



Reynolds Channel Interim Subsurface Investigation Report

Prepared for: New York State Department of Environmental Conservation
Region II Office of Spill Response
Spill Number 95--03609
Pin # SP-94249
Stony Brook, NY

Submitted By: Milro Associates, Inc.
41 Hanse Avenue
Freeport, NY 1520

Date Submitted: February 17, 1997



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1.0 EXECUTIVE SUMMARY

On December 17, 1996, Milro Associates, Inc. mobilized to the former oil terminal located at Quebec Rd, Island Park to perform a limited subsurface investigation to delineate the extent of soil contamination and free product beneath the subject property. To accomplish the objectives of this investigation, 75 soil samples were collected and screened in the field. The soil samples were spaced at a 25 foot grid interval to map out the contamination. In addition, two product/groundwater samples were collected and analyzed by the NYSDOH 310.13 Fingerprint Analysis Method.

The soils beneath this site are comprised of artificial fill, medium to fine sands overlying tidal marsh deposits, followed by medium to fine sands. Groundwater was encountered at approximately three feet below surface grade. Groundwater flow is presumed to move radially towards the two waterways, which form the southern and western boundaries.

The preliminary results of the field activities suggest that there is approximately a five foot interval of soils, between three to eight feet below grade that is impacted with petroleum product, covering approximately 15,100 square feet or 75,500 cubic feet of soil. This contaminate interval intersects the groundwater surface and extends to the tidal marsh deposits where the contamination appears to lessen with depth. This is evidenced by both field measurements and PID measurements. The fingerprint analysis indicates that there is a good match of this product with weathered #2 fuel oil.

Based on the data thus far collected, we have identified data gaps in the soil program that may warrant further investigation to meet the NYSDEC's objective to determine the extent of soil contamination. Therefore, we would recommend additional soil borings be sited at the periphery of the site to assess if the adjacent properties are being impacted by the contamination. From the north, east, and south property lines, we would further recommend that additional borings be sited inwards, towards the known areas of contamination. More specifically, we would target the contaminate interval to investigate the areas north, south, and east of the existing boring locations. Additionally, we would increase the grid spacing to cover a larger area. We anticipate that the additional boring investigation could be completed within one to two days. Additionally, we would suggest that at least three groundwater monitoring wells be installed to better determine the groundwater flow direction, utilized to perform free product estimations, and used for product recovery efforts.

The field data suggests that the discussed bio-pile is an appropriate and effective technology for this site. However, after a review of the NYSDEC STARS MEMO #2, the biopile design is limited to 100 yards. Based on the estimated volume of soil requiring treatment and the required treatment area, the remedial efforts would in all likelihood require a phased approach and target the black contaminated layer encountered at the three and half to four and a half foot interval. Contaminated soils would need to be excavated, the hole backfilled and compacted, followed by creation of the bio-pile. In addition, we would suggest that the areas adjacent to the water ways be sealed off by a series of recovery trenches, lined with geotextiles or sorbent, sheet piles or other technology to prevent any free product from entering these adjacent waters.

2.0 INTRODUCTION

Milro Associates, Inc. was retained by the New York State Department of Environmental Conservation (NYSDEC), Petroleum Spill Response Unit to conduct a limited subsurface soil sampling program at a former oil terminal, Reynolds Channel, Island Park, Nassau County, New York (Figure 1). The NYSDEC requested this environmental site evaluation due to presumed long term petroleum releases, which may have contaminated the property.

The primary objective of this environmental site evaluation is to gather data to better understand the geologic characteristics as they pertain to the migration of suspected subsurface contamination. The compiled field data will be utilized to delineate the extent and estimate the volume of subsurface contamination. Results of the field data will be utilized to support selection of appropriate remedial options to be employed at this site and present remedial options. The following scope of work was utilized to achieve the stated objectives:

- Advance and collect sediment and groundwater samples
- Field screen soil samples
- Collection and analysis of groundwater samples
- Identify and estimate contaminated soil sediments
- Estimated volume of free product

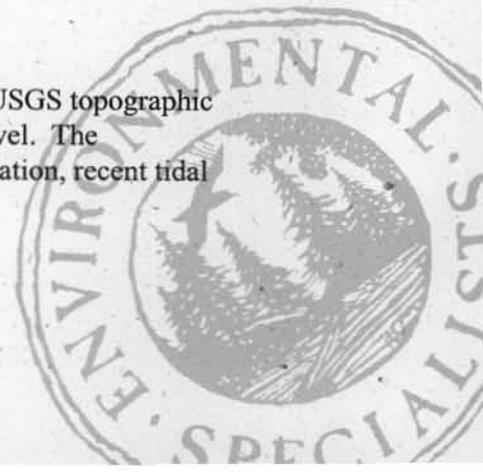
2.1 Background

The purpose of this soil sampling program was to evaluate the vertical and horizontal extent of contaminated soils and groundwater. The impacted soils were suspected of being widespread and the NYSDEC recommended that a soil sampling and evaluation be performed to delineate the full extent of contaminated soils and free product adjacent to the former fuel oil storage tanks locations.

A soil sampling program was presented to the NYSDEC on April 10, 1996 and included 16 soil boring locations. Upon further discussion of the objectives of the plan, the scope of work was expanded to include 22 boring locations, with a grid nodal spacing of 25 feet. The additional borings were to determine if there may be additional areas of contamination, which would need to be further addressed.

2.2 Hydrogeologic Setting

The subject site is located in Island Park, Nassau County, New York. The USGS topographic map of the area indicates that the site is less than 10 feet above mean sea level. The hydrogeologic setting is predominantly related to outwash Pleistocene glaciation, recent tidal marsh, and artificial fill deposits.



The site is underlain by consolidated bedrock, which is in turn overlain by a southeasterly thickening wedge of unconsolidated sediments. The geologic unit of interest contains recent deposits: artificial fill, salt marsh deposits, and shore line deposits. The character of the deposits range from sands, gravels, clay silt, organic muds, and peat loam.

3.0 MATERIALS AND METHODS

Prior to commencing field investigative activities, a number of specific preparatory tasks were undertaken. These tasks include siting the soil borings, obtaining and identifying underground utilities, notification of work, scheduling the drilling activities, and testing procedure preparation.

3.1 Field Methods

Proposed soil borings were approved by the NYSDEC and confirmed in the field by a Milro geologist and NYSDEC representatives. Appropriate parties were notified of pending field activities and utility markouts were obtained. Utility markouts were confirmed by Milro personnel prior to commencing boring activities by the use of NYSDEC supplied site maps.

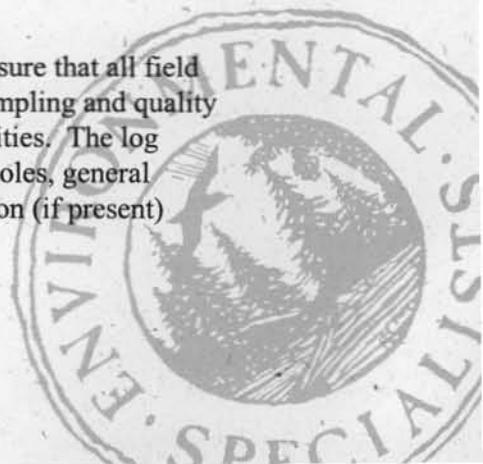
Soil samples were collected via Geoprobe® technology. A large bore (LB) open sampler was used to collect soil samples. These samplers utilize open tube design and are capable of retrieving a 1 inch by 24" sample. For the scope of this program, the LB sampler was advanced to depths ranging from grade to approximately 17 feet below the surface. The actual sampling depth obtained was dependent upon the depth to contamination or subsurface obstructions. After the desired depth was achieved, the samples were screened with a Photovac photoionization detector (PID) to perform sample head space screening and to monitor the general ambient air quality of the soil samples. After the samples were screened and logged, discrete soil samples were retained for laboratory analysis, if required.

3.2 Published Methodologies Used

During sampling, special care was taken to ensure proper handling in accordance with the following documents: NYS Department of Environmental Conservation (NYSDEC) Sampling Guidance Protocol, September, 1992; NYSDEC STARS Memo No. 1, Petroleum-Contaminated Soil Guidance Policy, August 1992; NYSDEC TAGM No. 4046, Soil Cleanup Objectives, January 1994; NYSDEC STARS Memo No. 2, Biocell and Biopile Design, May 1996; and Milro sampling protocol.

3.3 Field Documentation

Proper management and documentation of field activities are essential to ensure that all field work is conducted efficiently in accordance with federal, state and Milro sampling and quality control protocol. A field log was kept to document the data collection activities. The log included the sampling data, on-site personnel, number and location of boreholes, general description of soil, boring depths, and field observations of soil contamination (if present)



Each sample was designated, logged, label affixed to the appropriate sample containers, and recorded on the laboratory chain of custody form. Chain-of-custody forms were completed in the field and were used to track the samples from collection through analysis.

3.4 Sample Analysis Methods

Liquid samples retained were analyzed for NYSDOH Method 310.13, fingerprint analysis.

3.5 Assessment of Results

The assessment of the analytical results were patterned after similar projects performed for the NYSDEC. Results were compared to the abovementioned published regulatory documents. Because petroleum products were documented at the site, the primary documents utilized were the NYSDEC STARS documents.

4.0 RESULTS

Between December 17, and 18 1996, Mr. Robert Applebaum and Terri Ann D'Elia of Milro Associates, Inc. met with Anthony Lamanno (NYSDEC), with the drilling performed by Milro Associates, Freeport, NY, for the purpose of advancing soil borings, at 22 boring locations, to a maximum depth of approximately 17 feet below surface grade. Additionally, a level survey was performed to obtain topographic information that was used to observe if there is a groundwater response to tidal influences.

The sampling program included samples from presumed areas contaminated due to their proximity to the known fuel oil storage tanks and distributed around these tanks (Figure 2).

Soil samples were advanced at two foot intervals, starting from grade to approximately 17 feet depth or as directed by the NYSDEC. A total of approximately 75 soil samples were collected and logged. All samples were screened in the field visually for staining, for odors, and with a PID. Field screening of these overburden sediments did indicate the presence of contamination. The PID levels ranged from non-detect to 267 ppm in soil boring 5 (Table 1). Overburden sediments consisted of primarily moderately sorted, medium to fine grained sands, fines (silts and clays), and fine gravels. A black strata was encountered within the three and half to four and half foot interval that indicated a change in lithology and in many of the bore holes contained free product, odors, visually staining and elevated PID levels. This contaminated layer appears to intersected the groundwater interface, which was encountered approximately three feet below surface grade and overlays a silty clay (tidal marsh deposits) confining unit approximately 8-10 foot below grade. This layer was subsequently targeted, based on the sand overburden and clay confining unit, to determine the extent of contamination. The rationale was that if this layer was continuous across the site, the contamination would be associated with this layer.

