For Nassaux-Hemsley, Inc.
Chambersburg, Pa.
Project No. 74-05-2017

F. T. KITLINSKI & ASSOCIATES
Harrisburg, Pennsylvania
TEST BORING LOG

Boring No. B-4
Sheet 1 of 2

115231

Modern Trash Co. Landfill, Windsor Township, York County, Pa.
Per Nassaux-Hemsley, Inc. Plan

	5-28-74		4		2
	5-28-74		300		140
	11.5'		18		30
	18.5'		NXM-2 1/8		104
	30.0'		M. Humphrey		R. Gusler

Date	Depth				
5-28-74	30.0'	6.1'	0 Hr.		491.17
					Sunny & warm

Depth From To	Description	Sample No.	Depth	Blows			Core No.	Depth	Rec.	Remarks	Casing
											10
											13
0.0 to 1.0	Br. topsoil	1	0.0 / 1.5	4	5	3					12
											[illegible]
											28
											32
1.0 to 3.0	Mottled br. silty sand w/ some rock frags. - moist - med.	2	1.5 / 3.0	4	6	5					36
											41
											47
											53
											66/.5
3.0 to 11.5	Mottled br. & gr. silty clayey sand w/ quartz frags. moist - med. to dense	3	3.0 / 4.5	3	7	5					
		4	4.5 / 6.0	5	7	8					
		5	6.0 / 7.5	6	7	9				Casing refusal at 11.5'	
		6	7.5 / 9.0	7	8	11		11.5			
11.5 to 15.5	Br. sandstone - badly broken & fractured - med. hard	7	9.0 / 10.5	9	19	29	1	15.5	3.9	Started coring at 11.5'	
							2	25.5	4.1		
15.5 to 23.0	Br. & gr. weathered shale & sandstone soft to med.						3	30.0	6.3	No loss of drill water	
23.0 to 30.0	Br. & gr. sandstone w/ quartz seams - badly broken & fractured med. hard									End of boring at 30.0'	

AR300586

Chambersburg, Pa.

Project No. 74-05-2017

TEST BORING LOG

Modern Trash Co. Landfill, Windsor Township, York County, Pa.
Per Nassaux-Hemsley, Inc. Plan

	5-28-74	4	2
	5-28-74	300	140
	11.5'	18	30
	18.5'	NXM-2 1/8	104
	30.0'	M. Humphrey	R. Gusler

Date	Depth Reache	Depth Water		491.17
5-28-74	30.0'	6.1'	0 Hr.	
				Sunny & warm

BORING LOG

NOTE: Upon completion, boring developed into a double ground-water piezometer. Upper-level piezometer developed by placing 20.0' of 1" diam. plastic pipe in hole and 1.0' of pipe above ground. Lower-level piezometer developed by placing 30.0' of 1" diam. plastic pipe in hole and 1.0' of pipe above ground. Lower 2.5' of each pipe are perforated and surrounded by sand. Area between and above perforations is sealed with with sakcrete.

AR300587

Nassaux-Hemsley, Inc.
Chambersburg, Pa.
74-05-2017

F. T. KITLINSKI & ASSOCIATES

Harrisburg, Pennsylvania

TEST BORING LOG

B-7

1 1

Modern Trash Co. Landfill, Windsor Township, York County, Pa.
Per Nassaux-Hemsley, Inc. Plan

5-20-74	4		2
5-21-74	300		140
21.0'	18		30
0.0'	--		104
21.0'	M. Humphrey		R. Gusler

531.81

Date	Depth Reached	Depth	
5-21-74	21.0'	15.0'	0 Hr.

Sunny & hot

BORING LOG

Depth From To	Description	Sample No.	Depth	Blows			Remarks
0.0 to 0.5	Br. topsoil	1	0.0 – 1.5	8	4	4	Performed field permeability tests: 10.0' & 21.0'
0.5 to 8.5	Mottled br. weathered shale w/ some sand & quartz cobbles - moist - med.	2	1.5 – 3.0	5	4	9	
		3	3.0 – 4.5	8	8	9	
		4	4.5 – 6.0	9	12	15	
		5	6.0 – 7.5	9	7	4	
8.5 to 12.5	Mottled br. & red sand & weathered shale w/some quartz cobbles - moist - med. to dense	6	7.5 – 9.0	6	8	16	
		7	9.0 – 10.5	10	14	18	
		8	13.5 – 15.0	9	18	22	No loss of drill water
		9	18.0 – 19.5	16	16	20	
12.5 to 21.0	Mottled br. & white fine-grained sand w/ shale frags. moist - dense	10	19.5 – 21.0	28	25	27	End of boring at 21.0'

10
14
29
[illegible]
[illegible]
66
44
34
57
62
75
87
93
113
123
136
147
153

AR300588

For Nassaux-Hemsley, Inc.
Chambersburg, Pa.
Project No. 74-05-2017

TEST BORING LOG

Boring No. B-8
Sheet 1 of 1

Job Name and Location: Modern Trash Co. Landfill, Windsor Township, York County, Pa.
Boring Location: Per Nassaux-Hemsley, Inc., Plan

Date Begun	5-17-74	4		2
Date Completed	5-20-74	300		140
Depth of Overburden	25.0'	18		30
Depth in Rock	0.0'			104
Total Boring Depth	25.0'	M. Humphrey		R. Gusler

Progress & Groundwater Data

Date	Depth Reached	Depth to Water	Time
5-20-74	25.0'	7.3'	0 Hr.
5-21-74	25.0'	10.2'	24 Hr.

506.44

Sunny & hot

BORING LOG

Depth From To	Material Description	No.	Depth	Blows			Remarks
0.0 to 0.7	Br. topsoil	1	0.0 1.5	3	2	3	No rock encountered
0.7 to 8.0	Mottled br. sandy silty clay - moist - med. to hard	2	1.5 3.0	3	6	10	Performed field permeability tests: 5.0', 10.0' & 25.0'
		3	3.0 4.5	6	7	11	
8.0 to 25.0	Br. & black fine-grained sand - moist - dense to v. dense	4	4.5 6.0	11	10	17	Triconed ahead of casing from 12.0'
		5	6.0 7.5	12	15	19	
		6	7.5 9.0	12	19	22	No loss of drill water
		7	9.0 10.5	18	44	42	
		8	13.5 15.0	26	21	51	End of boring at 25.0'
		9	18.0 19.5	16	38	57	
		10	22.5 24.0	25	32	42	
		11	24.0 25.0	65	92		

Casing Blows: 9, 9, 17, 28, 32, 43, 69, 93, 151, 166, 292, 415, 217, 253, 243, 267, 304, 336, 357, 386, 398, 415, 214/

AR300589

For Nassaux-Hemsley, Inc.
Chambersburg, Pa.
Project No. 74-05-2017

Harrisburg, Pennsylvania

TEST BORING LOG

Boring No. B-9
Sheet 1 of 1

Job Name and Location: Modern Trash Co. Landfill, Windsor Township, York County, Pa.
Boring Location: Per Nassaux-Hemsley, Inc. Plan (Moved 60' towards B-7)

Date Begun: 5-28-74
Date Completed: 5-28-74
Depth of Soil: 35.0'
Depth of Rock: 0.0'
Total Boring Depth: 35.0'

Casing Size I.D.: 4
Hammer Weight: 300
Hammer Drop: 18
Core Bit: --
Driller: R. Kennedy

Spoon I.D.: 2
Hammer Weight: 140
Hammer Drop: 30
Footage: 108
Helper: S. Dickinson

Progress & Ground Water Data

Date	Depth Reached	Depth Water	Time
5-28-74	35.0'	30.0'	0 Hr.
5-29-74	35.0'	29.5'	24 Hr.

Ground Elev. 539.08
Datum
Depth Frost Soil
Weather: Warm

Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon	Remarks	Casing Blows
0.0 to 9.0	Dk. br. sandy silt w/ rock frags. - dry - loose to v. dense	1	0.0 - 1.5	3 3 4	No rock encountered	12
		2	1.5 - 3.0	7 12 15		26
		3	3.0 - 4.5	20 20 23	Casing refusal at 8.0'	60
		4	4.5 - 6.0	26 35 31		65
9.0 to 27.0	Dk. br. silty sand w/ rock frags. - dry - v. dense	5	9.0 - 10.5	26 75 77	Triconed ahead of casing from 8.0'	41
		6	13.5 - 14.5	39 137		[illegible]
		7	18.0 - 19.5	26 48 94	Spoon refusals at 14.5', 23.5', 28.0' & 32.0'	275
		8	22.5 - 23.5	86 114		
27.0 to 32.0	Dk. br. sandy silt w/ clay - moist - v. dense	9	27.0 - 28.0	76 150	No loss of drill water	
		10	31.5 - 32.0	155		
32.0 to 35.0	Dk. br. sandy silt w/ cobbles - moist v. dense	11	34.0 - 35.0	88 100	End of boring at 35.0'	

Note: Upon completion, boring developed into a ground-water piezometer by placing 35.0' of 1" diam. plastic pipe in hole and 2.0' of pipe above ground. Lower 2.5' of pipe are perforated and surrounded by sand. Area above perforations sealed with sakcrete

Inspector — Resident or Soil Engineer

AR300590

For Nassaux-Hemsley, Inc.
Chambersburg, Pa.
Project No. 74-05-2017

Harrisburg, Pennsylvania

TEST BORING LOG

Boring No. B-10
Sheet 1 of 1

Job Name and Location: Modern Trash Co., Landfill, Windsor Township, York County, Pa.
Boring Location: Per Nassaux-Hemsley, Inc. Plan

Date Begun	5-21-74	[illegible]	4	[illegible]	2
Date Completed	5-24-74	[illegible]	300	[illegible]	140
Depth of Soil	6.0'	[illegible]	18	[illegible]	30
Depth of Rock	24.0'	[illegible] Size	NXM-2 1/8	[illegible]	104
Total Boring Depth	30.0'	[illegible]	M. Humphrey	[illegible]	R. Gusler

Date	Depth Reached	Gr. Water	Hour
5-24-74	30.0'	9.6'	0 Hr.

Ground [illegible]: 511.55
Weather: Sunny & hot

Depth From To	Material Description	Sample No.	Depth	Blows	Core No.	Depth	Rec.	Remarks	Casing Blows
0.0 to 0.9	Br. topsoil	1	0.0–1.5	5 4 4				Spoon refusal at 6.0'	12
		2	1.5–3.0	3 9 24				Casing refusal at 6.0'	13
0.9 to 6.0	Mottled br. sandy clay w/ rock frags. moist - med. to hard	3	3.0–4.5	24 23 19				Started coring at 6.0'	33
		4	4.5–6.0	26 49 75		6.0		Performed field permeability tests: 10.0' & 21.0'	72
6.0 to 9.0	Gr. shaly sandstone w/ quartz seams badly broken & fractured-med. hard				1	13.0	2.2		93
					2	20.0	1.6		137
9.0 to 21.5	Gr. weathered shale & sandstone badly broken - soft to med.				3	25.0	3.6	No loss of drill water	
					4	30.0	5.0		
21.5 to 30.0	Br. & gr. sandstone badly broken & fractured - med. hard							End of boring at 30.0'	

NOTE: Upon completion, boring developed into a double ground-water piezometer. Upper-level piezometer developed by placing 10.0' of 1" diam. plastic pipe in hole and 1.0' of pipe above ground. Lower-level piezometer developed by placing 30.0' of 1" diam. plastic pipe in hole and 1.0' of pipe above ground. Lower 2.5' of each pipe are perforated and surrounded by sand. Area between and above perforations sealed with sakcrete.

For Nassaux-Hemsley, Inc.
Chambersburg, Pa.
Project No. 74-05-2017

F. T. KITLINSKI & ASSOCIATES
Harrisburg, Pennsylvania

TEST BORING LOG

Boring No. B-11
Sheet 1 of 1

Job Name and Location / Boring Location: Modern Trash Co. Landfill, Windsor Township, York County, Pa. Per Nassaux-Hemsley, Inc. Plan

Date Started	5-17-74		4		2
Date Completed	5-20-74		300		140
	25.0'		18		30
	0.0'		--		108
	25.0'		R. Kennedy		S. Dickinson

Date	Depth Reached	Depth Water		
5-17-74	19.5'	14.2'	--	
5-20-74	25.0'	14.5'	0 Hr.	
5-29-74	25.0'	15.0'	9 days	

Elevation: 530.47
Weather: Warm

BORING LOG

Depth	Material Description	No.	Depth	Blows			Remarks	
								10
								24
								32
0.0 to 3.5	Dk. br. sandy silt - moist - med.	1	0.0 1.5	6	7	7	Performed field permeability tests: 4.5' - 6.0' & 9.0' - 10.5'	[illegible]
		2	1.5 3.0	6	6	12		35
								52
								105
3.5 to 6.0	Dk. br. clayey silt - moist - v. stiff	3	3.0 4.5	11	12	17		120
								31
		4	4.5 6.0	11	13	16		63
								75
6.0 to 19.5	Dk. br. sandy silt w/ rock frags. moist - dense to v. dense	5	6.0 7.5	14	20	21	Casing refusal at 18.5'	59
								86
		6	7.5 9.0	25	34	37		123
								185
								163
		7	9.0 10.5	14	15	17	No loss of drill water	205
								150/.
		8	13.5 15.0	11	14	22		
19.5 to 25.0	Dk. br. sandy clayey silt w/ rock frags. - dry v. dense	9	18.0 19.5	40	90	100	End of boring at 25.0'	
		10	23.5 25.0	48	127	200		

NOTE: Upon completion, boring developed into a ground-water piezometer by placing 25.0' of 1" diam. plastic pipe in hole and 1.0' of pipe above ground. Lower 2.5' of pipe are perforated and surrounded by sand. Area above perforations sealed with sakcrete.

AR300592

For Nassaux-Hemsley, Inc.
Chambersburg, Pa.
Project No. 74-05-2017

F. T. KITLINSKI & ASSOCIATES
Harrisburg, Pennsylvania

TEST BORING LOG

Boring No. B-12
Sheet 1 of 2

Job Name and Location: Modern Trash Co. Landfill, Windsor Township, York County, Pa.
Boring Location: Per Nassaux-Hemsley, Inc. Plan

Date Begin	5-22-74	Casing Size O.D.	4"	Spoon Size O.D.	2"
Date Completed	5-24-74	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	51.5'	Hammer Drop	18"	Hammer Drop	30"
Depth of Rock	0.0'	Core Bit Size	--"	Rig No.	108
Total Boring Depth	51.5'	Driller	R. Kennedy	Asst. Driller	S. Dickinson

Progress & Ground Water Data

Date	Depth Reached	Depth Water	Hour
5-24-74	51.5'	31.5'	0 Hr.
5-29-74	51.5'	32.3'	5 days

Ground Elev. 533.59
Date Elev.
Depth Surf. Water
Weather Hot w/ rain

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6 6/12 12/18 18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
0.0 to 0.5	Br. topsoil		0.0						0-1 12
		1	1.5	3 5 6					1-2 16
			1.5						2-3 21
		2	3.0	4 6 9					3-4 32
0.5 to 6.0	Reddish br. clayey silt w/ rock frags. moist - v. stiff		3.0						4-5 35
		3	4.5	7 7 10					5-6 37
			4.5						6-7 40
		4	6.0	6 9 9					7-8 43
6.0 to 9.0	Lt. br. silty sand dry - med.		6.0						8-9 46
		5	7.5	7 10 11					9-10 48
			7.5						10-11 53
		6	9.0	6 12 13					11-12 55
9.0 to 18.5	Lt. greyish br. silty sand w/ rock frags. - dry - med. to dense		9.0						12-13 60
		7	10.5	3 6 12					13-14 41
			13.5						14-15 38
		8	15.0	15 17 19					15-16 56
18.5 to 27.0	Lt. gr. silty sand dry - med. to dense		18.0						16-17 68
		9	19.5	8 12 17				Lost drill water at 21.0'	17-18 71
			22.5						18 75
		10	24.0	13 28 24					19 82
27.0 to 36.0	Lt. greyish br. silty clayey sand moist - dense to v. dense		27.0						20 66
		11	28.5	14 19 28					21 57
			31.5					Triconed ahead of casing from 21.5'	22 73
		12	33.0	23 30 41					23 87
36.0 to 40.5	Dk. br. sandy clay moist - hard		36.0						24 93
		13	37.5	12 38 38					25 105
									26 115
									27 122
									28 139
									29 150
									30 176
									31 183
									32 190

AR300593

Inspector _____ Resident or Soils Engineer _____

For Nassaux-Hemsley, Inc.
Chambersburg, Pa.
Project No. 74-05-2017

F. T. KITLINSKI & ASSOCIATES
Harrisburg, Pennsylvania

TEST BORING LOG

Boring No. B-12
Sheet 2 of 2

Job Name and Location: Modern Trash Co. Landfill, Windsor Township, York County, Pa.
Boring Location: Per Nassaux-Hemsley, Inc. Plan

Date Begun	5-22-74	[illegible]	4	[illegible]	2
Date Completed	5-24-74	Hammer Weight	300	[illegible]	140
Depth of Soil	51.5'	Hammer Drop	18	[illegible]	30
Depth of Rock	0.0'	Core Bit Size	--	[illegible]	108
Total Boring Depth	51.5'	Driller	R. Kennedy	[illegible]	S. Dickinson

Progress & Ground Water Data

Date	Depth Reached	Depth Water	Hours
5-24-74	51.5'	31.5'	0 Hr.
5-29-74	51.5'	32.3'	5 days

Elevation: 533.59
Weather: Hot w/ rain

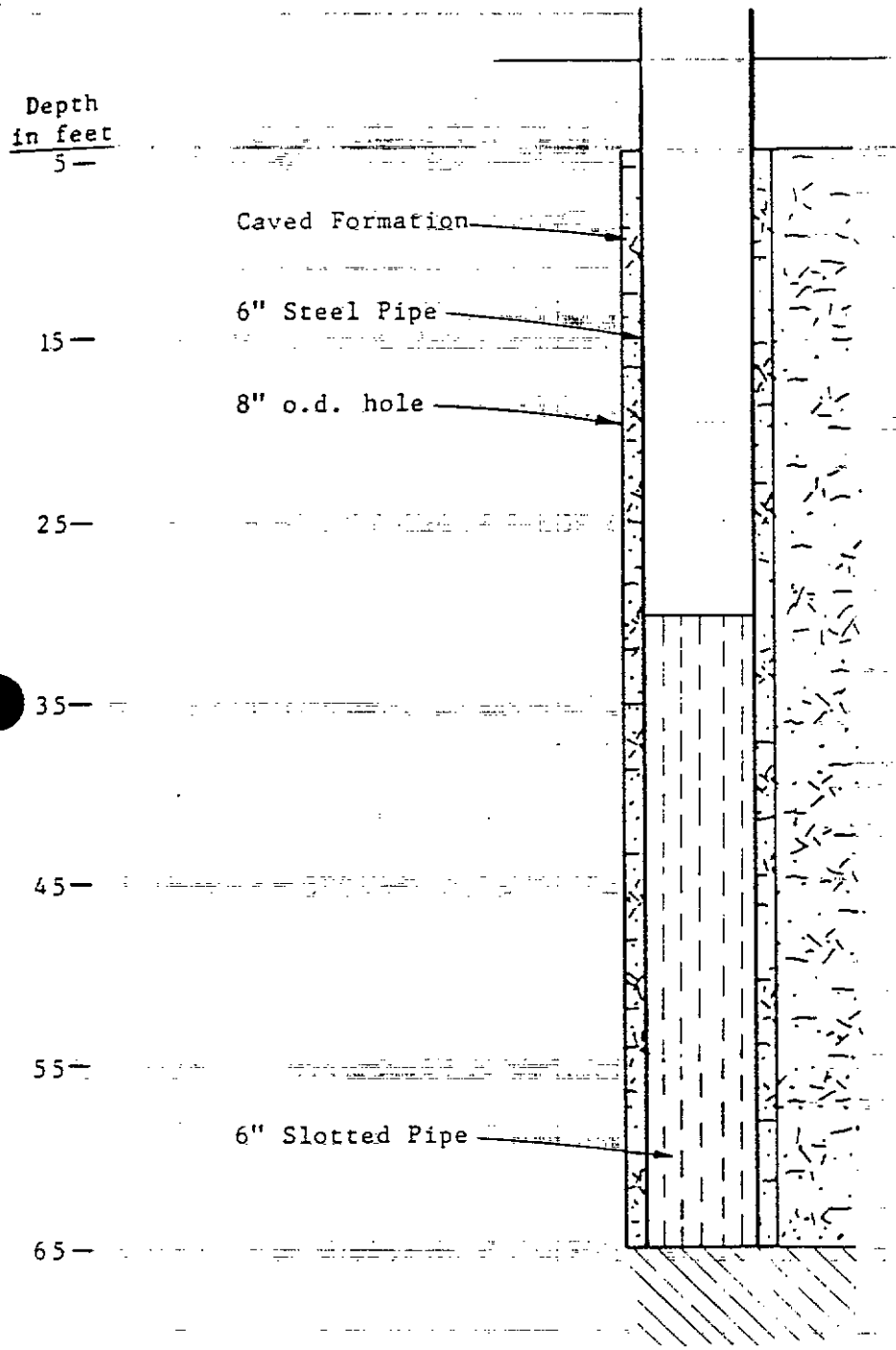
BORING LOG / SPOON SAMPLE & ROCK CORE DATA

Depth From To	Material Description	Sample No.	Sample Depth	Blows 0-6	6-12	12-18	Remarks
40.5 to 48.0	Lt. greyish br. sandy silt w/ rock frags. - dry v. dense		40.5				
		14	42.0	22	36	48	No recovery - Sample No. 15
			45.0				
		15	46.5	15	31	39	
48.0 to 51.5	Lt. greyish br. mica schist weathered & decomposed		50.0				
		16	51.5	20	66	100	End of boring at 51.5'

NOTE: Upon completion, boring developed into a double ground-water piezometer. Upper-level piezometer developed by placing 33.0' of 1" diam. plastic pipe in hole and 2.0' of pipe above ground. Lower-level piezometer developed by placing 50.0' of 1" diam. plastic pipe in hole and 2.0' of pipe above ground. Lower 2.5' of each pipe are perforated and surrounded by sand. Area between and above perforations sealed with sakcrete.

Geologic and Well Construction Log

Modern Landfill
Well B-18



Description

Very fine sand and silt saprolite.

Bedrock.

Vertical Scale 1" = 10'

Geologic and Well Construction Log

Modern Landfill
Well B-18 Cont'd.

Drilling Began: Prior to 7/75
Drilling Completed: Prior to 7/75
Total Depth: 65'
Elevation, TOC: 559.31'
Elevation, G.S.: ~556.8'

Screened Interval: 30' - 65'
Screen Elevation: ~526.8'-491.8'
SWL Elevation (Date): 522.83' (3/24/86)
WBZ:
Total Yield: 25 gpm
Drilling Method: Air Rotary

Note: This drawing was constructed from measurements taken in the field in 1984 and from interview of personnel who were involved on-site in 1975.

MONITORING WELL INSTALLATION LOG

JOB NO 863-6002 PROJECT WBI/Modern Landfill/York, PA WELL NO B-30(S) SHEET 1 OF 1

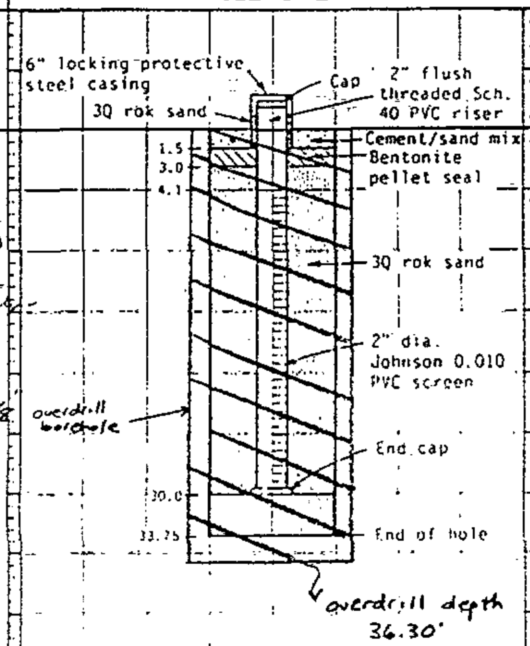
GA INSP DPF DRILLING METHOD Air Rotary GROUND ELEV ______ WATER DEPTH ______

WEATHER Prtly Cldy DRILLING COMPANY Lambert COLLAR ELEV ______ DATE/TIME ______

TEMP 70's DRILL RIG Schramm DRILLER R. Corsi/ STARTED 1655/9/15/86 (TIME / DATE) COMPLETED 1815/9/15/86 (TIME / DATE)

MATERIALS INVENTORY

WELL CASING 2 in dia 6.6 ft	WELL SCREEN 2 in dia 25.9 ft	BENTONITE SEAL ½" Bentonite Pellets
CASING TYPE Flush thread, schedule 40, PVC	SCREEN TYPE Johnson PVC	INSTALLATION METHOD Gravity
JOINT TYPE Flush threaded, box thread	SLOT SIZE 0.010	FILTER PACK QTY 5-100# bags
GROUT QUANTITY N/A	CENTRALIZERS One	FILTER PACK TYPE 30 rok sand
GROUT TYPE Bentonite	DRILLING MUD TYPE N/A	INSTALLATION METHOD Gravity

ELEV./DEPTH	SOIL/ROCK DESCRIPTION	WELL SKETCH	INSTALLATION NOTES
	GROUND SURFACE		
0.0	Firm, CLAY, [illegible] to sandy CLAY		
5.0			
10.0	8.2 [illegible], weathered SANDSTONE ([illegible])		
15.0	13.5 Hard-very hard, [illegible] slightly weathered QUARTZITE ([illegible] Fm)		
20.0			
25.0			
30.0			
35.0	[illegible]		
40.0			[illegible]
45.0			[illegible] log B-30(S)
50.0			

All well MATERIALS removed check well Abandonment form for further details

AR300597

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-1
Sheet 1 of 4

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-11-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-13-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	13.1'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	23.9'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	37.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-13-83	37.0'	7.5'	0 Hr.
10-17-83	37.0'	8.4'	4 Days
10-18-83	37.0'	8.4'	5 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
0.0 to 1.0	FILL: Orange, red & brown sand, clay & silt w/ a little rock frags. - moist - med	1	0.0 2.0	5	8	11	11					1-2
1.0 to 2.5	Orange & tan-brown silty, sandy clay w/ trace of fine rock frags. - moist - med. to v. stiff	2	2.0 4.0	9	10	19	28					2-3
2.5 to 4.0	Mottled brown silty, sandy clay & schist w/ quartz frags. - moist - hard	3	4.0 6.0	17	15	18	18					3-4
4.0 to 7.0	Red-brown silty, clayey mica schist w/ rock frags. - moist - med.	4	6.0 8.0	13	9	10	10					4-5
7.0 to 11.0	Yellow-brown silty schist - moist - med.	5	8.0 10.0	5	5	5	7				▽ 8.4	5-6
		6	10.0 12.0	5	7	10	32					6-7
11.0 to 12.5	Red-brown & yellow silty mica schist - highly weathered - moist	7	12.0 13.1	43	80	50 .1						7-8
												8-9
												9-10
												10-11
												11-12
												12-13
												13-14
												14-15
												15-16
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												26-27
												27-28
												28-29
												29-30
												30-31
												31-32
												32-33

AR300598

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-1
Sheet 2 of 4

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-11-83	Casing Size, O.D.	4"	Spoon Size, O.D.	2"
Date Completed	10-13-83	Hammer Weight	300#	Hammer Wt.	140#
Depth of Soil	13.1'	Hammer Drop	18"	Hammer Drop	30"
Depth of Rock	23.9'	Core Bit Size	2-1/8"	Rig No.	101
Total Boring Depth	37.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-13-83	37.0'	7.5'	0 Hr.
10-17-83	37.0'	8.4'	4 Days
10-18-83	37.0'	8.4'	5 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6 6/12 12/18 18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
12.5 to 13.1	Multicolored clayey, silty mica schist - highly weathered					13.1		Spoon refusal at 13.1'	0-1 1-2 2-3 3-4 4-5 5-6 6-7
13.1 to 19.5	Olive-brown silty, fine sandy mica schist w/black streaks & cemented				1	16.8	3.7	Started coring at 13.1'	7-8 8-9 9-10 10-11
	clay fractures - some weathered seams - hard				2	22.3	5.5		11-12 12-13 13-14 14-15 15-16
19.5 to 21.0	Olive-brown & black sandy, silty schist - highly stained & weathered - v.				3	24.3	2.0		16-17 17-18 18-19 19-20
	highly fractured								20-21 21-22 22-23 23-24 24-25
21.0 to 23.0	Blue-green silty mica schist - highly fractured & weathered vertical bedding								25-26 26-27 27-28 28-29 29-30
23.0 to 24.3	Olive-brown silty schist w/ black stains - fractured - hard								30-31 31-32 32-33 33-34

AR300599

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-1
Sheet 3 of 4

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-11-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-13-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	13.1'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	23.9'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	37.0'	Driller	W. Wright	Asst. Driller	A. Wright

*Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-13-83	37.0'	7.5'	0 Hr.
10-17-83	37.0'	8.4'	4 Days
10-18-83	37.0'	8.4'	5 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
24.3 to 26.2	Olive-brown & blue silty mica schist w/red streaks & cemented fractures - fractured - hard								24.3		Soft zone: 26.0' - 26.2'	0-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-8, 8-9, 9-10, 10-11
								4	26.2			
26.2 to 27.0	Mottled red, brown & black clayey, silty schist - moist - med. dense	8	26.2 27.8	8	17	50	60 .1				Spoon refusal at 27.8'	11-12, 12-13, 13-14, 14-15, 15-16
27.0 to 27.8	Brown, black & blue clayey, silty mica schist highly weathered - moist										Resumed coring at 27.8'	16-17, 17-18, 18-19, 19-20, 20-21
									27.8		Lost 25% of drill water at 31.5'	21-22, 22-23, 23-24, 24-25
27.8 to 32.0	Blue-green silty mica schist w/ cemented clay fractures - stained - vertical bedding - fractured - hard							5	31.5	3.4		25-26, 26-27, 27-28, 28-29, 29-30, 30-31, 31-32, 32-33, 33-34
								6	37.0	0.4		

