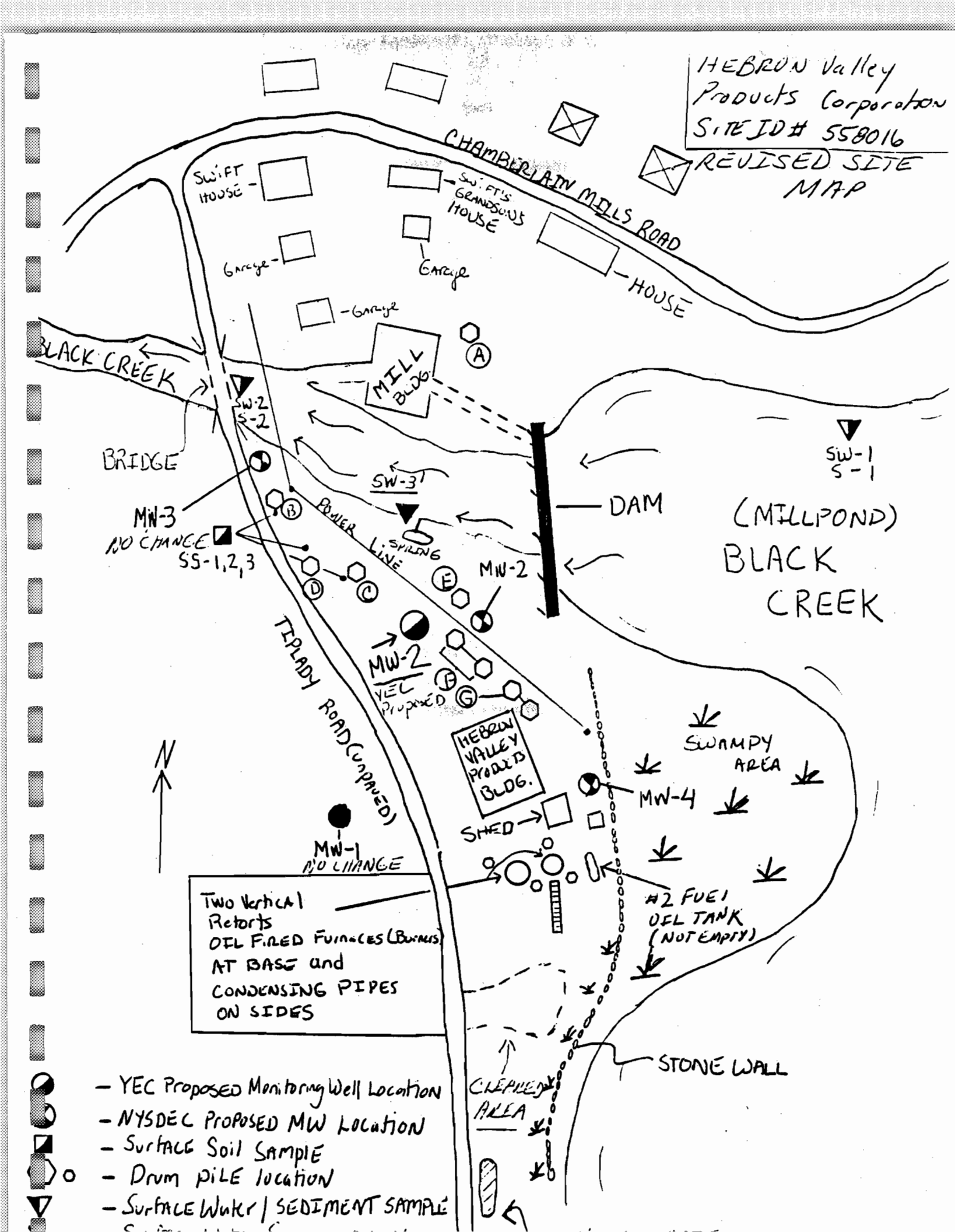
(6) Superfund and Contract Laboratory Protocol, November 1987, require at least one spiked sample analysis and one duplicate sample analysis from each group of samples of a similar matrix type for each case of samples or for each 20 samples received, whichever is more frequent.

(7) The reason for one additional groundwater sample is that a duplicate sample must be obtained from a monitoring well chosen at random. That duplicate sample must not be identified as a duplicate to the laboratory, but must be assigned an identifier similar to other groundwater samples.
The Bureau requires the blind analysis of a duplicate sample for each site by the laboratory, to confirm the integrity of all sampling and analytical activities.

--- Designates that no samples are to be analyzed.



West Pawlet Quad Salem Quad	SITE LOCATION MAP HEBRON VALLEY PRODUCTS CORP	FIGURE 1


HEBRON Valley Products Corporation
SITE ID# 558016
REVISED SITE MAP
CHAMBERLAIN MILLS ROAD
SWIFT HOUSE
SWIFT'S GRANDSONS HOUSE
GARAGE
GARAGE
GARAGE
HOUSE
BLACK CREEK
MILL BLDG.
A
SW-2
S-2
BRIDGE
SW-1
S-1
SW-3
DAM
(MILLPOND)
BLACK CREEK
MW-3
NO CHANGE
SS-1,2,3
B
POWER LINE
SPILLING
C
D
E
MW-2
MW-2
YEC PROPOSED
F
G
TIPLADY ROAD (UNPAVED)
HEBRON VALLEY PRODUCTS BLDG.
SHED
SWAMPY AREA
MW-4
MW-1
NO CHANGE
#2 FUEL OIL TANK (NOT EMPTY)
Two Vertical Retorts
OIL FIRED FURNACES (BURNERS AT BASE and CONDENSING PIPES ON SIDES
STONE WALL
CREEK AREA
- YEC Proposed Monitoring Well Location
- NYSDEC Proposed MW Location
- Surface Soil Sample
- Drum pile location
- Surface Water / SEDIMENT SAMPLE

CONTENTS

APPENDICES

Date: June 19, 1990

Time: 0930

Present: Judith A. Singer, Hydrogeologist, YEC, INC.
Mark Mecca, Staff Geologist, YEC, INC.
Charles Swift, Site and Property Owner

Contact Person: Charles Swift
Property Owner and Hebron Valley Prod. Corp. owner.
Chamberlain Mills Road
Hebron, NY.

General Site Access:

The site is located in the town of Hebron adjacent to the intersection of Chamberlain Mills Road and Tiplady Road. Mr. Swift's home is located on Chamberlain Mills Road and the site is visible from there. The site is most easily accessed from Tiplady Road.

Site Owners: Charles D. Swift
Hebron Valley Products
1-518-854-7291

Site Changes Since DEC Reconnaissance:

(1) There are Twenty-Five 55-gallon drums located next to the mill building that were not noted in the original DEC work plan.

(2) To the south of the retorts along Tiplady Road on the east side of the road is a pile of trash containing 3 to 4 empty chemical containers.

(3) Drum piles E-F-G, see revised site map in Section III.) are continuous piles with little to no separation between each making the proposed MW-2 and MW-4 completely inaccessible. Structures behind the HVP building also impede any possible well placement in that area.

(4) Vegetation has overgrown piles B, C, and D.

(5) If Surface Water Sampling point #3 can not be located because of overgrowth or the fact that it has dried up, it will not bes sampled.

(6) Since the monitoring well locations of MW-4 and MW-2 are presently inaccessible, moving the wells would considerably decrease the chance of detecting any contamination. Since MW-1 is going to be installed only 50 to 100 feet west of the proposed MW-4 location, it is suggested that only three wells be installed at the Hebron Valley Site with the third well(MW-2) being placed west of the original proposed location of MW-2.

Air Monitoring:

HNU - < 1 ppm
OVA - Background - 12 ppm, < 1 ppm above background

Though instruments registered <2 ppm above background, a strong steady charcoal odor is easily detectable in the vicinity of the drum piles and the HVP building.

Utility Clearance

Yec, Inc. will notify the appropriate utilities for the purposes of underground clearance prior to the scheduled drilling date.

Monitoring Well Access:

PROPOSED LOCATIONS:

MW-1 and MW-3 are easily accessible.
MW-2 and MW-4 presently are inaccessible.
YEC proposed well MW-2 is easily accessible.

Overhead power lines are in the direct vicinity of MW-3 and care should be taken when moving the drill rig around in this area.

Usable Potable Water Source:

All water is derived from private wells in the area.

Installation of rock wells in this area is expected to consume large amounts of water.

Possible Sources are:

* Water from the creek upstream and at a practical distance away from the site. (See Revised Site Map-Section III.)

Recommended Relocation of Monitoring Wells:

Final locations of proposed monitoring wells will be decided in the field by Yec, Inc. and the NYSDEC representative.

MW-1 No Change
MW-3 No Change
MW-2 New Location Proposed

Presently, there is no information regarding flow direction in the bedrock in the vicinity of the site. The highly fractured nature of the bedrock underlying the site makes it difficult to determine the fracture flow patterns and this makes the placement of the monitoring wells crucial to detect any contamination.

If the drum piles are not moved, the wells will have to be placed to the western side of the drum piles instead of in their midst, reducing the chance of detecting contamination in an area where the gradient is in question. The drilling of monitoring wells one and three first might provide insight into the flow characteristics of the bedrock aquifer and thus enable more insight into the placement of well MW-3. It is also noted that the basement of Mr. Swift's house which is at a depth of approximately 8 feet below ground level shows signs of groundwater infiltration from the overburden thus, the wells installed in the bedrock at this site may be shallow, about 20-25 feet.

Sampling Point Access:

Surface Water-Sediment Sample locations 1 and 2 are easily accessible. Waders or knee-high boots should be used though.

Recommended Relocation of Sampling Points:

Surface water sample #3 should be taken from the spring on the bank of the creek if the spring is flowing at the time of sampling.

SW-1,2/S-1,2 - No Change
SS-1,2, and 3 - No Change
SW-3 - No Change if spring is located.

(4) Surface water sampling point #3 will be removed from sampling plan if spring is not located or has dried up.

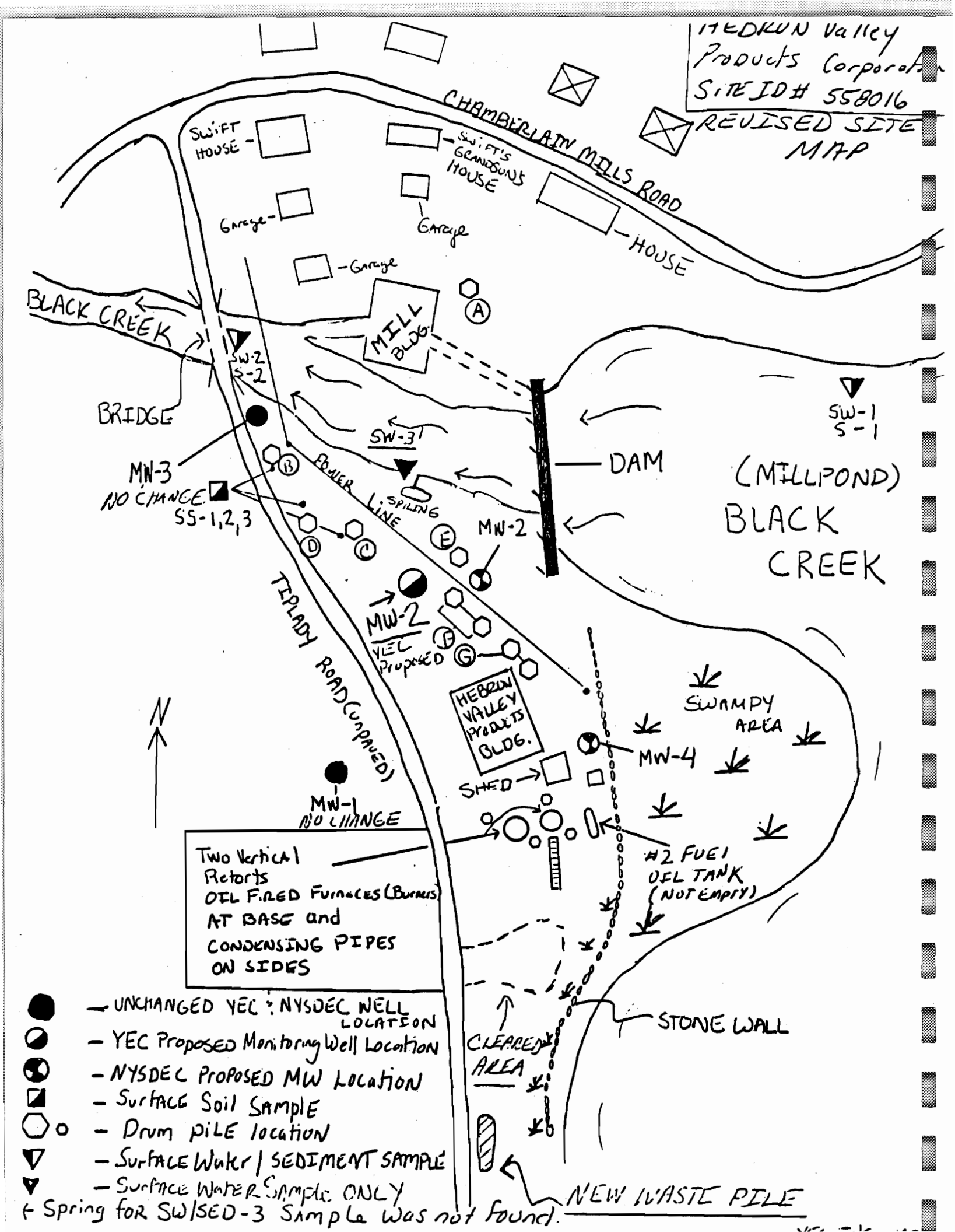
(5) House locations have been revised.

RECOMMENDED Plan of action considering that the full drums as well as the empty drums on-site present and could present an impediment to monitoring well access and can cause a continuous source of groundwater contamination in a hydrologically active area adjacent to an active trout creek:

PLAN #1 (See Revised Site Map in Section III for well and sampling locations.

- Install monitoring wells in revised locations
  ↓
- Sample as planned (gw/sw/sed/soil/drums)
  ↓
- Assess contamination migration
  ↓
- Compile phase II report

III. REVISED SITE MAP


HEBRON Valley Products Corporation
SITE ID# 558016
REVISED SITE MAP
CHAMBERLAIN MILLS ROAD
SWIFT HOUSE
SWIFT'S GRANDSONS HOUSE
Garage
Garage
Garage
HOUSE
BLACK CREEK
MILL BLDG.
A
SW-2
S-2
BRIDGE
SW-1
S-1
SW-3
DAM
(MILLPOND)
BLACK CREEK
MW-3
NO CHANGE
SS-1,2,3
B
POWER LINE
SPILING
C
D
E
MW-2
MW-2
YEC Proposed
F
G
TIPLADY ROAD (UNPAVED)
HEBRON VALLEY PRODUCTS BLDG.
SHED
SWAMPY AREA
MW-4
MW-1
NO CHANGE
N
Two Vertical Retorts
OIL FIRED FURNACES (BURNERS) AT BASE and CONDENSING PIPES ON SIDES
#2 FUEL OIL TANK (NOT EMPTY)
STONE WALL
CLEARED AREA
NEW WASTE PILE
● – UNCHANGED YEC / NYSDEC WELL LOCATION
◒ – YEC Proposed Monitoring Well Location
◒ – NYSDEC Proposed MW Location
◪ – Surface Soil Sample
⬡ o – Drum pile location
▽ – Surface Water / SEDIMENT SAMPLE
▼ – Surface Water Sample ONLY
← Spring for SW/SED-3 Sample was not found.

IV. DRILLING GUIDELINES

ATTACHMENT 1

The installation of monitoring wells shall adhere to the procedures of this attachment. Deviation from these procedures shall be permitted only after prior approval has been granted by the New York State Department of Environmental Conservation (NYSDEC). The provisions of NYSDEC "Division Technical/Administrative Guidance Memorandum: Phase II Investigation Oversight Guidance," (TAGM), dated May 9, 1988 and NYSDEC "Exhibit 3; Guidelines for Exploratory Boring, Monitoring Wells Installation, and Documentation of these Activities," (Exhibit 3), shall also apply to the installation of monitoring wells. In cases of conflict, this Attachment shall have precedence over the TAGM and Exhibit 3, and the TAGM shall have precedence over Exhibit 3.

ALL WELLS AND BORINGS

1. The Engineer, during the initial site reconnaissance, determines the the owner or owner's representativeof the nearest source of potable water suitable for drilling activities. The driller is responsible for contacting the appropriate person to arrange for obtaining water required during drilling. The driller is responsible for obtaining all required permits and providing all required hoses, valves and connections. Charges for permits or for water are considered reimbursable costs.

2. The Engineer, during the initial site reconnaissance, evaluates drilling rig accessibility to each well and boring location. The driller is provided with this evaluation, however the driller is solely responsible for assessing and providing equipment suitable for each location. In cases where special equipment (bulldozers, etc.) is required to provide access to drilling locations, the driller shall be responsible for obtaining this equipment. Well locations will not be changed due to inappropriate drilling equipment. Charges for special equipment are considered reimbursable costs.

3. Prior to initiating drilling activities, and between each well, all drilling and sampling equipment must be properly steam cleaned and/or dedicated (see TAGM 9.b and 13 for specific cleaning procedures). These activities shall be performed in a designated on-site decontamination areas located apart from the area where cleaned equipment is stored. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface shall not be permitted and persons handling equipment shall have clean hands or clean gloves. Clean support structures, such as wooden pallets or sawhorses, shall be used for the staging of equipment. The drill rig and all equipment shall

be cleaned upon completion of the investigation and prior to leaving the site.

4. If a well cannot be completed the same day that it is drilled, a mechanism to safeguard its integrity must be devised. The driller must provide their plan for this contingency for NYSDEC approval prior to starting drilling at the site.

5. Well development shall be performed for each well with air surge, a pump, or bottom discharge bailer no sooner than 24 hours after grouting or recovery has been completed (whichever is later). Submersible pumps are not permitted. Development of the well will continue until a stabilization of pH, specific conductance, temperature and clarity (goal of less than 50 NTU) of the discharge is achieved. If, after two hours, the above criteria are not met, a NYSDEC representative must be contacted to determine how to proceed.

2 hrs ↓ 4 hrs.

No filtering (to be determined), metals, Sand pack

OVERBURDEN WELLS

1. A surface split spoon sample shall be obtained (0-2 feet). This, and all subsequent split spoon samples, shall be obtained in accordance with ASTM D-1585 test procedures and placed in precleaned, teflon-lined screw cap, glass jars.

2. Augers or cable tools (minimum 6 1/4-in ID) are advanced to a depth up to 50 feet below the water table (depths greater than 10 feet below the water table are possible at sites where NYSDEC performs geophysical testing on an exploratory boring). Split spoon samples shall be taken every 5 feet and at every major change in lithology. Split spoon samples from wells adjacent to Exploratory borings (see below) need not be collected except from depths where possible contamination was detected.

3. Slotted screen (5 to 15 feet; usually 10 feet) and riser are placed in the hole. Screen and riser shall be 2-in ID flush-joint threaded PVC for wells shallower than 75 feet and 4-in ID for deeper wells. One PVC well casing centralizer with stainless steel bolts shall be used on each well at the bottom of the hole. The riser shall stick up 2 feet above the ground surface and be fitted with a vented cap.

4. Sand packing shall be placed to a depth two feet above the top of the screen. Sand shall be either tremied or packed in accordance with NYSDEC 11/9/88 L.J. Alden Memorandum. Sand pack and screen size shall be determined in accordance with NYSDEC 9/16/1988 M. Chen letter.

5. A slurry of pure bentonite powder and water, mixed to the

consistency of pudding, shall be introduced into the working space of the well with a side-discharge tremie pipe. This slurry layer shall be one foot thick. A one foot, 1/4-in. pure bentonite pellet layer shall be placed on top of and into the slurry carefully and slowly (tremie is not required). The pellets should be poured into the working space and tamped. Continuous measurements of the surface of the pellets shall be made while adding them to the well. The pellets must be completely hydrated before adding grout. The amount of water added to the pellets and time allowed for hydration must follow the manufacturer's recommendations. If these are not available, water shall be introduced on the pellets in a manner to insure proper hydration (e.g. a continuous stream) for at least one hour.

(NOTE: If the bentonite seal will be located beneath the water table then the bentonite slurry shall not be required. A bentonite seal below the water table shall consist of a two-foot thick layer of only bentonite pellets constructed in the same manner as the one-foot bentonite pellet seal described above.)

6. Bentonite-cement grout (50 lb cement, 5 lb bentonite powder, 5 gal water) shall be pumped into the working space of the well with a side-discharge tremie pipe. The top of the grout layer shall be 2 1/2 feet from ground surface. Grout shall be allowed to cure before the placement of the cement gravel layer and be protected from the introduction of foreign materials while curing.

7. A cement-gravel (1/4-in) mix shall be used to set a 5-foot protective casing (4-in for 2-in riser and 6-in for 4-in riser, preferably square) into the well so that it sits 2 1/2 feet below and above the ground surface. The protective casing shall be steel and equipped with an hinged, lockable top. The top, if not an integral part of the casing, shall be welded into place. Tops that are only fastened with set screws are not permitted.

8. A cement-gravel pad shall be constructed around the wellhead at least 18 inches square and 4 inches thick. The material for the pad and the cement-gravel seal shall be Portland Cement concrete consisting of a mixture of two and one-half bags of Portland Cement per cubic yard, with gravel in equal proportions by volume. Water shall be added in the amount required to obtain a slump of seven to nine inches.

EXPLORATORY BORING

At sites where overburden wells will be installed, the NYSDEC in some instances requires the construction of an exploratory boring to determine specific well depths. This boring will not be used to collect groundwater samples and therefore need not comply with

the procedures for the installation of overburden wells. The driller may employ any method to accomplish the following:

The drill rig shall be set up a minimum of five feet and a maximum of ten feet from one of the downgradient monitoring well locations. A borehole will then be advanced to a maximum depth 50 feet below the water table or to a confining layer, whichever is shallower. Split spoon samples shall be collected at five-foot intervals and changes in lithology, unless otherwise specified by the NYSDEC on-site representative or the work plan (cleaning of the split spoon sampler and downhole equipment, tools and materials is not required). Two-inch threaded flush joint PVC shall be installed to the full depth of the hole with at least 2 1/2 feet of stick up, and the annular space will be pressure-grouted to the surface as the augers are removed. NYSDEC personnel will log the hole through the PVC riser. After being logged, a steel protective casing with locking cap shall be cemented at the surface.

BEDROCK WELLS

Two varieties of bedrock wells will be encountered: wells completed in bedrock formations that are either overlain by an unconsolidated layer ("overburden/bedrock") or not ("bedrock outcrop").

Overburden/Bedrock

1. A surface split spoon sample shall be obtained (0-2 feet). This, and all subsequent split spoon samples, shall be obtained in accordance with ASTM D-1585 test procedures and placed in precleaned, teflon-lined screw cap, glass jars.

2. Augers or cable tools (minimum 6 1/4-in ID) are advanced to refusal. Split spoon samples shall be taken every 5 feet and at every major change in lithology.

3. Successive 5-foot NX-sized cores are taken until the NYSDEC on-site representative determines that the hole has been advanced at least five feet into competent bedrock.

4. The hole is reamed out with a 6-in. roller bit and all rock chips are removed. This shall be accomplished with water-rotary techniques. Air-rotary is acceptable only with oil-free compressed air.

5. Bentonite pellets (1/4-in.) are introduced into the bottom of the hole and water added. The amount of water added to the pellets and time allowed for hydration must follow the manufacturer's recommendations. If these are not available, water shall be introduced on the pellets in a manner to

insure proper hydration (e.g. a continuous stream) for at least one hour. A 4-in. threaded-joint PVC riser with a plug is set into the wet pellets to the bottom of the hole to form at least a two foot bentonite seal. The riser shall stick up 2 feet above the ground surface and be fitted with a vented cap.

6. Bentonite-cement grout (50 lb cement, 5 lb bentonite powder, 5 gal water) shall be pumped into the working space of the well with a side-discharge tremie pipe. The top of the grout layer shall be 2 1/2 feet from ground surface.

7. A cement-gravel (1/4-in.) mix shall be used to set a 5-foot protective casing (6-in. square) into the well so that it sits 2 1/2 feet below and above the ground surface. The protective casing shall be steel and equipped with a hinged, lockable top. The top, if not an integral part of the casing, shall be welded into place. Tops that are fastened with set screws only are not permitted.

8. After the grout has been given time to set (minimum of 24 hours), NX-sized coring is advanced through the bottom of the 4-in. riser to a depth that results in 10 feet of standing water in the well (at least 10 feet of NX-sized core hole). If water-rotary methods are employed, the hole must be pumped dry every ten feet, and sufficient time allowed to determine if the water table has been reached. (Pumping equipment requirements are the same as for well development.)

9. A cement-gravel pad shall be constructed around the wellhead at least 18 inches square and 4 inches thick. The material for the pad and the cement-gravel seal shall be Portland Cement concrete consisting of a mixture of two and one-half bags of Portland Cement per cubic yard, with gravel in equal proportions by volume. Water shall be added in the amount required to obtain a slump of seven to nine inches.

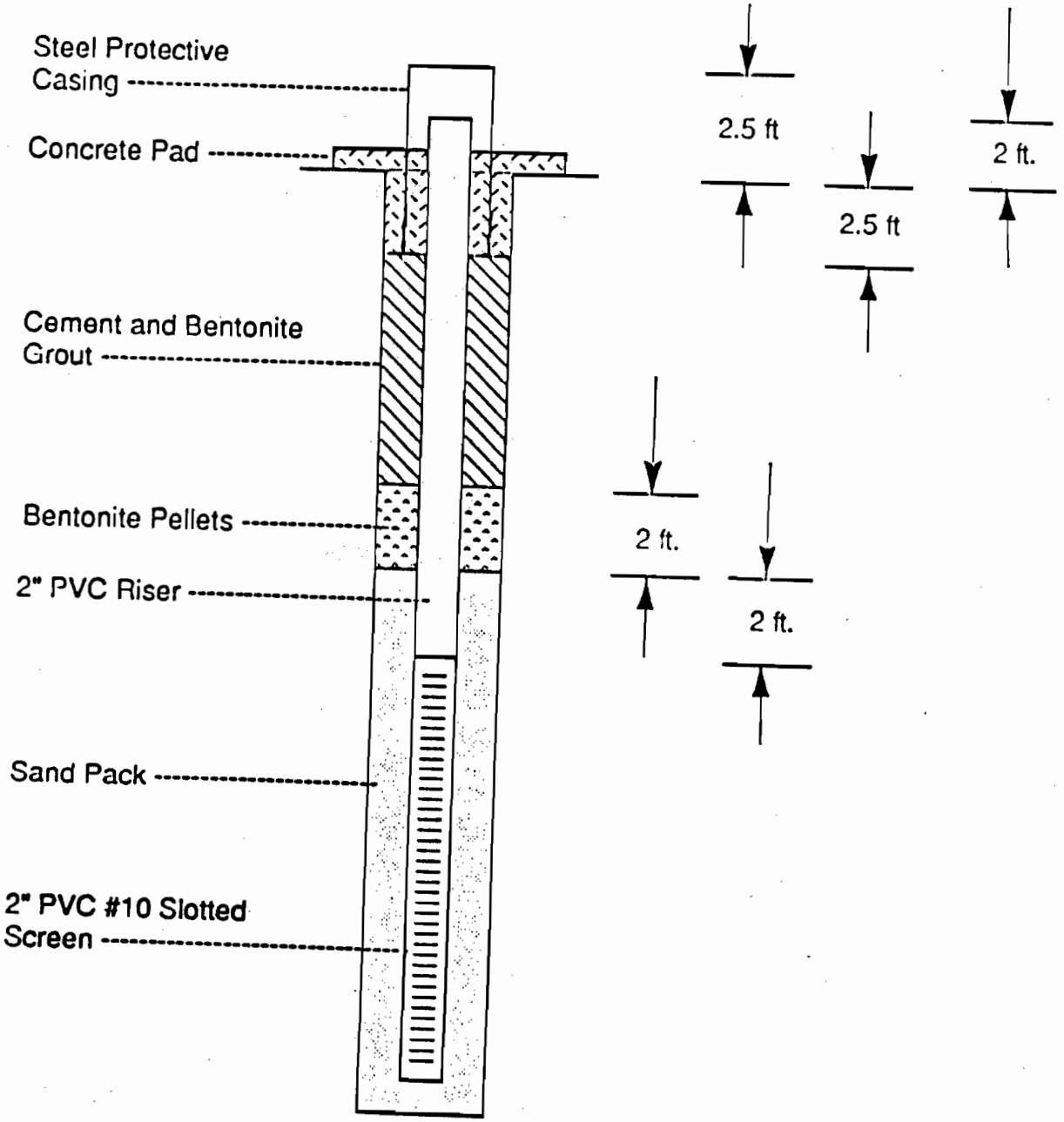
Bedrock Outcrop

1. NX-sized coring is advanced from the ground surface until the NYSDEC on-site representative or the Engineer determines that the hole has been advanced at least five feet into competent bedrock (minimum depth of seven feet).

2. The hole is reamed out with an 8-in. roller bit and all rock chips are removed. This shall be accomplished with water-rotary techniques. Air-rotary is acceptable only with oil-free compressed air.

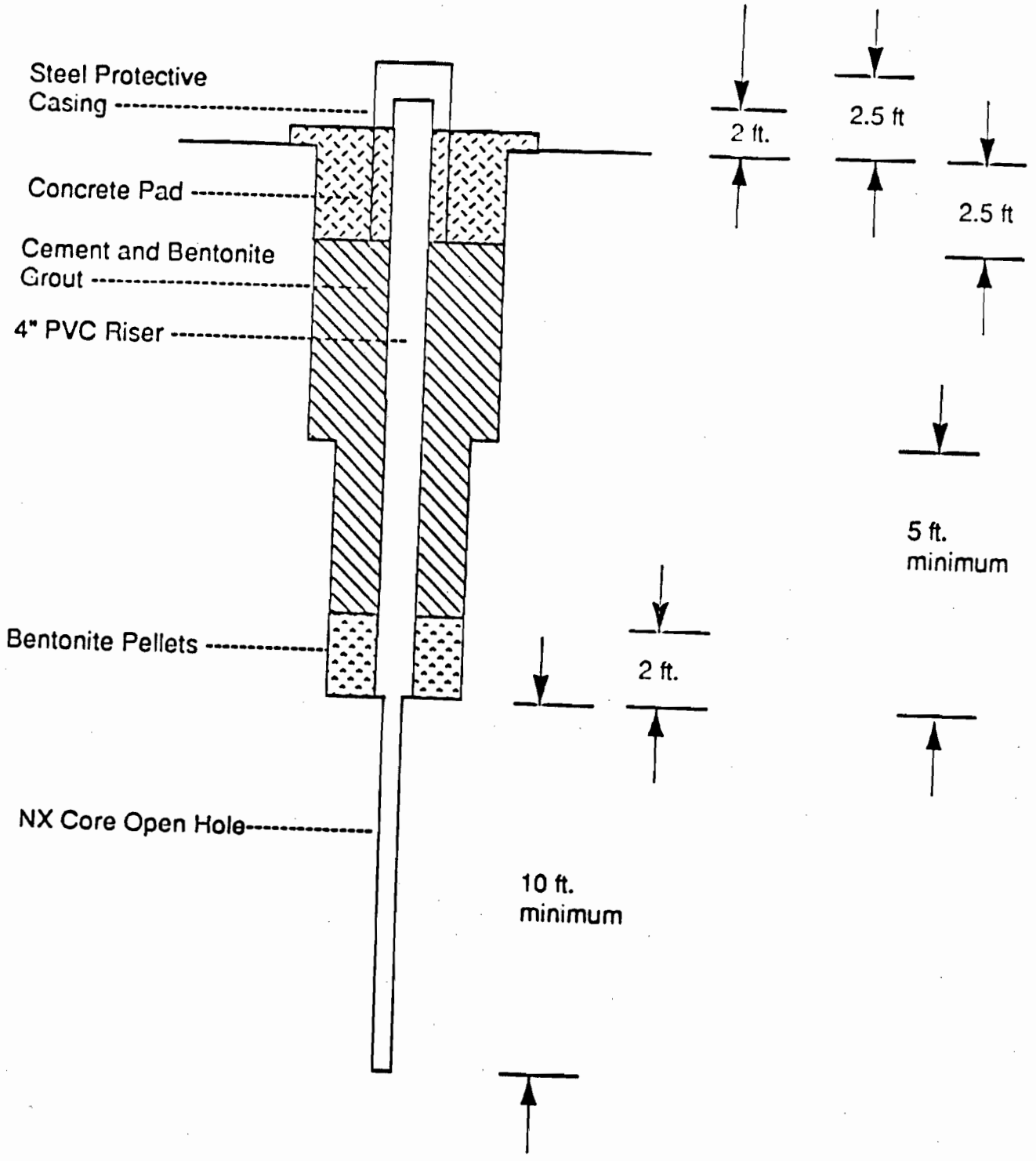
3. Well completion follows the same procedures as Overburden/Bedrock wells as described in items 5. through 9.

OVERBURDEN WELL CONSTRUCTION SCHEMATIC



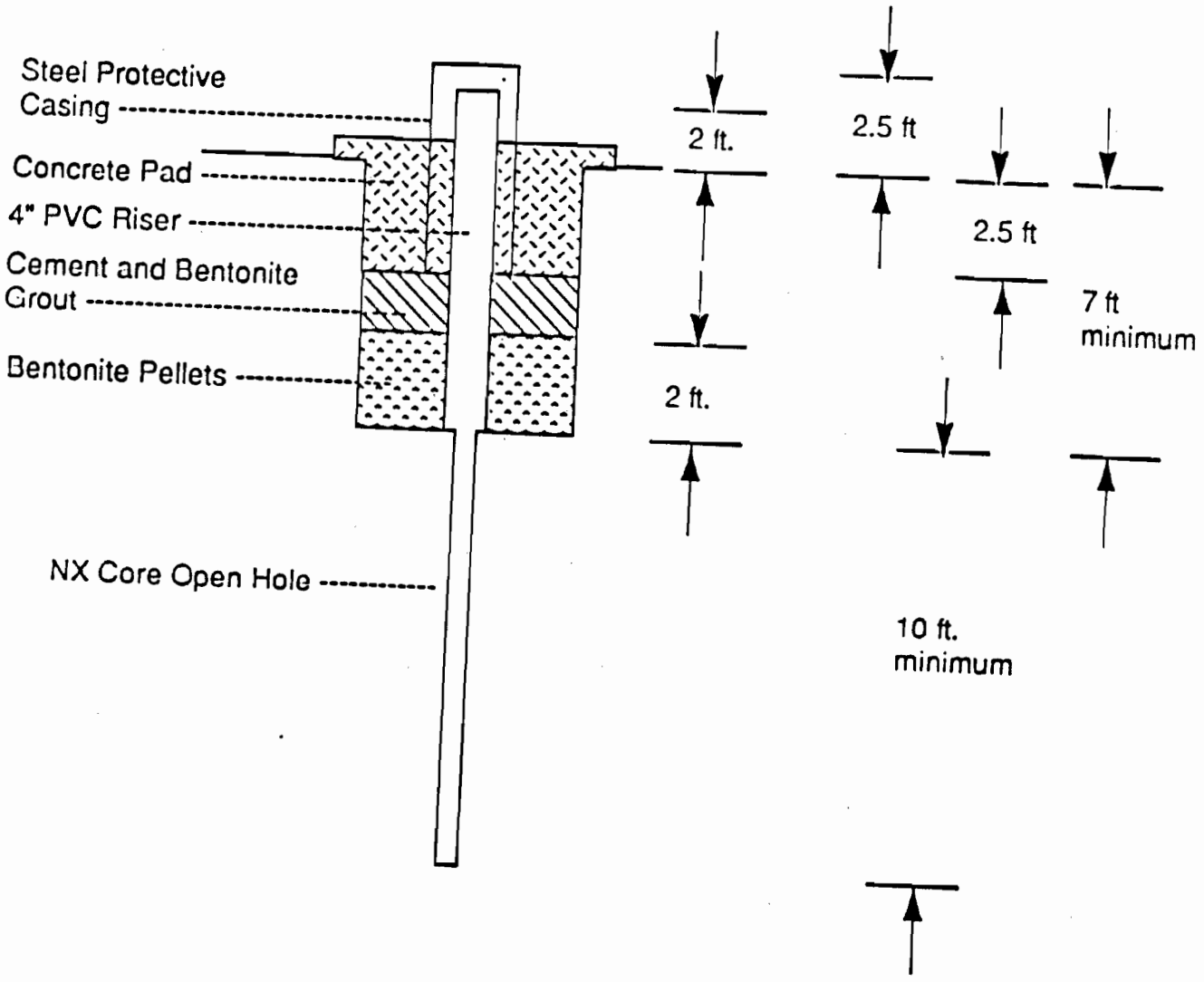
Gibbs & Hill, Inc.

