



BLASLAND & BOUCK ENGINEERS, P.C.

ENGINEERS & GEOSCIENTISTS

6723 Towpath Road, Box 66, Syracuse, New York 13214 (315) 446-9120
FAX: (315) 449-0017

April 26, 1991

Mr. Mark Granger
United States
Environmental Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Re: Rosen Site
Soil Vapor Survey Results

File: 494.02 #2

Dear Mr. Granger:

At the direction of Mr. Charles L. Poole, CPRP Group Coordinator for the Rosen Site, we are herein transmitting the preliminary results of the soil vapor survey. This soil vapor survey, described in Section 5.2.3 of the Remedial Investigation/Feasibility Study Work Plan for the Rosen Site dated December 1990, was conducted from December 12, 1990 to January 17, 1991.

While the soil vapor sampling results presented in the enclosed table and the soil vapor sampling locations depicted on the enclosed figure have been reviewed, we have still designated them as "preliminary." Some items and/or values may change after final reviews and corrections have been made, prior to inclusion into the Remedial Investigation Report.

If you have any questions, please contact Mr. Poole or myself.

Very truly yours,

BLASLAND & BOUCK ENGINEERS, P.C.

Nancy E. Gensky
Manager, Geology

NEG/dam
Enclosure

cc: Mr. Charles L. Poole, CPRP Group Coordinator, Overhead Door Corporation
Mr. George W. Lee, Jr., C.P.G.S., Blasland & Bouck Engineers, P.C.
Mr. Robert K. Goldman, P.E., Blasland & Bouck Engineers, P.C.

PRELIMINARY

ROSEN SITE REMEDIAL INVESTIGATION SOIL VAPOR SAMPLING RESULTS

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
A-1	0.0	0.0	6.0	01/03/91
A-2	0.0	0.0	6.0	01/04/91
A-3 (Dup.)	0.0 (0.0)	0.0 (0.0)	4.0	01/04/91
A-4	0.0	0.0	2.5	01/04/91
A-5	0.0	0.0	3.0	01/04/91
A-6	0.0	0.0	2.5	01/04/91
A-7	0.0	0.0	5.0	01/04/91
A-8	0.0	0.4	5.1	01/04/91
A-9	0.0	0.9	5.6	01/04/91
A-10	0.0	0.5	4.4	01/04/91
A-11	0.0	0.7	6.0	01/04/91
A-12	0.0	0.2	5.4	01/04/91
A-13 (Dup.)	0.0 (0.0)	0.2 (0.3)	5.8	01/04/91
A-14	1.2	0.0	5.0	01/04/91
A-15	0.9	0.0	6.2	01/04/91
A-16	0.0	NS	4.0	01/04/91
A-17	1.7	0.0	5.5	01/04/91
A-18	1.2	0.0	5.6	01/04/91
A-19	1.2	0.0	6.1	01/04/91
A-20	1.3	0.0	4.7	01/04/91
A-21	0.0	NS	4.7	01/04/91
A-22	1.6	0.0	5.5	01/04/91
A-23 (Dup.)	2.2 (2.0)	0.0 (0.0)	3.0	01/04/91
A-24	0.0	0.3	8.1	01/07/91
A-25	0.0	0.4	5.6	01/07/91
A-26	0.0	0.0	5.9	01/07/91
A-27	0.0	0.3	1.5	01/07/91
A-28	0.0	0.4	N/A	01/07/91

PRELIMINARY

ROSEN SITE REMEDIAL INVESTIGATION SOIL VAPOR SAMPLING RESULTS (Cont'd)

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
B-1	0.0	0.0	5.6	01/03/91
B-2 through B-4 not installed due to surface obstructions.				
B-5	5.1	0.0	2.0	01/16/91
B-6	5.9	0.0	4.7	01/16/91
B-7	5.7	1.8	4.5	01/16/91
B-8 not installed due to surface obstructions.				
B-9	4.3	2.2	2.5	01/16/91
B-10 not installed due to surface obstructions.				
B-11	0.0	0.0	5.0	01/07/91
B-12	0.5	0.0	5.7	01/07/91
B-13	0.0	0.0	2.3	01/07/91
B-14	0.0	0.0	6.1	01/07/91
B-15	0.0	0.0	7.0	01/07/91
B-16	0.0	0.0	5.7	01/07/91
B-17 not installed due to surface obstructions.				
B-18	0.0	0.0	3.4	01/07/91
B-19 not installed due to surface obstructions.				
B-20	0.0	0.0	6.4	01/07/91
B-21 not installed due to surface obstructions.				
B-22 (Dup.)	0.5 (1.1)	0.0 (0.0)	4.0	01/07/91
B-23	1.7	0.0	3.2	01/07/91
B-24	0.0	0.0	7.0	01/07/91
B-25	0.0	0.0	3.0	01/07/91
B-26	0.0	0.0	3.6	01/07/91
C-1	0.0	0.0	3.0	01/03/91
C-2 through C-8 not installed due to surface obstructions.				
C-9	0.0	0.0	4.3	01/16/91

PRELIMINARY
 ROSEN SITE
 REMEDIAL INVESTIGATION
 SOIL VAPOR SAMPLING RESULTS
 (Cont'd)

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
C-10 not installed due to surface obstructions.				
C-11	0.0	0.0	4.0	01/07/91
C-12	0.0	10.7	3.0	01/09/91
C-13 (Dup.)	0.0 (0.0)	0.0 (0.0)	5.0	01/07/91
C-14	0.0	0.0	2.9	01/08/91
C-15	0.0	0.0	6.6	01/08/91
C-16	0.0	0.0	3.9	01/08/91
C-17	0.0	0.0	2.0	01/08/91
C-18	0.0	0.0	4.9	01/08/91
C-19	21.1	99.4	2.5	01/08/91
C-19*	31.2	71.1	2.5	01/17/91
C-20	1.2	21.2	2.1	01/08/91
C-21	2.6	15.9	2.5	01/08/91
C-22	0.8	9.8	2.2	01/08/91
C-23	NS	NS	4.0	N/A
C-24	NS	NS	3.9	N/A
D-1	0.0	0.0	5.1	01/03/91
D-2 through D-4 not installed due to surface obstructions.				
D-5	5.0	0.0	2.0	01/16/91
D-6 through D-8 not installed due to surface obstructions.				
D-9	0.0	0.0	2.5	01/16/91
D-10	0.0	0.9	4.7	01/16/91
D-11	0.0	2.0	4.2	01/08/91
D-12	0.0	1.8	7.4	01/08/91
D-13	0.0	1.8	3.5	01/08/91
D-14	0.0	1.7	5.1	01/08/91
D-15	0.0	2.0	3.0	01/08/91

PRELIMINARY
 ROSEN SITE
 REMEDIAL INVESTIGATION
 SOIL VAPOR SAMPLING RESULTS
 (Cont'd)

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
D-16	0.0	3.6	6.0	01/08/91
D-17	NS	NS	3.1	N/A
D-18	5.3	20.3	2.7	01/08/91
D-19	0.0	0.6	2.0	01/08/91
D-20	0.0	2.3	2.3	01/08/91
D-21 (Dup.)	0.2 (0.3)	7.6 (5.3)	3.3	01/08/91
E-1	0.0	0.0	5.5	01/03/91
E-2 through E-4 not installed due to surface obstructions.				
E-5	31.2	430.0	2.0	01/16/91
E-5*	7.9	3.8	2.0	01/17/91
E-6	34.2	51.9	3.1	01/16/91
E-7 and E-8 not installed due to surface obstructions.				
E-9	3.5	0.6	4.0	01/16/91
E-10	4.5	15.4	2.5	01/16/91
E-11 (Dup.)	0.0 (0.0)	1.4 (3.5)	3.0	01/08/91
E-12	0.0	0.4	2.2	01/08/91
E-13	12.4	1.8	1.6	01/08/91
E-14 and E-15 not installed due to surface obstructions.				
E-16	3.1	1.3	1.5	01/08/91
E-17	1.1	0.8	2.0	01/08/91
E-18	2.3	3.8	3.5	01/08/91
E-19	0.0	0.8	2.5	01/08/91
E-20	0.0	0.7	2.2	01/08/91
E-21	0.0	0.7	2.0	01/08/91
F-1	0.0	0.0	6.2	01/03/91
F-2 through F-4 not installed due to surface obstructions.				
F-5	8.3	0.0	3.2	01/16/91

ROSEN SITE
 REMEDIAL INVESTIGATION
 SOIL VAPOR SAMPLING RESULTS
 (Cont'd)

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
F-6 (Dup.)	7.4 (7.4)	1.3 (0.7)	2.5	01/16/91
F-7 (Dup.)	10.9 (6.2)	13.0 (14.5)	3.0	01/16/91
F-8	149.0	888.0	2.7	01/09/91
F-8*	6.2	118.0	2.7	01/17/91
F-9	32.0	90.1	2.0	01/09/91
F-10	0.0	18.4	2.4	01/09/91
F-11	0.0	0.3	2.3	01/09/91
F-12	4.8	58.8	3.0	01/09/91
F-13	0.0	2.9	2.7	01/09/91
F-14 (Dup.)	389.0 (383.0)	118.0 (122.0)	3.0	01/08/91
F-14*	31.0	38.1	3.0	01/17/91
F-15 not installed due to surface obstructions.				
F-16	3.5	1.0	1.5	01/08/91
F-17	4.4	0.7	1.8	01/16/91
G-1	0.0	0.0	5.1	01/03/91
G-2 through G-4 not installed due to surface obstructions.				
G-5	8.7	1.1	4.5	01/16/91
G-6	8.0	0.0	3.7	01/16/91
G-7 not installed due to surface obstructions.				
G-8	0.0	16.8	1.7	01/09/91
G-9 (Dup.)	0.0 (0.0)	23.7 (24.4)	3.4	01/09/91
G-10	0.0	1.8	2.0	01/09/91
G-11	0.0	3.6	1.0	01/09/91
G-12	0.0	1.8	2.0	01/09/91
G-13 and G-14 not installed due to surface obstructions.				
G-15	0.0	0.0	2.5	01/09/91
G-16	0.0	0.0	2.0	01/09/91

ROSEN SITE
 REMEDIAL INVESTIGATION
 SOIL VAPOR SAMPLING RESULTS
 (Cont'd)