AR300600

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-1
Sheet 4 of 4

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location , York County, PA

Date Begin	10-11-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-13-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	13.1'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	23.9'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	37.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-13-83	37.0'	7.5'	0 Hr.
10-17-83	37.0'	8.4'	4 Days
10-18-83	37.0'	8.4'	5 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6 6/12 12/18 18/24				Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33 33-34
32.0 to 37.0	Blue-green mica schist - vertical bedding	9	31.5 34.5	9	20	16	11				After coring to 37.0' drove spoon 31.5' - 34.5'	
				30/100							Triconed from 34.5' - 37.0'	
											End of boring at 37.0'	

AR300601

TEST BORING LOG

For SCA Services
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-1A
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-13-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-13-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	13.1'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	0.0'	Core Bit Size	-- "	Rig No.	101
Total Boring Depth	13.1'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-13-83	13.1'	2.5'	0 Hr.
10-13-83	13.1'	11.5'	A.B.
10-17-83	13.1'	8.4'	4 Days
10-18-83	13.1'	8.4'	5 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
0.0 to 1.0	Mottled brown-black silty clay, topsoil & some vegitation - moist	1	0.0 2.0	5	6	11	9					0-1
	- med.											1-2
												2-3 1
												3-4 4
												4-5 7
												5-6 9
												6-7 5
												7-8 5
												8-9 5
												9-10
												10-11
1.0 to 1.5	Olive-brown sandy, silty clay - moist - stiff											11-12
												12-13
												13-14
												14-15
												15-16
1.5 to 3.0	Tan, brown & orange silty clay w/trace of rock frags. - moist - v. stiff	2	2.0 4.0	10	13	16	21					16-17
												17-18
												18-19
												19-20
												20-21
3.0 to 6.5	Mottled red-brown sandy silt & clay w/ quartz frags. & green schist	3	4.0 6.0	21	16	17	19					21-22
												22-23
		4	6.0 8.0	12	9	8	8					23-24
												24-25
	frags. - moist - hard											25-26
												26-27
												27-28
												28-29
												29-30
6.5 to 9.0	Mottled red-brown sandy silt & clay w/ quartz & rock frags - v. moist -	5	8.0 10.0	6	5	5	7					30-31
												31-32
												32-33

AR300602

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-1A
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin 10-13-83
Date Completed 10-13-83
Depth of Soil 13.1'
Depth of Rock 0.0'
Total Boring Depth 13.1'

Casing Size, O.D. 4 "
Hammer Weight 300 #
Hammer Drop 18 "
Core Bit Size -- "
Driller W. Wright

Spoon Size, O.D. 2 "
Hammer Wt. 140 #
Hammer Drop 30 "
Rig No. 101
Asst. Driller A. Wright

Progress & Ground Water Data
A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-13-83	13.1'	2.5'	0 Hr.
10-13-83	13.1'	11.5'	A.B.
10-17-83	13.1'	8.4'	4 Days
10-18-83	13.1'	8.4'	5 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From / To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
9.0 to 11.0	Yellow-orange silt & schist - moist - med.	6	10.0 / 12.0	6	12	28	70					1-2, 2-3, 3-4, 4-5, 5-6, 6-7
11.0 to 13.1	Mottled red-brown & green schist w/ rock frags. - weathered - moist	7	12.0 / 13.1	66	95	100/.1					Spoon refusal at 13.1'	7-8, 8-9, 9-10, 10-11, 11-12
											End of boring at 13.1'	12-13, 13-14, 14-15, 15-16, 16-17, 17-18, 18-19, 19-20, 20-21, 21-22, 22-23, 23-24, 24-25, 25-26, 26-27, 27-28, 28-29, 29-30, 30-31, 31-32, 32-33, 33-34

AR300603

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-2
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location, York County, PA

Date Begin	10-13-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-14-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	29.5'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	5.5'	Core Bit Size	2-1/8 "	Rig No.	104
Total Boring Depth	35.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-14-83	35.0'	5.7'	0 Hr.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool, rain

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS	
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	
0.0 to 0.2	Brown topsoil	1	0.0 2.0	2	6	8	17					0-1 1
												1-2
												2-3
0.2 to 2.0	Lt. brown silty mica schist - dry - med.											3-4 22
												4-5 28
												5-6 35
												6-7 3[illegible]
												7-8 40
												8-9 39
												9-10 45
												10-11 49
2.0 to 5.0	Lt. brown silty mica schist w/ green weathered schist - dry - med.	2	2.0 4.0	17	19	23	22					11-12 56
												12-13 54
												13-14 62
		3	4.0 6.0	16	13	9	8					14-15 60
												15-16 59
5.0 to 8.0	Lt. brown silty mica schist w/ green mica schist - moist - med.	4	6.0 8.0	6	5	6	6					16-17 55
												17-18 69
												18-19 75
												19-20 76
8.0 to 13.5	Brown & orange silty mica schist - wet - med.	5	8.0 10.0	4	6	6	9					20-21
												21-22
												22-23
		6	10.0 12.0	4	4	6	6					23-24
												24-25
												25-26
		7	12.0 14.0	5	8	9	12					76-27
												27-28
												28-29
												29-30
												30-31
												31-32
												32-33
												33-34

AR300604

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-2
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-13-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-14-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	29.5'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	5.5'	Core Bit Size	2-1/8 "	Rig No.	104
Total Boring Depth	35.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-14-83	35.0'	5.7'	0 Hr.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool, rain

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
13.5 to 29.0	Red silty mica schist - layered - wet - med. to dense	8	14.0 16.0	8	9	12	20					
		9	16.0 18.0	9	10	14	25					
		10	18.0 20.0	10	16	18	27					
		11	20.0 22.0	12	18	22	27					
		12	22.0 24.0	12	11	22	24				Triconed refusal at 29.5'	
		13	24.0 26.0	14	18	23	29					
29.0 to 29.5	Green weathered mica schist	14	26.0 28.0	16	20	23	26		29.5		Started coring at 29.5'	
29.5 to 35.0	Green mica schist - fractured & broken - med. hard							1	33.0	3.5	No loss of drill water	
								2	35.0	1.8		
											End of boring at 35.0'	

AR300605

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-2A
Sheet 1 of 1

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-14-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-17-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	25.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	0.0'	Core Bit Size	-- "	Rig No.	10-4
Total Boring Depth	25.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-17-83	25.0'	6.2'	0 Hr.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
0.0 to 0.2	Brown topsoil	1	0.0 2.0	2	3	8	10					1-2
												2-3 1
												3-4 2
												4-5 3
												5-6 2
												6-7 2
0.2 to 6.0	Lt. brown silty mica schist w/ green mica schist frags.- moist - med.	2	2.0 4.0	14	28	23	20					7-8 1
												8-9 2
		3	4.0 6.0	12	11	8	6					9-10 2
												10-11 3
6.0 to 18.0	Brown & red silty mica schist - moist - loose to med.	4	6.0 8.0	5	4	5	5					11-12 3
												12-13 3
		5	8.0 10.0	5	6	7	7					13-14 4
												14-15 4
												15-16 4
		6	10.0 12.0	7	7	8	9					16-17 5
												17-18 4
		7	12.0 14.0	4	7	11	14					18-19 5
												19-20 6
		8	14.0 16.0	6	9	12	16					20-21
												21-22
		9	16.0 18.0	8	9	15	21					22-23
												23-24
												24-25
18.0 to 25.0	Brown-red weathered mica schist - layered - moist - dense	10	18.0 20.0	9	14	15	17					25-26
												26-27
		11	20.0 22.0	13	15	21	28					27-28
												28-29
												29-30
		12	22.0 24.0	14	18	16	31					30-31
											End of boring at 25.0	31-32
		13	24.0 25.0	16	22							32-33

APR300606

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-3
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-17-83	Casing Size, O.D.	4"	Spoon Size, O.D.	2"
Date Completed	10-17-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	10.0'	Hammer Drop	18"	Hammer Drop	30"
Depth of Rock	10.0'	Core Bit Size	2-1/8"	Rig No.	101
Total Boring Depth	20.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-17-83	20.0'	4.7'	0 Hr.
10-17-83	20.0'	5.8'	A.B.
10-18-83	20.0'	5.4'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
0.0 to 0.4	Brown topsoil - moist - v. soft	1	0.0 2.0	1	3	4	5					0-1 2 1-2 10 2-3 30 3-4 36 4-5 41 5-6 41 6-7 50
0.4 to 2.5	Olive- brown fine sandy silt & schist w/blue streaks & rock	2	2.0 4.0	11	20	17	17					7-8 75 8-9 155 9-10 200/.
	frags. - moist loose to med.											10-11 11-12 12-13 13-14 14-15 15-16
2.5 to 9.0	Blue silty mica schist w/blue streaks & trace of quartz & rock	3	4.0 6.0	17	15	22	13					16-17 17-18 18-19 19-20
		4	6.0 8.0	9	11	13	25					20-21
	frags. - moist - med. to dense	5	8.0 10.0	18	37	50	50					21-22 22-23 23-24 24-25
9.0 to 9.7	Mottled brown schist & quartz frags. - moist - hard										Casing refusal at 9.7'	25-26 26-27 27-28 28-29 29-30
9.7 to 10.0	Blue-green mica schist - weathered moist										Spoon refusal at 10.0'	30-31 31-32 32-33 33-34

AR300607

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-3
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-17-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-17-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	10.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	10.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	20.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-17-83	20.0'	4.7'	0 Hr.
10-17-83	20.0'	5.8'	A.B.
10-18-83	20.0'	5.4'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6 6/12 12/18 18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
10.0 to 15.2	Mottled green schist w/ vertical quartz streak- highly fractured & stained - hard					10.0		Started coring at 10.0'	0-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7
					1	11.0	0.7		7-8, 8-9, 9-10, 10-11
					2	14.0	3.0		11-12, 12-13, 13-14
					3	16.7	2.7		14-15, 15-16
15.2 to 16.0	Olive-brown mica schist - weathered				4	18.9	2.3		16-17, 17-18
					5	20.0	0.8		18-19, 19-20
16.0 to 20.0	Green mica schist w/ quartz streaks - fractured vertically - stained - hard							No loss of drill water	20-21, 21-22, 22-23, 23-24
								End of boring at 20.0'	24-25, 25-26, 26-27, 27-28, 28-29, 29-30, 30-31, 31-32, 32-33

AR300608

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-4
Sheet 1 of 1

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-10-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-11-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	8.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	22.0'	Core Bit Size	2-1/8 "	Rig No.	104
Total Boring Depth	30.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-11-83	30.0'	3.8'	0 Hr.
10-12-83	30.0'	5.9'	1 Day
10-13-83	30.0'	5.8'	2 Days
10-14-83	30.0'	5.8'	3 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
0.0 to 1.0	Brown topsoil	1	0.0 2.0	2	3	9	10					1-2
1.0 to 2.0	Lt. brown silty mica schist - dry - loose											2-3 1(3-4 2 4-5 3 5-6 3 6-7 3 7-8 5 8-9 9-10 10-11
2.0 to 8.0	Lt. brown silty mica schist w/ green weathered mica schist - moist - med. to dense	2	2.0 4.0	12	13	16	16					11-12 12-13 13-14 14-15 15-16
		3	4.0 6.0	10	9	8	8					16-17 17-18 18-19 19-20
		4	6.0 8.0	7	12	16	80				Spoon refusal at 8.0'	20-21
									8.0			21-22
8.0 to 17.0	Green mica schist w/clay seams & some quartz - broken & fractured - soft							1	11.0	3.0	Started coring at 8.0'	22-23 23-24 24-25
								2	15.0	1.3		25-26
17.0 to 30.0	Green mica schist & quartz - broken vertically - fractured - hard							3	18.0	2.8	No loss of drill water	26-27 27-28 28-29
								4	25.0	7.0		29-30 30-31
								5	27.0	2.0	End of boring at 30.0'	31-32 32-33
								6	30.0	2.0		33-34

AR300609

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-5
Sheet 1 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin 10-06-83
Date Completed 10-07-83
Depth of Soil 22.0'
Depth of Rock 16.9'
Total Boring Depth 38.9'

Casing Size, O.D. 4 "
Hammer Weight 300 #
Hammer Drop 18 "
Core Bit Size 2-1/8 "
Driller W. Wright

Spoon Size, O.D. 2 "
Hammer Wt. 140 #
Hammer Drop 30 "
Rig No. 101
Asst. Driller A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-07-83	38.9'	6.5'	0 Hr.
10-10-83	38.9'	3.0'	3 Days
10-11-83	38.9'	3.0'	4 Days
10-17-83	38.9'	2.9'	10 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)
0.0 to 0.8	Tan-brown sandy topsoil - dry - med.	1	0.0 2.0	9	9	12	11				
0.8 to 2.0	Blue-brown granular schist & rock frags. - dry - med.										
2.0 to 5.0	Olive-brown & grey sandy, clayey mica schist - moist to v. moist - med.	2	2.0 4.0	4	3	3	4				
		3	4.0 6.0	3	3	3	5				
5.0 to 6.0	Orange-brown silty mica schist - moist - med.										
6.0 to 6.6	Multicolored silty clayey mica schist - v. moist - med.	4	6.0 8.0	6	20	44	38				
6.6 to 10.0	Red-brown sandy, silty schist - weathered	5	8.0 10.0	20	32	30	28				

CASING BLOWS	
0-1	
1-2	7
2-3	7
3-4	7
4-5	9
5-6	12
6-7	29
7-8	66
8-9	77
9-10	75
10-11	66
11-12	70
12-13	77
13-14	75
14-15	80
15-16	88
16-17	68
17-18	66
18-19	83
19-20	97
20-21	80
21-22	74
22-23	99
23-24	91
24-25	106
25-26	110
26-27	215
27-28	164
28-29	133
29-30	124
30-31	91
31-32	40/
32-33	
33-34	

AR300610

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551.

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-5
Sheet 2 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA.

Date Begin 10-06-83
Date Completed 10-07-83
Depth of Soil 22.0'
Depth of Rock 16.9'
Total Boring Depth 38.9'

Casing Size, O.D. 4 "
Hammer Weight 300 #
Hammer Drop 18 "
Core Bit Size 2-1/8 "
Driller W. Wright

Spoon Size, O.D. 2 "
Hammer Wt. 140 #
Hammer Drop 30 "
Rig No. 101
Asst. Driller A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-07-83	38.9'	6.5'	0 Hr.
10-10-83	38.9'	3.0'	3 Days
10-11-83	38.9'	3.0'	4 Days
10-17-83	38.9'	2.9'	10 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
10.0 to 16.0	Orange-brown clayey, silty, sandy mica schist w/ grey - blue streaks - moist - med.	6	10.0 12.0	9	11	12	12					0-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-8, 8-9, 9-10, 10-11, 11-12, 12-13, 13-14, 14-15, 15-16, 16-17, 17-18, 18-19, 19-20, 20-21, 21-22, 22-23, 23-24, 24-25, 25-26, 26-27, 27-28, 28-29, 29-30, 30-31, 31-32, 32-33, 33-34
		7	12.0 15.0	9	10	12	17					
				21	28							
		8	15.0 17.0	13	30	55	87					
16.0 to 21.9	Mottled grey, brown red & black sandy, clayey mica schist w/quartz frags. - v. moist to moist - hard	9	17.0 20.0	40	27	48	42				Spoon refusal at 21.9'	
				51	73							
		10	20.0 21.9	16	17	30	100/.4				Tricone refusal at 22.0'	
									22.0			
21.9 to 28.5	Mottled brown sandy, silty schist w/ trace of quartz frags. - highly fractured & weathered							1	23.6	1.2	Started coring at 22.0'	
								2	26.0	1.3		
								3	28.5	0.5		
28.5 to 30.5	Yellow-brown fine sandy, silty schist - highly weathered - moist	11	28.5 30.5	18	32	53	80					

AR300611

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-5
Sheet 3 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-06-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-07-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	22.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	16.9'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	38.9'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-07-83	38.9'	6.5'	0 Hr.
10-10-83	38.9'	3.0'	3 Days
10-11-83	38.9'	3.0'	4 Days
10-17-83	38.9'	2.9'	10 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33 33-34
30.5 to 31.6	Olive-brown fine sandy, silty mica schist - weathered	12	30.5 31.6	43	105	100 .1			31.6		Spoon refusal at 31.6'	
31.6 to 31.9	White quartz - fractured - hard							4	33.5	0.9	Resume coring at 31.6'	
								5	36.0	2.2		
31.9 to 34.0	Olive-brown fine sandy, silty schist - fractured - weathered							6	38.9	2.9		
34.0 to 36.0	Olive-brown clayey, silty schist w/ stained fractures - med. hard to hard											
36.0 to 38.9	Blue shaly, sandy silty mica schist w/ stained fractures - hard											
											End of boring at 38.9'	

AR300612

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-6
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-04-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-05-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	10.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	20.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	30.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-05-83	30.0'	6.0'	0 Hr.
10-06-83	30.0'	4.0'	24 Hrs.
10-10-83	30.0'	3.9'	5 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)
0.0 to 1.1	Brown sandy topsoil w/ roots moist - v. soft	1	0.0 2.0	2	3	3	3				
1.1 to 2.5	Brown clayey, schisty silt - moist - med.	2	2.0 4.0	3	3	5	6				
2.5 to 3.5	Grey sand, silt & clay w/ vegetation - moist - med.										
3.5 to 4.0	Blue - grey sand, silt & mica schist w/ rock frags. - moist - med										
4.0 to 9.7	Blue - grey & brown sandy, silty mica schist - weathered moist	3	4.0 6.0	5	7	8	12				Spoon refusal at 10.0'
		4	6.0 8.0	10	9	16	35				
9.7 to 10.0	Olive-brown sandy, silty mica schist - weathered - hard	5	8.0 10.0	33	23	45	100				

CASING BLOWS	
0-1	–
1-2	–
2-3	
3-4	1
4-5	1
5-6	2
6-7	3
7-8	5
8-9	10
9-10	16
10-11	
11-12	
12-13	
13-14	
14-15	
15-16	
16-17	
17-18	
18-19	
19-20	
20-21	
21-22	
22-23	
23-24	
24-25	
25-26	
26-27	
27-28	
28-29	
29-30	
30-31	
31-32	
32-33	
33-34	

AR300613

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-6
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-04-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-05-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	10.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	20.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	30.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-05-83	30.0'	6.0'	0 Hr.
10-06-83	30.0'	4.0'	24 Hrs.
10-10-83	30.0'	3.9'	5 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
10.0 to 28.0	Olive-brown, blue sandy mica schist w/trace of pyrite & weathered seams-								10.0		Started coring at 10.0'	1-2
								1	14.0	3.5		2-3
	stained - vuggy - hard							2	18.1	3.8		3-4
								3	21.0	2.9		4-5
28.0 to 29.0	Brown sandy schist - weathered to med. hard							4	24.7	3.7		5-6
								5	27.8	3.1		6-7
29.0 to 30.0	Green-blue sandy, silty mica schist w/black stained fractures - hard							6	30.0	1.6	No loss of drill water	7-8
											End of boring at 30.0'	8-9
												9-10
												10-11
												11-12
												12-13
												13-14
												14-15
												15-16
												16-17
												17-18
												18-19
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												30-31
												31-32
												32-33
												33-34

AR300614

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-7
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-10-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-10-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	7.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	23.1'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	30.1'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-10-83	30.1'	6.1'	0 Hr.
10-11-83	30.1'	7.3'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From / To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 / 1-2 / 2-3 / 3-4 / 4-5 / 5-6 / 6-7
0.0 to 1.0	Brown topsoil - moist - med.	1	0.0 2.0	7	8	8	7					
1.0 to 3.8	Tan-brown sand & silt w/ trace of clay - moist - med. to loose	2	2.0 4.0	3	1	2	4					7-8 / 8-9 / 9-10 / 10-11 / 11-12 / 12-13 / 13-14 / 14-15 / 15-16
3.8 to 4.1	Dk. brown humus & silt w/ a little sand - v. moist - soft											
4.1 to 6.0	Blue silty mica schist - highly weathered - moist	3	4.0 6.0	5	5	8	12					16-17 / 17-18 / 18-19 / 19-20
6.0 to 7.0	Blue-grey & brown silty mica schist - weathered	4	6.0 7.0	25/100					7.0		Spoon refusal at 7.0'	20-21 / 21-22 / 22-23 / 23-24 / 24-25
7.0 to 15.2	Olive-brown & blue sandy, silty mica schist w/ cemented clay joints - highly fractured - hard							1	10.0	2.9	Started coring at 7.0'	25-26 / 26-27 / 27-28 / 28-29 / 29-30
								2	12.5	2.5		
								3	18.0	5.5		30-31 / 31-32 / 32-33 / 33-34

AR300615

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-7
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-10-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-10-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	7.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	23.1'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	30.1'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-10-83	30.1'	6.1'	0 Hr.
10-11-83	30.1'	7.3'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6 6/12 12/18 18/24				Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
15.2 to 19.6	Blue-green conglomerate schist & gneiss w/quartz streaks, trace of mica & pyrite - highly fractured - hard								18.0			
								4	20.8	2.8		
								5	22.0	1.2	Partial loss of drill water at 18.0' & 20.8'	
								6	25.6	3.6		
19.6 to 22.0	Green-blue conglomerate mica schist & gneiss w/ cemented clay joints - vuggy fractured - hard							7	30.1	4.5		
22.0 to 30.1	Blue-green schist & gneiss w/ quartz streaks - solid - hard											
											End of boring at 30.1'	

AR300616

REWAI Logging of Core

Modern Landfill
Well C-8

Depth in feet	Description
0.0' - 12.0'	Drilling log adequate, except the rock encountered was phyllite, not schist.
12.0' - 34.0'	White quartz, with some olive-brown weathered phyllite seams.

AR300617

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-8
Sheet 1 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-30-83	Casing Size, O.D.	4"	Spoon Size, O.D.	2"
Date Completed	10-04-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	12.0'	Hammer Drop	18"	Hammer Drop	30"
Depth of Rock	22.0'	Core Bit Size	2-1/8"	Rig No.	101
Total Boring Depth	34.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-04-83	34.0'	9.4'	0 Hr.
10-05-83	34.0'	9.1'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS	
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1	4
0.0 to 1.0	Brown topsoil & sub-topsoil - moist to dry - soft to med.	1	0.0 2.0	4	8	8	9					1-2	9
												2-3	21
												3-4	56
												4-5	
												5-6	
												6-7	31
1.0 to 5.0	Multicolored silty sand w/trace of clay & rock frags. - moist - med.	2	2.0 4.0	9	12	38	27					7-8	68
												8-9	82
		3	4.0 6.0	15	12	7	7					9-10	125
												10-11	62
5.0 to 7.0	Brown clay & grey-brown schist - moist to v. moist - med. stiff	4	6.0 8.0	7	6	9	15					11-12	67
												12-13	77
												13-14	79
												14-15	78
												15-16	100
7.0 to 10.0	Grey-brown silty schist - highly fractured & weathered - moist	5	8.0 10.0	23	31	40	40				Spoon refusal at 12.0'	16-17	73
												17-18	68
												18-19	70
												19-20	46
												20-21	60
10.0 to 12.0	Brown silty schist - highly weathered	6	10.0 12.0	25	60	75	100				Started coring at 12.0'	21-22	100.
												22-23	
												23-24	
									12.0			24-25	
12.0 to 17.0	Olive-brown mica schist w/conglomerate quartz streaks & highly							1	15.0	1.0		25-26	
												26-27	
												27-28	
		7	15.0 17.0	13	14	25	51					28-29	
												29-30	
	weathered seams - highly fractured - hard											30-31	
												31-32	
												32-33	

AR300618

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-8
Sheet 2 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-30-83	Casing Size, O.D.	4"	Spoon Size, O.D.	2"
Date Completed	10-04-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	12.0'	Hammer Drop	18"	Hammer Drop	30"
Depth of Rock	22.0'	Core Bit Size	2-1/8"	Rig No.	101
Total Boring Depth	34.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-04-83	34.0'	9.4'	0 Hr.
10-05-83	34.0'	9.1'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
17.0 to 20.6	Rust-brown & black sand, silt & mica schist - moist - med. dense	8	17.0 19.0	16	16	18	30				Spoon refusal at 20.6'	1-2
		9	19.0 20.6	7	11	25	100 .1		20.6			2-3
20.6 to 25.7	White conglomerate quartz w/stained fractures & cemented mica							2	22.3	1.2	Resumed coring at 20.6'	3-4
								3	23.0	1.1		4-5
	schist joints - highly fractured - hard							4	24.0	1.0	Lost 10% of drill water at 21.0' & 50% at 23.5'	5-6
								5	26.0	1.6		6-7
25.7 to 26.4	Brown mica schist - highly weathered - soft	10	26.0 26.4	65 .4							Spoon refusal at 26.4'	7-8
									26.4			8-9
26.4 to 29.0	White conglomerate quartz w/schist & stained fractures - v. highly fractured - hard							6	28.2	2.2	Resumed coring at 26.4'	9-10
								7	28.7	0.5		10-11
								8	30.0	0.2		11-12
29.0 to 32.5	Brown mica schist - highly weathered - hard	11	30.0 32.0	24	50	65	75					12-13
												13-14
												14-15
												15-16
												16-17
												17-18
												18-19
												19-20
												20-21
												21-22
												22-23
												23-24
												24-25
												25-26
												26-27
												27-28
												28-29
												29-30
												30-31
												31-32
												32-33
												33-34

AR300619

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-8
Sheet 3 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-30-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-04-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	12.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	22.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	34.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-04-83	34.0'	9.4'	0 Hr.
10-05-83	34.0'	9.1'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
32.5 to 33.4	Brown sandy schist & clay w/quartz frags. - v. moist to wet - hard	12	32.0 34.0	43	30	37	80					
33.4 to 34.0	Olive-brown clayey, sandy, silty mica schist w/trace of quartz frags. - weathered - moist										End of boring at 34.0'	

AR300620

REWAI Logging of Core

Modern Landfill
Well C-9

Depth in feet	Description
0.0' - 28.4'	Drilling log is accurate, except that all rock fragments are sandstone.
28.4' - 31.4'	Buff, fine-grained sandstone, with a non-calcareous matrix.

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-9
Sheet 1 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-27-83	Casing Size, O.D	4 "	Spoon Size, O.D.	2 "
Date Completed	9-29-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	28.4'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	3.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	31.4'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-29-83	31.4'	4.8'	0 Hr.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS	
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1	
0.0 to 0.5	Brown schisty, sandy topsoil - moist - soft	1	0.0 2.0	2	4	5	5					1-2	7
												2-3	16
												3-4	2
												4-5	25
0.5 to 1.5	Brown sub-topsoil - moist - soft to med.											5-6	18
												6-7	20
												7-8	25
												8-9	24
												9-10	26
												10-11	24
1.5 to 2.5	Yellow-brown sand, silt & schist w/ trace of clay, rock frags. & ~~mica - moist~~ med.	2	2.0 4.0	9	9	12	16					11-12	29
												12-13	37
												13-14	40
												14-15	42
												15-16	36
												16-17	47
												17-18	56
												18-19	60
												19-20	62
												20-21	49
2.5 to 5.0	Brown-grey clayey, silty sand & schist w/gravel & rock frags. - ~~moist~~ - med.	3	4.0 6.0	9	8	4	5					21-22	52
												22-23	88
												23-24	63
												24-25	62/.
												25-26	
												26-27	
												27-28	
												28-29	
												29-30	
5.0 to 7.0	Orange-brown sandy silt & clay - moist - stiff to med.	4	6.0 7.5	4	3	5						30-31	
												31-32	
												32-33	

AR300622

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-9
Sheet 2 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-27-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	9-29-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	28.4'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	3.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	31.4'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-29-83	31.4'	4.8'	0 Hr.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
7.0 to 15.5	Orange-brown sand & silt w/trace of clay & rock frags. - moist - med.	5	7.5 9.5	4	5	9	12					1-2
		6	9.5 11.5	9	11	7	12					2-3
		7	11.5 14.5	12	12	14	19					3-4
				20	15							4-5
15.5 to 18.0	Multicolored sand & silt w/trace of clay, mica, & rock frags. - moist - med.	8	14.5 16.5	7	6	8	12					5-6
		9	16.5 19.5	14	16	21	24					6-7
				20	25							7-8
												8-9
18.0 to 23.5	Brown-black silt, sand & schist w/ little rock frags. - moist - med. dense	10	19.5 21.5	18	18	19	23					9-10
		11	21.5 24.5	20	29	33	22					10-11
												11-12
23.5 to 27.0	Multicolored silt & mica schist w/ trace of clay & rock frags. - moist - dense			24	36						Spoon refusal at 28.4'	12-13
		12	24.5 26.5	23	43	47	70					13-14
		13	26.5 28.4	17	45	55	100 .4					14-15
												15-16
												16-17
												17-18
												18-19
												19-20
												20-21
												21-22
												22-23
												23-24
												24-25
												25-26
												26-27
												27-28
												28-29
												29-30
												30-31
												31-32
												32-33
												33-34

AR300623

For SCA Services, Inc
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-9
Sheet 3 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill.
Boring Location Per SCA Services, Inc. Location York County, Pa.

Date Begin	9-27-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	9-29-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	28.4'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	3.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	31.4'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-29-83	31.4'	4.8'	0 Hr.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
27.0 to 28.4	Green-grey silty, schisty mica schist - highly decomposed - moist								28.4		Started coring at 28.4'	1-2
28.4 to 31.4	Brown-grey silty, schisty sandstone & sandy schist w/stained fractures - highly fractured + hard							1	31.4	3.0	Lost drill water at 30.6'	2-3
											End of boring at 31.4'	3-4
												4-5
												5-6
												6-7
												7-8
												8-9
												9-10
												10-11
												11-12
												12-13
												13-14
												14-15
												15-16
												16-17
												17-18
												18-19
												19-20
												20-21
												21-22
												22-23
												23-24
												24-25
												25-26
												26-27
												27-28
												28-29
												29-30
												30-31
												31-32
												32-33

AR300624

REWAI Logging of Core

Modern Landfill
Well C-10

Depth in feet	Description
0.0' - 16.8'	Drilling log is accurate.
16.8' - 30.0'	Light brown to tan, highly weathered and weathered fine-grained sandstone, a large portion of the matirx has been dissolved, the remaining matrix is non-calcareous.