OVERBURDEN/BEDROCK WELL CONSTRUCTION SCHEMATIC



Gibbs & Hill, Inc.

BEDROCK WELL CONSTRUCTION SCHEMATIC



Gibbs & Hill, Inc.

V. SAMPLING, DEVELOPMENT, AND DECONTAMINATION PROCEDURES

VI. SAMPLING EQUIPMENT DECONTAMINATION AND SAMPLE HANDLING

All sampling equipment will be decontaminated between samples using the following procedure:

Wash with soap (Liquinox or equivalent) and potable water using brush to remove all soil outside and inside auger.

Rinse with potable or distilled water.

Methanol rinse (Allow some time for air drying).

Distilled water rinse.

Air dry.

All samples will be placed in pre-cleaned laboratory glassware and upon collection of the sample, will be immediately packed in ice in a cooler on-site. Samples will be sent out by the end of the day via overnight FED-X or equivalent.

HWR-88-4015
September 30, 1988

New York State Department of Environmental Conservation

MEMORANDUM

TO: Regional Solid & Hazardous Waste Engineers, Bureau Directors & Section Chiefs
FROM: Michael J. O'Toole, Jr., Director, Division of Hazardous Waste Remediation
SUBJECT: DIVISION TECHNICAL AND ADMINISTRATIVE GUIDANCE MEMORANDUM POLICY REGARDING ALTERATION OF GROUNDWATER SAMPLES COLLECTED FOR METALS ANALYSIS
DATE: SEP 30 1988

A) Objective

The purpose of this Technical and Administrative Guidance Memorandum (TAGM) is to clarify the New York State Department of Environmental Conservation's (NYSDEC) Division of Hazardous Waste Remediation's policy of non-alteration of groundwater samples collected for metals analysis, as well as provide guidance for situations where the policy may be amended. This TAGM has been developed for the most commonly encountered form of alteration (as defined in Section B), which is filtration (as defined in Section B), but the policy applies to all forms of groundwater sample alteration which may be encountered.

(*Note: This guidance is for situations involving groundwater samples collected for metals analysis only. It does not apply to surface water, waste or samples at active sites or State Pollution Discharge Elimination System discharges where the proper handling of samples may be dictated by other guidance or protocols.

Department policy regarding water samples collected for the analysis of organic compounds is expressly stated, in an Executive Memorandum dated May 3, 1985, from Commissioner Williams to Executive Staff, Division Directors, and Regional Directors, as follows: "Water samples utilized in the assessment, investigation, remedy, study, construction, monitoring or any other activity shall not be altered prior to analysis.")

B) Definitions

"Alteration" - changing the sample in any way other than adding a preservative, such as nitric acid, to lower pH. Examples of alteration include, but are not limited to: filtering, settling and decanting, centrifuging and decanting, and acid extracting.

"Filtration" - the filtering of a groundwater sample collected for metals analysis, through any membrane, fabric, paper or other filter medium irrespective of pore size, in order to remove particulates from suspension; it is to be done in the field, at time of collection, prior to preservation.

"Preservation" - the preserving or "fixing" of metal ion constituents in a groundwater sample, so as to avoid precipitation, biodegradation, or loss of the ions from the sample. Methods utilized are as listed in the New York State Contract Laboratory Protocol (NYSCLP). Generally they involve the reduction of sample pH to <2 with HNO3 (nitric acid).

"Well Development" - the application of energy to a newly installed groundwater monitoring well in order to allow the natural hydraulic properties of the screened formation to return, thus allowing water to flow more freely to the well. It may also allow the removal of any formation material that may have infiltrated the sandpack and/or well during installation.

"NTU" - nephelometric turbidity unit; this is the unit by which turbidity is measured and discussed.

"50 NTU maximum" - target turbidity level for development and sampling of groundwater monitoring wells; any higher and the sample may be considered unacceptable. This is the level above which laboratory analysis problems may occur.

"Split Sample" - a single sample divided into aliquots.

"ARAR's" - Applicable or Relevant and Appropriate Requirements, as defined by the Superfund Amendments and Reauthorization Act of 1986 (Section 121).

"RCRA" - Resource Conservation and Recovery Act.

c) Existing Guidance

In accordance with 40 CFR 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Final Rule and Interim Final Rule and Proposed Rule, Section 40 CFR Part 136.3, Table IB, Note 3, states a sample collected "for the determination of total metals... is not filtered before processing," whereas Section 40 CFR Part 136.3, Table II, Note 7, states for samples collected for dissolved metals analysis "should be filtered immediately on-site before adding preservative...".

Information provided in the RCRA Groundwater Monitoring Technical Enforcement Guidance Document, 1986, USEPA-OWPE, OSWER-9950.1, P. 114, is as follows:

> "Metallic ions that migrate through the unsaturated (vadose) and saturated zones and arrive at a groundwater monitoring well may be in the well. Particles (e.g., silt, clay), which may be present in the well even after well evacuation procedures, may absorb or adsorb various ionic species to effectively lower the dissolved metal content in the well water. Groundwater samples on which metals analysis will be conducted should be split into two portions. One portion should be filtered through a 0.45-micron membrane filter, transferred to a bottle, preserved with nitric acid to a pH less than two, and analyzed for dissolved metals. The remaining portion should be transferred to a bottle, preserved with nitric acid, and analyzed for total metals. Any difference in concentrations between the total and dissolved fraction may be attributed to the original metallic ion content of the particles and any sorption of ions to the particles."

Information provided in the RCRA Comprehensive Groundwater Monitoring Evaluation Document, March 1986, USEPA-OWPE, Directive 9950.2, p.22, is as follows:

"Metals

1. Samples collected for metals analysis should be split into two samples. One portion filtered through a 0.45 micron filter for dissolved metals and the second portion remaining unfiltered for total metals analysis. Samples should be filtered as soon as possible to minimize the impacts of pH and Eh changes."

Present Division guidance on filtering of groundwater samples collected for metals analysis consists of a memorandum from N. Nosenchuck, Director, Division of Solid and Hazardous Waste, to P. Buechi, Region 9 Solid Waste Engineer, dated January 21, 1987, in response to a memorandum from P. Buechi to N. Nosenchuck, dated December 4, 1986, in which Mr. Buechi inquired about the policy of the Division regarding the filtration of samples collected for metals analysis. The response memorandum stated the Division policy as follows:

"The Division of Solid and Hazardous Waste guidance is that samples submitted for metals analysis not be filtered prior to analysis. This general guidance, however, can be amended on a case-by-case basis, when it can be shown that a compelling reason exists for sample filtration. Such reasons could include the modeling of water treatment processes or the determination and/or elucidation of adsorptive distribution phenomena. Ground and surface water samples collected for the purpose of generating monitoring data or for site investigation must be analyzed whole."

D) Discussion

1) Goals of Site Investigations (Remedial Investigation/Phase II)

Generally, for the State Superfund program, the reasons for taking a groundwater sample at an inactive hazardous waste disposal site are:

a) to determine whether or not a significant threat to health or the environment exists;

b) to characterize the site from the point of view of past history, present situation and any future actions that may be necessary;

c) to determine the nature and extent of contamination; and

d) to obtain sufficient data to support the choice of a remedy in the feasibility study.

2) Obtaining These Goals

First, to accomplish the above goals, the results of the sample analysis are compared with standards, guidelines and other ARAR's, as one element of determining whether or not a significant threat to human health or the environment exists. Because Part 703 groundwater standards and the State Health Department's drinking water standards are all based on samples that are not altered, samples from sites must be analyzed in their unaltered state so that a valid comparison can be made.

Second, characterization of the site, determination of the extent of contamination, and preparation of feasibility studies involve broadening the scope of work to include past and future conditions. Groundwater may be used in the future for drinking or irrigation purposes, or it may travel through the ground and intercept a well being used for potable water. Consequently, samples

must be analyzed with these possibilities in mind. In order to investigate the significance of future use of groundwater at a site, groundwater monitoring wells must mimic such future use. Since groundwater is almost never filtered before being consumed or otherwise utilized, samples for site characterization must not be filtered as a standard procedure. In other words, analytical results obtained from filtered samples may not be representative of future use of the groundwater resource, and thus would not be particularly useful for evaluating the potential future toxicological impact of site contamination.

A counter-argument that has been raised is that the particulate matter in groundwater travels little distance, if at all, and therefore should not be evaluated as part of the groundwater resource that could be pumped out of the ground. The following is a rebuttal to such a counter-argument:

a) desorption caused by a change in water chemistry, and sometimes caused merely by changes in the concentrations of constituents, can allow metals on particles to move through groundwater even though particles themselves are remaining stationary; and
b) there is recent circumstantial evidence that fine (colloid-size) particles are moving through the pores of coarse-grained (sand and gravel) deposits allowing the movement of sorbed contaminants (EPA document number CERI-87-45, "Seminar on Transport and Fate of Contaminants in the Subsurface").

In addition, wells which produce water via secondary permeability (i.e. fractures in bedrock) might produce water which may have substantial suspended sediment within it. This material is not to be filtered out.

E) General Guidance for Alteration of Samples

1) Non-alteration of groundwater samples collected for metals analysis shall be the standard operating procedure for the Division. It is never to be assumed or written into Phase II or Remedial Investigation workplans that alteration of samples is or will be allowed or expected.

2) In cases where turbidity of water samples collected for metals analysis exceeds the maximum allowable level for analysis, as allowed by the Division (50 NTU), NYSDEC will review the circumstances to determine the course of action. Samples having a turbidity greater than 50 NTU's are not to be filtered as a standard procedure. Samples below 50 NTU's are never to be filtered. The rationale for any proposed filtration must be reviewed and approved by a NYSDEC QA/QC officer prior to it being effected.

3) When unacceptably turbid groundwater samples are produced from a well, filtration is not to be considered unless Division technical staff are certain the well was properly designed, installed, constructed, developed, maintained, and sampled. Filtration is never to be the "cure" for improperly built/developed wells which produce turbid samples. Attempts should be made to repurge and/or redevelop, or replace, the well as necessary (see: Decision Flow Chart, Figure 1), and to confirm, with documentation, proper well construction and installation. The Division's technical staff who are involved must utilize best professional judgement in such cases to determine if the monitoring well has proper integrity.

(See RCRA TEGD, pp. 93-4, for discussion.) If, after a best effort at continuous development, (as agreed to by NYSDEC), it is apparent the 50 NTU's is unattainable in particular well, a decision shall be made on a case-by-case basis to:

a) install a new well at the same location (this would be based on the conclusion that the well assembly, filter pack, seals, and/or grout could be reinstalled so as to significantly reduce turbidity);

b) install a new well in a different (either vertically or horizontally) location; or

c) accept the present well as the best well attainable by reasonable means.

F) Requirements For Allowing Filtration

Filtration of properly produced groundwater samples on which analysis for metals is to be performed will be allowed only if samples of unacceptably high turbidity are unavoidable. In this case, the following protocol must be followed:

1) Filtration as discussed in this context involves filtering as defined in Section B of this TAGM. It should be performed consistent with the methods in the November, 1986, Environmental Protection Agency document entitled "Test Methods for Evaluating Solid Waste" (EPA-SW846).

2) At no time are filtered samples to be collected without an accompanying unfiltered sample. Groundwater samples are to be collected using a minimally disturbing method (i.e. low rate bladder or peristaltic pumping, bailing, etc.). Two samples will be collected, the first of which will be preserved immediately in an unaltered state, the second being filtered and preserved immediately. The turbidity of the samples should be recorded at the time of collection. If split samples are required, then both the filtered and unfiltered samples should be split.

3) Due to the relatively long holding time allowed for most metals, the following is recommended:

a) Analyze the unfiltered sample first.

b) If the unfiltered sample exceeds ARAR's, analyze the filtered sample.

c) If the unfiltered sample meets ARAR's, there is no need to analyze the filtered sample.

4) Filtration methodology must be such that changes in water chemistry of the sample are minimized. Any precipitates which may form upon removal of the sample from the well (e.g. iron floc) must not be filtered out, but redissolved by acidification/preservation. The

methodology to be used must be reviewed and approved by a NYSDEC QA/QC officer prior to implementation.

5) Thorough documentation of the procedure(s) used is required, so that analytical results may be properly interpreted.

6) It may be necessary to design the analytical program to be able to answer the question whether metal contaminants are naturally occurring, or whether they were introduced through man-made activities, by analyzing upgradient and background wells by this same method. A best possible effort should be made for obtaining a "clean" or uncontaminated sample of the horizon which is being screened, so as to allow a comparison of contaminant data to naturally occurring metal ion concentrations in the aquifer matrix. This may be of critical importance, considering the potentially wide concentration ranges of various elements in native soils (Dragun, 1988).

C) Related Issues

1) Goals Determination

The goals for, and the type of information desired from, the groundwater sampling program must be determined prior to the commencement of any field work. If well integrity is found to exist, and turbidity is less than 50 NTU, then filtration is not considered. When considering filtration, adsorptive phenomena must also be taken into account for a proper perspective when making this decision. It must not be assumed that the groundwater and aquifer material are in equilibrium. The reactions between solid, liquid, and solution phases are complex, being defined by reduction-oxidation reactions and pH as they affect solubility and exchange reactions (Trela, 1985, Lindsay, 1979). These relationships may be altered by removal of the sample from the well, and subsequent exposure to the atmosphere (Stolzenburg and Nichols, 1985).

2) Well Development

After allowing sufficient time for well seals and grouts to set (usually 24 hours), wells should be developed as soon as possible because:

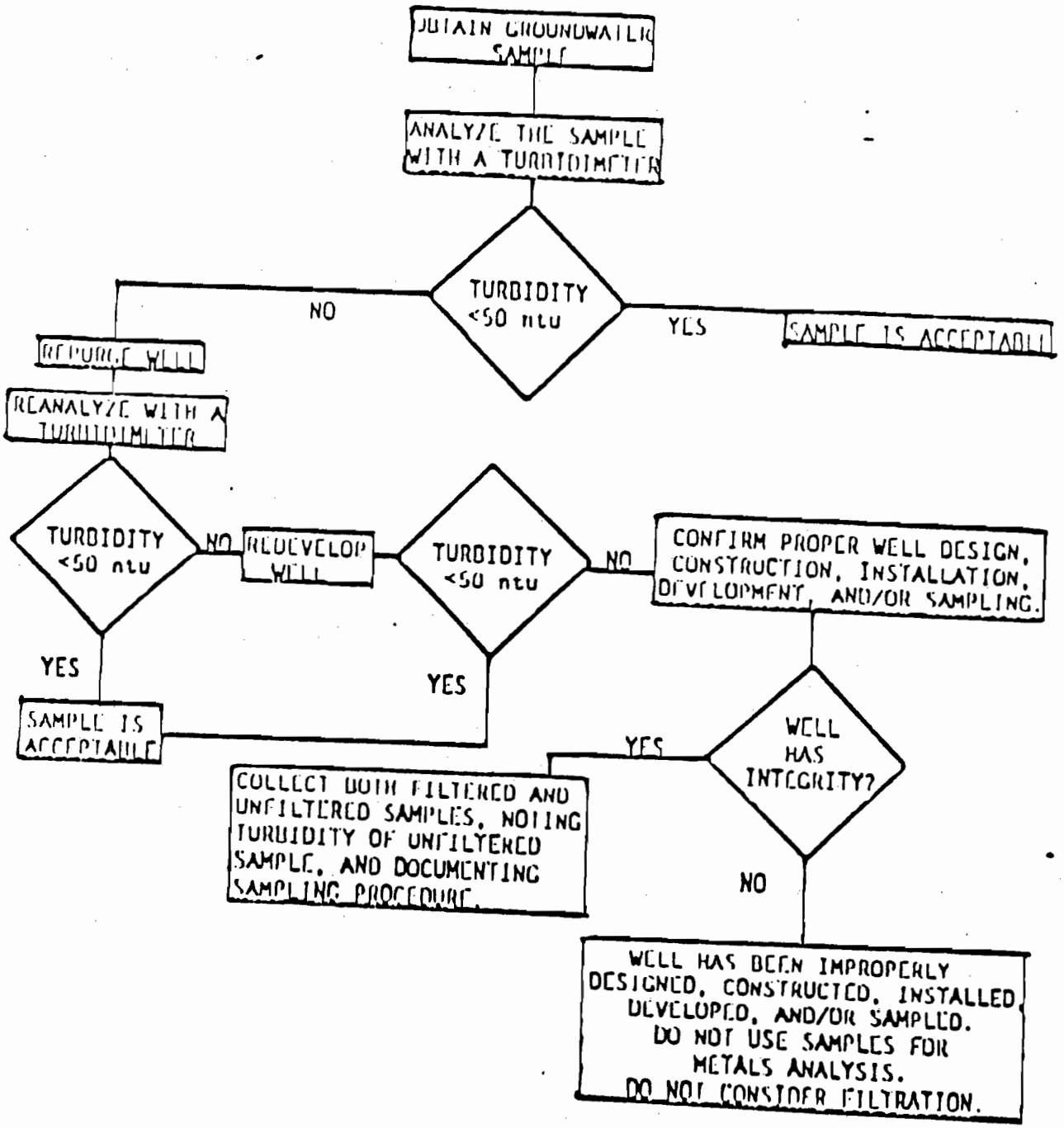
a) if there is a problem with the well warranting replacement, every effort should be made to identify this need before the drill rig leaves the site; and

b) it is faster and easier to develop a well before silts and clays have begun to harden at the bottom of the screen.

3) Laboratory Handling

If turbid samples are to be analyzed, the issue of how the laboratory is to prepare the samples must be resolved beforehand. Laboratory procedures should be outlined, with review and approval by a NYSDEC QA/QC officer.

DECISION FLOW CHART: FILTRATION OF GROUNDWATER SAMPLES COLLECTED FOR METALS ANALYSIS



Modified From: RCRA Ground-Water Monitoring
Technical Enforcement Guidance Document

Figure 1.

References and Additional Reading

Armstrong, R. and Carlton, G.M., 1984. The suction side sample catcher in groundwater quality sampling: Ground Water Monitoring Review, v. 4, no. 4, p. 48-53.

ASTM, Methods for Investigation of Water and Wastewater.

ASTM, 1981, Draft Standard Guide for Sampling Ground Water Monitoring Wells, p. 14.

Barcelona, M.J., et al, 1984, A laboratory evaluation of ground water sampling mechanisms: Ground Water Monitoring Review, v.4, no. 2, p. 32-41.

Claasen, H.C., 1982, Guidelines and Techniques for Obtaining Water Samples that Accurately Represent the Water Chemistry of an Aquifer: U.S. Geological Survey, Open-File Report 82-1024, p. 41-48.

Dragun, J., 1988, The Soil Chemistry of Hazardous Wastes; Hazardous Materials Control Research Institute, Silver Spring, Md, 458 p.

Emenhiser, T.C., and U.P. Singh, 1984, Innovative sampling techniques for ground water monitoring at hazardous waste sites: Ground Water Monitoring Review, v. 4, no. 4, p.35-37.

Gibb, J., Schuller, R., Griffen, R., 1981, Collection of Representative Water Quality Data form Monitoring Wells: Proceedings of the 7th Annual Research Symposium, Land Disposal: Municipal Solid Waste, p. 134-135.

Gibb, J.P., et al, 1981, Procedures for the Collection of Representative Water Quality Data from Monitoring Wells: Illinois Water Survey Cooperative Report No. 7, 61 pp.

Gibb, J.P., Schuller, R.M., Griffin, R.A., Monitoring Well Sampling and Preservation Techniques, EPA-600/9-80-101.

Handbook for Sampling and Sample Preservation of Water and Wastewater, Sept. 1976: U.S. Department of Commerce, NTIS PB-259 946.

Ho, J. S-Y, 1983, Effect of sampling variables on recovery of volatile organics in water: J. Amer. Water Works Assoc., p. 583-586.

Humenick, M., Turk, L., and Colchin, M., 1980, Methodology for monitoring groundwater at uranium solution mines: Ground Water, v. 18, p. 262-273.

Kennedy, V., Zellweger, G., and Jones, B., 1974, Filter pore size effects of the analysis of Al, Fe, Mn, and Ti in water: Water Resources Research, v. 10, p. 785-790.

Lindsay, W.L., 1979, Chemical Equilibria in Soils, John Wiley and Sons.

Methods for Chemical Analysis of Water and Wastewater, March 1979: EPA-600/4-79-020, USEPA EMSL Laboratory, Cincinnati, Ohio, 45268.

Nacht, S.J., 1983, Monitoring sampling protocol considerations: Ground Water Monitoring Review, v. 3, no. 3, p.23-29.

New York State Department of Environmental Conservation, New York State Contract Laboratory Protocol; November, 1987, Albany, New York.

Nightingale, H., and Bianchi, W., 1979, Influence of well...and monitoring: Water Resources Bulletin, v. 15, p. 1394-1407.

Pettyjohn, W.A., et al, 1981, Sampling Ground Water for Organic Contaminants: Ground Water, v. 19, no. 2, p. 180-189.

RCRA Comprehensive Groundwater Monitoring Evaluation Document, March, 1988, USEPA-OWPE, Directive 9950.2, p.22.

RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, 1986, USEPA-OWPE,OSWER-9950.1, p. 114.

Scalf, M.R., et al, 1981, Manual of Ground Water Quality Sampling Procedures: EPA-600/2-81-160.

Schmidt, K.D., 1982, How representative are water samples collected from monitoring wells?: Proceedings of the Second Annual Symposium on Aquifer Restoration and Ground Water Monitoring.

Schuller, R.M., et al, 1981, Recommended sampling procedures for monitoring wells: Ground Water Monitoring Review, v. 1, no. 1, p.42-46.

Stolzenburg, T.R., and Nichols, D.G., 1985, Preliminary Results on Chemical Changes in Groundwater Samples Due to Sampling Devices, Interim Report; Electric Power Research Institute, EA-4118 Research Project 2485-7.

Strawsberg, S., March/April 1983, Turbidity interferes with accuracy in heavy metals concentrations: Industrial Wastes, p. 20-21.

Test Methods for Evaluating Solid Waste, November 1986, EPA-SW-846, Third Edition, Washington, D.C.

Trela, J.J., 1985, Should water samples from monitoring wells be filtered? Yes and No. From symposia titled: Should Ground Water Samples from Monitoring Wells be Filtered Before Laboratory Analysis?, National Water Well Association.

Unwin, J., 1982, A Guide to Groundwater Sampling: NCASI Technical Bulletin No. 362., p. 46-48.

Williams, E.B., 1981, Fundamental concepts of well design: Ground Water, v. 19, no. 5, p. 527-542.

Pay for the filtered and unfiltered Samples?

HILL

Gibbs & Hill, Inc.
11 Penn Plaza
New York, NY 10001
Tel (212) 216-6000
FAX (212) 216-6426
Telex 127199

April 30, 1990

Job No. 5066
Letter No. A.3.2-N-4

Mr. Lawrence Alden
New York Department of
Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010

Subject: Phase II Investigations; Contract D001550 Amendment 4
Minutes of April 30, 1990 Lab/Data Validation Meeting

Dear Mr. Alden:

The subject minutes are enclosed with this letter. Please review and contact me if you have any comments.

Very truly yours,

GIBBS & HILL, INC.

Norman W. Hinsey
Project Manager

Enclosure

cc: ROUX
AAC
CRB
YEC
H2M
AQUATEC

- Analyses of groundwater samples from the previous round of site investigations indicated concentrations of metals which suggested that sediment material had a significant impact on reported results. In order to clarify this impact, field filtered samples will be collected and analyzed in certain instances:

  - Two samples for inorganic analysis will be collected from each well that cannot be developed to less than 200 NTU, one unfiltered and one filtered in the field.

  - H2M will store the filtered samples and analyze the unfiltered samples for TCL inorganics with full CLP deliverables. Upon receipt and review of the results summary for the site (including TSS and TDS), the consultant will request H2M to analyze the filtered samples if sediment material may have effected the results. H2M will perform the analyses per CLP but will report the results as "informational" without CLP deliverables. These results will be sent directly to the consultant be used to assess the unfiltered sample results and will not be validated.

- To reduce the amount of sediment material collected with groundwater, samples will be collected in the following manner:

  - Whenever possible, all wells will be purged before sampling, one immediately after the other. Groundwater samples will then be collected from the well that was purged first and has had the longest time to settle out any solids. Subsequent wells will be sampled in decreasing order based on the time since purging.

  - Volatile sample bottles will be filled first. Inorganic sample bottles (first the unfiltered sample if the well was not developed to less that 200 NTU) will be filled next. Pesticide/PCB and Semi-volatile sample bottles will then be filled in no particular order.

As stipulated in their agreement with C&H, H2M will notify NYSDEC and obtain approval if any exception to CLP is necessary to analyze a sample. This notification and approval will be documented in letter form by H2M and sent to C&H for distribution to NYSDEC (L. Alden and M. Seratinin), Aquatec and the consultant investigating the site (if not C&H). The only exception to CLP that has been approved to date is the waiving of the diskette storage of deliverables. H2M will only provide deliverables in hard-copy form.

Aquatec will only validate sample results with full CLP deliverables. Results of soil samples collected during drilling, "informational soil samples," will not be reported with CLP deliverables and will be so identified by H2M. Aquatec will not validate the results of these sample analyses.

Aquatec will provide C&H with the rate for expenditures of time in excess of one hour to resolve issues with H2M necessary to complete their validation report. This rate will be subject to the approval of NYSDEC.

The validation of the analysis of the matrix spike blank will be included in Aquatec's unit price of $27.00 per analysis.

Aquatec will summarize the results of their validation report in a cover letter that will indicate if all excursions from CLP were minor (typographical errors, incorrect qualifiers, etc.) or whether some non-minor excursions were identified. However, Aquatec will not assess the "useability" of the data. C&H will be responsible for determining "useability" of the data.

HILL

Gibbs & Hill, Inc.
11 Penn Plaza
New York, NY 10001
Tel (212) 216-6000
FAX (212) 216-6476
Telex 127199
[illegible]

April 17, 1990

Job No. 5066
Letter No. A.3.2-N-3

Mr. Lawrence Alden
New York Department of
 Environmental Conservation
50 Wolf Road
Albany, NY 12233-7010

Subject: Phase II Investigations; Contract D001550 Amendment 4
Minutes of April 13, 1990 Project Kickoff Meeting

Dear Mr. Alden:

The subject minutes are enclosed with this letter. Please review and contact me if you have any comments.

Very truly yours,

GIBBS & HILL, INC.

Norman W. Hinsey
Project Manager

Enclosure

cc: ROUX
AAC
CRB
YEC
ADC
EMPIRE

Phase I reports should not be considered infallible and any errors should be corrected in the Phase II report. The Phase I report should not be used as a reference, the original reference cited in the Phase I report should be included in the Phase II report.

The most recent maps and data should be used when preparing the Phase II report. Sources of information identified in the Phase I report should be contacted to determine if any new information has become available since the Phase I investigation was completed.

Work plans prepared by NYSDEC, that formed the basis of the cost estimates prepared for each site, should be updated and/or corrected to reflect any site changes or new information.

The cost estimates for each individual task are considered firm unless extraordinary site conditions are encountered.

The most recent allowable maximum overnight travel rates issued by the NYS Comptroller are as listed in Exhibit F of the NYSDEC-C&H contract, Schedule B of Bulletin 137A.

Concerning drilling procedures and guidelines, the following items were agreed to by the attendees:

Water used for steam cleaning and drilling activities must be obtained from a public potable water source but need not be analyzed for contamination before use.

Drilling equipment decontamination with a steam cleaner should be preceded by mechanical cleaning and washing. The NYSDEC will reimburse the driller for the time required to perform both these operations provided this time is reasonable and effectively spent.

Time required to clean equipment contaminated by the driller (i.e. hydraulic oils spills, etc.) is not a reimbursable item.

If action levels are encountered that necessitate an increase in PPE from level D, work will stop and NYSDEC will be contacted to approve any further activities. Standby time in this instance will be reimbursable to the driller.

Riser and screens must be steam cleaned prior to use regardless of the manner in which they may have been packaged.

Split spoon samplers need only be rinsed with potable water between samples collected from each well. However, these items must be steam cleaned before being used on the next well.

As long as the driller can insure that a bentonite seal can be properly placed above the sand pack without being compromised by bridging, a slurry layer of bentonite need not be placed in the well.

The present decontamination procedure, when steam cleaning is not possible or practical, approved by NYSDEC is as follows:

1. detergent wash
2. potable water rinse
3. menthanol rinse
4. hexane rinse
5. deionized water rinse
6. air dry

The recipe for cement-bentonite grout is 94 lb cement (one bag), 5 lb bentonite powder, 6 1/2 gal water.

Equipment should be decontaminated above the ground, preferably on saw horses. Clean equipment should be placed apart from the cleaning area on clean pallets. Clean equipment should be moved in such a manner as to avoid contamination (e.g. handled with clean hands or wrapped in plastic and transported in a clean truck).

Submersible centrifugal pumps are permitted for downhole development provided it can be demonstrated that the decontamination of the pump will prohibit cross contamination between wells.

VI. HEALTH AND SAFETY PLAN

D. EMERGENCY INFORMATION

Emergency Response Agencies:

Hospital: Mary McClellan Hospital

Has the hospital been contacted? Yes X No ____

Do they handle chemical accidents? Yes X No ____

General telephone: 518/677-2611

Emergency room telephone: 518/677-2611

Site to hospital route: Take Rt. 22 South to Cambridge. Turn right at first light in Cambridge (Rt. 372). Continue through village. Hospital is located on top of hill at 1 Myrtle St.

Is the route map attached: Yes X No ____

Nearest Site Phone Location: At the site

Ambulance

Police: 518/854-7443

Fire Department: 518/747-3325

Poison Control Center: 1-800-535-0525

CHEMTREC: 1-800-424-9300

USCG/DOT National Response Center: 1-800-424-8802

Emergency Contact

NYSDEC Project Manager (Larry Alden): 1-518-457-0639

NYSDEC Project Engineer (John Swartout, P.E.): 1-518-457-0639

G&H Project Manager (NormanHinsey): 1-212-216-7839

G&H Corporate Health & Safety Officer (Jou Hwang): 1-212-216-6364

SITE SPECIFIC HEALTH AND SAFETY PLAN

A. GENERAL INFORMATION

SITE NAME: HEBRON VALLEY PRODUCTS CORPORATION

NYSDEC ID. NO. : 558016

LOCATION: Chamberlain Mills Road, Town of Hebron, Washington County

CONTACT:

Charles D. Swift
Property Owner and Corporation Owner
1-518-854-7291

G&H PROJECT MANAGER: Norman Hinsey (1-212-216-7839)

NYSDEC CONTACT: Lawrence Alden (1-518-457-0639)

FACILITY FUNCTION: Charcoal Producing Plant

PHASE I COMPLETED: YES

STATUS: Inactive

POSSIBLE CONTAMINANTS/HAZARDS: (see attached chemical sheets)

1. Creosote
2. Creosole
3. Phenols
4. Overhead Power Lines

RECOMMENDED LEVEL OF PROTECTION: LEVEL D

WORKING ZONE:

Site Secured: YES
Sketch attached: YES

SITE SPECIFIC CONCERNS:

Overhead Power Lines
Drum Piles
No Buried power lines

MONITORING EQUIPMENT REQUIRED:

	MODEL/YES/NO/NOTE
Photoionization Detector (PID)	HNU-PI101/YES/1
Flame Ionization Detector (FID)	OVA-128/YES/1
Combustible Gas Indicator (CGI)	MSA-260/YES/2
Radiation Detector	RM 750/YES/3

---

1. ACTION LEVELS:

HNU

> 5 ppm above background * STOP WORK, NOTIFY NYSDEC, ALTER SAFETY PLAN.

OVA

> 20 ppm above background * STOP WORK, NOTIFY NYSDEC, ALTER SAFETY PLAN.

2. CGI

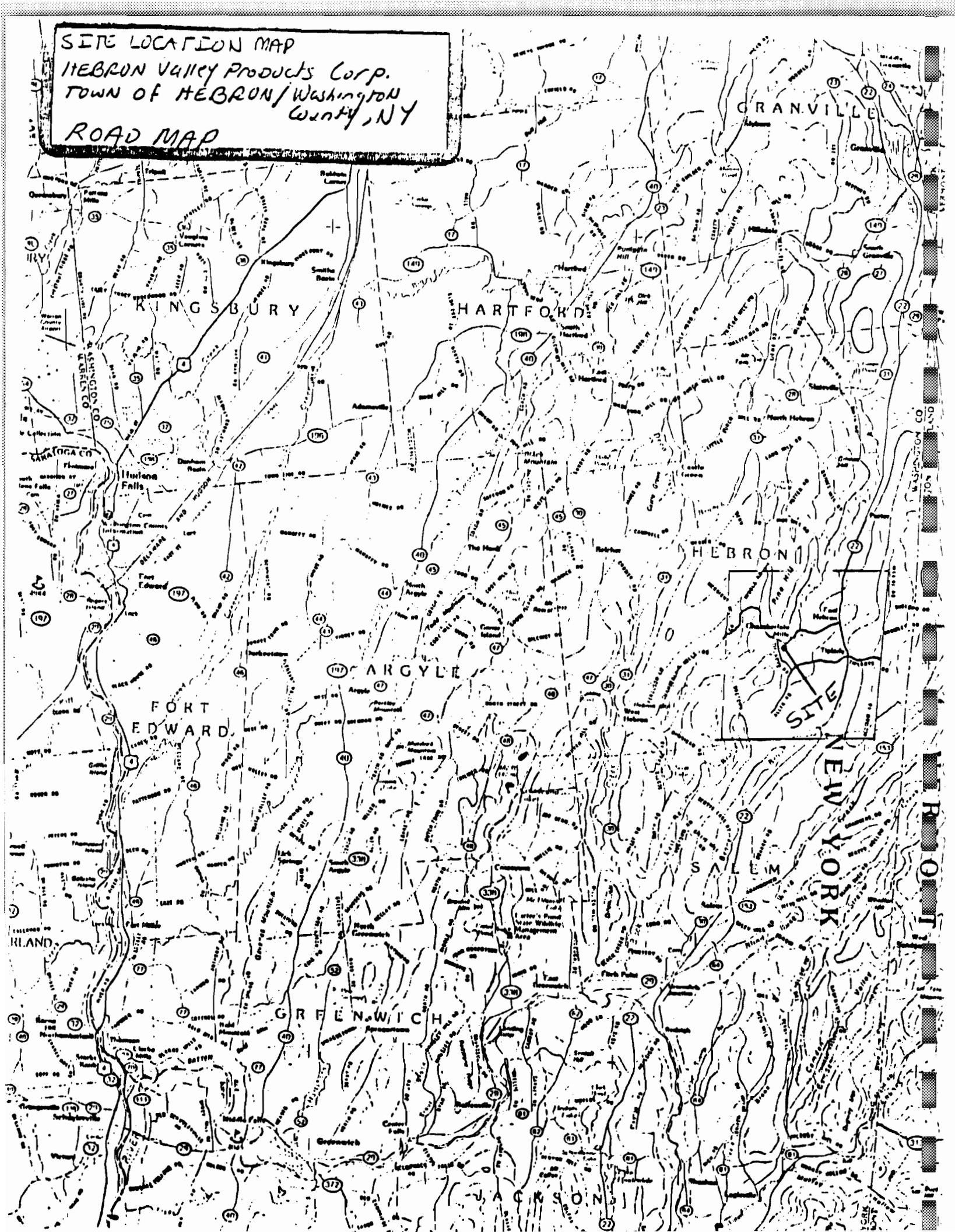
Continue on site monitoring with extreme caution if the measurement level is 10% to 25% LEL(lower explosive limit). Withdraw from the area immediately if the level is higher than 25% LEL. Withdraw from the area when the O_2 level falls below 19.5%. Withdraw from the area when the O_2 level is higher than 25% (fire hazard potential)

NOTE:
Explosion Hazard - The gas indicator alarms at 50% LEL.

3. RADIATION DETECTOR

A walkover survey with a radiation instrument will be conducted in the vicinity (20 foot radius) of each boring and sampling location prior to activity. In the event that steady state readings indicate greater than 1.5 millirem/hr, all work activities will cease, the NYSDEC will be notified, and a joint decision will be made on altering the Health and Safety Plan.