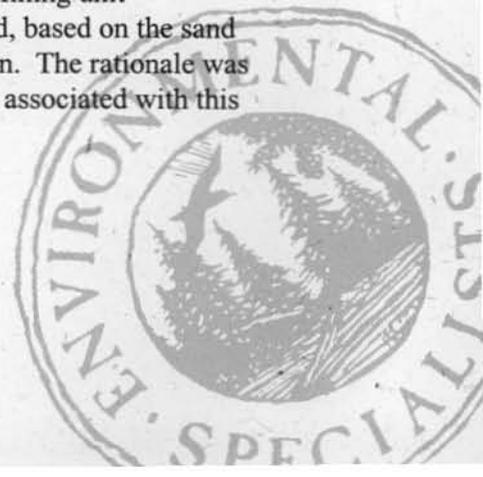
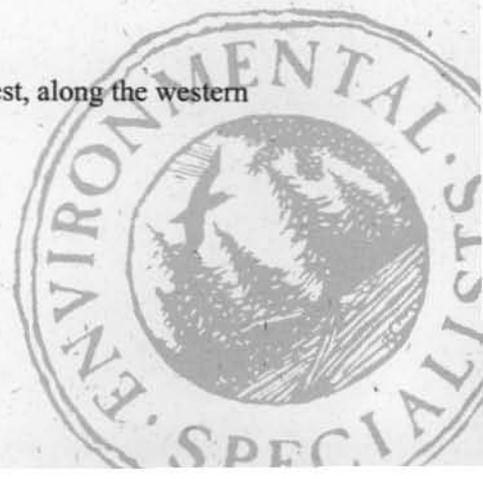


TABLE 1-PID MEASUREMENTS VS. DEPTH (in feet below grade)						
Sample ID	0-2	2-4	4-6	6-8	8-10	>10
B-1	4.8	176	94.2	52.3	19.1	16.6
B-2	8.7	112	133	75.8	NS	NS
B-3	3.6	158	98.7	49.5	NS	NS
B-4	0.0	100	112	127	25.7	NS
B-5	79.7	146	267	231	36.6	NS
B-6	11.8	203	158	240	24.4	NS
B-7	23.2	20.5	17.1	NS	NS	NS
B-8	7.8	107	water sample	NS	NS	NS
B-9	NS	7.7	38.8	water sample	17.9	NS
B-10	12.3	13.9	113	NS	NS	NS
B-11	NS	12.7	72	107.1	NS	NS
B-12	NS	15.1	114	OIL	NS	NS
B-13	NS	270	188	27.4	NS	NS
B-14	NS	201	160	NS	13.9	NS
B-15	NS	78.8	113	water sample	3.7	NS
B-16	NS	38.8	130	water sample	3.2	NS
B-17	NS	78.1	58.6	water sample	1.2	NS
B-18	NS	144	139	89.7	NR	NS
B-19	NS	16.7	158	OIL	106	NS
B-20*	NS	113	72.8	112	NS	NS

Notes: NS-No sample collected at this depth NR-PID not recorded due to water
Water Sample- collected this depth **Oil** - sediments saturated this depth
 *- Boring compilation of B-20,21,22 due to refusals encountered this area

Based on the level survey, observed groundwater appeared to flow south west, along the western property and did not fluctuate measurably during the observations.



4.1 Laboratory Analysis

Two liquid samples were collected from soil borings B-19 and B-22. The samples were analyzed by NYSDOH Method 310.13 fingerprint analysis. The results indicate that the sample chromatograms found that the product matches well with weathered #2 fuel oil.

5.0 INTERPRETATIONS

Of the 22 boring locations, most all samples screened displayed elevated (greater than background) PID readings. The most pronounced contamination is between three and a half feet and four and a half feet, corresponding to a smear zone of heavy black oil at the water table. Less concentrated oil-contamination extends down to the 8-10 foot interval. At this depth, field evaluation indicated that there may be a confining layer of tidal marsh deposits that is hindering the downward migration of the petroleum product below the 10 foot depth. Samples of the product suggest that the contaminate is weathered #2 fuel oil.

The estimated soil contamination is not fully mapped out, but preliminary estimates indicate that approximately 75,500 cubic feet of sediment are contaminated. At this phase of the project, no clear estimate of free product can be made.

Groundwater appears to flow south, but may move radially towards both channels bordering the site.

6.0 RECOMMENDATIONS

Based on the evidence collected to date, data gaps have been identified that preclude final conclusions and recommendations as to the extent of contamination. However, to further the soil investigation, we recommend that more borings be advanced adjacent to the neighboring residential properties and move in, towards known areas of contamination. In addition, we would recommend increasing the grid spacing and move incrementally, from periphery towards the identified contamination to cover more area. In addition, we would attempt to target the interval of suspected contamination to lessen the amount of samples retrieved.

To obtain information on the amount of free product, we would recommend installing a minimum of three groundwater monitoring wells. These wells would be utilized to better determine the groundwater flow direction(s), points of oil recovery and for use in baildown/recovery testing, if necessary.

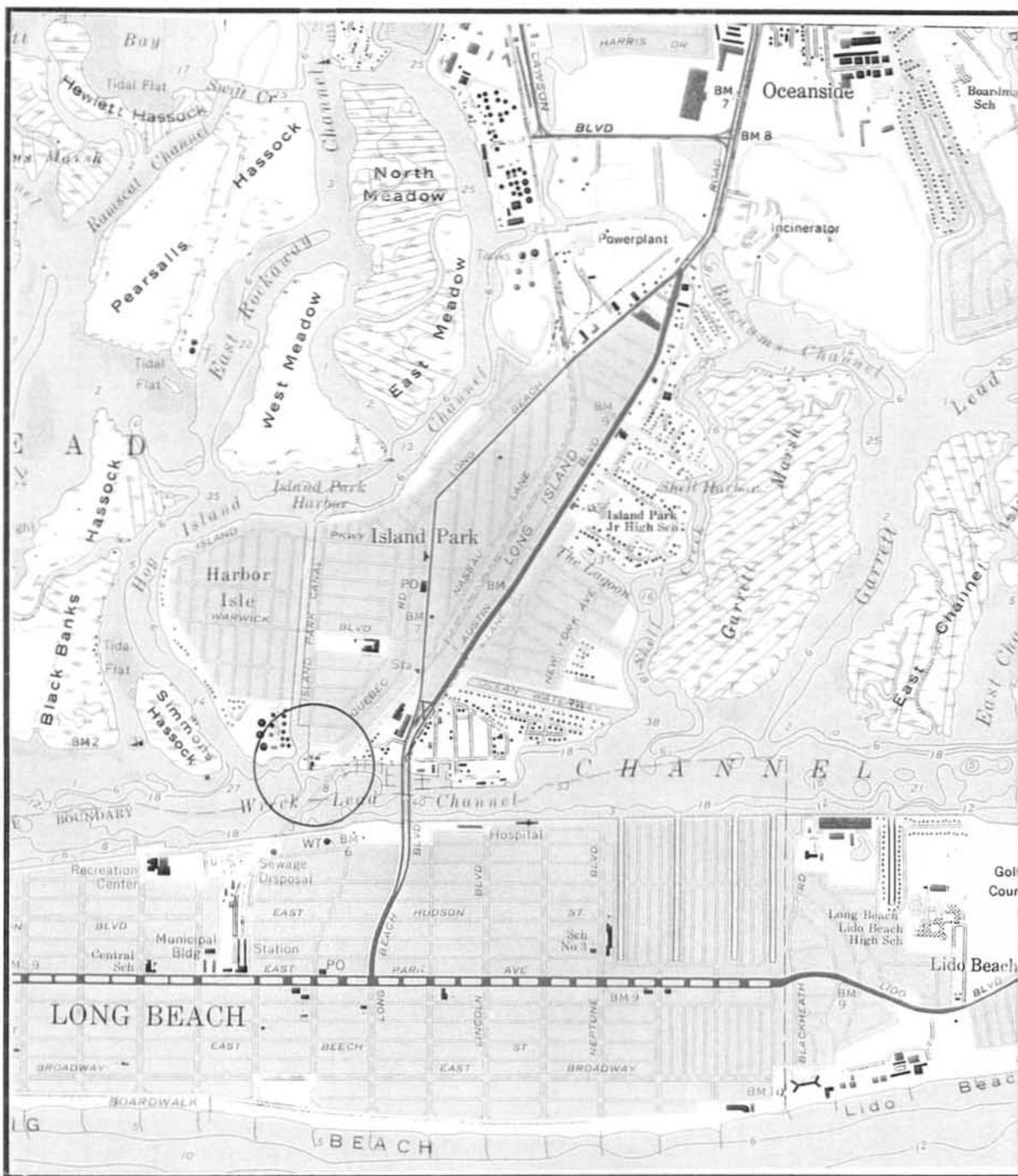


Based on what we know to date, the bio-pile is the most practical remedial option. Due to the estimated volumes of contaminated soil and the area needed to create a biopile, we would suggest that any remedial efforts be performed in phases. Typically, the contaminated soil would need to be excavated, spread out in one to two foot lifts, the excavation cordoned off until the soils are remediated. However, leaving excavations open may pose an attractive nuisance or excel erosional processes. The excavated area would require backfilling, followed by compaction. Another issue is the protection of the adjacent waterways. We would suggest either leaving the existing sorbent boom set-up or use an alternative technology, such as a trench system augmented with geotextile or sheet piles to intercept and contain any free product migration. In addition, while the excavation is open, bio-enzymes could be applied to enhance the degradation of the oil components remaining below the water interface.



APPENDIX A
FIGURES





U.S.G.S. 7.5 Minute Series Topographic Map
 Lawrence, New York, Nassau County
 Scale: 1:24000