For [redacted]
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-10
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-26-83	Casing Size, O.D	4 "	Spoon Size, O.D.	2 "
Date Completed	9-27-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	16.8'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	13.2'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	30.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-27-83	30.0'	13.4'	0 Hr.
9-28-83	30.0'	12.5'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS	
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1	
0.0 to 1.0	Brown sandy topsoil - dry - soft to med.	1	0.0 2.0	3	7	8	8					1-2	7
												2-3	19
												3-4	22
												4-5	[redacted]
												5-6	55
												6-7	75
1.0 to 3.0	Lt. brown fine sand & silt - dry - med.	2	2.0 4.0	9	10	10	9					7-8	104
												8-9	165
												9-10	90%
												10-11	
3.0 to 5.4	Brown fine sand & silt w/trace of gravel & clay - moist - med.	3	4.0 6.0	10	13	10	12					11-12	
												12-13	
												13-14	
												14-15	
												15-16	
5.4 to 7.0	Brown-grey schisty fine sand & silt w/some rock frags. - moist - med.	4	6.0 8.0	14	17	27	31					16-17	
												17-18	
												18-19	
												19-20	
												20-21	
7.0 to 12.0	Brown-grey sandy schist & silt w/ trace of clay & mica - highly weathered	5	8.0 9.5	28	35	45						21-22	
												22-23	
		6	9.5 11.5	50	58	70	90					23-24	
												24-25	
12.0 to 16.8	Brown-grey sandy mica schist - v. highly weathered - moist	7	11.5 13.5	27	52	67	85				Spoon refusal at 16.8'	25-26	
												26-27	
		8	13.5 15.5	47	66	85	86					27-28	
												28-29	
												29-30	
		9	15.5 16.8	25	64	100 .3						30-31	
												31-32	
												32-33	

AR300626

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-9551

Boring No. C-10
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-26-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	9-27-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	16.8'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	13.2'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	30.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-27-83	30.0'	13.4'	0 Hr.
9-28-83	30.0'	12.5'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
16.8 to 18.6	Brown-grey sandy mica schist - v. highly weathered								16.8		Started coring at 16.8'	1-2
								1	21.0	2.4		2-3
18.6 to 25.0	Olive-brown silty, schisty fine sandstone - highly weathered & fractured - soft							2	25.0	4.0		3-4
								3	30.0	5.0		4-5
												5-6
												6-7
												7-8
												8-9
												9-10
												10-11
												11-12
												12-13
												13-14
												14-15
												15-16
25.0 to 30.0	Olive-brown & black fine sandy, silty mica schist w/weathered seams -										No loss of drill water	16-17
												17-18
												18-19
												19-20
	highly fractured soft to hard -											20-21
												21-22
											End of boring at 30.0'	22-23
												23-24
												24-25
												25-26
												26-27
												27-28
												28-29
												29-30
												30-31
												31-32
												32-33
												33-34

AR300627

REWAI Logging of Core

Modern Landfill
C-11

Depth in feet	Description
0.0' - 8.0'	Drilling log is accurate.
8.0' - 30.0'	Light brown to tan, highly weathered and weathered fine-grained sandstone, most of the matrix has been dissolved.

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY

Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-11

Sheet 1 of 1

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-23-83	Casing Size, O.D.	4"	Spoon Size, O.D.	2"
Date Completed	9-26-83	Hammer Weight	300#	Hammer Wt.	140#
Depth of Soil	8.0'	Hammer Drop	18"	Hammer Drop	30"
Depth of Rock	22.0'	Core Bit Size	2-1/8"	Rig No.	104
Total Boring Depth	30.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-26-83	30.0'	23.0'	0 Hr.
9-28-83	30.0'	21.7'	2 Days
10-07-83	30.0'	22.7'	11 Days
10-14-83	30.0'	22.7'	18 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Windy & cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
0.0 to 0.4	Brown topsoil	1	0.0 2.0	3	8	13	14					1-2: 12 2-3: 30 3-4: 44 4-5: 69 5-6: 109 6-7: 175
0.4 to 8.0	Lt. brown clayey silt w/weathered rock - dry - med. to v. dense	2	2.0 4.0	19	25	33	41				Spoon refusal at 8.0'	7-8: 215
		3	4.0 6.0	40	70	72	80					
		4	6.0 8.0	64	84	86	97				Started coring at 8.0'	
									8.0			
8.0 to 30.0	Lt brown sandy sandstone - fractured & broken - med. hard							1	10.0	18		
								2	12.0	20		
								3	17.0	40		
								4	22.0	40		
								5	27.0	35	No loss of drill water	
								6	30.0	25		
											End of boring at 30.0'	

REWAI Logging of Core

Modern Landfill
Well C-12

Depth in feet	Description
0.0' - 49.3'	Drilling log is fairly accurate, except none to very few rock fragments until 44.0'.
49.3' - 56.0'	Light brown, limy fine-grained sandstone, with some calcite veins, broken and weathered in part.
56.0' - 56.7'	Medium gray, fine-grained dolomitic sandstone.
56.7' - 59.0'	Light brown, limy fine-grained sandstone, with some calcite veins, broken and weathered in part, 2" olive weathered phyllite seam in middle.
59.0' - 60.0'	Medium gray, fine grained dolomitic sandstone.

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. 1
Sheet 1 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-21-83	Casing Size, O.D.	4"	Spoon Size, O.D.	2"
Date Completed	9-22-83	Hammer Weight	300#	Hammer Wt.	140"
Depth of Soil	49.3'	Hammer Drop	18"	Hammer Drop	30"
Depth of Rock	10.7'	Core Bit Size	2-1/8"	Rig No.	104
Total Boring Depth	60.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-22-83	60.0'	30.0'	0 Hr.
9-29-83	60.0'	30.9'	7 Days
10-07-83	60.0'	30.5'	15 Days
10-14-83	60.0'	30.5'	22 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Windy & cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS	
Depth From / To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1	1.(
0.0 to 0.5	Brown topsoil	1	0.0 2.0	4	6	6	7				Casing Blows	1-2	1
											34 - 35: 29	2-3	1(
											35 - 36: 46	3-4	1
0.5 to 4.0	Red-brown silty clay - moist - stiff	2	2.0 4.0	8	8	8	7				36 - 37: 35	4-5	1
											37 - 38: 39	5-6	1
											38 - 39: 40	6-7	2
											39 - 40: 51	7-8	1
4.0 to 9.0	Red-brown silty clay w/ layers of rock - moist - stiff	3	4.0 6.0	6	5	6	7				40 - 41: 46	8-9	1
											41 - 42: 50	9-10	2
											42 - 43: 38	10-11	3
		4	6.0 8.0	6	7	6	6					11-12	4
												12-13	5
												13-14	4
		5	8.0 10.0	4	4	8	9					14-15	3
												15-16	3
												16-17	5
												17-18	4
												18-19	5
												19-20	4
9.0 to 13.0	Lt. brown silty clay w/ decomposed rock - moist - v. stiff	6	10.0 12.0	8	11	12	14					20-21	5
												21-22	4
		7	12.0 14.0	18	14	16	12					22-23	4
												23-24	4
												24-25	4
13.0 to 14.0	Dk. brown silty clay w/ rock frags. - wet - v. stiff											25-26	3
												26-27	4
												27-28	4
												28-29	3
												29-30	3
												30-31	2
												31-32	4
												32-33	3
												33-34	2

AR300631

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-12
Sheet 2 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin 9-21-83
Date Completed 9-22-83
Depth of Soil 49.3'
Depth of Rock 10.7'
Total Boring Depth 60.0'

Casing Size, O.D. 4"
Hammer Weight 300#
Hammer Drop 18"
Core Bit Size 2-1/8"
Driller W. Botts

Spoon Size, O.D. 2"
Hammer Wt. 140#
Hammer Drop 30"
Rig No. 104
Asst. Driller J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-22-83	60.0'	30.0'	0 Hr.
9-29-83	60.0'	30.9'	7 Days
10-07-83	60.0'	30.5'	15 Days
10-14-83	60.0'	30.5'	22 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Windy & cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
14.0 to 20.0	Dk. brown silty clay w/ decomposed rock - moist - v. stiff	8	14.0 16.0	8	11	9	14					1-2
		9	16.0 18.0	15	11	12	11					2-3
		10	18.0 20.0	11	12	13	11					3-4
												4-5
20.0 to 34.0	Dk. brown silty clay w/ traces of limestone - wet - v. stiff to med.	11	20.0 22.0	10	14	11	14					5-6
		12	22.0 24.0	14	13	11	12					6-7
		13	24.0 26.0	9	8	8	7					7-8
		14	26.0 28.0	6	6	8	7					8-9
		15	28.0 30.0	5	8	6	6					9-10
		16	30.0 32.0	2	1	3	4					10-11
		17	32.0 34.0	4	3	4	4					11-12
												12-13
												13-14
												14-15
												15-16
												16-17
												17-18
												18-19
												19-20
												20-21
												21-22
												22-23
												23-24
												24-25
												25-26
												26-27
												27-28
												28-29
												29-30
												30-31
												31-32
												32-33
												33-34

AR300632

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-12
Sheet 3 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-21-83	Casing Size, O.D.	4"	Spoon Size, O.D.	2"
Date Completed	9-22-83	Hammer Weight	300#	Hammer Wt.	140#
Depth of Soil	49.3'	Hammer Drop	18"	Hammer Drop	30"
Depth of Rock	10.7'	Core Bit Size	2-1/8"	Rig No.	104
Total Boring Depth	60.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-22-83	60.0'	30.0'	0 Hr.
9-29-83	60.0'	30.9'	7 Days
10-07-83	60.0'	30.5'	15 Days
10-14-83	60.0'	30.5'	22 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Windy & cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6 6/12 12/18 18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
4.0 to 44.0	Orange-brown silty clay w/ traces of mica schist - wet - soft to v. stiff		34.0						0-1
		18	36.0	5 4 4 4					1-2
			36.0						2-3
		19	38.0	2 2 2 2					3-4
			38.0						4-5
		20	40.0	2 3 2 3					5-6
			40.0						6-7
		21	42.0	1 1 2 1					7-8
44.0 to 49.3	Dk. brown silty clay w/ limestone frags. - wet - med.		42.0						8-9
		22	44.0	3 26 8 9					9-10
			44.0						10-11
		23	46.0	3 5 8 7					11-12
			46.0						12-13
		24	48.0	4 4 6 5				Spoon refusal at 49.3'	13-14
			48.0						14-15
		25	49.3	3 5 50/3					15-16
49.3 to 55.0	Brown sandstone - broken - med. hard							Started coring at 49.3'	16-17
									17-18
									18-19
									19-20
55.0 to 59.0	Grey sandy limestone - broken - med. hard							No loss of drill water	20-21
									21-22
									22-23
									23-24
59.0 to 60.0	Lt. grey limestone solid - hard							End of boring at 60.0'	24-25
									25-26
									26-27
									27-28
									28-29
									29-30
									30-31
									32-33

AR300633

REWAI Logging of Core

Modern Landfill
Well C-13

Depth in feet	Description
0.0' - 29.0'	Predominantly dark gray clay, with a trace of sand, silt, and some rock fragments.
29.0' - 31.0'	Buff to tan, highly weathered fine-grained sandstone, entire matrix has been dissolved.
31.0' - 35.0'	Bluish-gray and olive-brown to tan weathered to highly weathered fine-grained sandstone, entire matrix has been dissolved.
35.0' - 36.0'	Olive-tan to light brown, highly weathered phyllitic fine-grained sandstone.
36.0' - 37.0'	Dark blue to black shale, with very few distinct cleavages or bedding planes.
37.0' - 40.0'	Olive-tan to light brown, weathered phyllitic fine-grained sandstone, matrix has been dissolved.
40.0' - 60.8'	Drilling log is accurate.

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-13
Sheet 1 of 5

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin 9-21-83
Date Completed 9-23-83
Depth of Soil 29.0'
Depth of Rock 31.8'
Total Boring Depth 60.8'

Casing Size, O.D. 4 "
Hammer Weight 300 #
Hammer Drop 18 "
Core Bit Size 2-1/8 "
Driller W. Wright

Spoon Size, O.D. 2 "
Hammer Wt. 140 #
Hammer Drop 30 "
Rig No. 101
Asst. Driller A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-23-83	60.8'	17.7'	0 Hr.
9-26-83	60.8'	17.7'	3 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cloudy

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS	
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	
0.0 to 0.8	Brown fine sandy topsoil - dry - med.	1	0.0 - 2.0	6	8	6	9					0-1 4
												1-2 7
												2-3 14
0.8 to 1.7	Brown fine sandy, clayey silt w/ trace of rock frags. - moist - stiff											3-4 23
												4-5 40
												5-6 55
												6-7 53
												7-8 56
												8-9 57
												9-10 66
1.7 to 2.3	Olive-brown clayey silt w/trace of rock frags. - moist - stiff	2	2.0 - 4.0	10	10	17	17					10-11 58
												11-12 58
												12-13 65
												13-14 60
												14-15 62
2.3 to 4.0	Green-blue schisty clayey silt w/ trace of weathered rock - moist - v. stiff											15-16 63
												16-17 68
												17-18 82
												18-19 93
												19-20 108
												20-21 118
											No sample recovery 6.0'-8.0'	21-22 147
												22-23 126
												23-24 115
4.0 to 8.3	Green-blue schisty clayey silt w/ trace of fine gravel & highly weathered rock - moist - v. stiff	3	4.0 - 6.0	15	13	17	21					24-25 147
												25-26 125
		4	6.0 - 8.0	16	14	12	14					26-27 123
												27-28 145
		5	8.0 - 9.5	15	12	12						28-29 235
												29-30
												30-31
												31-32
												32-33

AR300635

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-13
Sheet 2 of 5

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin 9-21-83
Date Completed 9-23-83
Depth of Soil 29.0'
Depth of Rock 31.8'
Total Boring Depth 60.8'

Casing Size, O.D. 4 "
Hammer Weight 300 #
Hammer Drop 18 "
Core Bit Size 2-1/8 "
Driller W. Wright

Spoon Size, O.D. 2 "
Hammer Wt. 140 #
Hammer Drop 30 "
Rig No. 101
Asst. Driller A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-23-83	60.8'	17.7'	0 Hr.
9-26-83	60.8'	17.7'	3 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cloudy

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
9.3			9.5									1-2
+	Blue clay & weathered silty schist w/stained seams - moist - med.	6	11.5	9	10	10	13					2-3
11.5												3-4
												4-5
11.5			11.5									5-6
	Blue clayey, silty schist & shale - v. highly weathered - moist	7	14.5	12	15	18	18					6-7
to												7-8
19.5				20	21							8-9
												9-10
			14.5									10-11
		8	16.5	6	6	9	12					11-12
			16.5									12-13
		9	19.5	14	16	23	26					13-14
												14-15
				26	26							15-16
												16-17
												17-18
												18-19
9.5			19.5									19-20
	Blue-grey silty, clayey schist & clayey shale w/ stained seams - moist - hard	10	21.5	7	17	15	17					20-21
to												21-22
1.5												22-23
												23-24
												24-25
												25-26
												26-27
												27-28
.5			21.5									28-29
	Blue-grey silty, clayey schist & shale - highly weathered	11	24.5	22	18	21	23					29-30
o												30-31
.4												31-32
				26	30							32-33

AR300636

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-13
Sheet 3 of 5

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-21-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	9-23-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	29.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	31.8'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	60.8'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-23-83	60.8'	17.7'	0 Hr.
9-26-83	60.8'	17.7'	3 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cloudy

Depth From	To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)
0	27.0	Multicolored fine sandy silt w/ stained shale streaks - weathered	1	25.0 27.0	20	26	26	37				
27.0	28.5	Blue-brown fine sandy silt & mica schist - moist - dense	1	27.0 29.0	27	32	50	115				Spoon refusal at 29.0'
28.5	29.0	Rust-brown silty, sandy mica schist weathered - moist								29.0		Started coring at 29.0'
29.0	31.0	Blue-grey sandy, clayey schist - seamy - highly weathered							1	31.0	0.9	
									2	33.0	2.0	
									3	36.0	3.0	
31.0	34.5	Blue-brown silty fine to coarse sandstone w/many stained fractures - hard										
34.5	36.0	Brown-grey shaly sandstone - highly fractured - stained - med. hard										
36.0	37.0	Dk. blue-black clayey shale - fractured - hard										

CASING BLOWS

0-1	
1-2	
2-3	
3-4	
4-5	
5-6	
6-7	
7-8	
8-9	
9-10	
10-11	
11-12	
12-13	
13-14	
14-15	
15-16	
16-17	
17-18	
18-19	
19-20	
20-21	
21-22	
22-23	
23-24	
24-25	
25-26	
26-27	
27-28	
28-29	
29-30	
30-31	
31-32	
32-33	

AR300637

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-13
Sheet 4 of 5

Job Name and Location: Test Borings & Piezometer Installation, Modern Landfill,
Boring Location: Per SCA Services, Inc. Location York County, PA

Date Begin	9-21-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	9-23-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	29.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	31.8'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	60.8'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-23-83	60.8'	17.7'	0 Hr.
9-26-83	60.8'	17.7'	3 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cloudy

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
37.0 to 40.0	Brown-grey sandy, silty, clayey shale - highly fractured w/soft								36.0			0-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7
	interbedded clay seams - highly weathered							4	40.0	2.8		7-8
								5	43.0	0.0	Spoon refusal at 45.0'	8-9, 9-10, 10-11
40.0 to 45.0	Blue fine sandy silt w/rock frags - moist - v. dense		43.0								Resumed coring at 45.0'	11-12, 12-13, 13-14, 14-15, 15-16
		14	45.0	20	23	40	100					
									45.0			16-17
45.0 to 48.0	Blue-grey inter-bedded clay & silty clayey shale - highly weathered							6	48.0	1.5		17-18, 18-19, 19-20
								7	51.0	1.1		20-21
48.0 to 51.0	Dk. grey silty, clayey shale w/ stained fractures & clay seams - weathered											21-22, 22-23, 23-24, 24-25
51.0 to ..0	Dk. blue-grey fine sandy silt w/silty sand seams & trace of clay & shale frags - moist -		51.3									25-26
		15	53.3	14	16	17	26				Spoon refusal at 56.1'	26-27, 27-28, 28-29, 29-30
			53.3									
		16	56.1	40	38	55	74					
	med. dense				100						Resumed coring at 56.1'	30-31, 31-32, 32-33
				85	.3							

AR300638

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-13
Sheet 5 of 5

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-21-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	9-23-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	29.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	31.8'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	60.8'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-23-83	60.8'	17.7'	0 Hr.
9-26-83	60.8'	17.7'	3 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cloudy

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
0.0	Dk. blue-grey sandy clay & silt - highly weathered - hard								56.1			
60.8								8	60.0	0.0		
			60.0		150						Spoon refusal at 60.8'	
		17	60.8	110	.3							
											End of boring at 60.8'	

AR300639

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-13A
Sheet 1 of 1

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-26-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	9-26-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	8.9'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	0.0'	Core Bit Size	-- "	Rig No.	101
Total Boring Depth	8.9'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
9-26-83	8.9'	Dry	0 Hr.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA							REMARKS	CASING BLOWS	
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6 6/12 12/18 18/24			Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1	11
0.0 to 8.9	See Boring Log C-13 for soil description	1	2.0 3.8	Shelby Tube							1-2	12
		1A	3.7 3.8	Jar							2-3	1
		2	7.0 8.9	Shelby Tube							3-4	18
		2A	8.8 8.9	Jar							4-5	32
											5-6	39
										End of boring at 8.9'	6-7	33
											7-8	
											8-9	
											9-10	
											10-11	
											11-12	
											12-13	
											13-14	
											14-15	
											15-16	
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											30-31	
											31-32	
											32-33	

AR300640

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-14
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-26-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-05-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	12.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	45.5'	Core Bit Size	2-1/8 "	Rig No.	104
Total Boring Depth	57.5'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-05-83	57.5'	30.4'	0 Hr.
10-11-83	57.5'	31.3'	6 Days
10-13-83	57.5'	31.5'	8 Days
10-14-83	57.5'	31.4'	9 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
0.0 to 0.4	Brown topsoil	1	0.0 2.0	3	6	8	10					0-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7
0.4 to 2.0	Lt. brown clayey silt w/shale & calcite frags. - dry - stiff											7-8, 8-9, 9-10, 10-11
2.0 to 6.0	Lt. brown clayey silt w/shale frags. - dry - hard	2	2.0 4.0	8	10	18	21					11-12, 12-13, 13-14, 14-15, 15-16
		3	4.0 6.0	22	28	24	24					
6.0 to 12.0	Brown weathered shale - v. dense	4	6.0 8.0	27	32	41	52				Tricone refusal at 12.0'	16-17, 17-18, 18-19, 19-20
		5	8.0 10.0	72	52	61	55		12.0			
12.0 to 35.0	Green-grey shale - broken & fractured - soft							1	15.0	2.7	Started coring at 12.0'	20-21, 21-22, 22-23, 23-24, 24-25
								2	20.0	4.9		
								3	25.0	4.9		25-26, 26-27, 27-28, 28-29, 29-30
								4	30.0	5.0		
								5	35.0	4.3		30-31, 31-32, 32-33

AR300641

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-14
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill.
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-26-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-05-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	12.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	45.5'	Core Bit Size	2-1/8 "	Rig No.	104
Total Boring Depth	57.5'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-05-83	57.5'	30.4'	0 Hr.
10-11-83	57.5'	31.3'	6 Days
10-13-83	57.5'	31.5'	8 Days
10-14-83	57.5'	31.4'	9 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
35.0 to 53.0	Brown mica schist - broken & fractured - stained - soft								35.0			
								6	38.0	1.3		
53.0 to 57.5	Grey mica schist - vertically broken - fractured - soft							7	43.0	2.5		
								8	48.0	4.7		
								9	53.0	3.9		
								10	57.5	4.5		
											No loss of drill water	
											End of boring at 57.5'	

AR300642

For SCA Services, Inc.
Louisville, PA
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-15
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-28-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-06-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	12.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	48.0'	Core Bit Size	2-1/8 "	Rig No.	104
Total Boring Depth	60.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-06-83	60.0'	46.3'	0 Hr.
10-10-83	60.0'	46.2'	4 Days
10-12-83	60.0'	46.2'	6 Days
10-14-83	60.0'	46.3'	8 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1
0.0 to 0.4	Brown topsoil	1	0.0 2.0	3	6	7	8					1-2 2-3 3-4 4-5 5-6 6-7
0.4 to 2.0	Orange-brown clay & silt w/shale frags. - dry - stiff											7-8 8-9 9-10 10-11 11-12
2.0 to 5.0	Orange mica schist - moist - med.	2	2.0 4.0	8	8	8	9					12-13 13-14 14-15 15-16
		3	4.0 6.0	11	13	13	8					
5.0 to 12.0	Green weathered shaly mica schist	4	6.0 8.0	5	6	18	22					16-17 17-18 18-19 19-20
		5	8.0 10.0	22	35	41	51					
		6	10.0 12.0	40	59	98	118				Spoon refusal at 12.0'	20-21 21-22 22-23 23-24
									12.0			24-25
12.0 to 18.5	Green mica schist - broken & fractured - med. hard							1	18.5	5.2	Started coring at 12.0'	25-26 26-27 27-28 28-29 29-30
											Lost drill water at 12.0'	30-31 31-32 32-33

AR300643

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-15
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	9-28-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-06-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	12.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	48.0'	Core Bit Size	2-1/8 "	Rig No.	104
Total Boring Depth	60.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-06-83	60.0'	46.3'	0 Hr.
10-10-83	60.0'	46.2'	4 Days
10-12-83	60.0'	46.2'	6 Days
10-14-83	60.0'	46.3'	8 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6 6/12 12/18 18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
18.5 to 27.0	Green mica schist - badly broken & fractured - med. hard					18.5		Recovered drill water at 15.0'	0-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7
						223.0	2.8		
27.0 to 34.0	Green mica schist w/vertical breaks - solid - med. hard					327.0	4.0	Lost drill water at 23.0'	7-8, 8-9, 9-10, 10-11
						432.0	5.0		
34.0 to 36.0	Green mica schist - badly broken & fractured - med. hard					536.0	4.0		11-12, 12-13, 13-14, 14-15, 15-16
						640.0	3.7		
36.0 to 40.0	Green mica schist - solid - med. hard					745.0	5.0		16-17, 17-18, 18-19, 19-20
						849.5	4.2		
40.0 to 60.0	Green mica schist - broken vertically & fractured - med. hard					954.0	4.5		20-21, 21-22, 22-23, 23-24, 24-25
						1060.0	5.6		
								End of boring at 60.0'	25-26, 26-27, 27-28, 28-29, 29-30, 30-31, 31-32, 32-33

AR300644

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-16
Sheet 1 of 3

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill.
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-18-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-19-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	13.8'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	46.8'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	60.6'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data
A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-19-83	60.6'	39.0'	0 Hr.
10-19-83	60.6'	39.8'	A.B.
10-20-83	60.6'	40.7'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cool

BORING LOG Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)
0.0 to 0.4	Brown topsoil - moist - soft		0.0								
		1	2.0	5	7	15	15				
0.4 to 3.5	Mottled brown silty fine schist w/rock frags. - dry to moist - med.		2.0								
		2	4.0	11	12	10	12				
3.5 to 6.0	Mottled red silty mica schist w/ quartz frags. - moist - med.		4.0								
		3	6.0	6	6	9	9				
6.0 to 8.0	Red granular mica schist w/olive-brown streaks & quartz frags. -		6.0								
		4	8.0	9	14	20	23				
	highly weathered - moist to dry										
8.0 to 13.8	Mottled red, brown & yellow mica schist w/black streaks - highly		8.0								
		5	10.0	18	12	9	13				Spoon refusal at 13.7'
		6	10.0 / 12.0	19	14	28	23				
	weathered - moist		12.0				100				Tricone & casing refusal at 13.8'
		7	13.7	18	38	40	.2				

CASING BLOWS	
0-1	2
1-2	7
2-3	13
3-4	17
4-5	20
5-6	30
6-7	37
7-8	50
8-9	48
9-10	30
10-11	28
11-12	32
12-13	28
13-14	50/.
14-15	
15-16	
16-17	
17-18	
18-19	
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20-21	
21-22	
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29-30	
30-31	
31-32	
32-33	

AR300645

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-16
Sheet 2 of 3

Job Name and Location: Test Borings & Piezometer Installation, Modern Landfill,
Boring Location: Per SCA Services, Inc. Location York County, PA

Date Begin	10-18-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-19-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	13.8'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	46.8'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	60.6'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data
A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-19-83	60.6'	39.0'	0 Hr.
10-19-83	60.6'	39.8'	A.B.
10-20-83	60.6'	40.7'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather: Cool

BORING LOG: Depth From To	Material Description	SPOON SAMPLE & ROCK CORE DATA: Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6 6/12 12/18 18/24	Run No.	Depth of Run	Core Rec. (ft)	REMARKS (water loss, cavities, etc.)	CASING BLOWS
13.8 to 14.2	Green-blue sandy mica schist					13.8		Started coring at 13.8'	0-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7
					1	17.5	3.4		
14.2 to 15.3	Red-green mica schist w/cemented clay fractures - seamy & vuggy				2	21.0	3.8	Lost 50% of drill water at 27.1'	7-8, 8-9, 9-10, 10-11, 11-12
					3	25.9	4.9		
15.3 to 28.7	Blue-green mica schist w/vertical quartz streaks - fractured w/ cemented clay joints - vuggy - hard				4	28.4	2.4	Lost all drill water at 27.5'	12-13, 13-14, 14-15, 15-16, 16-17, 17-18, 18-19, 19-20
					5	30.6	2.2		
					6	31.0	0.4		
					7	33.5	1.4		
28.7 to 34.8	Blue-green shaly schist - vertical bedding & fractures - hard				8	34.8	2.5		20-21, 21-22, 22-23, 23-24, 24-25
					9	39.5	4.7		
34.8 to 59.0	Blue-green snaly schist w/black stained vertical fractures - solid - hard				10	41.4	1.8		25-26, 26-27, 27-28, 28-29, 29-30
					11	47.0	5.5		
					12	49.8	2.8		30-31, 31-32, 32-33
					13	55.0	5.2		

AR300646

TEST BORING LOG

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-16
Sheet 3 of 3

Job Name and Location: Test Borings & Piezometer Installation, Modern Landfill,
Boring Location: Per SCA Services, Inc. Location York County, PA

Date Begin	10-18-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-19-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	13.8'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	46.8'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	60.6'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data

A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-19-83	60.6'	39.0'	0 Hr.
10-19-83	60.6'	39.8'	A.B.
10-20-83	60.6'	40.7'	24 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather: Cool

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
59.0 to 60.6	Blue-green schist w/vertical quartz streak - solid - hard											
											End of boring at 60.6'	

AR300647

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-16A
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill.
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-19-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-19-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	14.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	21.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	35.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data
A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-20-83	35.0'	30.5'	0 Hr.
10-20-83	35.0'	33.7'	A.B.
10-21-83	35.0'	Dry	3 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cloudy w/showers

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS	
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6 6/12 12/18 18/24				Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	
0.0 to 0.3	Brown topsoil - v. moist - v. soft		0.0									0-1
		1	2.0	2	3	5	12					1-2 18
												2-3 21
												3-4 22
												4-5 27
												5-6 35
												6-7 50
0.3 to 3.0	Mottled brown, red, yellow & green sandy silt & schist w/rock		2.0									7-8 43
		2	4.0	10	11	11	11					8-9 34
												9-10 40
												10-11 33
	frags. - moist to dry - med.											11-12 37
												12-13 37
												13-14 70
												14-15
												15-16
3.0 to 10.0	Mottled red, yellow & brown fine sandy silt & schist w/ trace of brown		4.0									16-17
		3	6.0	8	7	7	10					17-18
			6.0									18-19
		4	8.0	11	16	20	16					19-20
	clay & quartz frags. - moist - med.		8.0									20-21
		5	10.0	8	8	8	11				Spoon, casing & tricone refusal at 14.0	21-22
												22-23
												23-24
												24-25
10.0 to 14.0	Multi-colored mica schist w/ rock frags. & trace of clay - weathered moist - dense		10.0									25-26
		6	12.0	5	45	18	21					26-27
			12.0									27-28
		7	14.0	32	24	50	100					28-29
												29-30
												30-31
												31-32
												32-33
												33-34

AR300648

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-16A
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill.
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-19-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-19-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	14.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	21.0'	Core Bit Size	2-1/8 "	Rig No.	101
Total Boring Depth	35.0'	Driller	W. Wright	Asst. Driller	A. Wright

Progress & Ground Water Data
A.B. = After Bailing

Date	Depth Reached	Depth to Water	Hour
10-20-83	35.0'	30.5'	0 Hr.
10-20-83	35.0'	33.7'	A.B.
10-21-83	35.0'	Dry	3 Hrs.

