

REPORT

SUPPLEMENTAL PHASE II INVESTIGATION

PENETREX SITE

GLENWOOD LANDING, NY

Prepared for:

Shea & Gould  
1251 Avenue of the Americas  
New York, NY 10020

Prepared by:

Blasland & Bouck Engineers, P.C.  
6800 Jericho Turnpike  
Suite 210W  
Syosset, NY 11791

FEBRUARY 1990

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## 1.0 INTRODUCTION

The purpose of this Supplemental Report is to respond to the New York State Department of Environmental Conservation's (NYSDEC) comments pertaining to Blasland & Bouck Engineers, P.C. (Blasland & Bouck) report entitled "Phase II Investigation, Penetrex Site, Glenwood Landing, New York, August 1989".

In a letter dated September 14, 1989 and addressed to Theodore W. Firetog, Esq. of Shea & Gould, New York, NY (Appendix 1). NYSDEC summarized their preliminary review of the above referenced report, and made the following comments:

1. The ground-water contour map (Figure 4) is incorrect. The actual direction of ground-water flow beneath this site (assuming that the ground-water elevations given in the Report are correct and useable) is at an angle greater than 30° to the north of the flow direction derived by Blasland & Bouck.
2. The site is located only a few hundred feet east of Hempstead Harbor. Therefore, it is extremely likely that the ocean tides influence the ground-water flow and quality at the site. These influences were not addressed by Blasland & Bouck. (For example, the contamination discovered in MW-1 may have come from an on-site source).
3. The site history is incomplete. For example, there is no mention of R&A Supply in the Report. This Company leased the former Penetrex complex after Penetrex left.

Accordingly, pursuant to Paragraph IV of the Order on Consent the Department hereby disapproves the aforementioned Report, and requires that you conduct a Supplemental Investigation as follows:

- 1a. Measure depth to ground water in each of the four monitoring wells on an hourly basis for an entire tidal cycle (approximately 13 hours). Each hourly set of measurements must be completed within a 10 minute time period.
- 2a. Re-develop the ground-water contours.
- 3a. Analyze the influences of the tides on ground-water flow at the site.
- 4a. Re-calculate the HRS Score.
- 5a. Submit a Supplemental Report which contains both the raw and reduced data. This report is due within 30 days of your receipt of this letter.

Upon receipt of the above mentioned letter, a meeting between Blasland & Bouck, Shea & Gould and NYSDEC to discuss these comments was arranged by Shea & Gould. The meeting took place on October 6, 1989 and the following Supplemental Scope of Work agreed upon:

- In order to determine tidal influences on ground-water flow at the site, water levels in all four wells would be monitored for at least

six hours. These hours would be one-hour before, during, and after both high and low tide;

- ground-water contour maps would be re-developed;
- the affects of tidal changes on ground-water flow at the site would be analyzed; and
- if necessary, based on the above, the HRS Scoring of the site would be re-calculated.

In addition, at this meeting, NYSDEC agreed to supply Shea & Gould and Blasland & Bouck with a copy of their records pertaining to the R&A Supply Company. It was then agreed that a Supplemental Report would be submitted to NYSDEC following receipt of the above mentioned records. On February 3, 1990 Shea & Gould received a copy of these records from NYSDEC and immediately forwarded a copy to Blasland & Bouck (Appendix II).

## 2.0 SUPPLEMENTAL INVESTIGATION

### 2.1 Site History

NYSDEC Comment - The site history is incomplete. For example, there is no mention of R&A Supply Company in the report. This company leased the former Penetrex complex after Penetrex left.

#### Response

A new site history, Section 2.0 of the report has been prepared and changed to read as follows:

Situated on the site is a two-story brick building which has been partitioned by two separate operations and owned and leased by K&W Associates, Roslyn, NY. The western half of the building is occupied by the Nameplate Manufacturing of America Company. The eastern portion of the building, currently occupied by an auto-body repair shop, was previously operated by the Penetrex Processing Company (Penetrex).

Penetrex operated at the site until August, 1984 and was a dry cleaning business that reportedly used standard dry cleaning solvents. Wastewater generated by Penetrex was allegedly discharged into an on-site drywell/cesspool prior to August 1984. In January 1985, R&A Supply Company occupied the site and was there until 1988. R&A Supply Company reportedly operated a business which distributed dry cleaning equipment. Results of soil samples collected on December 3, 1984 from the bottom of the drywell by

the Nassau County Department of Health (NCDH) detected tetrachloroethene, trichloroethene, 1,1-dichloroethene, 1,1,1-trichloroethane, trichlorofluoroethane and toluene. To comply with NYSDEC requirements, in July 1985, K&W Associates conducted a clean-up program at the site. The program consisted of the: removal of 2,300 gallons of liquid from the drywell; excavation of 13 cubic yards of soil from the bottom of the drywell; and the removal of one 30 gallon and four 55-gallon drums stored on-site in the parking lot. There is no empirical evidence to support the conclusion that ground water had been impacted by such discharges or clean up.

In May of 1989, Blasland & Bouck implemented the Phase II Work Plan (after giving proper notice to NYSDEC pursuant to paragraph IX of the Order) which included an air monitoring survey; the drilling of six soil borings; volatile organic screening of soil samples; installation of four monitoring wells; laboratory analysis of soil and ground-water samples; testing and evaluation of ground-water flow velocity, direction and hydraulic conductivity; characterization of potential contaminant sources and pathways; and the calculation of a Hazard Ranking System (HRS) score for the site.

## **2.2 Ground-water Flow**

NYSDEC Comment - The ground-water contour map (Figure 4) is incorrect. The actual direction of ground-water flow beneath this site (assuming that the ground-water elevations given in the Report are correct and useable) is at an angle greater than 30° to the north of the flow direction derived by Blasland & Bouck.

NYDEC Comment - The site is located only a few hundred feet east of Hempstead Harbor. Therefore, it is extremely likely that the ocean tides influence the ground water flow and quality at the site. These influences were not addressed by Blasland & Bouck. (For example, the contamination discovered in MW-1 may have come from an on-site source).