PRIMARY

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
H-1	0.0	0.0	2.5	01/01/91
H-2 not installed due to surface obstructions.				
H-3	0.0	6.8	3.2	01/10/91
H-4	0.0	0.0	2.5	01/10/91
H-5	0.0	0.0	2.5	01/10/91
H-6	0.0	30.8	2.3	01/10/91
H-7	0.0	2.9	2.0	01/10/91
H-8	2.9	0.0	1.5	01/09/91
H-9	4.4	17.4	2.5	01/09/91
H-10 not installed due to surface obstructions.				
H-11	0.0	1.1	1.5	01/09/91
H-12	0.0	1.9	2.0	01/09/91
H-13	2.7	0.0	2.0	01/09/91
H-14	0.7	0.0	2.0	01/09/91
H-15	0.0	0.0	1.7	01/09/91
H-16	0.3	0.0	4.3	01/09/91
I-1 (Dup.)	0.0 (0.0)	0.0 (0.0)	6.8	01/03/91
I-2	27.7	68.8	3.5	01/15/91
I-3	0.0	0.0	3.0	01/10/91
I-4	0.0	0.0	2.7	01/10/91
I-5	0.0	21.3	2.5	01/10/91
I-6	0.0	0.0	2.6	01/10/91
I-7 not installed due to surface obstructions.				
I-8 (Dup.)	2.8 (2.8)	0.3 (0.3)	2.0	01/09/91
I-9	217.0	830.0	2.2	01/09/91
I-9*	402.0	782.0	2.2	01/17/91
I-10	0.0	3.4	2.2	01/09/91

ROSEN SITE
 REMEDIAL INVESTIGATION
 SOIL VAPOR SAMPLING RESULTS
 (Cont'd)

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
I-11	0.0	3.4	2.2	01/09/91
I-12 (Dup.)	2.4 (2.3)	0.0 (0.0)	2.0	
I-13	2.6	0.0	2.0	01/09/91
I-14	2.1	0.0	2.0	01/09/91
I-15	27.0	72.1	5.0	01/09/91
J-1	1.1	0.0	6.8	01/03/91
J-2	0.0	0.0	6.2	01/10/91
J-3 (Dup.)	0.0 (0.0)	0.0 (0.0)	2.5	01/10/91
J-4	0.0	0.0	2.5	01/10/91
J-5	0.0	6.5	2.7	01/10/91
J-6	0.0	0.0	1.7	01/10/91
J-7	0.9	0.0	1.6	01/15/91
J-8	0.6	0.0	1.5	01/15/91
J-9	0.0	0.0	2.0	01/15/91
J-10	0.0	0.0	2.0	01/15/91
J-11	1.1	24.7	1.0	01/15/91
J-12	0.6	0.0	4.5	01/15/91
J-13	1.4	0.0	4.0	01/15/91
J-14 (Dup.)	1.0 (1.2)	0.0 (0.0)	4.3	01/15/91
J-15	0.0	5.9	4.8	01/15/91
K-1	0.0	0.0	5.3	01/03/91
K-2	0.0	0.0	4.6	01/10/91
K-2A	1.0	0.0	4.7	01/15/91
K-3	0.0	0.0	5.0	01/10/91
K-4	1.4	1.8	4.5	01/10/91
K-5	0.0	0.0	2.5	01/10/91
K-6	0.0	0.0	2.4	01/10/91

ROSEN SITE
 REMEDIAL INVESTIGATION
 SOIL VAPOR SAMPLING RESULTS
 (Cont'd)

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
K-7 (Dup.)	0.0 (0.0)	0.0 (0.0)	1.6	01/10/91
K-8	0.0	0.0	1.8	01/15/91
K-9	1.7	0.0	3.7	01/15/91
K-10 and K-11 not installed due to surface obstructions.				
K-12	0.0	5.6	2.7	01/15/91
K-13	0.0	0.0	4.3	01/15/91
K-14	0.0	0.0	4.5	01/15/91
L-1	0.0	0.0	5.3	01/03/91
L-2	2.8	0.0	5.3	01/15/91
L-3 not installed due to surface obstructions.				
L-4	6.8	0.0	4.0	01/15/91
L-5 (Dup.)	7.5 (5.8)	0.0 (0.0)	4.0	01/15/91
L-6	4.3	2.6	2.5	01/16/91
L-7	10.5	0.7	3.1	01/16/91
L-8 not installed due to surface obstructions.				
L-9	0.0	0.0	2.3	01/15/91
L-10	0.7	0.0	4.0	01/15/91
L-11 (Dup.)	0.9 (1.1)	0.0 (0.0)	3.0	01/15/91
L-12	0.0	0.0	4.4	01/15/91
L-13	0.0	0.0	2.2	01/15/91
L-14	0.0	0.0	2.5	01/15/91
M-1	0.0	0.0	5.4	01/04/91
M-2 not installed due to surface obstructions.				
M-3	5.7	0.0	4.0	01/15/91
M-4	4.5	0.0	2.8	01/15/91
M-4A	4.1	0.0	2.0	01/15/91
M-5 through M-7 not installed due to surface obstructions.				

PRELIMINARY
 ROSEN SITE
 REMEDIAL INVESTIGATION
 SOIL VAPOR SAMPLING RESULTS
 (Cont'd)

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
M-8	5.8	0.0	3.4	01/16/91
M-9	18.1	43.1	4.5	01/15/91
M-10 (Dup.)	0.5 (0.8)	0.0 (0.0)	5.0	01/15/91
M-11	3.8	0.0	4.5	01/15/91
M-12	0.0	4.1	4.0	01/15/91
M-13	0.0	0.0	3.0	01/15/91
N-1	0.0	0.0	8.0	01/04/91
N-2	3.8	0.0	4.4	01/15/91
N-3	5.9	0.0	3.6	01/15/91
N-4 not installed due to surface obstructions.				
N-5	0.0	0.0	4.0	01/14/91
N-6	2.0	0.0	2.6	01/14/91
N-7 (Dup.)	3.4 (3.4)	0.0 (0.0)	8.0	01/14/91
N-8	5.1	0.0	4.3	01/16/91
N-9	7.6	0.0	5.3	01/16/91
N-10	3.9	0.0	3.7	01/15/91
N-11	0.0	0.0	4.0	01/15/91
N-12	2.3	4.8	4.6	01/15/91
O-1	0.0	0.0	5.3	01/04/91
O-2	12.8	0.0	1.2	01/14/91
O-3 through O-5 not installed due to surface obstructions.				
O-6	0.0	18.1	4.0	01/14/91
O-7	2.3	1.4	3.4	01/16/91
O-8	4.5	0.0	4.5	01/16/91
O-9	3.8	0.0	4.7	01/15/91
O-10	0.0	0.0	4.0	01/15/91
P-1	0.0	0.0	5.3	01/04/91

PRELIMINARY
 ROSEN SITE
 REMEDIAL INVESTIGATION
 SOIL VAPOR SAMPLING RESULTS
 (Cont'd)

Sample ID	MicroTip Field Scan (ppm)	MicroTip Sample Scan (ppm)	Vapor Point Depth BGL (feet)	Date Sampled
P-2	0.0	0.0	5.0	01/14/91
P-3	0.1	0.0	1.0	01/14/91
P-4	6.0	0.0	2.5	01/14/91
P-5A	2.1	0.0	1.3	01/14/91
P-5B	1.8	0.0	2.0	01/14/91
Q-1	0.0	3.4	4.1	01/04/91

KEY

- * = Sample reanalyzed for concentration verification.
- NS = Not sampled due to difficulty drawing vapor through tube.
- Dup. = Duplicate
- BGL = Below ground level.
- ppm = Parts per million.



BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & GEOSCIENTISTS

6723 Towpath Road, Box 66, Syracuse, New York 13214 (315) 446-9120
FAX: (315) 449-0017

May 17, 1991

Mr. Mark Granger
United States Environmental
Protection Agency
Region II
26 Federal Plaza
New York, NY 10278

Re: Rosen Site
Subsurface Logs

File: 494.01 #2

Dear Mr. Granger:

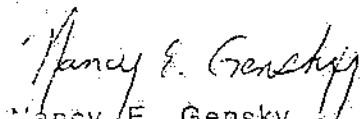
At the direction of Mr. Charles L. Poole, CPRP Group Coordinator for the Rosen Site, we are herein transmitting the subsurface logs for five soil borings (B-01 through B-05), ten test pits (T-01 through T-10), and nine monitoring wells (W-06 through W-14) installed at the site. We have also included a site map showing the locations of these soil borings, test pits and wells.

While the information and results presented on the enclosed logs and the locations depicted on the enclosed map have been reviewed, we have still designated them as "preliminary." Some items may change after final reviews and corrections have been made, prior to inclusion into the Remedial Investigation Report.

If you have any questions, please contact Mr. Poole or myself.

Very truly yours,

BLASLAND & BOUCK ENGINEERS, P.C.


Nancy E. Gensky
Manager, Geology

STS/dam
Enclosures

cc: Mr. Charles L. Poole, CPRP Group Coordinator
Mr. George W. Lee, Jr., C.P.G.S., Blasland & Bouck Engineers, P.C.
Mr. Robert K. Goldman, P.E., Blasland & Bouck Engineers, P.C.

SUBSURFACE LOG

B-01

(Page 1 of 3)

SOIL CLASSIFICATION

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	DESCRIPTION
		FIELD		HEADSPACE						
		HNU	TIP	HNU	TIP					
1.0	10	0.3		0.0		1			Brown medium to coarse Sand, some fine Gravel, little Silt, trace brick Fragments, moist, loose (FILL).	
1.0	9	0.0		0.0		2			Brown SILT, little Clay, moist, loose.	
1.0	4	0.0		0.0		3	✓ Sample			
1.2	10	0.0		0.0		4				
1.0	8	0.0		0.0		5			Brown medium to coarse SAND, little fine Sand and Silt, wet, loose. - grades to medium to coarse Sand and fine to coarse Gravel, wet, firm.	
1.7	8	0.0		0.0		6				
1.0	27	0.0		0.0		7				
1.5	30	0.0		0.0		8				
1.4	55	0.0		0.0		9				
2.0	52	0.4		0.0		10			- grades with some fine to medium Sand, wet, very compact.	
0.7	51	0.1		0.0		11				
1.6	34	0.1		0.0		12			- grades to medium to coarse Sand, some fine to coarse Gravel, little fine Sand, wet, compact.	
1.0	34	0.0		0.0		13				
1.2	34	0.0		0.0		14				
1.6	23	0.0		0.0		15			- grades to fine to coarse Sand, some fine to coarse Gravel, wet, firm.	
0.6	27	0.0		0.0		16				
1.5	34	0.0		0.0		17				
0.5	27	0.0		0.0		18				
0.7	25	0.0		0.0		19			Brown SILT and fine SAND, little medium to coarse Sand and fine Gravel, trace Clay, wet, firm.	
0.5	7	0.0		0.0		20			- grades to fine to medium Sand, little coarse Sand and fine Gravel, wet, loose.	
0.5	12	0.0		0.0		21				
0.3	14	0.0		NS		22			Brown SILT and CLAY, some medium to coarse Sand and fine Gravel, wet, firm.	
0.2									Grey SILTY CLAY, wet, medium. CONTINUED ON FOLLOWING PAGE.	

SUMMARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppa)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG		SOIL CLASSIFICATION
		FIELD		HEADSPACE						B-01 <small>(Page 2 of 3)</small>		
		HMU	TIP	HMU	TIP							
0.2	12	0.0		0.0		23						
0.2	9	0.0		0.0	24							
0.7	9	0.0		0.0	25							
0.0	12	0.0		0.0	26	26			Grey/Brown SILT, little Clay, trace Fine SAND and Fine Gravel, wet, Firm.			
0.0	24	0.0		NA	27							
0.0	16	0.0		NA	28	-55						
1.0	36	0.0		NA	29	29			Brown SILT and CLAY, trace Fine Sand and Fine Gravel, wet, compact. - grades to Silt with some Fine Sand, little Clay and coarse Sand, wet, Firm.			
0.0	5	0.0		NA	30							
1.3	17	0.0		NR	31	-60						
0.7	57	0.0		NA	32	32			Grey/Brown medium to coarse SAND, some Fine to coarse Gravel, little Fine Sand and Silt, wet, very compact.			
0.5	45	0.0		NA	33	-65						
0.0	68	0.0		NR	34							
0.8	57	0.0		NA	35	35						
0.7	63	0.4		NA	36	-70						
1.0	82	0.0		NA	37							
1.5	44	0.0		NA	38	38			- grades to Fine to medium Sand, some coarse Sand and fine Gravel, little Silt, wet, very compact			
0.8	29	0.0		NA	39							
1.0	44	0.2		NA	40	-80						
1.0	29	0.4		NA	41	41			- grades to medium to coarse Sand, some Fine Sand, little Silt, wet, Firm			
0.0	58	0.1		NR	42							
0.0	36	0.0		NR	43	-85						
0.0	51	0.0		NR	44	44			Grey/Brown fine SAND and SILT, little medium to coarse Sand, wet, compact. - grades to Silt with some medium to coarse Sand and fine to coarse Gravel, wet, very compact.			
1.5	47	0.2		NA	45	-90						
0.8	61	NA	0.2		46							
0.5	NA	NA	0.2		47	47			Grey/Brown fine Sand, some Silt, little medium to coarse Sand and fine Gravel, moist, very compact.			
0.4						-95				- grades with some medium to coarse Sand and Fine to coarse Gravel, wet	CONTINUED ON FOLLOWING PAGE	

PRELIMINARY

RECOVERY (FEET)	Z-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG B-01	
		FIELD		HEADSPACE						SOIL CLASSIFICATION	
		HWJ	TIP	HWJ	TIP						
0.1	NA			0.2		18	-95		Grey Silt, little medium to coarse Sand and fine Gravel embedded, moist, very compact (TILL). Boring terminated at 100.5'. NOTES: Grouted boring to surface NA - reading not available due to field conditions NR - no recovery		
0.4	NA			0.1		49	-98				
0.3	103/5			0.1		50	-100				
0.0	112/5			0.1		31	-100.5				
							-105				
							-110				
							-115				
							-120				
							-125				
							-130				
							-135				
							-140				
							-145				

PRELIMINARY

RECOVERY (FEET)	Z-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG		B-02
		FIELD		HEADSPACE						SOIL CLASSIFICATION		(Page 1 of 2)
		HNU	TIP	HNU	TIP							
1.8	37	NA	NA	4.0		1						
0.5	39	NA	NA	0.5		2						
1.3	24	NA	NA	13.0	9.0	3	Lab Sample					
0.0	25	NA	NA	NR	NR	4						
0.4	20	NA	NA	0.4		5						
0.0	26	NA	NA	NR		6						
0.5	32	NA	NA	0.8		7						
0.7	20	NA	NA	0.4		8						
1.5	51	NA	NA	0.2		9						
1.6	75	NA	NA	0.2		10						
1.8	65	NA	NA	0.2		11						
1.7	35	NA	NA	0.2		12						
2.0	52	NA	NA	9.0	9.6	13						
0.7	72	NA	NA	0.0	4.8	14						
1.8	58	NA	NA	0.0	1.6	15						
2.0	41	NA	NA	0.0	0.0	16						
2.0	67	NA	NA	1.6	0.0	17						
0.7	49	NA	NA	0.1	0.7	18						
2.0	51	NA	NA	0.1	0.5	19						
0.7	47	NA	NA	0.3	0.1	20						
0.7	52	NA	NA	0.0	0.2	21						
0.7	56	NA	NA	0.0	0.0	22						

CONTINUED ON FOLLOWING PAGE

RELIMINARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG B-03	
		FIELD		HEADSPACE						(Page 1 of 3)	
		HWJ	TIP	HWJ	TIP					SOIL CLASSIFICATION	
						5					
1.3	14	0.0	0.0	81.5	1	0			Dark brown/gray medium to coarse Sand, little Silt and Fine Gravel, wet, Firm (FILL).		
0.8	12	0.0	12.0	27	2	0			Orange/brown medium to coarse Sand and fine gravel size silt material, trace Silt, damp, Firm (FILL).		
1.3	8	0.0	0.0	97.2	3	5	Lab Sample		Gray/brown SILT, little Clay, moist, loose. - grades with little medium to coarse Sand and fine Gravel, moist, Firm.		
1.5	15	0.0	0.0	32.0	4						
0.9	6	0.0	0.0	3.7	5	-10			Gray/brown medium to coarse SAND and fine GRAVEL, little Silt, trace Clay, saturated, loose. - grades to dark gray fine to medium Sand and Silt, little fine Gravel, saturated, loose.		
0.6	8	0.0	0.0	24	6						
0.1	7	NR	NR	17.6	7						
1.4	10	0.0	0.0	16.6	8	-15			Brown medium to coarse SAND and fine GRAVEL, little fine Sand and Silt, wet, compact.		
0.5	47	0.0	0.0	9.2	9						
1.6	48	0.0	0.0	5.3	10	-20					
1.1	38	0.0	0.0	8.8	11						
2.0	36	0.0	0.0	40	12				- grades with some Silt and little fine Gravel, saturated, compact		
2.0	45	0.0	0.0	6.2	13	-25			- grades to coarse Sand and fine Gravel, little fine to medium Sand and Silt, moist, compact		
1.2	38	0.0	0.0		14						
1.7	35 74/4	0.0	0.3		15	-30			- grades with some medium Sand and little fine Gravel		
0.9	41	0.0	0.0		16						
1.2	79	0.0	0.4		17				- grades with little medium Sand, trace Silt, wet, very compact		
0.9	68	0.1	0.0	0.1	18	-35			- grades to fine to coarse Gravel, little medium to coarse Sand, wet, very compact		
0.6	76	0.0	0.0		19						
0.6	56	0.0	0.1		20	-40					
1.0	45	0.0	0.2		21				- grades to medium to coarse Sand, some fine Gravel, little fine Sand and Silt, wet, compact		
0.5	43	0.0	0.2		22				- grades with some Silt, little fine Gravel		
1.0						-45			Brown fine to medium SAND, little to some Silt, little		

RELIABLE

RECOVERY (FEET)	Z-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG B-03	
		FIELD		HEADSPACE						(Page 2 of 3)	
		HNU	TIP	HNU	TIP					SOIL CLASSIFICATION	
1.0	32		0.0	0.1		23	-5			Fine Gravel, wet, compact.	
2.0	74		0.0	0.2		24				- becomes very compact	
1.2	27		0.0	0.4		25	-50			- grades to medium to coarse Sand, some Fine Gravel, little Silt, wet, firm	
0.7	38		NA			26				- grades to fine Sand, little medium Sand and Silt, wet, compact	
1.0	30		0.2	0.0		27				- grades to medium to coarse Sand, some Fine Gravel and Silt, trace Clay, wet, compact	
1.1	49		NA	9.4		28	-55			- becomes very compact, Shale cobble at 59.5'	
1.3	68		NA	200		29					
0.5	50/4		NA	74		30					
1.0	38		NA	100		31	-60			- grades with little fine to coarse Gravel and Clay, wet, compact	
0.9	93		NA	3.0		32				- becomes very compact	
0.8	90		NA	0.8		33	-65			- grades with some fine to coarse Gravel and rock fragments, moist, very compact	
0.5	93		NA	2.0		34					
0.0	57/5		NA	NR		35					
1.2	40		NA	100		36	-70			Brown medium SAND, little fine Sand and Silt, wet, compact.	
0.0	65		NA	11.0		37				- grades with some fine Sand and Silt, wet, very compact	
1.2	51		NA	15		38	-75			Brown coarse SAND and fine to coarse GRAVEL, trace Silt, wet, very compact.	
1.5	94		NA	0.4		39				- grades with some fine to coarse Gravel, little Silt	
0.8	89		NA	0.0		40	-80			- grades with some fine to coarse Sand and Silt, wet, very compact	
0.6	45		NA	0.6		41				- becomes compact	
0.2	30		NA	0.0		42					
0.7	35		NA	0.0		43	-85			- grades to medium to coarse Sand, little fine to coarse Gravel and Silt, wet, compact	
0.4	26		0.0	120		44				- grades to Fine to coarse Gravel, little medium to coarse Sand and Silt, wet, firm	
0.6	32		0.0	0.0		45	-90			- grades with little fine Sand	
0.8	30		0.0	0.0		46				- grades with some medium to coarse Sand	
0.9	95	0.0	NA	0.0		47	-95			Brown medium to coarse Sand, some fine Gravel and Silt, moist, very compact (TILL).	
0.7										- similar with gray Shale fragments embedded in silt	