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Cloudy w/showers

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6 6/12 12/18 18/24				Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
14.0 to 15.6	Red silty, granular mica schist w/green streaks, quartz stringers & cemented clay fractures - highly fractured - hard								14.0		Started coring at 14.0'	
								1	17.5	3.5		
								2	19.7	2.2		
								3	24.4	4.7		
15.6 to 19.7	Green mica schist w/vertical quartz streaks - highly fractured - hard							4	31.0	6.6	Lost drill water 29.5'-29.7'	
								5	33.4	2.2		
19.7 to 24.4	Green schist w/ vertical quartz seams & stained clay joints - fractured - hard							6	35.0	1.8		
24.4 to 35.0	Green schist w/ quartz streaks & stained fractures - solid - hard										End of boring at 35.0'	

AR300649

TEST BORING LOG

For SCA Services, Inc - Louisville, KY
Project No. 83-09-3551

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-17
Sheet 1 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-06-83	Casing Size, O.D.	4"	Spoon Size, O.D.	2 "
Date Completed	10-07-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	36.0'	Hammer Drop	18"	Hammer Drop	30 "
Depth of Rock	7.0'	Core Bit Size	2-1/8"	Rig No.	104
Total Boring Depth	43.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-07-83	43.0'	9.0'	0 Hr.
10-11-83	43.0'	8.5'	4 Days
10-13-83	43.0'	8.5'	6 Days
10-14-83	43.0'	8.4'	7 Days

Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA								REMARKS	CASING BLOWS
Depth From / To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" Intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
0.0 to 0.3	Brown topsoil	1	0.0 2.0	2	9	9	8					
0.3 to 2.0	Lt. brown silty mica schist - dry - med.											
2.0 to 7.0	Orange-brown silty mica schist- dry - med.	2	2.0 4.0	9	9	12	10					
		3	4.0 6.0	7	10	9	10					
7.0 to 10.0	Orange-red silty weathered mica schist - moist - med	4	6.0 8.0	9	8	12	15					
		5	8.0 10.0	7	6	9	10					
10.0 to 17.0	Orange-red weathered mica schist - wet - med. to dense	6	10.0 12.0	10	11	13	19					
		7	12.0 14.0	14	14	18	20					
		8	14.0 16.0	16	19	17	21					
		9	16.0 18.0	20	25	39	41					

AR300650

For SCA Services, Inc.
Louisville, KY
Project No. 83-09-3551

TEST BORING LOG

F. T. KITLINSKI & ASSOCIATES, INC.
and its affiliate
THE FOUNDATION SERVICES COMPANY
Harrisburg, Pennsylvania

Boring No. C-17
Sheet 2 of 2

Job Name and Location Test Borings & Piezometer Installation, Modern Landfill,
Boring Location Per SCA Services, Inc. Location York County, PA

Date Begin	10-06-83	Casing Size, O.D.	4 "	Spoon Size, O.D.	2 "
Date Completed	10-07-83	Hammer Weight	300 #	Hammer Wt.	140 #
Depth of Soil	36.0'	Hammer Drop	18 "	Hammer Drop	30 "
Depth of Rock	7.0'	Core Bit Size	2-1/8 "	Rig No.	104
Total Boring Depth	43.0'	Driller	W. Botts	Asst. Driller	J. Spade

Progress & Ground Water Data

Date	Depth Reached	Depth to Water	Hour
10-07-83	43.0'	9.0'	0 Hr.
10-11-83	43.0'	8.5'	4 Days
10-13-83	43.0'	8.5'	6 Days
10-14-83	43.0'	8.4'	7 Days

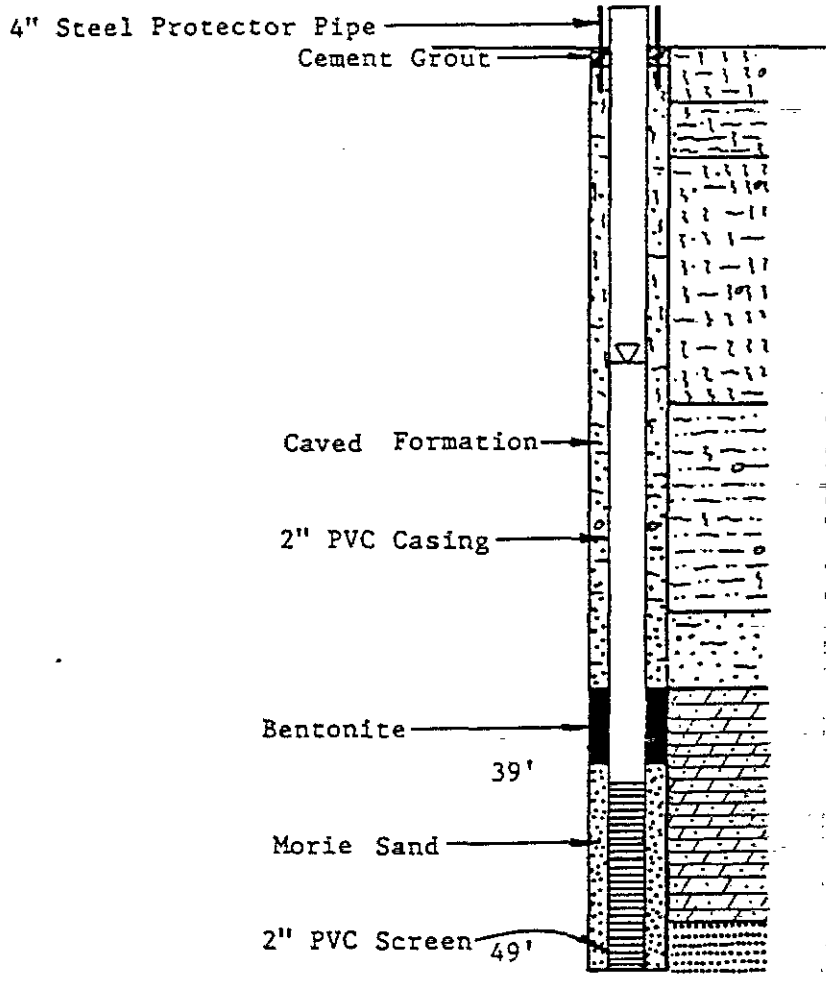
Ground Elev.
Datum Elev.
Depth Surf. Water
Weather Warm

BORING LOG		SPOON SAMPLE & ROCK CORE DATA									REMARKS	CASING BLOWS
Depth From To	Material Description	Sample No.	Sample Depth	Blows on Spoon 6" intervals 0/6	6/12	12/18	18/24	Run No.	Depth of Run	Core Rec. (ft)	(water loss, cavities, etc.)	0-1 1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-16 16-17 17-18 18-19 19-20 20-21 21-22 22-23 23-24 24-25 25-26 26-27 27-28 28-29 29-30 30-31 31-32 32-33
17.0 to 25.0	Brown & red weathered mica schist - dense	10	18.0 20.0	32	39	70	115					
		11	20.0 22.0	7	15	19	32					
		12	22.0 24.0	32	38	36	36					
		13	24.0 26.0	15	19	23	29					
25.0 to 35.0	Brown & grey weathered mica schist - moist - dense	14	26.0 28.0	21	23	28	32					
		15	28.0 30.0	22	22	21	23					
		16	30.0 32.0	8	14	16	19				Spoon refusal at 36.0'	
		17	32.0 34.0	29	60	39	41					
35.0 to 36.0	Brown weathered mica schist - moist - v. dense	18	34.0 36.0	43	83	150	200				Started coring at 36.0'	
									36.0			
36.0 to 43.0	Brown & green mica schist - fractured & broken - soft							1	41.0	3.4	No loss of drill water	
								2	43.0	1.1		
											End of boring at 43.0'	

AR300651

Geologic and Well Construction Log

Modern Landfill
Well C-18(D)



Light to dark brown silty clay. Some sand. Trace gravel and weathered rock fragments.

Light to medium brown clayey silt. Some sand. Trace gravel.

Light to dark brown silty clay. Some sand, gravel and weathered rock fragments.

Light to dark brown sandy silt. Some clay, weathered sandstone, phyllite, and phyllitic sandstone fragments (saprolite).

Medium to dark brown very soft silty sand.

Light gray, to white fine grained sandy dolomite, with some medium crystalline dolomite, with many calcite-filled vugs and calcite veins.

Brown, weathered calcareous fine grained sandstone, with calcite veins and some olive-green phyllite seams.

Vertical Scale 1" = 10'

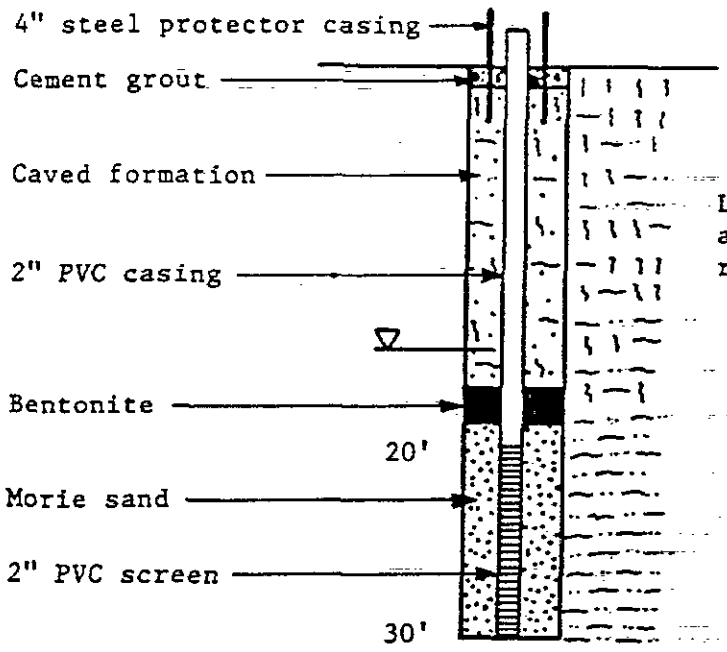
Drilling Began: 1/28/85
Drilling Completed: 1/29/85
Total Depth: 49'
Driller: Borings, Soils, and Testing Company
Elevation, TOC: 519.11

Elevation, G.S.: 516.6'
Screened Interval: 39' to 49'
Screen Elevation: 463.3'-453.3'
SWL Elevation (Date): 500.36' (3/29/85)
Drilling Method: Soil Boring/Rock Coring

AR300652

Geologic and Well Construction Log
Modern Landfill

Well C-18(S)



Vertical Scale
1" = 10'

Drilling Began: 1/29/85
Drilling Completed: 1/29/85
Total Depth: 30'
Driller: Borings, Soils, and Testing Company
Screened Interval: 20' to 30'
Elevation, TOC: ~518.5'
Elevation, G.S.: ~516.6'
Screen elevation: ~496.6' - 486.6'
SWL Elevation (Date): ~500.1 (3/29/85)
Drilling Method: Soil Boring

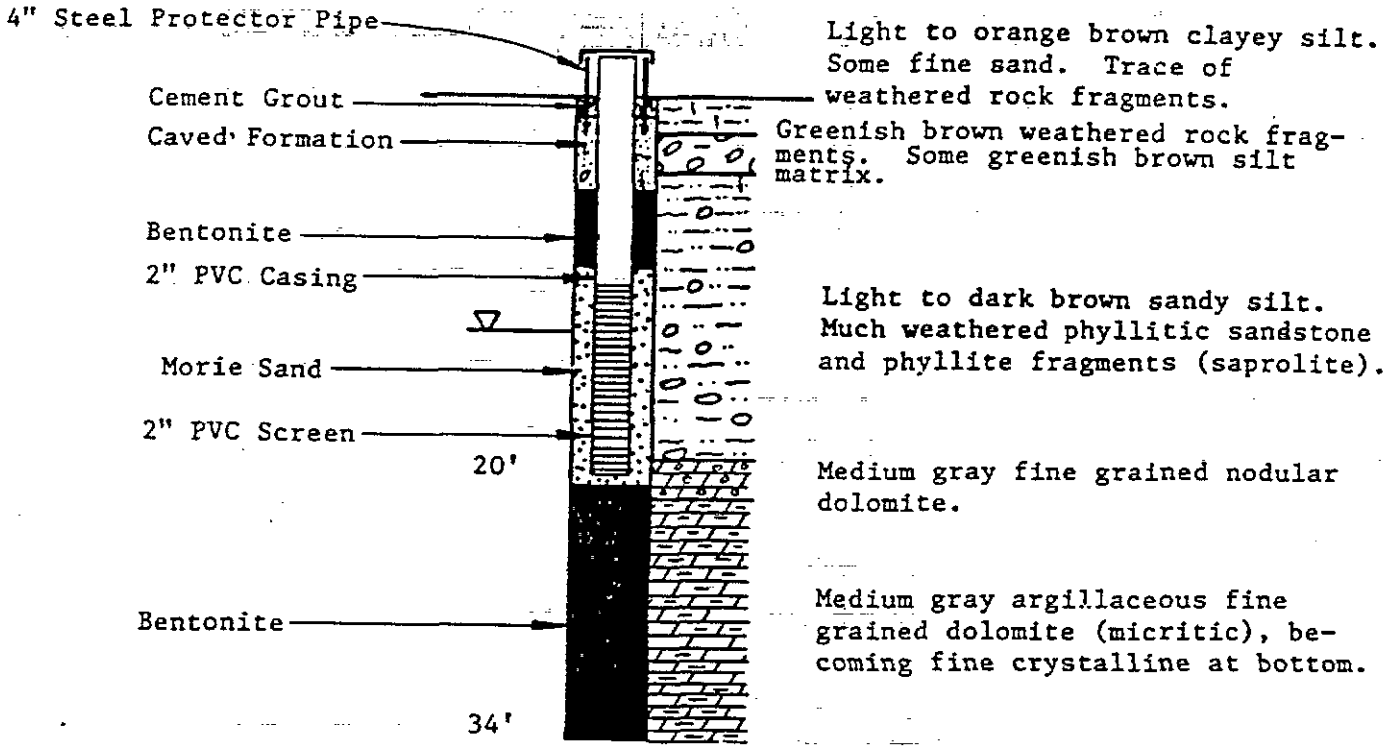
T00155

Geologic and Well Construction Log

Well C-18(D) Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval (ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD (%)	Recovery (%)
0.0- 2.0	S 1	21-25-32-36	2.0	--	--
2.0- 4.0	S 2	40-45-18-18	2.0	--	--
5.0- 7.0	S 3	15-18-21-25	2.0	--	--
8.0- 10.0	S 4	27-24-24-24	2.0	--	--
11.0- 13.0	S 5	9- 8- 7- 5	2.0	--	--
13.0- 15.0	S 6	8- 9-11-15	2.0	--	--
15.0- 17.0	S 7	10-12-15-13	2.0	--	--
17.0- 19.0	S 8	14-17-16-16	2.0	--	--
19.0- 21.0	S 9	5- 8-10-12	2.0	--	--
21.0- 23.0	S10	5- 9- 7- 8	2.0	--	--
23.0- 25.0	S11	3- 3- 6- 7	2.0	--	--
25.0- 27.0	S12	3- 3- 4- 3	2.0	--	--
30.0- 34.0		WOR/48"	None	--	--
34.0- 39.0	R 1	--	--	24.0	100.0
39.0- 44.0	R 2	--	--	54.0	100.0
44.0- 49.0	R 3	--	--	30.0	90.0

Geologic and Well Construction Log
Modern Landfill
Well C-19(S)



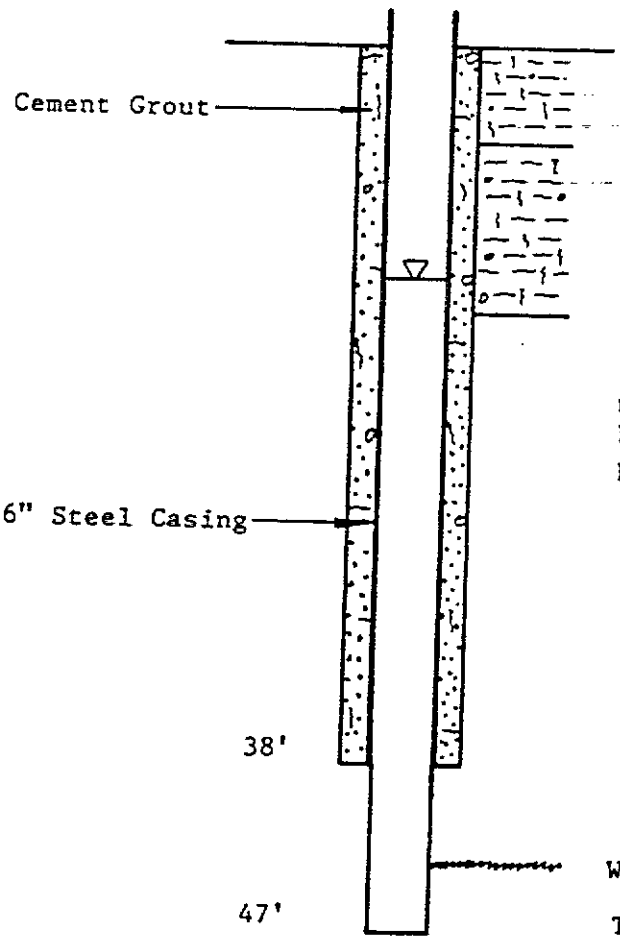
Vertical Scale 1" = 10'

rilling Began: 1/29/85
rilling Completed: 1/30/85
otal Depth:34'
riller: Borings, Soils, and Testing Co.
creened Interval: 10' to 20'

Elevation, TOC: ~525.0'
Elevation, G.S.: ~522.7'
Screen Elevation: ~512.7' - 502.7'
SWL Elevation (Date): ~510.53' (2/18/85)
Drilling Method: Soil Boring/Rock Coring

AR300655

Geologic and Well Construction Log
Modern Landfill
Well C-19(D)



Light to medium brown clayey silt. Some sand and fine gravel.

Light brown clayey silt and weathered rock fragments.

Medium to dark gray bedrock (unknown lithology), with multiple weathered zones and inter bedded light to medium green phyllite from 45' to 49'.

Water-bearing zone at 43'(1.5 gpm)

Total Yield - 1.5 gpm

Vertical Scale 1" = 10'

rilling Began: 2/6/85
rilling Completed: 2/6/85
otal Depth: 47'
lev., TOC: 524.71'
lev., G.S.: ~522.7

Screened Interval: Open rock hole 38' to 47'

SWL Elevation (Date): 510.42' (2/18/85)
Drilling Method: Air Rotary
Open Rock Hole Elevation: ~484.7' - 475.7'

AR300656

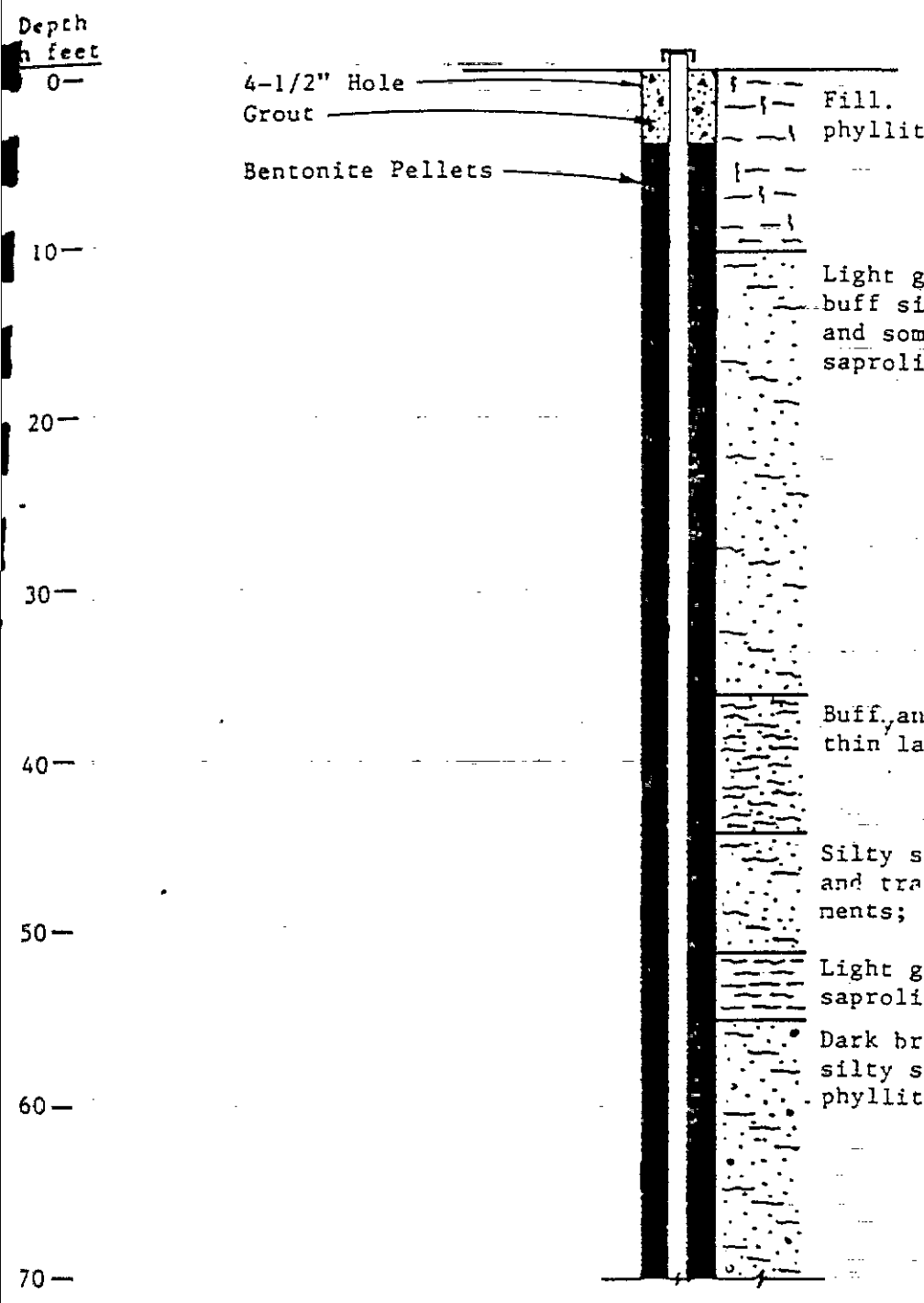
Geologic and Well Construction Log

Well C-19(S) Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval(ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD(%)	Recovery (%)
0.0- 2.0	S 1	10- 8- 9- 8	2.0	--	--
2.0- 4.0	S 2	12-12- 7- 6	2.0	--	--
4.0- 6.0	S 3	5- 5- 4- 4	2.0	--	--
6.0- 8.0	S 4	5- 4- 3- 4	2.0	--	--
8.0- 10.0	S 5	3- 3- 4- 3	2.0	--	--
10.0- 12.0	S 6	3- 4- 6- 8	2.0	--	--
12.0- 14.0	S 7	9-11-12-18	2.0	--	--
14.0- 16.0	S 8	12-16-17-15	2.0	--	--
16.0- 18.0	S 9	10-12-14-18	2.0	--	--
18.0- 19.0	S10	30-60	1.0	--	--
19.0- 24.0	R 1	--	--	44.0	90.0
24.0- 29.0	R 2	--	--	75.5	100.0
29.0- 34.0	R 3	--	--	58.0	90.0

Geologic and Well Construction Log

Modern Landfill
Well C-20



Description

Fill. Orange and tan silty clay and phyllite fragments.

Light gray, orange-brown, brown, and buff silty sand, with thin laminations and some orange relict minerals; saprolitic.

Buff and orange sandy silt, with some thin laminations; saprolitic.

Silty sand, with some thin laminations and trace of fine-grained sandstone fragments; saprolitic.

Light gray to buff, silt, stiff; saprolitic.

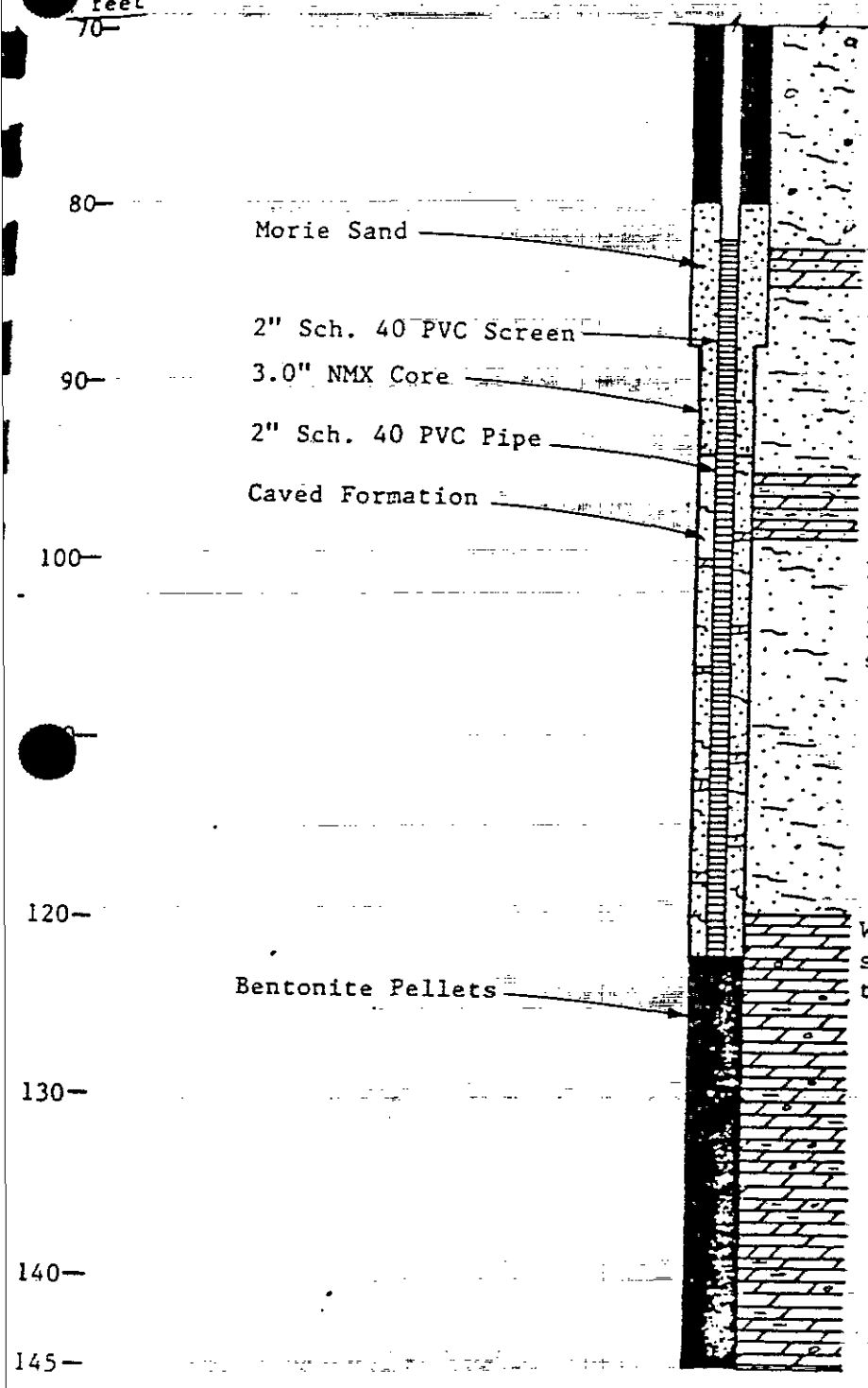
Dark brown, olive brown, and orange-brown silty sand, with many sandstone and phyllite rock fragments; saprolitic.

Vertical Scale 1" = 10'

AR300658

Geologic and Well Construction Log

Modern Landfill
Well C-20 Cont'd.



Description

Dark brown, olive brown, and orange-brow silty sand, with many sandstone and phyllite rock fragments; saprolitic.

Light gray fine to medium crystalline sandy dolomite, with some red-brown sandy veins.

Dark brown, fine, medium and coarse grained silty sand, soft, with some weathered dolomite (filled void).

Light gray fine grained, sandy dolomite and sediment-filled voids.

Dark brown to brown, very fine to fine-grained silty sand, with some light gray dolomite fragments, very soft (filled void).

White to light gray fine crystalline slightly nodular dolomite with concentration of white mica around nodules.