Response

Both of the above mentioned comments will be addressed by this response. On October 16, 1989, two days after the full moon (Appendix III), the time period when tidal changes are at their greatest, Blasland & Bouck measured water levels in all four monitoring wells at the site. Water-levels were measured every half hour for the first two-hours, starting at one-hour before high tide (Appendix III) and continued to measure water levels on an hourly basis thereafter for the next six-hours, ending one hour after low tide. All water-level measurements were recorded in the field book and are provided in Table 1 of this report.

The maximum changes in water-table elevations in each monitoring well are as follows:

MW-1 - 0.02 ft.

MW-2 - 1.00 ft.

MW-3 - 0.33 ft.

MW-4 - 0.30 ft.



From these water-level measurements four ground-water contour maps were compiled (Figures 1-4). These maps were produced to reflect changes in ground-water flow direction during the time periods of highest and lowest water-table elevations and also at time intervals leading up to these conditions.

The maps indicate that tidal changes have a very minor influence on the ground-water flow direction at the site. On all occasions, however, the ground-water flow direction is to the northwest. The hydraulic gradient at the site is also affected by tidal changes, though to a very minor extent. In Figure 2 (time of highest water-table elevations) the average hydraulic gradient is 0.02, while on Figure 4 (time of lowest water-table elevations) the average hydraulic gradient is 0.03.

Based on this data there is no evidence that shows any indications of a ground-water flow direction reversal at the site due to tidal influences. Therefore it can be concluded that monitoring well MW-1 is always an upgradient well and would not be affected by any alleged discharge of contaminants into drywell DW-1.

### 3.0 DETERMINATION OF DIRECT RELEASE TO GROUND WATER

In addition to the comments and concerns raised by NYSDEC in regard to the Phase II Investigation report, Blasland & Bouck was requested on behalf of its client to determine if the contaminants detected in the shallow soil sample (SB-5, 0-1 ft.) collected in drywell DW-3 have migrated downward and reached ground water.

During the investigation, a soil sample was collected in drywell DW-3. This sample was collected at a depth of 0-1 ft. below the soil surface in the drywell. Analytical results for this sample showed the presence of total volatile organic compounds (TVOCs) at 889.6 ppm, with total petroleum hydrocarbons (TPH) at 830 ppm. In addition to the TVOCs and TPH, total petroleum hydrocarbons were detected at 2,750 ppm.

*Did the DEC get a split sample of this sample showing 0.077 ppm of total VOCs?*

sample was collected in drywell DW-3. This sample was collected at a depth of 0-1 ft. below the soil surface in the drywell. Analytical results for this sample showed the presence of total volatile organic compounds (TVOCs) at 889.6 ppm, with total petroleum hydrocarbons (TPH) at 830 ppm. In addition to the TVOCs and TPH, total petroleum hydrocarbons were detected at 2,750 ppm.

In order to determine if these compounds have migrated to the water table (approximately 10.5 ft. below grade) on October 26, 1989 Blasland & Bouck collected a deeper soil sample in the above mentioned drywell. This soil sample was collected by use of a stainless steel hand auger from 6.0-6.5 ft. below grade (1.75-2.25 ft. below the original sample). Laboratory analysis of this sample detected total VOCs at 0.077 ppm, this is well below the level of concern of 1.0 ppm as stipulated in the consent order. The concentration of total petroleum hydrocarbons in this sample was reported at 707 ppm, although this is above the level of concern of 100 ppm, total petroleum

hydrocarbons have not been detected in any of the ground water samples. A copy of the laboratory report is provided as Appendix IV.

From this sampling it has been shown that the level of VOCs in the soils in this drywell decrease by several orders of magnitude within a short interval, even so as to classify them as below the level of concern for this study. Therefore it has been proven that there is no evidence of a direct release of contaminants to the ground-water beneath the site from this drywell.

#### 4.0 CONCLUSIONS

- Ground-water flow direction beneath the site is to the northwest,
- the hydraulic gradient at the site varies from 0.02 to 0.03 from high to low tide respectively,
- Tidal influences on the ground-water flow direction at the site are negligible and do not create flow direction reversals,
- monitoring well MW-1 is at all times an upgradient well,
- there has been no direct release of volatile organic compounds or total petroleum hydrocarbons to ground water from the soils in drywell DW-3, and
- based on all the above, there is no new evidence that would justify the re-calculation of the HRS Scoring for this site.



## **Tables**

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TABLE 1

Summary of Water-Level Measurements  
 Penetrex Site, Glenwood Landing, NY

October 16, 1989

<u>Well #</u>	<u>Elev. M.P. 1)</u>	<u>DTW2)</u>	<u>Time</u>	<u>Elev. W.T. 1)</u>	<u>DTW2)</u>	<u>Time</u>	<u>Elev. W.T. 1)</u>	<u>DTW2)</u>	<u>Time</u>	<u>Elev. W.T. 1)</u>
MW-1	31.02	*	*	*	19.02	12:00	12.00	19.00	12:32	12.02
MW-2	20.81	11.55	11:31	9.26	11.47	12:06	9.34	11.40	12:33	9.41
MW-3	20.79	10.14	11:34	10.65	10.13	12:07	10.66	10.09	12:35	10.70
MW-4	21.42	10.60	11:38	10.82	10.56	12:08	10.86	10.54	12:37	10.88
MW-1	31.02	19.00	13:02	12.02	19.01	13:30	12.01	19.00	14:30	12.02
MW-2	20.81	11.34	13:03	9.47	11.29	13:33	9.52	11.27	14:34	9.54
MW-3	20.79	10.06	13:05	10.73	10.05	13:35	10.74	10.05	14:35	10.74
MW-4	21.42	10.51	13:06	10.91	10.49	13:37	10.93	10.46	14:37	10.96
MW-1	31.02	19.00	15:30	12.02	19.00	16:30	12.02	19.00	17:30	12.02
MW-2	20.81	11.39	15:33	9.42	11.70	16:34	9.11	11.99	17:33	8.82
MW-3	20.79	10.10	15:35	10.69	10.20	16:36	10.59	10.30	17:35	10.49
MW-4	21.42	10.49	15:37	10.93	10.55	16:37	10.87	10.62	17:37	10.80
MW-1	31.02	19.00	18:25	12.02	19.00	19:33	12.02			
MW-2	20.81	12.15	18:27	8.66	12.27	19:35	8.54			
MW-3	20.79	10.35	18:28	10.44	10.38	19:37	10.41			
MW-4	21.42	10.68	18:30	10.74	10.73	19:40	10.69			

Note:

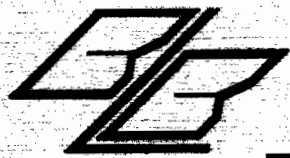
M.P. - Measuring point (top of PVC casing)

1) - In feet relative to N.G.V.D.