P R I M A R Y

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppa)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG	B-03
		FIELD		HEADSPACE						(Page 3 of 3)	
		HNU	TIP	HNU	TIP					SOIL CLASSIFICATION	
75	100/4	NA	0.2	0.0	8	-95			matrix, moist, very compact		
						-100			Boring terminated at 95.9'.		
						-105			<p>NOTES:</p> <p>Organic vapor field concentrations unavailable due to 100% humidity and extremely low temperature (0 degrees F).</p> <p>Another HNU was used for headspace readings on samples 1 - 11. The instrument readings were erratic and not consistent with observations and other instruments. It was concluded that the instrument was malfunctioning.</p> <p>NA - Not available. No reading available due to field conditions.</p> <p>NR - No recovery</p>		
						-110					
						-115					
						-120					
						-125					
						-130					
						-135					
						-140					
						-145					
						-150					

PRELIMINARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG B-04	
		FIELD		HEADSPACE						(Page 1 of 2)	
		HNJ	TIP	HNJ	TIP					SOIL CLASSIFICATION	
						5					
1.7	11	NA	NA	5.0	0.1	1			Black cinders, some fine to medium sand, damp, fine (FILL).		
1.7	27	NA	NA	0.2	0.0	2			Yellow/brown SILT, some medium to coarse sand, little fine gravel, trace cinders, damp, firm.		
2.0	55	NA	NA	0.2	0.0	3					
1.5	69	NA	NA	0.8	0.0	4	Lab Sample		- grades to medium to coarse sand and fine gravel, little silt, wet, very compact		
1.1	41	NA	NA	0.2	0.0	5			- grades with some silt		
0.9	39	NA	NA	6.0	0.1	6					
0.0	50/0	NR	NR	NR	NR	7			Gray/brown medium to coarse sand and fine to coarse gravel, little silt, wet, very compact.		
0.8	68	NA	NA	3.8	0.0	8					
1.5	80	NA	NA	0.2	0.0	9			- grades with some silt and little fine gravel		
1.0	66	NA	NA	0.0	0.0	10			- damp, very compact		
1.0	54	NA	NA	1.0	0.0	11					
0.7	60	NA	NA	0.4	0.0	12			- grades to gray silt with some fine coarse sand and fine gravel, wet, very compact		
0.9	34	NA	NA	1.2	0.5	13			- becomes compact		
1.1	87.5	NA	NA	1.0	0.0	14					
1.2	107	NA	NA	0.0	0.1	15			- grades with little coarse sand and fine gravel and clay, wet, very compact		
0.8	89	NA	NA	0.6	1.5	16			- grades to medium to coarse sand and fine to coarse gravel, little silt, wet, very compact		
0.6	50/4	NA	NA	7.6+	1.1	17					
1.0	57	NA	NA	0.0	1.8	18					
0.6	54	NA	NA	10+	1.7	19					
1.0	36	NA	NA	7.0	0.0	20			- grades with some silt, trace clay		
1.9	51	NA	NA	0.4+	0.0	21			- grades with little fine to coarse gravel		
1.0	32	NA	NA	0.4+	0.0	22			Brown fine to medium sand, trace coarse sand and silt, wet, compact.		
1.2									Brown medium to coarse sand, some fine to coarse		

REMARKS

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG B-05	
		FIELD		HEADSPACE						(Page 1 of 3)	
		HW	TIP	HW	TIP					SOIL CLASSIFICATION	
0.2	50/2	0.0		0.6	14.6	1				Black Silt, some coarse Sand, fine Gravel and slag Fragments, wet (FILL).	
0.5	50/5	0.0		24.0	13.3	2				Brown medium to coarse Sand, little slag fragments and Silt (FILL).	
1.7	7	0.2		0.0	14.0	3				Brown SILT, little medium to coarse Sand and Fine Gravel, little Clay, moist, loose.	
1.0	12	0.4		1.4	13.5	4					
0.4	6	0.1		0.8	6.9	5				Brown medium to coarse SAND, little fine Gravel and Silt, wet, loose.	
2.0	7	NR		NR	NR	6					
1.0	11	0.1		0.0	0.0	7				- grades with some fine to coarse Gravel, wet, fine	
1.0	10	0.0		0.1	0.0	8				- grades with little fine to coarse Gravel, wet, loose	
1.0	9	0.0		0.0	0.0	9				- grades with some fine to coarse Gravel, wet, fine	
0.7	21	0.0		0.3	0.0	10					
0.8	59	0.0		0.6	0.0	11				Gray/brown fine to medium SAND, little coarse Sand and Fine Gravel, trace Silt, moist, compact.	
0.3	55	0.0		0.0	0.0	12					
0.8	52	0.0		0.0	0.0	13				- grades with some coarse Sand and Fine Gravel, little fine Sand and Silt, moist, very compact	
1.1	46	0.0		0.4	0.0	14				- grades to medium to coarse Sand and Fine Gravel, some Silt, little fine Sand, wet, compact	
0.9	41	0.0		0.0	0.0	15					
0.8	37	0.0		NO	NO	16					
0.5	41	0.0		NO	NO	17				- grades with trace Clay	
0.5	54	0.0		NO	NO	18					
0.8	55	0.0		NO	NO	19				- grades to coarse Sand and Fine to coarse Gravel, little Silt, wet, very compact	
0.8	54	0.0		NO	NO	20					
1.5	76	0.8		NO	NO	21				- grades to medium to coarse Sand, some Silt, little fine Gravel, wet, very compact	
0.8	54	0.0		NO	NO	22					
0.8											

CONTINUED ON FOLLOWING PAGE

RELIANCE

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	BORING COLUMN	GEOLOGIC COLUMN	SUBSURFACE LOG B-05	
		FIELD		HEADSPACE						SOIL CLASSIFICATION	
		HNU	TIP	HNU	TIP						
0.8	60	0.1		ND	23	-5			- grades with little Silt, wet, very compact		
1.0	75	NA		ND	24	-10			- grades with some Fine Sand and Silt, little Fine to coarse Gravel, wet, very compact		
1.0	53	NA		0.3	1.5	25			- grades with some Fine to coarse Gravel, little Fine Sand and Silt		
0.8	41	0.0		0.4	2.0	26			- grades with some Silt, little Fine to coarse Gravel, wet, very compact		
0.7	31	0.0		0.2	1.5	27			- grades with some Silt, little Fine to coarse Gravel, wet, very compact		
0.7	82	0.0		0.1	0.8	28			- grades with some Silt, little Fine to coarse Gravel, wet, very compact		
0.2	57	0.0		0.1	0.9	29			- grades with some Silt, little Fine to coarse Gravel, wet, very compact		
0.9	38	0.0		0.1	0.2	30			- grades with some Silt, little Fine to coarse Gravel, wet, very compact		
	58	0.0		0.0	1.0	31			- grades with some Silt, little Fine to coarse Gravel, wet, very compact		
0.0	25/0.0	NR		NR	NR	32			- grades with some Silt, little Fine to coarse Gravel, wet, very compact		
0.8	39	0.0		0.0	0.0	33			- grades with some Fine Gravel, little Silt, moist, compact		
	100/4	NR		NR	NR	34			- grades with some Fine Gravel, little Silt, moist, compact		
0.2	100/2	0.0		0.6	0.6	35			- grades with some Fine Gravel, little Silt, moist, compact		
0.6	54	0.0		0.0	0.0	36			Brown Fine SAND, some medium to coarse Sand and fine Gravel embedded, little Silt, moist, very compact.		
0.4	42	0.0		0.0	0.0	37			- grades to Silt with some medium to coarse Sand and fine Gravel, little Fine Sand and Clay, wet, compact		
0.4	34	0.2		0.2	0.4	38			- grades to Silt with some medium to coarse Sand and fine Gravel, little Fine Sand and Clay, wet, compact		
0.0	54	NR		NR	NR	39			- grades to medium to coarse Sand and Fine to coarse Gravel, little Silt, wet, compact		
0.8	35	0.0		0.2	0.0	40			- grades with trace Silt, Firm		
0.4	46	0.0		0.1	0.0	41			- grades with little Silt and fine Gravel, wet, very compact		
0.4	48	0.0		0.4	0.0	42			- grades with little Silt and fine Gravel, wet, very compact		
0.2	61	-		0.3	0.0	43			- grades with little Silt and fine Gravel, wet, very compact		
0.5	45	0.0		0.2	5.2	44			- grades with little Silt and fine Gravel, wet, very compact		
0.4	27	0.0		0.2	5.8	45			Brown Silt, some medium to coarse Sand and fine Gravel embedded, little fine Sand, moist, very compact (TILL).		
0.6	51	0.0	0.0	0.4	2.6	46			- grades with little Silt and fine Gravel, wet, very compact		
0.2	24	0.0	0.0	0.0	3.3	47			- grades with little Silt and fine Gravel, wet, very compact		
0.2	150/2	0.0	0.0	0.8	4.2	48			- grades with little Silt and fine Gravel, wet, very compact		

SUMMARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	WELL COLUMN	GEOLOGIC COLUMN	SUBSURFACE AND WELL CONSTRUCTION LOG
		FIELD		HEADSPACE						W-13A <small>(Page 2 of 2)</small>
		HRU	TIP	HRU	TIP					SOIL CLASSIFICATION
						-45			<p>WELL CONSTRUCTION DETAILS</p> <p>2-inch diameter stainless steel riser SS 11.0 - 1.8' above ground level</p> <p>2-inch diameter SS well screen with 0.010 inch slot 21.0 - 11.0'</p> <p>Bottom of well set at 21.5'</p> <p>Formation collapsed to 28.6'</p> <p>Grade 0 sand pack 27.1 - 8.7'</p> <p>Bentonite seal 8.7 - 5.5'</p> <p>Cement grout 5.5 - 0.0'</p> <p>NOTES: This well was abandoned and grouted to surface on 2/27/91 when access permission for an off-site well cluster (W-13 and W-14) was obtained.</p> <p>HR - No recovery</p>	
						-50				
						-55				
						-60				
						-65				
						-70				
						-75				
						-80				
						-85				
						-90				

PRELIMINARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	WELL COLUMN	GEOLOGIC COLUMN	SUBSURFACE AND WELL CONSTRUCTION LOG	
		FIELD		HEADSPACE						W-13	SOIL CLASSIFICATION
		HNU	TIP	HNU	TIP						
1.4	8	0.0	0.0	0.0	4.0	1			<p>WELL CONSTRUCTION DETAILS</p> <p>2-inch diameter stainless steel (SS) riser 9.0 - 1.8' above ground level</p> <p>2-inch diameter SS well screen with 0.010 inch slot 19.0 - 9.0'</p> <p>Bottom of well set at 19.5'</p> <p>Grade 0 sand pack 20.0 - 7.0'</p> <p>Bentonite seal 7.0 - 5.1'</p> <p>Cement grout 5.1 - 0.0'</p> <p>Cement surface pad 1.5 - 0.0'</p> <p>4-inch diameter outer protective steel casing with locking cap installed to 2.0' above ground level</p> <p>Top of well elevation 1132.21'</p>		
1.2	5	0.0	0.0	0.0	1.8	2					
0.5	17	0.0	0.0	0.0	3.5	3					
0.5	10	0.0	0.4	0.0	7.0	4					
										<p>Boring terminated at 20.0'</p> <p>NOTE: Please see adjacent well W-14 Subsurface and well construction log for subsurface geology.</p>	

SUMMARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	WELL COLUMN	GEOLOGIC COLUMN	SUBSURFACE AND WELL CONSTRUCTION LOG	
		FIELD		HEADSPACE						W-14	SOIL CLASSIFICATION
		HNU	TIP	HNU	TIP						
0.9	8	0.0	0.0	0.0	1.1	1					
1.0	12	0.0	0.0	0.1	0.6	2				Brown/black medium to coarse Sand, some cinders and concrete fragments, trace brick fragments, moist, compact (FILL). - similar with little Silt and fine Gravel, moist, Firm	
1.3	4	0.0	0.0	0.0	0.5	3					
1.0	28	0.0	0.0	0.8	1.0	4				Brown SILT, trace coarse Sand, moist, loose.	
1.1	12	0.0	0.0	0.2	0.8	5				Brown fine SAND, some Silt, little medium Sand, moist, Firm.	
0.8	15	0.0	0.0	0.2	1.0	6				Brown medium to coarse SAND, some fine to coarse Gravel, little Silt, wet, Firm.	
0.9	30	0.0	0.0	0.2	1.0	7					
1.0	8	0.0	0.0	0.8	1.2	8				- similar, compact - similar, loose	
0.9	12	0.0	0.0	1.8	3.8	9					
0.5	22	0.0	0.0	0.6	2.5	10				- similar, Firm	
0.4	12	0.0	0.0	0.2	2.0	11					
0.3	8	0.0	0.0	0.4	2.3	12				- similar, loose	
1.3	91	0.0	0.0	0.5	1.7	13					
0.9	74	0.0	0.0	0.0	0.7	14				Gray/brown SILT, some medium to coarse Sand and weathered shale fragments, little fine Gravel, moist, very compact.	
0.7	63/50	0.0	0.0	0.0	0.6	15				- grades to medium to coarse Sand and fine Gravel, little Silt and fine Sand, wet, very compact	
0.8	4	0.0	0.0			16				- similar, compact	
1.0	4	0.0	0.0	0.0	0.7	17					
0.9	55	0.0	0.0	0.0	0.9	18				- similar, very compact	
0.4	50/4	0.0	0.0	0.2	1.0	19					
1.2	8	0.0	0.0	0.0	1.0	20				- grades with some fine to coarse Gravel	
0.9	2	0.0	0.0	0.6	0.9	21					
1.1	100	0.0	0.0	0.8	1.1	22				- grades with some Silt, little fine to coarse Gravel, wet, very compact	

CONTINUED ON FOLLOWING PAGE

P R I M A R Y

RECOVERY (FEET)	N-V VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	WELL COLUMN	GEOLOGIC COLUMN	SUBSURFACE AND WELL CONSTRUCTION LOG W-14	
		FIELD		HEADSPACE						SOIL CLASSIFICATION	
		HNU	TIP	HNU	TIP						
0.9	69	0.0	0.0	0.8	1.0	23			- similar		
0.3	92/94		0.0	0.0		24					
0.2	100/4		0.0	0.0		25			Brown medium to coarse SAND, some Fine Gravel and Silt, wet, very compact.		
0.3	58-100/3		0.0	0.0		26					
1.5	91		0.0	0.0		27			- grades with little Silt and Fine Sand		
0.5	56		0.0	0.0		28					
0.3	38		0.0	0.1		29			- similar, poor recovery due to cobbles		
0.5	141		0.0	0.0		30			- grades with some Silt, trace Clay		
0.3	107	0.0	0.0	0.0	0.0	31			- grades with little Silt		
0.3	100/4	0.0	0.0	0.0	0.0	32					
0.8	71	0.0	0.0	0.0		33					
0.8	71	0.0	0.0	0.0		34			- grades to coarse Sand and fine to coarse Gravel, little fine to medium Sand, wet, very compact		
1.2	134	0.0	0.0	0.1		35					
1.5	93	0.0	0.0	0.2		36			- grades with some medium Sand, little fine to coarse Gravel		
0.9	147	0.0	0.0	0.1		37					
0.8	124	0.0	0.0	0.3		38			- grades with little to some Silt		
1.6	87	0.0	0.0	0.1		39					
0.0	115	0.0	0.0	0.0		40					
									Boring terminated at 84.0'		

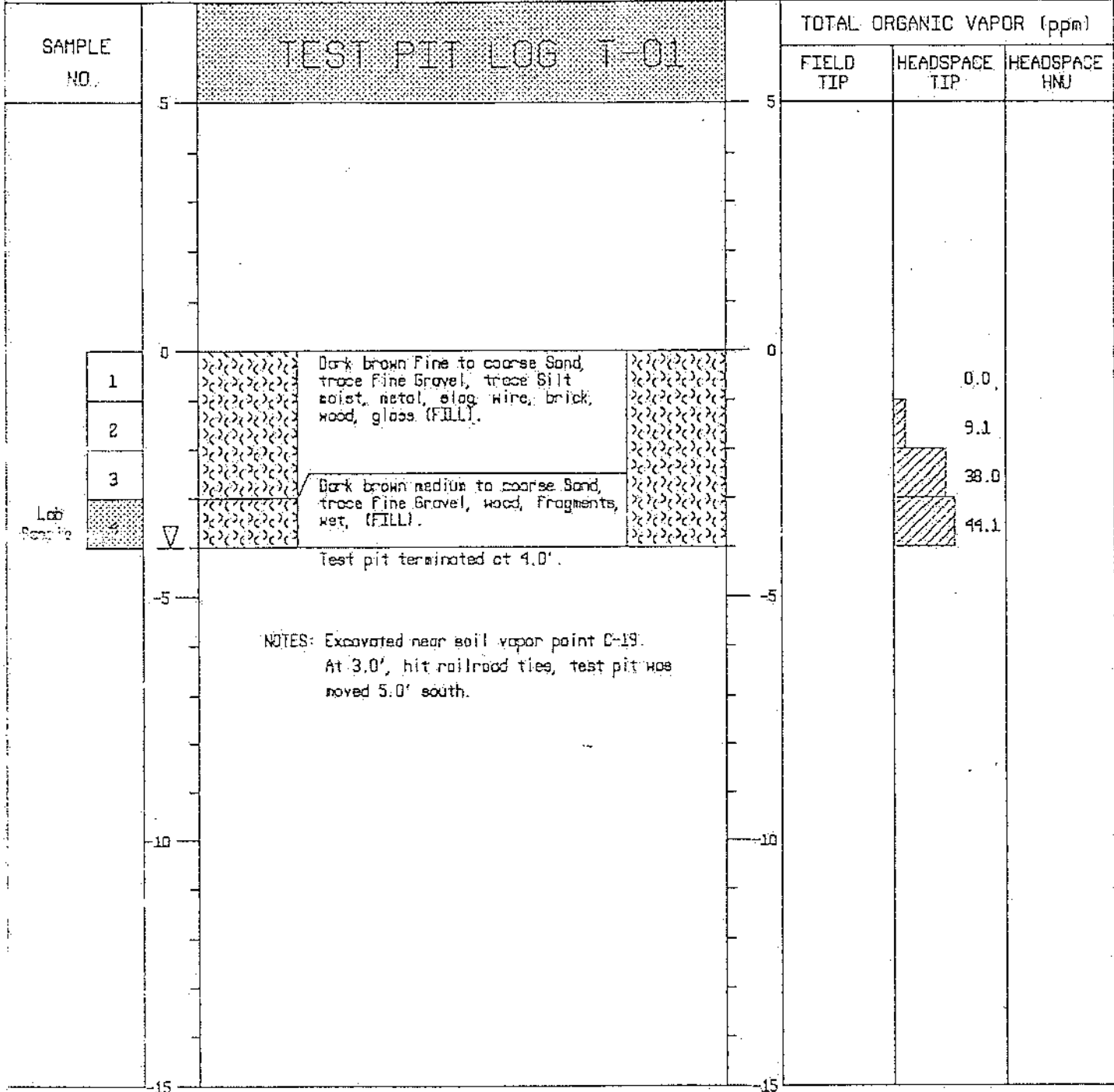
CONTINUED ON FOLLOWING PAGE

PRELIMINARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	WELL COLUMN	GEOLOGIC COLUMN	SUBSURFACE AND WELL CONSTRUCTION LOG
		FIELD		HEADSPACE						W-14 <small>(Page 3 of 3)</small>
		HNU	TIP	HNU	TIP					SOIL CLASSIFICATION
						-95			<p>WELL CONSTRUCTION DETAILS</p> <p>2-inch diameter stainless steel (SS) riser 59.0 - 1.8' above ground level</p> <p>6-inch diameter steel casing 52.0 - 0.0'</p> <p>2-inch diameter SS well screen with 0.010 inch slot 69.0 - 59.0'</p> <p>Bottom of well set at 69.5'</p> <p>Formation collapsed to 69.5'</p> <p>Grade 0 sand pack 69.5 - 57.0'</p> <p>Bentonite seal 57.0 - 54.5'</p> <p>Cement grout 54.5 - 1.5'</p> <p>Cement surface pad 1.5 - 0.0'</p> <p>4-inch diameter outer protective steel casing with locking cap installed 2.0' above ground level</p> <p>Top of well elevation 1132.19'</p>	
						-100				
						-105				
						-110				
						-115				
						-120				
						-125				
						-130				
						-135				
						-140				
						-145				
						-150				
						-155				
						-160				
						-165				