Vertical Scale 1" = 10'

Drilling Began: 1/29/86
Drilling Completed: 2/3/86
Total Depth: 145.0'
Elevation TOC: 545.46'
Screened Interval: 82.0' - 122.0'
SWL Elevation(Date): 522.6' (3/24/86)

Elevation G.S.: 544.8'
Screen Elevation: 462.8'-422.8'
Drilling Method: Soil Boring/Rock Coring

AR300659

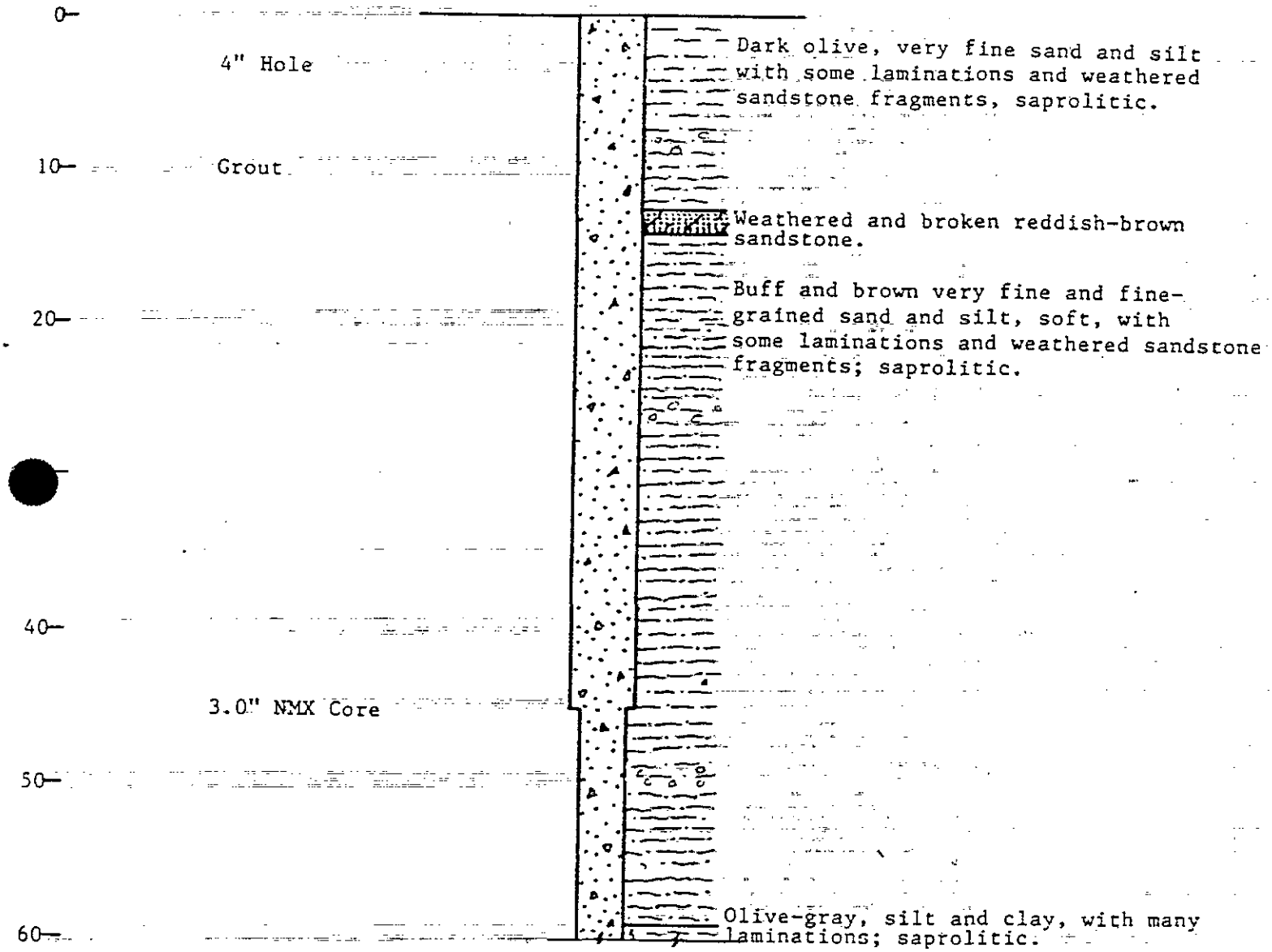
Geologic and Well Construction Log

Well C-20 Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval(ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD(%)	Recovery (%)
0.0- 2.0	S 1	32-12- 9-18	0.5	--	--
5.0- 7.0	S 2	10- 8- 8-10	1.8	--	--
10.0- 13.0	S 3	3- 9- 9-11	1.3	--	--
15.0- 17.0	S 4	3- 4- 8- 6	1.4	--	--
20.0- 22.0	S 5	2- 5- 6- 9	2.0	--	--
25.0- 27.0	S 6	2- 4- 6-15	1.8	--	--
30.0- 32.0	S 7	3- 2- 7-12	1.8	--	--
35.0- 37.0	S 8	3- 4-10-16	2.0	--	--
40.0- 42.0	S 9	20-31-52-79	1.5	--	--
45.0- 47.0	S10	3- 4-21-32	2.0	--	--
50.0- 52.0	S11	3- 9-23-34	1.5	--	--
55.0- 57.0	S12	10-17-16-21	1.3	--	--
60.0- 62.0	S13	2- 2- 3-10	2.0	--	--
65.0- 67.0	S14	6- 7- 7- 8	0.5	--	--
70.0- 72.0	S15	4- 4- 3- 5	0.7	--	--
75.0- 77.0	S16	10-12-18-17	0.7	--	--
80.0- 82.0	S17	2- 9- 4- 8	0.8	--	--
82.5- 84.5	R 1	--	--	60.4	--
84.5- 93.8	--	WOR/111.6	None	--	--
93.8- 95.8	S18	13-16- 8-16	2.0	--	--
95.0- 99.7	R 2	--	--	32.1	--
99.7-119.8	S19	WOR/241.2	--	--	--
119.5-127.7	R 3	--	--	85.4	--
127.7-137.7	R 4	--	--	93.0	--
137.7-145.0	R 5	--	--	97.3	--

Geologic and Well Construction Log

Modern Landfill
Well C-21



Vertical Scale 1" = 10'

AR300661

Geologic and Well Construction Log

Modern Landfill
Well C-21 Cont'd.

Depth in feet		Description
60		Olive-gray, silt and clay, with many laminations; saprolitic.
70	Caved Formation	Light brown, olive-brown, and orange-brown, silty very fine-grained sand, with some weathered sandstone fragments.
80		
90		Light gray fine-grained, weathered sandy dolomite and brown fine-grained sandstone (squashed slighty nodular dolomite).
		Medium to dark gray, fine-grained argillaceous (slaty) dolomite (squashed slightly nodular dolomite).
100		Medium gray, fine-grained sandy dolomite, argillaceous (slaty) in part (squashed slightly nodular dolomite).
110		

Vertical Scale 1" = 10'

Drilling Began: 2/5/86
Drilling Completed: 2/10/86
Total Depth: 110'
Elevation Groundwater Surface: 530'
Screened Interval: none
SWL (Date): 8.57' (2/10/86)

AR300662

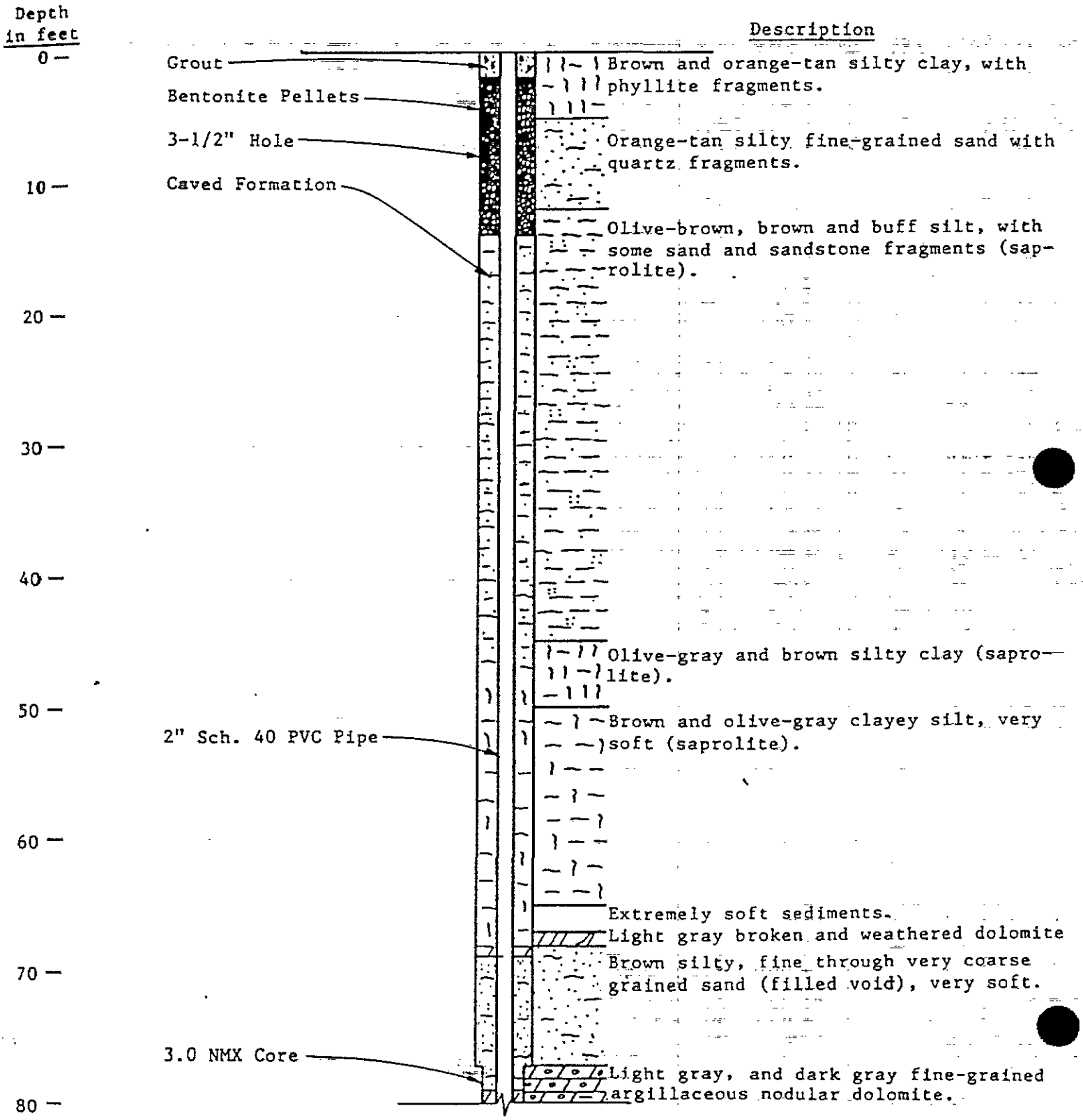
Geologic and Well Construction Log

Well C-21 Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval (ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD (%)	Recovery (%)
0.0- 2.0	S 1	2- 2- 3- 2	1.2	--	--
5.0- 7.0	S 2	7-10- 9-10	0.5	--	--
10.0- 12.0	S 3	6- 6- 9-10	--	--	--
15.0- 17.0	S 4	31-11- 6-11	0.8	--	--
20.0- 22.0	S 5	3- 2- 2- 4	1.4	--	--
25.0- 27.0	S 6	4- 2- 2- 3	2.0	--	--
30.0- 32.0	S 7	2- 1- 1- 4	2.0	--	--
35.0- 37.0	S 8	2- 1- 3- 4	2.0	--	--
40.0- 42.0	S 9	2- 6- 6- 6	2.0	--	--
45.0- 47.0	S10	3- 4- 4- 4	0.9	--	--
[illegible]0- 52.0	S11	3- 4- 9-17	2.0	--	--
[illegible].0- 57.0	S12	4- 6-14-20	2.0	--	--
[illegible].0- 62.0	S13	10-21-32-48	1.7	--	--
65.0- 67.0	S14	15-19-25-38	1.5	--	--
70.0- 72.0	S15	20-22-39-55	1.1	--	--
75.0- 76.8	S16	14-31-39-55/3	1.0	--	--
80.0- 82.0	S17	9-15-23-39	1.1	--	--
85.0- 86.3	S18	26-50-50/3.5	1.5	--	--
90.0- 98.8	R 1	--	--	60.2	--
98.8-105.0	R 2	--	--	88.7	--
105.0-110.0	R 3	--	--	95.0	--

Geologic and Well Construction Log

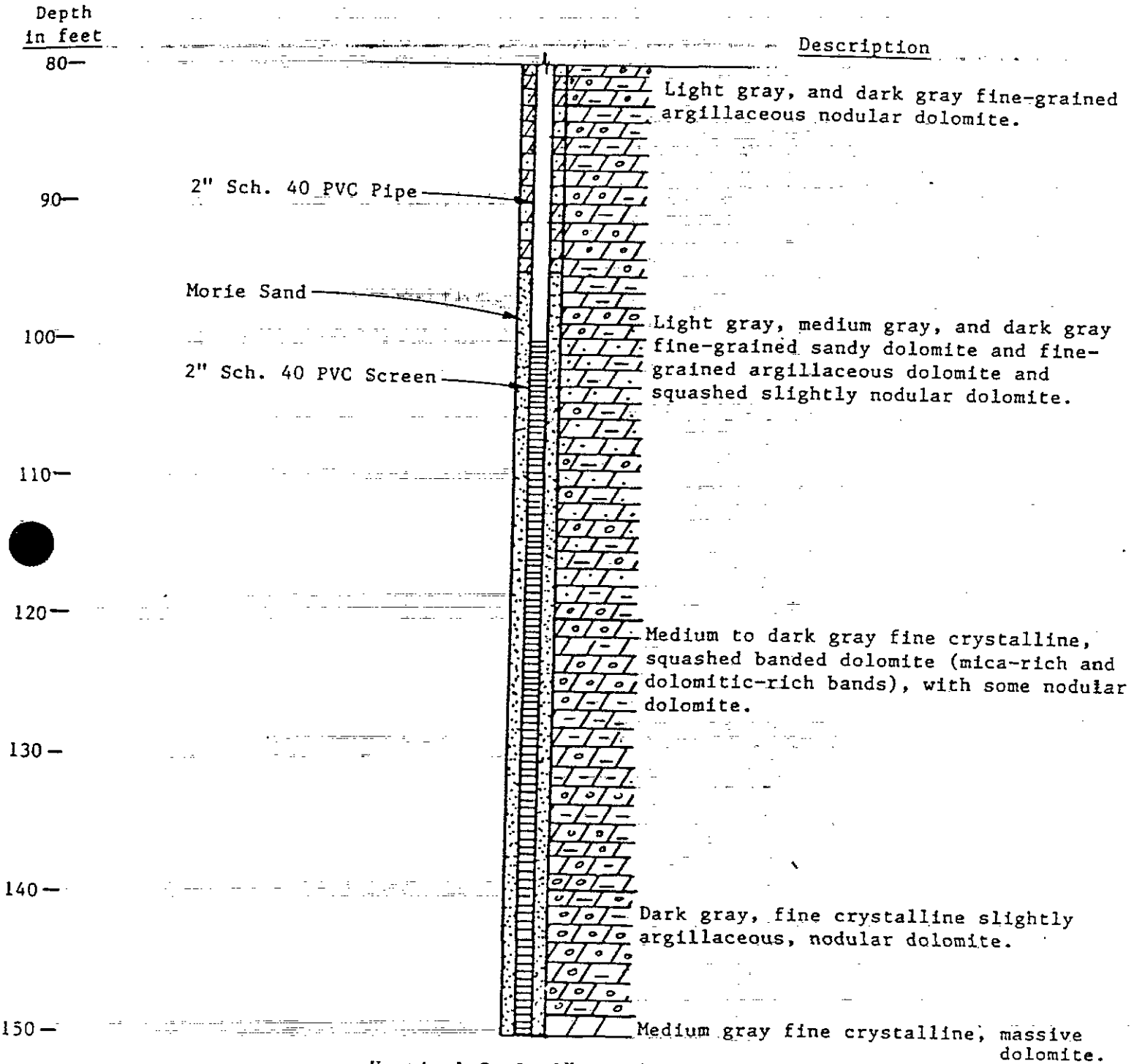
Modern Landfill
Well C-22



AR300664

Geologic and Well Construction Log

Modern Landfill
Well C-22 Cont'd.



Vertical Scale 1" = 10'

Drilling Began: 2/10/86
Drilling Completed: 2/14/86
Total Depth: 150.0'
Elevation G.S.: 529.8'

Elevation TOC: 532.90'
SWL Elevation (Date): 520.40' (3/24/85)
Screened Interval: 100' - 150'
Screen Elevation: 429.8'-379.8'
Drilling Method: Soil Boring/Rock Coring

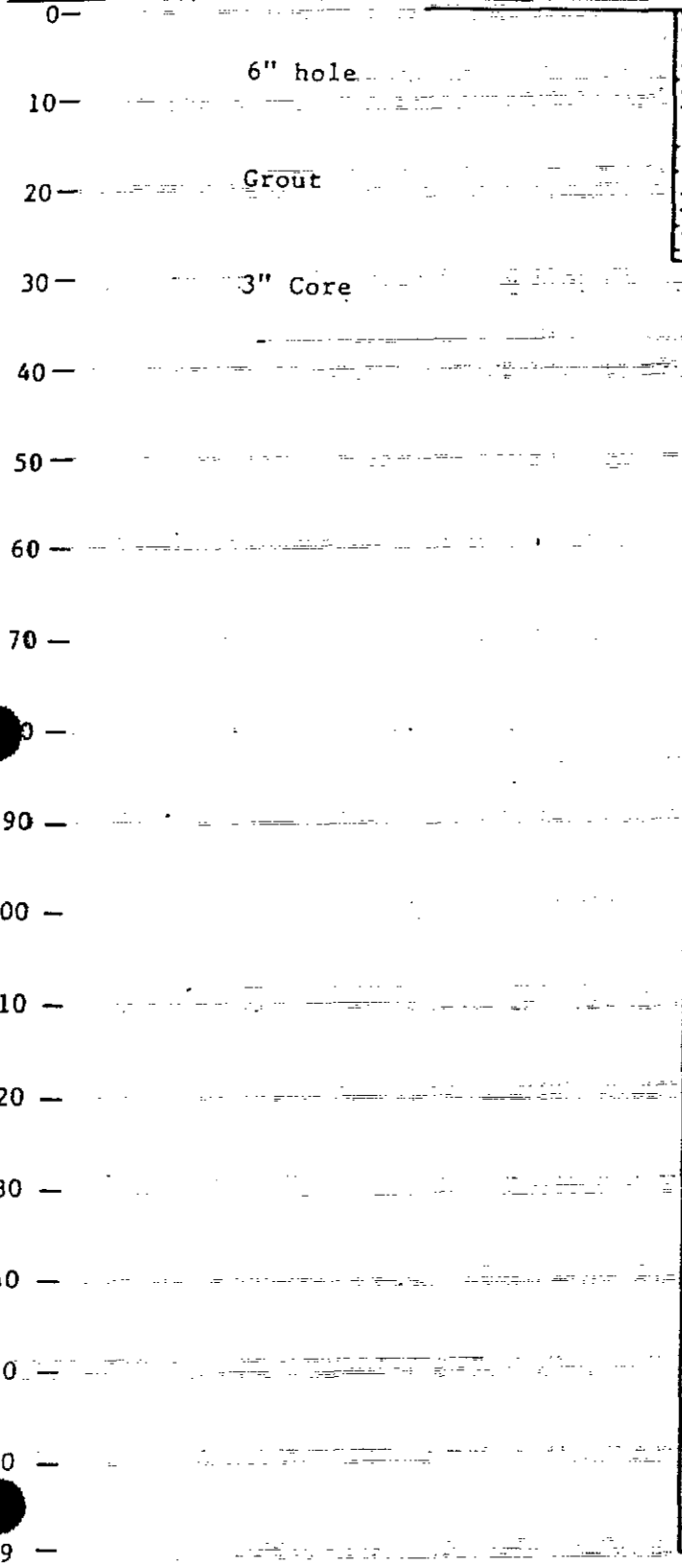
AR300665

Geologic and Well Construction Log

Well C-22 Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval(ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD(%)	Recovery (%)
0.0- 2.0	S 1	3- 5- 4- 5	1.8	--	--
5.0- 7.0	S 2	14-11- 8- 8	1.5	--	--
10.0- 12.0	S 3	3- 4- 4- 5	--	--	--
15.0- 17.0	S 4	5-10- 7-10	2.0	--	--
20.0- 22.0	S 5	10- 6- 5- 4	1.5	--	--
25.0- 27.0	S 6	3- 6- 6- 7	2.0	--	--
30.0- 32.0	S 7	9-14-11- 9	0.6	--	--
35.0- 37.0	S 8	7- 8- 8-10	0.7	--	--
40.0- 42.0	S 9	10-13- 9-10	0.3	--	--
45.0- 47.0	S10	8- 8- 8-11	2.0	--	--
50.0- 52.0	S11	10- 2- 3- 6	2.0	--	--
55.0- 57.0	S12	3- 3- 3- 3	2.0	--	--
60.0- 62.0	S13	1- 1- 1- 1	2.0	--	--
65.0- 67.0	S14	WOR/24.0	0	--	--
67.0- 75.0	R 1	--	--	0	--
75.0- 77.0	S15	WOR/24.0	1.1	--	--
77.0- 85.0	R 2	--	--	73.8	--
85.0- 90.5	R 3	--	--	76.4	--
90.5-100.0	R 4	--	--	91.6	--
100.0-101.5	R 5	--	--	100.0	--
101.5-110.5	R 6	--	--	96.3	--
110.5-113.0	R 7	--	--	100.0	--
113.0-120.5	R 8	--	--	100.0	--
120.5-127.5	R 9	--	--	100.0	--
127.5-135.0	R10	--	--	97.0	--
135.0-145.0	R11	--	--	100.0	--
145.0-150.0	R12	--	--	100.0	--

Geologic and Well Construction Log
Modern Landfill
Well C-23



Description

Light orange-tan, very fine to fine grained, clayey sand.

Saprolite - light gray, buff, dark brown to orange, very fine to fine grained, clayey sand. Some quartz and weathered sandstone fragments.

Olive-tan, highly weathered, phyllitic sandstone with some silty, clayey sand.

Light olive-tan and light to medium gray weathered, fine grained sandstone. Phyllitic in spots.

Light olive-gray, light olive tan and medium gray, fine grained phyllitic sandstone. Weathered in spots.

Light, medium and dark gray, fine grained recrystallized quartzitic sandstone. Som calcite and dolomite veins.

Vertical Scale 1" = 20'

AR300667

Geologic and Well Construction Log

Modern Landfill
Well C-23 Cont'd.

Drilling Began: 2/27/86
Drilling Completed: 3/6/86
Total Depth: 169.0'
Elevation G.S.: 520.6'

SWL Elevation (Date): 511.87' (3/6/86)
Drilling Method: Soil Boring/Rock Coring

AR300668

Geologic and Well Construction Log

Well C-23 Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval (ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD (%)	Recovery (%)
0.0- 2.0	S 1	5- 4- 3- 4	1.0	--	--
5.0- 6.4	S 2	11-34-50/4.8	1.2	--	--
10.0- 11.5	S 3	13-11-17	0.8	--	--
15.0- 15.55	S 4	40-50/0.6	--	--	--
20.0- 20.9	S 5	17-50/4.8	--	--	--
25.0- 25.2	S 6	50/2.4	--	--	--
27.5- 29.2	R 1	--	--	0	58.8
29.2- 34.5	R 2	--	--	0	18.9
34.5- 38.5	R 3	--	--	62.5	95.0
38.5- 43.5	R 4	--	--	60.0	100.0
43.5- 48.5	R 5	--	--	70.0	80.0
48.5- 58.5	R 6	--	--	77.0	100.0
58.5- 68.5	R 7	--	--	73.0	100.0
68.5- 74.0	R 8	--	--	23.7	54.5
74.0- 77.0	R 9	--	--	66.7	83.3
77.0- 83.5	R10	--	--	76.9	104.6
83.5- 93.5	R11	--	--	42.0	75.0
93.5-102.5	R12	--	--	16.7	86.7
102.5-108.5	R13	--	--	75.0	100.0
108.5-111.5	R14	--	--	43.3	83.3
111.5-113.8	R15	--	--	73.9	91.3
113.8-116.8	R16	--	--	53.3	93.3
116.8-121.5	R17	--	--	48.9	100.0
121.5-126.5	R18	--	--	52.0	100.0
126.5-132.5	R19	--	--	35.0	100.0
132.5-142.5	R20	--	--	81.0	100.0
142.5-146.5	R21	--	--	100.0	100.0
146.5-149.0	R22	--	--	68.0	68.0
149.0-159.0	R23	--	--	90.0	90.0
159.0-169.0	R24	--	--	88.0	100.0

RECORD OF BOREHOLE C-24

SHEET 1 OF 4

LOCATION MODERN LANDFILL SITE EXTENSION N211911.5317 E2324791.2667

BORING DATE FEBRUARY 25 & 26, 1986

DATUM SITE DATUM

INCLINATION 45° AZIMUTH APPROX. SITE GRID SOUTH

SAMPLER / PENETRATION TEST HAMMER WEIGHT DROP

DEPTH FEET	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV / DEPTH (ft.)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/FOOT	WATER CONTENT, % (W_p — W — W_l)	RECOVERY: TOTAL CORE, %	RECOVERY: SOLID CORE, %	R.Q.D., %	FRACTURE INDEX PER FT	DISCONTINUITY DATA: DIP° TO CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	HYDRAULIC CONDUCTIVITY, K, cm/sec	ADDITIONAL TESTING / WATER LEVELS AND NOTES	INSTRUMENTATION
0		GROUND SURFACE		520.58													
				0.0													
10		Highly to completely weathered medium buff brown fine grained finely laminated slightly phyllitic silty micaceous SANDSTONE		510													
20	N - TRICONE																
30	FEB. 25, 1986			500													
40		Moderately to highly weathered laminated olive brown to light tan fine grained phyllitic micaceous SANDSTONE		492.18		NQ											
				40.0	1	R.C.								PL, SM MN			
				490	2	"											
50				485.08													
		Moderately weathered light brown laminated fine grained phyllitic micaceous SANDSTONE gradually interbedding with slightly to moderately weathered grey brown fine grained SANDSTONE.		50.0										PL, SM, LI, MN			
				480	3	"											
60					4	"								BC.			
70				470													
	FEB 26, 1986				5	"								PL, SM.			
					6	"								PL, SM.			

NOTE: NW CASING RUN TO 40 FT. NO CORE RECOVERY, FLUSH WATER RETURNS AND OUTCROP INDICATE ROCK TYPE.

CONTINUED ON SHEET 2

DEPTH SCALE (ALONG HOLE)
1 INCH TO 10 FEET

Golder Associates

ROCK LOGGED R.K. DRAWN D.M./RM
DATE MAR. 17/86 CHECKED

AR300670

RECORD OF BOREHOLE C-24 cont'd.

SHEET 2 OF 3

LOCATION MODERN LANDFILL SITE EXTENSION N2318II.5317 E2324791.2667 | BORING DATE FEBRUARY 25 & 26, 1986 | DATUM SITE DATUM

INCLINATION 1° AZIMUTH APPROX. SITE GRID SOUTH | SAMPLER / PENETRATION TEST HAMMER WEIGHT | DROP

DEPTH FEET	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (ft.)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/FOOT	WATER CONTENT, % W_p — W — W_l	RECOVERY TOTAL CORE, %	RECOVERY SOLID CORE, %	R.Q.D. %	FRACTURE INDEX PER FT	DISCONTINUITY DATA DIP° WRT CORE AXIS	DISCONTINUITY DATA TYPE AND SURFACE DESCRIPTION	HYDRAULIC CONDUCTIVITY k, cm/sec	ADDITIONAL TESTING WATER LEVELS AND NOTES	INSTRUMENTATION
80		CONTINUED FROM SHEET 1															
	FEB. 26, 1986	Slightly weathered grey very fine grained SANDSTONE; Exhibits faint fissility when broken contains thin interlayers of fine slightly phyllitic micaceous sandstone to 90 ft. depth, interlaying sub-parallel to core axis. NOTE: 80 - 95 ft. Core tube not latching correctly caused core loss.		460	7	NQ R.C.								CORE LOST			
90				453.13	8	"								PL SM CHLORITIC OCC. MICACEOUS PARTINGS			
		Faintly to slightly weathered dark grey fine to very fine grained SANDSTONE with occasional fine slightly dolomitic zones occasional carbonate stringers.		95 450	9	"											
100					10	"											
				446.03 105.0													
		Occasional pyrite crystals 1 - 2 mm.												IRR, MN, R,			
110		Occasional fine stringers of calcite.			11	"								IRR, R,			
		Slightly weathered to fresh dark grey, dolomitic SANDSTONE (fine to medium grained) and sandy DOLOMITE. NOTE: Dolomite content gradually increasing.		440										IRR, R, CL, MIC.			
					12	"								PLSM CL IRR, R, CL.			
120																	
				430										IRR, R, SM, PC			
					13	"								PL, R, PL, SM,			
130														R, IRR,			
														PL, R.			
				424.73										CL			
				135.0										CARB			
		Fresh dark grey fine grained sandy DOLOMITE with indications of rehealed sedimentary brecciation at 137 ft., 139 ft., 141 ft., contains numerous irregular carbonate veins and pockets.			14	"								R, IRR.			
140					15	"								SM, R. IRR, CL.			
				420													
					16	"								IRR, R.			
150														P:, R.			
		Fine grained medium grey fine grained sheared DOLOMITE with lenses of phyllitic/chloritic dolomite.		411.95 153.0	17	"											
	FEB. 27, 1986	Fresh light grey and white fine grained crystalline dolomite MARBLE with chloritic material 157.5 and vugs 168-169 ft. white crystalline vein at 169.2, 169.4		408.51 155.0	18	"											
160		CONTINUED ON SHEET 3															

DEPTH SCALE (ALONG HOLE) 1 INCH TO 10 FEET

Golder Associates

AR300671

ROCK LOGGED R.K. DRAWN D.M./RM

DATE MAR. 17/86 CHECKED

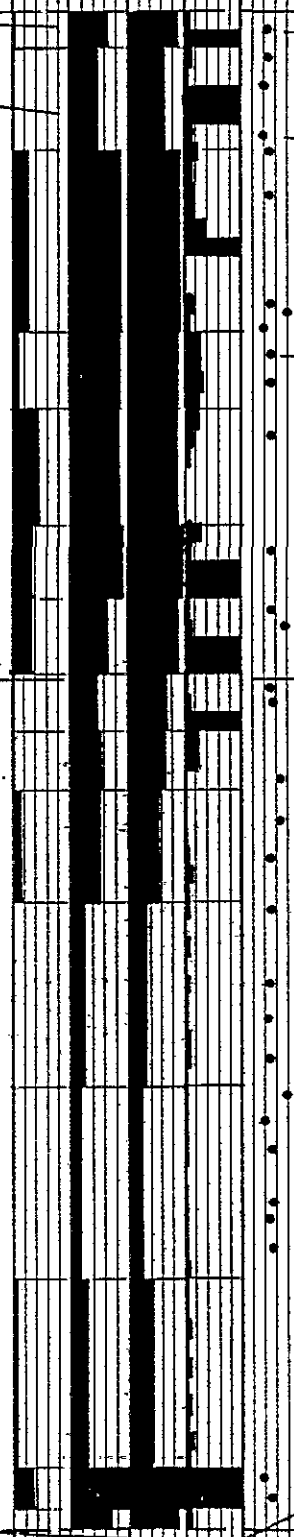
RECORD OF BOREHOLE C-24 cont'd.