2) - Feet below land surface

\* - Well access blocked by parked car

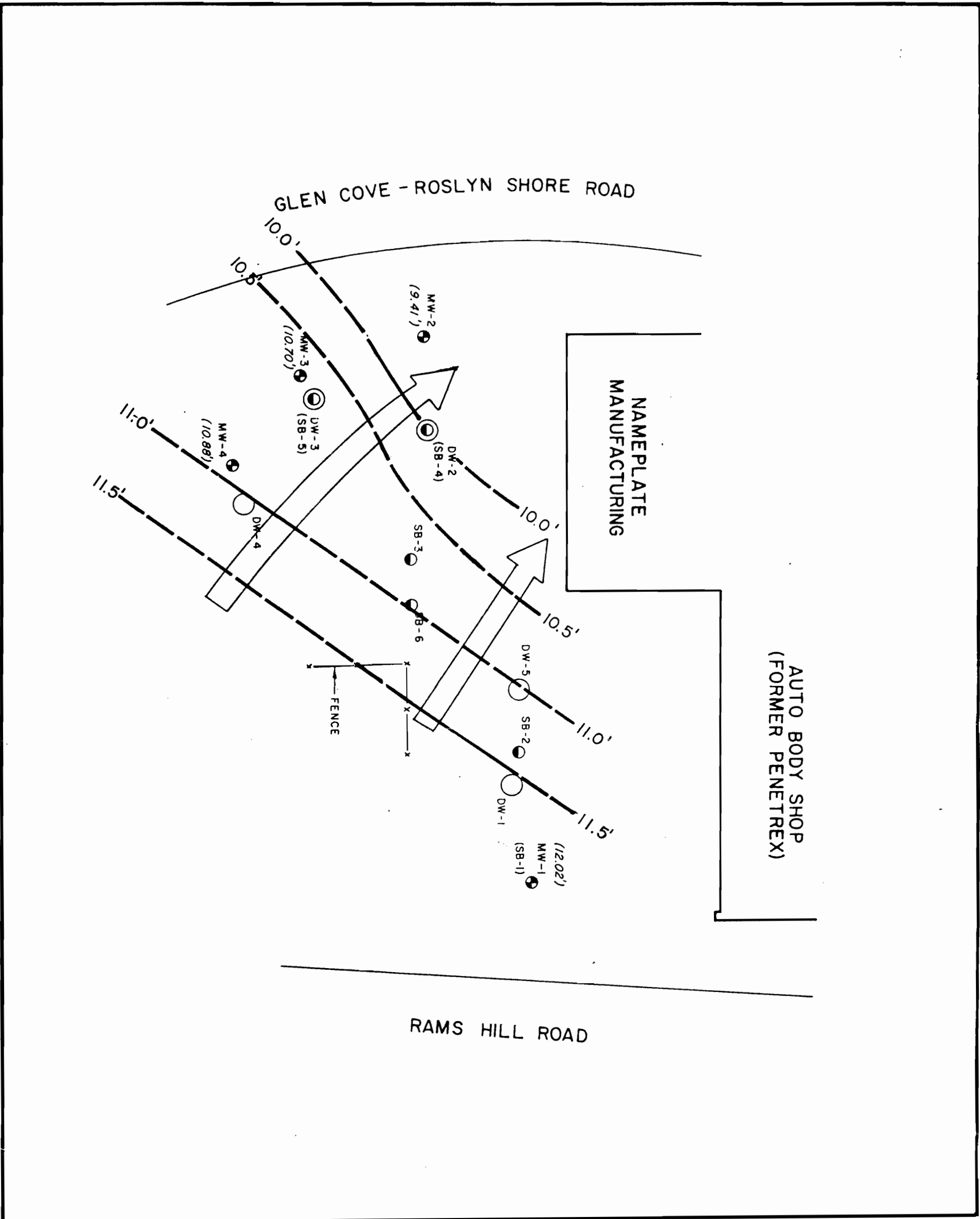
High tides for this day were at 12:35 a.m. and 12:37 p.m.



## **Figures**

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FIGURE 1



**LEGEND**

- DRY WELL
- SOIL BORING
- ⊕ MONITORING WELL
- (12.02') GROUND-WATER ELEVATION (NGVD)
- GROUND-WATER CONTOUR LINE
- - - DASHED WHERE INFERRED
- ➔ DIRECTION OF GROUND-WATER FLOW

K & W ASSOCIATES  
 GLENWOOD LANDING, NEW YORK

GROUND-WATER CONTOUR MAP  
 OCTOBER 16, 1989  
 (TIME 12:32-12:37)