KINGSBURY
HARTFORD
HEBRON
ARGYLE
SITE
FORT EDWARD
GREENWICH
SALEM
NEW YORK
VERMONT
JACKSON
EASTON
WHITE CREEK
HEBRON VALLEY PRODUCTS
SITE TO HOSPITAL ROUTE
Contour interval 50 meters
(50 meters = 164.04 feet)
Continue on Page 67


SITE LOCATION MAP
HEBRON Valley Products Corp.
TOWN of HEBRON / Washington County, NY
ROAD MAP
GRANVILLE
KINGSBURY
HARTFORD
HEBRON
SITE
ARGYLE
FORT EDWARD
SALEM
NEW YORK
GREENWICH
JACKSON
Hudson Falls
SARATOGA CO
WASHINGTON CO
RENSSELAER CO

APPENDIX B
TEST BORINGS AND MONITORING WELLS

B.1 PROCEDURES

1. Drilling and Well Installation

Four boreholes were drilled and four bedrock monitoring wells were constructed to provide the geologic and hydrogeologic data for the Phase II investigation. The test boreholes/bedrock monitor wells are identified as MWHV-1, MWHV-2, MWHV-3 and MWHV-4. The location of the boreholes/monitoring wells is shown on Figure 1.2. All the monitoring wells tapped the bedrock aquifer at the site.

The drilling of MWHV-1 was begun by driving a split spoon sampler to collect the material from the 0.0' to 1.8' interval. The top of weathered rock was at 0.4' below grade. The drilling of the borehole progressed by means of augering to 6.0' below grade followed by roller-bitting to 11.5' below grade. 4 1/2 " PVC casing was installed to a depth of 11.5' below grade, and sealed with a 1.5' thickness of bentonite grout. A steel protector pipe with locking cover was placed over the well and stabilized with a 2.5' thickness of concrete. After a 24 hour curing period for the concrete, rock in the borehole was NX cored from 11.5' to 14.0', producing an NX diameter (3") corehole below the PVC casing.

After driving a split spoon sampler from 0.0' to 2.0', monitor well MWHV-2 was augered to 3.0' below grade. The top of weathered rock was observed at 0.25' below ground surface. A 6" steel casing equipped with a diamond drill bit was spun down to 5.0' depth below grade. A 5-7/8" roller bit was used to ream out the borehole. In order to case the borehole, a 6", 80 schedule PVC casing was sealed in the borehole with bentonite from 3.0' to 5.0'. A 5.0' long steel protector pipe with a locking cover was placed over the PVC casing and cemented in place. After a 24 hour period to allow the cement to harden, two runs of NX rock coring advanced the corehole to a depth of 14.4' below ground level.

The drilling of borehole MWHV-3 started with a split spoon sample retrieval from the 0.0'

to 2.0, interval. The hole was then augered to a depth of 5.0' below ground level where weathered bedrock was encountered. Three rock core runs were attempted to a 20.0' depth. Due to hole cave-in, it was necessary to install a 10.0' length of 2.0" PVC well screen, with slot size of 0.010 inch, from 5.0' to 15.0' below grade. Number 3 grade sand pack filled the annular space in the well from 15.0' to 4.0' below ground level. A bentonite seal was placed from 4.0' to 2.0' below ground level, hydrated and allowed to set. The locking steel protector pipe was concreted in place over the monitoring well.

Three split spoon samplers were driven in the first 6.0' of MWHV-4. After a rock core run from 5.0' to 7.0' a 4 1/2" PVC casing was inserted in the borehole and sealed with bentonite from 5.0' to 3.0' and cement grout to the ground surface. Rock was cored from 5.0' to 16.5', the end of the borehole.

WELL DEVELOPMENT

After the bedrock monitoring well construction, well development was accomplished in each well by hand bailing with dedicated PVC bailers. The well development took place on September 19 and 20, 1990. The following table lists the quantities of groundwater removed from the HVPC monitoring wells during the development procedure.

Monitoring Well	Volume of Groundwater Evacuated
MWHV-1	8.54 gallons
MWHV-2	6.53 gallons
MWHV-3	40.52 gallons
MWHV-4	8.19 gallons

2. Slug Test

A slug test was performed to determine in-situ hydraulic conductivity values. A standard method of performing a slug test is to instantaneously drop a clean weight down the well

to displace the water and measure the water level as it returns to the original level. This was accomplished by the injection of a steam cleaned steel slug (42.5" in length and 1 3/8" in diameter) of known volume into the well , and subsequent monitoring of the water level, as it returned to static level, using a RocTest Model CPR6 electronic water level indicator.

The Hvorslev method was used to calculate the hydraulic conductivity, K (ft./sec):

$$K = \frac{r^2 \ln(L/R)}{2LTo}$$

Where:

r = radius of the PVC well casing, (feet)

L = length of the well screen, (feet)

R = radius of the well screen, (feet)

To = the time it takes for the water level to rise or fall to 37% of the initial change

H_0 = reference datum, feet

H_t = water level at equilibrium, feet

h = water level at time, t, feet

t = elapsed time, sec.

(Fetter, C.W., Applied Hydrogeology, 2nd ed., Merrill Publishing Co., 1988, p.198)
Conductivity values for each well, data plots, and equation applications follow.

HYDRAULIC CONDUCTIVITY VALUES AND CALCULATIONS

VARIABLES	MWHV-1	MWHV-2	MWHV-3	MWHV-4
R (FT)	0.25	0.25	0.083	0.25
T(0) (SEC)	3035	1225	4550	38
r (FT)	0.375	0.375	0.083	0.375
L (FT)	2.5	9.4	10	10
K (ft/day)	1.84	1.91	0.03	58.97
K (cm/s)	6.51E+04	6.75E+04	1.11E+03	2.08E+06

EQUATION

$$K = \frac{r^2 \ln (L/R)}{2LT_0}$$

K = Hydraulic Conductivity
R = the radius of the well screen
r = the radius of the well casing
L = the length of the well screen (taken from boring logs)
T(0) = the time it takes for the water level to rise or fall to 37% of the initial change

* Hvorslev method (C.W. Fetter, (1988), Applied Hydrogeology, Second Edition)

Project Name: HEBRON VALLEY
Location: HEBRON, NY
Well No.: MWHV-1
Reference pt: TOC (STEEL)
Test Interval: 11.00 (MIN)
Static Ground Water Level: 5.60 (FT)

Project No: A-0038
Date: 10-04-90
Type of Test: FALLING HEAD SLUG TEST

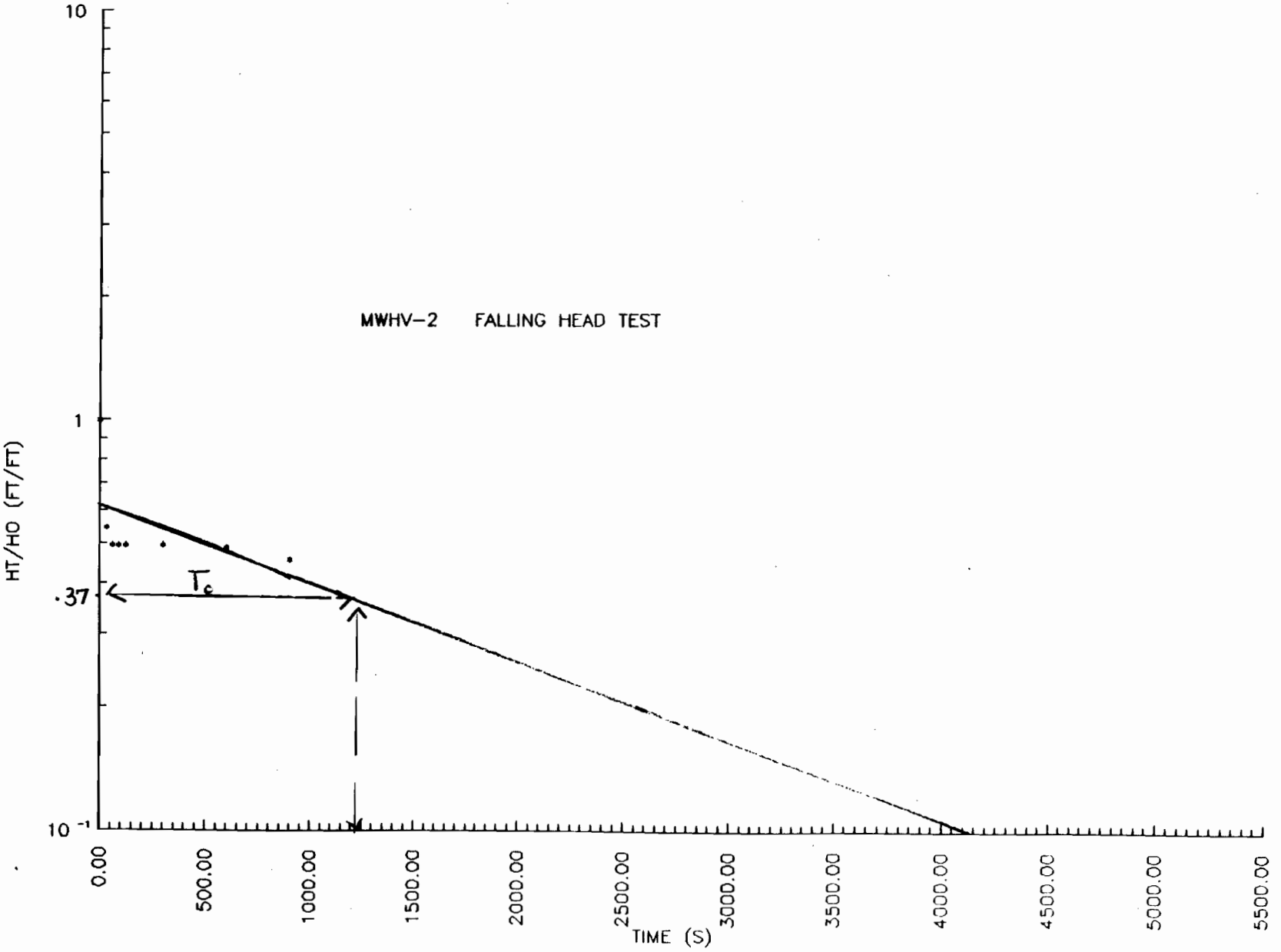
TIME (SECONDS)	WATER DEPTH (FEET)	HT (FEET)	HEAD RATIO (HT/HO)
0.000	5.180	0.420	1.000
120.000	5.220	0.380	0.905
240.000	5.230	0.370	0.881
360.000	5.240	0.360	0.857
480.000	5.250	0.350	0.833
660.000	5.270	0.330	0.786
		Recovery (%)	21.43

MWHV-1 FALLING HEAD TEST
HT/HO (FT/FT)
10
1
.37
10^{-1}
T_o
0.00
500.00
1000.00
1500.00
2000.00
2500.00
3000.00
3500.00
4000.00
4500.00
5000.00
5500.00
TIME (S)

Project Name: HEBRON VALLEY
Location: HEBRON, NY
Well No.: MWHV-2
Reference pt: TOC (STEEL)
Test Interval: 15.00 (MIN)
Static Ground Water Level: 9.85 (FT)

Project No: A-0038
Date: 10-04-90
Type of Test: FALLING HEAD SLUG TEST

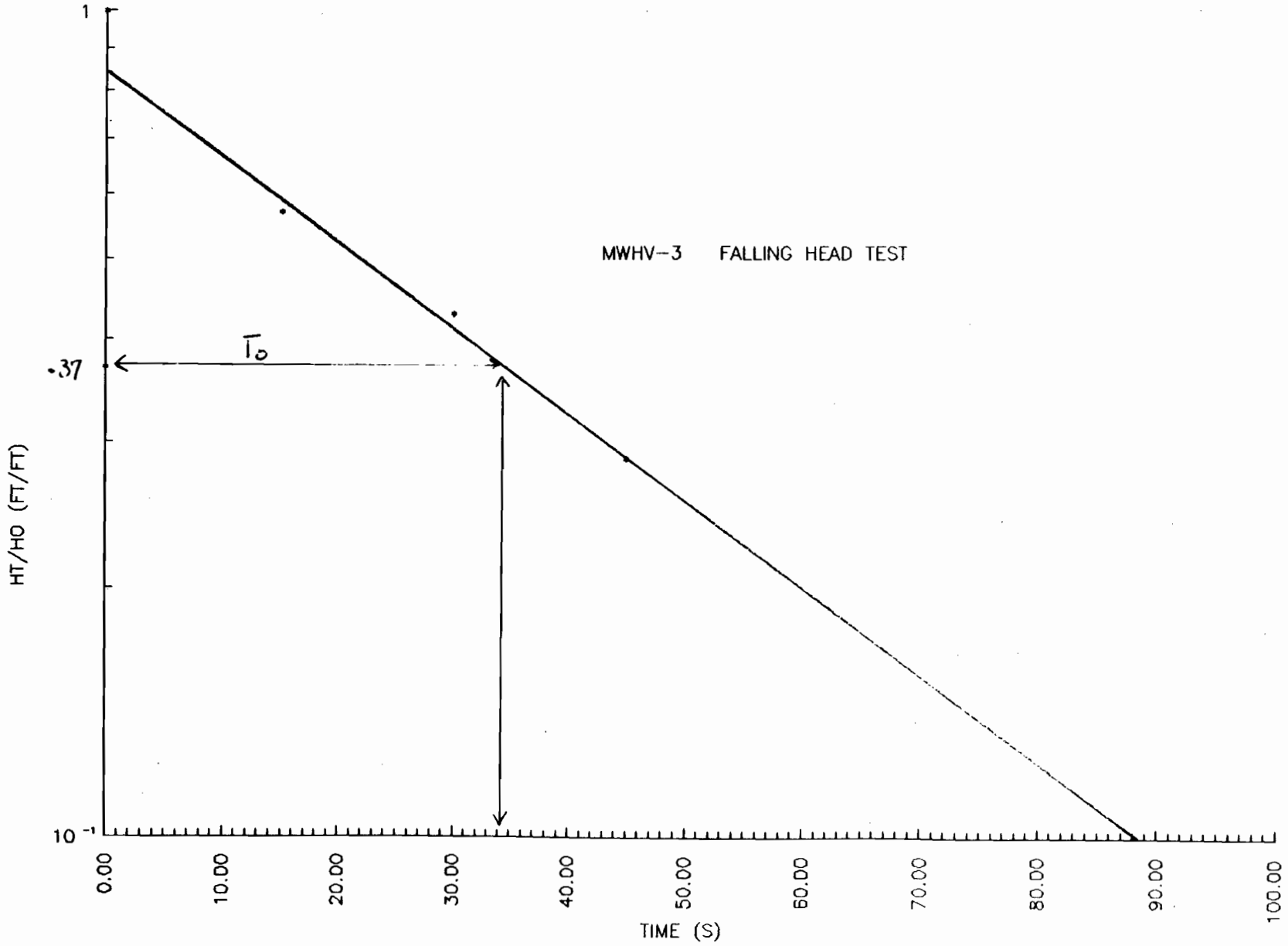
TIME (SECONDS)	WATER DEPTH (FEET)	HT (FEET)	HEAD RATIO (HT/HO)
0.000	8.290	1.560	1.000
30.000	9.000	0.850	0.545
60.000	9.080	0.770	0.494
90.000	9.080	0.770	0.494
120.000	9.080	0.770	0.494
300.000	9.080	0.770	0.494
600.000	9.090	0.760	0.487
900.000	9.140	0.710	0.455
		Recovery (%)	54.49


MWHV-2 FALLING HEAD TEST
10
1
.37
10^{-1}
HT/HO (FT/FT)
T_c
0.00
500.00
1000.00
1500.00
2000.00
2500.00
3000.00
3500.00
4000.00
4500.00
5000.00
5500.00
TIME (S)

Project Name: HEBRON VALLEY
Location: HEBRON, NY
Well No.: MWHV-3
Reference pt: TOC (STEEL)
Test Interval: 1.00 (MIN)
Static Ground Water Level: 9.87 (FT)

Project No: A-0038
Date: 10-04-90
Type of Test: FALLING HEAD SLUG TEST

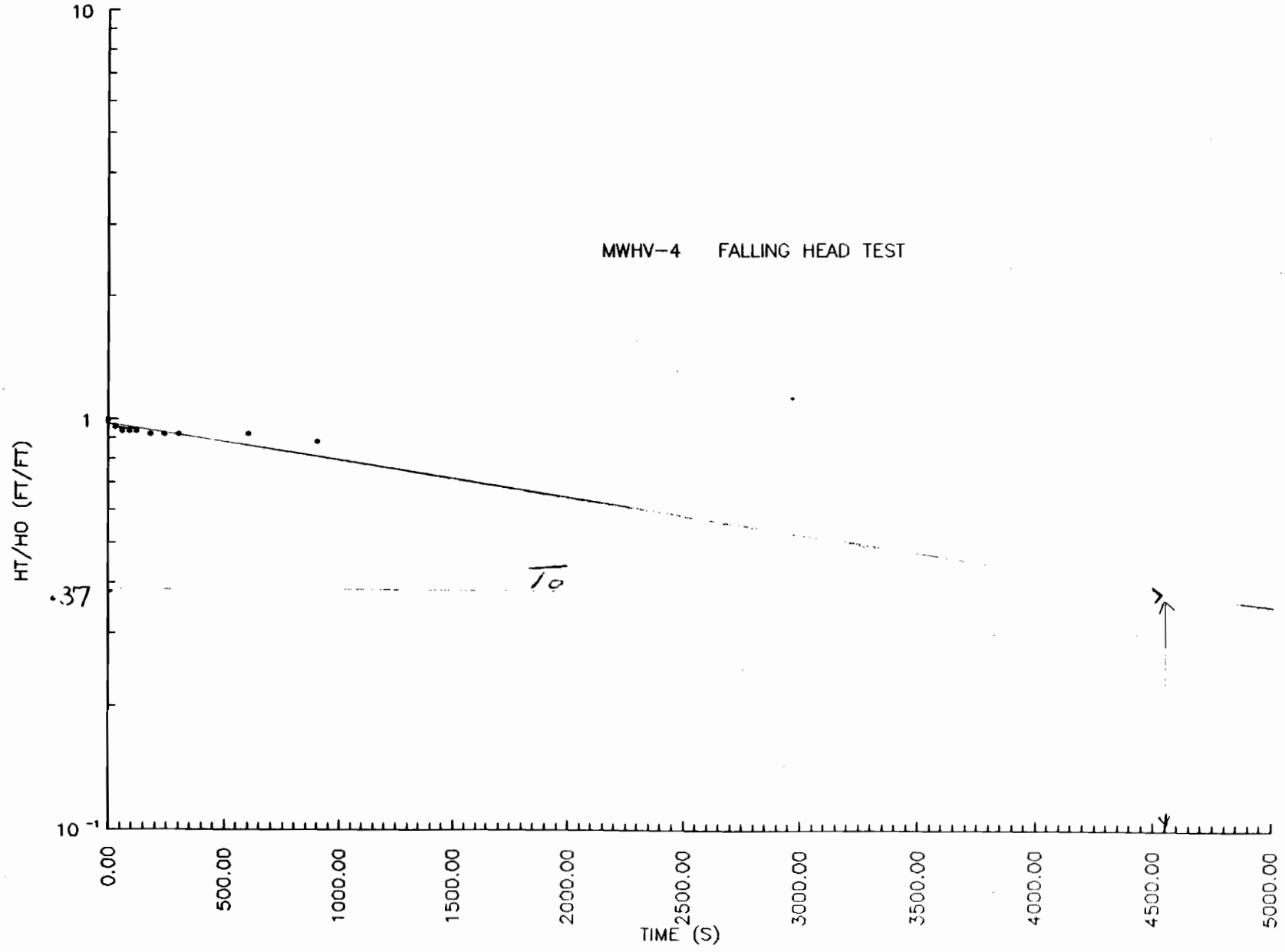
TIME (SECONDS)	WATER DEPTH (FEET)	HT (FEET)	HEAD RATIO (HT/HO)
0.000	9.800	0.070	1.000
15.000	9.830	0.040	0.571
30.000	9.840	0.030	0.429
45.000	9.850	0.020	0.286
60.000	9.870	0.000	0.000
		Recovery (%)	100.00


MWHV-3 FALLING HEAD TEST
1
.37
10^{-1}
T_o
HT/HO (FT/FT)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
TIME (S)

Project Name: HEBRON VALLEY
Location: HEBRON, NY
Well No.: MWHV-4
Reference pt: TOC (STEEL)
Test Interval: 15.00 (MIN)
Static Ground Water Level: 8.74 (FT)

Project No: A-0038
Date: 10-04-90
Type of Test: FALLING HEAD SLUG TEST

TIME (SECONDS)	WATER DEPTH (FEET)	HT (FEET)	HEAD RATIO (HT/HO)
0.000	8.230	0.510	1.000
30.000	8.250	0.490	0.961
60.000	8.260	0.480	0.941
90.000	8.260	0.480	0.941
120.000	8.260	0.480	0.941
180.000	8.270	0.470	0.922
240.000	8.270	0.470	0.922
300.000	8.270	0.470	0.922
600.000	8.270	0.470	0.922
900.000	8.290	0.450	0.882
		Recovery (%)	11.76


MWHV-4 FALLING HEAD TEST
10
1
.37
10^{-1}
HT/HO (FT/FT)
To
0.00
500.00
1000.00
1500.00
2000.00
2500.00
3000.00
3500.00
4000.00
4500.00
5000.00
TIME (S)

B.2 RESULTS

DRILLING SUMMARY REPORT

Site Name: Hebron Valley Products Corporation
Site ID No.: 558016
Date: 8-14-90 to 9-20-90
Present: Ira Bickoff

1. **Well Data**

Well No.	Boring Depth, ft.	Depth to Water, ft.
MWHV-1	14.0	5.00 (99.80)
MWHV-2	14.4	9.39 (95.20)
MWHV-3	20.0	9.27 (93.30)
MWHV-4	16.5	7.06 (98.70)

*Depth to water refers to feet from top of casing taken on 9/20/90
Grade elevation (feet) is in parentheses

2. **Well Development**

Each well was developed with a dedicated 5 foot, 1.5 inch diameter PVC hand bailer. Water was evacuated from the wells until pH, Temperature, and conductivity measurements stabilized and until a turbidity of < 50 NTUs was achieved. Turbidities achieved were: MWHV-1 - >200 NTU, MWHV-2 - >200 NTU, MWHV-3 - 67 NTU, MWHV-4 - 100 NTU.

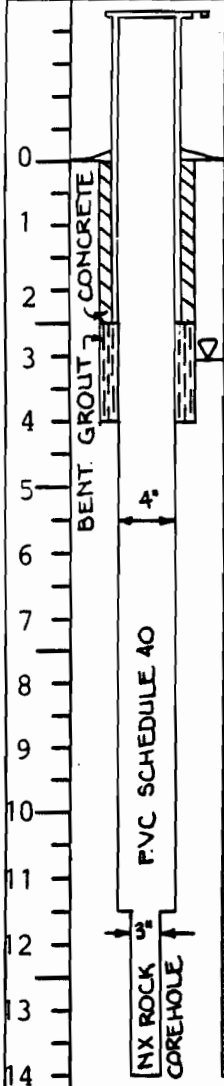
Date: Started 8/14/90
Finished 8/16/90
Sheet 1 of 1

YEC, INC

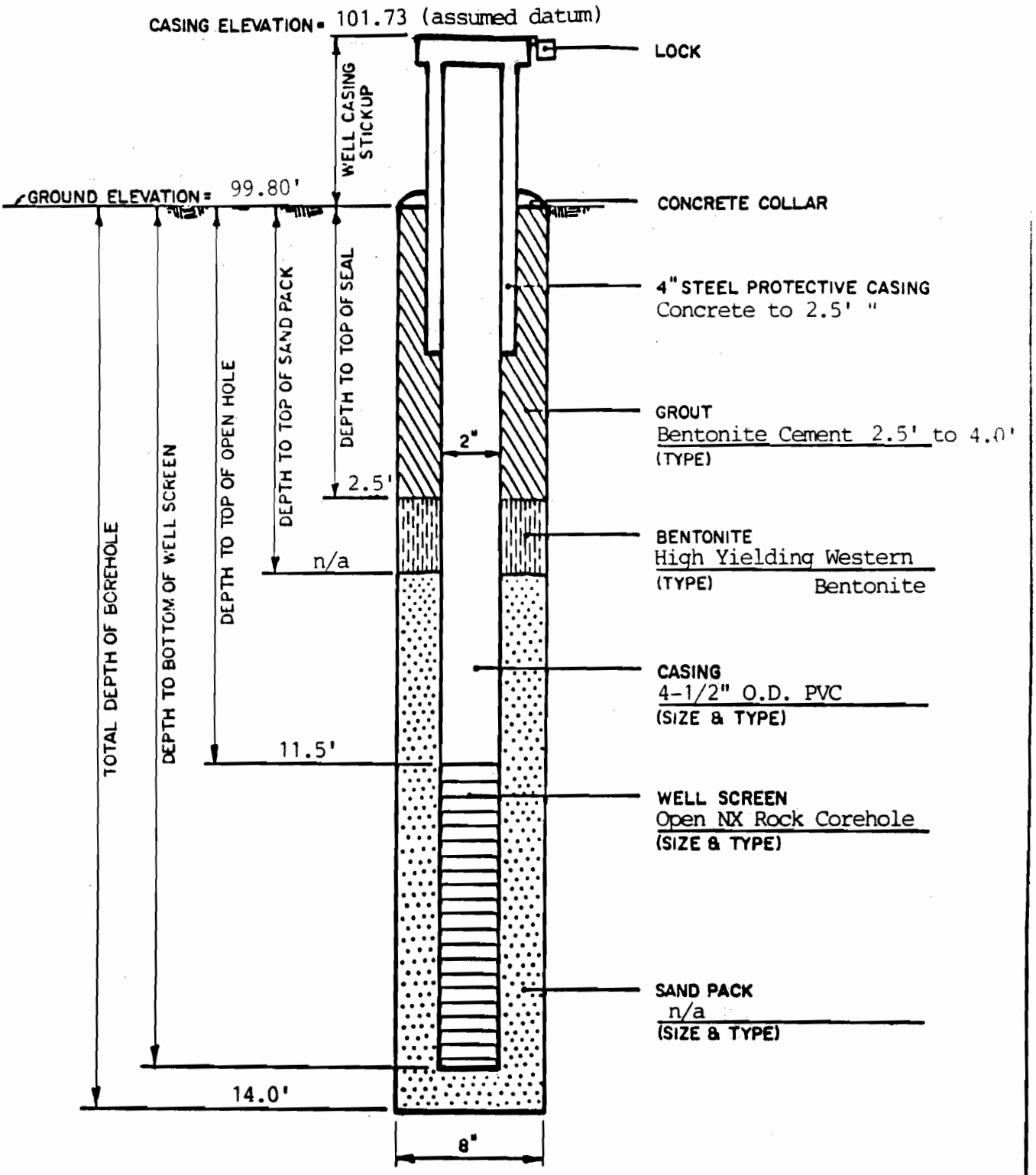
GEOLOGIC LOG

Boring No. MWHV-1
Surface Elev. 99.80 Feet
Depth to Water 3.07 bgs

Project HEBRON VALLEY PRODUCTS CORP.
Location Tiplady Road Hebron, N.Y.
Geologist/Eng. J. Singer
Monitoring Inst. Used: Hnu, CGI



Depth (feet)	Stratigraphy	Sample No.	Blows on Sampler 0 to 6	6 to 12	12 to 18	18 to 24	Moisture content/ Density/ Color	GENERAL DESCRIPTION	In Reading
0			2	2	76	100 (4")	Damp Dark brn/ black	0-1.8' Recovery = 1.4'	0
1								0-0.4' Soil, rootlets; trace medium sand	
2							Dk.brn. to lt. gray	0.4-1.4' Shaley slate discs; some fine to very fine decomposed slate	
3									
4			107 (3")					0.4' TOP of weathered rock	
5							Dry dk. gray/ blue @ 5-6.5" change to white/ gray	4-4.25' Recovery = 2" Same as above, but thinner cleavage breaks, more fissile.	0
6									0
7								6.0' TOP of competent rock	
8								ROCK REAMED OUT OF BOREHOLE TO 11.5'	
9									
10		Run #1	ROCK CORE (min/foot) 3/3/3 (0.5')						
11								11.5-14.0 ROCK CORE RUN #1 Rock could not be removed from core barrel.	
12									
13									
14								14.0' END OF BORING	
15									



NOTE: ALL DEPTHS MEASURED FROM GROUND SURFACE N.T.S.

MONITORING WELL CONSTRUCTION DIAGRAM

WELL NO. MWHV - 1

YEC PROJECT NO: A0038

LOCATION:
East side of Tiplady Road;
77' SW of Charcoal Shed Corner

DATE COMPLETED	8/16/90
DEPTH TO GROUNDWATER	3.07' bgs
DATE MEASURED	9/20/90

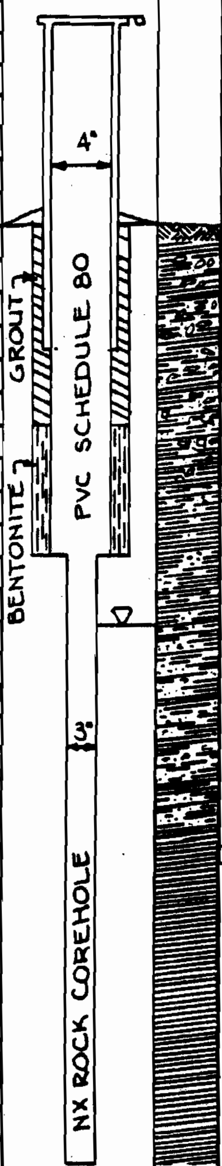
Date: Started 9/17/90
Finished 9/18/90
Sheet 1 of 1

YEC, INC

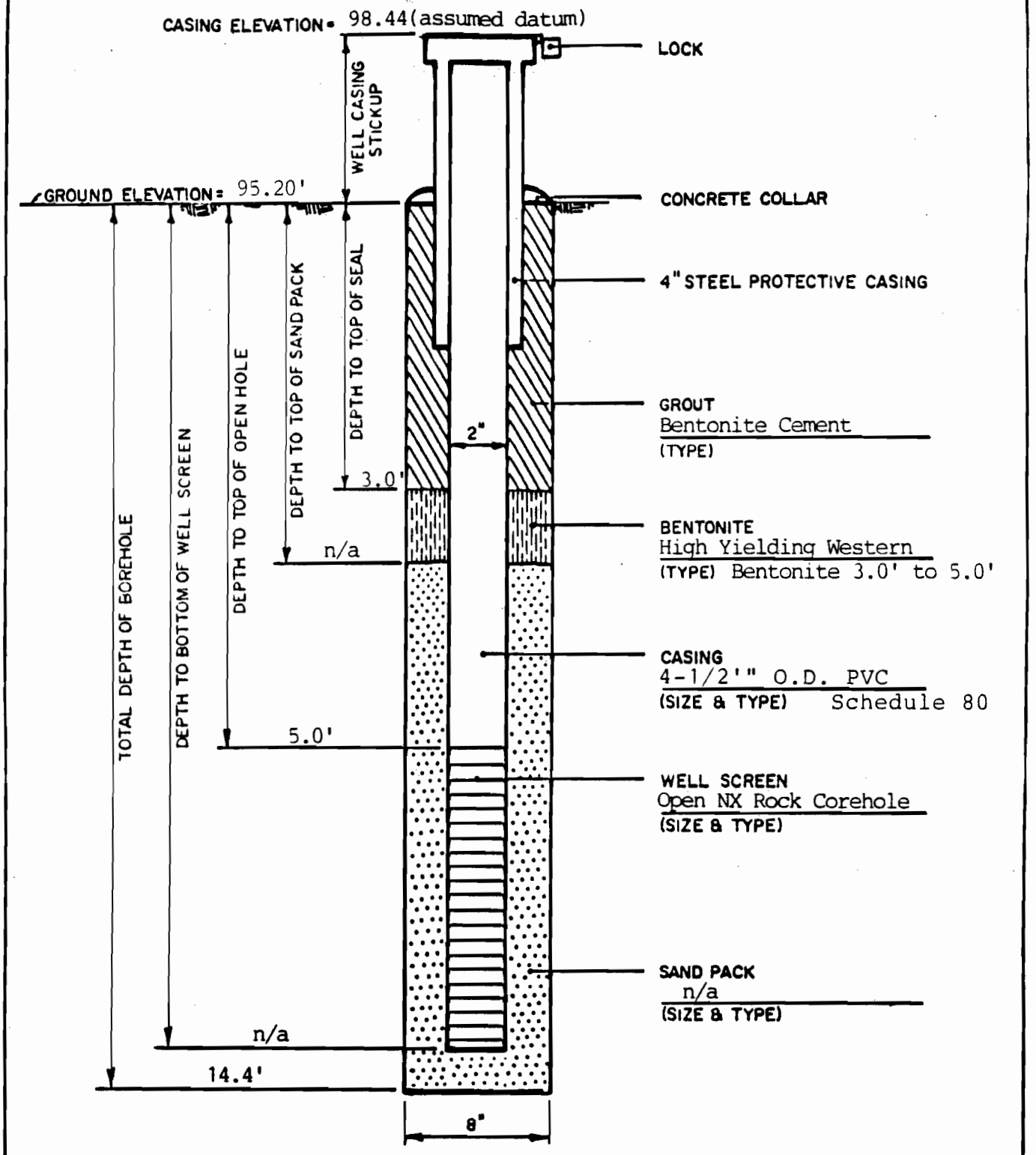
GEOLOGIC LOG

Boring No. MWHV-2
Surface Elev. 95.20 Feet
Depth to Water 6.15 bgs 9/20/90

Project HEBRON VALLEY PRODUCTS CORP.
Geologist/Eng. J.Singer, R.P.G.
Location Tiplady Road, Hebron, N.Y.
Monitoring Inst. Used: Hnu, OVA, CGI



Depth (feet)	Sample No.	Blows on Sampler 0 to 6	6 to 12	12 to 18	18 to 24	Moisture content/ Density/ Color	GENERAL DESCRIPTION	Ins... Head...
	SS #1	4	7	47	34	Damp, Dark brn/blk; Blue/gray	0-2.0' Recovery = 1.0' 0-0.25' Soil, grass, rootlets 0.25-2.0' Slate fragments, very coarse to coarse; & fine to coarse ground-up rock.	
	SS #2	100 (1")						
0								
1								OVA= 3...
3						Lt. gray/ rusty	3.0'-3.08' Recovery = 0.08' Slate chips, very thin; & ground-up rock flour, very fine-grained.	Hnu= 0
4	Run #1	ROCK CORE (min/foot) 4/5/6/5/5						
5							4.4-9.4' ROCK CORE RUN #1 Recovery= 2.2' RQD = zero Very broken gray slate with abundant rusty staining on cleavage planes; very fissile. Dip on cleavage is 10° to 30°. 1/16" to 1" planar spacing (cleavage); uncemented.	Hnu= 0
10	Run #2	1/5/5/4/6					9.4-14.4' ROCK CORE RUN #2 Recovery = 3.2' RQD = zero Gray fissile shaley slate. 1/8" to 1-3/4" planar spacing (cleavage); uncemented. Dip on cleavage is 10° to 30°. Rock is moderately strong & slightly to moderately altered. Hard rock. No reaction to HCl acid.	
14							14.4' END OF BOREHOLE	
15								



NOTE: ALL DEPTHS MEASURED FROM GROUND SURFACE N.T.S.