LOCATION: MODERN LANDFILL SITE EXTENSION, N231811.5317 E2324791.2667
BORING DATE: FEBRUARY 25 & 26, 1986
DATUM: SITE DATUM
INCLINATION: 45° AZIMUTH: APPROX. SITE GRID SOUTH
SAMPLER / PENETRATION TEST HAMMER WEIGHT — DROP

CONTINUED FROM SHEET 2

DEPTH FEET	DRILLING RECORD	DESCRIPTION	ELEV. / DEPTH (ft.)	SAMPLE NUMBER	TYPE	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	WATER LEVELS AND NOTES	INSTRUMENTATION
160		Fresh light to medium grey fine grained nodular DOLOMITE.	161.0 / 404.85	18	NQ R.C.	CL, CL, IRR.		
			163.0					
		Fresh light grey fine grained DOLOMITE with occ. fine carbonate bands, carbonate becoming nodular DOLOMITE with increasing density of phyllitic partings.	164.8 / 400 / 399.52	19		SM, RR, CL, SL		
170		Fresh light grey fine grained fissile PHYLLITE.	170.5 / 397.09	20	"			
		Grey phyllitic dolomite / Black dolomitic siltstone	175.7			IRR. 90° SCRUBBING, SL, SM, SL		
180		Fresh light grey interbedded phyllitic DOLOMITE and light grey dolomitic PHYLLITE.	390	21	"	PL, SM, SR, CU, SM, LL, SL		
		Fresh light grey very fine grained interbedded dolomitic PHYLLITE and phyllitic DOLOMITE.	384.97	22, 23	"	PL, SM, SL, CL	50-70%	FLUSH WATER RETURN
190	MARCH 4, 1986	Fresh medium grey very fine grained DOLOMITE with fine carbonate veins and very fine dark grey partings and veins.	191.0 / 382.13	24	"	PL, R, SCRUBBED JOINTS	25%	FLUSH WATER RETURN
		Fresh medium grey very fine grained DOLOMITE with fine carbonate veins and very fine dark grey partings and veins.	195.5 / 378.72	25	"	RUBBLE, IRR, R,		
200		Light and medium grey fine grained nodular DOLOMITE fresh thickly bedded light to moderately fine grained nodular DOLOMITE.	199.8 / 370 / 368.35	26, 27, 28	"	IRR, ROUGH; IRR. R.; R.; PL, SM,	50%	FLUSH WATER RETURN
210		Fresh medium and dark grey fine grey fine grained DOLOMITE with with slightly argillaceous banding and fine inclusions and plat lets of argillaceous dolomite and occasional pyrite crystals.	214.4 / 363.67			SMALL VUGS		
220	MARCH 5, 1986	Fresh medium grey fine grained DOLOMITE with faint nodular structure with numerous very fine argillaceous incipient partings. Becoming more obviously nodular at 236.5 ft. with increased argillaceous content below.	221.0 / 360 / 352.52	29, 30	"	R; R; SMALL VUGS		
230		Fresh medium to dark grey very fine grained argillaceous DOLOMITE, fissile.	236.7 / 350.89 / 239.0	31, 32	"	R		
240			240.0					

CONTINUED ON SHEET 4



Callout notes:
- Fresh light grey and white fine grained crystalline dolomitic MARBLE with chloritic material at 157.5 ft. and small vugs 168-169 ft. white crystalline vein at 169.2-169.4 ft.
- Fresh medium grey fine grained phyllitic DOLOMITE with carbonate seams.
- Fresh medium grey fine grained DOLOMITE with faint nodular structure.
- Fresh light grey mottled fine grained rehealed sedimentary breccia DOLOMITE and CHLORITIC/PHYLLITIC seams.

DEPTH SCALE (ALONG HOLE): 1 INCH TO 10 FEET

Golder Associates

ROCK LOGGED: R.K. DRAWN: D.M./P. DATE: MAR. 17/86 CHECKED: [illegible]

RECORD OF BOREHOLE C-24 cont'd.

SHEET 4 OF 4

LOCATION MODERN LANDFILL SITE EXTENSION N231811.5317 E2324791.2667 | BORING DATE FEBRUARY 25 & 26, 1986 | DATUM SITE DATUM

INCLINATION 45° AZIMUTH APPROX. SITE GRID SOUTH | SAMPLER / PENETRATION TEST HAMMER WEIGHT | DROP

DEPTH FEET	DRILLING RECORD	DESCRIPTION	SYMBOLIC LOG	ELEV. DEPTH (ft.)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/FOOT	WATER CONTENT, % (W_P — W — W_L)	RECOVERY: TOTAL CORE, %	RECOVERY: SOLID CORE, %	R.Q.D., %	FRACTURE INDEX PER FT	DISCONTINUITY DATA: DIP° WRT CORE AXIS	DISCONTINUITY DATA: TYPE AND SURFACE DESCRIPTION	HYDRAULIC CONDUCTIVITY k, cm/sec	ADDITIONAL TESTING	WATER LEVELS AND NOTES	INSTRUMENTATION
240		CONTINUED FROM SHEET 3		349.47														
		Fresh medium to dark grey dolomitic fissile ARGILLITE.		241.0	32													
	MARCH 5, 1986				33	NQ R.C.								IRR, R,				
250		Fresh light to medium grey medium grained DOLOMITE with faint nodularity with faint tracework of very fine argilaceous incipient partings. More obviously nodular beyond 247 ft. depth.		340	34	"								IRR, R,				
														IRR, R,				
260					35	"								R. IRR.				
		Carbonate veins and patches at 268 ft. depth.		330														
270					36	"								CARBONATE				
				326.04														
		Fresh medium grey fine grained DOLOMITE becoming argillaceous at 277-278 ft. depth, carbonate veining and brecciated zone at 280.7-281 ft. depth becoming light to medium grey.		274.0										CORELOSS				
280				320	37	"												
	MARCH 6, 1986			315.39	38	"												
290		END OF HOLE		289.0														
				310														
300																		
310																		
320																		

DEPTH SCALE (ALONG HOLE)
1 INCH TO 10 FEET

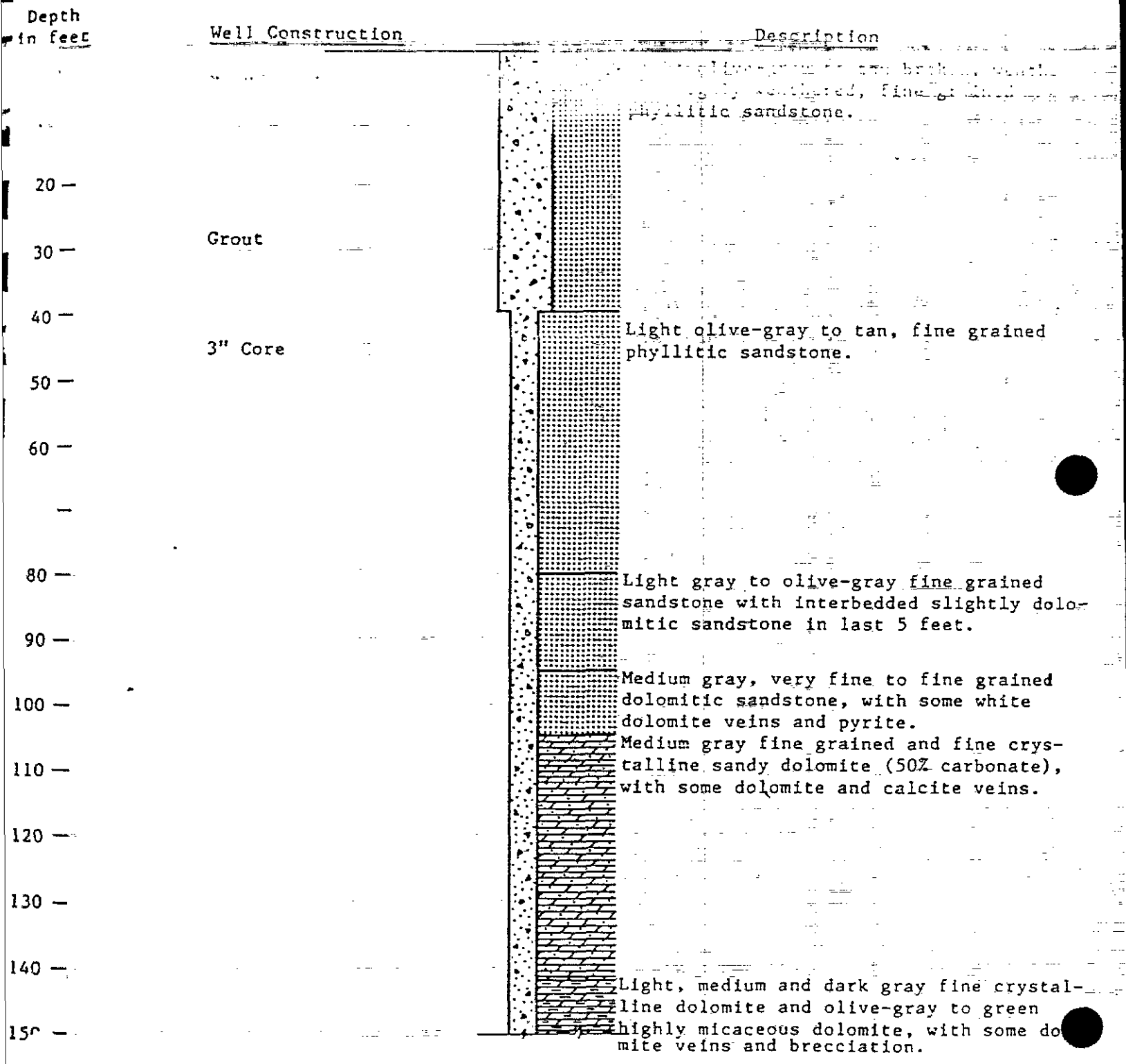
Golder Associates

AR300673

ROCK LOGGED R.K. DRAWN D.M./RM
DATE MAR. 17/86 CHECKED

Geologic and Well Construction Log

Modern Landfill
Well C-24



Vertical Scale 1" = 20'

AR300674

Geologic and Well Construction Log

Modern Landfill
Well C-24 Cont'd.

Depth in feet	Well Construction	Description
150	3" Core	Light, medium and dark gray fine crystal line dolomite and olive-gray to green highly micaceous dolomite, with some dolomite veins and brecciation.
160		
170	Grout	
180		
190		
200		WBZ at 198', lost 3/4 of drilling fluid circulation.
210		Medium gray fine crystalline nodular dolomite.
220		Interbedded nodular dolomite and dark-gra fine crystalline argillaceous (slaty) dolomite (slightly nodular).
230		Medium and dark gray fine crystalline argillaceous (slaty) slightly nodular dolomite.
240		
250		Medium and dark gray, fine crystalline nodular dolomite, with argillaceous dolomite around nodules.
260		
270	NOTE: This hole was drilled at 45° angle from horizontal in a direction of S24°E.	
280		Medium to dark gray fine crystalline slightly argillaceous and argillaceous (slaty) dolomite.
289		

Vertical Scale 1" = 20'

AR300675

Geologic and Well Construction Log

Modern Landfill
Well C-24 Cont'd.

Drilling Began: 2/25/86
Drilling Completed: 3/6/86
Total Depth: 289.0'
Elevation G.S.: 520.6'

SWL Elevation (Date): 512.80' (3/7/86)
Drilling Method: Soil Boring/Rock Coring
WBZ: 198', lost 3/4 of drilling fluid circulation

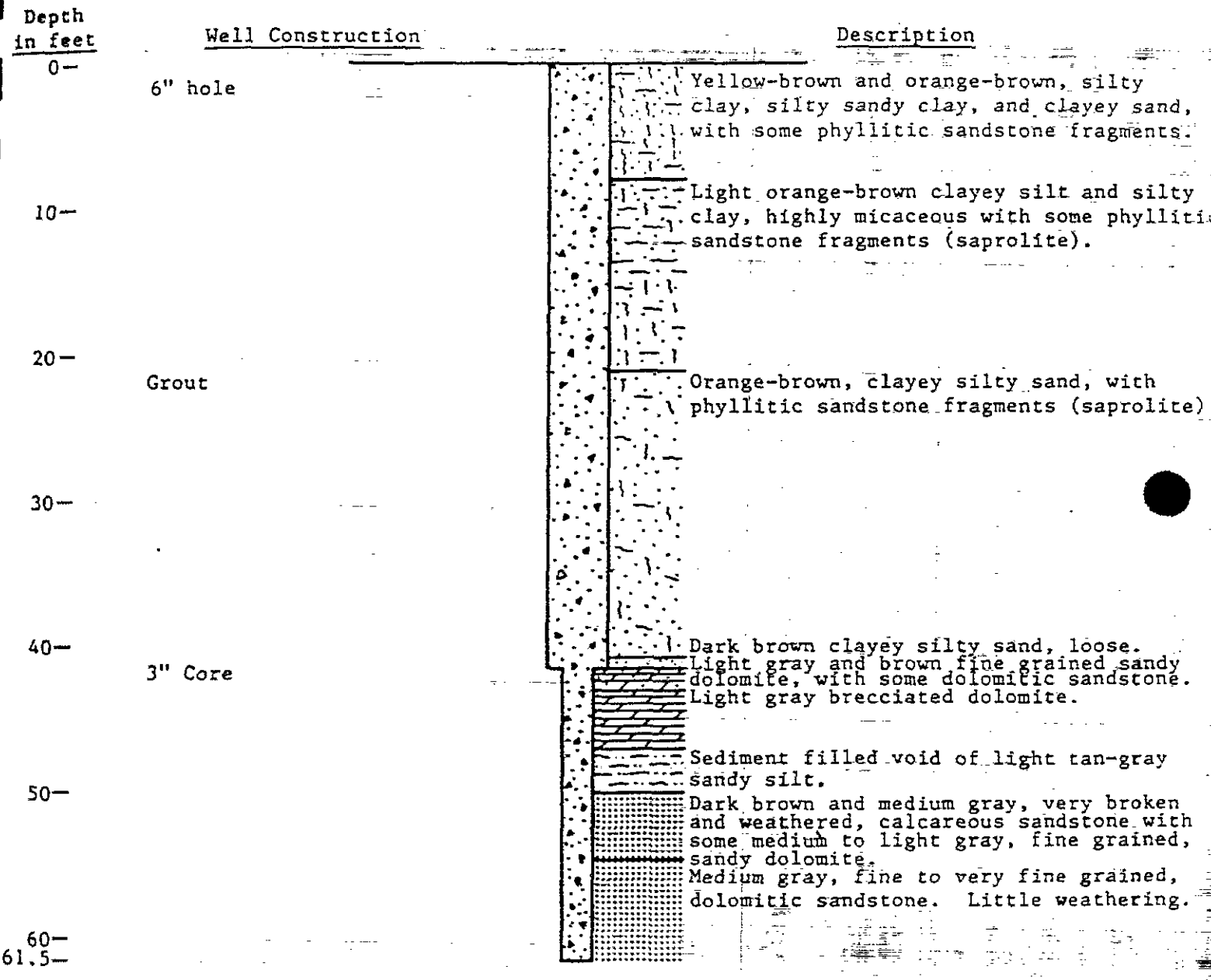
Geologic and Well Construction Log

Well C-24 Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval(ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD(%)	Recovery (%)
40.0- 43.8	R 1	--	--	7.9	78.9
43.8- 50.0	R 2	--	--	12.1	56.5
50.0- 60.0	R 3	--	--	11.0	38.3
60.0- 70.0	R 4	--	--	12.0	39.2
70.0- 77.5	R 5	--	--	40.0	89.3
77.5- 80.0	R 6	--	--	52.0	100.0
80.0- 90.0	R 7	--	--	6.0	14.0
90.0- 95.0	R 8	--	--	10.0	30.0
95.0- 98.0	R 9	--	--	6.0	100.0
98.0-105.0	R10	--	--	75.7	100.0
105.0-115.0	R11	--	--	78.0	100.0
115.0-125.0	R12	--	--	57.0	100.0
125.0-135.0	R13	--	--	83.0	100.0
135.0-138.5	R14	--	--	57.1	100.0
138.5-145.0	R15	--	--	67.7	107.7
145.0-153.0	R16	--	--	48.7	100.0
153.0-155.0	R17	--	--	0	85.0
155.0-162.0	R18	--	--	25.7	100.0
162.0-167.5	R19	--	--	63.6	100.0
167.5-177.0	R20	--	--	15.8	78.9
177.0-181.0	R21	--	--	--	95.0
181.0-187.0	R22	--	--	11.7	78.9
187.0-191.0	R23	--	--	0	87.5
191.0-195.0	R24	--	--	12.5	62.5
195.0-198.0	R25	--	--	56.7	100.0
198.0-201.0	R26	--	--	46.7	83.3
201.0-207.0	R27	--	--	60.0	88.3
207.0-217.0	R28	--	--	80.0	93.0
217.0-227.0	R29	--	--	98.0	98.0
227.0-237.0	R30	--	--	75.0	100.0
237.0-239.0	R31	--	--	0	100.0
239.0-241.0	R32	--	--	20.0	100.0
241.0-248.0	R33	--	--	91.4	100.0
248.0-258.0	R34	--	--	90.0	100.0
258.0-268.0	R35	--	--	67.0	95.0
268.0-278.0	R36	--	--	82.0	95.0
278.0-288.0	R37	--	--	58.0	95.0
288.0-289.0	R38	--	--	80.0	100.0

Geologic and Well Construction Log

Modern Landfill
Well C-28



Vertical Scale 1" = 10'

AR300678

Geologic and Well Construction Log

Modern Landfill
Well C-28 Cont'd.

Drilling Began: 2/25/86
Drilling Completed: 3/7/86
Total Depth: 61.5'
Elevation G.S.: Not Available

SWL Elevation (Date): Not Available
Drilling Method: Soil Boring/Rock Coring

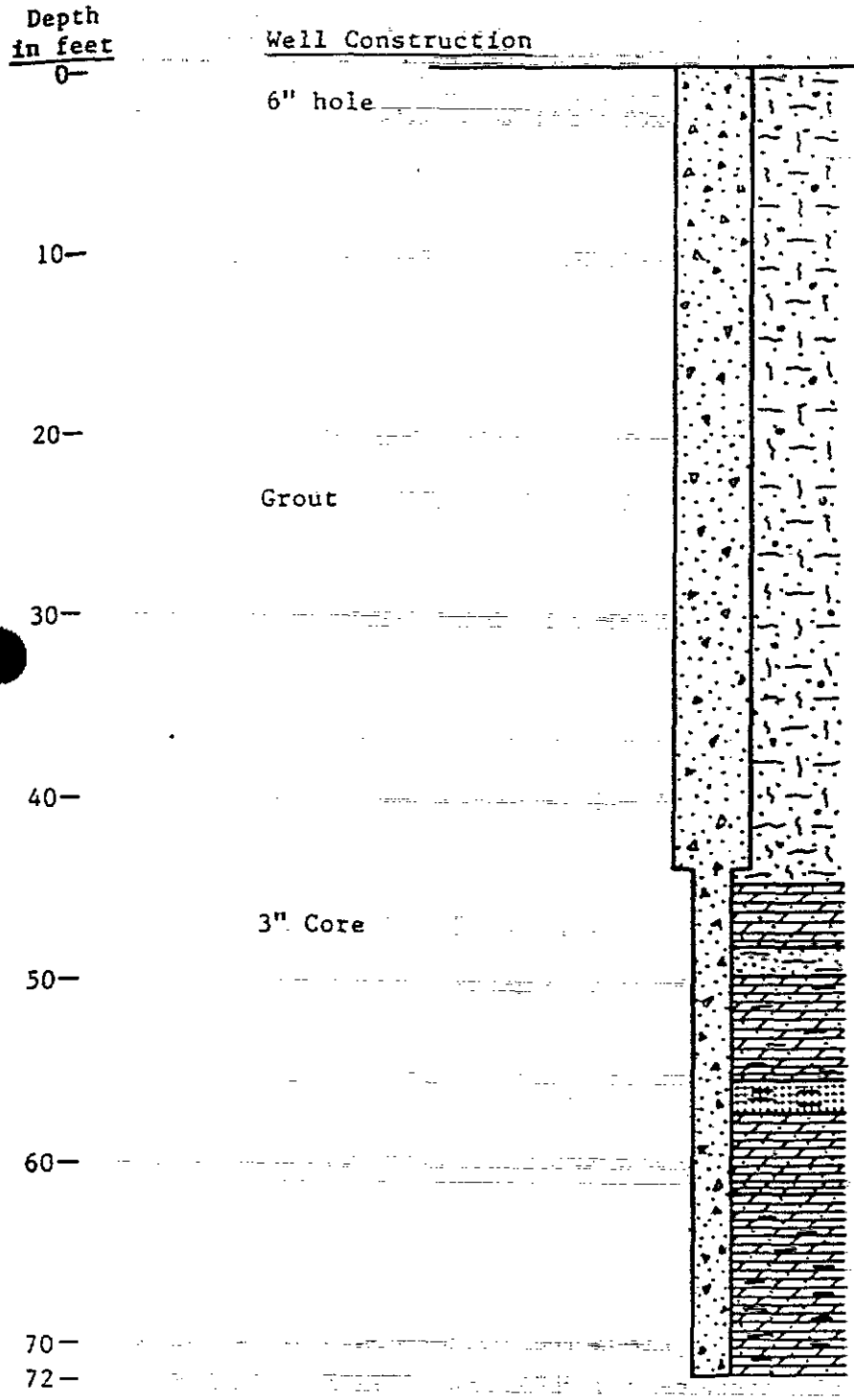
Geologic and Well Construction Log

Well C-28 Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval(ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD(%)	Recovery (%)
0.0- 2.0	S 1	4- 4- 7- 0	1.4	--	--
5.0- 7.0	S 2	5- 7- 6- 7	1.7	--	--
10.0- 12.0	S 3	6- 8-11-11	1.3	--	--
15.0- 17.0	S 4	5- 5-11-12	2.0	--	--
20.0- 22.0	S 5	4-13-11-13	2.0	--	--
25.0- 27.0	S 6	3- 3- 9-12	2.0	--	--
30.0- 32.0	S 7	5- 6- 9- 8	2.0	--	--
35.0- 37.0	S 8	10-13-16-14	2.0	--	--
40.0- 41.3	S 9	5- 4- 2/3	1.2	--	--
41.3- 44.5	R 1	--	--	65.6	119.8
44.5- 54.5	R 2	--	--	7.5	35.0
54.5- 56.5	R 3	--	--	25.0	100.0
56.5- 61.5	R 4	--	--	64.0	80.0

Geologic and Well Construction Log

Modern Landfill
Well C-28A



Vertical Scale 1" = 10'

AR300681

Geologic and Well Construction Log

Modern Landfill
Well C-28A Cont'd.

Drilling Began: 3/11/86
Drilling Completed: 3/12/86
Total Depth: 72.0'
Elevation G.S.: Not Available

SWL Elevation (Date): Not Available
Drilling Method: Soil Boring/Rock Coring
WBZ: 56' Lost circulation

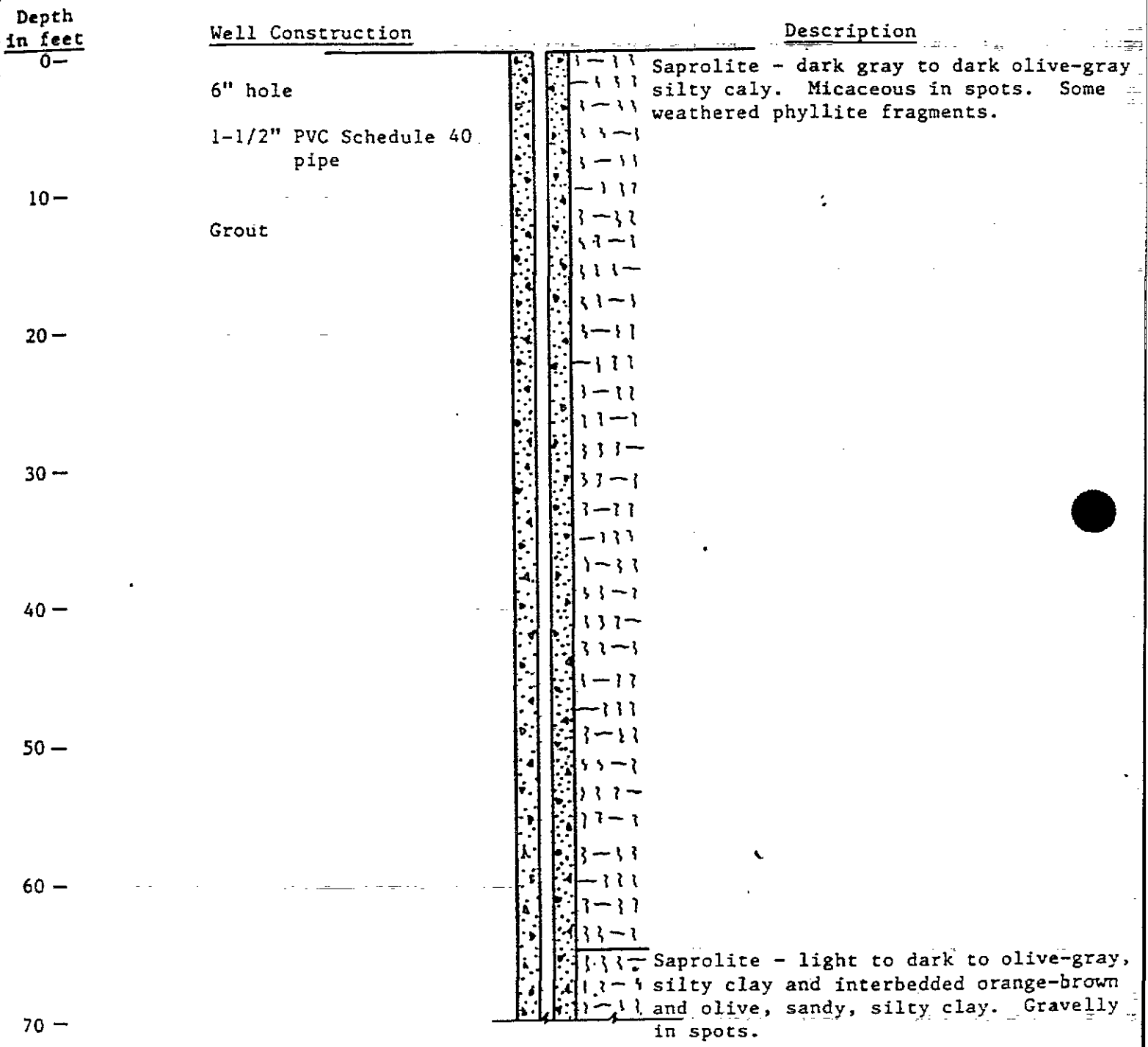
Geologic and Well Construction Log

Well C-28A Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval(ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD(%)	Recovery (%)
45.0- 48.5	R 1	--	--	75.0	100.0
48.5- 50.1	S 1	WOR/15.6-2	None	--	--
50.1- 53.0	R 2	--	--	37.9	86.2
53.0- 56.5	R 3	--	--	22.9	91.4
56.5- 62.0	R 4	--	--	0	54.5
62.0- 66.0	R 5	--	--	40.0	105.0
66.0- 72.0	R 6	--	--	42.5	100.0

Geologic and Well Construction Log

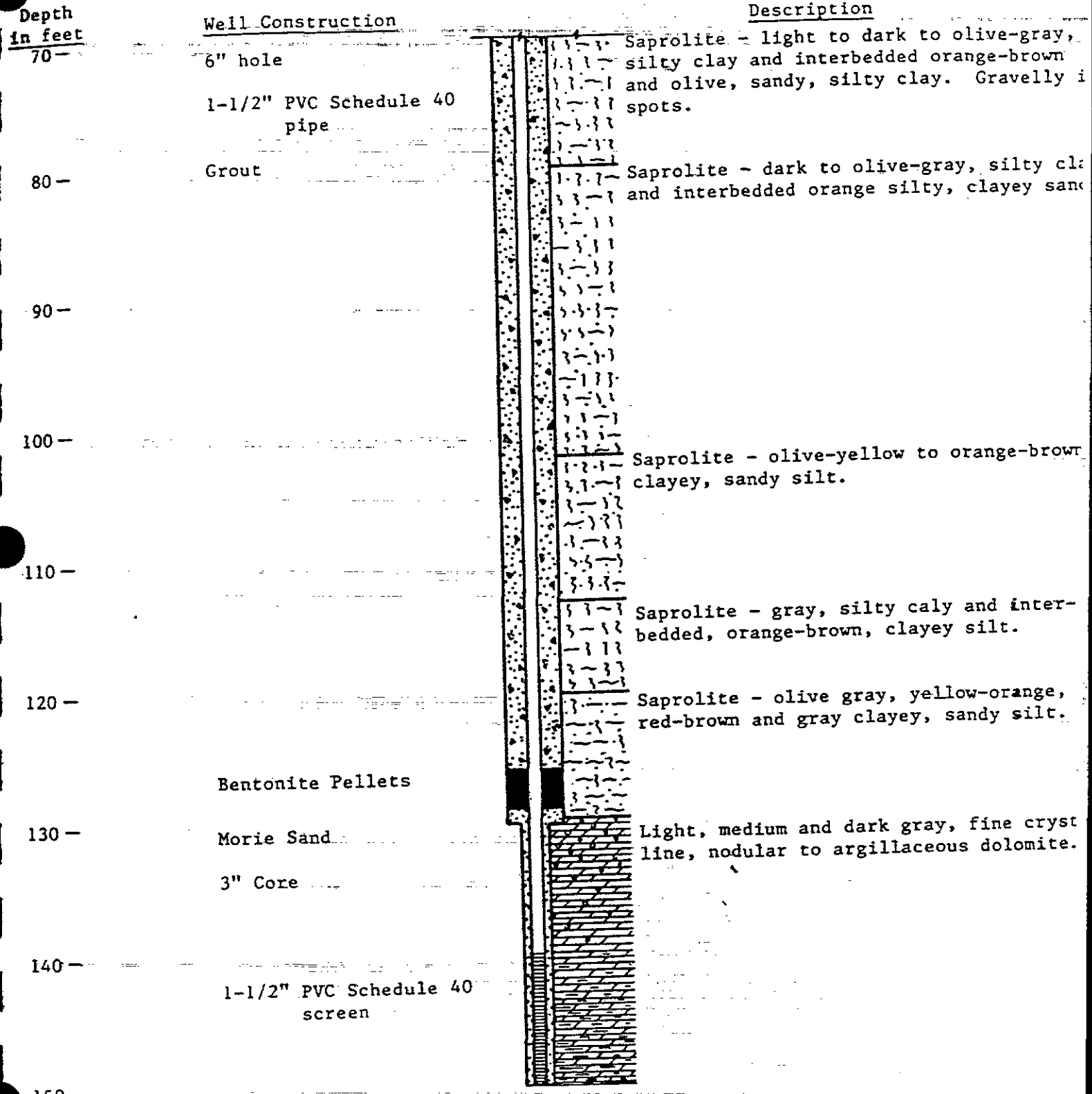
Modern Landfill
Well C-29



Vertical Scale 1" = 10'

Geologic and Well Construction Log

Modern Landfill
Well C-29 Cont'd.