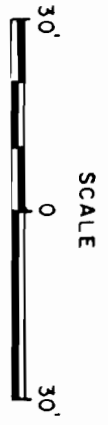
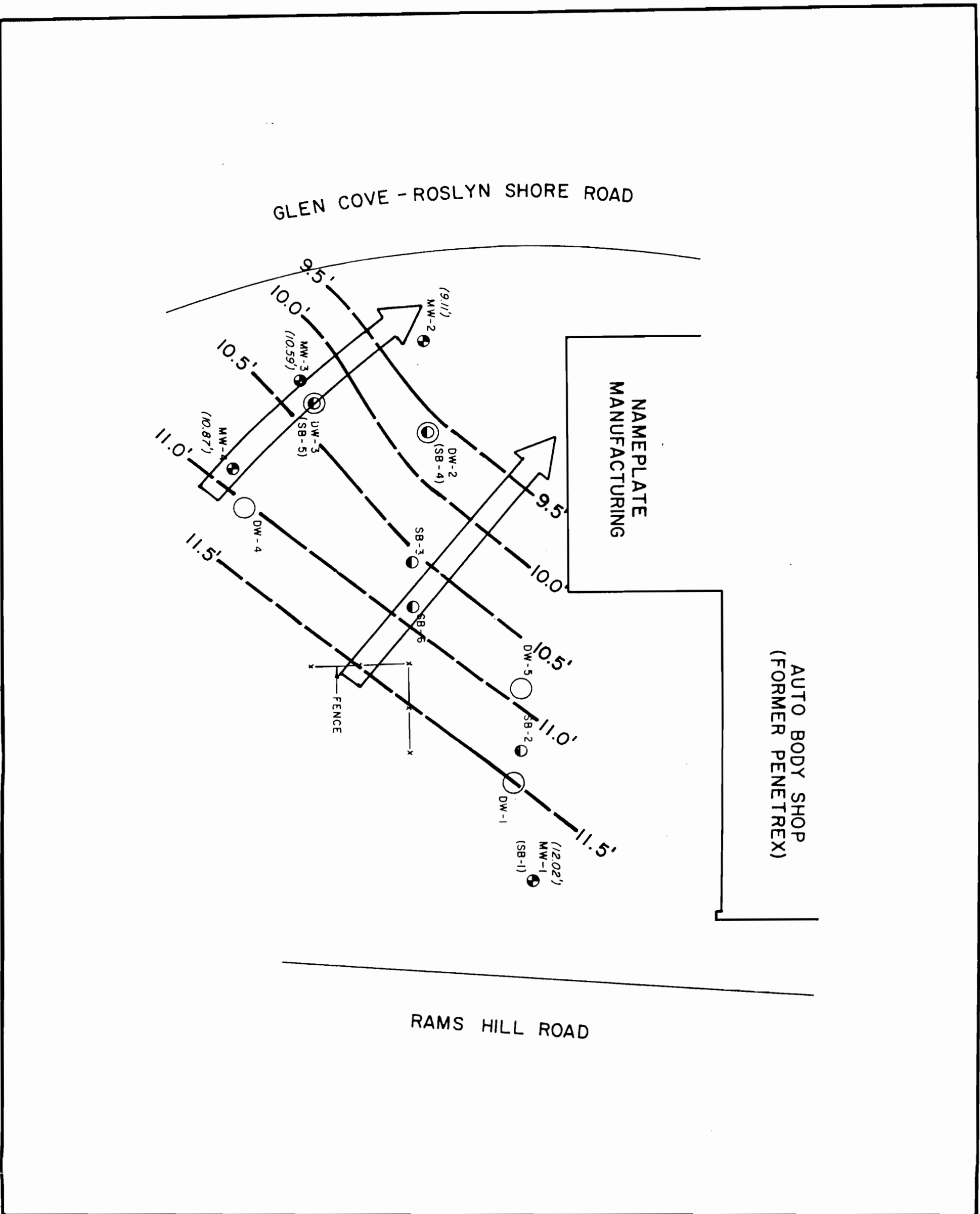




FIGURE 3



**LEGEND**

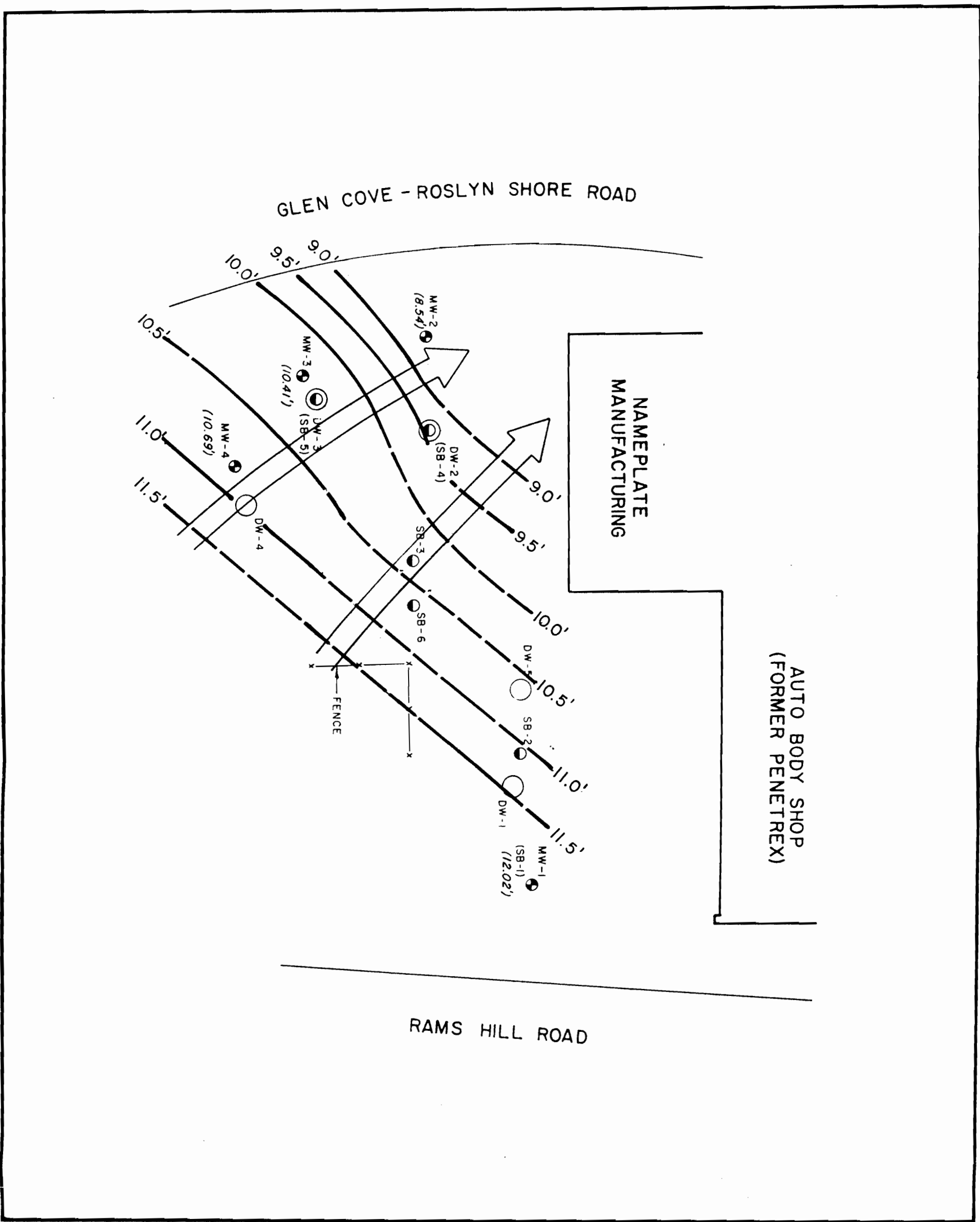
- DRY WELL
- SOIL BORING
- ⊕ MONITORING WELL
- 11.5' ——— GROUND-WATER ELEVATION (NGVD)
- GROUND-WATER CONTOUR LINE, DASHED WHERE INFERRED
- ➔ DIRECTION OF GROUND-WATER FLOW