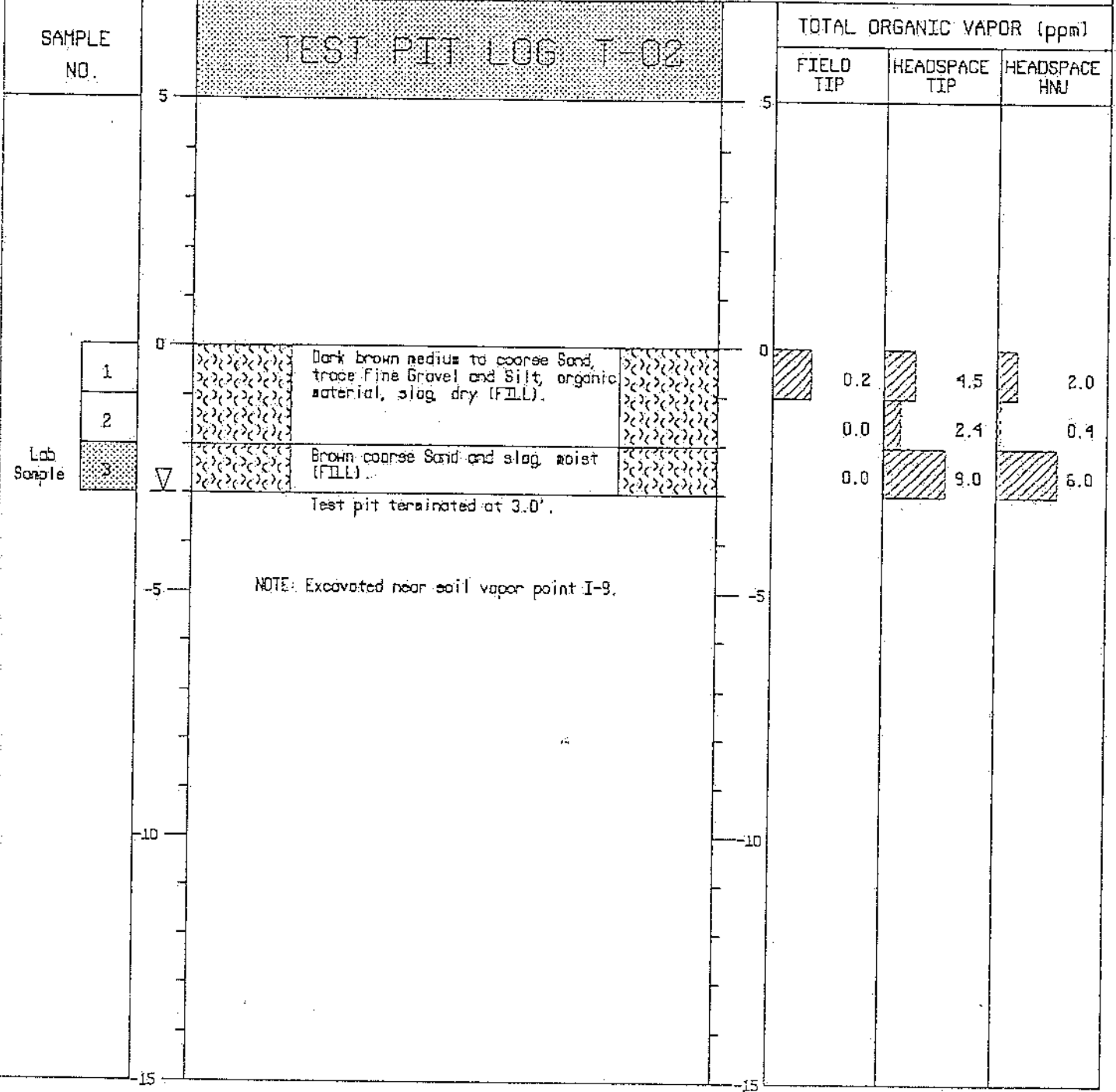
P R E L I M I N A R Y

<h2 style="margin: 0;">BLASLAND, BOUCK & LEE</h2>	PROJECT NAME: Rosen
	PROJECT NUMBER: 494.02.05
	LOCATION: Cortland, NY
TEMPERATURE: 31 degrees F.	CLASSIFIED BY: HEK, CSS
WEATHER: Cloudy.	DATE: 1/18/91



Lab Samples

<h1 style="margin: 0;">BLASLAND, BOUCK & LEE</h1>	PROJECT NAME: Rosen
	PROJECT NUMBER: 494.02.05
	LOCATION: Cortland, NY
TEMPERATURE: 18 degrees F.	CLASSIFIED BY: HEH, CSS
WEATHER: Cloudy and windy.	DATE: 1/23/91



Lab Sample

BLASLAND, BOUCK & LEE

PROJECT NAME: Rosen

PROJECT NUMBER: 494.02.05

LOCATION: Cortland, NY

TEMPERATURE: 18 degrees F.

CLASSIFIED BY: HEH, CSS

WEATHER: Cloudy, windy.

DATE: 1/23/91

TEST PIT LOG T-03

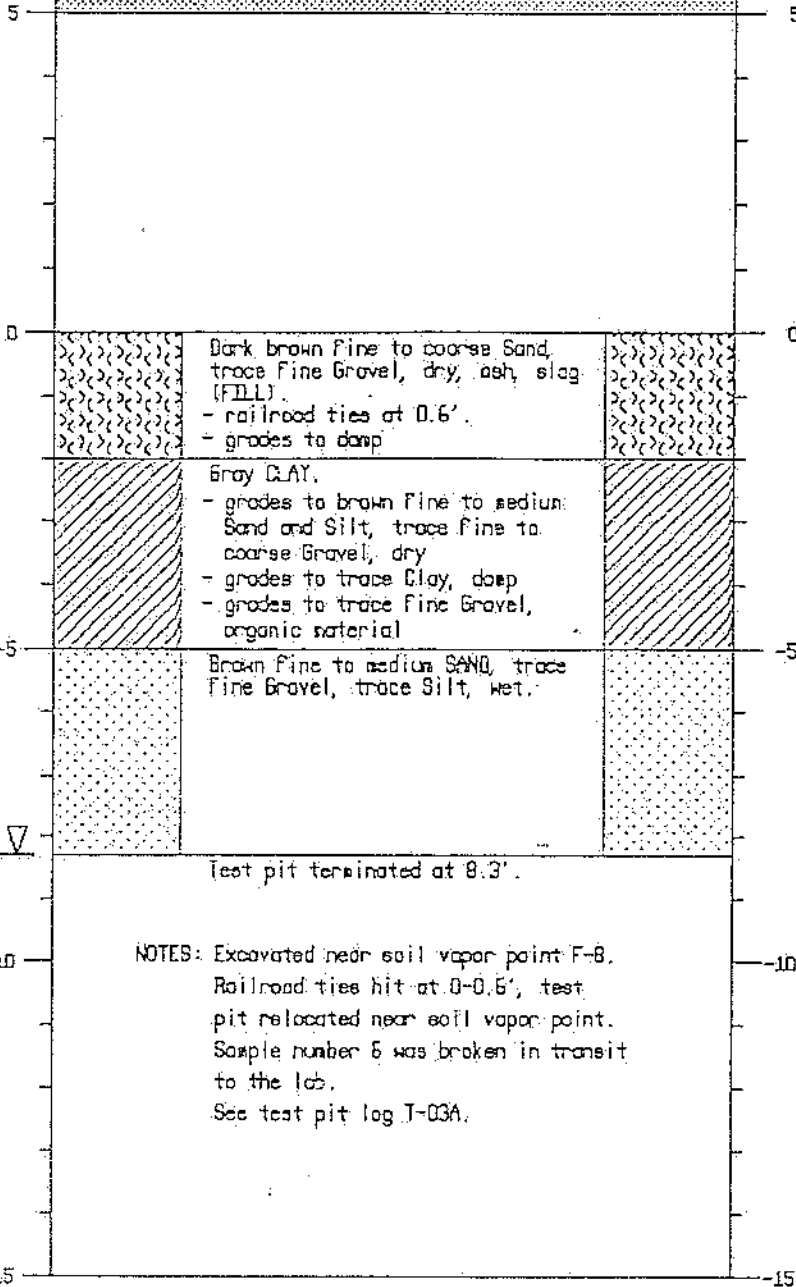
TOTAL ORGANIC VAPOR (ppm)

SAMPLE NO.