Vertical Scale 1" = 10'

AR300685

Geologic and Well Construction Log

Modern Landfill
Well C-29 Cont'd.

Drilling Began: 3/10/86
Drilling Completed: 3/14/86
Total Depth: 150.0'
Elevation G.S.: 526/9'
Elevation TOC: 528.63'

Screened Interval: 140' - 150'
SWL Elevation (Date): 520.28
Screen Elevation: 386.9'-376.9'
Drilling Method: Soil Boring/Rock Coring

Geologic and Well Construction Log

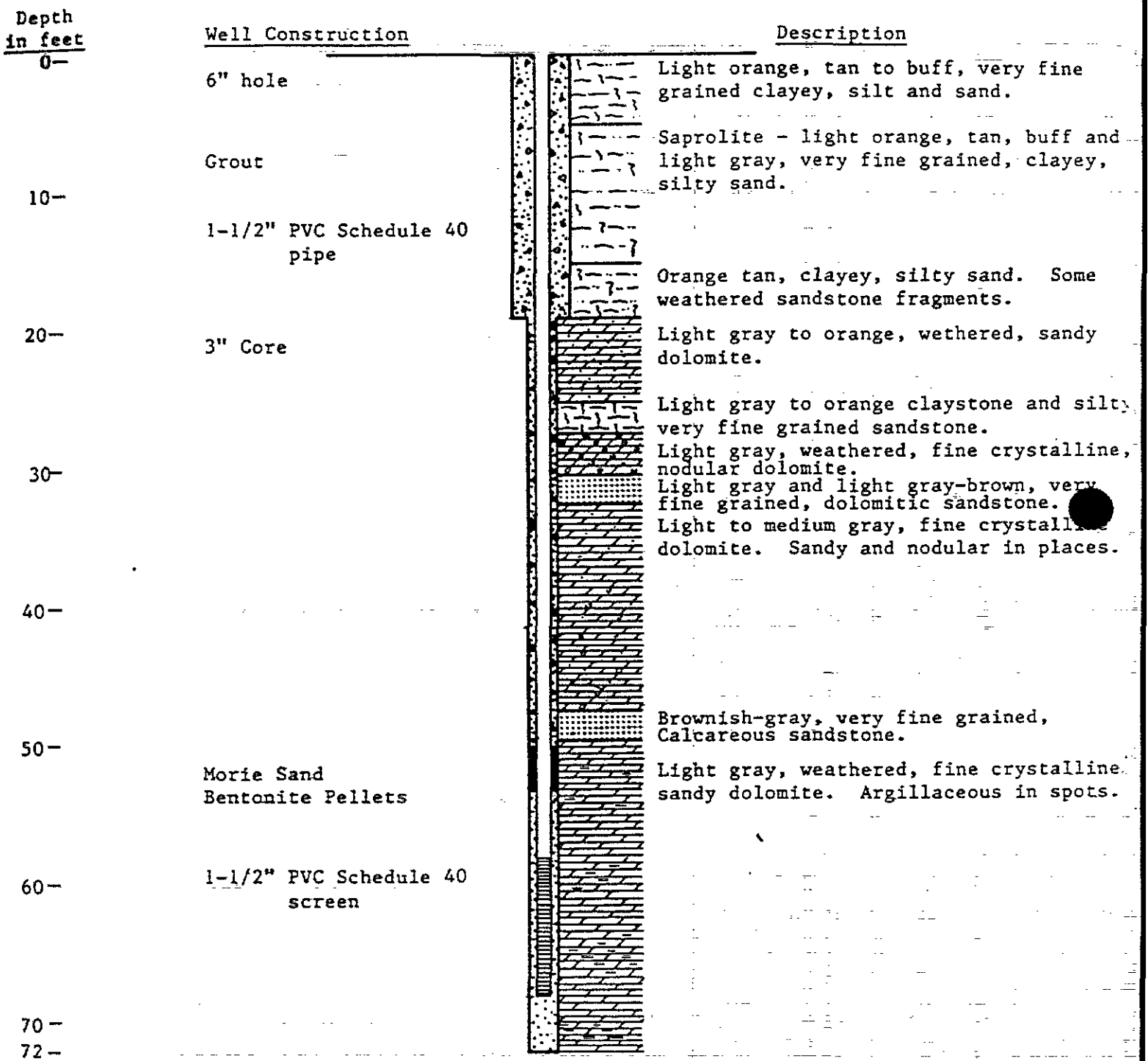
Well C-29 Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval(ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD(%)	Recovery (%)
0.0- 2.0	S 1	--	1.5	--	--
5.0- 7.0	S 2	--	2.0	--	--
10.0- 12.0	S 3	--	2.0	--	--
15.0- 17.0	S 4	--	2.0	--	--
20.0- 22.0	S 5	--	2.0	--	--
25.0- 27.0	S 6	--	2.0	--	--
30.0- 32.0	S 7	--	2.0	--	--
35.0- 37.0	S 8	--	2.0	--	--
40.0- 42.0	S 9	--	2.0	--	--
45.0- 47.0	S10	--	2.0	--	--
50.0- 52.0	S11	--	2.0	--	--
55.0- 57.0	S12	--	2.0	--	--
60.0- 62.0	S13	--	2.0	--	--
65.0- 67.0	S14	--	2.0	--	--
70.0- 72.0	S15	--	1.7	--	--
75.0- 77.0	S16	--	--	--	--
80.0- 82.0	S17	--	2.0	--	--
85.0- 87.0	S18	--	2.0	--	--
90.0- 92.0	S19	--	1.8	--	--
95.9- 97.0	S20	--	2.0	--	--
100.0-102.0	S21	--	2.0	--	--
110.0-112.0	S22	--	2.0	--	--
115.0-117.0	S23	--	2.0	--	--
120.0-122.0	S24	--	0.6	--	--
125.0-127.0	S25	--	0.9	--	--
129.5-	--	60/0	None	--	--
130.0-139.5	R 1	--	--	78.9	94.7
139.5-144.0	R 2	--	--	71.1	93.3
144.0-150.0	R 3	--	--	41.7	98.3

AR300687

Geologic and Well Construction Log

Modern Landfill
Well C-30



Vertical Scale 1" = 10'

AR300688

Geologic and Well Construction Log

Modern Landfill
Well C-30 Cont'd.

Drilling Began: 3/10/86
Drilling Completed: 3/11/86
Total Depth: 72'
Elevation TOC: 525.77'
Elevation G.S.: 524.1'

Screened Interval: 58' - 68'
SWL Elevation (Date): 511.31' (3/24/86)
Screen Elevation: 466.1'-456.1'
Drilling Method: Soil Boring/Rock Coring

Geologic and Well Construction Log

Well C-30 Cont'd.
Modern Landfill

Split Spoon/ Rock Coring Depth Interval(ft)	Sample No./ Run No.	Blow Counts per 6-inches	Recovery (ft)	RQD(%)	Recovery (%)
0.0- 2.0	S 1	5- 7- 5- 5	1.6	--	--
5.0- 7.0	S 2	1- 2- 2- 3	0.8	--	--
10.0- 12.0	S 3	4- 5- 5- 7	1.3	--	--
15.0- 17.0	S 4	7-14-15-49	1.7	--	--
19.0- 22.5	R 1	--	--	80.0	94.3
22.5- 27.2	R 2	--	--	42.6	95.7
27.2- 32.0	R 3	--	--	62.5	100.0
32.0- 42.0	R 4	--	--	68.0	100.0
42.0- 52.0	R 5	--	--	61.0	85.0
52.0- 57.0	R 6	--	--	84.0	100.0
57.0- 62.0	R 7	--	--	60.0	80.0
62.0- 67.0	R 8	--	--	62.0	98.0
67.0- 72.0	R 9	--	--	46.0	86.0

WELL LOGGING FORM

Druck

ATE	DEPTH/INTERVAL (ft.)	DESCRIPTION / COMMENTS	FLOW RATE DEPTH	FLOW RATE BLOWN RATE	CHEMICAL ANALYSIS DEPTH	CHEMICAL ANALYSIS pH	CHEMICAL ANALYSIS Fe	CHEMICAL ANALYSIS Hard.
25	0-5'	[illegible]						
	[illegible]	[illegible]						
	10-15'	[illegible]	12.0 soft					
	15-20'	[illegible]	15-17' soft					
	20-25'	[illegible]	23.0 soft 25.0 soft	Rod 1 0gpm				
	25-30'	[illegible]						
	30-35'	[illegible]	31' soft					
	35-40'	[illegible]						
	40-45'	[illegible]						
	45-50'	[illegible]	47.5' soft WBZ 49m	Rod 2 1gpm				
	50-55'	[illegible]	51.0' soft					
	55-60'	[illegible]	60.0' soft					
	60-65'	[illegible]	64.0' soft					
	65-70'	[illegible]						
	70-75'	[illegible]	71-73' soft	Rod 3 43 sec/gal 1.5gpm				
	75-80'	[illegible]						
	80-85'	[illegible]						

AR300691

WELL LOGGING FORM

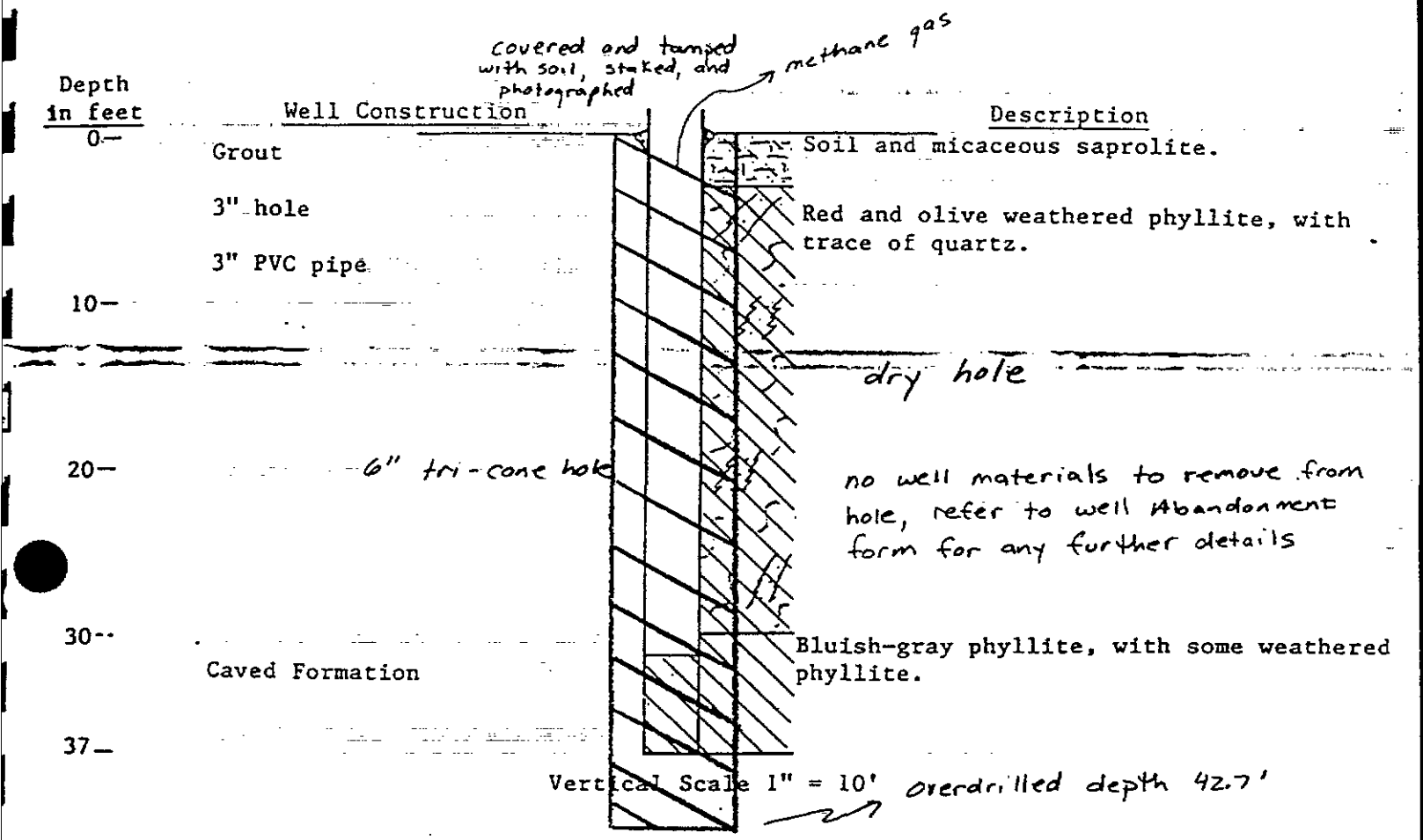
DRUCK WELL

ATC	DEPTH/INTERVAL (Ft.)	DESCRIPTION / COMMENTS	FLOW RATE DEPTH	FLOW RATE BLOW RATE	CHEMICAL ANALYSIS DEPTH	CHEMICAL ANALYSIS pH	CHEMICAL ANALYSIS Fe	Hard.
	85-90'	Same as above.						
	90-95'	Same as above.						
	95-100'	Same as above.		Rod 4 ½-1gpm				
	100-105'	Dark green to blue green phyllite. Very fresh appearence. Much quartz in spots. Pretty. Hard.						
	105-110'	Same as above.						
	110-115'	Same as above.						
	115-120'	Same as above.						
	120-125'	Dark green to blue green phyllite with much quartz in spots. Fresh. Fairly hard.		Rod 5 ½-1gpm				
	125-130'	Same as below.						
	130-135'	Same as above.						
	135-140'	Same as above.						
	140-145'	Same as above. A few slightly [illegible] ores.						
	145-150'	Same as above.		Rod 6 ¾ gpm more.				
	150-155'	Dark green phyllite with much white quartz. Some lighter green layers. Fairly hard. Fresh appearance.						
	155-160'	Same as above.						
	160-165'	Same as above.						
	165-170'	Dark green and gray green phyllite. Much quartz. Pretty. Fairly hard.						

AR300692

Geologic and Well Construction Log

Modern Landfill
Well E-1



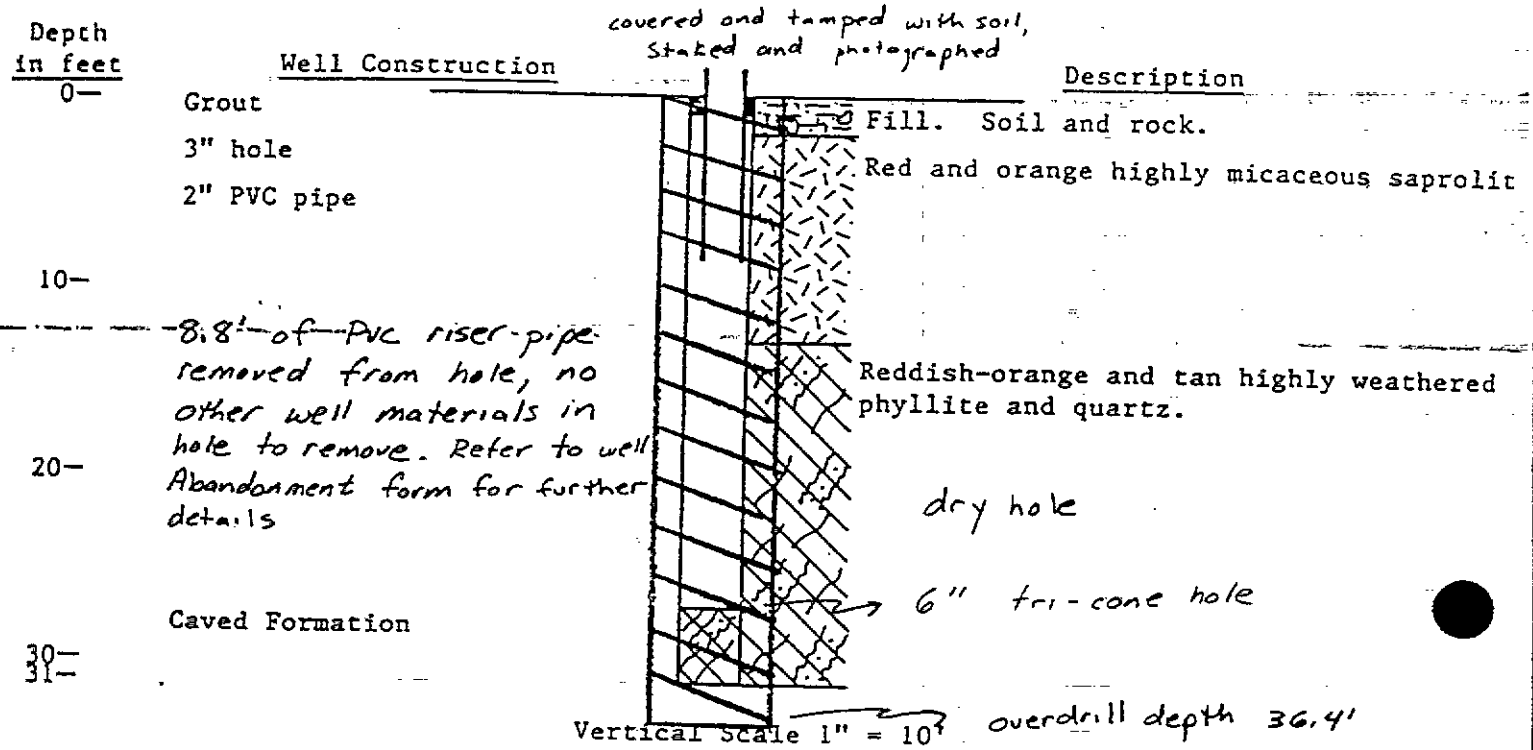
Drilling Began: 5/22/84
Drilling Completed: 5/22/84
Total Depth: 37'
Elev., TOC: 622.85'
Elev., G.S.: 621.4'

Open Rock Interval: 5'-37'
Open Rock Hole Elevation: 616.4'-584.9'
SWL Elevation (Date): <590.52' (7/17/84)
Drilling Method: Air track
Total Yield: <0.25 gpm

AR300693

Geologic and Well Construction Log

Modern Landfill
Well E-2



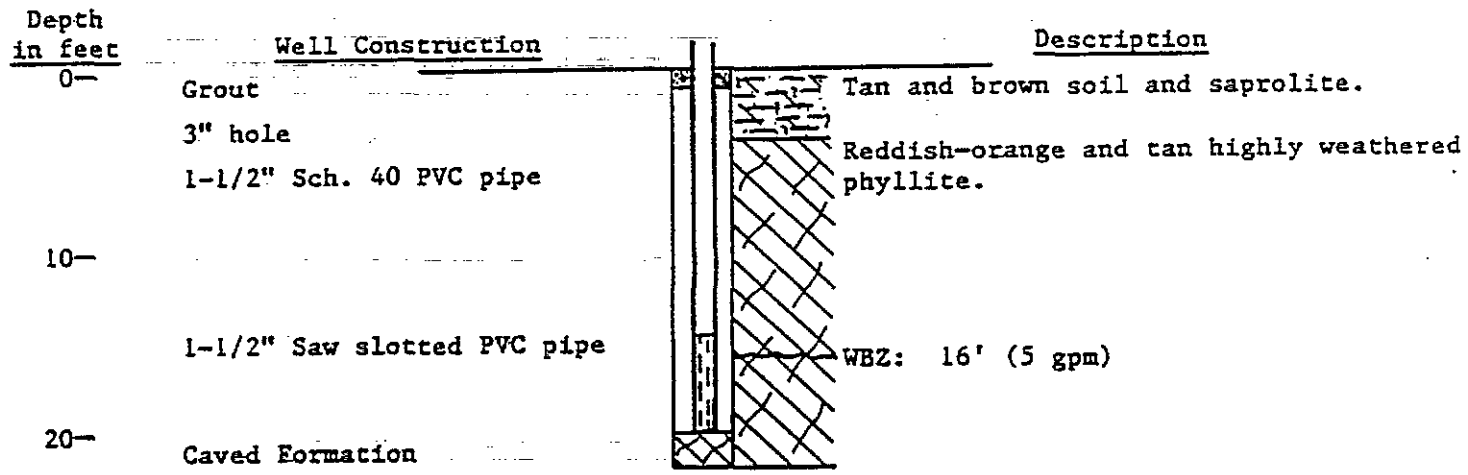
Drilling Began: 5/22/84
Drilling Completed: 5/22/84
Total Depth: 31'
Elev., TOC: 612.55'
Elev., G.S.: 611.2'

Open Rock Interval: 8.8'-31'
Open Rock Hole Elevation: 602.4'-580.2'
SWL Elevation (Date): <584.34' (7/17/84)
Drilling Method: Air track
Total Yield: <0.25 gpm

AR300694

Geologic and Well Construction Log

Modern Landfill
Well E-3



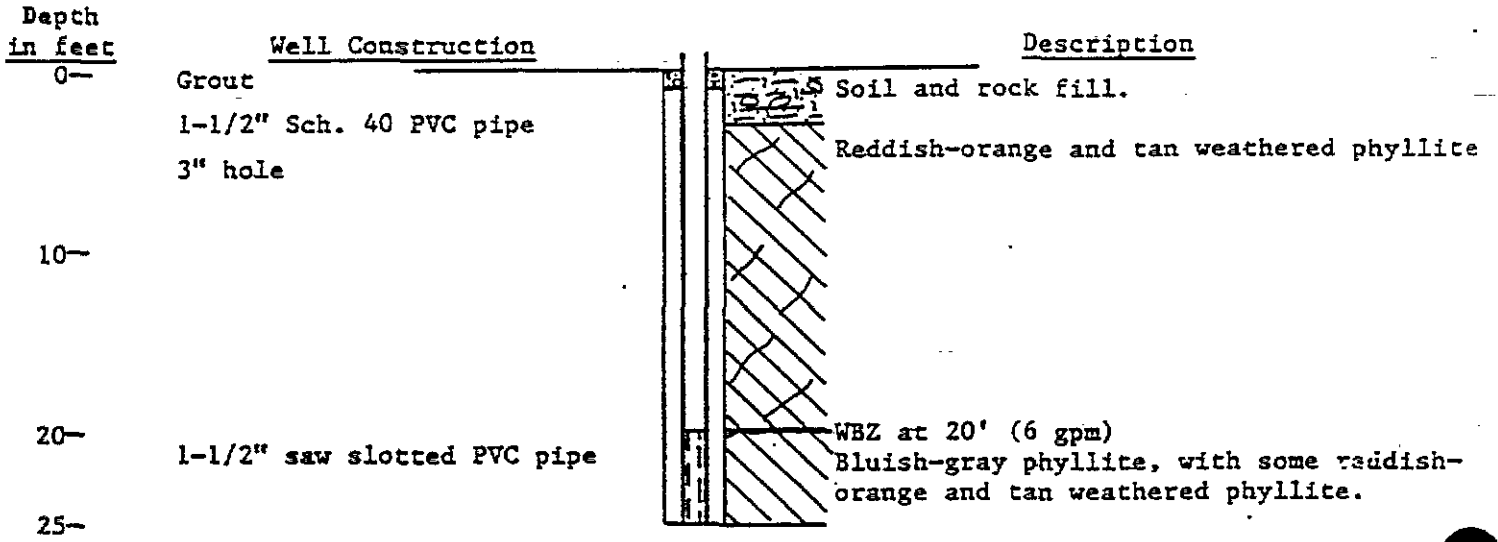
Vertical Scale 1" = 10'

Drilling Began: 5/22/84
Drilling Completed: 5/22/84
Total Depth: 22'
Elev., TOC: 597.87'
Elev., G.S.: 596.3' ±.

Screened Interval: 15'-20'
Screen Elevation: 581.3'-576.3'
SWL Elevation (Date): 593.04' (7/17/84)
Drilling Method: Air track
Total Yield: 5 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-4



Vertical Scale 1" = 10'

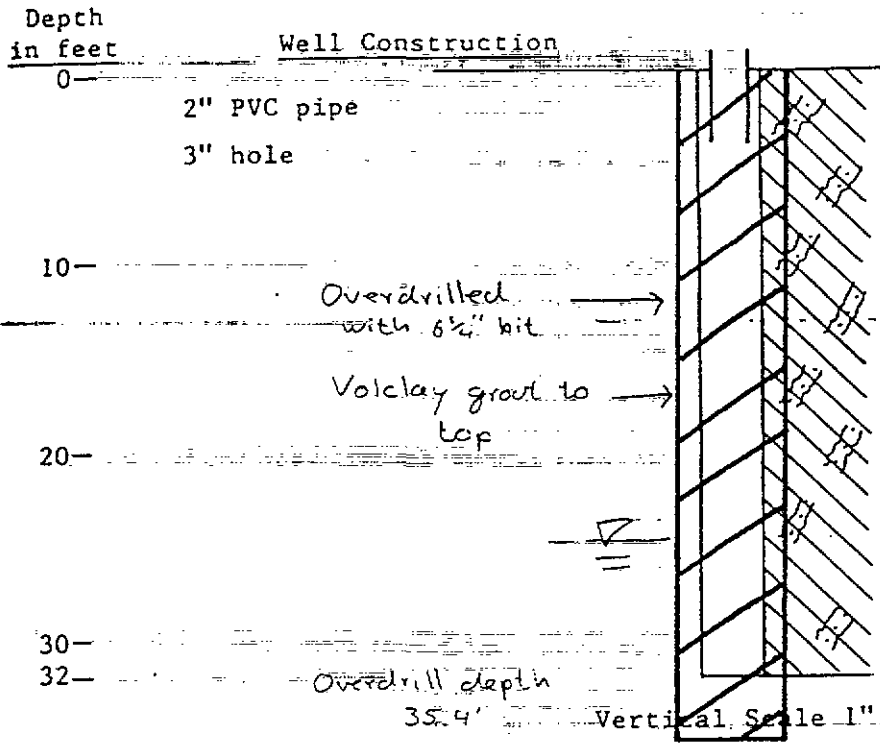
Drilling Began: 5/22/84
Drilling Completed: 5/22/84
Total Depth: 25'
Elev., TOC: 602.73'
Elev., G.S.: 601.7'

Screened Interval: 20'-25'
Screen Elevation: 581.7'-576.7'
SWL Elevation (Date): 593.65' (7/17/84)
Drilling Method: Air track
Total Yield: 6 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-5

Covered with soil, tamped, staked and photographed



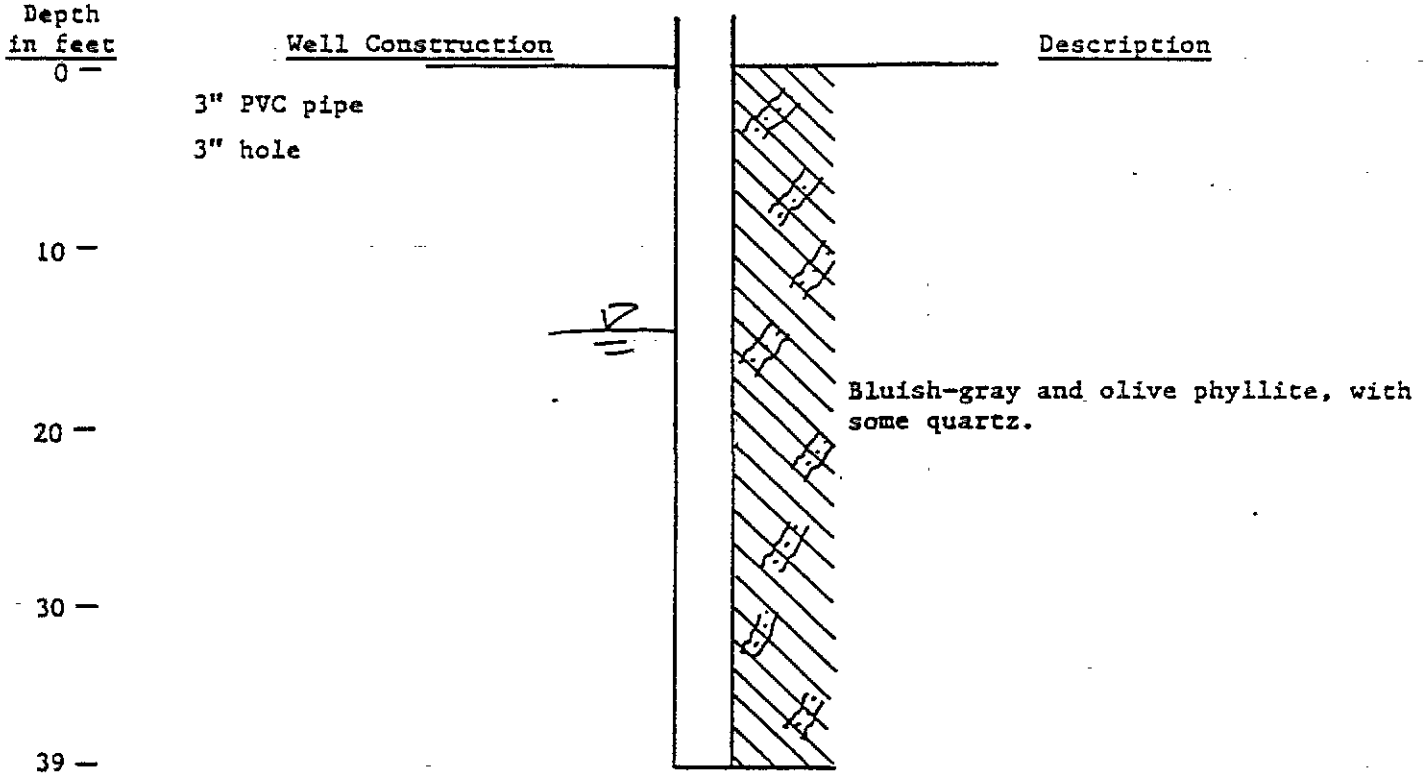
Drilling Began: 5/22/84
Drilling Completed: 5/22/84
Total Depth: 32'
Elev., TOC: 606.98'
Elev., G.S.: 605.9'