K & W ASSOCIATES  
 GLENWOOD LANDING, NEW YORK

GROUND-WATER CONTOUR MAP  
 OCTOBER 16, 1989  
 (TIME 16:30-16:37)



FIGURE 4



LEGEND

- DRY WELL
- SOIL BORING
- ⊕ MONITORING WELL

11.5' ——— GROUND-WATER ELEVATION (NGVD)  
- - - - - GROUND-WATER CONTOUR LINE, DASHED WHERE INFERRED

↓  
DIRECTION OF GROUND-WATER FLOW

K & W ASSOCIATES  
GLENWOOD LANDING, NEW YORK

GROUND-WATER CONTOUR MAP  
OCTOBER 16, 1989  
(TIME 19:33-19:40)

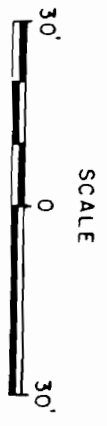
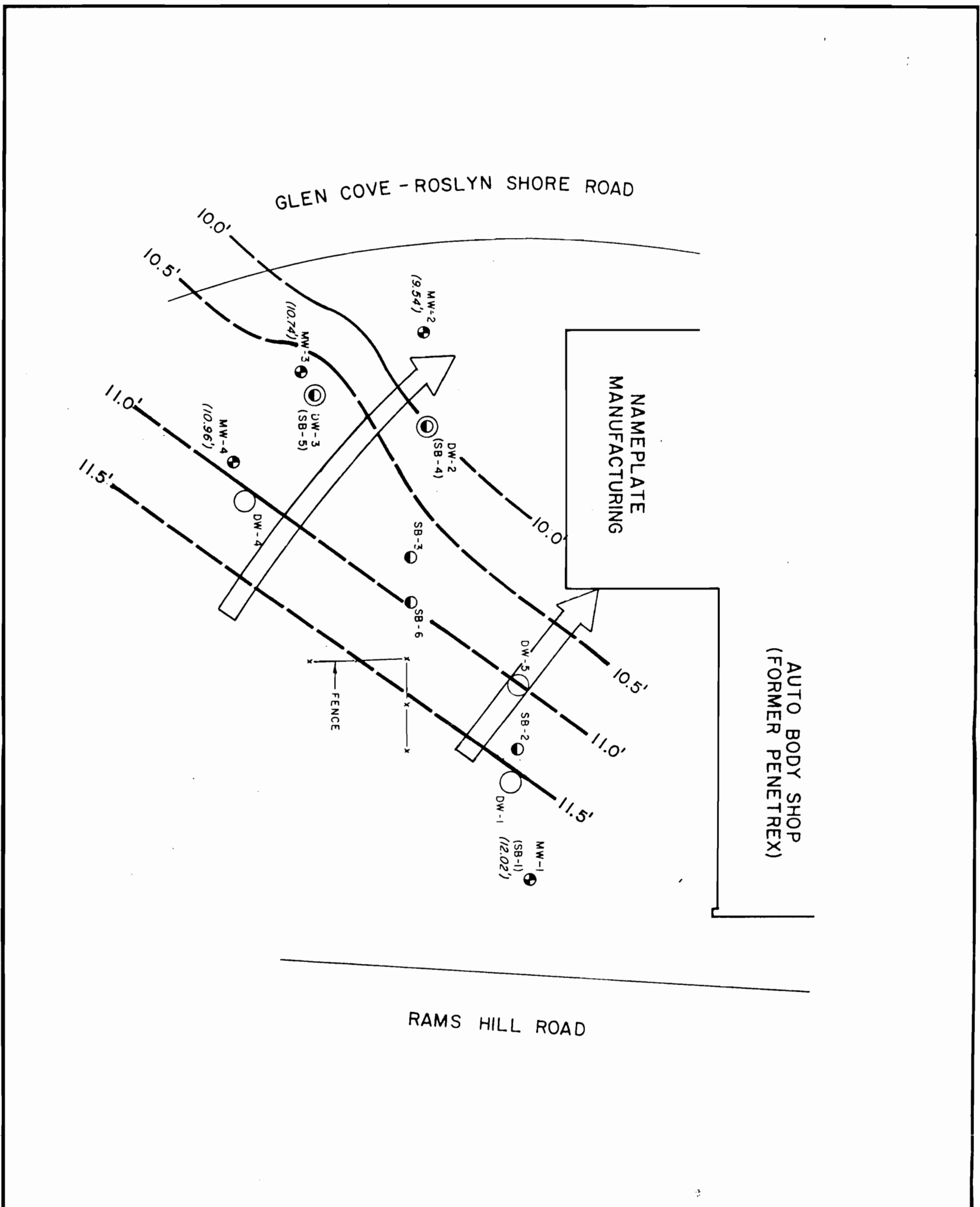