MONITORING WELL CONSTRUCTION DIAGRAM

WELL NO. MWHV - 2

YEC PROJECT NO: A0038

LOCATION:
East side of Tiplady Road, about 120' south of Black Creek

DATE COMPLETED	9/18/90
DEPTH TO GROUNDWATER	6.15'
DATE MEASURED	9/20/90

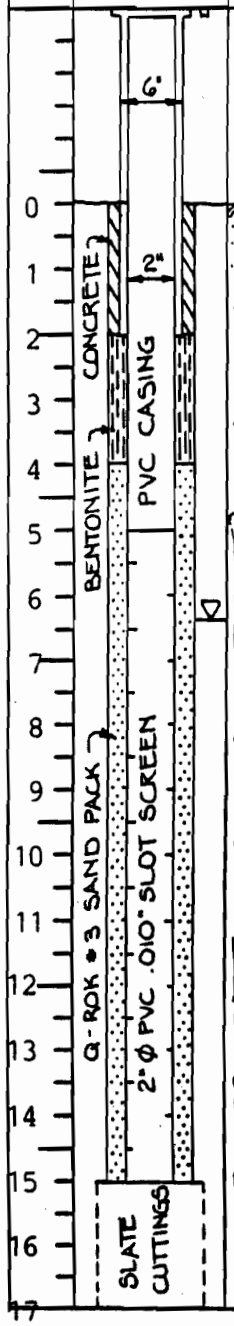
Date: Started 9/18/90
Finished 9/20/90
Sheet 1 of 2

YEC, INC

GEOLOGIC LOG

Boring No. MWHV-3
Surface Elev. 93.30 Feet
Depth to Water 6.38 bgs
9/20/90

Project HEBRON VALLEY PRODUCTS CORP.
Geologist/Eng. J. Singer
Location Tiplady Road Hebron, N.Y.
Monitoring Inst. Used: Hnu, CGI



Depth (feet)	Well Constr. Diagram	Stratigraphy	Sample No.	Blows on Sampler 0 to 6	6 to 12	12 to 18	18 to 24	Moisture content/ Density/ Color	GENERAL DESCRIPTION	Instr. Reading
0			SS #1	3	6	6	7	Damp, dark brown	0-2' Recovery =0.25' Soil, grass, twigs; coarse to fine loamy soil & sediment	Hnu = 0
5									5'-10' ROCK CORE RUN #1 Recovery = 0.8'/16% RQD = 0 Quartz pebbles, rounded; very coarse-grained gneiss and angular slate fragments. (Road fill; transported rock, dam breach)	CGI = 0
			Run #1	ROCK CORE (min/foot) 2/3/2/1/2						
10			Run #2	ROCK CORE (min/foot) 2/2/2/3/2					10'-15' ROCK CORE RUN #2 Recovery = 0.25'/5% RQD = 0 Geologic descriptions same as above + gray cuttings	
15			Run #3	ROCK CORE (min/foot) 4/3/4/3/6					15'-20' ROCK CORE RUN #3 Recovery = 3.7'/74% RQD = 7.5% 15.0'-16.75' Broken slate and gravel, rounded to angular.	

Date: Started 9/18/90
Finished 9/20/90
Sheet 2 of 2

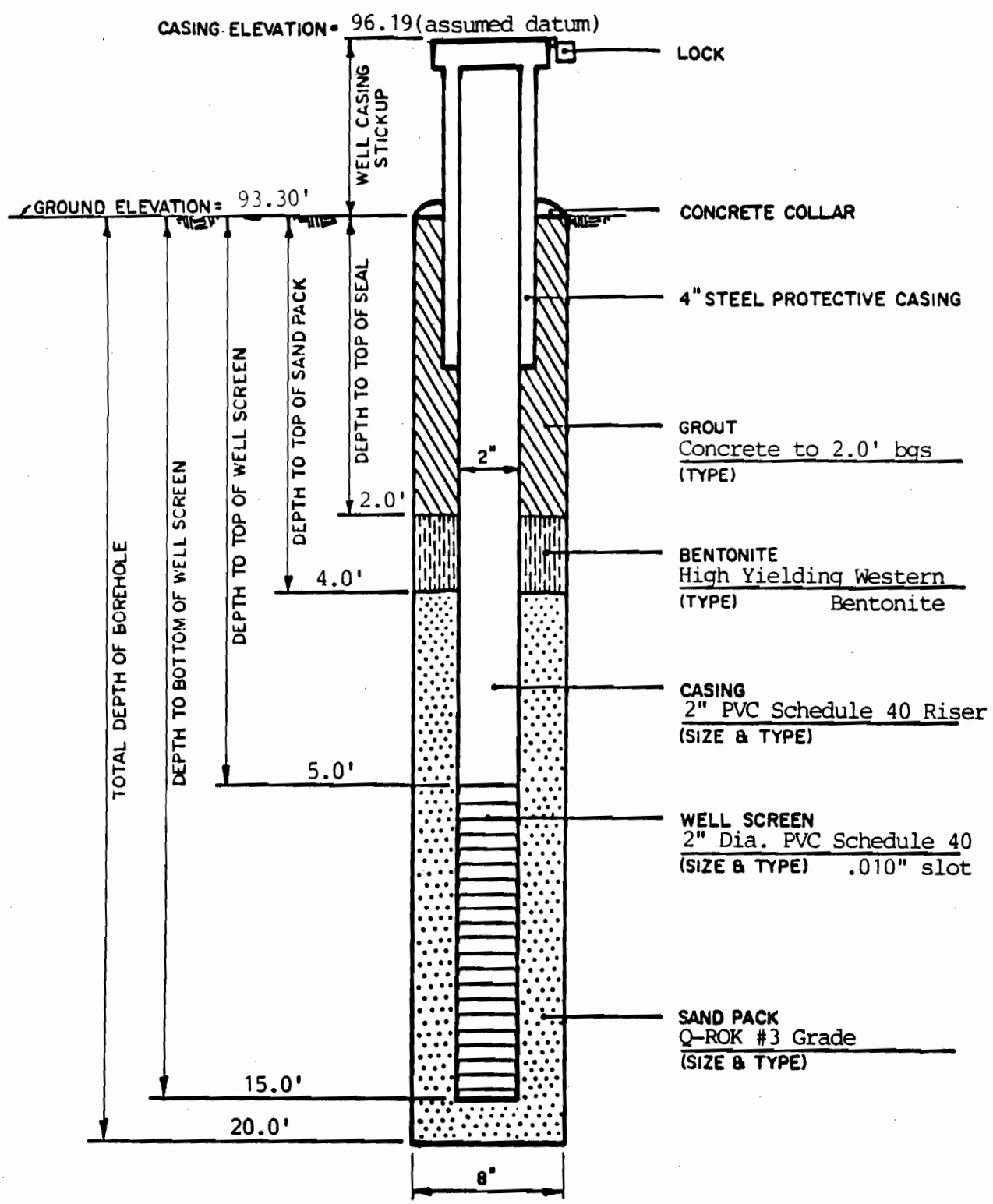
YEC, INC

GEOLOGIC LOG

Boring No. MWHV-3
Surface Elev. 93.30 Feet
Depth to Water 6.38 bgs
8/20/90

Project HUDSON VALLEY PRODUCTS CORP.
Location Tiplady Road Hebron, N.Y.
Geologist/Eng. J. Singer, RPG
Monitoring Inst. Used: Hnu, CGI

Depth (feet)	Well Constr. Diagram	Stratigraphy	Sample No.	Blows on Sampler 0 to 6	6 to 12	12 to 18	18 to 24	Moisture content/ Density/ Color	GENERAL DESCRIPTION	Inst. Reading
18	SLATE CUTTINGS								16.75' TOP of competent rock	
19									16.75-20.0' Slate with abundant quartz veins	
20	END OF BOREHOLE								16.75-18.5' 3" to 4" pieces of slate	
									18.5-19.6' 1/4" to 2" pieces of slate	
									19.6-20.0' one 5" piece of slate	
									HOLE CAVED IN to 15.0' WITH CUTTINGS. 10' of 2" O.D. pvc well screen (40 schedule , 0.010" slot) set @ 5.0' to 15.0' bgs	
									20.00' END OF BOREHOLE	



NOTE: ALL DEPTHS MEASURED FROM GROUND SURFACE N.T.S.

MONITORING WELL CONSTRUCTION DIAGRAM

WELL NO. MWHV - 3

YEC PROJECT NO: A0038

LOCATION:
East side of Tiplady Road about 45' south of Black Creek

DATE COMPLETED 9/20/90

DEPTH TO GROUNDWATER 6.38' bgs

DATE MEASURED 9/20/90

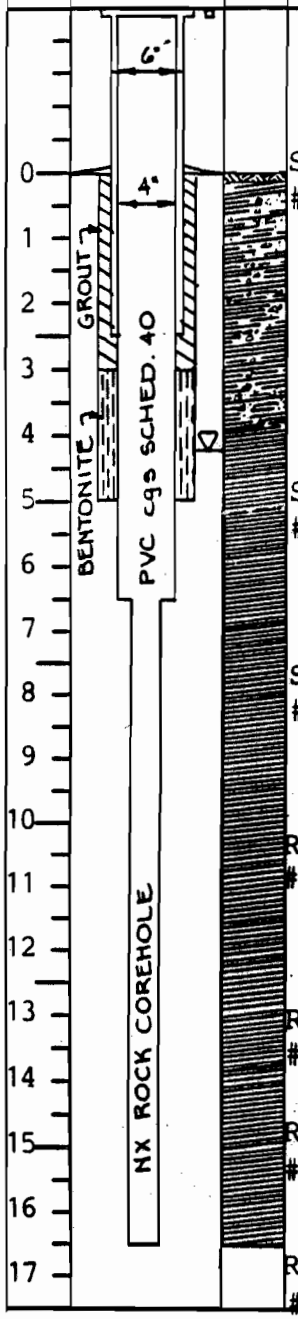
Date: Started 8/15/90
Finished 9/18/90
Sheet 1 of 1

YEC, INC

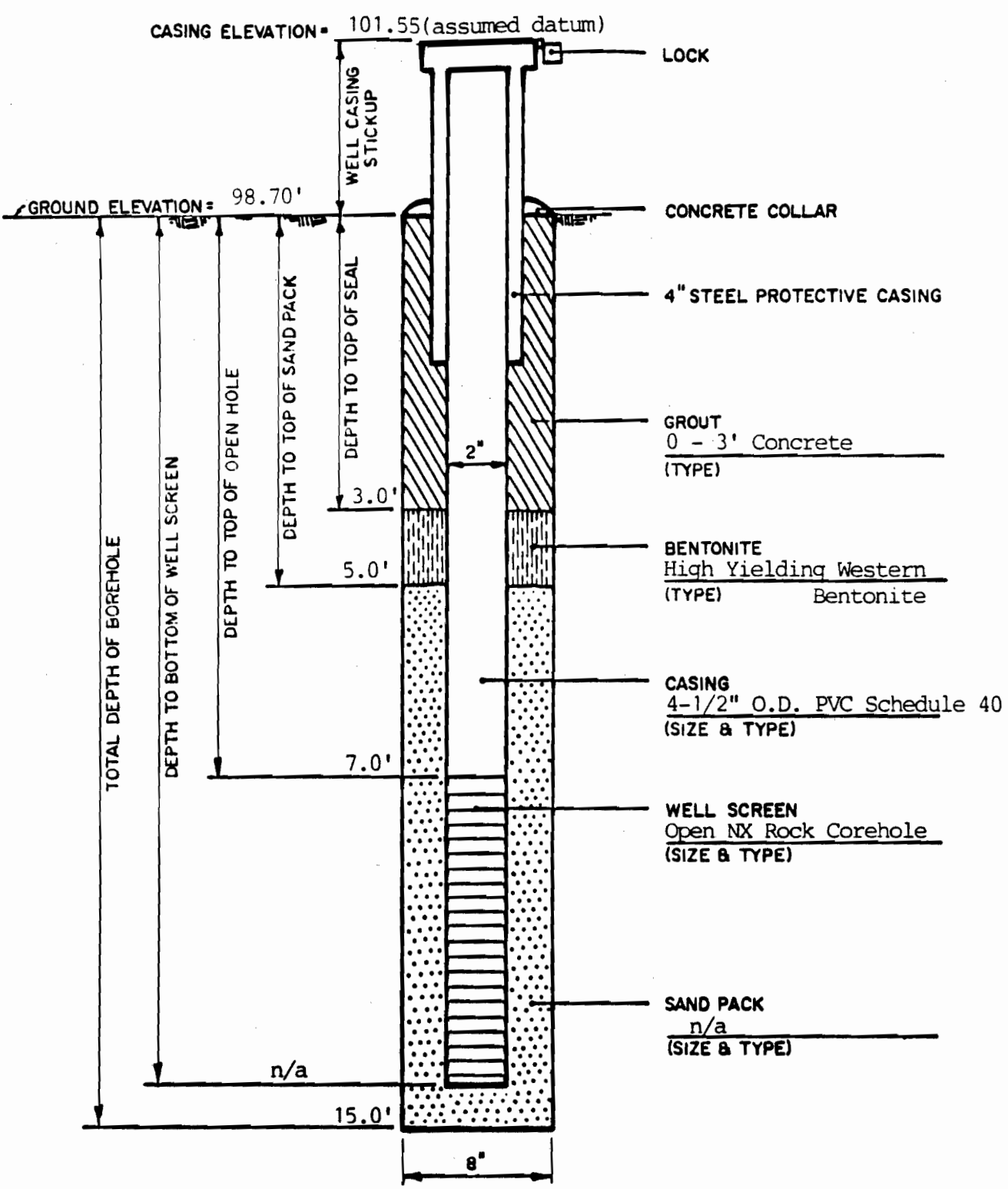
GEOLOGIC LOG

Boring No. MWHV-4
Surface Elev. 98.70 Feet
Depth to Water 4.21 bgs
9/20/90

Project HEBRON VALLEY PRODUCTS CORP.
Geologist/Eng. J.Singer,R.P.G.
Location Tiplady Road Hebron, N.Y.
Monitoring Inst. Used: Hnu, CGI



Depth (feet)	Sample No.	Blows on Sampler 0 to 6	6 to 12	12 to 18	18 to 24	Moisture content/ Density/ Color	GENERAL DESCRIPTION	Inst. Reading
0	SS #1	2	2	4	4	Black soil	0-2.0' Recovery = 1.8'	
							0-0.25' Soil, grass, rootlets	
1							0.25-1.5' Shaley slate fragments, fine to coarse grained angular fractures	
2						Damp brown		
							1.5-2.0' Rock fragments; little coarse gravel.	
3						Dry	2.0-3.5' Recovery = 1.5' Rusty shaley slate, flat discs, some fine-grained material.	
4								
5	SS #2	4	5	108 (6")			5.0-6.0' Recovery = 0.5' Broken rock fragments (shaley slate)	
6								
7							5.0-7.0' ROCK CORE RUN #1 (8/15/90) Recovery = 2.0'/100% RQD=0 Gray slate	
8	SS #3	160 (12")						
9							7.4-12.4' ROCK CORE RUN #2 (9/18/90) Recovery = 2.8'/56% RQD=zero Gray fissile shaley slate. 1/8" to 1-3/4" cleavage spacings	
10	Run #1	ROCK CORE min/foot						
11		2/2					10.5-11.5' ROCK CORE RUN #3 Recovery = 0.8'/80% RQD=zero	
12								
13	Run #2	6/10/8/2/4						
14		RE-CORE					11.5-16.5' ROCK CORE #4 Recovery = 4.0'/80% RQD=zero Gray shaley slate. Hard rock. No reaction to HCl acid.	
15	Run #3	interval 10.5 to 11.5						
16								
17	Run #4	6/6/5/12/6					16.5' END OF BOREHOLE	



NOTE: ALL DEPTHS MEASURED FROM GROUND SURFACE N.T.S.

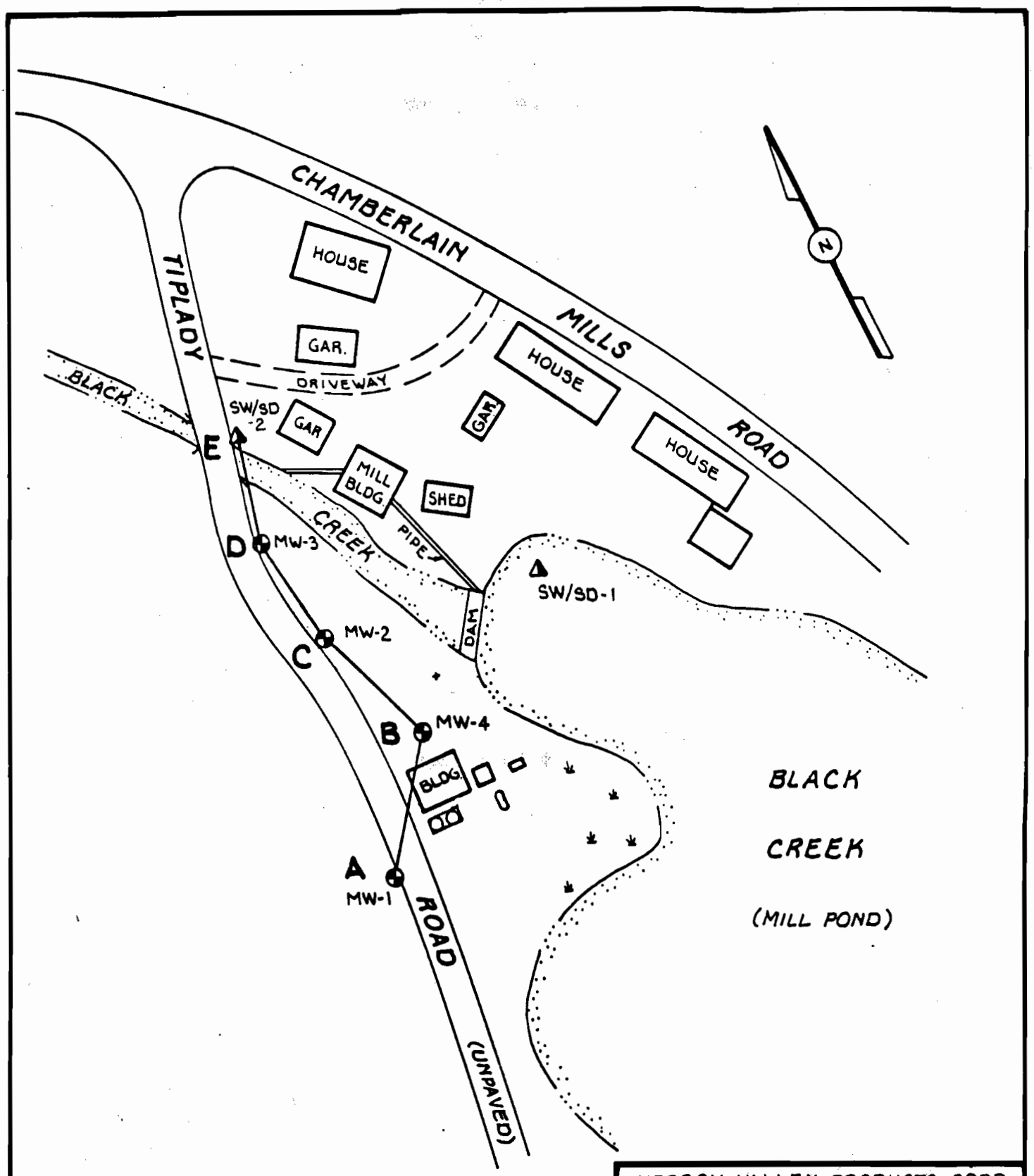
MONITORING WELL CONSTRUCTION DIAGRAM

WELL NO. MWHV - 4

YEC PROJECT NO: A0038

LOCATION:
About 15' north of north side of charcoal shed

DATE COMPLETED 9/18/90
DEPTH TO GROUNDWATER 4.21' bgs
DATE MEASURED 9/20/90



LEGEND

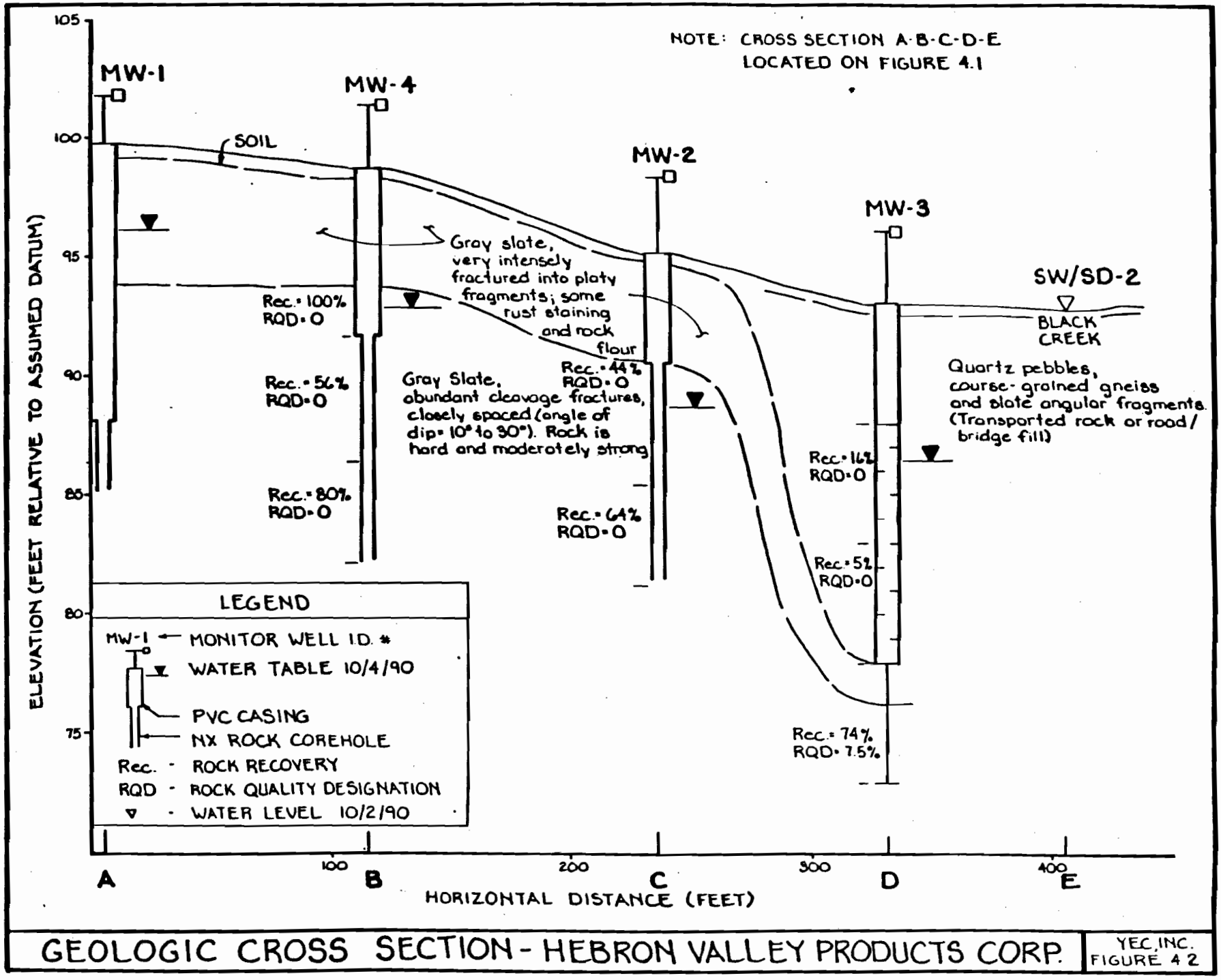
A—B—C—D—E	CROSS SECTION SHOWN ON FIG 4.2
⊕	MONITORING WELL
△	SURFACE WATER/ SEDIMENT SAMPLE

HEBRON VALLEY PRODUCTS CORP.

CROSS SECTION LOCATION MAP

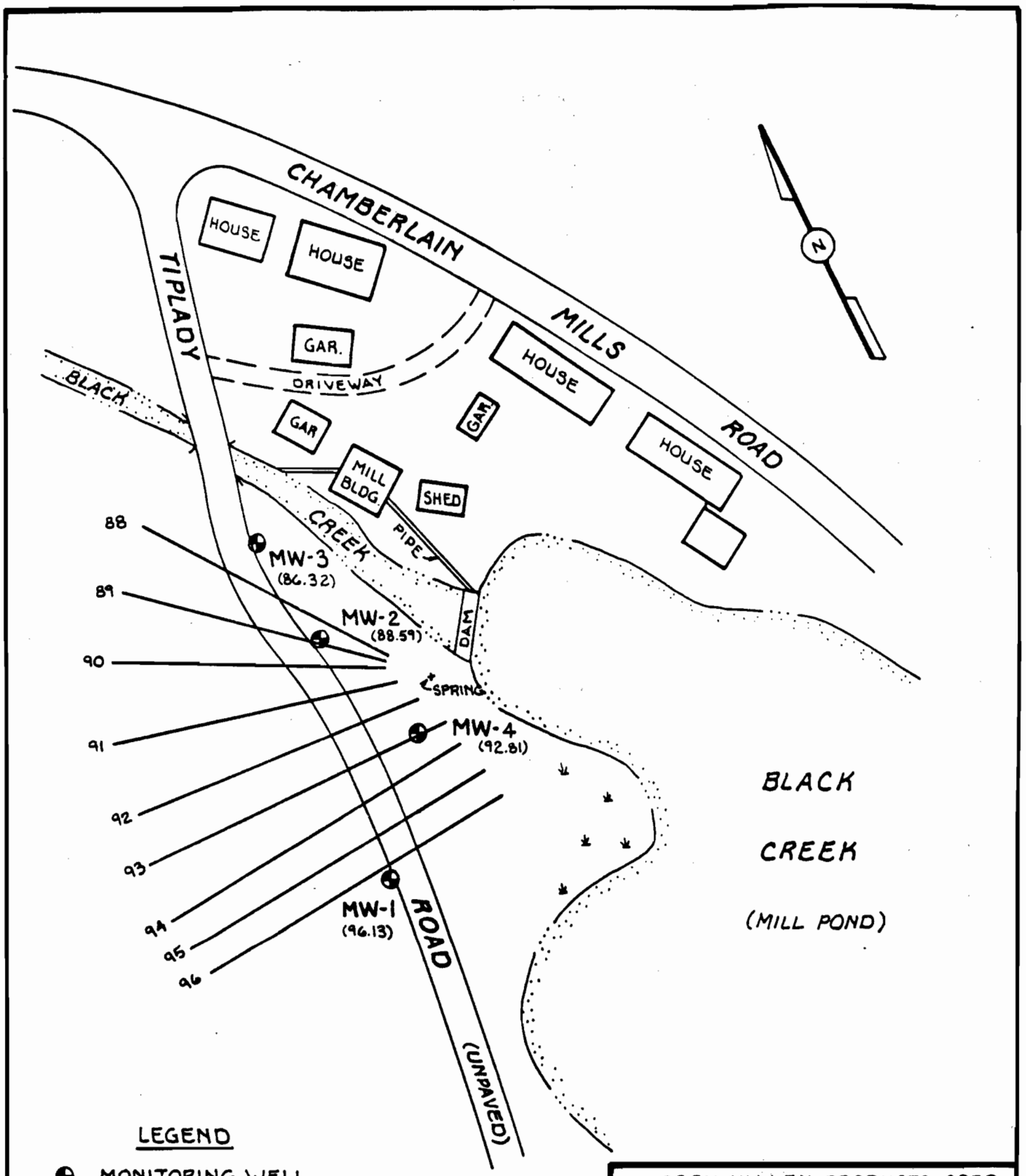
SCALE: 1" = 100' 0 50 100 200'

YEC, INC. | FIGURE 4.1



GEOLOGIC CROSS SECTION - HEBRON VALLEY PRODUCTS CORP.

YEC, INC.
FIGURE 4.2



LEGEND

- MONITORING WELL (WITH WATER LEVEL ELEV.)
- GROUNDWATER CONTOURS

NOTE:
CONTOURS WERE DERIVED FROM MEASUREMENTS TAKEN ON 10/4/90 AS ON TABLE 4.1

HEBRON VALLEY PRODUCTS CORP.

GROUNDWATER CONTOUR MAP

SCALE: 1" = 100' 0 50 100 200'

YEC, INC.

FIGURE 4.3

APPENDIX C
SAMPLING AND ANALYSIS

C.1 PROCEDURES

1. Sampling Methodology

The sampling plan was prepared by YEC, Inc. as a part of the updated work plan. It identifies the number of each sample type to be collected and describes collection methods to be utilized. The sampling plan specifies each sampling location and gives a sketch with roughly indicated sampling locations for illustrative purposes. The sampling locations were given code numbers for identification.

In order to ensure a smooth and proper sampling process in the field, the following preparations and steps were taken:

- Coordination with the laboratory to ensure an adequate number of laboratory cleaned containers were provided with the necessary preservatives according to the appropriate protocols.

- All instruments to be used in the field were checked to ensure they were in working order. All instruments were calibrated before going to the site.

- Sampling equipment was cleaned in accordance with the cleaning procedure outlined on page C-3.

During the sampling events, the following elements were implemented:

- Chain of custody procedures were followed.
- An accurate sampling log was maintained.
- No sampling containers other than those provided by the laboratory were used.
- A trip blank accompanied aqueous samples.
- Prior to sampling, laboratory supplied deionized water was poured over the sampling equipment and collected into field blank bottles.
- Well purging was performed. A minimum of three well volumes of water were evacuated.
- Prior to filling the sample bottles, the groundwater was analyzed for temperature, specific conductance, and pH.
- Groundwater sample collection occurred right after well development. Disposable bailers along with disposable polypropylene suspension cords were used to collect samples. Care was taken to minimize the potential for volatilization during the transfer of the sample from the bailer to the bottle. No headspace or air bubbles were allowed in the samples for VOA.
- Samples were capped, labeled (well no., site location, type of sample, collection date, and time), and placed in ice filled coolers.
- All samples were stored and maintained at less than 4°C and delivered to the laboratory within 48 hours.

Cleaning Procedure

All sampling equipment was thoroughly cleaned before use in accordance with the following procedures:

1. Non-phosphate detergent and tap water wash
2. Tap water rinse
3. Methanol rinse
4. Air dry
5. Distilled water rinse

After this procedure has been accomplished, the sampling equipment was wrapped in aluminum foil, placed in a plastic bag, and kept in its wrapping until use.

2. Chemical Analysis

A quality assurance program was developed in the Work Plan to ensure that the precision and accuracy of the groundwater sample analyses were not impacted by sampling, sample handling, and equipment decontamination procedures. This program was based on the collection of the field blank samples for laboratory analysis and the maintenance of a trip blank.

A trip blank determines if sample bottles (empty or full) have been exposed to airborne contaminants in transit or on-site. A trip blank (an aliquot of deionized, analyte-free water which was placed in a container and sealed at the laboratory) accompanied the sampler to each sampling site and was transported in the same manner as the other groundwater samples. The trip blanks were handled as routine samples in the laboratory and analyzed for volatile organic parameters.

All sample analyses were performed by H2M Laboratory following the procedures outlined in the New York State Contract Laboratory Protocol (CLP) of November 1987. The analyses included are the following:

- TCL (Target Compound List) Inorganics - Preparation and analysis of inorganic compounds using the specified CLP methods. The analyses are performed on unfiltered samples. Results of the analyses represent total metals.

- TCL Volatiles - Preparation and analysis using the CLP specified Gas Chromatograph/Mass Spectrometer (GC/MS) method for TCL purgeable organics plus a library search for and the quantification of any additional non-TCL compounds (the CLP requires the library search only for the ten non-TCL compounds of largest apparent concentration).

- o TCL Semivolatiles - Preparation and analysis using the CLP specified GC/MS method for the TCL extractable base/neutral and acid organic compounds plus a library search for and the quantification of any additional non-TCL compounds (the CLP requires the library search only for the 20 non-TCL compounds of largest apparent concentration).

- o TCL Pesticides/PCBs-Preparation and pre-extraction of the TCL organo-chloride pesticides and polychlorinated biphenyls using the CLP specified Gas Chromatograph/Electron Capture Detection (GC/ECD) method.

The CLP used for the analyses specified the quality control measures which were employed include:

- o A duplicate sample obtained from a monitoring well chosen at random. That sample was not identified as a duplicate to the laboratory, but was assigned an identifier similar to other groundwater samples. The Bureau of Hazardous Site Control requires the blind analyses of a duplicate sample for each site by the laboratory to confirm the integrity of all sampling and analytical activities.

- o CLP requires at least one spiked sample analysis and one spiked duplicate sample from each group of samples of a similar matrix type for each case of samples or for each 20 samples received, whichever is more frequent.

- o A method blank for each category was used to assess the level of possible laboratory background contamination. Aquatec Laboratories, Inc. performed validation of data submitted by H2M Laboratory. For validation of analytical data, the CLP guidelines for validation of laboratory data were followed. Data quality met the established validation criteria, and therefore they were accepted.

3. Guidelines for Evaluating Chemical Analyses

The assessment of a chemical analysis is made to determine the existence and magnitude of contamination problems and criteria to determine whether or not quantitative evidence exists of "an observed release" of contaminants to the environment.

The following criteria based on USEPA, Laboratory Data Validation, February 1, 1988, has been applied for the evaluation of any blank associated with samples:

- o For all pollutants, the method blank must contain less than Contract Required Quantitation Limits (CRQL) of any single organic pollutant and less than Instrument Detection Limits (IDL) of any single inorganic pollutant. If a method blank exceeds this criterion, the analytical system is considered as "out-of-control."

- o Trip and field blanks are evaluated as if they are "true" samples. The presence of the analyte in the field trip blank is an indication of possible field trip introduced

contamination.

- If contaminants are detected in the blanks, then sample results are considered "significant" when concentrations of the compound in the sample exceeds ten times the amount in any blank for common lab contaminants (methylene chloride, acetone, toluene, 2-butanone, and common phthalate esters) or five times the amount for other compounds.

To determine whether or not quantitative evidence exists of an "observed release", the following guidelines have been applied:

- If a contaminant is measured in a sample at a concentration equal to or greater than ten times that of the contaminant in the background sample, then the contaminant is considered to be at a significantly higher level than the background level and quantitative evidence exists for an observed release.

- If no background concentration is detected (background sample results are below CRQL), then the analytical results for contamination of the sample must be three or more times the CRDL to be considered at significantly higher level than the background level.

To determine the magnitude of a water body contamination problem, sample results are compared to the following federal and New York State water quality standards or guidelines:

- Environmental Protection Agency National Primary Drinking Water Regulations (as of 7/17/89).

  Applied to results of all water sample analyses.

- Chapter 1 of Title 10 of the Official Compilation of Codes, Rules, and Regulations of the State of New York, Part 5, Drinking Water Supplies, Subpart 5-1, Public Water Supplies (as of 11/28/88).

  Applied to the results of drinking water sample analyses.

- Chapter 10 of Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York, Division of Water Resources, Article 2, Part 702, Appendix 31, Ambient Water Quality Standards - "The standards adopted herein relate to the condition of waters as affected by the discharge of sewage, industrial wastes, or other wastes" (as of 7/5/85).

  Applied to results of surface water sample analyses for surface water that is not a source of drinking water.

- Chapter 10 of Title 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York, Division of Water Resources, Article 2, Part 703.5(a)(2) and (3),

Classes and Quality Standards for Groundwaters - "The purpose of these classes, quality standards, and effluent standards and/or limitations is to prevent pollution of groundwater and to protect the groundwaters for use as a potable water" (as of 7/5/85).

> Applied to results of all groundwater sample analyses regardless of groundwater use.

To determine the magnitude of soil and sediment contamination, soil and sediment samples are compared to the common range of inorganics in uncontaminated soils as listed in the USGS Professional Paper 1270 (1984): *New York State Soils* and in Booz, Allen & Hamilton, Inc. (1983): *Range in U.S. Soils*

4. Air Survey

A portable photoionization analyzer (HNU) and an organic vapor analyzer (OVA) were used to monitor the presence of volatile organic contaminants in the ambient air at the hazardous waste site. The measurements were evaluated to determine the proper health and safety requirements to be implemented during the site reconnaissance and during drilling activities. Background levels registered <2 ppm during drilling activities, except at HV-2, where an OVA reading of 30 ppm was monitored while augering at a depth of 5 feet.

All split spoon samples and NX cores were scanned with a HNU and an OVA to assess the potential for high levels of volatile organic contamination. The results of these readings are attached with the boring log of each well.

The air monitoring instruments were calibrated before each day with their appropriate calibration gases. Organic vapor emanating from the surface was determined by holding the probe 6"-12" above the surface for 30 seconds. During the drilling procedure, each split spoon soil sample was tested by holding the probe at approximately 1 inch from the soil sample. Readings were registered when the instrument stabilized.

C.2 RESULTS

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

3. CASE NARRATIVES

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 1174
(516) 694-3040 FAX: (516) 694-4122

December 13, 1990

NOTE :

Due to a delay in delivery by Federal Express, some samples collected on October 1, 1990, were not received until October 3, 1990.

I.D. Number	LAB Number	Collected	Received
SWHV-1 MS/MSD	9011186	10/01/90	10/02/90
SWHV-2	9011301	10/01/90	10/03/90
SWHV-3	9011302	10/01/90	10/03/90
SDHV-1 MS/MSD	9011303	10/01/90	10/03/90
SDHV-2	9011304	10/01/90	10/03/90

YEC, INC was notified (October 2, 1990) and is aware of the situation.