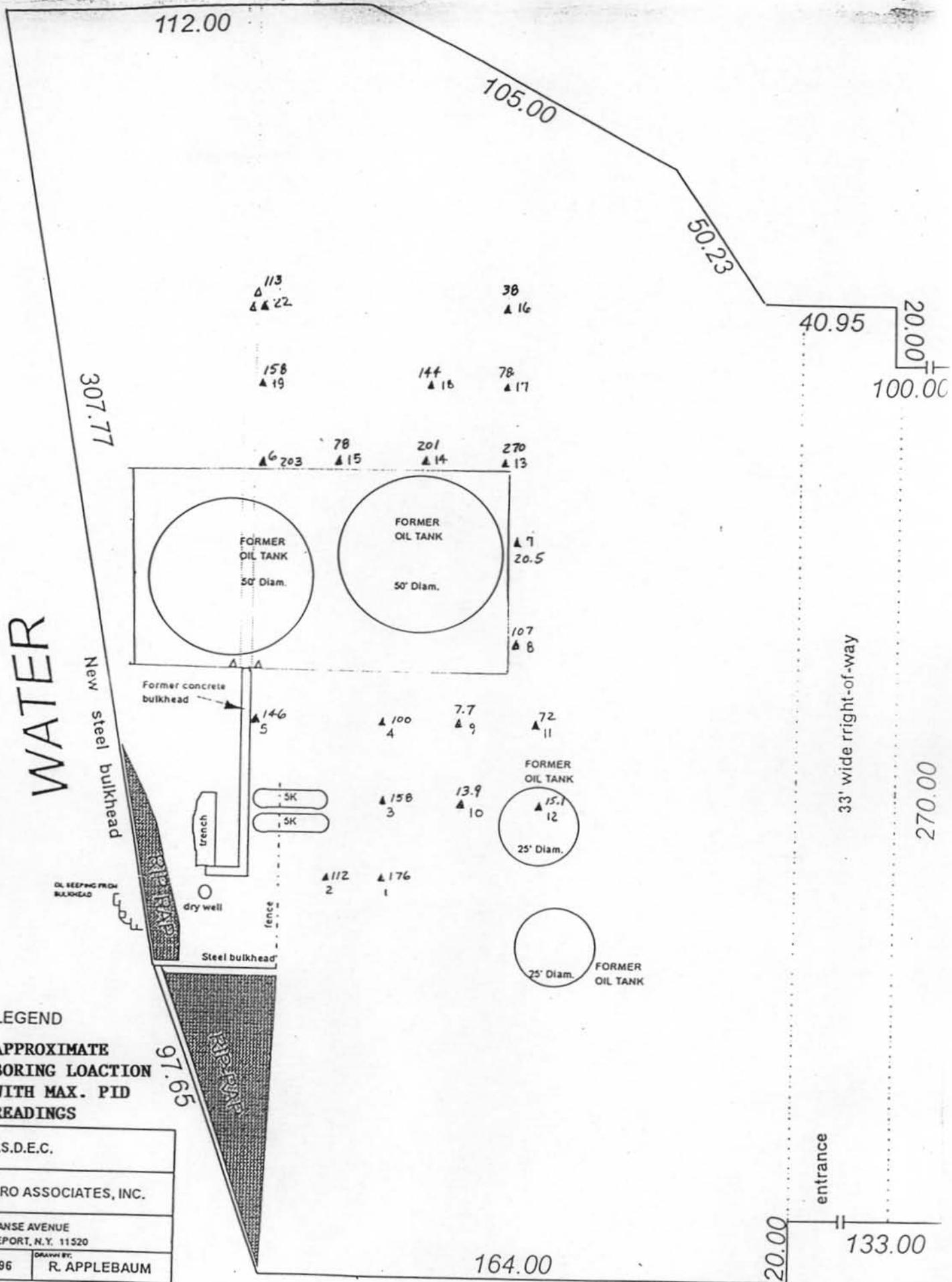


FIGURE 2

APPENDIX B
LABORATORY DOCUMENTATION



ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C965280/1

01/09/97

N.Y.S.- D.E.C., Bureau of Spill Response
SUNY, Building #40
Stony Brook, NY 11790

ATTN: Anthony Lomano

SOURCE OF SAMPLE: Reynolds Channel, Island Park
COLLECTED BY: MILRO DATE COL'D: 12/19/96 RECEIVED: 12/24/96

SAMPLE: Liquid sample, SB19, (6-8')**, 3:20 pm

ANALYTICAL PARAMETERS

Gasoline	*	absent
Lubricating Oil	*	absent
Kerosene	uL/L*	<2500
Fuel Oil	uL/L*	74000***

ANALYTICAL PARAMETERS

cc: Rob Applebaum, MILRO

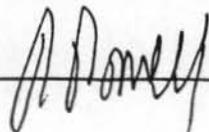
REMARKS: Spill No. 95-03609. PIN No. SP 94249.

* Analyzed by NYSDOH Method 310.13, uL/L equiv. to ppm.

** Bilayer product/water sample.

*** Chromatogram indicates product found is good match for weathered, #2 Fuel Oil.

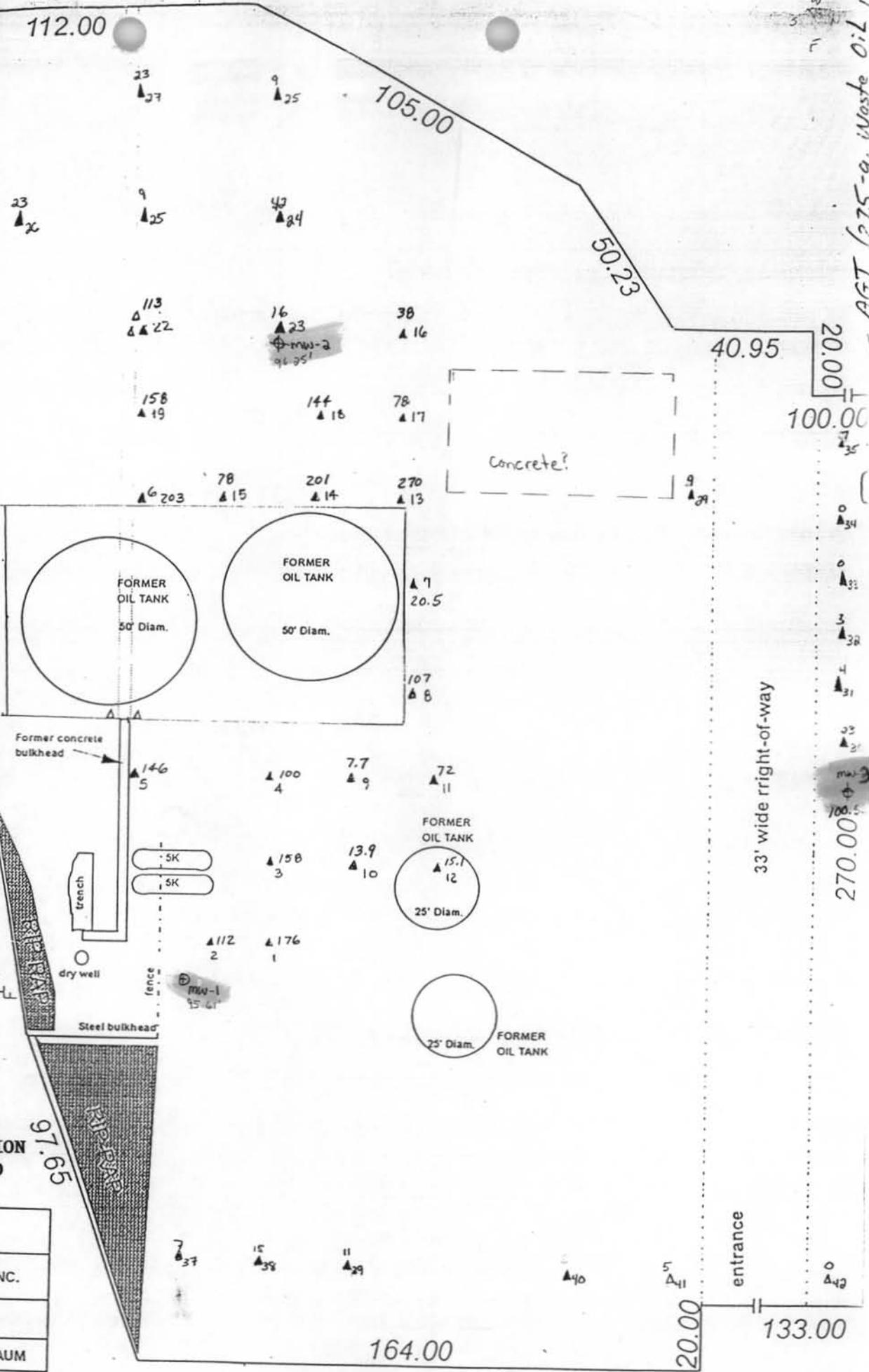
Date of extraction: 12/27/96. Analysis: 12/30/96.

DIRECTOR 

WATER

New steel bulkhead

33' wide right-of-way



LEGEND
 △ APPROXIMATE BORING LOACTION WITH MAX. PID READINGS

CLIENT: N.Y.S.D.E.C.	
PREPARED BY: MILRO ASSOCIATES, INC.	
ADDRESS: 41 HANSE AVENUE FREEPORT, N.Y. 11520	
DATE: 4/08/96	DRAWN BY: R. APPLEBAUM

FIGURE 2

APPENDIX C
SOIL BORINGS



MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-1

(Page 1 of 1)

NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP-94249
: CHANNEL, I.P. MOBILIZED : 12/17/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/17/96
CASE MANAGER: Antony Lamanno

Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	PID(ppm)	
						0	9080
0-5				0-2': Medium sand with intercalated gray clay, some gravel, poorly graded, tan to gray	4.8		
1-4			SP				
2-3				2-4' Fine To medium sand, poorly graded, dark gray, oil at 3'6" @ water surface	176		
3-2			SP				
4-1				4-6' Fine to medium sand, poorly graded, dark gray. Oil from 4'-6'	94.2		
5-0			SP				
6-1				6-8' Fine to medium sand, interbedded gravel, well graded, dark gray. Oil 6'-8'	52.3		
7-2			SW				
8-3				8-10' Fine to medium sands with gravel, olive green. Oil odor	19.1		
9-4			SW				
10-5				15-17' Fine to medium sand, well rounded, poorly graded, light gray. Brackish odor			
11-6							
12-7							
13-8							
14-9			SP				
15-10							
16-11					16.6		
17							

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-2

(Page 1 of 1)

NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP-94249
: CHANNEL, IP MOBILIZED : 12/17/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/17/96
CASE MANAGER Antony Lamanno

Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	PID(ppm)
0-5				0-2' Medium sand with some gravel, poorly graded, gray color		0 70.40
1-4			SP		8.7	
2-3				2-4' Fine to medium sand, poorly graded, dark gray/dark tan		
3-2			SP		112	
4-1				4-6' Fine to medium sand, moderately graded, light gray. Oil encountered at 4'		
5-0			SP		133	
6-1				6-8' Fine to medium sand, well graded, dark gray. Oil at 7'-8'		
7-2			SW	END OF BORING	75.8	
8						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-3

(Page 1 of 1)

NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP-94249
: CHANNEL, IP MOBILIZED : 12/17/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/17/96
CASE MANAGER Antony Lamanno

Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	PID(ppm)
0	5					0 8060
1	4		SP	0-2' Medium to fine sand with some fine gravel, poorly graded, gray color		
2	3			2-4' Fine to medium sand, poorly graded, dark gray/dark tan	3.6	
3	2		SP			158
4	1			4-6' Fine to medium sand, moderately graded, light gray. Oil encountered at 3'6"		
5	0		SP			98.7
6	-1			6-8' Fine to medium sand, well graded, dark gray. Oil at 6'		
7	-2		SW	END OF BORING		49.5
8						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-4

(Page 1 of 1)

NYSDEC REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP 94249
: CHANNEL, IP DATE STARTED: 12/17/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/17/96
CASE MANAGER Antony Lamanno

Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	PID(ppm)
0	5			0-2' Tan, poorly graded fine sands		0.400
1	4		SP		0.0	
2	3			2-4' Well graded, light tan to dark gray fine sand		
3	2		SW		100	
4	1			4-6' Poorly graded lt gray fine-medium sand to (5-6') dark oily sand		
5	0		SW		112	
6	-1			6-8' Light gray clay band, fine to medium sand with some coarse sands, poorly graded. Clay layer at terminus(1/4"), high plasticity, oil odor		
7	-2		SP		127	
8	-3			8-10' Dark to light gray fine sand, poorly graded with some medium to coarse sands		
9	-4		SP	END OF BORING	25.7	
10						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-5

(Page 1 of 1)

NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN # SP 94249
: CHANNEL, IP DATE STARTED: 12/18/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/18/96
CASE MANAGER Antony Lamanno

Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID	PID
0	5			0-2' Dark tan, fine to medium sand with fine gravel, poorly graded		355270
1	4		SW		79.7	
2	3			2-4' Layered dark tan with oil contaminated sand, fine to medium sands Well graded. Oil at 3'-4'		
3	2		SP		146	
4	1			4-6' Dark gray with oil contaminated fine sand well graded with some light gray areas-less oil		
5	0		SP		267	
6	-1			6-8' Wet light gray, well graded fine to medium sands		
7	-2		SP		231	
8	-3			8-10' Very wet, well graded, dark gray to tan fine to medium sand with patchy oil contamination		
9	-4		SW	END OF BORING	36.6	
10						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-6

(Page 1 of 1)

NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN # SP 94249
: CHANNEL, IP DATE STARTED 12/18/96
NYSDEC SPILL: 95-03609 DATE FINISHED 12/18/96
CASE MANAGER Antony Lamanno

Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID	PID
0	5			0-2' Tan, fine sand with fine gravel, well graded		11.8
1	4		SP			
2	3			2-4' Dark gray with tan fine sand, poorly graded. Layer of oil		203
3	2		SW			
4	1			4-6' Black/dark gray, poorly graded fine sands. Oil impacted, strong odors		158
5	0		SW			
6	-1			6-7'-light gray, well graded, fine to medium sands 7-8'-Dark gray medium sands. Odor		240
7	-2		SP			
8	-3			8-10' Wet clay, fine sands and tan bogg, poorly graded		24.4
9	-4		SW	END OF BORING		
10						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-7

(Page 1 of 1)

NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN# : SP 94249
: CHANNEL, IP DATE STARTED 12/18/96
NYSDEC SPILL: 95-03609 DATE FINISHED 12/18/96
CASE MANAGER A. Lamanno LOGGED BY : Terry D.

Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	PID(ppm)
0	5			0-2' Dark tan bogg deposits with fine gravel		15 2025
1	4		PT		23.2	
2	3			2-4' Light gray fine sand, well graded. Strong petroleum odor		
3	2		SP		20.5	
4	1			4-6' Clay/bogg, dark gray, well graded		
5	0		PT		17.1	
6						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-8

(Page 1 of 1)

NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN# : SP 94249
NYSDEC SPILL: #CHANNEL, IP DATE STARTED: 12/18/96
NYSDEC SPILL: 95-03609 DATE FINISHED: 12/18/96
CASE MANAGER: Antony Lamann BOGGED BY : Terry D.

Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID	PID	
						5	5109
0	5			0-2' Light tan poorly graded medium sands with some fine gravels			
1	4		SW		23.2		
2	3			2-4' Dark gray, poorly graded medium sand with concrete and pebbles			
3	2		SW		20.5		
4	1			4-6' Clay/bogg, dark gray, well graded water sample collected here			
5	0		PT		17.1		
6							

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-9

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP 94249
: CHANNEL, I.P. DATE STARTED: 12/18/96
NYSDEC PIN #: 95-03609 DATE FINISHED: 12/18/96
CASE MANAGER: A. Lamanno LOGGED BY : Terry D.

Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID	PID
0	5			2-4' Light tan poorly graded medium sands with some fine gravels, with concrete, charcoal		717237
1	4				7.7	
2	3		SW			
3	2					
4	1			4-6' Dark/lt gray, well graded fine sand, oil contaminated		
5	0		SP		38.8	
6	-1			6-8' Water sample collected		
7	-2					
8	-3			8-10' Dark gray fine sands with clay, poorly graded		
9	-4		SW	END OF BORING	17.9	
10						

2-19-1997\nusdec\boring\reno1d9.ge4

MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-10

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN # SP 94249
: CHANNEL, I.P. DATE STARTED 12/18/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/18/96
CASE MANAGER A. Lamanno LOGGED BY : Terry D.

Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	GRAPHIC	DESCRIPTION	PID(ppm)	
						PID(ppm)	PID(ppm)
0-5		[Dotted Pattern]		[Dotted Pattern]	0-2' Light tan poorly graded medium sands with some fine gravels, with concrete, charcoal	106	120
1-4		[Dotted Pattern]	SP	[Dotted Pattern]		12.3	
2-3		[Dotted Pattern]		[Dotted Pattern]	2-4' Dark/lt gray, well graded fine sand, oil contaminated		
3-2		[Dotted Pattern]	SW	[Dotted Pattern]		13.9	
4-1		[Dotted Pattern]		[Dotted Pattern]	4-6' Water sample collected		
5-0		[Dotted Pattern]	SP	[Dotted Pattern]		113	
6		[Dotted Pattern]		[Dotted Pattern]			

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-11

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP 94249
: CHANNEL, I.P. DATE STARTED: 12/18/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/18/96
CASE MANAGER: A. Lamanno LOGGED BY : Terry D.

Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	GRAPHIC	DESCRIPTION	PID	PID
0	5				(4-6') Same as above		106.0
1	4						
2	3		SP			12.7	
3	2						
4	1				(6-8') Dark gray boggy/clay well sorted. Water sample collected End of Boring	72	
5	0		SP				
6	-1					107.1	
7	-2		SW				
8							

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-12

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS CHANNEL
: CHANNEL, I.P.
NYSDEC PIN # : 95-03609
CASE MANAGER : A. Lamanno
DATE STARTED : 12/18/96
COMPLETED : 12/18/96
LOGGED BY : Terry D.

Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	GRAPHIC	DESCRIPTION	PID(ppm)	PID(ppm)
0					Grass and soil cover		15.1
1			0				
2					(2-4') Wet light tan, poorly sorted fine sand with concrete debris		
3			SP			15.1	
4					(4-6') Dark tan/brown fine sand, poorly sorted		
5	0		SP			114	
6	-1				(6-8') Black oily boggy well sorted. Water sample collected		
7	-2		PT		End of Boring		
8	-3						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-13

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS CONTRACTOR : SP 94249
: CHANNEL, I.P. DATE STARTED : 12/18/96
NYSDEC PIN # : 95-03609 COMPLETED : 12/18/96
CASE MANAGER : A. Lamanno LOGGED BY : Terry D.

Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	PID(ppm)
0-5				(2-4') Moist gray, poorly graded medium sand		25225
1-4			0			
2-3				(4-6') Wet dark gray medium sand with fine sand, poorly graded		
3-2			SP		270	
4-1				(8-10') Dark gray organic Clay well sorted. Water sample collected		
5-0			PT	End of Boring	188	
6-1						
7-2			SP			
8-3						
9-4			GP		27.4	
10						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-14

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP 94249
: CHANNEL, I.P. DATE STARTED: 12/18/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/18/96
CASE MANAGER A. Lamanno LOGGED BY : Terry D.

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Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	GRAPHIC	DESCRIPTION	PID(ppm)	PID(ppm)
0-5					0-2' Overburden		160 201
1-4			0			201	
2-3					(2-4') Moist gray, poorly graded medium sand with fine gravel		
3-2			SP				
4-1					(4-6') Gray well graded medium sand with medium to fine gravel		
5-0			SP			160	
6-1					(8-10') Fine to medium gray sand, poorly graded		
7-2					End of Boring		
8-3			SP				
9-4							13.9
10							

MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-15

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS CHANNEL
: CHANNEL, I.P.
NYSDEC SPILL: 95-03609
CASE MANAGER A. Lamanno

DEC PIN # SP 94249
DATE STARTED 12/18/96
COMPLETED : 12/18/96
LOGGED BY : Terry D.

2-19-1997\nysdec\boring\renold15.ge4

Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID	PID
0-5				0-4' OVERBURDEN		
1-4			0			
2-3		(2-4')		Layered bands of dark gray to tan medium sands, well graded. Dark gray sands with odor at 3-4'		
3-2			SP		78.8	
4-1		(4-6')		Dark gray medium sand, poorly graded, very moist		
5-0			sp		113	
6-1		(6-8')		Water sample collected		
7-2			0			
8-3		(8-9')		Medium dark gray sand, poorly graded		
9-4			SW		3.7	
10						

MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-16

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP 94249
: CHANNEL, I.P. DATE STARTED: 12/18/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/18/96
CASE MANAGER: A. Lamanno LOGGED BY : Terry D.

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Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	PID(ppm)
0	5			(2-4') Dark gray/tan, medium sand with pebbles, well graded	3.2	35.8
1	4					
2	3		SW		38.8	
3	2					
4	1			(4-6') Light gray poorly graded with some clay	130	
5	0		SP			
6	-1			(6-8') Water sample collected		
7	-2		SW			
8	-3			(8-10') Gray to light gray, clay and medium sand, with some pebbles well graded		
9	-4		SP	End of Boring		
10					3.2	

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41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-17

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN #: SP 94249
: CHANNEL, I.P DATE STARTED: 12/18/96
NYSDEC SPILL: 95-03609 COMPLETED : 12/18/96
CASE MANAGER: A. Lamanno LOGGED BY : Terry D.

Depth in FEET	Surf. Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID	PID
0	5			(0-2') OVERBURDEN MATERIALS		358025
1	4		SW			
2	3			(2-4') Dark gray/tan, medium sand with pebbles, well graded		
3	2		SW		38.8	
4	1			(4-6') Light gray poorly graded with some clay		
5	0		SP		130	
6	-1			(6-8') Water sample collected		
7	-2		SP			
8	-3			(8-10') Gray to light gray, clay and medium sand, with some pebbles well graded		
9	-4		SP	End of Boring	3.2	
10						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-18

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS
: CHANNEL
NYSDEC PIN #: 95-03060
CASE MANAGER A. Lamanno
NYSDEC PIN# : SP 94249
DATE STARTED : 12/18/96
COMPLETED : 12/18/96
LOGGED BY : Terry D.

Depth in Elev. FEET	Surf. 5	GRAPHIC	USCS	DESCRIPTION	PID	PID
0-5				(2-3') Tan/gray medium sand, poorly graded		3531033
1-4			sp			
2-3						
3-2			SP	(3-4') Dark gray medium sand, poorly graded	3.4	
4-1			sp	(4-5') Oil impacted dark gray medium sand, poorly sorted. Odor noted	144	
5-0			sp	(5-6') Wet gray fine sand, poorly sorted. Water sample collected	139	
6-1				(8-10') Wet light gray fine sand, poorly sorted well graded	89.7	
7-2				End of Boring		
8-3			sp			
9-4						
10						

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NEW YORK

LOG OF BORING B-19

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS
: CHANNEL
NYSDEC SPILL: 95-03609
CASE MANAGER A. Lamanno
NYSDEC PIN# : SP 94249
DATE STARTED: 12/18/96
DATE FINISHED: 12/18/96
LOGGED BY : Terry D.

Depth in Elev. FEET	Surf. 5	GRAPHIC	USCS	GRAPHIC	DESCRIPTION	PID(ppm)	PID(ppm)
0-5					(0-2') OVERBURDEN MATERIAL		
1-4			0				
2-3					(2-4') tan/gray medium sand with small pebbles, poorly sorted	16.7	
3-2			SP				
4-1					(4-6') Dark gray medium sands, poorly graded	158	
5-0			SP				
6-1					(6-8') Water encountered with floating product		
7-2			0				
8-3					(8-10') Light gray medium sand, with some pebbles well graded		
9-4			SP		End of Boring		
10						106	

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FREEPORT, NEW YORK

LOG OF BORING B-20,21,22

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS
: CHANNEL
NYSDEC SPILL: 95-03609
CASE MANAGER: A. Lamanno
NYSDEC PIN#: SP 94249
DATE STARTED: 12/18/96
DATE FINISHED: 12/18/96
LOGGED BY : Terry D.