FIGURE 2



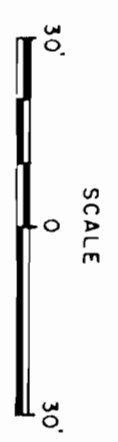
**LEGEND**

- DRY WELL
- SOIL BORING
- ⊕ MONITORING WELL

- GROUND-WATER ELEVATION (NGVD)
- - - - GROUND-WATER CONTOUR LINE DASHED WHERE INFERRED
- DIRECTION OF GROUND-WATER FLOW

K & W ASSOCIATES  
 GLENWOOD LANDING, NEW YORK

GROUND-WATER CONTOUR MAP  
 OCTOBER 16, 1989  
 (TIME 14:30-14:37)





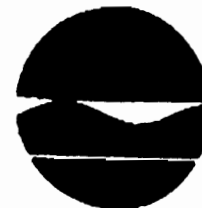
## **Appendices**

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APPENDIX I  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION LETTER - SEPTEMBER 14, 1989

**New York State Department of Environmental Conservation**

Div. of Environmental Enforcement  
202 Mamaroneck Avenue - Room 304  
White Plains, N.Y. 10601-5381  
Tel:(914)761-6660



**Thomas C. Jerling**  
Commissioner

**CERTIFIED MAIL/RRR**

**September 14, 1989**

**Theodore W. Firetog, Esq.**  
Shea & Gould  
1251 Avenue of the Americas  
New York, New York 10020

**Re: K & W Associates**  
**Penetrex Processing Site**  
**Registry No. 1-30-034**

**Dear Mr. Firetog:**

The Department has conducted a preliminary review of the Field Investigation Report on the ongoing Phase II Investigation at the above referenced site. There are several major problems with this Report:

1. The groundwater contour map (Figure 4) is incorrect. The actual direction of groundwater flow beneath this site (assuming that the groundwater elevations given in the Report are correct and useable) is at an angle greater than 30° to the north of the flow direction derived by Blasland & Bouck.
2. The site is located only a few hundred feet east of Hempstead Harbor. Therefore, it is extremely likely that the ocean tides influence the groundwater flow and quality at the site. These influences were not addressed by Blasland & Bouck. (For example, the contamination discovered in MW-1 may have come from an on-site source.)
3. The site history is incomplete. For example, there is no mention of R & A Supply in the Report. This Company leased the former Penetrex complex after Penetrex left.

Accordingly, pursuant to Paragraph IV of the Order on Consent the Department hereby disapproves the aforementioned Report, and requires that you conduct a Supplemental Investigation as follows:

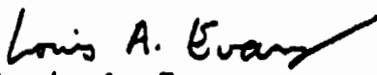
- 1a. Measure depth to groundwater in each of the four monitoring wells on an hourly basis for an entire tidal cycle (approximately 13 hours). Each hourly set of measurements must be completed within a 10 minute time period.

September 14, 1989

- 2a. Re-develop the groundwater contours.
- 3a. Analyze the influences of the tides on groundwater flow at the site.
- 4a. Re-calculate the HRS Score.
- 5a. Submit a Supplemental Report which contains both the raw and reduced data. This Report is due within 30 days of your receipt of this letter.

Pursuant to Paragraph V of the Order on Consent, R & W Associates has fifteen days to request an informal conference regarding the disapproval of the Report. Please contact me if you wish to arrange for such a conference.

Very truly yours,

  
Louis A. Evans,  
Associate Attorney

LAE/jl

cc: John Barnes  
John Swartout  
Bill Gilday  
Dick Dana

APPENDIX II  
RECORDS ON R&A SUPPLY COMPANY



New York State Department of Environmental Conservation

Division of Environmental Enforcement  
202 Mamaroneck Avenue Room 304  
White Plains, N.Y. 10601-5381  
Telephone: (914)761-3575



Thomas C. Jorling  
Commissioner

February 9, 1990

Theodore W. Firetog  
Shea & Gould  
1251 Avenue of the Americas  
New York, New York 10020-1193

Re: R & W ASSOCIATES PENETREX  
SITE # 1-30-034

Dear Mr. Firetog:

In response to your letter of February 5, 1990 to Louis A. Evans, please find enclosed a copy of the Report from Cambridge Analytical Associates for DEC sample No. P-386-C24-01. This sample was taken on December 2, 1986 from the onsite sanitary cesspool used by R & A Supply Company. Please note the following corrections:

- 1) The "test code" on page 1 of the lab report should read "V-624 W" rather than "V-624 S". The constituents that were analyzed for do, in fact, correspond to those contained in EPA Method 624.
- 2) The description of the sample as "waste/soil" resulted from a laboratory logging error.

Very truly yours,

Rosalie K. Rusinko  
Legal Intern

LE-VIII-53/jg

Encl.

**R E P O R T T O**

**NYSDEC  
Room 317  
50 Wolf Road  
Albany, New York 12233-0001  
Attn: Mr. Jack Ryan**

**Work ID: P-186-C24-01  
P.O. No.: C001299  
Work Order: 86-12-043**

**Cambridge Analytical Associates  
Environmental Division  
1106 Commonwealth Avenue  
Boston MA 02215**

**RECEIVED**

**JAN 2 1987**

**NYSDEC  
WHITE PLAINS  
D.E.E**



Received: 12/05/86

REPORT

Work Order # 86-12-043

12/17/86 13:32:49

REPORT NYSDEC  
TO Room 317  
50 Wolf Road  
Albany, New York 12233-0001  
ATTEN Mr. Jack Ryan

PREPARED Cambridge Analytical Assoc.  
BY Environmental Division  
1106 Commonwealth Avenue  
Boston, MA 02215  
ATTEN  
PHONE 617-232-2207

*E.J. Shea*  
CERTIFIED BY

CLIENT NYSDEC SAMPLES 1  
COMPANY NYSDEC  
FACILITY Bur. of Tech. Services & Res.