Lynn T. Daniello

Lynn T. Daniello
Project Coordinator

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

Case Narrative
for Volatile
(GIB061)

For Samples: SWHV-1 (MS/MSD)

Sample SWHV-1 was analyzed as the MS/MSD sample. All % recoveries were within the allowable limits. All RPD's were outside the allowable limits.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: December 6, 1990

****
* *
* *
****
Joann M. Slavin
Quality Assurance Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

CASE NARRATIVE FOR BASE NEUTRAL/ACID EXTRACTABLES

TASK NO. GIB061

FOR SAMPLE: SWHV-1

QC DATA

All requirements for recoveries and blank data were met.

TUNING AND CALIBRATION

The parameters for tuning and calibration satisfied the criteria of the ASP with the following exceptions:

Two compounds exceeded 25% D for the continuous calibration. These two analytes were, however, not found in the sample.

SAMPLE ANALYSIS

No problems were encountered with the analysis of the sample.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: 12-06-90

****
* Middel *
****

Ursula Middel
Technical Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

CASE NARRARTIVE FOR INORGANICS
GIB061
REC'D 10/02/90

FOR SAMPLE: GWHV-1

The instruments used for metals analysis include a Perkin-Elmer 5100/HGA-600 and a Varian Spectra 30/GTA-96 for furnace AA technique. A Perkin-Elmer 2380 was used for flame AA and for mercury cold vapor techniques. ICP analysis was performed using an ARL 3560.

Due to ICP carryover, iron analysis was repeated using flame AA technique. The data reported for sample SWHV-1 is from the flame analysis.

The ICP serial dilution of sample SWHV-1 for manganes did not agree within 10% of the undiluted sample result. Manganese data is reported flagged with an "E" on Forms I and IX.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: 12-12-90

Stanley Isaacson
Laboratory Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

4. SAMPLE REPORTS

4.1 VOLATILES
4.2 BASE/NEUTRAL/ACIDS
4.3 METALS AND CYANIDE
4.4 INORGANIC ANALYSIS

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

QUALIFIERS FOR REPORTING ORGANICS DATA

Value - If the result is a value greater than or equal to the quantification limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum quantification limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable quantification limit for the sample.

J - Indicates as estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified quantification limit but greater than zero (e.g.: If limit of quantification is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J).

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/ul in the final extract should be confirmed by GC/MS.

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

E - This flag identifies compounds whose concentrations are outside the calibration range of the analysis. If one or more compounds have a response greater than full scale, the extract must be diluted and reanalyzed, according to the specifications in Exhibit D. All compounds with a response greater than full scale should be flagged with an "E" on the original report of analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: for total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered seperately.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

X - This flag indicates compounds with spectra that do not meet identification criteria as detailed in Exhibit(E)E-61 section 6.1.3 but are believed to be present.

Z - Indicates analyte was present at the reported concentration in the pre-screening analysis.

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 1174
(516) 694-3040 FAX: (516) 694-4122

QUALIFIERS FOR METALS ANALYSIS

E - The reported value is estimated because of the presence of interference. An explanatory note is included in the case narrative.

M - Duplicate injection precision not met.

N - Matrix spiked sample recovery not within control limits.

S - The reported value was determined by the Method of Standard Additions.

+ - Correlation coefficient for the MSA is less than 0.995.

W - Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

Concentration Qualifiers

B - Entered if the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

U - Entered if the analyte was analyzed for but not detected, less than the IDL.

H2M LABS, INC.

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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SWHV-1

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 61

Matrix: (soil/water) WATER Lab Sample ID: 9011186

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4274

Level: (low/med) LOW Date Received: 10/ 2/90

% Moisture: not dec. 100. Date Analyzed: 10/ 3/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

H2M LABS, INC.

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

1E

EPA SAMPLE NO.

SWHV-1

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 61

Matrix: (soil/water) WATER Lab Sample ID: 9011186

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4274

Level: (low/med) LOW Date Received: 10/ 2/90

% Moisture: not dec. 100. Date Analyzed: 10/ 3/90

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 '90

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SWHV-1

Lab Name: H2M LABS INC. Contract: GIBBS & HILL

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: 61

Matrix: (soil/water) WATER Lab Sample ID: 9011186

Sample wt/vol: 1010 (g/mL) ML Lab File ID: >E3199

Level: (low/med) LOW Date Received: 10/02/90

% Moisture: not dec.-- dec. -- Date Extracted: 10/04/90

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) N pH:-- Dilution Factor: 1.00000

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

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

SWHU-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M LABS INC. Contract: GIBBS & HILL

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: 61

Matrix: (soil/water) WATER Lab Sample ID: 9011136

Sample wt/vol: 1010 (g/mL) ML Lab File ID: >E3199

Level: (low/med) LOW Date Received: 10/02/90

% Moisture: not dec. -- dec. -- Date Extracted: 10/04/90

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) N pH: -- Dilution Factor: 1.00000

Number TICs found: 5

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110838	Cyclohexene (8CI9CI)	4.91	89.	JB
2.		Unknown	8.29	67.	JB
3.	74685293	9-Eicosene, (E)- (9CI)	27.59	14.	JB
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.		DATE REPORTED: DEC 03 1990			
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

John J. Kelley, P.E.
Laboratory Director

S 0031

H2M LABS, INC.

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

ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

SWHV-1

Lab Name: H2M LABS, INC. Contract: GIBBS & HILL
Lab Code: H2MLAB Case No.: _____ SAS No.: _____ SDG No.: GIB061
Matrix (soil/water): WATER Lab Sample ID: 9011186 (MS/MSD)

Level (low/med): LOW Date Received: 10/02/90

% Solids : _____

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	149			P
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	3.4	U		F
7440-39-3	Barium	40.0	B		P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	28800			P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	5.2	U		P
7440-50-8	Copper	7.0	B		P
7439-89-6	Iron	530			A
7439-92-1	Lead	1.8	B		F
7439-95-4	Magnesium	4650	B		P
7439-96-5	Manganese	135		E	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.7	U		P
7440-09-7	Potassium	1530	B		P
7782-49-2	Selenium	1.2	U		F
7440-22-4	Silver	4.1	U		P
7440-23-5	Sodium	6490	B		P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	4.8	U		P
7440-66-6	Zinc	35.0			P
	Cyanide	10.0	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:
Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Date Reported: 12/03/90

****
* *
* *
****

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

LAB NO: 9011186

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... SURFACE WATER
SPECIAL

DATE COLLECTED. 10/01/90
DATE RECEIVED.. 10/02/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO: 1 ~~2~~ 12/13/10
LOCATION: SWHV-~~2~~ MS/MSD

REMARKS: HEBRON V.P.C.

PARAMETER (S)	RESULTS	UNITS
COD	20	mg/l
SPECIFIC CONDUCTIVITY	179	umhos
PH	7.0	units
SUSPENDED SOLIDS	8	mg/l
TOTAL DISSOLVED SOLIDS	130	mg/l

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
5 DL EA
SØHV-3 ~~22~~

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306 DL RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4711

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec.____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: MS 12-7-90 ~~4.00~~ 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700.	U
111-44-4	bis(2-Chloroethyl)ether	1700.	U
95-57-8	2-Chlorophenol	1700.	U
541-73-1	1,3-Dichlorobenzene	1700.	U
106-46-7	1,4-Dichlorobenzene	1700.	U
100-51-6	Benzyl alcohol	1700.	U
95-50-1	1,2-Dichlorobenzene	1700.	U
95-48-7	2-Methylphenol	1700.	U
108-60-1	bis(2-Chloroisopropyl)ether	1700.	U
106-44-5	4-Methylphenol	1700.	U
621-64-7	N-Nitroso-di-n-propylamine	1700.	U
67-72-1	Hexachloroethane	1700.	U
98-95-3	Nitrobenzene	1700.	U
78-59-1	Isophorone	1700.	U
88-75-5	2-Nitrophenol	1700.	U
105-67-9	2,4-Dimethylphenol	980.	J
65-85-0	Benzoic acid	8400.	U
111-91-1	bis(2-Chloroethoxy)methane	1700.	U
120-83-2	2,4-Dichlorophenol	1700.	U
120-82-1	1,2,4-Trichlorobenzene	1700.	U
91-20-3	Naphthalene	510.	J
106-47-8	4-Chloroaniline	1700.	U
87-68-3	Hexachlorobutadiene	1700.	U
59-50-7	4-Chloro-3-methylphenol	1700.	U
91-57-6	2-Methylnaphthalene	1200.	J
77-47-4	Hexachlorocyclopentadiene	1700.	U
88-06-2	2,4,6-Trichlorophenol	1700.	U
95-95-4	2,4,5-Trichlorophenol	8400.	U
91-58-7	2-Chloronaphthalene	1700.	U
88-74-4	2-Nitroaniline	8400.	U
131-11-3	Dimethylphthalate	1700.	U
208-96-8	Acenaphthylene	1700.	U
606-20-2	2,6-Dinitrotoluene	1700.	U

S 0083

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S SØHV-3 DL RA

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306 DL RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4711

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec.____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8400.	U
83-32-9	Acenaphthene	1100.	J
51-28-5	2,4-Dinitrophenol	8400.	U
100-02-7	4-Nitrophenol	8400.	U
132-64-9	Dibenzofuran	1900.	
121-14-2	2,4-Dinitrotoluene	1700.	U
84-66-2	Diethylphthalate	1700.	U
7005-72-3	4-Chlorophenyl-phenylether	1700.	U
86-73-7	Fluorene	1700.	U
100-01-6	4-Nitroaniline	8400.	U
534-52-1	4,6-Dinitro-2-methylphenol	8400.	U
86-30-6	N-Nitrosodiphenylamine (1)	1700.	U
101-55-3	4-Bromophenyl-phenylether	1700.	U
118-74-1	Hexachlorobenzene	1700.	U
87-86-5	Pentachlorophenol	8400.	U
85-01-8	Phenanthrene	15000.	
120-12-7	Anthracene	3400.	
84-74-2	Di-n-butylphthalate	1700.	U
206-44-0	Fluoranthene	6300.	
129-00-0	Pyrene	15000.	
85-68-7	Butylbenzylphthalate	1700.	U
91-94-1	3,3'-Dichlorobenzidine	3300.	U
56-55-3	Benzo(a)anthracene	4500.	
218-01-9	Chrysene	5300.	
117-81-7	bis(2-Ethylhexyl)phthalate	930.	BJ
117-84-0	Di-n-octylphthalate	1700.	U
205-99-2	Benzo(b)fluoranthene	3800.	
207-08-9	Benzo(k)fluoranthene	1700.	U
50-32-8	Benzo(a)pyrene	2300.	
193-39-5	Indeno(1,2,3-cd)pyrene	2300.	
53-70-3	Dibenz(a,h)anthracene	1700.	U
191-24-2	Benzo(g,h,i)perylene	2400.	

P.E.

(1) - Cannot be separated from diphenylamine

DATE REPORTED: DEC 0 0 1990

S 0084

H2M LABS, INC.

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S DL RA
SØHV-3 RE

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306 DL RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4711

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 4.00

Number TICs found: 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNK. CYCLIC COMPOUND	9.34	3000.	BJ
2.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	10.46	5000.	BJ
3.	89-84-9	Ethanone, 1-(2,4-dihydroxyph	18.02	3000.	J
4.	- -	UNKNOWN	19.30	4000.	J
5.	91-10-1	Phenol, 2,6-dimethoxy- (8CI9	19.39	9000.	J
6.	- -	UNKNOWN	21.09	20000.	J
7.	- -	UNKNOWN	22.39	20000.	J
8.	- -	UNKNOWN	23.32	4000.	J
9.	- -	UNKNOWN PNA	23.57	7000.	J
10.	- -	UNKNOWN	23.73	20000.	J
11.	- -	UNK. ALIPHATIC HYDROCARBON	25.09	4000.	J
12.	- -	METHYL-9H-FLUORENE ISOMER	25.42	4000.	J
13.	- -	UNKNOWN ACID	28.81	20000.	J
14.	- -	(E)-EICOSENE ISOMER	29.13	6000.	J
15.	- -	(E)-EICOSENE ISOMER	31.57	9000.	J
16.	- -	UNK. ALIPHATIC HYDROCARBON	31.64	10000.	J
17.	- -	UNKNOWN	33.29	10000.	J
18.	- -	UNKNOWN ALCOHOL	33.81	10000.	J
19.	- -	UNKNOWN	35.46	9000.	J
20.	- -	UNKNOWN ALCOHOL	35.89	9000.	J
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 06 1990

John J. [illegible], P.E.
Laboratory Director

FORM I - IN 7/88

H2M LABS, INC.

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

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

XSSHV3

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB063

Matrix (soil/water): SOIL Lab Sample ID: 9011306

Level (low/med): LOW Date Received: 10/03/90

% Solids: 79.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12500			A
7440-36-0	Antimony	12.1	B		P
7440-38-2	Arsenic	8.8		S	F
7440-39-3	Barium	107			P
7440-41-7	Beryllium	0.60	B		P
7440-43-9	Cadmium	3.8		N	P
7440-70-2	Calcium	4680		E	P
7440-47-3	Chromium	18.2			P
7440-48-4	Cobalt	8.9	B		P
7440-50-8	Copper	43.2		*	P
7439-89-6	Iron	32000		*	P
7439-92-1	Lead	38.4		SN	F
7439-95-4	Magnesium	6080			P
7439-96-5	Manganese	746		N*	P
7439-97-6	Mercury	0.11		*	CV
7440-02-0	Nickel	26.0			P
7440-09-7	Potassium	2420			P
7782-49-2	Selenium	0.30	U	NW	F
7440-22-4	Silver	2.5	U		A
7440-23-5	Sodium	77.3	B		P
7440-28-0	Thallium	0.28	U		F
7440-62-2	Vanadium	20.7			P
7440-66-6	Zinc	92.8			P
	Cyanide	1.3	U		C

John J. Molloy, P.E.
Laboratory Director

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: ORANGE Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: DECEMBER 10, 1990

S 0086

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 117
(516) 694-3040 FAX: (516) 694-4122

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-4

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011305

Sample wt/vol: 4.500 (g/mL) G Lab File ID: P4296

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 64. Date Analyzed: 10/ 9/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	31.	U
74-83-9	Bromomethane	31.	U
75-01-4	Vinyl Chloride	31.	U
75-00-3	Chloroethane	31.	U
75-09-2	Methylene Chloride	11.	J
67-64-1	Acetone	66.	
75-15-0	Carbon Disulfide	15.	U
75-35-4	1,1-Dichloroethene	15.	U
75-34-3	1,1-Dichloroethane	15.	U
540-59-0	1,2-Dichloroethene (total)	15.	U
67-66-3	Chloroform	15.	U
107-06-2	1,2-Dichloroethane	15.	U
78-93-3	2-Butanone	31.	U
71-55-6	1,1,1-Trichloroethane	15.	U
56-23-5	Carbon Tetrachloride	15.	U
108-05-4	Vinyl Acetate	31.	U
75-27-4	Bromodichloromethane	15.	U
78-87-5	1,2-Dichloropropane	15.	U
10061-01-5	cis-1,3-Dichloropropene	15.	U
79-01-6	Trichloroethene	15.	U
124-48-1	Dibromochloromethane	15.	U
79-00-5	1,1,2-Trichloroethane	15.	U
71-43-2	Benzene	7.	J
10061-02-6	trans-1,3-Dichloropropene	15.	U
75-25-2	Bromoform	15.	U
108-10-1	4-Methyl-2-Pentanone	31.	U
591-78-6	2-Hexanone	31.	U
127-18-4	Tetrachloroethene	15.	U
79-34-5	1,1,2,2-Tetrachloroethane	15.	U
108-88-3	Toluene	7.	J
108-90-7	Chlorobenzene	6.	J
100-41-4	Ethylbenzene	15.	U
100-42-5	Styrene	15.	U
1330-20-7	Xylene (total)	15.	U

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SSHV-4

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011305

Sample wt/vol: 4.500 (g/mL) G Lab File ID: P4296

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 64. Date Analyzed: 10/ 9/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 1990

Laboratory Director

S COSS

H2M LABS, INC.

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-4 RE

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011305 RE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4706

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 64. dec.____ Date Extracted: 11/12/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	930.	U
111-44-4	bis(2-Chloroethyl)ether	930.	U
95-57-8	2-Chlorophenol	930.	U
541-73-1	1,3-Dichlorobenzene	930.	U
106-46-7	1,4-Dichlorobenzene	930.	U
100-51-6	Benzyl alcohol	930.	U
95-50-1	1,2-Dichlorobenzene	930.	U
95-48-7	2-Methylphenol	930.	U
108-60-1	bis(2-Chloroisopropyl)ether	930.	U
106-44-5	4-Methylphenol	930.	U
621-64-7	N-Nitroso-di-n-propylamine	930.	U
67-72-1	Hexachloroethane	930.	U
98-95-3	Nitrobenzene	930.	U
78-59-1	Isophorone	930.	U
88-75-5	2-Nitrophenol	930.	U
105-67-9	2,4-Dimethylphenol	930.	U
65-85-0	Benzoic acid	4700.	U
111-91-1	bis(2-Chloroethoxy)methane	930.	U
120-83-2	2,4-Dichlorophenol	930.	U
120-82-1	1,2,4-Trichlorobenzene	930.	U
91-20-3	Naphthalene	930.	U
106-47-8	4-Chloroaniline	930.	U
87-68-3	Hexachlorobutadiene	930.	U
59-50-7	4-Chloro-3-methylphenol	930.	U
91-57-6	2-Methylnaphthalene	930.	U
77-47-4	Hexachlorocyclopentadiene	930.	U
88-06-2	2,4,6-Trichlorophenol	930.	U
95-95-4	2,4,5-Trichlorophenol	4700.	U
91-58-7	2-Chloronaphthalene	930.	U
88-74-4	2-Nitroaniline	4700.	U
131-11-3	Dimethylphthalate	930.	U
208-96-8	Acenaphthylene	930.	U
606-20-2	2,6-Dinitrotoluene	930.	U

S 003

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-4 RE

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011305 RE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4706

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 64. dec.____ Date Extracted: 11/12/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4700.	U
83-32-9	Acenaphthene	930.	U
51-28-5	2,4-Dinitrophenol	4700.	U
100-02-7	4-Nitrophenol	4700.	U
132-64-9	Dibenzofuran	930.	U
121-14-2	2,4-Dinitrotoluene	930.	U
84-66-2	Diethylphthalate	930.	U
7005-72-3	4-Chlorophenyl-phenylether	930.	U
86-73-7	Fluorene	930.	U
100-01-6	4-Nitroaniline	4700.	U
534-52-1	4,6-Dinitro-2-methylphenol	4700.	U
86-30-6	N-Nitrosodiphenylamine (1)	930.	U
101-55-3	4-Bromophenyl-phenylether	930.	U
118-74-1	Hexachlorobenzene	930.	U
87-86-5	Pentachlorophenol	4700.	U
85-01-8	Phenanthrene	930.	U
120-12-7	Anthracene	930.	U
84-74-2	Di-n-butylphthalate	930.	U
206-44-0	Fluoranthene	930.	U
129-00-0	Pyrene	930.	U
85-68-7	Butylbenzylphthalate	930.	U
91-94-1	3,3'-Dichlorobenzidine	1900.	U
56-55-3	Benzo(a)anthracene	930.	U
218-01-9	Chrysene	930.	U
117-81-7	bis(2-Ethylhexyl)phthalate	930.	U
117-84-0	Di-n-octylphthalate	930.	U
205-99-2	Benzo(b)fluoranthene	930.	U
207-08-9	Benzo(k)fluoranthene	930.	U
50-32-8	Benzo(a)pyrene	930.	U
193-39-5	Indeno(1,2,3-cd)pyrene	930.	U
53-70-3	Dibenz(a,h)anthracene	930.	U
191-24-2	Benzo(g,h,i)perylene	930.	U

(1) - Cannot be separated from diphenylamine

DATE REPORTED: DEC 06 1990

S 0090

H2M LABS, INC.

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

1F

EPA SAMPLE NO

SSHV-4 RE

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011305 RE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4706

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 64. dec.____ Date Extracted: 11/12/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	3.84	600.	J
2.	- -	UNKNOWN	5.70	500.	J
3.	- -	UNKNOWN	43.87	400.	J
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Addel

DATE REPORTED DEC 0 6 1990

John J. [illegible]
Laboratory Director

S 0091

H2M LABS, INC.

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

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

XSSHV4

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB063

Matrix (soil/water): SOIL Lab Sample ID: 9011305

Level (low/med): LOW Date Received: 10/03/90

% Solids: 35.7

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14800			A
7440-36-0	Antimony	24.6	U		P
7440-38-2	Arsenic	10.9			F
7440-39-3	Barium	74.3	B		P
7440-41-7	Beryllium	0.56	U		P
7440-43-9	Cadmium	35.8		N	P
7440-70-2	Calcium	3090		E	P
7440-47-3	Chromium	40.7			P
7440-48-4	Cobalt	9.5	B		P
7440-50-8	Copper	60.2		*	P
7439-89-6	Iron	321000		*	P
7439-92-1	Lead	29.6 ~~28.3~~		ENS	F
7439-95-4	Magnesium	6660			P
7439-96-5	Manganese	502		N*	P
7439-97-6	Mercury	0.34		*	CV
7440-02-0	Nickel	27.5			P
7440-09-7	Potassium	2690	B		P
7782-49-2	Selenium	0.67	U	N	F
7440-22-4	Silver	5.6	U		A
7440-23-5	Sodium	149	B		P
7440-28-0	Thallium	0.62	U		F
7440-62-2	Vanadium	68.2			P
7440-66-6	Zinc	120			P
	Cyanide	2.8	U		C

John J. Molloy, P.E.
Laboratory Director

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: DECEMBER 10, 1990

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 1174
(516) 694-3040 FAX: (516) 694-4122

ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

DRMHV1L

Lab Name: H2M LABS, INC. Contract: GIBBS & HILL
Lab Code: H2MLAB Case No.: _____ SAS No.: _____ SDG No.: GIB063
Matrix (soil/water): WATER Lab Sample ID: 9011310

Level (low/med): LOW Date Received: 10/03/90

% Solids : _____

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic	72.1	U		P
7440-39-3	Barium	16.6	B		P
7440-41-7	Beryllium				
7440-43-9	Cadmium	9.3			P
7440-70-2	Calcium				
7440-47-3	Chromium	10.5			P
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	40.0	U		A
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium	76.6	U		P
7440-22-4	Silver	10.0	U		A
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: BLACK Clarity Before: BROWN Texture:
Color After: CLOUDY Clarity After: CLEAR Artifacts: _____

Date Reported: 12/13/90

****
* *
* *
****

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9011310

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... MISCELLANEOUS LIQUID
SPECIAL

DATE COLLECTED. 10/02/90
DATE RECEIVED.. 10/03/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: DRM-HV-1-L

REMARKS: HEBRON V.P.C.
DRUM

PARAMETER (S)	RESULTS	UNITS
CORROSIVITY	5.1	UNITS
FLASH POINT	>60	°C
TOTAL SOLIDS	3750	mg/l

S 0094

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

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

ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

YEC, Inc.
Mr. Mark Mecca
612 Corporate Way, Suite 4M
Valley Cottage, NY 10989

Sample Lab No. 9011310
Date Collected: 10-2- 90
Date Received: 10-3-90
Type: Misc. Liquid
Point: DRM-HV-1-L
Hebron V.P.C. Drum
Collected By: CL 99

REACTIVITY

Reactive to Water:	No	
Releases Cyanide:	No	< 0.1 mg/l
Releases Sulfide:	No	< 1.0 mg/l

Date Reported: 12-12-90

****
* *
* *
****
John J. Molloy, P.E.
Laboratory Director

S 0095

H2M LABS, INC.

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

ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

DRMHW1S

Lab Name: H2M LABS, INC. Contract: GIBBS & HILL
Lab Code: H2MLAB Case No.: _____ SAS No.: _____ SDG No.: GIB063
Matrix (soil/water): WATER Lab Sample ID: 9011318

Level (low/med): LOW Date Received: 10/03/90

% Solids : _____

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic	72.1	U		P
7440-39-3	Barium	554			P
7440-41-7	Beryllium				
7440-43-9	Cadmium	38.7			P
7440-70-2	Calcium				
7440-47-3	Chromium	48.7			P
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	40.0	U		A
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium	76.6	U		P
7440-22-4	Silver	10.0	U		A
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: Yellow Clarity Before: Brown Texture:
Color After: Cloudy Clarity After: CLEAR Artifacts: _____

Date Reported: 12/13/90

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

LAB NO: 90113

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... MISCELLANEOUS SOLID
SPECIAL
METHOD.... GRAB

DATE COLLECTED. 10/02/90
DATE RECEIVED.. 10/03/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: DRM-HV-1-S

REMARKS: HEBRON V.P.C.
DRUM

PARAMETER (S)	RESULTS	UNITS
CORROSIVITY	3.8	UNITS
FLASH POINT	>60	°C
TOTAL SOLIDS	100	%

S 0097

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECT

ORIGINAL

H2M LABS, INC.

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

ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

YEC, Inc.
Mr. Mark Mecca
612 Corporate Way, Suite 4M
Valley Cottage, NY 10989

Sample Lab No. 9011318
Date Collected: 10-2- 90
Date Received: 10-3-90
Type: Misc. Solid
Point: DRM-HV-1-S
Hebron V.P.C. Drum
Collected By: CL 99

REACTIVITY

Reactive to Water:	No	
Releases Cyanide:	No	< 1.5 mg/kg
Releases Sulfide:	No	< 1.0 mg/kg

Date Reported: 12-12-90

****
* *
* *
****
John J. Molloy, P.E.
Laboratory Director

S 0095

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

3. CASE NARRATIVES

S C024

H2M LABS, INC.

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

December 13, 1990

NOTE :

Due to a delay in delivery by Federal Express, some samples collected on October 1, 1990, were not received until October 3, 1990.

I.D. Number	LAB Number	Collected	Received
SWHV-1 MS/MSD	9011186	10/01/90	10/02/90
SWHV-2	9011301	10/01/90	10/03/90
SWHV-3	9011302	10/01/90	10/03/90
SDHV-1 MS/MSD	9011303	10/01/90	10/03/90
SDHV-2	9011304	10/01/90	10/03/90

YEC, INC was notified (October 2, 1990) and is aware of the situation.

Lynn T. Daniello

Lynn T. Daniello
Project Coordinator

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

CASE NARRATIVE FOR VOA GIB063
DATE RECEIVED: 10/3/90

For Samples:		
	SWHV-2	SSHV-1
	SWHV-3	SSHV-2
	SDHV-1 (MS&MSD)	SSHV-3
	SDHV-2	SSHV-4 (MS&MSD)

All quality control and calibration criteria were met for this data. The percent recovery of bromofluorobenzene was outside the allowable recovery for the matrix spike duplicate of sample SSHV-4. (62%).

This was reanalyzed and the recovery was still out for this surrogate. The recoveries for the matrix spike and sample were within the allowable limits. The internal standard area of chlorobenzene-d 5 for the matrix spike duplicate of this sample was low (outside the allowable area). The reanalysis for all internal standard areas was within the limits.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: December 10, 1990

****
* *
* *
****
Joann M. Slavin
Quality Assurance Manager

S 0026

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

CASE NARRATIVE FOR INORGANICS
DATE RECEIVED 10/03/90
GIB063

FOR SAMPLES: SDHV1
SDHV1D
SDHV1S
SDHV2
SSHV1
SSHV2
SSHV3
SSHV4
SSHV4D
SSHY4S
SWHV2
SWHV3

The instruments used for metals analysis include a Perkin-Elmer 5100/HGA-600 and a Varian Spectra 30/GTA-96 for furnace AA technique. A Perkin-Elmer 2380 was used for flame AA and for mercury cold vapor techniques. ICP analysis was performed using an ARL 3560.

Due to a delay in the sample delivery to the laboratory; the sediment and part of the surface water samples were received a day late on 10/03/90.. The matrix spike/matrix spike duplicate for the surface waters (SWHV-1) arrived on 10/02/90. Although SWHV-1 is reported in its own package (GIB061), it was used for the matri information needed to flag the the surface water samples in this group.

The sediment and soil samples for the selenium furnace analysis were redigested on 11/19/90 since the soil LCS recovery was out.

The SWHV-1 matrix spike recovery for selenium is not within 75-125%. Selenium data is reported flagged with an "N" on Forms I and V (a) for all samples received associated with sample SWHV-1.

The SDHV-1 matrix spike recoveries for lead, selenium, copper, manganese, and zinc are not within 75-125%. The data for the analytes above are reported flagged with an "N" on Forms I and V (a) for all samples received associated with sample SDHV-1.

The SSHV-4 matrix spike recoveries for lead, selenium, cadmium, and manganese are not within 75-125%. The data for the analytes above are reported flagged with an "N" on Forms I and V (a) for all samples received associated with sample SSHV-4.

H2M LABS, INC.

The arsenic post digestion spike recovery for sample SSHV-1 and the selenium post digestion spike recoveries for samples SSHV-3, SSHV-2 are not within 85-115%. Arsenic and selenium data for the analyses above are flagged with a "W" on the corresponding data sheets.

The duplicate analysis of samples SDHV-1 for copper has an absolute difference that exceeds the CRDL while the duplicate result is less than 5 X CRDL. The duplicate analyses of sample SDHV-1 for iron and manganese have RPD's that exceed 20% while the results are greater than 5 X CRDL. Copper, iron, and manganese data are reported flagged with an "*" on Forms I and VI for all samples received associated with sample SDHV-1.

The duplicate analysis of sample SSHV-4 for mercury has an absolute difference that exceeds the CRDL while the result is less than 5 X CRDL. Mercury data is reported flagged with an "*" on Forms I and VI for all samples received associated with sample SSHV-4.

The ICP serial dilution analysis of sample SDHV-1 for calcium and potassium did not agree within 10% of the undiluted sample results.

Calcium and potassium data are reported flagged with an "E" on Forms I and IX for all samples associated with the serial dilution of sample SDHV-1.

The ICP serial dilution analysis of sample SSHV-4 for calcium did not agree within 10% of the undiluted sample result. Calcium data are reported flagged with an "E" on Forms I and IX for all samples associated with the serial dilution of sample SSHV-1.

The solid LCS for cyanide was not run, an aqueous LCS is reported on Form VII.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: 12-03-90

Stan Isaacson
Laboratory Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

4. SAMPLE REPORTS

4.1 VOLATILES
4.2 BASE/NEUTRAL/ACIDS
4.3 METALS AND CYANIDE
4.4 INORGANIC ANALYSIS

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

QUALIFIERS FOR REPORTING ORGANICS DATA

Value - If the result is a value greater than or equal to the quantification limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum quantification limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable quantification limit for the sample.

J - Indicates as estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified quantification limit but greater than zero (e.g.: If limit of quantification is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J).

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/ul in the final extract should be confirmed by GC/MS.

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

E - This flag identifies compounds whose concentrations are outside the calibration range of the analysis. If one or more compounds have a response greater than full scale, the extract must be diluted and reanalyzed, according to the specifications in Exhibit D. All compounds with a response greater than full scale should be flagged with an "E" on the original report of analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: for total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered seperately.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

X - This flag indicates compounds with spectra that do not meet identification criteria as detailed in Exhibit(E)E-61 section 6.1.3 but are believed to be present.

Z - Indicates analyte was present at the reported concentration in the pre-screening analysis.

H2M LABS, INC.

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

QUALIFIERS FOR METALS ANALYSIS

E - The reported value is estimated because of the presence of interference. An explanatory note is included in the case narrative.

M - Duplicate injection precision not met.

N - Matrix spiked sample recovery not within control limits.

S - The reported value was determined by the Method of Standard Additions.

+ - Correlation coefficient for the MSA is less than 0.995.

W - Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

Concentration Qualifiers

B - Entered if the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

U - Entered if the analyte was analyzed for but not detected, less than the IDL.

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SWHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) WATER Lab Sample ID: 9011301

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4277

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. Date Analyzed: 10/ 3/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

John J. Molloy, P.E.
Laboratory Director

S 0034

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SWHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) WATER Lab Sample ID: 9011301

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4277

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. Date Analyzed: 10/ 3/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: OCT 04 1990

John J. Mallay, P.E.
Laboratory Director

H2M LABS, INC.

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

18

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SWHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) WATER Lab Sample ID: 9011301

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: P4674

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 4/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

John [illegible]oy, P.E.
Director

S 0036

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SWHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) WATER Lab Sample ID: 9011301

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: P4674

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 4/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

John J. Kelly, P.E.
Laboratory Director

(1) - Cannot be separated from diphenylamine

S 0037

DATE REPORTED: DEC 06 1990

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

SWHV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) WATER Lab Sample ID: 9011301

Sample wt/vol: 980.0 (g/mL) ML Lab File ID: P4674

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. dec.____ Date Extracted: 10/ 4/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	7.02	80.	BJ
2.	- -	UNKNOWN	8.16	20.	J
3.	- -	OCTADECENE ISOMER	26.90	8.	J
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 06 1990

John J. [illegible], P.E.
Laboratory Director

S 0035

FORM I - IN 7/88

H2M LABS, INC.

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

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

XSWHV2

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB063

Matrix (soil/water): WATER Lab Sample ID: 9011301

Level (low/med): LOW Date Received: 10/03/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	109	B		P
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	3.4	U		F
7440-39-3	Barium	38.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	28100			P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	5.2	U		P
7440-50-8	Copper	7.7	B		P
7439-89-6	Iron	627			P
7439-92-1	Lead	2.2	B		F
7439-95-4	Magnesium	4460	B		P
7439-96-5	Manganese	118			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.7	U		P
7440-09-7	Potassium	1530	B		P
7782-49-2	Selenium	1.2	U	N	F
7440-22-4	Silver	4.1	U		P
7440-23-5	Sodium	5550			P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	4.8	U		P
7440-66-6	Zinc	71.7			P
	Cyanide	10.0	U		C

John J. Molloy, P.E.
Laboratory Director

Color Before: BROWN Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: DECEMBER 10, 1990

S 0039

H2M LABS, INC.

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

LAB NO: 9011301

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... SURFACE WATER
SPECIAL

DATE COLLECTED. 10/01/90
DATE RECEIVED.. 10/03/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: SWHV-2

REMARKS: HEBRON V.P.C.

PARAMETER (S)	RESULTS	UNITS
COD	20	mg/l
SPECIFIC CONDUCTIVITY	220	umhos
PH	7.8	units
SUSPENDED SOLIDS	<5	mg/l
TOTAL DISSOLVED SOLIDS	119	mg/l

S 0040

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SWHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) WATER Lab Sample ID: 9011302

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4278

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. Date Analyzed: 10/ 3/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

[illegible], P.E.

S 00411

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SWHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) WATER Lab Sample ID: 9011302

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4278

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. Date Analyzed: 10/ 3/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 1990

John J. Malloy, P.E.
Laboratory Director

S 0042

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SWHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) WATER Lab Sample ID: 9011302

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: P4685

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 4/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

DATE REPORTED: DEC 4 1990

John J. Molloy, P.E.
Laboratory Director

S 0043

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SWHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) WATER Lab Sample ID: 9011302

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: P4685

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 4/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

DATE REPORTED: 1990

(1) - Cannot be separated from diphenylamine

S 0014

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

SWHV-3

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) WATER Lab Sample ID: 9011302

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: P4685

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 4/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	6.96	80.	BJ
2.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	10.52	8.	BJ
3.	- -	OCTADECENE ISOMER	26.83	8.	J
4.					
5.					
6.					
7.					
8.		DATE REPORTED: DEC 06 1990			
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I - IN

H2M LABS, INC.

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

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

XSWHV3

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB063

Matrix (soil/water): WATER Lab Sample ID: 9011302

Level (low/med): LOW Date Received: 10/03/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	895			P
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	28.9			F
7440-39-3	Barium	302			P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	35900			P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	18.2	B		P
7440-50-8	Copper	11.7	B		P
7439-89-6	Iron	29900			P
7439-92-1	Lead	7.2			F
7439-95-4	Magnesium	4330	B		P
7439-96-5	Manganese	12200			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	46.1			P
7440-09-7	Potassium	1240	B		P
7782-49-2	Selenium	1.2	U	N	F
7440-22-4	Silver	4.1	U		P
7440-23-5	Sodium	4070	B		P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	4.8	U		P
7440-66-6	Zinc	59.2			P
	Cyanide	10.0	U		C

John J. Molloy, P.E.
Laboratory Director

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: DECEMBER 10, 1990

S 0046

H2M LABS, INC.

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

LAB NO: 9011302

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... SURFACE WATER
SPECIAL

DATE COLLECTED. 10/01/90
DATE RECEIVED.. 10/03/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: SWHV-3

REMARKS: HEBRON V.P.C.