FIELD TIP

HEADSPACE TIP

HEADSPACE HMU



Lab Sample

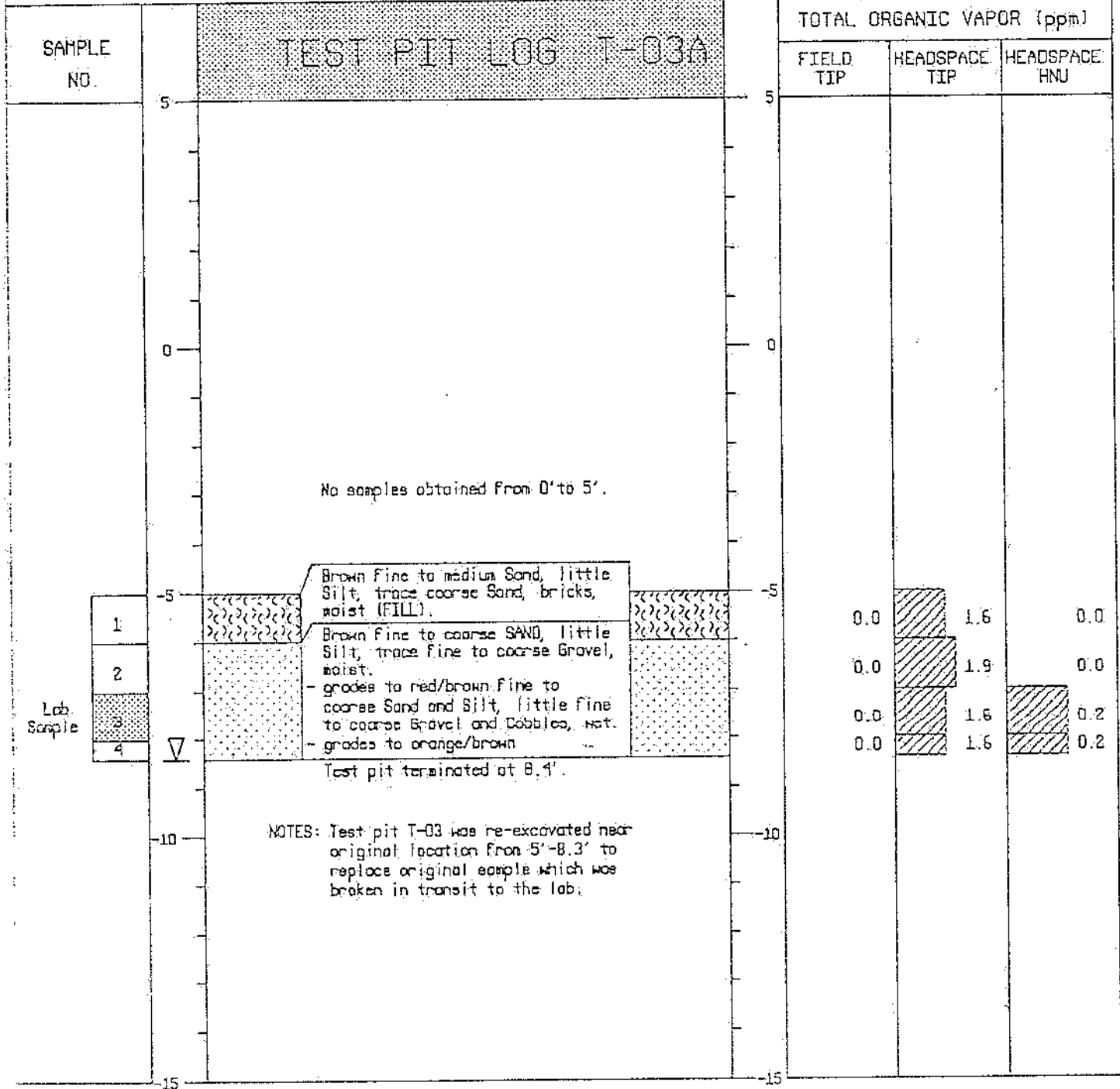
FIELD TIP	HEADSPACE TIP	HEADSPACE HMU
	0.0	0.0
	0.0	0.0
	0.0	0.0
	0.0	17.0
	0.0	17.0
	0.0	120

P R E L I M I N A R Y

BLASLAND, BOUCK & LEE

PROJECT NAME: Rosen
 PROJECT NUMBER: 494.02.05
 LOCATION: Cortland, NY
 CLASSIFIED BY: STS
 DATE: 1/30/91

TEMPERATURE: 31 degrees F.
 WEATHER: Mixed snow and rain.



Brown fine to medium Sand, little Silt, trace coarse Sand, bricks, moist (FILL).

Brown fine to coarse SAND, little Silt, trace fine to coarse Gravel, moist.

grades to red/brown fine to coarse Sand and Silt, little fine to coarse Gravel and Cobbles, wet.

grades to orange/brown

Lab. Sample

5
0
-5
-10
-15

5
0
-5
-10
-15

PRELIMINARY

<h2 style="font-size: 2em;">BLASLAND, BOUCK & LEE</h2>	PROJECT NAME: Rosen
	PROJECT NUMBER: 494.02.05
	LOCATION: Cortland, NY
TEMPERATURE: 18 degrees F.	CLASSIFIED BY: HEH CSS
WEATHER: Cloudy.	DATE: 1/23/91

SAMPLE NO.	5	TEST PIT LOG T-04		5	TOTAL ORGANIC VAPOR (ppm)		
		FIELD TIP	HEADSPACE TIP		HEADSPACE HNJ		
	0						
1		Dark brown fine to coarse Sand, trace fine Gravel, ash, slag, coal dmp (FILL).		0.0	0.3	30.0	
2		- odor (1'-2')		0.0	120.0	90.0	
3		- grades to moist with brick, glass		0.0	0.5	14.0	
4		Brown fine to medium Sand and Silt; trace Clay, organic material, dmp (FILL).		0.0	0.0	4.0	
5		- grades to some Silt, little fine Gravel, slag, dmp		0.0	0.0	4.2	
6	-5	Gray brown medium to coarse SAND, some fine Gravel, trace Silt, moist		0.0	0.0	14.0	
7		- grades to wet		0.0	0.0	3.0	
8	∇	Test pit terminated at 7.8'.					
	-10	NOTE: Excavated near soil vapor point F-12.					
	-15						

Lab Sample

P. ALI MINARY

BLASLAND, BOUCK & LEE

PROJECT NAME: Rosen
 PROJECT NUMBER: 494.02.05
 LOCATION: Cortland, NY

TEMPERATURE: 18 degrees F,

CLASSIFIED BY: HEH, CSS

WEATHER: Cloudy windy.

DATE: 1/23/91

SAMPLE NO.		TEST PIT LOG T-05		TOTAL ORGANIC VAPOR (ppm)		
				FIELD TIP	HEADSPACE TIP	HEADSPACE HNU
	5					
	0					
1		Dark brown medium to coarse Sand, trace fine Gravel, ash, slag, damp (FILL).		0.0	10.2	7.0
2		- grades to moist		0.0	130.0	120.0
3				0.0	0.4	300.0
4		Gray brown fine to coarse SAND and SILT, trace Clay, trace fine Gravel, organic material, damp.		0.0	0.0	90.0
5				0.0	0.0	160.0
6	-5	- grades to fine to medium Sand and Silt, trace fine Gravel, wet.		0.0	0.0	1.0
7				0.0	3.1	1.5
8		Brown fine to coarse SAND, trace fine Gravel, trace Silt, wet.		0.0	19.0	3.0
	-8.2	Test pit terminated at 8.2'.				
	-10	NOTE: Excavated near soil vapor point F-14.				
	-15					

Lab Sample

P. ELIMINARY

BLASLAND, BOUCK & LEE

PROJECT NAME: Rosen
 PROJECT NUMBER: 494.02.05
 LOCATION: Cortland, NY
 CLASSIFIED BY: HEH, CSS
 DATE: 1/24/91

TEMPERATURE: 20 degrees F, windchill 7 degrees F.

WEATHER: Snow, wind 5 - 10 mph.

TEST PIT LOG T-06

TOTAL ORGANIC VAPOR (ppm)

SAMPLE NO.			TOTAL ORGANIC VAPOR (ppm)		
			FIELD TIP	HEADSPACE TIP	HEADSPACE HNU
	5		5		
	0		0		
1		Dark brown Fine to coarse Sand, trace Silt, organic material, trace slag and brick, metal pipes, damp (FILL).	1.7	7.6	0.0
2			0.7	5.1	0.4
3		- grades to some Silt - grades with trace Fine Gravel	ND	4.2	1.0
4		Gray brown fine to coarse SAND, trace Silt, trace Fine Gravel, wet.	0.0	4.5	22.0
5	▽	Test pit terminated at 4.4'.	0.9	78.0	30.0
	-5		-5		
	-10		-10		
	-15		-15		

NOTES: Excavated near soil vapor point I-2.
 Sheen observed on the water table.

Lug Sample

BLASLAND, BOUCK & LEE

PROJECT NAME: Rosen
 PROJECT NUMBER: 494.02.05
 LOCATION: Cortland, NY
 CLASSIFIED BY: HEH, CSS
 DATE: 1/24/91

TEMPERATURE: 20 degrees F, windchill 7 degrees F.

WEATHER: Snow, wind 5 - 10 mph.

SAMPLE NO.	Lab Sample	TEST PIT LOG T-07		TOTAL ORGANIC VAPOR (ppm)					
				FIELD TIP	HEADSPACE TIP	HEADSPACE HNU			
		5		5					
		0		0					
1			Dark brown medium to coarse Sand, trace fine Gravel, slag and coal (FILL).				2.3	0.0	
2			Brown fine to coarse SAND, some Silt, trace fine Gravel (iron stains).				3.5	1.0	
3			Gray SILT and fine SAND, brown mottling.	57.0	240.0	220.0			
4			- grades with fine Gravel, moist.	0.0	20.7	20.0			
5			Brown and gray fine to coarse SAND, trace silt, trace fine to medium Gravel, wet.	0.0	31.0	20.0			
6		-5		6.0	106.0	38.0			
		-5	▽						
			Test pit terminated at 6.2'.						
			NOTES: Excavated near former oil pit in western portion of the site. Sheen observed on water table.						
		-10		-10					
		-15		-15					