CONTACT MCGRATH

WORK ID P-186-C24-01  
TAKEN By Todd Ghioneay  
TRANS By Federal Ex. #182815426  
TYPE Environmental  
P.O. # C001299  
INVOICE under separate cover

This report is approved for release by the following staff:  
Laboratory Director: *D. J. ...*  
Inorganic Laboratory: *Thomas A. ...*  
Organic Laboratory: *Thomas A. ...*

SAMPLE IDENTIFICATION  
01 P-186-C24-01

TEST CODES and NAMES used on this report  
Y624 & VOC-waste/soil SW-846/8240





Received: 12/05/86

REPORT  
12/17/86 13:32:49

Work Order # 86-12-043

NYSDEC

**SAMPLE RECEIPT AND CHAIN OF CUSTODY**

Upon receipt, the custody seals and evidence tape for this shipment were examined. All applicable seals and evidence tape were found to be in place and intact.

Volatile Organics (EPA SW-846/8240)  
Surrogate Spike Recovery Summary  
CAA Work Order # 86-12-043

**Percent Recovery**

NYSDEC Sample ID	SS1	SS2	SS3
P-186-C24-01	104	96	110

SS1= d4-1,2-Dichloroethane SS2= d8-Toluene SS3= 4-Bromofluorobenzene



APPENDIX III  
TIDAL CHART



**TODAY: PARTLY SUNNY AND WARM, HIGHS MID-70s**

For complete local, national and foreign weather information, call Newday Weather Team at 1-800-370-8212. 75¢ for the first minute, 50¢ for each additional minute.

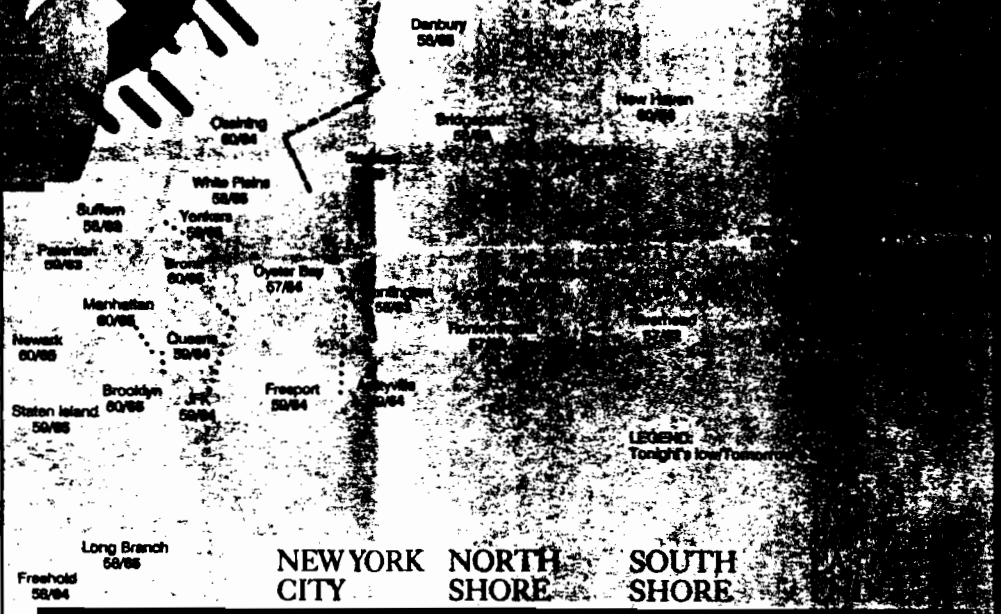
**LMANAC**

**Barometer:** as of 7 p.m.: high, 30.12, 11 a.m.; low, 30.01, 6 p.m.  
**Temperature:** as of 7 p.m. at Central Park: high 69, low 57, mean 63. Last year: high 53, low 37, mean 45. Normal: high 67, low 51, mean 59.  
**Degree Days:** Heating: Yesterday, 2; this month, 104. Since July 1, 199. Last season, 146. Normal, 98. Cooling: Yesterday, 0.  
**Precipitation:** Yesterday, 0 inches. Total so far this month, 1.27 inches. Normal for the month, 3.41 inches.  
**Humidity:** as of 7 p.m. High, 90%, 7 a.m. Low, 33%, 3 p.m.  
**Air Quality:** Today: good. Tomorrow: good.  
**About the Garden:** Roses or other special shrubs you have should be wrapped with burlap this month for winter protection.

**Sunset 6:11 p.m. Sunrise 7:05 a.m.**  
**Moon rises today 7:07 p.m., sets tomorrow 10:50 a.m., rises 7:55 p.m.**

	Full moon Oct. 14		New moon Oct. 29
	Last qtr. Oct. 21		First qtr. Nov. 5

**Venus rises 11:12 a.m., sets 6:08 p.m., Mars rises 6:41 a.m., sets 5:58 p.m.; Jupiter rises 10:38 p.m., sets 1:23 p.m.; Saturn rises 1:09 p.m., sets 10:25 p.m.**



TONIGHT	Increasing clouds, near 60.	Increasing clouds, 55-60.	Increasing clouds, 55-60.
TOMORROW	Showers likely, high 60-65.	Showers likely, high 60-65.	Showers likely, high 60-65.
YESTERDAY (as of 7 p.m.)	High, 69; low, 57.	High, 66; low, 58.	High, 66; low, 56.

**Cond.:** Tonight: increasing clouds, 55-60; Tomorrow: showers likely, 60-65. N.J.: Tonight: increasing clouds, 55-60.

ON THE WATER (For Tomorrow)	Sandy Hook-Sheepshead Bay	North Shore	South Shore	East River
WIND	SSW, 8-12 knots	SSW, 6-12 knots	SSW, 7-14 knots	SSW, 7-14 knots
SEAS	1 foot	1 foot	1-2 feet	1-2 feet
TEMP.	Air: 67 Water: 65	Air: 67 Water: 65	Air: 65 Water: 65	Air: 65 Water: 65
VISIBILITY	1-3 miles	1-3 miles	1-3 miles	1-3 miles