PARAMETER (S)	RESULTS	UNITS
COD	90	mg/l
SPECIFIC CONDUCTIVITY	151	umhos
PH	6.9	units
SUSPENDED SOLIDS	6960	mg/l
TOTAL DISSOLVED SOLIDS	128	mg/l

COPIES TO:

S 0047

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-1

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011303

Sample wt/vol: 4.770 (g/mL) G Lab File ID: P4285

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. Date Analyzed: 10/ 5/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

DATE REPORTED: 10/ 5/90

S 0048

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SDHV-1

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011303

Sample wt/vol: 4.770 (g/mL) G Lab File ID: P4285

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. Date Analyzed: 10/ 5/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 1990

S 0049

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 117[illegible]
(516) 694-3040 FAX: (516) 694-4122

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-1

Lab Name: H2M LABS INC. Contract: GIBBS & HILL

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011303

Sample wt/vol: 30 (g/mL) G Lab File ID: >P4688

Level: (low/med) LOW Date Received: 10/03/90

% Moisture: not dec. 20 dec. -- Date Extracted: 10/05/90

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
108-95-2	Phenol	420.	U
111-44-4	bis(2-Chloroethyl)Ether	420.	U
95-57-8	2-Chlorophenol	420.	U
541-73-1	1,3-Dichlorobenzene	420.	U
106-46-7	1,4-Dichlorobenzene	420.	U
100-51-6	Benzyl alcohol	420.	U
95-50-1	1,2-Dichlorobenzene	420.	U
95-48-7	2-Methylphenol	420.	U
39638-32-9	bis(2-chloroisopropyl)ether	420.	U
106-44-5	4-Methylphenol	420.	U
621-64-7	N-Nitroso-Di-n-propylamine	420.	U
67-72-1	Hexachloroethane	420.	U
98-95-3	Nitrobenzene	420.	U
78-59-1	Isophorone	420.	U
88-75-5	2-Nitrophenol	420.	U
105-67-9	2,4-Dimethylphenol	420.	U
65-85-0	Benzoic acid	2100.	U
111-91-1	bis(2-Chloroethoxy)methane	420.	U
120-83-2	2,4-Dichlorophenol	420.	U
120-82-1	1,2,4-Trichlorobenzene	420.	U
91-20-3	Naphthalene	420.	U
106-47-8	4-Chloroaniline	420.	U
87-68-3	Hexachlorobutadiene	420.	U
59-50-7	4-Chloro-3-methylphenol	420.	U
91-57-6	2-Methylnaphthalene	420.	U
77-47-4	Hexachlorocyclopentadiene	420.	U
88-06-2	2,4,6-Trichlorophenol	420.	U
95-95-4	2,4,5-Trichlorophenol	2100.	U
91-58-7	2-Chloronaphthalene	420.	U
88-74-4	2-Nitroaniline	2100.	U
131-11-3	Dimethylphthalate	420.	U
208-96-8	Acenaphthylene	420.	U
606-20-2	2,6-Dinitrotoluene	420.	U

John J. Molloy, P.E.
Laboratory Director

DATE REPORTED: [illegible] 1990

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-1

Lab Name: H2M LABS INC. Contract: GIBBS & HILL

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011303

Sample wt/vol: 30 (g/mL) G Lab File ID: >P4688

Level: (low/med) LOW Date Received: 10/03/90

% Moisture: not dec.20 dec. -- Date Extracted: 10/05/90

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) N pH:6.8 Dilution Factor: 1.00000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
99-09-2	3-Nitroaniline	2100.	U
83-32-9	Acenaphthene	420.	U
51-28-5	2,4-Dinitrophenol	2100.	U
100-02-7	4-Nitrophenol	2100.	U
132-64-9	Dibenzofuran	420.	U
121-14-2	2,4-Dinitrotoluene	420.	U
84-66-2	Diethylphthalate	420.	U
7005-72-3	4-Chlorophenyl-phenylether	420.	U
86-73-7	Fluorene	420.	U
100-01-6	4-Nitroaniline	2100.	U
534-52-1	4,6-Dinitro-2-methylphenol	2100.	U
86-30-6	N-Nitrosodiphenylamine (1)	420.	U
101-55-3	4-Bromophenyl-phenylether	420.	U
118-74-1	Hexachlorobenzene	420.	U
87-86-5	Pentachlorophenol	2100.	U
85-01-8	Phenanthrene	420.	U
120-12-7	Anthracene	420.	U
84-74-2	Di-n-butylphthalate	420.	U
206-44-0	Fluoranthene	420.	U
129-00-0	Pyrene	420.	U
85-68-7	Butylbenzylphthalate	420.	U
91-94-1	3,3'-Dichlorobenzidine	830.	U
56-55-3	Benzo(a)anthracene	420.	U
218-01-9	Chrysene	420.	U
117-81-7	bis(2-Ethylhexyl)phthalate	88.	J
117-84-0	Di-n-octylphthalate	420.	U
205-99-2	Benzo(b)fluoranthene	420.	U
207-08-9	Benzo(k)fluoranthene	420.	U
50-32-8	Benzo(a)pyrene	420.	U
193-39-5	Indeno(1,2,3-cd)pyrene	420.	U
53-70-3	Dibenz(a,h)anthracene	420.	U
191-24-2	Benzo(g,h,i)perylene	420.	U

(1) - Cannot be separated from Diphenylamine

John J. Molloy, P.E.
Laboratory Director

DATE REPORTED: DEC 07 1990

S 0051

H2M LABS, INC.

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

1F

EPA SAMPLE NO

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SDHV-1

Lab Name: H2M LABS INC. Contract: GIBBS & HILL

Lab Code: ----- Case No.: ----- SAS No.: ----- SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011303

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >P4683

Level: (low/med) LOW Date Received: 10/03/90

% Moisture: not dec. 20.0 dec. -- Date Extracted: 10/05/90

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 11/11/90

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00000

Number TICs found: 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	8.48	170.	J
2.		Unknown Cyclic Compound	9.32	290.	J
3.		Dimethylcyclopentane isomer	9.40	710.	J
4.	930687	2-Cyclohexen-1-one (8CI9CI)	10.53	1200.	J
5.		Unknown	12.98	420.	J
6.		Unknown	13.54	580.	J
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: 11/7/1990

John I. Molloy, P.E.
Laboratory Director

S 0052

H2M LABS, INC.

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-1 RE

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011303 RE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4715

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec._____ Date Extracted: 11/14/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	420.	U
111-44-4	bis(2-Chloroethyl)ether	420.	U
95-57-8	2-Chlorophenol	420.	U
541-73-1	1,3-Dichlorobenzene	420.	U
106-46-7	1,4-Dichlorobenzene	420.	U
100-51-6	Benzyl alcohol	420.	U
95-50-1	1,2-Dichlorobenzene	420.	U
95-48-7	2-Methylphenol	420.	U
108-60-1	bis(2-Chloroisopropyl)ether	420.	U
106-44-5	4-Methylphenol	420.	U
621-64-7	N-Nitroso-di-n-propylamine	420.	U
67-72-1	Hexachloroethane	420.	U
98-95-3	Nitrobenzene	420.	U
78-59-1	Isophorone	420.	U
88-75-5	2-Nitrophenol	420.	U
105-67-9	2,4-Dimethylphenol	420.	U
65-85-0	Benzoic acid	2100.	U
111-91-1	bis(2-Chloroethoxy)methane	420.	U
120-83-2	2,4-Dichlorophenol	420.	U
120-82-1	1,2,4-Trichlorobenzene	420.	U
91-20-3	Naphthalene	420.	U
106-47-8	4-Chloroaniline	420.	U
87-68-3	Hexachlorobutadiene	420.	U
59-50-7	4-Chloro-3-methylphenol	420.	U
91-57-6	2-Methylnaphthalene	420.	U
77-47-4	Hexachlorocyclopentadiene	420.	U
88-06-2	2,4,6-Trichlorophenol	420.	U
95-95-4	2,4,5-Trichlorophenol	2100.	U
91-58-7	2-Chloronaphthalene	420.	U
88-74-4	2-Nitroaniline	2100.	U
131-11-3	Dimethylphthalate	420.	U
208-96-8	Acenaphthylene	420.	U
606-20-2	2,6-Dinitrotoluene	420.	U

Added for Lab.

S 0053

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-1 RE

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011303 RE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4715

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec.____ Date Extracted: 11/14/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100.	U
83-32-9	Acenaphthene	420.	U
51-28-5	2,4-Dinitrophenol	2100.	U
100-02-7	4-Nitrophenol	2100.	U
132-64-9	Dibenzofuran	420.	U
121-14-2	2,4-Dinitrotoluene	420.	U
84-66-2	Diethylphthalate	420.	U
7005-72-3	4-Chlorophenyl-phenylether	420.	U
86-73-7	Fluorene	420.	U
100-01-6	4-Nitroaniline	2100.	U
534-52-1	4,6-Dinitro-2-methylphenol	2100.	U
86-30-6	N-Nitrosodiphenylamine (1)	420.	U
101-55-3	4-Bromophenyl-phenylether	420.	U
118-74-1	Hexachlorobenzene	420.	U
87-86-5	Pentachlorophenol	2100.	U
85-01-8	Phenanthrene	420.	U
120-12-7	Anthracene	420.	U
84-74-2	Di-n-butylphthalate	420.	U
206-44-0	Fluoranthene	420.	U
129-00-0	Pyrene	420.	U
85-68-7	Butylbenzylphthalate	420.	U
91-94-1	3,3'-Dichlorobenzidine	830.	U
56-55-3	Benzo(a)anthracene	420.	U
218-01-9	Chrysene	420.	U
117-81-7	bis(2-Ethylhexyl)phthalate	420.	U
117-84-0	Di-n-octylphthalate	420.	U
205-99-2	Benzo(b)fluoranthene	420.	U
207-08-9	Benzo(k)fluoranthene	420.	U
50-32-8	Benzo(a)pyrene	420.	U
193-39-5	Indeno(1,2,3-cd)pyrene	420.	U
53-70-3	Dibenz(a,h)anthracene	420.	U
191-24-2	Benzo(g,h,i)perylene	420.	U

(1) - Cannot be separated from diphenylamine

S-0054

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

SDHV-1 RE

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011303 RE

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4715

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec._____ Date Extracted: 11/14/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) N pH: 6.8 Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.		DATE REPORTED: DEC 0 0 1990			
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.				S 0055	
30.					

H2M LABS, INC.
575 Broad Hollow Road, Melville, NY 11747
(516) 694-3040 FAX: (516) 694-4122

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

XSDHV1

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB063

Matrix (soil/water): SOIL Lab Sample ID: 9011303

Level (low/med): LOW Date Received: 10/03/90

% Solids: 80.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15500			A
7440-36-0	Antimony	11.0	U		P
7440-38-2	Arsenic	2.4	B	S	F
7440-39-3	Barium	65.8			P
7440-41-7	Beryllium	0.58	B		P
7440-43-9	Cadmium	3.6			P
7440-70-2	Calcium	1990		E	P
7440-47-3	Chromium	17.5			P
7440-48-4	Cobalt	9.8	B		P
7440-50-8	Copper	35.0		N*	P
7439-89-6	Iron	31100		*	P
7439-92-1	Lead	11.9		N	F
7439-95-4	Magnesium	7240			P
7439-96-5	Manganese	359		N*	P
7439-97-6	Mercury	0.08	U		CV
7440-02-0	Nickel	31.0			P
7440-09-7	Potassium	1250		E	P
7782-49-2	Selenium	0.30	U	N	F
7440-22-4	Silver	2.5	U		A
7440-23-5	Sodium	123	B		P
7440-28-0	Thallium	0.28	U		F
7440-62-2	Vanadium	20.4			P
7440-66-6	Zinc	94.8		N	P
	Cyanide	1.3	U		C

John J. Molloy, P.E.
Laboratory Director

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: DECEMBER 10, 1990

S 0056

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
SDHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011304

Sample wt/vol: 3.660 (g/mL) G Lab File ID: P4288

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 13. Date Analyzed: 10/ 5/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	16.	U
74-83-9	Bromomethane	16.	U
75-01-4	Vinyl Chloride	16.	U
75-00-3	Chloroethane	16.	U
75-09-2	Methylene Chloride	6.	J
67-64-1	Acetone	16.	U
75-15-0	Carbon Disulfide	8.	U
75-35-4	1,1-Dichloroethene	8.	U
75-34-3	1,1-Dichloroethane	8.	U
540-59-0	1,2-Dichloroethene (total)	8.	U
67-66-3	Chloroform	8.	U
107-06-2	1,2-Dichloroethane	8.	U
78-93-3	2-Butanone	16.	U
71-55-6	1,1,1-Trichloroethane	8.	U
56-23-5	Carbon Tetrachloride	8.	U
108-05-4	Vinyl Acetate	16.	U
75-27-4	Bromodichloromethane	8.	U
78-87-5	1,2-Dichloropropane	8.	U
10061-01-5	cis-1,3-Dichloropropene	8.	U
79-01-6	Trichloroethene	8.	U
124-48-1	Dibromochloromethane	8.	U
79-00-5	1,1,2-Trichloroethane	8.	U
71-43-2	Benzene	8.	U
10061-02-6	trans-1,3-Dichloropropene	8.	U
75-25-2	Bromoform	8.	U
108-10-1	4-Methyl-2-Pentanone	16.	U
591-78-6	2-Hexanone	16.	U
127-18-4	Tetrachloroethene	8.	U
79-34-5	1,1,2,2-Tetrachloroethane	8.	U
108-88-3	Toluene	8.	U
108-90-7	Chlorobenzene	8.	U
100-41-4	Ethylbenzene	8.	U
100-42-5	Styrene	8.	U
1330-20-7	Xylene (total)	8.	U

DATE REPORTED: DEC 04 1990

John J. Mahoney, P.E.

S 0057

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SDHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011304

Sample wt/vol: 3.660 (g/mL) G Lab File ID: P4288

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 13. Date Analyzed: 10/ 5/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 1990

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011304

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4692

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 13. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380.	U
111-44-4	bis(2-Chloroethyl)ether	380.	U
95-57-8	2-Chlorophenol	380.	U
541-73-1	1,3-Dichlorobenzene	380.	U
106-46-7	1,4-Dichlorobenzene	380.	U
100-51-6	Benzyl alcohol	380.	U
95-50-1	1,2-Dichlorobenzene	380.	U
95-48-7	2-Methylphenol	380.	U
108-60-1	bis(2-Chloroisopropyl)ether	380.	U
106-44-5	4-Methylphenol	380.	U
621-64-7	N-Nitroso-di-n-propylamine	380.	U
67-72-1	Hexachloroethane	380.	U
98-95-3	Nitrobenzene	380.	U
78-59-1	Isophorone	380.	U
88-75-5	2-Nitrophenol	380.	U
105-67-9	2,4-Dimethylphenol	380.	U
65-85-0	Benzoic acid	1900.	U
111-91-1	bis(2-Chloroethoxy)methane	380.	U
120-83-2	2,4-Dichlorophenol	380.	U
120-82-1	1,2,4-Trichlorobenzene	380.	U
91-20-3	Naphthalene	380.	U
106-47-8	4-Chloroaniline	380.	U
87-68-3	Hexachlorobutadiene	380.	U
59-50-7	4-Chloro-3-methylphenol	380.	U
91-57-6	2-Methylnaphthalene	380.	U
77-47-4	Hexachlorocyclopentadiene	380.	U
88-06-2	2,4,6-Trichlorophenol	380.	U
95-95-4	2,4,5-Trichlorophenol	1900.	U
91-58-7	2-Chloronaphthalene	380.	U
88-74-4	2-Nitroaniline	1900.	U
131-11-3	Dimethylphthalate	380.	U
208-96-8	Acenaphthylene	380.	U
606-20-2	2,6-Dinitrotoluene	380.	U

Joint Laboratory Director

S 0059

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011304

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4692

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 13. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900.	U
83-32-9	Acenaphthene	380.	U
51-28-5	2,4-Dinitrophenol	1900.	U
100-02-7	4-Nitrophenol	1900.	U
132-64-9	Dibenzofuran	380.	U
121-14-2	2,4-Dinitrotoluene	380.	U
84-66-2	Diethylphthalate	55.	J
7005-72-3	4-Chlorophenyl-phenylether	380.	U
86-73-7	Fluorene	380.	U
100-01-6	4-Nitroaniline	1900.	U
534-52-1	4,6-Dinitro-2-methylphenol	1900.	U
86-30-6	N-Nitrosodiphenylamine (1)	380.	U
101-55-3	4-Bromophenyl-phenylether	380.	U
118-74-1	Hexachlorobenzene	380.	U
87-86-5	Pentachlorophenol	1900.	U
85-01-8	Phenanthrene	380.	U
120-12-7	Anthracene	380.	U
84-74-2	Di-n-butylphthalate	380.	U
206-44-0	Fluoranthene	380.	U
129-00-0	Pyrene	380.	U
85-68-7	Butylbenzylphthalate	380.	U
91-94-1	3,3'-Dichlorobenzidine	770.	U
56-55-3	Benzo(a)anthracene	380.	U
218-01-9	Chrysene	380.	U
117-81-7	bis(2-Ethylhexyl)phthalate	86.	J
117-84-0	Di-n-octylphthalate	380.	U
205-99-2	Benzo(b)fluoranthene	380.	U
207-08-9	Benzo(k)fluoranthene	380.	U
50-32-8	Benzo(a)pyrene	380.	U
193-39-5	Indeno(1,2,3-cd)pyrene	380.	U
53-70-3	Dibenz(a,h)anthracene	380.	U
191-24-2	Benzo(g,h,i)perylene	380.	U

(1) - Cannot be separated from diphenylamine

DATE REPORTED: DEC 06 1990

H2M LABS, INC.

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

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SDHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011304

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4692

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 13. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. - -	UNKNOWN	8.50	500.	BJ
2. - -	UNK. CYCLIC COMPOUND	9.34	1000.	BJ
3. - -	UNKNOWN	9.44	2000.	BJ
4. 930-68-7	2-Cyclohexen-1-one (8CI9CI)	10.56	3000.	BJ
5. - -	UNKNOWN	12.86	300.	BJ
6. - -	UNKNOWN	13.01	1000.	BJ
7. - -	UNKNOWN	13.54	1000.	BJ
8. - -	UNKNOWN	13.59	1000.	BJ
9.				
10.				
11.				
12.				
13.				
14.	DATE REPORTED: DEC 3 - 1990			
15.				
16.				
17.		John [illegible]		
18.		Laboratory [illegible]		
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.			S 0061	
30.				

H2M LABS, INC.

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

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

XSDHV2

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB063

Matrix (soil/water): SOIL Lab Sample ID: 9011304

Level (low/med): LOW Date Received: 10/03/90

% Solids: 86.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	19100			A
7440-36-0	Antimony	10.1	U		P
7440-38-2	Arsenic	10.1		S	F
7440-39-3	Barium	87.1			P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium	4.2			P
7440-70-2	Calcium	1400		E	P
7440-47-3	Chromium	22.6			P
7440-48-4	Cobalt	17.7			P
7440-50-8	Copper	30.6		N*	P
7439-89-6	Iron	39100		*	P
7439-92-1	Lead	9.3		N	F
7439-95-4	Magnesium	6150			P
7439-96-5	Manganese	989		N*	P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	36.5			P
7440-09-7	Potassium	1720		E	P
7782-49-2	Selenium	0.28	U	N	F
7440-22-4	Silver	2.3	U		A
7440-23-5	Sodium	97.4	B		P
7440-28-0	Thallium	0.25	U		F
7440-62-2	Vanadium	19.8			P
7440-66-6	Zinc	97.6		N	P
	Cyanide	1.2	U		C

John J. Molloy, P.E.
Laboratory Director

Color Before: BROWN Clarity Before: Texture: FINE

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: DECEMBER 10, 1990

S 0062

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-1

Lab Name: H2M Contract: NYSDEC

ab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

atrix: (soil/water) SOIL Lab Sample ID: 9011308

ample wt/vol: 3.670 ~~3.750~~ (g/mL) G Lab File ID: P43015 d.S. 10/15/90

evel: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 42. Date Analyzed: 10/ 9/90

olumn: (pack/cap) CAP Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	23.	U
74-83-9	Bromomethane	23.	U
75-01-4	Vinyl Chloride	23.	U
75-00-3	Chloroethane	23.	U
75-09-2	Methylene Chloride	23 ~~190~~.	u
67-64-1	Acetone	160.	
75-15-0	Carbon Disulfide	11.	U
75-35-4	1,1-Dichloroethene	11.	U
75-34-3	1,1-Dichloroethane	11.	U
540-59-0	1,2-Dichloroethene (total)	11.	U
67-66-3	Chloroform	11.	U
107-06-2	1,2-Dichloroethane	11.	U
78-93-3	2-Butanone	23.	U
71-55-6	1,1,1-Trichloroethane	11.	U
56-23-5	Carbon Tetrachloride	11.	U
108-05-4	Vinyl Acetate	23.	U
75-27-4	Bromodichloromethane	11.	U
78-87-5	1,2-Dichloropropane	11.	U
10061-01-5	cis-1,3-Dichloropropene	11.	U
79-01-6	Trichloroethene	11.	U
124-48-1	Dibromochloromethane	11.	U
79-00-5	1,1,2-Trichloroethane	11.	U
71-43-2	Benzene	9 ~~11~~.	~~U~~J
10061-02-6	trans-1,3-Dichloropropene	11.	U
75-25-2	Bromoform	11.	U
108-10-1	4-Methyl-2-Pentanone	23.	U
591-78-6	2-Hexanone	23.	U
127-18-4	Tetrachloroethene	11.	U
79-34-5	1,1,2,2-Tetrachloroethane	11.	U
108-88-3	Toluene	10.	~~U~~J
108-90-7	Chlorobenzene	11.	U
100-41-4	Ethylbenzene	3 ~~11~~.	~~U~~J
100-42-5	Styrene	11.	U
1330-20-7	Xylene (total)	20 ~~22~~.	

LS 10/18/

~~John J. Molloy~~, P.E.
Laboratory Director

DATE REPORTED: [illegible]

S 0063

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 1174
(516) 694-3040 FAX: (516) 694-4122

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SSHV-1

Lab Name: H2M Contract: NYSDEC

ab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011308

ample wt/vol: 3.670 ~~3.750~~ (g/mL) G Lab File ID: P43015 RS 10/11/90

evel: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 42. Date Analyzed: 10/ 9/90

olumn: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 01 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Dihydro Methanonaphthalene isomer	13.97	19.	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

~~DATE REPORTED:~~ Dec 4 1990

John J. [illegible], P.E.
Laboratory Director

S 0064

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-1 RA ~~RE~~

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011308 RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4712

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 42. dec.____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: ~~2.00~~ 1.0 12-7-90

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1100.	U
111-44-4	bis(2-Chloroethyl)ether	1100.	U
95-57-8	2-Chlorophenol	1100.	U
541-73-1	1,3-Dichlorobenzene	1100.	U
106-46-7	1,4-Dichlorobenzene	1100.	U
100-51-6	Benzyl alcohol	1100.	U
95-50-1	1,2-Dichlorobenzene	1100.	U
95-48-7	2-Methylphenol	1100.	U
108-60-1	bis(2-Chloroisopropyl)ether	1100.	U
106-44-5	4-Methylphenol	1100.	U
621-64-7	N-Nitroso-di-n-propylamine	1100.	U
67-72-1	Hexachloroethane	1100.	U
98-95-3	Nitrobenzene	1100.	U
78-59-1	Isophorone	1100.	U
88-75-5	2-Nitrophenol	1100.	U
105-67-9	2,4-Dimethylphenol	940.	J
65-85-0	Benzoic acid	5700.	U
111-91-1	bis(2-Chloroethoxy)methane	1100.	U
120-83-2	2,4-Dichlorophenol	1100.	U
120-82-1	1,2,4-Trichlorobenzene	1100.	U
91-20-3	Naphthalene	260.	J
106-47-8	4-Chloroaniline	1100.	U
87-68-3	Hexachlorobutadiene	1100.	U
59-50-7	4-Chloro-3-methylphenol	1100.	U
91-57-6	2-Methylnaphthalene	230.	J
77-47-4	Hexachlorocyclopentadiene	1100.	U
88-06-2	2,4,6-Trichlorophenol	1100.	U
95-95-4	2,4,5-Trichlorophenol	5700.	U
91-58-7	2-Chloronaphthalene	1100.	U
88-74-4	2-Nitroaniline	5700.	U
131-11-3	Dimethylphthalate	1100.	U
208-96-8	Acenaphthylene	1100.	U
606-20-2	2,6-Dinitrotoluene	1100.	U

DATE REPORTED: [illegible] 1990

S 0065

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-1 RA ~~RE~~

Lab Name: H 1 Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011308 RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4712

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 42. dec.____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	5700.	U
83-32-9	Acenaphthene	140.	J
51-28-5	2,4-Dinitrophenol	5700.	U
100-02-7	4-Nitrophenol	5700.	U
132-64-9	Dibenzofuran	620.	J
121-14-2	2,4-Dinitrotoluene	1100.	U
84-66-2	Diethylphthalate	1100.	U
7005-72-3	4-Chlorophenyl-phenylether	1100.	U
86-73-7	Fluorene	1100.	U
100-01-6	4-Nitroaniline	5700.	U
534-52-1	4,6-Dinitro-2-methylphenol	5700.	U
86-30-6	N-Nitrosodiphenylamine (1)	1100.	U
101-55-3	4-Bromophenyl-phenylether	1100.	U
118-74-1	Hexachlorobenzene	1100.	U
87-86-5	Pentachlorophenol	7000.	U
85-01-8	Phenanthrene	2500.	
120-12-7	Anthracene	430.	J
84-74-2	Di-n-butylphthalate	1100.	U
206-44-0	Fluoranthene	1600.	
129-00-0	Pyrene	1800.	
85-68-7	Butylbenzylphthalate	1100.	U
91-94-1	3,3'-Dichlorobenzidine	2300.	U
56-55-3	Benzo(a)anthracene	360.	J
218-01-9	Chrysene	410.	J
117-81-7	bis(2-Ethylhexyl)phthalate	190.	BJ
117-84-0	Di-n-octylphthalate	1100.	U
205-99-2	Benzo(b)fluoranthene	610.	J
207-08-9	Benzo(k)fluoranthene	1100.	U
50-32-8	Benzo(a)pyrene	430.	J
193-39-5	Indeno(1,2,3-cd)pyrene	280.	J
53-70-3	Dibenz(a,h)anthracene	1100.	U
191-24-2	Benzo(g,h,i)perylene	300.	J

Anddel

John J. [illegible] P.E.

(1) - Cannot be separated from diphenylamine

S 0066

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

SSHV-1 RA ~~SE~~

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011308 RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4712

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 42. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/14/90

GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 2.00

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	9.35	2000.	BJ
2.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	10.46	4000.	BJ
3.	- -	UNKNOWN	18.00	2000.	J
4.	91-10-1	Phenol, 2,6-dimethoxy- (8CI9	19.37	4000.	J
5.	121-34-6	Benzoic acid, 4-hydroxy-3-me	21.04	6000.	J
6.	- -	UNKNOWN	23.53	2000.	J
7.	- -	UNKNOWN	23.66	4000.	J
8.	134-96-3	Benzaldehyde, 4-hydroxy-3,5-	24.49	2000.	J
9.	- -	UNKNOWN	25.31	2000.	J
10.	2478-38-8	Ethanone, 1-(4-hydroxy-3,5-d	25.59	4000.	J
11.	- -	UNKNOWN	26.10	1000.	J
12.	- -	UNKNOWN	26.88	4000.	J
13.	- -	UNKNOWN	27.36	1000.	J
14.	- -	UNKNOWN ACID	28.69	2000.	J
15.	- -	UNK. ALIPHATIC HYDROCARBON	32.76	2000.	J
16.	- -	UNKNOWN	33.22	3000.	J
17.	- -	UNKNOWN	36.90	2000.	J
18.	- -	UNKNOWN	40.22	4000.	J
19.	- -	UNKNOWN	40.72	6000.	J
20.	83-47-6	.gamma.-Sitosterol	44.93	3000.	J
21.					
22.					
23.					
24.					
25.					
26.					
27.		DATE REPORTED: DEC 0 6 1990			
28.					
29.					
30.					

John J. [illegible], P.E.
Laboratory Director

S 0067

FORM I - IN 7/88

H2M LABS, INC.

575 Broad Hollow Road, Melville, N.Y. 1174
(516) 694-3040 FAX: (516) 694-4122

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

XSSHV1

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB063

Matrix (soil/water): SOIL Lab Sample ID: 9011308

Level (low/med): LOW Date Received: 10/03/90

% Solids: 58.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8800			A
7440-36-0	Antimony	15.1	U		P
7440-38-2	Arsenic	2.9	B	W	F
7440-39-3	Barium	84.4			P
7440-41-7	Beryllium	0.45	B		P
7440-43-9	Cadmium	1.2	U	N	P
7440-70-2	Calcium	2280		E	P
7440-47-3	Chromium	12.6			P
7440-48-4	Cobalt	5.2	B		P
7440-50-8	Copper	20.8		*	P
7439-89-6	Iron	12300		*	P
7439-92-1	Lead	12.6		N	F
7439-95-4	Magnesium	2820			P
7439-96-5	Manganese	224		N*	P
7439-97-6	Mercury	0.15	U	*	CV
7440-02-0	Nickel	11.1	B		P
7440-09-7	Potassium	1590	B		P
7782-49-2	Selenium	0.41	U	N	F
7440-22-4	Silver	3.5	U		A
7440-23-5	Sodium	106	B		P
7440-28-0	Thallium	0.48			F
7440-62-2	Vanadium	13.4	B		P
7440-66-6	Zinc	72.0			P
	Cyanide	1.7	U		C

**** **** **** **** ****

John J. Molloy, P.E.
Laboratory Director

Color Before: BROWN Clarity Before: Texture: FINE

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: DECEMBER 10, 1990

S 0065

H2M LABS, INC.

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

EPA SAMPLE NO.

SSHV-2

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: H2M Contract: NYSDEC

ab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

latrix: (soil/water) SOIL Lab Sample ID: 9011307

ample wt/vol: 4.340 (g/mL) G Lab File ID: P4300

evel: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 16. Date Analyzed: 10/ 9/90

olumn: (pack/cap) CAP Dilution Factor: 1.00

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

DATE REPORTED: DEC 04 1990

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SSHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011307

Sample wt/vol: 4.340 (g/mL) G Lab File ID: P4300

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 16. Date Analyzed: 10/ 9/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 1990

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-2 RE RA

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011307 RE RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4708

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 16. dec._____ Date Extracted: 11/12/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	400.	U
111-44-4	bis(2-Chloroethyl)ether	400.	U
95-57-8	2-Chlorophenol	400.	U
541-73-1	1,3-Dichlorobenzene	400.	U
106-46-7	1,4-Dichlorobenzene	400.	U
100-51-6	Benzyl alcohol	400.	U
95-50-1	1,2-Dichlorobenzene	400.	U
95-48-7	2-Methylphenol	400.	U
108-60-1	bis(2-Chloroisopropyl)ether	400.	U
106-44-5	4-Methylphenol	400.	U
621-64-7	N-Nitroso-di-n-propylamine	400.	U
67-72-1	Hexachloroethane	400.	U
98-95-3	Nitrobenzene	400.	U
78-59-1	Isophorone	400.	U
88-75-5	2-Nitrophenol	400.	U
105-67-9	2,4-Dimethylphenol	700.	J
65-85-0	Benzoic acid	2000.	U
111-91-1	bis(2-Chloroethoxy)methane	400.	U
120-83-2	2,4-Dichlorophenol	400.	U
120-82-1	1,2,4-Trichlorobenzene	400.	U
91-20-3	Naphthalene	91.	J
106-47-8	4-Chloroaniline	400.	U
87-68-3	Hexachlorobutadiene	400.	U
59-50-7	4-Chloro-3-methylphenol	400.	U
91-57-6	2-Methylnaphthalene	110.	J
77-47-4	Hexachlorocyclopentadiene	400.	U
88-06-2	2,4,6-Trichlorophenol	400.	U
95-95-4	2,4,5-Trichlorophenol	2000.	U
91-58-7	2-Chloronaphthalene	400.	U
88-74-4	2-Nitroaniline	2000.	U
131-11-3	Dimethylphthalate	400.	U
208-96-8	Acenaphthylene	400.	U
606-20-2	2,6-Dinitrotoluene	400.	U

John J. Maltby, P.E.
Laboratory Director

DATE REC'D

S 0071

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-2 RE RA

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011307 RE RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4708

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 16. dec._____ Date Extracted: 11/12/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2000.	U
83-32-9	Acenaphthene	79.	J
51-28-5	2,4-Dinitrophenol	2000.	U
100-02-7	4-Nitrophenol	2000.	U
132-64-9	Dibenzofuran	540.	
121-14-2	2,4-Dinitrotoluene	400.	U
84-66-2	Diethylphthalate	400.	U
7005-72-3	4-Chlorophenyl-phenylether	400.	U
86-73-7	Fluorene	330.	J
100-01-6	4-Nitroaniline	2000.	U
534-52-1	4,6-Dinitro-2-methylphenol	2000.	U
86-30-6	N-Nitrosodiphenylamine (1)	400.	U
101-55-3	4-Bromophenyl-phenylether	400.	U
118-74-1	Hexachlorobenzene	400.	U
87-86-5	Pentachlorophenol	2000.	U
85-01-8	Phenanthrene	620.	
120-12-7	Anthracene	170.	J
84-74-2	Di-n-butylphthalate	400.	U
206-44-0	Fluoranthene	190.	J
129-00-0	Pyrene	370.	J
85-68-7	Butylbenzylphthalate	400.	U
91-94-1	3,3'-Dichlorobenzidine	800.	U
56-55-3	Benzo(a)anthracene	180.	J
218-01-9	Chrysene	240.	J
117-81-7	bis(2-Ethylhexyl)phthalate	400.	U
117-84-0	Di-n-octylphthalate	400.	U
205-99-2	Benzo(b)fluoranthene	400.	U
207-08-9	Benzo(k)fluoranthene	400.	U
50-32-8	Benzo(a)pyrene	400.	U
193-39-5	Indeno(1,2,3-cd)pyrene	400.	U
53-70-3	Dibenz(a,h)anthracene	400.	U
191-24-2	Benzo(g,h,i)perylene	400.	U

(1) - Cannot be separated from diphenylamine

John J. Molloy, P.E.
Laboratory Director

S 0072

DATE REPORTED: DEC 0 6 1990

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

SSHV-2 RE RA

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011307 RE RA

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4708

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 16. dec._____ Date Extracted: 11/12/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 5.9 Dilution Factor: 1.00

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	DIMETHYPHENOL ISOMER	15.98	1000.	J
2.	2785-89-9	Phenol, 4-ethyl-2-methoxy- (	18.08	1000.	J
3.	91-10-1	Phenol, 2,6-dimethoxy- (8CI9	19.49	6000.	J
4.	- -	UNKNOWN	21.17	7000.	J
5.	6627-88-9	Phenol, 2,6-dimethoxy-4-(2-p	23.64	2000.	J
6.	- -	UNKNOWN	23.76	4000.	J
7.	- -	UNKNOWN	25.18	2000.	J
8.	- -	UNKNOWN	25.41	2000.	J
9.	2478-38-8	Ethanone, 1-(4-hydroxy-3,5-d	25.65	2000.	J
10.	- -	UNKNOWN	26.93	2000.	J
11.	- -	UNKNOWN ACID	28.80	4000.	J
12.	- -	UNK. ALIPHATIC HYDROCARBON	30.50	1000.	J
13.	- -	UNK. ALIPHATIC HYDROCARBON	32.84	6000.	J
14.	- -	(E)-EICOSENE ISOMER	33.88	5000.	J
15.	- -	UNK. ALIPHATIC HYDROCARBON	33.93	3000.	J
16.	- -	UNKNOWN	35.96	7000.	J
17.	- -	UNKNOWN	36.98	4000.	J
18.	- -	UNKNOWN ALCOHOL	38.97	2000.	J
19.	- -	UNKNOWN	40.35	2000.	J
20.	- -	UNKNOWN	40.86	3000.	J
21.					
22.					
23.					
24.					
25.		DATE REPORTED: DEC 0 6 1990			
26.					
27.					
28.					
29.					
30.					

John J. [illegible] P.E.
Laboratory Director

S 0073

FORM I - IN 7/88

H2M LABS, INC.