P. ELIMINARY

BLASLAND, BOUCK & LEE

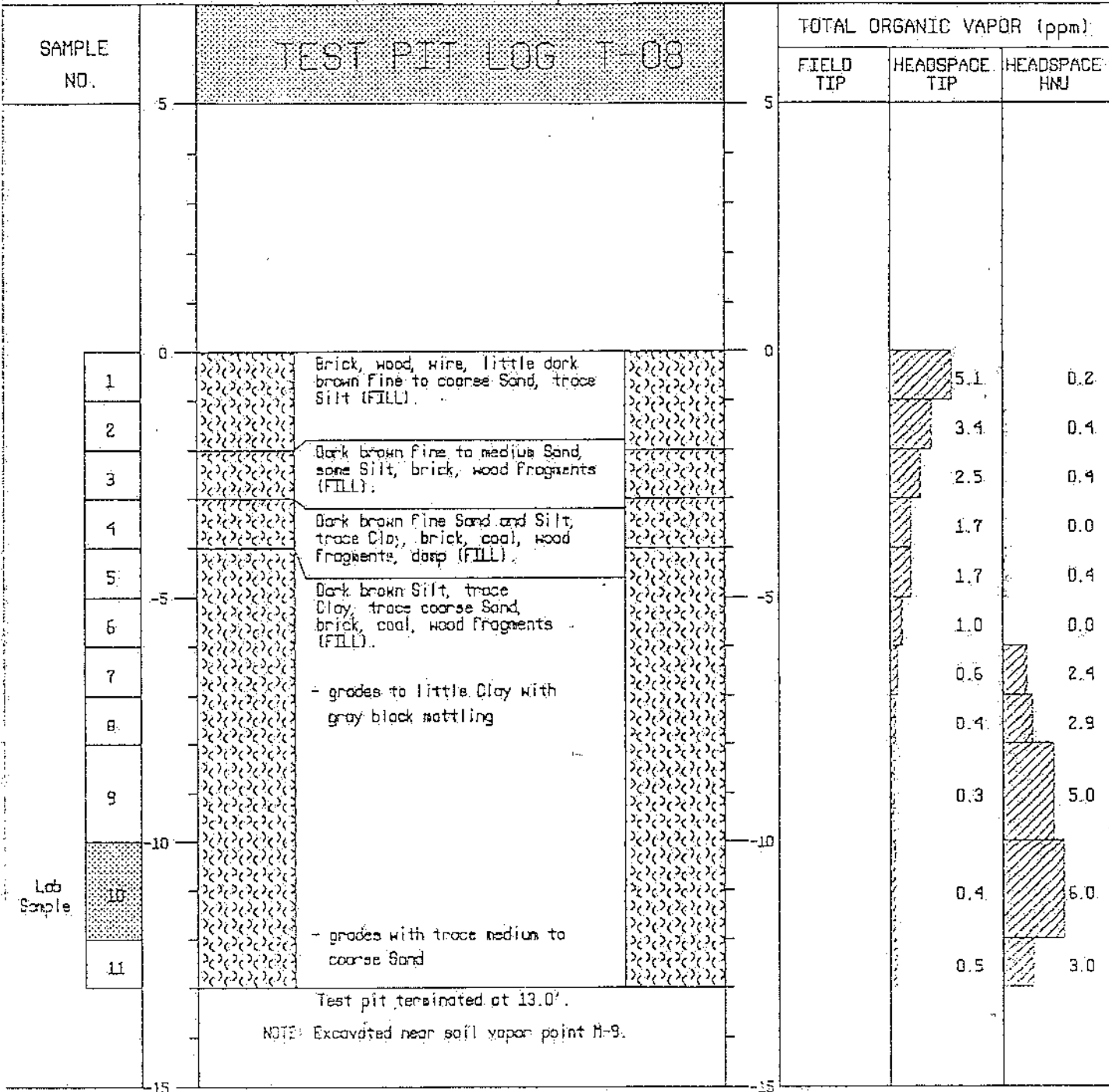
PROJECT NAME: Rosen
 PROJECT NUMBER: 494.02.05
 LOCATION: Cortland, NY

TEMPERATURE: 20 degrees F, windchill 7 degrees F.

CLASSIFIED BY: HEH, CSS

WEATHER: Snow, wind 5 - 10 mph.

DATE: 1/24/91



Lab Sample

I. PRELIMINARY

BLASLAND, BOUCK & LEE		PROJECT NAME: Rosen				
		PROJECT NUMBER: 494.02.05				
		LOCATION: Cortland, NY				
TEMPERATURE: 34 - 38 degrees F.		CLASSIFIED BY: HEH, CSS				
WEATHER: Sunny, wind 3mph		DATE: 1/28/91				
SAMPLE NO.	TEST PIT LOG T-09		TOTAL ORGANIC VAPOR (ppm)			
			FIELD TIP	HEADSPACE TIP	HEADSPACE HNU	
	5		5			
Lab Sample	1	0	0	0.8	270	250
	2			0.0	6.3	2.0
	3	- grades with trace Silt		0.0	3.3	0.4
	4	Brown fine to medium SAND and SILT, trace fine Gravel, trace coarse Sand.		0.0	2.0	0.8
	5			0.0	1.2	0.4
	-5		-5	0.0	1.8	0.8
	6			0.0	25.6	21.0
	7			0.0	0.0	0.0
	8	Brown Fine to coarse SAND, trace Silt, trace Fine Gravel, wet.		0.0	0.0	0.0
	∇	Test pit terminated at 8.2'.				
	-10	NOTE: Excavated near soil vapor point I-15.				
	-15		-15			

PRELIMINARY

<h2 style="font-size: 2em;">BLASLAND, BOUCK & LEE</h2>	PROJECT NAME: Rosen
	PROJECT NUMBER: 494.02.05
	LOCATION: Cortland, NY
TEMPERATURE: 34 - 38 degrees F.	CLASSIFIED BY: HEH, CSS
WEATHER: Sunny, wind 3 mph.	DATE: 1/28/91

SAMPLE NO.	TEST PIT LOG T-10	TOTAL ORGANIC VAPOR (ppm)		
		FIELD TIP	HEADSPACE TIP	HEADSPACE HNU
5		5		
0		0		
1			20.2	
2	Dark brown fine to coarse Sand, wood, brick and telephone fragments (FILL).		14.8	
3	Grades to black medium to coarse Sand with tar like substance, moist (FILL).		23.9	
-5	Test pit terminated at 3.0' due to obstructions railroad ties, metal pipes, and building foundation.	-5		
	NOTE: Excavated near soil vapor point E-5.			
-10		-10		
-15		-15		

Lab Sample

BLASLAND, BOUCK & LEE

PROJECT NAME: Rosen

PROJECT NUMBER: 494.02.05

LOCATION: Cortland, NY

TEMPERATURE: 34 - 38 degrees F.

CLASSIFIED BY: HEH, CSS

WEATHER: Sunny, wind 3 mph.

DATE: 1/28/91

TEST PIT LOG T-10A

TOTAL ORGANIC VAPOR (ppm)

FIELD TIP

HEADSPACE TIP

HEADSPACE HNJ

SAMPLE NO.

5

5

0

0

1

Dark brown fine to medium SAND, trace Silt, trace fine Gravel.

616

2

Brown fine to medium SAND and SILT, trace coarse Gravel.

NA

3

- Grades to fine to coarse Sand, trace Silt, trace fine Gravel, "tar-like" substance, moist.

51

4

7.3

5

20.6

Lab Sample

E

1,225

Test pit terminated at 8.0'.

-10

-10

NOTES: No headspace readings.

-15

-15

PRELIMINARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	WELL COLUMN	GEOLOGIC COLUMN	SUBSURFACE AND WELL CONSTRUCTION LOG	
		FIELD		HEADSPACE						W-08	
		HNJ	TIP	HNJ	TIP					(Page 1 of 1)	
									SOIL CLASSIFICATION		
						-5			<p>WELL CONSTRUCTION DETAILS</p> <p>2-inch diameter stainless SS steel riser 31.5 - 1.8' above ground level</p> <p>2-inch diameter SS well screen with 0.010 inch slot 41.5 - 31.5'</p> <p>Bottom of well set at 42.0'</p> <p>Natural soil collapse 50.0 - 42.5'</p> <p>Grade 0 sand pack 42.0 - 30.0'</p> <p>Bentonite seal 30.0 - 28.0'</p> <p>Cement grout 28.0 - 0.0'</p> <p>Cement surface pad 1.5 - 0.0'</p> <p>4-inch diameter outer protective steel casing with locking cap installed 2.0' above ground level</p> <p>Top of well elevation 1123.61'</p> <p>NOTES:</p> <p>Due to running sands and difficulties encountered during well installation in borehole W-8A, a new borehole was drilled adjacent without sampling. W-08 was installed in the adjacent borehole.</p> <p>Please see subsurface and well construction log W-8A for field and subsurface data.</p>		
						0					
						-5					
						-10					
						-15					
						-20					
						-25					
						-30					
						-35					
						-40					
						-45					
						-50					

PRELIMINARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppm)				SAMPLE NO.	DEPTH	WELL COLUMN	GEOLOGIC COLUMN	SUBSURFACE AND WELL CONSTRUCTION LOG W-8A	
		FIELD		HEADSPACE						(Page 2 of 21)	
		HNU	TIP	HNU	TIP					SOIL CLASSIFICATION	
1	70/1		0.0		0.0	23	-5			little medium Sand, wet, compact to very compact.	
0.8	76		0.0		0.0	24					
0.8	47		0.0		0.0	25					
							-50			Boring terminated at 50'.	
							-55			<p>NOTES:</p> <p>The well W-08 was not completed in this borehole due to running sands and other difficulties encountered during the well installation. This borehole was grouted to the surface, abandoned and designated W-8A.</p> <p>Please see subsurface and well construction log W-08 for W-8 well construction details.</p>	
							-60				
							-65				
							-70				
							-75				
							-80				
							-85				
							-90				
							-95				

PRELIMINARY

RECOVERY (FEET)	N-VALUE	TOTAL ORGANIC VAPOR (ppa)				SAMPLE NO.	DEPTH	WELL COLUMN	GEOLOGIC COLUMN	SUBSURFACE AND WELL CONSTRUCTION LOG W-09	
		FIELD		HEADSPACE						(Page 1 of 3)	
		HNU	TIP	HNU	TIP					SOIL CLASSIFICATION	
1.4	31	0.0	0.4	0.0	5.0	1			Black fine to medium Sand, little coarse Sand, Silt and cinders (FILL).		
3.7	19	0.0	0.0	0.0	3.8	2			Brown medium to coarse SAND, little Silt and fine Gravel, moist, firm.		
1.0	17	0.0	0.0	0.3	3.6	3			- grades with some fine to coarse Gravel, little fine Sand, moist, firm.		
2.0	12	0.0	0.0	0.2	4.6	4			Gray/brown medium to coarse SAND and fine to coarse GRAVEL, little Silt and fine Sand, wet, very compact.		
1.1	32	0.0	0.0	0.4	3.4	5			- similar, firm		
4	19	0.0	0.0	0.4	2.2	6			- similar, compact		
3	34	0.0	0.0	0.3	3.0	7			Gray fine SAND, some Silt, little coarse Sand and fine Gravel, wet, compact.		
7	3	0.0	0.0	0.4	2.3	8			- grades with some coarse Sand and fine Gravel, wet, firm		
9	26	0.0	0.0	0.2	1.4	9			Gray medium to coarse SAND and fine GRAVEL, little fine Sand and Silt, wet, compact.		

CONTINUED ON FOLLOWING PAGE