**TIDES**

High Tides For:	MON.	TUE.	WED.	THUR.	FRI.	SAT.	SUN.
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.
Anchovy	11:41	— 12:38	12:30	1:31	1:22	1:57	2:20
Bay Shore	11:28	11:55	— 12:17	12:48	1:08	1:44	2:07
East Rockaway Inlet	10:02	10:29	10:51	11:22	11:43	— 12:18	12:41
Fire Island Inlet	8:42	9:09	9:31	10:02	10:23	10:58	11:21
Freeport	9:58	10:25	10:47	11:18	11:39	— 12:14	12:37
Greenport	11:53	— 12:27	12:48	1:20	1:57	2:30	2:58
Hempstead Harbor	12:25	12:37	1:16	1:26	2:08	2:21	3:12
Huntington	12:24	12:42	1:16	1:34	2:09	2:27	3:07
Jones Inlet	9:01	9:28	9:50	10:21	10:42	11:17	11:40
Mastic Beach	12:26	12:48	1:16	1:37	2:06	2:29	3:04
Mattituck Point	12:26	12:44	1:18	1:36	2:11	2:29	3:09
Montauk Point	9:36	10:10	10:26	11:03	11:20	— 12:03	12:19
Monches Inlet	8:24	8:51	9:13	9:44	10:05	10:40	11:03
New Suffolk	12:50	1:15	1:49	2:05	2:42	2:59	3:42
Nesqueague River	12:18	12:36	1:10	1:28	2:03	2:21	3:01

High Tides For:	MON.	TUE.	WED.	THUR.	FRI.	SAT.	SUN.
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.
Oyster Bay	12:29	12:47	1:21	1:39	2:14	2:32	3:12
Patchogue	12:21	12:43	1:19	1:32	2:03	2:24	2:59
Port Jefferson	12:24	12:42	1:16	1:34	2:09	2:27	3:07
Port Washington	12:35	12:47	1:26	1:38	2:18	2:31	3:22
Bag Harbor	11:48	— 12:22	12:38	1:15	1:32	2:16	2:31
Shinnecock Inlet	8:30	8:57	9:19	9:50	10:11	10:46	11:09

**Black water after high tide**

High Tides For:	MON.	TUE.	WED.	THUR.	FRI.	SAT.	SUN.
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.
East Rockaway Inlet	11:07	11:34	11:56	— 12:27	12:48	1:23	1:46
Fire Island Inlet	11:32	11:59	— 12:21	12:52	1:13	1:48	2:11
Jones Inlet	10:21	10:48	11:10	11:41	— 12:02	12:37	1:00
Montauk Point	11:36	— 12:10	12:26	1:03	1:20	2:03	2:19
Monches Inlet	11:09	11:36	11:58	— 12:29	12:50	1:25	1:48
Shinnecock Inlet	11:00	11:27	11:49	— 12:20	12:41	1:16	1:39

APPENDIX IV

LABORATORY REPORT FROM SUPPLEMENTAL DRYWELL SAMPLING



# ENVIRONMENTAL CONSULTING LABORATORIES, INC.

THE COLLEGE PLAZA • 51 COLLEGE STREET • NEW HAVEN, CT 06510 • (203) 776-9624  
149 DURHAM ROAD • MADISON, CT 06443 • (203) 245-7039

Blasland & Bouck Engineers, P.C.  
6800 Jericho Turnpike  
Syosset, N.Y 11791

ATTENTION Mr. Joe Burns

Report Date: Nov. 6, 1989  
Report Number: M89-1368  
Page 1 of 3

Project: Penetrex, Glenwood Landry  
Sample Type: Soil  
Collected By: Client  
Date Received: October 30, 1989

Client I.D.: DW-3  
Sample No.: 89-4487 Analysis Date

## Parameter

Total Petroleum Hydrocarbons (Wet weight basis) (Units in mg/Kg) 707 11/6/89

Method 8020 - Aromatic Volatile Organics (Units in ppb) 11/6/89

Benzene <1.0  
Chlorobenzene <1.0  
1,2-Dichlorobenzene <1.0  
1,3-Dichlorobenzene <1.0  
1,4-Dichlorobenzene <1.0  
Ethyl benzene <1.0  
Toluene <1.0  
m-Xylene <1.0  
o-Xylene <1.0  
p-Xylene <1.0

Client I.D.:  
Sample No.:

DW-3  
89-4487

Analysis  
Date

Parameter

Method 8010 - Halogenated  
Volatile Organics (Units in ppb) 11/3/89

Benzyl Chloride	<1.0
Bis (2-chloroethoxy)-methane	<1.0
Bis (2-chloroisopropyl) ether	<1.0
Bromobenzene	<1.0
Bromodichloromethane	<1.0
Bromoform	<1.0
Bromomethane	<1.0
Carbon Tetrachloride	<1.0
Chloroacetaldehyde	<1.0
Chloral	<1.0
Chloroethane	<1.0
Chloroform	<1.0
1-Chlorohexane	<1.0
2-Chloroethyl vinyl ether	<1.0
Chloromethane	<1.0
Chloromethyl methyl ether	<1.0
Chlorotoluene	<1.0
Dibromochloromethane	<1.0
Dibromomethane	<1.0
Dichlorodifluoromethane	<1.0
1,1-Dichloroethane	<1.0
1,2-Dichloroethane	<1.0
1,1-Dichloroethylene	13.1
trans-1,2-Dichloroethylene	<1.0
1,2-Dichloropropane	<1.0
trans-1,3-Dichloropropylene	<1.0
Methylene Chloride	<1.0

Client I.D.: DW-3  
Sample No.: 89-4487

Parameter

Method 8010 - continued (Units in ppb)

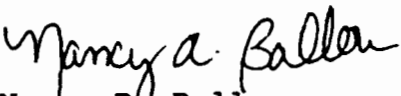
1,1,2,2-Tetrachloroethane	<1.0
1,1,1,2-Tetrachloroethane	<1.0
<b>Tetrachloroethylene</b>	<b>24.2</b>
1,1,1-Trichloroethane	<1.0
1,1,2-Trichloroethane	<1.0
<b>Trichloroethylene</b>	<b>40.0</b>
Trichlorofluoromethane	<1.0
Trichloropropane	<1.0
Vinyl Chloride	<1.0

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Atomic Spectroscopy  
Sharon McNeese

Gas Chromatography  
Nancy R. Ballou

REPORT PREPARED BY:

  
Nancy R. Ballou  
Laboratory Supervisor

REPORT CERTIFIED BY:

  
David C. Barris  
Laboratory Director