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

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

XSSHV2

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB063

Matrix (soil/water): SOIL Lab Sample ID: 9011307

Level (low/med): LOW Date Received: 10/03/90

% Solids: 83.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	~~8000~~			A
7440-36-0	Antimony	10.5	U		P
7440-38-2	Arsenic	12.2			F
7440-39-3	Barium	84.1			P
7440-41-7	Beryllium	0.62	B		P
7440-43-9	Cadmium	11.5		N	P
7440-70-2	Calcium	2830		E	P
7440-47-3	Chromium	25.8			P
7440-48-4	Cobalt	11.1	B		P
7440-50-8	Copper	54.1		*	P
7439-89-6	Iron	97800		*	P
7439-92-1	Lead	44.9		SN	F
7439-95-4	Magnesium	8190			P
7439-96-5	Manganese	608		N*	P
7439-97-6	Mercury	0.11	U	*	CV
7440-02-0	Nickel	31.7			P
7440-09-7	Potassium	2330			P
7782-49-2	Selenium	0.29	U	NW	F
7440-22-4	Silver	3.5	U		A
7440-23-5	Sodium	95.4	B		P
7440-28-0	Thallium	0.26	U		F
7440-62-2	Vanadium	38.1			P
7440-66-6	Zinc	155			P
	Cyanide	1.2	U		C

John J. Molloy, P.E.
Laboratory Director

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: DECEMBER 10, 1990

S 0074

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SSHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011306

Sample wt/vol: 3.270 (g/mL) G Lab File ID: P4299

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. Date Analyzed: 10/ 9/90

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	19.	U
74-83-9	Bromomethane	19.	U
75-01-4	Vinyl Chloride	19.	U
75-00-3	Chloroethane	19.	U
75-09-2	Methylene Chloride	8.	J
67-64-1	Acetone	19.	U
75-15-0	Carbon Disulfide	10.	U
75-35-4	1,1-Dichloroethene	10.	U
75-34-3	1,1-Dichloroethane	10.	U
540-59-0	1,2-Dichloroethene (total)	10.	U
67-66-3	Chloroform	10.	U
107-06-2	1,2-Dichloroethane	10.	U
78-93-3	2-Butanone	19.	U
71-55-6	1,1,1-Trichloroethane	10.	U
56-23-5	Carbon Tetrachloride	10.	U
108-05-4	Vinyl Acetate	19.	U
75-27-4	Bromodichloromethane	10.	U
78-87-5	1,2-Dichloropropane	10.	U
10061-01-5	cis-1,3-Dichloropropene	10.	U
79-01-6	Trichloroethene	10.	U
124-48-1	Dibromochloromethane	10.	U
79-00-5	1,1,2-Trichloroethane	10.	U
71-43-2	Benzene	10.	U
10061-02-6	trans-1,3-Dichloropropene	10.	U
75-25-2	Bromoform	10.	U
108-10-1	4-Methyl-2-Pentanone	19.	U
591-78-6	2-Hexanone	19.	U
127-18-4	Tetrachloroethene	10.	U
79-34-5	1,1,2,2-Tetrachloroethane	10.	U
108-88-3	Toluene	10.	U
108-90-7	Chlorobenzene	10.	U
100-41-4	Ethylbenzene	10.	U
100-42-5	Styrene	10.	U
1330-20-7	Xylene (total)	10.	U

DATE REPORTED: DEC [illegible] 1990

John L. M[illegible]y, P.E.
Laboratory Director

S 0075

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SSHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 63

Matrix: (soil/water) SOIL Lab Sample ID: 9011306

Sample wt/vol: 3.270 (g/mL) G Lab File ID: P4299

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. Date Analyzed: 10/ 9/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

John J. [illegible], P.E.
Laboratory Director

DATE REPORTED: DEC 0 6 1990

S 0076

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-3 (handwritten correction: 5)

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4693

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: ~~2.00~~ 1.0 12-7-90

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

CAS NO.	COMPOUND	UG/KG	Q
108-95-2	Phenol	840.	U
111-44-4	bis(2-Chloroethyl)ether	840.	U
95-57-8	2-Chlorophenol	840.	U
541-73-1	1,3-Dichlorobenzene	840.	U
106-46-7	1,4-Dichlorobenzene	840.	U
100-51-6	Benzyl alcohol	840.	U
95-50-1	1,2-Dichlorobenzene	840.	U
95-48-7	2-Methylphenol	840.	U
108-60-1	bis(2-Chloroisopropyl)ether	840.	U
106-44-5	4-Methylphenol	840.	U
621-64-7	N-Nitroso-di-n-propylamine	840.	U
67-72-1	Hexachloroethane	840.	U
98-95-3	Nitrobenzene	840.	U
78-59-1	Isophorone	840.	U
88-75-5	2-Nitrophenol	840.	U
105-67-9	2,4-Dimethylphenol	1100.	
65-85-0	Benzoic acid	4200.	U
111-91-1	bis(2-Chloroethoxy)methane	840.	U
120-83-2	2,4-Dichlorophenol	840.	U
120-82-1	1,2,4-Trichlorobenzene	840.	U
91-20-3	Naphthalene	600.	J
106-47-8	4-Chloroaniline	840.	U
87-68-3	Hexachlorobutadiene	840.	U
59-50-7	4-Chloro-3-methylphenol	840.	U
91-57-6	2-Methylnaphthalene	1400.	
77-47-4	Hexachlorocyclopentadiene	840.	U
88-06-2	2,4,6-Trichlorophenol	840.	U
95-95-4	2,4,5-Trichlorophenol	4200.	U
91-58-7	2-Chloronaphthalene	840.	U
88-74-4	2-Nitroaniline	4200.	U
131-11-3	Dimethylphthalate	840.	U
208-96-8	Acenaphthylene	840.	U
606-20-2	2,6-Dinitrotoluene	840.	U

DATE REPORTED:

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4693

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec.____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 2.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	4200.	U
83-32-9	Acenaphthene	1300.	
51-28-5	2,4-Dinitrophenol	4200.	U
100-02-7	4-Nitrophenol	4200.	U
132-64-9	Dibenzofuran	3400.	
121-14-2	2,4-Dinitrotoluene	840.	U
84-66-2	Diethylphthalate	840.	U
7005-72-3	4-Chlorophenyl-phenylether	840.	U
86-73-7	Fluorene	840.	U
100-01-6	4-Nitroaniline	4200.	U
534-52-1	4,6-Dinitro-2-methylphenol	4200.	U
86-30-6	N-Nitrosodiphenylamine (1)	840.	U
101-55-3	4-Bromophenyl-phenylether	840.	U
118-74-1	Hexachlorobenzene	840.	U
87-86-5	Pentachlorophenol	4200.	U
85-01-8	Phenanthrene	14000.	E
120-12-7	Anthracene	3400.	
84-74-2	Di-n-butylphthalate	840.	U
206-44-0	Fluoranthene	5600.	
129-00-0	Pyrene	16000.	E
85-68-7	Butylbenzylphthalate	840.	U
91-94-1	3,3'-Dichlorobenzidine	1700.	U
56-55-3	Benzo(a)anthracene	4700.	
218-01-9	Chrysene	5000.	
117-81-7	bis(2-Ethylhexyl)phthalate	910.	B
117-84-0	Di-n-octylphthalate	840.	U
205-99-2	Benzo(b)fluoranthene	4600.	
207-08-9	Benzo(k)fluoranthene	840.	U
50-32-8	Benzo(a)pyrene	3700.	
193-39-5	Indeno(1,2,3-cd)pyrene	2600.	
53-70-3	Dibenz(a,h)anthracene	840.	U
191-24-2	Benzo(g,h,i)perylene	2800.	

(1) - Cannot be separated from diphenylamine

Modified

John

S 0075

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

SDHV-3

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4693

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 2.00

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	9.43	4000.	BJ
2.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	10.54	6000.	BJ
3.	118-71-8	Maltol	14.92	3000.	J
4.	- -	ETHYL-METHYLPHENOL ISOMER	17.91	2000.	J
5.	2785-89-9	Phenol, 4-ethyl-2-methoxy- (	18.14	4000.	J
6.	490-78-8	Ethanone, 1-(2,5-dihydroxyph	18.21	2000.	J
7.	- -	UNKNOWN	19.05	2000.	J
8.	91-10-1	Phenol, 2,6-dimethoxy- (8CI9	19.56	9000.	J
9.	- -	UNKNOWN	21.27	10000.	J
10.	7320-53-8	Dibenzofuran, 4-methyl- (8CI	24.83	4000.	J
11.	- -	UNK. ALIPHATIC HYDROCARBON	25.22	5000.	J
12.	- -	UNKNOWN PNA	25.60	5000.	J
13.	- -	UNK. ALIPHATIC HYDROCARBON	28.02	4000.	J
14.	- -	(E)-EICOSENE ISOMER	29.25	5000.	J
15.	- -	UNK. ALIPHATIC HYDROCARBON	29.33	4000.	J
16.	- -	(E)-EICOSENE ISOMER	31.70	6000.	J
17.	- -	UNKNOWN	33.40	5000.	J
18.	- -	UNKNOWN	33.93	5000.	J
19.	- -	UNKNOWN	37.86	10000.	J
20.	83-47-6	.gamma.-Sitosterol	45.19	10000.	J
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 06 1990

**** **** **** **** ****

John J. [illegible], P.E.
Laboratory Director

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
S SØHV-3 DL ~~RE~~

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306 DL

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4698

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec.____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: ~~4.00~~ 2.0

12-7-90

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700.	U
111-44-4	bis(2-Chloroethyl)ether	1700.	U
95-57-8	2-Chlorophenol	1700.	U
541-73-1	1,3-Dichlorobenzene	1700.	U
106-46-7	1,4-Dichlorobenzene	1700.	U
100-51-6	Benzyl alcohol	1700.	U
95-50-1	1,2-Dichlorobenzene	1700.	U
95-48-7	2-Methylphenol	1700.	U
108-60-1	bis(2-Chloroisopropyl)ether	1700.	U
106-44-5	4-Methylphenol	1700.	U
621-64-7	N-Nitroso-di-n-propylamine	1700.	U
67-72-1	Hexachloroethane	1700.	U
98-95-3	Nitrobenzene	1700.	U
78-59-1	Isophorone	1700.	U
88-75-5	2-Nitrophenol	1700.	U
105-67-9	2,4-Dimethylphenol	2100.	
65-85-0	Benzoic acid	8400.	U
111-91-1	bis(2-Chloroethoxy)methane	1700.	U
120-83-2	2,4-Dichlorophenol	1700.	U
120-82-1	1,2,4-Trichlorobenzene	1700.	U
91-20-3	Naphthalene	590.	J
106-47-8	4-Chloroaniline	1700.	U
87-68-3	Hexachlorobutadiene	1700.	U
59-50-7	4-Chloro-3-methylphenol	1700.	U
91-57-6	2-Methylnaphthalene	1200.	J
77-47-4	Hexachlorocyclopentadiene	1700.	U
88-06-2	2,4,6-Trichlorophenol	1700.	U
95-95-4	2,4,5-Trichlorophenol	8400.	U
91-58-7	2-Chloronaphthalene	540.	J
88-74-4	2-Nitroaniline	8400.	U
131-11-3	Dimethylphthalate	1700.	U
208-96-8	Acenaphthylene	1700.	U
606-20-2	2,6-Dinitrotoluene	1700.	U

Include

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SDHV-3 DL

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306 DL

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4698

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	8400.	U
83-32-9	Acenaphthene	1300.	J
51-28-5	2,4-Dinitrophenol	8400.	U
100-02-7	4-Nitrophenol	8400.	U
132-64-9	Dibenzofuran	2300.	
121-14-2	2,4-Dinitrotoluene	1700.	U
84-66-2	Diethylphthalate	1700.	U
7005-72-3	4-Chlorophenyl-phenylether	1700.	U
86-73-7	Fluorene	1700.	U
100-01-6	4-Nitroaniline	8400.	U
534-52-1	4,6-Dinitro-2-methylphenol	8400.	U
86-30-6	N-Nitrosodiphenylamine (1)	1700.	U
101-55-3	4-Bromophenyl-phenylether	1700.	U
118-74-1	Hexachlorobenzene	1700.	U
87-86-5	Pentachlorophenol	8400.	U
85-01-8	Phenanthrene	16000.	
120-12-7	Anthracene	3700.	
84-74-2	Di-n-butylphthalate	1700.	U
206-44-0	Fluoranthene	6300.	
129-00-0	Pyrene	13000.	
85-68-7	Butylbenzylphthalate	1700.	U
91-94-1	3,3'-Dichlorobenzidine	3300.	U
56-55-3	Benzo(a)anthracene	4200.	
218-01-9	Chrysene	5300.	
117-81-7	bis(2-Ethylhexyl)phthalate	830.	BJ
117-84-0	Di-n-octylphthalate	1700.	U
205-99-2	Benzo(b)fluoranthene	4300.	
207-08-9	Benzo(k)fluoranthene	1700.	U
50-32-8	Benzo(a)pyrene	3100.	
193-39-5	Indeno(1,2,3-cd)pyrene	2500.	
53-70-3	Dibenz(a,h)anthracene	1700.	U
191-24-2	Benzo(g,h,i)perylene	2800.	

(1) - Cannot be separated from diphenylamine

S 0081

DATE REPORTED: 10/ 9/1990

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

SDHV-3 DL ~~RE~~

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: GIB SAS No.: SDG No.: 063

Matrix: (soil/water) SOIL Lab Sample ID: 9011306 DL

Sample wt/vol: 30.0 (g/mL) G Lab File ID: P4698

Level: (low/med) LOW Date Received: 10/ 3/90

% Moisture: not dec. 20. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) Y pH: 6.6 Dilution Factor: 4.00

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- -	UNKNOWN	9.38	5000.	BJ
2.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	10.50	6000.	BJ
3.	2785-89-9	Phenol, 4-ethyl-2-methoxy- (	18.07	3000.	J
4.	91-10-1	Phenol, 2,6-dimethoxy- (8CI9	19.44	20000.	J
5.	2785-87-7	Phenol, 2-methoxy-4-propyl-	20.00	6000.	J
6.	- -	UNKNOWN	21.14	20000.	J
7.	- -	UNKNOWN	21.56	7000.	J
8.	- -	UNKNOWN	22.44	30000.	J
9.	- -	UNKNOWN	23.63	10000.	J
10.	- -	UNKNOWN	23.79	20000.	J
11.	- -	OCTADECENE ISOMER	29.19	4000.	J
12.	- -	CYCLODODECENE ISOMER	31.26	10000.	J
13.	- -	UNK. ALIPHATIC HYDROCARBON	31.71	10000.	J
14.	- -	UNKNOWN	33.35	10000.	J
15.	- -	(E)-EICOSENE ISOMER	33.89	10000.	J
16.	- -	UNKNOWN	35.54	10000.	J
17.	- -	UNKNOWN	35.73	10000.	J
18.	5128-44-9	4H-1-Benzopyran-4-one, 5-hyd	36.80	20000.	J
19.	- -	UNKNOWN	37.49	10000.	J
20.	83-47-6	.gamma.-Sitosterol	45.18	20000.	J
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 06 1990

John J. [illegible], P.E.
Laboratory Director

S 0052

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

SAMPLE DATA SUMMARY PACKAGE

TABLE OF CONTENTS

YEC, INC.
HEBRON VALLEY PRODUCTS CORP.
SAMPLES RECEIVED: 10/4/90
GIB064

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

3. CASE NARRATIVES

H2M LABS, INC.

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

ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

Case Narrative
for Volatile
(GIB064)

For Samples:

GWHV-1 (MS/MSD)
GWHV-2
GWHV-3
GWHV-4
GWHV-5
TRIP BLANK

All quality control and calibration criteria were met for the above mentioned samples with the following exceptions:

The RPD's of benzene and toluene were just outside the allowable limits for the MS/MSD of sample GWHV-1. All percent recoveries for these MS/MSD samples were within the allowable limits. No acetone was detected in the original sample nor the MS of the sample. 24 ug/L of acetone was detected in the MSD of the sample. Secondary contamination is suspected.

All SPCC and CCC criteria were met for both the initial and continuing calibrations. All % D's of the continuing calibrations were within the allowable limits except for 4-methyl 2-pentanone (38.7%) and 2-hexanone (43.7%). Neither of these compounds were detected in any samples.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: December 10, 1990

****
* *
* *
****

Joann M. Slavin
Quality Assurance Manager

H2M LABS, INC.

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

ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

CASE NARRATIVE FOR INORGANICS
GIB064

FOR SAMPLES:			
	GWHV-1	9011538	MS/MSD
	GWHV-4	9011539	
	GWHV-2	9011540	
	GWHV-3	9011541	
	GWHV-5	9011542	

The instruments used for metals analysis include a Perkin-Elmer 5100/HGA-600 and a Varian Spectra 30/GTA-96 for furnace AA technique. A Perkin-Elmer 2380 was used for flame AA and for mercury cold vapor techniques. ICP analysis was performed using an ARL3560.

The selenium matrix spike recovery for sample GWHV-1 is not within 75-125%. Selenium data is reported flagged with an "N" on Forms I and V (a) for all samples received associated with sample GWHV-1.

The post digestion spike recoveries for the following sample analyses are not within 85-115%:

Arsenic: GWHV-1 and GWHV-1 (duplicate)

Selenium: GWHV-1, GWHV-1 (duplicate), GWHV-4, GWHV-2, GWHV-3, AND GWHV-5.

The sample data for the above analyses, except for the duplicates, are reported flagged with a "W" on the corresponding data sheets.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported 12/12/90

Joann Slavin
Quality Assurance Manager

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

4. SAMPLE REPORTS

4.1 VOLATILES
4.2 BASE/NEUTRAL/ACIDS
4.3 METALS AND CYANIDE
4.4 INORGANIC ANALYSIS

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

QUALIFIERS FOR REPORTING ORGANICS DATA

Value - If the result is a value greater than or equal to the quantification limit, report the value.

U - Indicates compound was analyzed for but not detected. Report the minimum quantification limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit). The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable quantification limit for the sample.

J - Indicates as estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified quantification limit but greater than zero (e.g.: If limit of quantification is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J).

C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides >= 10 ng/ul in the final extract should be confirmed by GC/MS.

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

E - This flag identifies compounds whose concentrations are outside the calibration range of the analysis. If one or more compounds have a response greater than full scale, the extract must be diluted and reanalyzed, according to the specifications in Exhibit D. All compounds with a response greater than full scale should be flagged with an "E" on the original report of analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: for total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered seperately.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

X - This flag indicates compounds with spectra that do not meet identification criteria as detailed in Exhibit(E)E-61 section 6.1.3 but are believed to be present.

Z - Indicates analyte was present at the reported concentration in the pre-screening analysis.

H2M LABS, INC.

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

QUALIFIERS FOR METALS ANALYSIS

E - The reported value is estimated because of the presence of interference. An explanatory note is included in the case narrative.

M - Duplicate injection precision not met.

N - Matrix spiked sample recovery not within control limits.

S - The reported value was determined by the Method of Standard Additions.

+ - Correlation coefficient for the MSA is less than 0.995.

W - Post digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

Concentration Qualifiers

B - Entered if the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

U - Entered if the analyte was analyzed for but not detected, less than the IDL.

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-1

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011538

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4314

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

P.E.

H2M LABS, INC.

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-1

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011538

Sample wt/vol: 920.0 (g/mL) ML Lab File ID: E3220

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-1

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011538

Sample wt/vol: 920.0 (g/mL) ML Lab File ID: E3220

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

John J. [illegible], P.E.
Laboratory Director

(1) - Cannot be separated from diphenylamine

DATE REPORTED: DEC [illegible]

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

GWHV-1

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011538

Sample wt/vol: 920.0 (g/mL) ML Lab File ID: E3220

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec.____ Date Extracted: 10/ 5/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/12/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 12 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110-83-8	Cyclohexene (8CI9CI)	4.93	700.	BJ
2.	- -	UNKNOWN	9.81	30.	BJ
3.	- -	2-HEXEN-1-OL ISOMER	10.56	10.	BJ
4.	- -	UNKNOWN	10.62	90.	BJ
5.	- -	UNKNOWN	10.67	80.	BJ
6.	- -	ETHYLCYCLOPENTENE ISOMER	10.71	20.	J
7.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	11.81	200.	BJ
8.	6705-49-3	7-Oxabicyclo[4.1.0]heptan-2-	13.98	20.	J
9.	- -	UNKNOWN	14.08	100.	BJ
10.	- -	UNKNOWN	14.75	40.	BJ
11.	- -	UNKNOWN	34.41	10.	J
12.	- -	UNKNOWN	37.17	10.	J
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 1990

John J. [illegible], P.E.
Laboratory Director

S 0030

H2M LABS, INC.

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

REV 6/89

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

XGWHV1

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB064

Matrix (soil/water): WATER Lab Sample ID: 9011538

Level (low/med): LOW Date Received: 10/04/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	970.0			A
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	3.4	U	W	F
7440-39-3	Barium	221			P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	38500			P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	39.4	B		P
7440-50-8	Copper	15.1	B		P
7439-89-6	Iron	1590			P
7439-92-1	Lead	4.9	B		F
7439-95-4	Magnesium	7580			P
7439-96-5	Manganese	940			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	15.9	B		P
7440-09-7	Potassium	5270			P
7782-49-2	Selenium	1.2	U	WN	F
7440-22-4	Silver	10.0	U		A
7440-23-5	Sodium	18700			P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	4.8	U		P
7440-66-6	Zinc	26.6			P
	Cyanide	10.0	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: December 12, 1990

John J. Molloy, P.E.

H2M LABS, INC.

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

LAB NO: 9011538

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... GROUND WATER
SPECIAL

DATE COLLECTED. 10/02/90
DATE RECEIVED.. 10/04/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: GWHV-1 MS/MSD

REMARKS: HEBRON V.P.C.

PARAMETER (S)	RESULTS	UNITS
COD	40	mg/l
SPECIFIC CONDUCTIVITY	255	umhos
PH	7.5	units
SUSPENDED SOLIDS	7	mg/l
TOTAL DISSOLVED SOLIDS	219	mg/l

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011540

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4318

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

John J. Molloy, P.E.

FORM I VOA 1/87 Rev.

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GWHV-2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011540

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4318

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: 10/10/90

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-2

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011540

Sample wt/vol: 930.0 (g/mL) ML Lab File ID: E3231

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

John J. Money, P.E.
Laboratory Director

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-2

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011540

Sample wt/vol: 930.0 (g/mL) ML Lab File ID: E3231

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

(1) - Cannot be separated from diphenylamine

John J. Money, P.E.

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

GWHV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011540

Sample wt/vol: 930.0 (g/mL) ML Lab File ID: E3231

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110-83-8	Cyclohexene (8CI9CI)	4.91	300.	BJ
2.	- -	UNKNOWN	9.80	10.	BJ
3.	- -	UNKNOWN CYCLIC COMPOUND	10.63	30.	BJ
4.	- -	ETHYL CYCLOPENTENE ISOMER	10.69	10.	BJ
5.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	11.76	60.	BJ
6.	- -	UNKNOWN	14.05	10.	J
7.	- -	UNKNOWN	37.19	30.	J
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: 1990

DATE REPORTED: DEC 04 1990

John J. Molloy, P.E.
Laboratory Director

FORM I - IN 7/88

H2M LABS, INC.

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

U.S. EPA - CLP

EPA SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

XGWHV2

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB064

Matrix (soil/water): WATER Lab Sample ID: 9011540

Level (low/med): LOW Date Received: 10/04/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8770			A
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	7.5	B		F
7440-39-3	Barium	168	B		P
7440-41-7	Beryllium	1.5	B		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	34600			P
7440-47-3	Chromium	13.0			P
7440-48-4	Cobalt	7.0	B		P
7440-50-8	Copper	23.6	B		P
7439-89-6	Iron	11400			P
7439-92-1	Lead	6.3			F
7439-95-4	Magnesium	8470			P
7439-96-5	Manganese	314			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	17.6	B		P
7440-09-7	Potassium	10600			P
7782-49-2	Selenium	1.2	U	WN	F
7440-22-4	Silver	10.0	U		A
7440-23-5	Sodium	16600			P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	4.8	U		P
7440-66-6	Zinc	57.3			P
	Cyanide	10.0	U		C

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: December 12, 1990

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

LAB NO: 9011540

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... GROUND WATER
SPECIAL

DATE COLLECTED. 10/02/90
DATE RECEIVED.. 10/04/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: GWHV-2

REMARKS: HEBRON V.P.C.

PARAMETER (S)	RESULTS	UNITS
COD	40	mg/l
SPECIFIC CONDUCTIVITY	237	umhos
PH	6.9	units
SUSPENDED SOLIDS	45	mg/l
TOTAL DISSOLVED SOLIDS	245	mg/l

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

S 0039

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011541

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4319

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GWHV-3

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011541

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4319

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 1990

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-3

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011541

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: E3232

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	11.	U
111-44-4	bis(2-Chloroethyl)ether	11.	U
95-57-8	2-Chlorophenol	11.	U
541-73-1	1,3-Dichlorobenzene	11.	U
106-46-7	1,4-Dichlorobenzene	11.	U
100-51-6	Benzyl alcohol	11.	U
95-50-1	1,2-Dichlorobenzene	11.	U
95-48-7	2-Methylphenol	11.	U
108-60-1	bis(2-Chloroisopropyl)ether	11.	U
106-44-5	4-Methylphenol	11.	U
621-64-7	N-Nitroso-di-n-propylamine	11.	U
67-72-1	Hexachloroethane	11.	U
98-95-3	Nitrobenzene	11.	U
78-59-1	Isophorone	11.	U
88-75-5	2-Nitrophenol	11.	U
105-67-9	2,4-Dimethylphenol	11.	U
65-85-0	Benzoic acid	56.	U
111-91-1	bis(2-Chloroethoxy)methane	11.	U
120-83-2	2,4-Dichlorophenol	11.	U
120-82-1	1,2,4-Trichlorobenzene	11.	U
91-20-3	Naphthalene	11.	U
106-47-8	4-Chloroaniline	11.	U
87-68-3	Hexachlorobutadiene	11.	U
59-50-7	4-Chloro-3-methylphenol	11.	U
91-57-6	2-Methylnaphthalene	11.	U
77-47-4	Hexachlorocyclopentadiene	11.	U
88-06-2	2,4,6-Trichlorophenol	11.	U
95-95-4	2,4,5-Trichlorophenol	56.	U
91-58-7	2-Chloronaphthalene	11.	U
88-74-4	2-Nitroaniline	56.	U
131-11-3	Dimethylphthalate	11.	U
208-96-8	Acenaphthylene	11.	U
606-20-2	2,6-Dinitrotoluene	11.	U

John J. [illegible]cy, P.E.
Laboratory Director

H2M LABS, INC.

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

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-3

Lab Name: H2M LA   Contract: NYSDEC

Lab Code: H2M LA   Case No.: GIB   SAS No.:   SDG No.: 64

Matrix: (soil/water) WATER   Lab Sample ID: 9011541

Sample wt/vol: 890.0 (g/mL) ML   Lab File ID: E3232

Level: (low/med) LOW   Date Received: 10/ 4/90

% Moisture: not dec. 100. dec.______   Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF   Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N   pH: 7.0   Dilution Factor: 1.00

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

John J. ...y, P.E.
Laboratory Director

(1) - Cannot be separated from diphenylamine

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

GWHV-3

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011541

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: E3232

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110-83-8	Cyclohexene (8CI9CI)	4.91	300.	BJ
2.	- -	UNKNOWN	9.80	10.	BJ
3.	- -	UNKNOWN CYCLIC COMPOUND	10.63	40.	BJ
4.	- -	ETHYL CYCLOPENTENE ISOMER	10.69	10.	BJ
5.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	11.76	50.	BJ
6.	6705-49-3	7-Oxabicyclo[4.1.0]heptan-2-	13.95	9.	J
7.	- -	UNKNOWN	14.05	10.	J
8.					
9.					
10.					
11.					
12.					
13.					
14.		DATE REPORTED: DEC 04 1990			
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

John J. [illegible], P.E.
Laboratory Director

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

XGWHV3

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB064

Matrix (soil/water): WATER Lab Sample ID: 9011541

Level (low/med): LOW Date Received: 10/04/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6460			A
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	8.1	B		F
7440-39-3	Barium	164	B		P
7440-41-7	Beryllium	1.5	B		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	23300			P
7440-47-3	Chromium	12.0			P
7440-48-4	Cobalt	6.8	B		P
7440-50-8	Copper	30.0			P
7439-89-6	Iron	11600			P
7439-92-1	Lead	20.1			F
7439-95-4	Magnesium	4370	B		P
7439-96-5	Manganese	1730			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	27.5	B		P
7440-09-7	Potassium	2200	B		P
7782-49-2	Selenium	1.2	U	WN	F
7440-22-4	Silver	10.0	U		A
7440-23-5	Sodium	4780	B		P
7440-28-0	Thallium	1.2	B		F
7440-62-2	Vanadium	9.8	B		P
7440-66-6	Zinc	52.3			P
	Cyanide	10.0	U		C

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: December 12, 1990

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

LAB NO: 901154

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... GROUND WATER
SPECIAL

DATE COLLECTED. 10/02/90
DATE RECEIVED.. 10/04/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: GWHV-3

REMARKS: HEBRON V.P.C.

PARAMETER (S)	RESULTS	UNITS
COD	<15	mg/l
SPECIFIC CONDUCTIVITY	122	umhos
PH	6.5	units
SUSPENDED SOLIDS	45	mg/l
TOTAL DISSOLVED SOLIDS	111	mg/l

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
GWHV-4

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011539

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4317

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

DATE REPORTED: P.E.

S 0047

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GWHV-4

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011539

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4317

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 0 . 1990

John J. Mallow P.E.
Laboratory Director

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-4

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011539

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: E3230

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	11.	U
111-44-4	bis(2-Chloroethyl)ether	11.	U
95-57-8	2-Chlorophenol	11.	U
541-73-1	1,3-Dichlorobenzene	11.	U
106-46-7	1,4-Dichlorobenzene	11.	U
100-51-6	Benzyl alcohol	11.	U
95-50-1	1,2-Dichlorobenzene	11.	U
95-48-7	2-Methylphenol	11.	U
108-60-1	bis(2-Chloroisopropyl)ether	11.	U
106-44-5	4-Methylphenol	11.	U
621-64-7	N-Nitroso-di-n-propylamine	11.	U
67-72-1	Hexachloroethane	11.	U
98-95-3	Nitrobenzene	11.	U
78-59-1	Isophorone	11.	U
88-75-5	2-Nitrophenol	11.	U
105-67-9	2,4-Dimethylphenol	11.	U
65-85-0	Benzoic acid	56.	U
111-91-1	bis(2-Chloroethoxy)methane	11.	U
120-83-2	2,4-Dichlorophenol	11.	U
120-82-1	1,2,4-Trichlorobenzene	11.	U
91-20-3	Naphthalene	11.	U
106-47-8	4-Chloroaniline	11.	U
87-68-3	Hexachlorobutadiene	11.	U
59-50-7	4-Chloro-3-methylphenol	11.	U
91-57-6	2-Methylnaphthalene	11.	U
77-47-4	Hexachlorocyclopentadiene	11.	U
88-06-2	2,4,6-Trichlorophenol	11.	U
95-95-4	2,4,5-Trichlorophenol	56.	U
91-58-7	2-Chloronaphthalene	11.	U
88-74-4	2-Nitroaniline	56.	U
131-11-3	Dimethylphthalate	11.	U
208-96-8	Acenaphthylene	11.	U
606-20-2	2,6-Dinitrotoluene	11.	U

John [illegible], P.E.
Laboratory Director

S 0049

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-4

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011539

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: E3230

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

P.E.
Laboratory Director

(1) - Cannot be separated from diphenylamine

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

GWHV-4

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011539

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: E3230

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110-83-8	Cyclohexene (8CI9CI)	4.90	300.	BJ
2.	- -	UNKNOWN	9.80	10.	BJ
3.	- -	UNKNOWN CYCLIC COMPOUND	10.63	30.	BJ
4.	- -	ETHYL CYCLOPENTENE ISOMER	10.69	10.	BJ
5.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	11.77	50.	BJ
6.	- -	CHLORO-CYCLOHEXANOL ISOMER	14.06	10.	J
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: DEC 04 1990

John [illegible], P.E.
Laboratory Director

FORM I - IN

7/8

H2M LABS, INC.

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

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

XGWHV4

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB064

Matrix (soil/water): WATER Lab Sample ID: 9011539

Level (low/med): LOW Date Received: 10/04/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2240			A
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	4.6	B		F
7440-39-3	Barium	141	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	30900			P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	5.2	U		P
7440-50-8	Copper	16.2	B		P
7439-89-6	Iron	3730			P
7439-92-1	Lead	6.5			F
7439-95-4	Magnesium	8700			P
7439-96-5	Manganese	1390			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.7	B		P
7440-09-7	Potassium	5960			P
7782-49-2	Selenium	1.2	U	WN	F
7440-22-4	Silver	10.0	U		A
7440-23-5	Sodium	21000			P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	4.8	U		P
7440-66-6	Zinc	31.4			P
	Cyanide	10.0	U		C

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: December 12, 1990

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

LAB NO: 9011539

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... GROUND WATER
SPECIAL

DATE COLLECTED. 10/02/90
DATE RECEIVED.. 10/04/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: GWHV-4

REMARKS: HEBRON V.P.C.

PARAMETER (S)	RESULTS	UNITS
COD	20	mg/l
SPECIFIC CONDUCTIVITY	229	umhos
PH	6.9	units
SUSPENDED SOLIDS	69	mg/l
TOTAL DISSOLVED SOLIDS	203	mg/l

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

H2M LABS, INC.

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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-5

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011542

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4320

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

GWHV-5

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011542

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4320

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. Date Analyzed: 10/10/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-5

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011542

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: E3233

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec.____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	11.	U
111-44-4	bis(2-Chloroethyl)ether	11.	U
95-57-8	2-Chlorophenol	11.	U
541-73-1	1,3-Dichlorobenzene	11.	U
106-46-7	1,4-Dichlorobenzene	11.	U
100-51-6	Benzyl alcohol	11.	U
95-50-1	1,2-Dichlorobenzene	11.	U
95-48-7	2-Methylphenol	11.	U
108-60-1	bis(2-Chloroisopropyl)ether	11.	U
106-44-5	4-Methylphenol	11.	U
621-64-7	N-Nitroso-di-n-propylamine	11.	U
67-72-1	Hexachloroethane	11.	U
98-95-3	Nitrobenzene	11.	U
78-59-1	Isophorone	11.	U
88-75-5	2-Nitrophenol	11.	U
105-67-9	2,4-Dimethylphenol	11.	U
65-85-0	Benzoic acid	56.	U
111-91-1	bis(2-Chloroethoxy)methane	11.	U
120-83-2	2,4-Dichlorophenol	11.	U
120-82-1	1,2,4-Trichlorobenzene	11.	U
91-20-3	Naphthalene	11.	U
106-47-8	4-Chloroaniline	11.	U
87-68-3	Hexachlorobutadiene	11.	U
59-50-7	4-Chloro-3-methylphenol	11.	U
91-57-6	2-Methylnaphthalene	11.	U
77-47-4	Hexachlorocyclopentadiene	11.	U
88-06-2	2,4,6-Trichlorophenol	11.	U
95-95-4	2,4,5-Trichlorophenol	56.	U
91-58-7	2-Chloronaphthalene	11.	U
88-74-4	2-Nitroaniline	56.	U
131-11-3	Dimethylphthalate	11.	U
208-96-8	Acenaphthylene	11.	U
606-20-2	2,6-Dinitrotoluene	11.	U

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

GWHV-5

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011542

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: E3233

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

(1) - Cannot be separated from diphenylamine

Laboratory Director

S 0052

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

GWHV-5

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: GIB SAS No.: SDG No.: 64

Matrix: (soil/water) WATER Lab Sample ID: 9011542

Sample wt/vol: 890.0 (g/mL) ML Lab File ID: E3233

Level: (low/med) LOW Date Received: 10/ 4/90

% Moisture: not dec. 100. dec.____ Date Extracted: 10/ 7/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/13/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110-83-8	Cyclohexene (8CI9CI)	4.92	300.	BJ
2.	- -	UNKNOWN	9.80	10.	BJ
3.	- -	UNKNOWN CYCLIC COMPOUND	10.63	30.	BJ
4.	- -	~~ETHOMER~~ Ethyl Cyclopentene Isomer	10.70	10.	BJ
5.	930-68-7	2-Cyclohexen-1-one (8CI9CI)	11.77	40.	BJ
6.	- -	UNKNOWN	14.05	10.	J
7.					
8.					
9.					
10.					
11.					
12.					
13.		DATE REPORTED: DEC 04 1990	John [illegible], P.E.		
14.			Laboratory Director		
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122

U.S. EPA - CLP

1
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.
XGWHV5

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB064

Matrix (soil/water): WATER Lab Sample ID: 9011542

Level (low/med): LOW Date Received: 10/04/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	580			A
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	4.2	B		F
7440-39-3	Barium	226			P
7440-41-7	Beryllium	1.0	B		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	40000			P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	54.8			P
7440-50-8	Copper	11.6	B		P
7439-89-6	Iron	1190			P
7439-92-1	Lead	3.4	B		F
7439-95-4	Magnesium	8090			P
7439-96-5	Manganese	1040			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.7	B		P
7440-09-7	Potassium	5640			P
7782-49-2	Selenium	1.2	U	WN	F
7440-22-4	Silver	10.0	U		A
7440-23-5	Sodium	20000			P
7440-28-0	Thallium	1.6	B		F
7440-62-2	Vanadium	4.8	U		P
7440-66-6	Zinc	25.2			P
	Cyanide	10.0	U		C

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: December 12, 1990

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516)694-3040 FAX:(516)694-4122

LAB NO: 9011542

YEC, INC.
MR. MARK MECCA
612 CORPORATE WAY, SUITE 4M
VALLEY COTTAGE, NY 10989

TYPE..... GROUND WATER
SPECIAL

DATE COLLECTED. 10/02/90
DATE RECEIVED.. 10/04/90
COLLECTED BY... CL99
PROJECT NO..... A0038

POINT NO:
LOCATION: GWHV-5

REMARKS: HEBRON V.P.C.