Depth in FEET	Surf. in Elev. 5	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	PID(ppm) 709010
0	5			(0-2') OVERBURDEN MATERIAL		
1	4		0			
2	3			(2-4') Tan to dark gray medium sand Refusal @ 2'-Moved	113	
3	2		SP			
4	1			(4-6') Wet, Black medium sand, poorly graded	72.8	
5	0		SP			
6	-1			(6-8') Water sample collected		
7	-2		sp	End of Boring		
8						112

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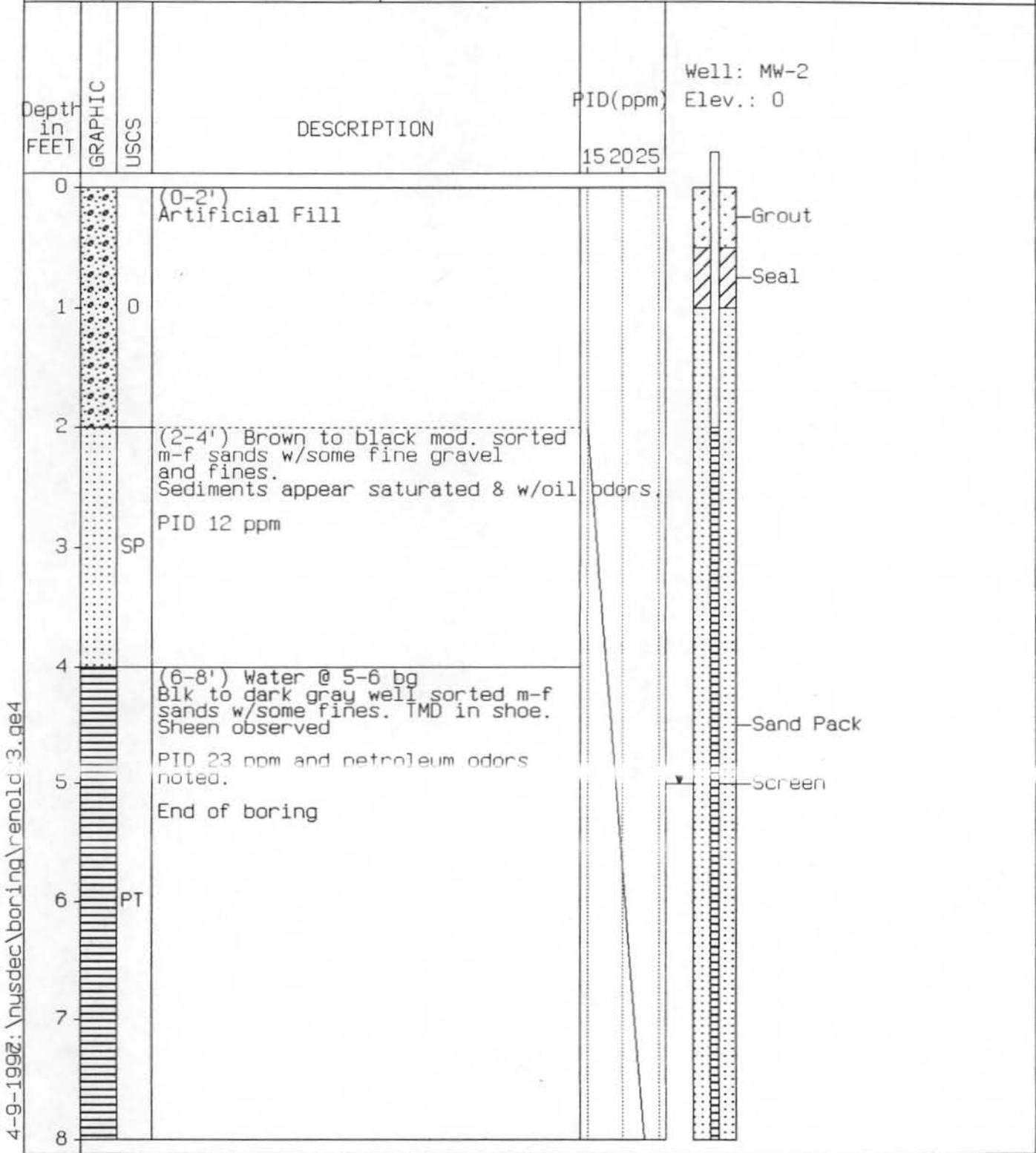
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 FREEPORT, NY 11520

LOG OF BORING B-23

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS NYSDEC PIN# : SP 94249
 : CHANNEL STARTED : 03/20/97
 NYSDEC SPILL: 95-03609 FINISHED : 03/20/97
 CASE MANAGER W. Parish LOGGED BY : L. Mion



MILRO ASSOCIATES, INC.
 41 HANSE AVENUE
 FREEPORT, NY 11520

LOG OF BORING B-24

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parrish

NYSDEC PIN# : SP 94249
 STARTED : 03/20/97
 FINISHED : 03/20/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)
0		O	(0-3') OVERBURDEN MATERIAL	
1		SW	(3-5') Grey to black mod. sorted m-f sands w/some fine gravel and fines. Petroleum odors. Capillary fringe with H2O @5'	PID 42 ppm
2				
3				
4		PT	(7-9') Top 2" same as above to Tidal Marsh Deposits (TMD) w/organic odor	PID 13.2 ppm
5				
6				
7				
8		PT	(10-12') Tidal Marsh Deposits	PID 7ppm
9			End of boring	
10				
11				

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 FREEPORT, NY 11520

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/20/97
 FINISHED : 03/20/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)		
				0	5	10
0		0	(0-3') Artificial Fill			
1			(3-5') Brown moderately sorted coarse to medium sands, fine gravels grading to well sorted grey black medium to fine sands			
2		SW	PID 9 ppm			
3						
4			(7-9') Tidal Marsh Deposits (TMD) w/organic odor			
5			No PID reading			
6			End of boring			
7		PT				
8						
9						

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 41 HANSE AVENUE
 FREEPORT, NY 11520

LOG OF BORING B-26

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/20/97
 FINISHED : 03/20/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)
0		0	(0-3') OVERBURDEN MATERIAL	0 12.25
1			(3-5') Grey to black, mod. well sorted, medium to fine sands with some fine gravel PID 23 ppm	
2				
3		SW		
4				
5			(7-9') Top 3" same as above to Tidal Marsh Deposits (TMD) with organic odor No PID reading	
6			End of boring	
7		PT		
8				
9				

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MILRO ASSOCIATES, INC.
41 HANSE AVENUE
FREEPORT, NY 11520

LOG OF BORING B-27

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NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS
: CHANNEL
NYSDEC SPILL: 95-03609
CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
STARTED : 03/20/97
FINISHED : 03/20/97
LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)	
				20	25
0			(0-3') OVERBURDEN MATERIAL		
1		0			
1			(3-5') Grey to black, mod. sorted, m-f sands with fine gravel PID 23 ppm		
2		SW			
3					
4			(7-9') No sample retrieved Wood refusal. Possible old bulkhead ?		
5			End of boring		
6		PT			
7					
8					
9					

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 FREEPORT, NY 11520

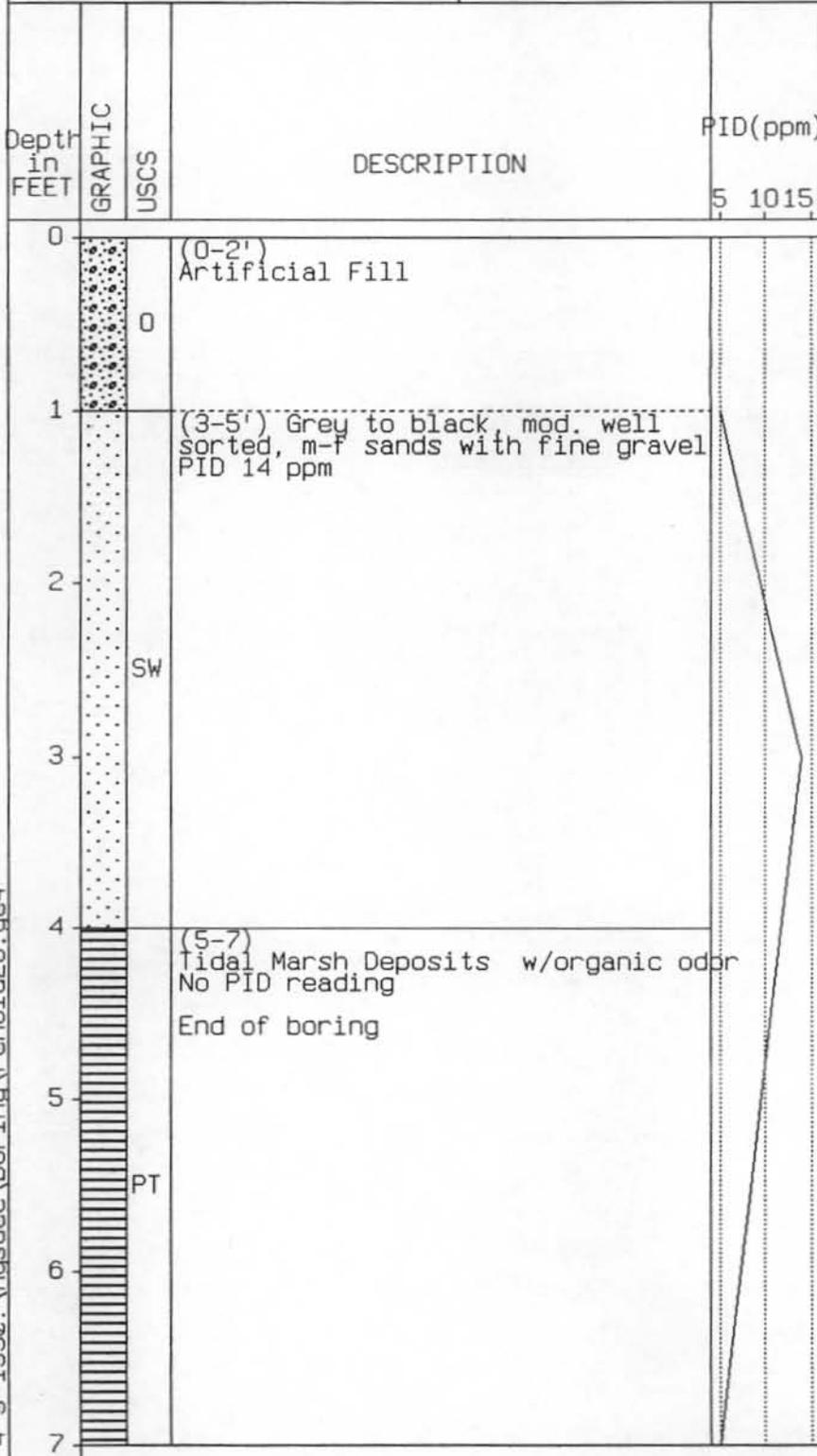
LOG OF BORING B-28

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/20/97
 FINISHED : 03/20/97
 LOGGED BY : L. Mion



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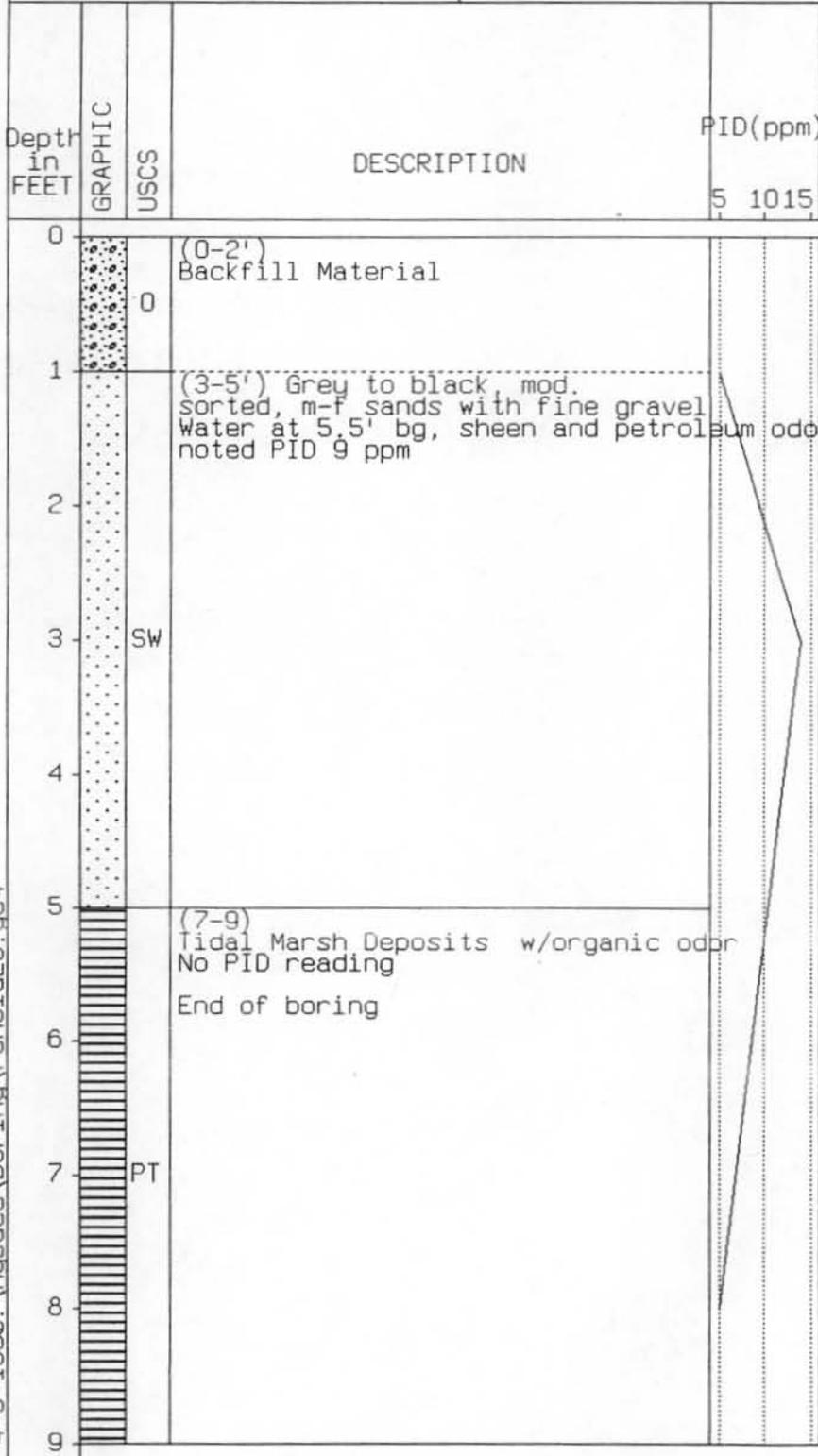
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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion



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MILRO ASSOCIATES, INC.
 41 HANSE AVENUE
 FREEPORT, NY 11520

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parrish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)
0		0	(0-2') Backfill Material	15 2025
1		SW	(3-5') Top 4" Grey to black, mod. sorted, m-f sands with fine gravel.	
2				
3				
4		PT	TMD at 5', Water at 5' bg, sheen and petroleum odor noted PID 23 ppm End of Boring	
5				

4-9-1997: \nysdec\boring\reno1d30.ge4

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 41 HANSE AVENUE
 FREEPORT, NY 11520

LOG OF BORING B-31

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER: W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 02/21/07
 FINISHED : 03/21/97
 LOGGED BY : L. Mion

4-9-1997:\nysdec\boring\renold31.ge4

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)
0			(0-2') Artificial Fill	0
1		SW	(2-4') Brown mod sorted coarse to fine sands with fine some gravel. PID 4ppm.	
4		PT	(4-6') Top 3" same as above, PID 0ppm 6" marsh deposits to m-f black sands, no odor noted End of boring	
5				
6				

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 FREEPORT, NY 11520

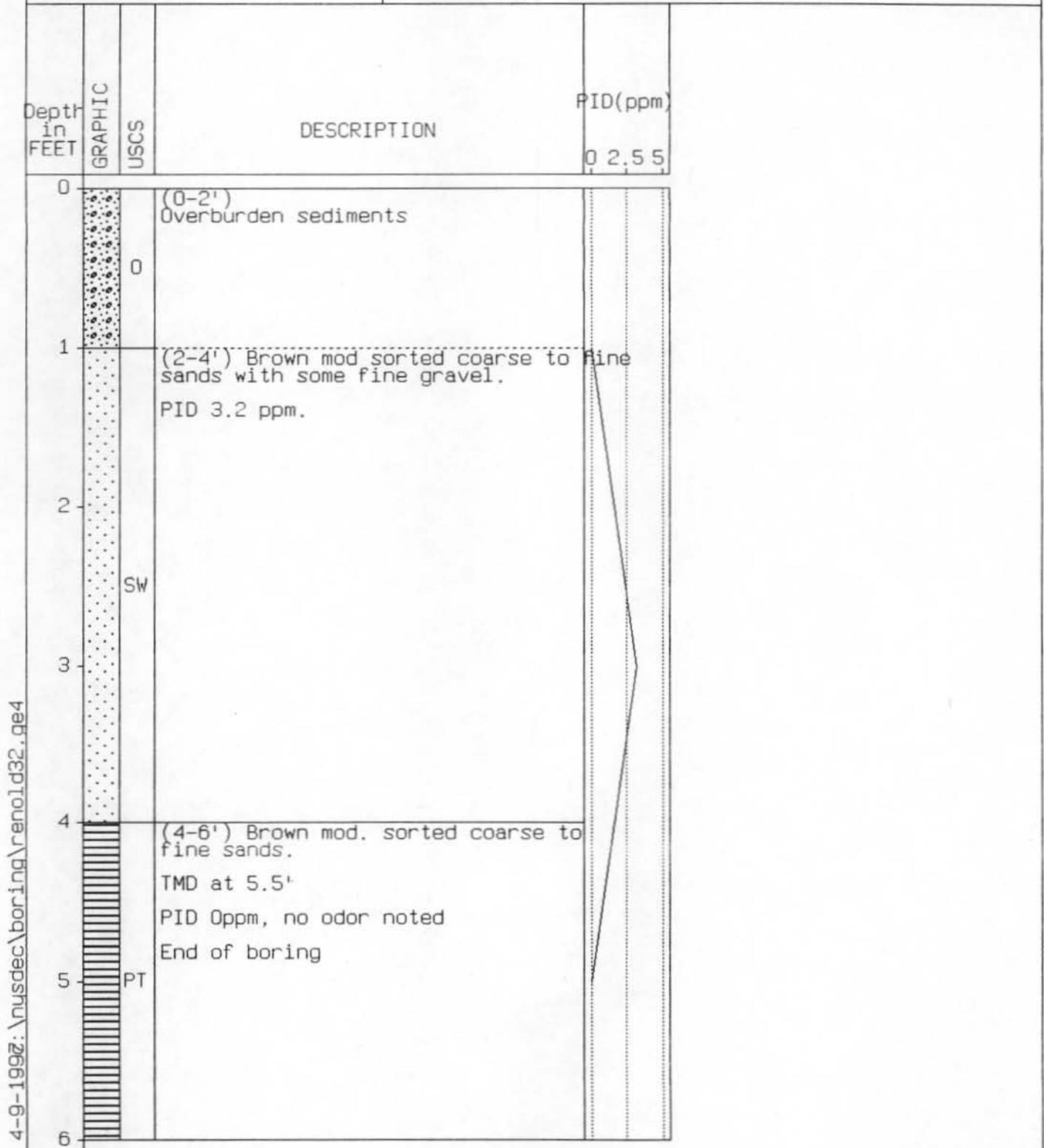
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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion



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 FREEPORT, NY 11520

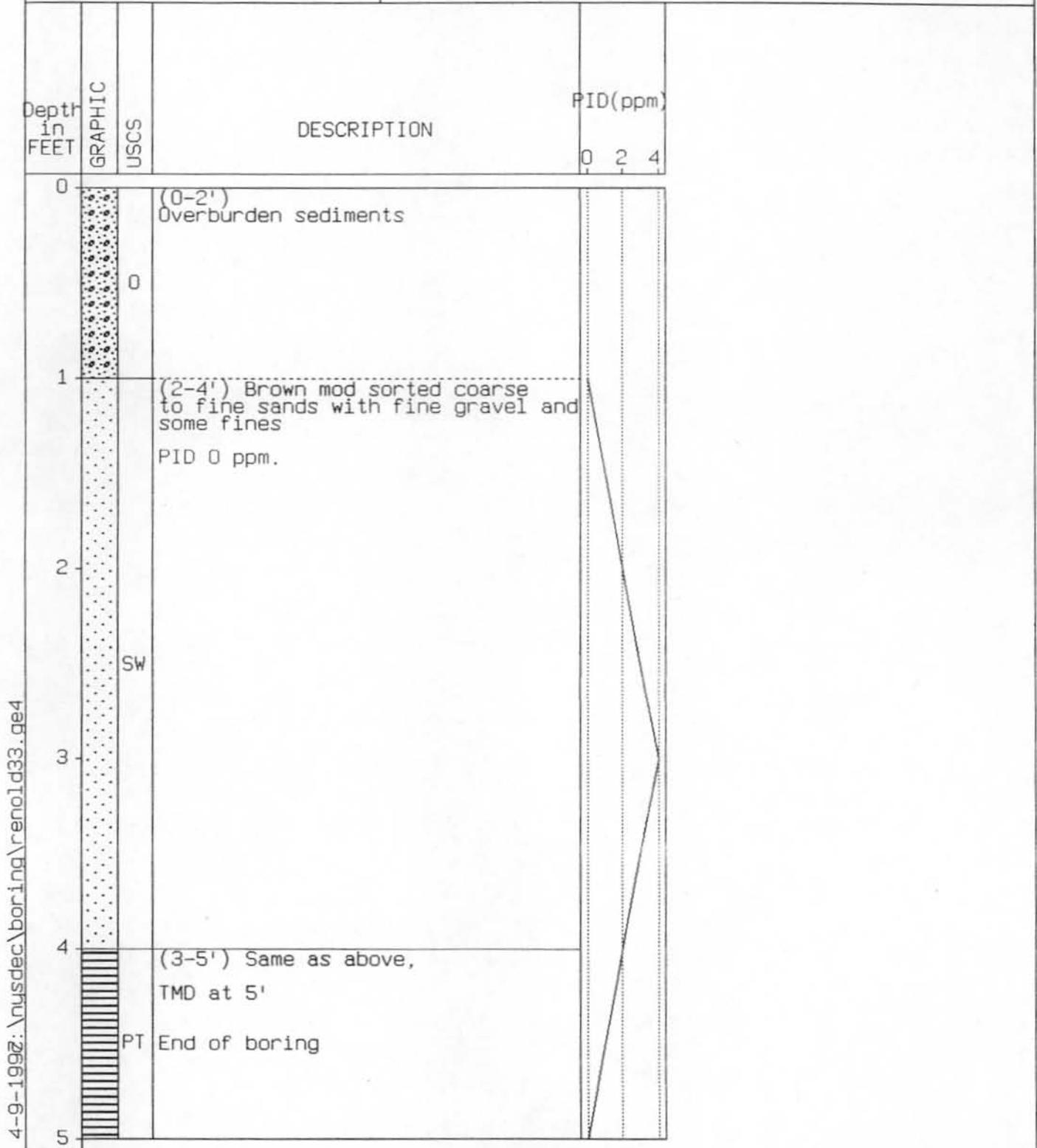
LOG OF BORING B-33

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER: W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion



4-9-1997: \nysdec\boring\renold33.ge4

MILRO ASSOCIATES, INC.
 41 HANSE AVENUE
 FREEPORT, NY 11520

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)		
				0	5	10
0			(0-2') Overburden sediments			
1		0	(2-4') Brown mod sorted c-f sands with fine gravel and fines PID 0ppm.			
2		SW				
3						
4			(3-5') Same as above, 0ppm Marsh deposits encountered at 4'11" bg			
5		PT	End of boring			

4-9-1997: \nysdec\boring\reno1d34.ge4

MILRO ASSOCIATES, INC.
 41 HANSE AVENUE
 FREEPORT, NY 11520

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)		
				0	5	10
0			(0-2') Overburden sediments			
1			(2-4') Gray to blk medium to fine sands with some fines and fine gravels PID 7ppm.			
2						
3		SW				
4			(4-6') Top 4" Same as above, PID 0ppm. TMD at 5'bg organic odor noted.			
5		PT	End of Boring			

4-9-1997: \nysdec\boring\reno1d35.ge4

MILRO ASSOCIATES, INC.
 41 HANSE AVENUE
 FREEPORT, NY 11520

LOG OF BORING B-36

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NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parrish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)
0			(0-2') Overburden sediments	024680
1			(2-4') Gray to blk m-f sands with fines and some fine gravels PID 3ppm.	
2		SW		
3				
4			(4-6') Top 4" Same as above Marsh as 5', organic odor noted. PID 0 ppm	
5		PT	End of Boring	
6				

4-9-1997: \nysdec\boring\renold36.ge4

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 41 HANSE AVENUE
 FREEPORT, NY 11520

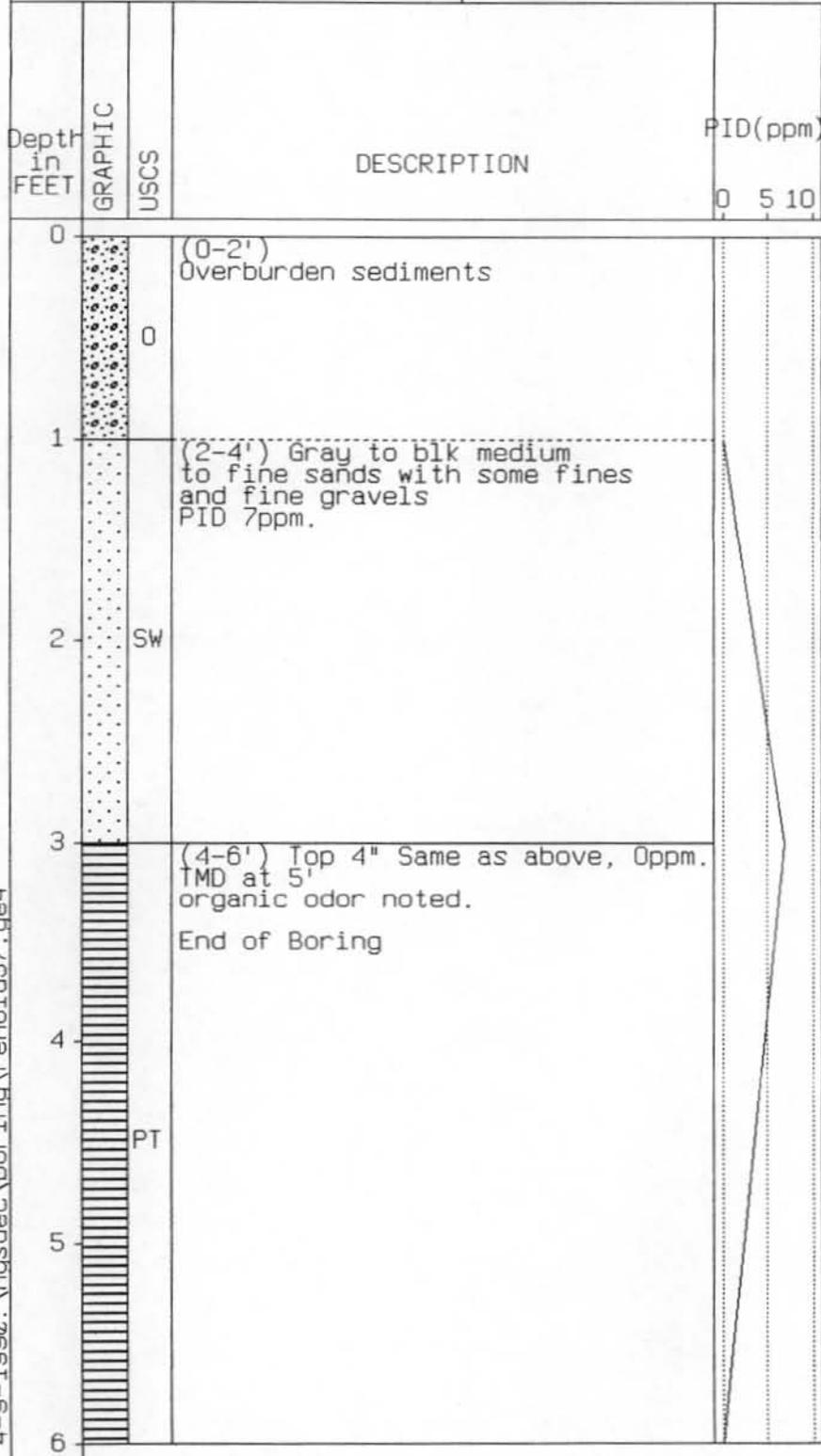
LOG OF BORING B-37

(Page 1 of 1)

NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion



4-9-1997: \nysdec\boring\renold37.qe4

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 41 HANSE AVENUE
 FREEPORT, NY 11520

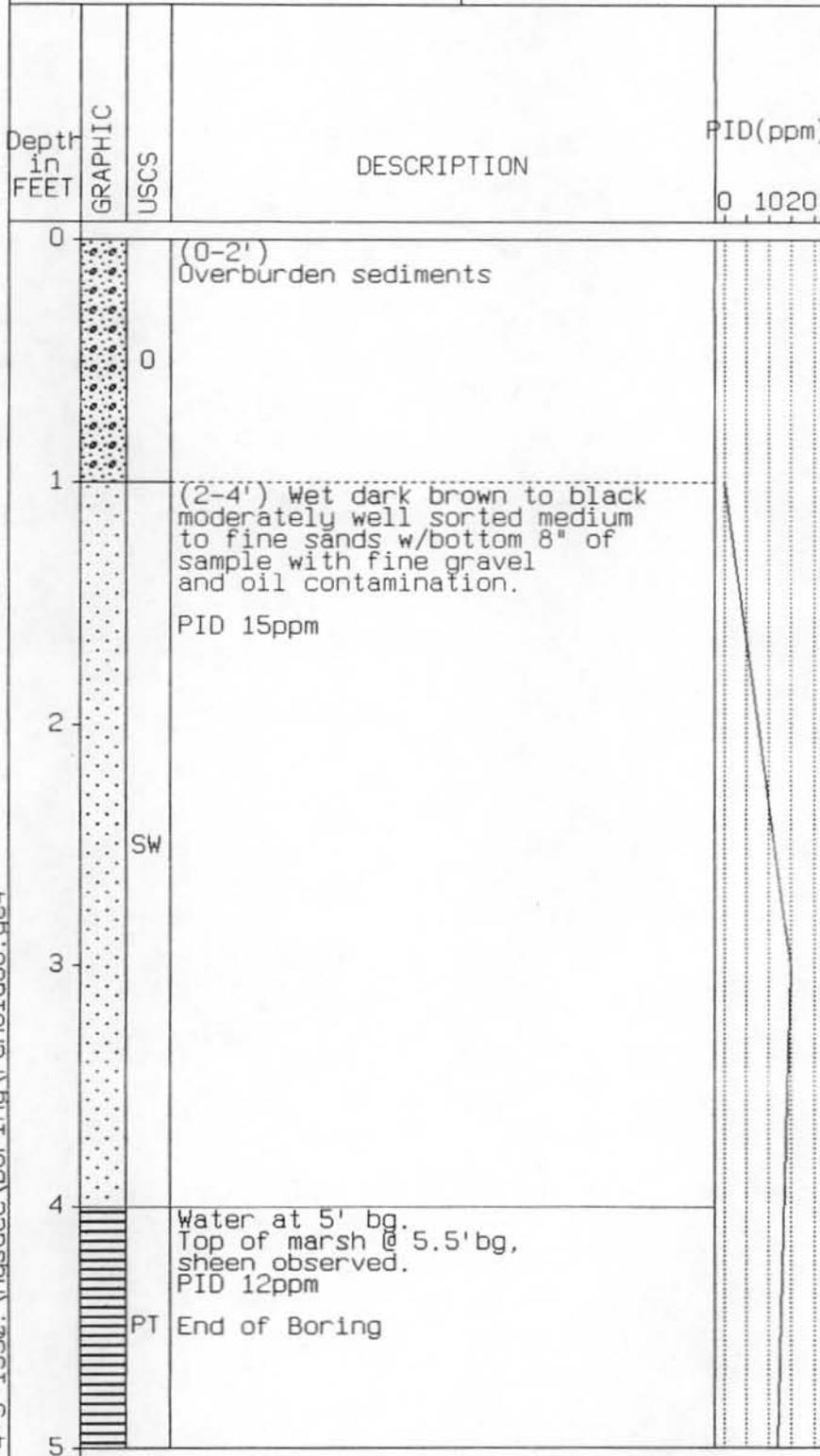
LOG OF BORING B-38

(Page 1 of 1)

NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion



4-9-1997:\nusdec\boring\renold38.ge4

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FREEPORT, NY 11520

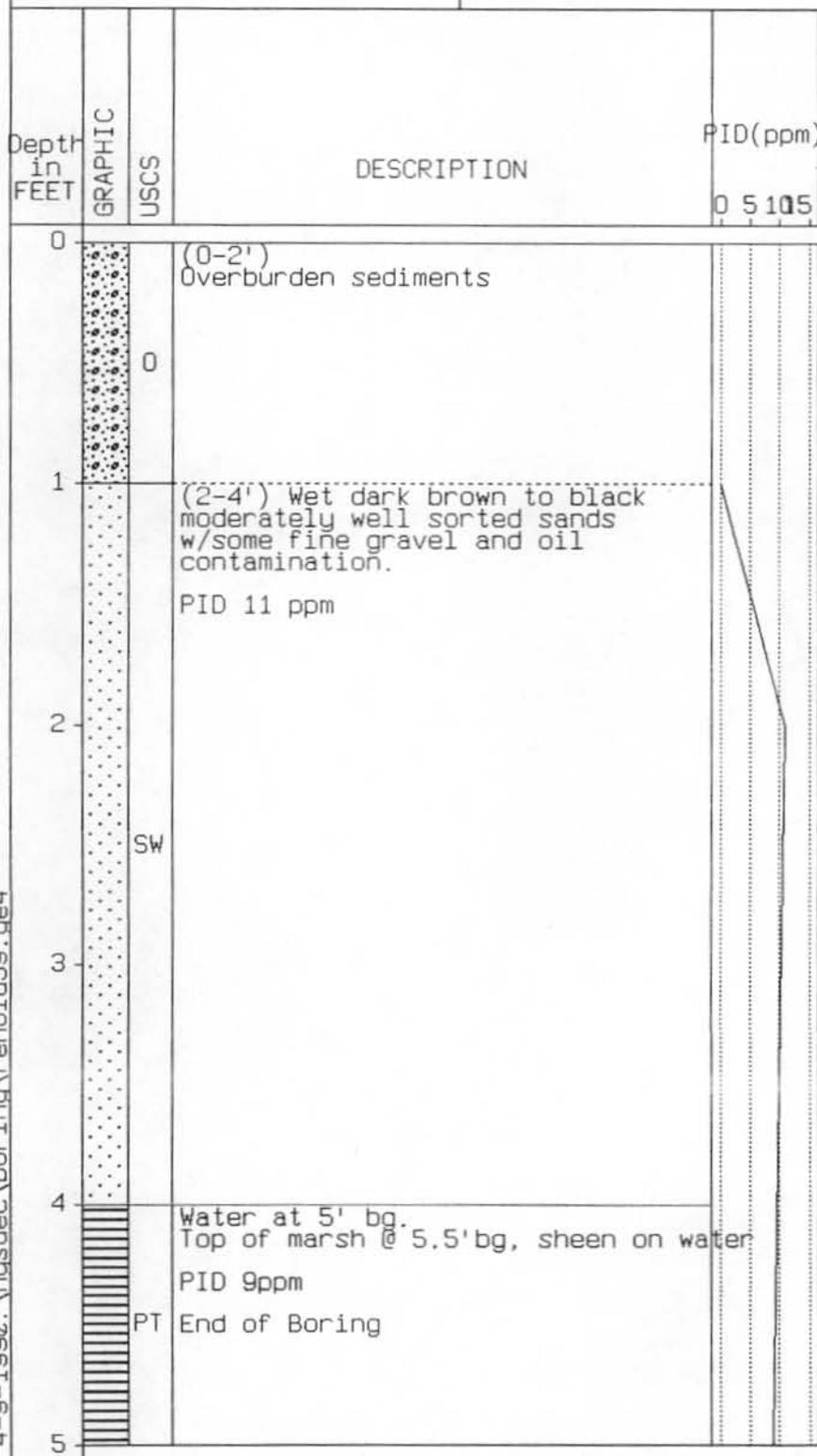
LOG OF BORING B-39

(Page 1 of 1)

NYSDEC-REGION II
STONY BROOK, NY

SITE : REYNOLDS
: CHANNEL
NYSDEC SPILL: 95-03609
CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
STARTED : 03/21/97
FINISHED : 03/21/97
LOGGED BY : L. Mion



4-9-1997: \nysdec\boring\renold39.ge4

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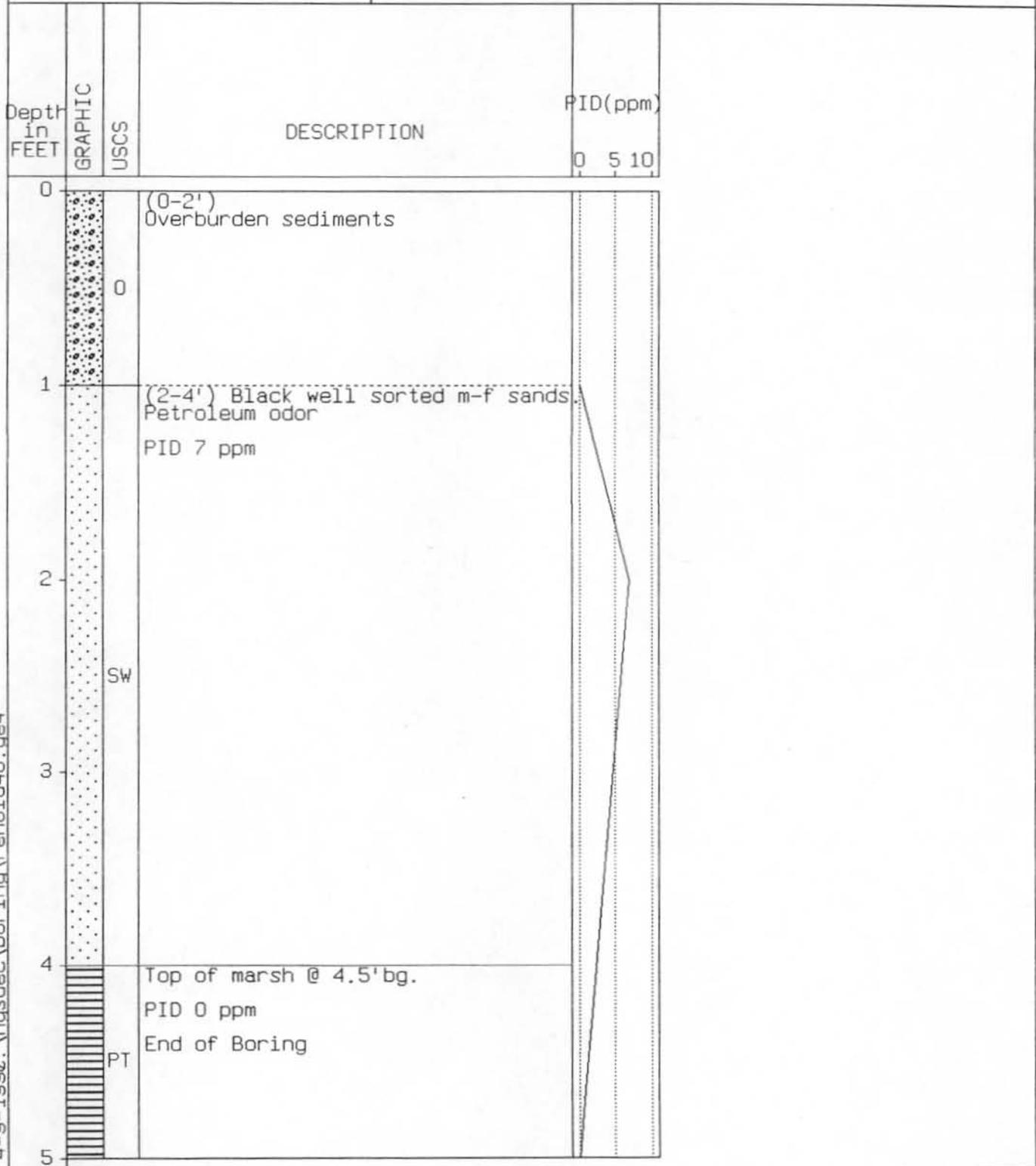
LOG OF BORING B-40

(Page 1 of 1)

NYSDEC REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion



4-9-1997: \nysdec\boring\reno1d40.ge4

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LOG OF BORING B-42

(Page 1 of 1)

NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)		
				0	5	10
0			(0-2') Overburden sediments			
1		0				
2			(2-4') Brown well sorted m-f sands. No Petroleum odor noted. PID 0 ppm			
3		SW				
4			Top of marsh @ 4.5' bg. PID 0 ppm			
5		PT	End of Boring			

4-9-1997: \nysdec\boring\reno1\c 42.ge4

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 FREEPORT, NY 11520

LOG OF BORING B-41

(Page 1 of 1)

NYSDEC-REGION II
 STONY BROOK, NY

SITE : REYNOLDS
 : CHANNEL
 NYSDEC SPILL: 95-03609
 CASE MANAGER W. Parish

NYSDEC PIN# : SP 94249
 STARTED : 03/21/97
 FINISHED : 03/21/97
 LOGGED BY : L. Mion

Depth in FEET	GRAPHIC	USCS	DESCRIPTION	PID(ppm)
0		O	(0-2') Overburden sediments	0 2.5 5
1		SW	(2-4') Black well sorted m-f sands Petroleum odor PID 5 ppm	
4		PT	Top of marsh @ 4.5' bg. PID 0 ppm End of Boring	
5				

4-9-1997: \nysdec\boring\renold41.qe4

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C965280/2

01/09/97

N.Y.S.- D.E.C., Bureau of Spill Response
SUNY, Building #40
Stony Brook, NY 11790
ATTN: Anthony Lomano

SOURCE OF SAMPLE: Reynolds Channel, Island Park
COLLECTED BY: MILRO DATE COL'D: 12/19/96 RECEIVED: 12/24/96

SAMPLE: Liquid sample, SB22, (6-8')**, 3:40 pm

ANALYTICAL PARAMETERS

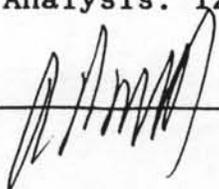
Gasoline	*	absent
Lubricating Oil	*	absent
Kerosene	uL/L*	<250
Fuel Oil	uL/L*	2300***

ANALYTICAL PARAMETERS

cc: Rob Applebaum, MILRO

REMARKS: Spill No. 95-03609. PIN No. SP 94249.
* Analyzed by NYSDOH Method 310.13, uL/L equiv. to ppm.
** Bilayer product/water sample.
***Chromatogram indicates product found is good match for weathered, #2 Fuel Oil.
Date of extraction: 12/27/96, Analysis: 12/30/96.

DIRECTOR _____





Mr. Anthony Lamanno
New York State Department of
Environmental Conservation
Building 40, SUNY
Stony Brook, NY 11790-2356

Reference: Reynolds Channel Project
Island Park, NY

Dear Mr. Lamanno:

Enclosed please find two draft copies of an Interim Subsurface Investigation Report for the above referenced site.

Should you have any questions, please do not hesitate to contact this office at 379-1500.

Very truly yours,

MILRO ASSOCIATES, INC.

A handwritten signature in cursive script that reads "Lance Mion".

Lance Mion, CPG

Enclosures

cc: W. Parrish
File