PARAMETER (S)	RESULTS	UNITS
COD	<15	mg/l
SPECIFIC CONDUCTIVITY	251	umhos
PH	7.3	units
SUSPENDED SOLIDS	5	mg/l
TOTAL DISSOLVED SOLIDS	228	mg/l

COPIES TO:

DATE ISSUED 12/04/90

J M Slavin
LABORATORY DIRECTOR

ORIGINAL

S 0062

H2M LABS, INC.

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

3. CASE NARRATIVES

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

CASE NARRATIVE FOR VOLATILE ORGANICS
GIB054

FOR SAMPLE NO'S.:

BAILER 1 (9009470)	BAILER 5 (9009474)
BAILER 2 (9009471)	BAILER 6 (9009475)
BAILER 3 (9009472)	BAILER 7 (9009476)
BAILER 4 (9009473)	

QC DATA

All QC requirements were met for this data package.

TUNING CRITERIA/CALIBRATION

All tuning criteria were met for this data package. All QC requirements were met for the initial calibration performed 09/13/90. Two continuing calibration check standards were analyzed on 09/14/90 to meet the initial calibration. The CCC analyte vinyl chloride still failed to meet required QC limits of < 25% D. This analyte was not detected in any analyzed samples and this deviation is not believed to effect the quality of the data submitted.

SAMPLE ANALYSIS

All samples were analyzed within the contract specified holding time.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: 1/09/90

Glenn Bochicchio
GC/MS Supervisor

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

CASE NARRATIVE FOR SEMI VOLATILE ORGANICS
GIB054

FOR SAMPLE NO'S.:

BAILER 1 (9009470)	BAILER 5 (9009474)
BAILER 2 (9009471)	BAILER 6 (9009475)
BAILER 3 (9009472)	BAILER 7 (9009476)
BAILER 4 (9009473)	

QC DATA

Phenol-d6 exceeded surrogate recovery limits for samples Bailer 1,3,6,7. Six spiked analytes failed QC recovery limits for the MSB extracted 10/18/90.

TUNING CRITERIA/CALIBRATION

All tuning requirements for this data package were met. All QC requirements for the initial calibration performed 10/23/90 were met. Ten analytes exceeded a % difference of 20% for the calibration standard analyzed 1024/90.

The response factors from the calibration standard analyzed 10/24/90 were not updated in the ID file. All calculated valves reflect the response factors from this standard.

The quantitation ion of 4-Nitrophenol was changed from 139 to 65 due to interference from Dibenzofuran.

SAMPLE ANALYSIS

All samples originally extracted 9/19/90 were re-extracted 10/18/90 due to the extracts being contaminated with toluene. It is suspected that the batch of solvent was the source of contamination. There was insufficient sample volume to repeat the MS/MSD extraction.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: 1/21/90

****
*
*
****

H2M LABS, INC.
575 Broad Hollow Road, Melville, N.Y. 11747
(516) 694-3040 FAX: (516) 694-4122
ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

CASE NARRATIVE FOR PESTICIDES/PCB's
GIB054

FOR SAMPLES:	Bailer-1 MS/MSD	9009470 MS/MSD
	Bailer-2	9009471
	Bailer-3	9009472
	Bailer-4	9009473
	Bailer-5	9009474
	Bailer-6	9009475
	Bailer-7	9009476

QC DATA

Surrogate recoveries for DBC was exceeded in one of the eleven extracts. recovery data for matrix spike and matrix spike duplicate met the QC limits. In the matrix spike blank three of the six spiked compound recoveries were under 75%. One blank was extracted and analyzed with this group of samples; no compounds interfering with the targeted analytes were observed.

CALIBRATION

System performance checks and continuous calibration for primary sequence, started on 10/08/90, were in compliance with the protocol. Response for 4,4-DDT was not linear, but none of the sample contained DDT.

The confirmatory sequence, started on 10/09/90, was valid up to the EVAL B standard injected on 10/12/90 at 00:41. The next standard injected, an individual STD A did not meet the continuous calibration criteria. All samples analyzed after the last compliant standard were reanalyzed in a different confirmatory sequence, started on 10/15/90. In this sequence all system performance checks were in compliance with the protocol.

SAMPLE ANALYSIS

All samples were extracted and analyzed within holding times. None contained targeted analytes.

The data system applies a 1 % window for tentative identification. The data are reviewed by the analyst and the following codes are used to indicate reasons for rejections of identifications:

H2M LABS, INC.

L smaller than the contract required reporting limit on primary column

M outside the actual retention time window established

N PCB isomer interfering with pesticides. (Raise reporting limit for pesticide)

Q2 Quantification on secondary column due to interference coeluting on primary column

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: 1-18-91

****
* *
* *
****

Ursula Middel
Technical Manager

H2M LABS, INC.

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

ENVIRONMENTAL and INDUSTRIAL ANALYTICAL LABORATORY

Case Narrative
For Metals
(GIB054)

For Samples:		
	Bailer-1 MS/MSD	9009470 MS/MSD
	Bailer-2	9009471
	Bailer-3	9009472
	Bailer-4	9009473
	Bailer-5	9009474
	Bailer-6	9009475
	Bailer-7	9009476

The instruments used for metals analysis include a Perkin-Elmer 5100/HGA-600 and a Varian Spectra 30/GTA-96 for furnace AA technique. A Perkin-Elmer 2380 was used for flame AA and mercury cold vapor techniques. ICP analysis was performed using an ARL 3560.

The silver matrix spike recovery for sample #1 is not within 75-125%. Silver results are flagged with an "N" on Forms I and V(a) for all samples received associated with sample #1.

The lead post spike recovery for sample #5 is not within 85-115%. The lead result for sample #5 is flagged with a "W" on the data sheet.

The duplicate analysis of sample #1 for silver has an absolute difference that exceeds CRDL while the duplicate result is less than 5X CRDL. Silver data is reported flagged with an "*" on Forms I and VI for all samples received associated with sample #1.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: January 21, 1991

****
* *
* *
****

Stan Isaacson
Laboratory Manager

H2M LABS, INC.

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

9. BLANK SUMMARY DATA AND RESULTS
   - 9.1 VOLATILES
   - 9.2 BASE/NEUTRAL/ACIDS
   - 9.3 PESTICIDE/PCBs
   - 9.4 METALS AND CYANIDE

H2M LABS, INC.

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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAILER#2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 54

Matrix: (soil/water) WATER Lab Sample ID: 9009471

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4168

Level: (low/med) LOW Date Received: 9/19/90

% Moisture: not dec. 100. Date Analyzed: 9/24/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BAILER#2

Lab Name: H2M Contract: NYSDEC

Lab Code: H2M Case No.: G&H SAS No.: SDG No.: 54

Matrix: (soil/water) WATER Lab Sample ID: 9009471

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P4168

Level: (low/med) LOW Date Received: 9/19/90

% Moisture: not dec. 100. Date Analyzed: 9/24/90

Column: (pack/cap) CAP Dilution Factor: 1.00

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: JAN 17 1991

John J. Molloy, P.E.
Laboratory Director

H2M LABS, INC.

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

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAILER2

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: G&H 54 SAS No.: SDG No.: 54

Matrix: (soil/water) WATER Lab Sample ID: 900947ϕ

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: H0071

Level: (low/med) LOW Date Received: 9/19/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/18/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/24/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

1/8/91 GKB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	11.	U
111-44-4	bis(2-Chloroethyl)ether	11.	U
95-57-8	2-Chlorophenol	11.	U
541-73-1	1,3-Dichlorobenzene	11.	U
106-46-7	1,4-Dichlorobenzene	11.	U
100-51-6	Benzyl alcohol	11.	U
95-50-1	1,2-Dichlorobenzene	11.	U
95-48-7	2-Methylphenol	11.	U
108-60-1	bis(2-Chloroisopropyl)ether	11.	U
106-44-5	4-Methylphenol	11.	U
621-64-7	N-Nitroso-di-n-propylamine	11.	U
67-72-1	Hexachloroethane	11.	U
98-95-3	Nitrobenzene	11.	U
78-59-1	Isophorone	11.	U
88-75-5	2-Nitrophenol	11.	U
105-67-9	2,4-Dimethylphenol	11.	U
65-85-0	Benzoic acid	53.	U
111-91-1	bis(2-Chloroethoxy)methane	11.	U
120-83-2	2,4-Dichlorophenol	11.	U
120-82-1	1,2,4-Trichlorobenzene	11.	U
91-20-3	Naphthalene	11.	U
106-47-8	4-Chloroaniline	11.	U
87-68-3	Hexachlorobutadiene	11.	U
59-50-7	4-Chloro-3-methylphenol	11.	U
91-57-6	2-Methylnaphthalene	11.	U
77-47-4	Hexachlorocyclopentadiene	11.	U
88-06-2	2,4,6-Trichlorophenol	11.	U
95-95-4	2,4,5-Trichlorophenol	53.	U
91-58-7	2-Chloronaphthalene	11.	U
88-74-4	2-Nitroaniline	53.	U
131-11-3	Dimethylphthalate	11.	U
208-96-8	Acenaphthylene	11.	U
606-20-2	2,6-Dinitrotoluene	11.	U

DATE REPORTED: JAN 17 1991

John J. Molloy, PR

Laboratory Director

S 0040

H2M LABS, INC.

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

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAILER2

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: G&H 54 SAS No.: SDG No.: 54

Matrix: (soil/water) WATER Lab Sample ID: 900947ϕ

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: H0071

Level: (low/med) LOW Date Received: 9/19/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/18/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/24/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

1/8/91 GKB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	53.	U
83-32-9	Acenaphthene	11.	U
51-28-5	2,4-Dinitrophenol	53.	U
100-02-7	4-Nitrophenol	53.	U
132-64-9	Dibenzofuran	11.	U
121-14-2	2,4-Dinitrotoluene	11.	U
84-66-2	Diethylphthalate	11.	U
7005-72-3	4-Chlorophenyl-phenylether	11.	U
86-73-7	Fluorene	11.	U
100-01-6	4-Nitroaniline	53.	U
534-52-1	4,6-Dinitro-2-methylphenol	53.	U
86-30-6	N-Nitrosodiphenylamine (1)	11.	U
101-55-3	4-Bromophenyl-phenylether	11.	U
118-74-1	Hexachlorobenzene	11.	U
87-86-5	Pentachlorophenol	53.	U
85-01-8	Phenanthrene	11.	U
120-12-7	Anthracene	11.	U
84-74-2	Di-n-butylphthalate	11.	U
206-44-0	Fluoranthene	11.	U
129-00-0	Pyrene	11.	U
85-68-7	Butylbenzylphthalate	11.	U
91-94-1	3,3'-Dichlorobenzidine	21.	U
56-55-3	Benzo(a)anthracene	11.	U
218-01-9	Chrysene	11.	U
117-81-7	bis(2-Ethylhexyl)phthalate	~~87.~~ 46. ~~87~~.	
117-84-0	Di-n-octylphthalate	11.	U
205-99-2	Benzo(b)fluoranthene	11.	U
207-08-9	Benzo(k)fluoranthene	11.	U
50-32-8	Benzo(a)pyrene	11.	U
193-39-5	Indeno(1,2,3-cd)pyrene	11.	U
53-70-3	Dibenz(a,h)anthracene	11.	U
191-24-2	Benzo(g,h,i)perylene	11.	U

1/8/91 GKB

DATE REPORTED: JAN 17 1991

John J. Molloy, P.E.
Laboratory Director

(1) - Cannot be separated from diphenylamine

H2M LABS, INC.

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

1F

EPA SAMPLE NO.

BAILER2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: H2M LA Contract: NYSDEC

Lab Code: H2M LA Case No.: G&H 54 SAS No.: SDG No.: 54

Matrix: (soil/water) WATER Lab Sample ID: 900947ϕ

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: H0071

Level: (low/med) LOW Date Received: 9/19/90

% Moisture: not dec. 100. dec._____ Date Extracted: 10/18/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/24/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

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

1/8/91 GKB

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

DATE REPORTED: JAN 17 1991

John J. Molloy, P.E.
Laboratory Director

S 0942

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BAILER-2

Lab Name: H2M LABS.INC. Contract: _____

Lab Code: _____ Case No.: GH54 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9009471

Sample wt/vol: 920.0 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 09/19/90

% Moisture: not dec. __ dec. __ Date Extracted: 09/20/90

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/10/90

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.11	U
319-85-7	beta-BHC	0.11	U
319-86-8	delta-BHC	0.11	U
58-89-9	Lindane	0.11	U
76-44-8	Heptachlor	0.11	U
309-00-2	Aldrin	0.11	U
1024-57-3	Heptachlor epoxide	0.11	U
959-98-8	Endosulfan I	0.11	U
60-57-1	Dieldrin	0.22	U
72-55-9	4,4'-DDE	0.22	U
72-20-8	Endrin	0.22	U
33213-65-9	Endosulfan II	0.22	U
72-54-8	4,4'-DDD	0.22	U
1031-07-8	Endosulfan sulfate	0.22	U
50-29-3	4,4'-DDT	0.22	U
72-43-5	Methoxychlor	1.1	U
53494-70-5	Endrin ketone	0.22	U
5103-71-9	alpha-Chlordane	1.1	U
5103-74-2	gamma-Chlordane	1.1	U
8001-35-2	Toxaphene	2.2	U
12674-11-2	Aroclor-1016	1.1	U
11104-28-2	Aroclor-1221	1.1	U
11141-16-5	Aroclor-1232	1.1	U
53469-21-9	Aroclor-1242	1.1	U
12672-29-6	Aroclor-1248	1.1	U
11097-69-1	Aroclor-1254	2.2	U
11096-82-5	Aroclor-1260	2.2	U

DATE REPORTED: NOV 21 1990

John J. Molloy, P.E.
Laboratory Director

FORM I PEST 1/87 Rev.

FORM I - IN

7/88

H2M LABS, INC.

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

U.S. EPA - CLP

EPA SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

XXXXX2

Lab Name: H2M LABS, INC. Contract: GIBBS&HILL

Lab Code: H2MLAB Case No.: SAS No.: SDG No.: GIB054

Matrix (soil/water): WATER Lab Sample ID: 9009471

Level (low/med): LOW Date Received: 09/19/90

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	24.6	B		P
7440-36-0	Antimony	43.9	U		P
7440-38-2	Arsenic	3.4	U		F
7440-39-3	Barium	3.4	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.6	U		P
7440-70-2	Calcium	109	B		P
7440-47-3	Chromium	9.2	U		P
7440-48-4	Cobalt	5.2	U		P
7440-50-8	Copper	3.5	U		P
7439-89-6	Iron	36.3	B		P
7439-92-1	Lead	1.4	U		F
7439-95-4	Magnesium	21.4	B		P
7439-96-5	Manganese	1.6	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.7	U		P
7440-09-7	Potassium	49.8	U		P
7782-49-2	Selenium	1.2	U		F
7440-22-4	Silver	21.1		N*	P
7440-23-5	Sodium	138	B		P
7440-28-0	Thallium	1.1	U		F
7440-62-2	Vanadium	4.8	U		P
7440-66-6	Zinc	9.3	B		P
	Cyanide	10.0	U		C

John J. Molloy, P.E.
Laboratory Director

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

DATE REPORTED: NOVEMBER 9, 1990

H2M LABS, INC.

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

LAB NO: 9009471

GIBBS & HILL, INC.
NORM HINSEY
11 PENN PLAZA
NEW YORK, NY 10001

TYPE..... MISCELLANEOUS LIQUID
SPECIAL

DATE COLLECTED. 09/19/90
DATE RECEIVED.. 09/19/90
COLLECTED BY... HMM03

POINT NO:
LOCATION: BAILER #2

REMARKS: BAILER BLANKS

PARAMETER (S)	RESULTS	UNITS
COD	<15	mg/l
SPECIFIC CONDUCTIVITY	3	umhos
PH	7.0	units
SUSPENDED SOLIDS	<5	mg/l
TOTAL DISSOLVED SOLIDS	<5	mg/l

COPIES TO:

DATE ISSUED 01/15/91

LABORATORY DIRECTOR

ORIGINAL

S.C045

INTEROFFICE MEMORANDUM

TO: Norman Hinsey

FROM: Jou Hwang

DATE: May 9, 1991

SUBJECT: Data Usability of Hebron Valley Products Corp. Phase II Investigation

CC: Maueen Serafini

On completion my review of the draft Phase II Site Assessment report, Aquatec's data validation report, and H2M Labs' Response, deficiencies were identified for both sampling and analytical as follows:

I. Sampling Programs:

Four groundwater samples, two surface water/sediment sample pairs, one surface water sample at the spring, four surface soil samples, and two drum samples (one solid and one liquid) were taken for this site. One duplicate groundwater sample was taken from MWA-01. Samples were analyzed for TCL volatiles and semi-volatiles and TAL inorganics. Drum samples were analyzed hazardous waste characteristics, including ignitability, flammability, corrosivity, and EP toxicity. Drum samples were extracted for metals for their EP toxicity analyses.

Although TCLP is not officially adopted by the New York State yet, it is recommended that TCLP be performed to determine the toxicity of drum materials, specifically for organics which are the concern of this site.

II. Analytical Procedures:

Duplicate of groundwater sample GWHV-1 has shown acceptable consistency.

Samples SDHV-1, SSHV-2 and SSHV-4 as well as the spiked extracts of SDHV-1 were re-extracted for semi-volatile analysis due to poor surrogate recoveries. Extraction exceeds the 10 days holding time for Organics. Extraction holding times were exceeded by 37 days for sample analyses SDHV-1RE, SDHV-1MSRE, SDHV-1MSDRE, and by 35 days for sample

analyses SSHV-2RE, SSHV-2RERA, and SSHV-4RE. The analytical holding time was exceeded by 2 days for sample analyses SDHV-1RE, SDHV-1MSRE, SDHV-1MSDRE, SSHV-1RA, and SSHV-3DLRA. SSHV-1, -2, and -3 were all collected within 100 feet. By comparing analytical results among these three samples, SSHV-1 RA and SSHV-2 RE RA results are determined usable. However, results may be false low and all should be flagged "J". Comparing semi-volatile analytical results among SDHV-1, SDHV-2 and associated surface water samples, it is concluded that SDHV-1 RE and associated results are usable.

It was noted that SWHV-2, SWHV-3, SDHV-1MS, SDHV-1MSD, and SDHV-2 collected on October 1, 1990, were not received until October 3, 1990 due to a delay in delivery by Federal Express. Because samples were received within 48 hours and analyzed within required holding time, these analytical results are considered usable.

Corrections should be made for certain analytical results for metals and qualifiers also should be properly adjusted in the final analytical reports as highlights in the data validation report. Analytical results present in Table 1.6 and 4.6 of draft report should be revised to reflect correct phenanthrene and pyrene levels in SSHV-3.

Tentatively Identified Compounds found in surface soil samples should be further reviewed.

APPENDIX D
HISTORIC LITERATURE

HISTORIC LITERATURE
CONTENTS

THE SOIL CHEMISTRY OF HAZARDOUS MATERIALS

James Dragun, Ph.D.

Hazardous Materials Control Research Institute
Silver Spring, Maryland

Hawley's Condensed Chemical Dictionary

ELEVENTH EDITION

Revised by

N. Irving Sax
and
Richard J. Lewis, Sr.

VAN NOSTRAND REINHOLD
New York

STATE OF NEW YORK - DEPARTMENT OF HEALTH

INTEROFFICE MEMORANDUM

Note this memo for well information only.

TO: Gary Litwin

FROM: Rick Tuers (RET)

SUBJECT: Review of Draft Phase I Hebron Valle
Hebron, Washington County
Site ID #558016

DATE: December 4, 1987

6.0 Assessment of Data Adequacy and Recommendations

Groundwater Sampling - Wells in the immediate vicinity of the site are shallow dug wells. The well on the Swift residence should be sampled. Downgradient the Craig residence has a 200 foot well which is on Chamberlain Mills Road approximately 2000 feet west of the site that should be sampled.

Surface Water Sampling - The fuel tank base was immersed in surface water, and one sample should be taken there. Also, a sample should be taken in the area east of the main building where there is a small wet area with standing surface water. One sample should be taken above the dam and in Black Creek where it crosses under Tiplady Road.

Surfact Soil Sampling - Four soil samples should be taken. Two near the Charcoal Production Structures, one at the south of the main building by the drums, and one at the drums to the north of the main building.

Drum sampling - Sample several of the drums adjacent to Charcoal Production Structures. We got a slight reading from one of the drums. Also from the oil tank vent tank vent there was a reading 25-30 ppm. This tank contains approximately 200 gallons of fuel oil which was used to heat the Charcoal Production Structures.

jcg

cc: Mr. Tramontano

HV

HEBRON VALLEY PRODUCTS CORPORATION

CHAMBERLIN MILLS ROAD, RD 2, SALEM, NEW YORK 12865

June 5, 1987

New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

Attention: Mr. Charles P. Goddard, Chief
Bureau of Hazardous Waste Control
Division of Solid and Hazardous Wastes

Gentlemen:

This is in response to your letter of May 1, 1987 regarding waste material deposited at Hebron Valley Products Corporation #553016 site in Hebron, Washington County. Answers to the questions outlined in your letter are given below.

a. Hebron Valley Products Corporation was the only generator using this site.

b. The material stored at this site is derived from the vapors which are distilled from the hardwood feedstock during the production of lump charcoal. It consists mainly of condensed water-soluble compounds, generally known as wood creosote and also some heavier non-water-soluble wood tars. The material collected resulted from condensation in the piping associated with the charcoal production retorts. Most of the vapors generated in the charcoaling process were either burned in the process or were vented to the atmosphere. There are approximately 55 partially filled 50 gallon steel drums stored at the site.

c. The charcoal plant was in active operation from July 1965 through 1971. From 1972 through 1979 it operated on an intermittent and very limited basis, after which it was shut down.

d. Hardwood slabs from sawmill discard were sawed into 12 to 15 inch lengths and were elevated to the charging gates at the top of the two vertical steel charcoal retorts. After filling, the retorts were sealed and an auxiliary oil burner was lighted off to heat the wood and a circulating fan was started to pull the hot burner gases up through the wood in the retort. The hot gases gradually warmed the wood and distilled off the moisture and very light volatiles in the wood. When wood temperature reached about 300F the oil burner was shut down and the gases being distilled from the wood were used to further heat the wood. The heating was then continued over a period of 6 to 10 hours until a wood temperature of 600F was reached and practically all of the volatile matter had been distilled off, leaving the pure carbon charcoal residue. The retort was then tightly sealed to prevent further heating or combustion of the charcoal and the retort was then allowed to cool from 24 to 60 hours. The charcoal was then removed through the bottom gate of the retort, sized, seived and packaged for sale.

The creosote condensing in the vapor recirculating ducts associated with the circulating fan gradually accumulated at a low spot in the system and was periodically drawn off into a steel barrel in order to keep the ducts clear. When the barrel became full it was capped and moved to the storage site. A small amount of the creosote was sold for dipping fence posts and for use as a stain on farm building exteriors, but most of the production is still at the site.

e. There has been no testing or special monitoring of the site. The tops of perhaps half of the steel barrels have rusted through, allowing rain water to enter and mix with the lighter creosote compounds and to a degree allowing gradual leakage onto the ground and into the adjacent Black Creek. The heavier tars remain at the bottom of the barrels. We have no plans for testing or remedial action at present.

f. There are no known adverse health or environmental problems associated with the site. Adjacent vegetation has if anything been stimulated. The trout in Black Creek do not seem to have been affected. A growth of sumach bushes and vines covers the barrels so that they do not adversely affect the area's looks.
g. In the distillation of wood as many as 40 different compounds may be formed, depending on the type of wood being heated and the temperature at which the vapors are released from the wood. Since the creosote is partially effective as a fence post life extender, there is some slowing on the degradation of the wood. One customer for the creosote used it to paint his horse stalls to keep the horses from chewing on the boards lining the stalls, with no adverse effect on the horses. We believe the subject site is thus a relatively harmless one.

If we can be of further assistance in this matter kindly advise us.

Yours truly,

Charles D. Swift

Charles D.Swift
President

URS

AN INTERNATIONAL PROFESSIONAL SERVICES ORGANIZATION

URS COMPANY, INC.
CONSULTING ENGINEERS
570 DELAWARE AVENUE
BUFFALO, NEW YORK 14202
TEL: (716) 883-5525

NEW YORK
MONTVALE NJ
BUFFALO
ATLANTA
TAMPA
HATO REY PR
WASHINGTON DC
BOSTON
CLEVELAND
DENVER
DALLAS
SEATTLE
SAN FRANCISCO
SAN MATEO, CA

FILMED
URS Company

September 25, 1987

Mr. Charles D. Swift
RD 2 Box 132
Salem, New York 12865

JOB # _____

Dear Mr. Swift:

As discussed during our meeting on September 16, 1987, URS Company, Inc. is currently conducting a Phase I investigation of the Hebron Valley Products site located on Tiplady Road, Town of Hebron, Washington County, New York.

We are performing this investigation for the New York State Department of Environmental Conservation pursuant to the requirements of the New York State Superfund Law (Chapter 857 of the Laws of 1982).

The following information was provided during the site inspection and subsequent phone call on September 23, 1987:

- Charles D. Swift has owned and operated the on-site charcoal production facility (Hebron Valley Products) since about 1965. The facility ceased operation in 1979.

- The property, which is estimated at 1/4-1/2 acre in size, has been owned by Mr. Swift from about 1945 to present. Hebron Valley Products Corporation (a privately owned corporation) actually holds title to the property.

- Approximately fifty-five 50-gallon drums, which stored the liquid resulting from condensation during the charcoaling process, remain at the site. These drums were originally full to nearly-full; however, the majority of the drums are presently empty as a result of leakage. Approximately 1/3 of the drums still contain some liquid waste (as well as rainwater resulting from the open tops). A few of the drums containing ~~the liquid waste~~ are presently full of corn cobs. These were dry empty drums when filled with the corn cobs.

- The on-site drums were rusted; holes were visible in several; the top lids were missing from many; and several were observed laying on their sides. The drums are stored in piles on the unlined ground surface.

- One 1,000-gallon tank (which contained #2 fuel oil for the burning process of the operation) is currently on-site. The tank is positioned on its side and lies on the unlined ground surface. An estimated 200 gallons of the fuel oil remain in the tank. A slight oily film was observed on the small area of ponded water around the tank. There was no other apparent leaking from the tank (from the top and sides).

- The site is not fenced.

- The residences near the intersection of Chamberlin Mill Road and Tiplady Road use private wells for a sole source of water. There are no public water systems serving these houses.

We would appreciate if you would review this information, note any necessary corrections, and return a signed and dated copy to indicate your concurrence. Your prompt attention to this would be appreciated, as the information is necessary to complete our evaluation of the site.

Sincerely,

URS COMPANY, INC.

Linda J. Clark

Linda J. Clark
Project Geologist

LJC/bc
9/25/87L5
35154-01

I agree with the information as it is presented. (with minor additions as noted)

(Charles Donald Swift) 10/6/87

Charles D. Swift — Date

APPENDIX E
UPDATED REGISTRY FORM

47-15-25 (11/90)—9d

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

Original—BHSC
Copy—REGION
Copy—DEE
Copy—DOH
Copy—PREPARER

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

1. SITE NAME	2. SITE NO.	3. TOWN	4. COUNTY
Hebron Valley Products	558016	Hebron	Washington

5. REGION	6. CLASSIFICATION	7. ACTIVITY
5	Current 2A /Proposed ____	☐ Add ☐ Reclassify ☐ Delist ☐ Modify ____

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location). The Hebron Valley Products Corp. (HVPC) is located in a fairly flat lying area, with a gentle slope (about 1%) to the northwest. The site is bordered on the north by Black Creek and to the east by the Mill Pond. A thickly wooded area exists, to the west of the site. The site itself is predominantly covered with grass.

b. Quadrangle West Pawlet c. Site Latitude 43°15'15"N Longitude 73°18'43"W d. Tax Map Number 177

9a BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations) The Hebron Valley Products Corp. is a small inactive lump charcoal production facility located on Tiplady Rd. 200' south of its intersection with Chamberlain Mills Rd. Held by a privately-owned corp., the HVPC operation is part of an historical group of buildings owned by the Swift Family. The charcoal facility operated on a stretch of land about 200' long by 150' wide between the east side of Tiplady Rd. and the property's large pond.

b. Area about 0.5 acres c. EPA ID Number New d. PA/SI ☐ Yes ☐ No

e. Completed: ☒ Phase I ☒ Phase II ☐ PSA ☒ Sampling

10. BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE

Approximately 30 full drums (55 gallons each) of liquid condensate and wood tars.
Waste was disposed of during the site's period of activity -- between 1965 - 1979.

11a. SUMMARIZED SAMPLING DATA ATTACHED

☐ Air ☒ Groundwater ☒ Surface Water ☐ Soil ☐ Waste ☐ EP Tox ☐ TCLP.

b. List contravened parameters and values

SURFACE WATER (ug/L)

	SW-1	SW-2	SW-3
Aluminum	149	109	895
Iron	530	627	29900
Zinc	35	71.7	59.2

GROUND WATER (ug/L)

	GW-1	GW-2	GW-3	GW-4
Iron & Manganese	2530	11714	13330	5120

12. SITE IMPACT DATA

a. Nearest surface water: Distance 0 ft. Direction Northern boundary Classification Class C

b. Nearest groundwater: Depth 5 ft. Flow Direction North ☐ Sole Source ☐ Primary ☐ Principal

c. Nearest water supply: Distance 300 ft. Direction North Active ☐ Yes ☐ No

d. Nearest building: Distance 300 ft. Direction North Use Residence

e. Crops or livestock on site? ☐ Yes ☒ No

f. Exposed hazardous waste? ☐ Yes ☒ No

g. Controlled site access? ☐ Yes ☒ No

h. Documented fish or wildlife mortality? ☐ Yes ☒ No

i. Impact on special status fish or wildlife resource? ☐ Yes ☒ No

j. Within a State Economic Development Zone? ☐ Yes ☒ No

k. For Class 2a; Code ____ Health Model Score ____

l. For Class 2; Priority Category ____

m. HRS Score $S_m = 0.00$ S_{FE} N/S $S_{DC}=25.0$

n. Significant Threat ☐ Yes ____ ☐ No ☒ Unknown

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Charles D. Swift	RD 2, Box 132, Salem NY12865	(518 854-7291

16. PREPARER

Ira Bickoff, Staff geologist, YEC, Inc.
Name, Title and Organization

12-20-90
Date

Ira Bickoff
Signature

17. APPROVED

Name, Title and Organization

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2a REGION: 5 SITE CODE: 558016
EPA ID:

NAME OF SITE : Hebron Valley Products Corp.
STREET ADDRESS: Tiplady Rd.

TOWN/CITY:	COUNTY:	ZIP:
Hebron	Washington	12865

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 1 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Mr. Charles D. Swift
CURRENT OWNER ADDRESS.: RD.2 Box 132, Salem, NY
OWNER(S) DURING USE...:
OPERATOR DURING USE...:
OPERATOR ADDRESS.....:
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From To

SITE DESCRIPTION:
Small plant associated with a charcoal-making process, closed approx. 7-10 years ago. Roughly 200 steel drums were noted on the site, along with two towers and one long cylindrical tank.
This site was inspected under the Community Right-to-Know program. The plant is adjacent to a small pond and dam that is about 10-15 feet from the site. A Phase I study is complete. A Phase II study is planned.

.

HAZARDOUS WASTE DISPOSED: Confirmed- TYPE	Suspected-X QUANTITY (units)
Unknown	Unknown

SITE CODE: 558016

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater- Soil- Sediment-

CONTRAVENTION OF STANDARDS:
Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

Proposed- Under design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION:
SOIL TYPE: Shale seen at the ground surface
GROUNDWATER DEPTH:

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

More information is needed to properly evaluate this site.

ASSESSMENT OF HEALTH PROBLEMS:

Wastes consist of small amounts of creosote and tars and as such are not likely to cause an air release. Groundwater wells are in the area; however, they are separated from wastes by a creek which is likely a local groundwater discharge. The pending Phase II investigation will document the presence/absence of groundwater contamination.

MUNICIPAL WASTE ID:
ICS ID:
SPEDES ID:

APPENDIX F
PHOTODOCUMENTATION

PHOTODOCUMENTATION

(1) Looking at drums and pipe, view opposite Swift house

(2) A drum pile near a soil sampling point

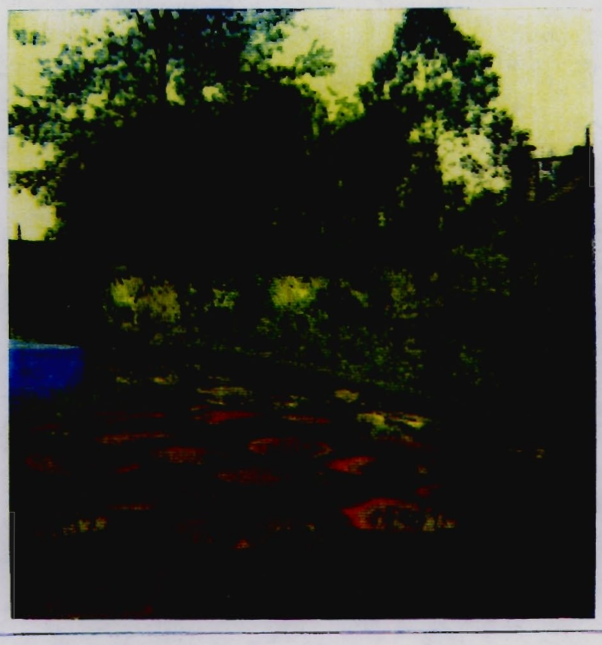
(3) Black Creek (Mill Pond), above the dam

(4) Looking at drum pile from Tipladys road

(5) Fuel tank (charcoal building in background)

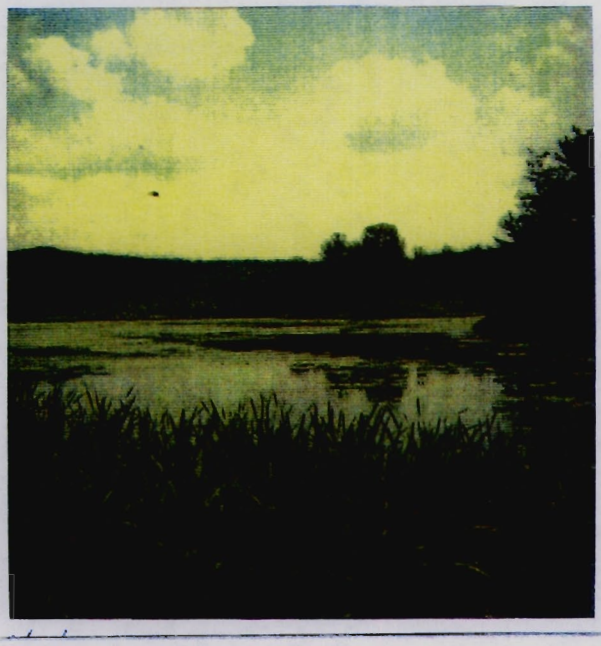
(6) Retorts and drum sampling point

1



2

3



4

5

6