Open Rock Interval: 4'-32'
Open Rock Elevation: 601.9'-573.9'
SWL Elevation (Date): 581.54' (7/17/84)
Drilling Method: Air track
Total Yield: <1/4 gpm

AR300697

Geologic and Well Construction Log

Modern Landfill
Well E-6



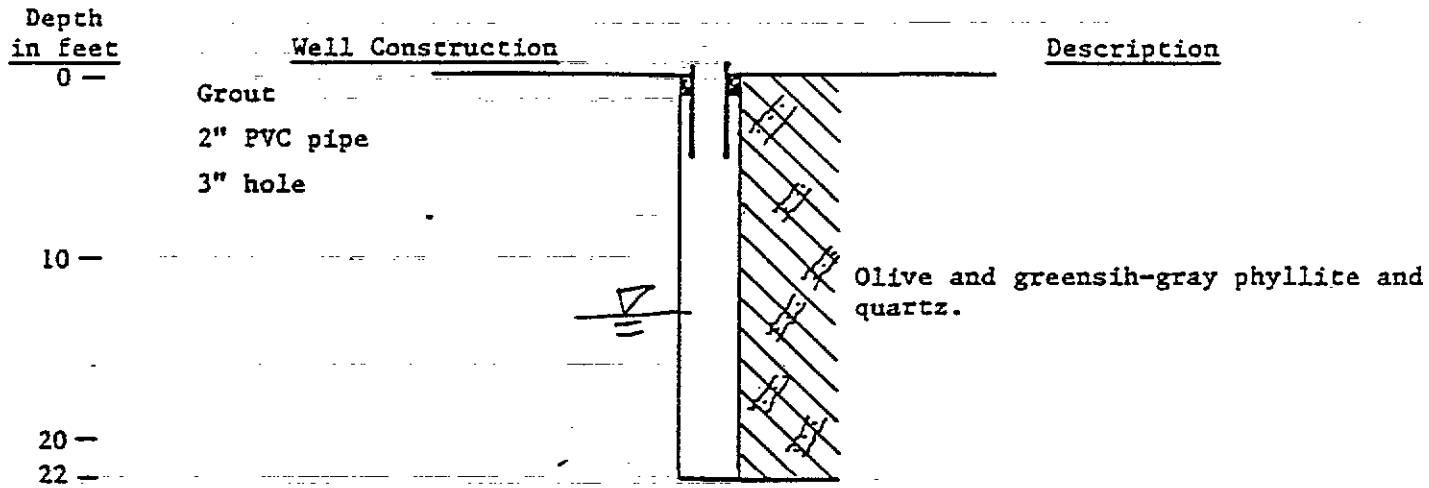
Vertical Scale 1" = 10'

Drilling Began: 5/22/84
Drilling Completed: 5/22/84
Total Depth: 39'
Elev., TOC: 596.99'
Elev., G.S.: 594.0'

Open Rock Interval: 1'-39'
Open Rock Elevation: 593.0'-555.0'
SWL Elevation (Date): 580.61' (7/17/84)
Drilling Method: Air track
Total Yield: < 1/4 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-7



Vertical Scale 1" = 10'

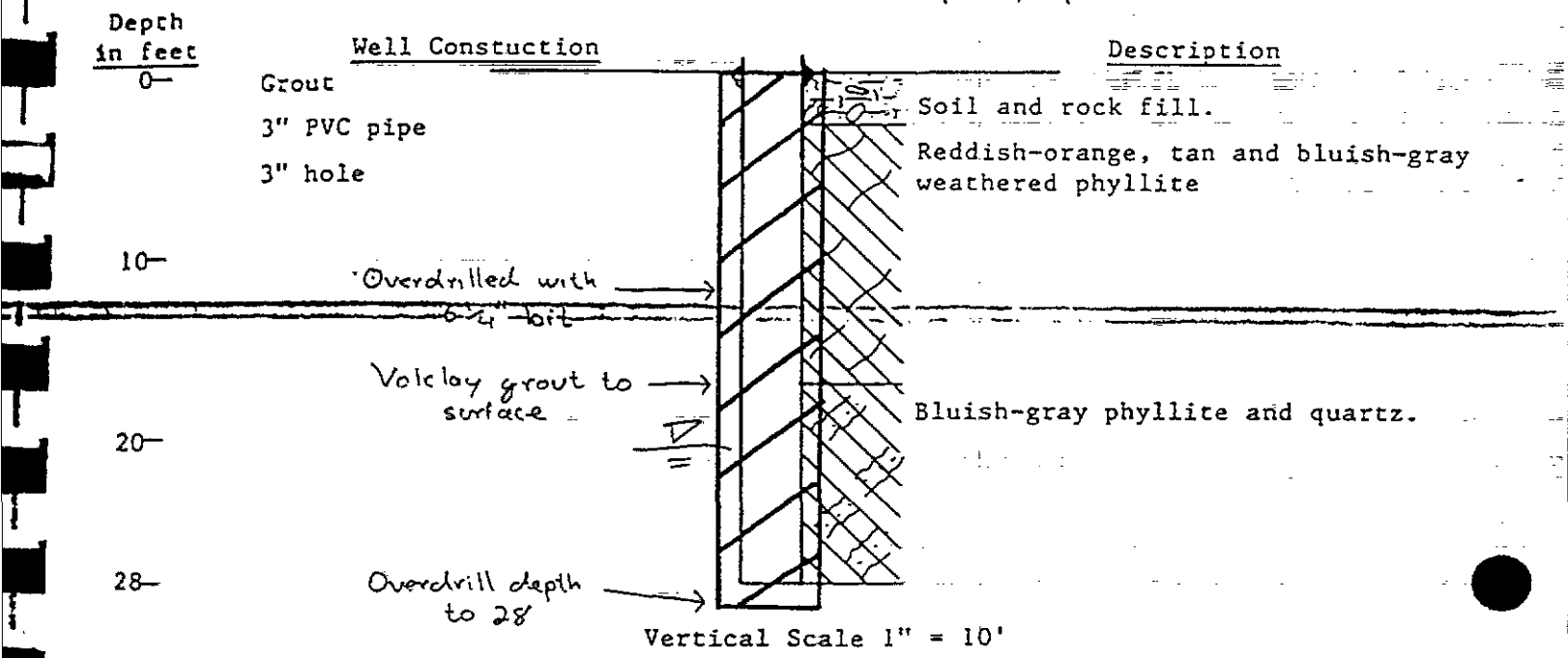
Drilling Began: 5/22/84
Drilling Completed: 5/22/84
Total Depth: 22'
Elev., TOC: 583.97'
Elev., G.S.: 583.5'

Open Rock Interval: 4.5'-22'
Open Rock Elevation: 579.0'-561.5'
SWL Elevation (Date): 569.47' (7/17/84)
Drilling Method: Air track
Total Yield: <1/4 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-8

Covered w/soil tamped, staked and photographed



Vertical Scale 1" = 10'

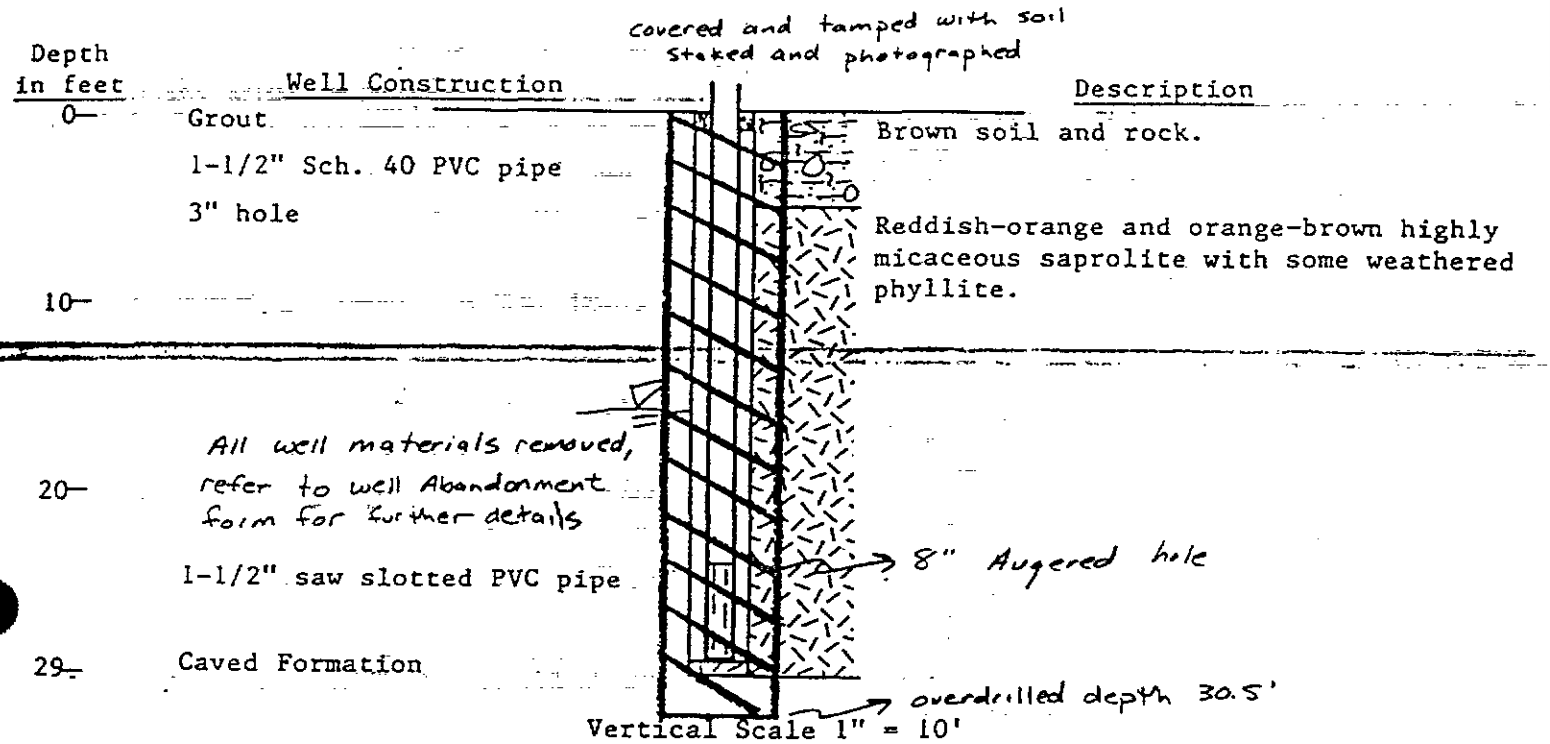
Drilling Began: 5/23/84
Drilling Completed: 5/23/84
Total Depth: 28'
Elev., TOC: 575.03'
Elev., G.S.: 573.8'

Open Rock Interval: 4.5'-28'
Open Rock Elevation: 569.3'-545.8'
SWL Elevation (Date): ~~533.78~~ 553.78' (7/17/84) ?
Drilling Method: Air track
Total Yield: <1/4 gpm

AR300700

Geologic and Well Construction Log

Modern Landfill
Well E-9



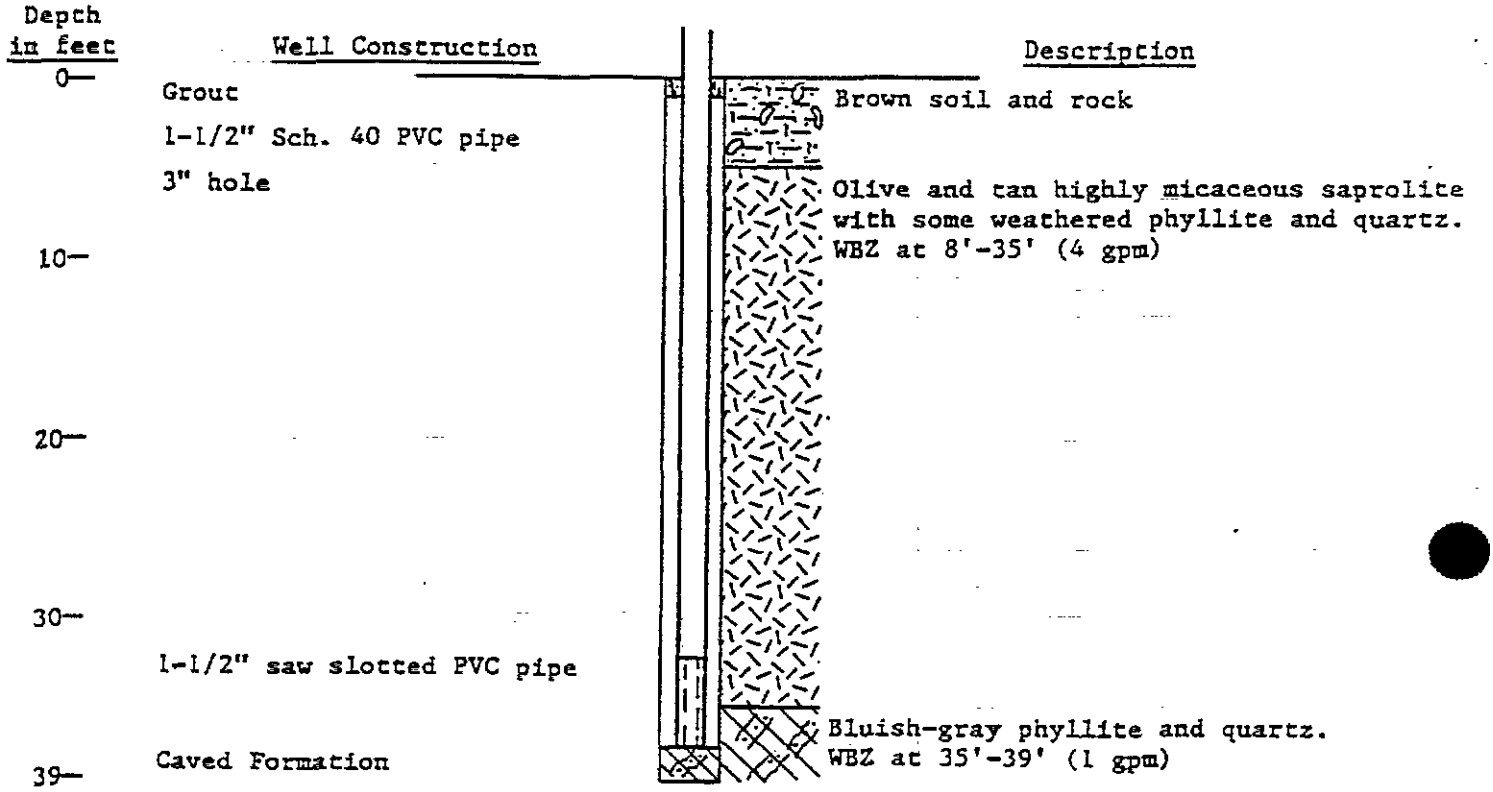
Drilling Began: 5/23/84
Drilling Completed: 5/23/84
Total Depth: 29.5'
Elev., TOC: 556.87'
Elev., G.S.: 555.5'

Screened Interval: 24'-29'
Screen Elevation: 531.5'-526.5'
SWL Elevation (Date): 539.58' (7/17/84)
Drilling Method: Air track
Total Yield: <1/4 gpm

AR300701

Geologic and Well Construction Log

Modern Landfill
Well E-10



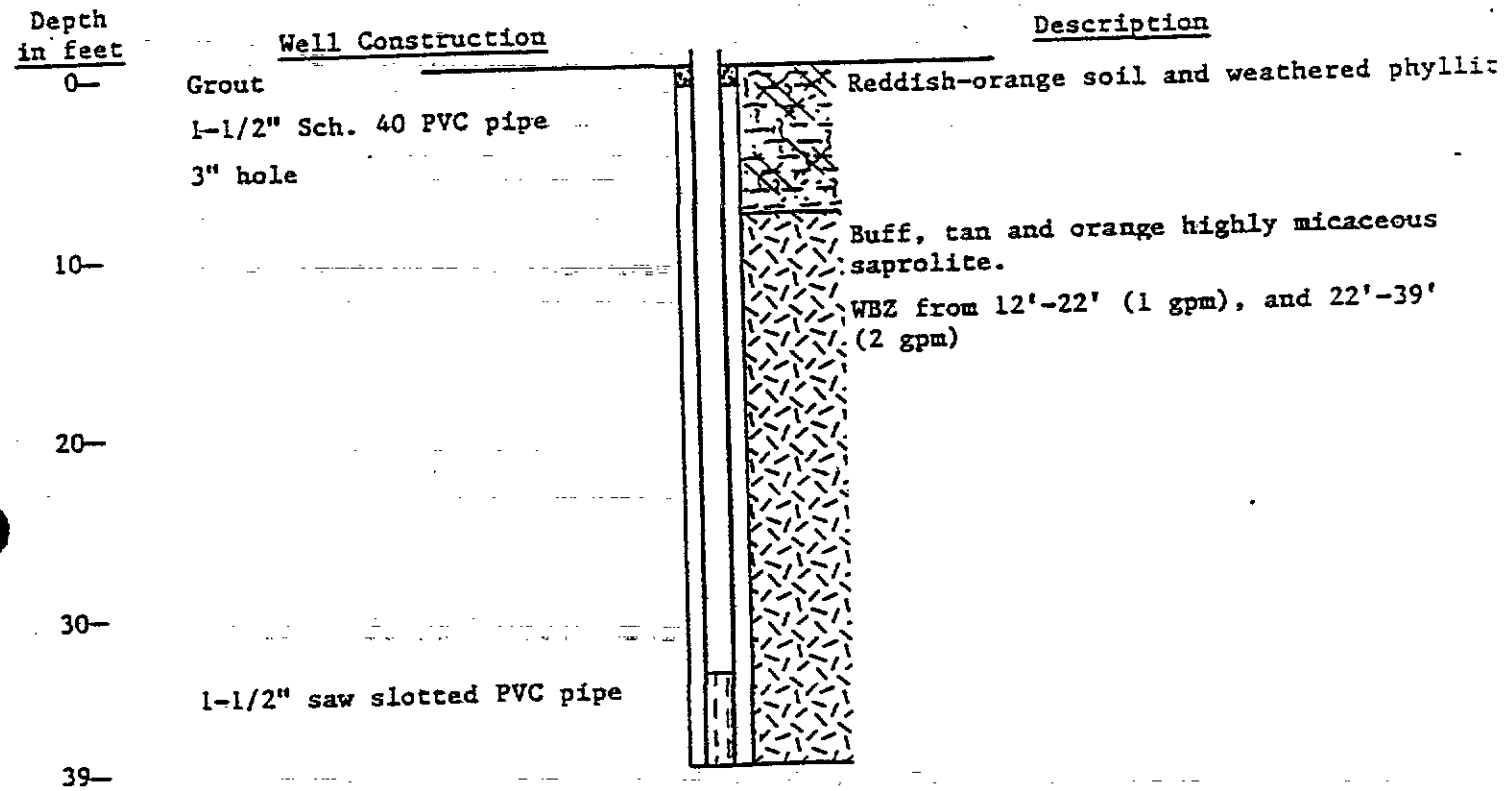
Vertical Scale 1" = 10'

Drilling Began: 5/23/84
Drilling Completed: 5/23/84
Total Depth: 39'
Elev., TOC: 553.54'
Elev., G.S.: 550.9'

Screened Interval: 32'-37'
Screen Elevation: 518.9'-513.9'
SWL Elevation (Date): 543.19 (7/17/84)
Drilling Method: Air track
Total Yield: 5 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-11



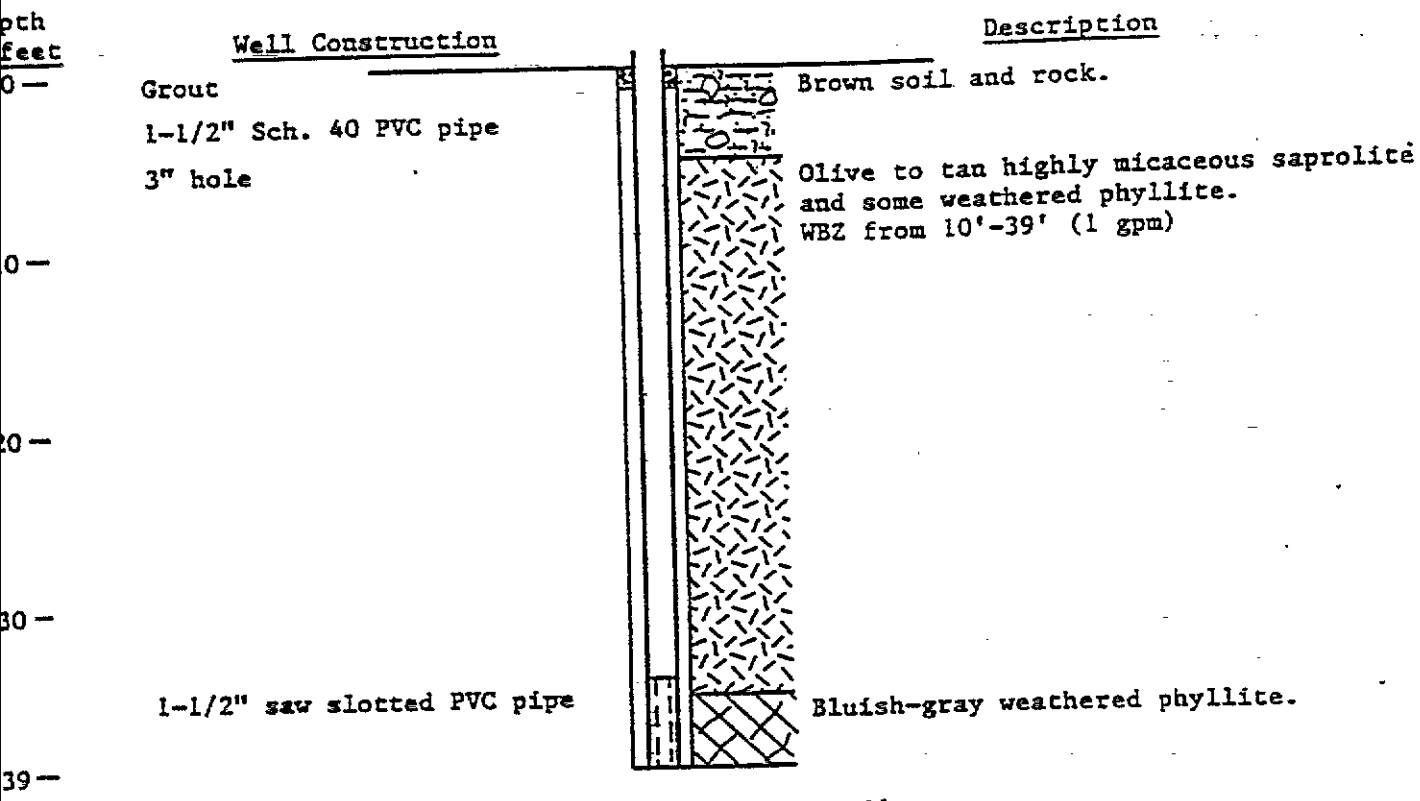
Vertical Scale 1" = 10'

Drilling Began: 5/23/84
Drilling Completed: 5/23/84
Total Depth: 39'
Elev., TOC: 550.08'
Elev., G.S.: 549.3'

Screened Interval: 34'-39'
Screen Elevation: 515.4'-510.4'
SWL Elevation (Date): 537.87' (7/17/84)
Drilling Method: Air track
Total Yield: 3 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-12



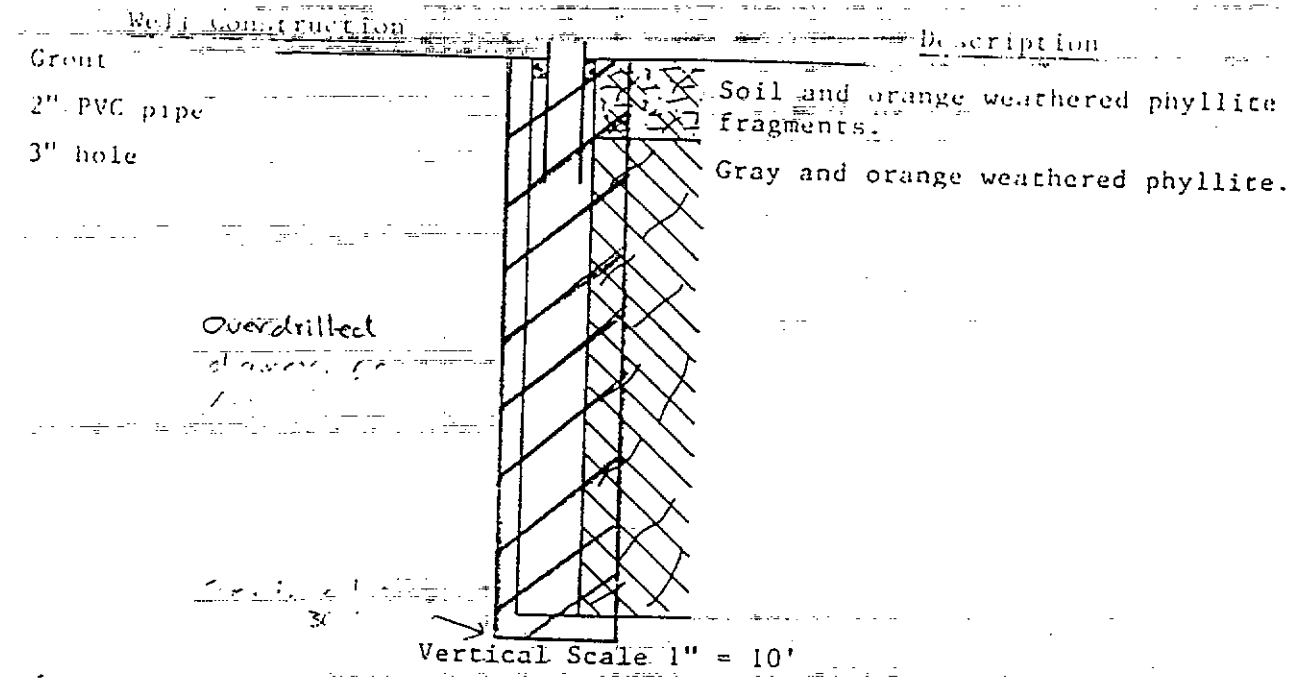
Vertical Scale 1" = 10'

Drilling Began: 5/23/84
Drilling Completed: 5/24/84
Total Depth: 39'
Elev., TOC: 534.85'
Elev., G.S.: 534.2'

Screened Interval: 34'-39'
Screen Elevation: 500.2'-495.2'
SWL Elevation (Date): 526.27' (7/17/84)
Drilling Method: Air track
Total Yield: 1 gpm

... and Well Construction Log

Modern Landfill
Well E-13



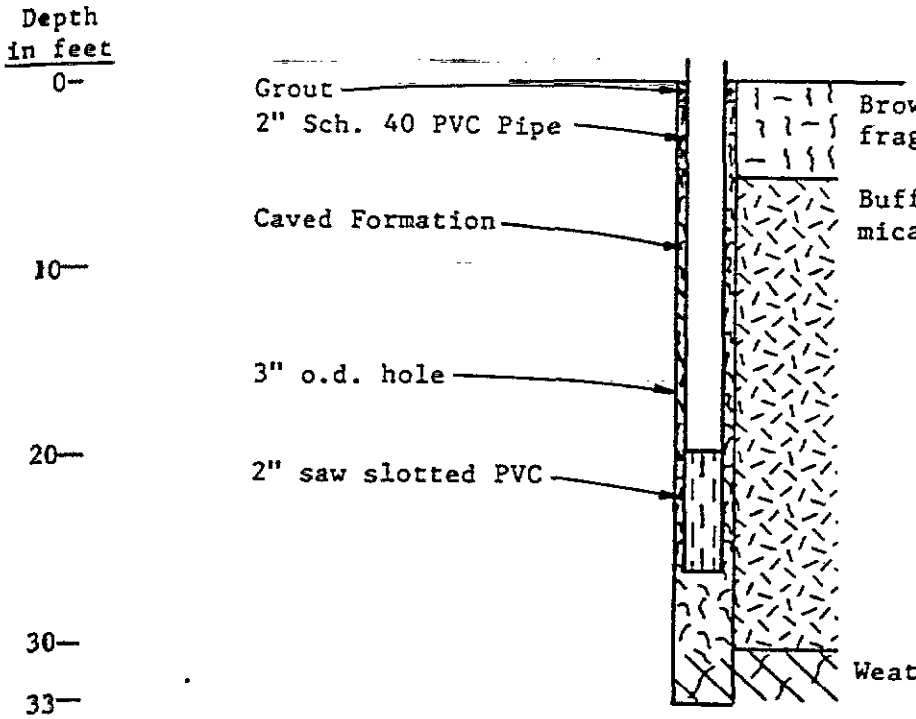
Drilling Began: 5/24/84
Drilling Completed: 5/24/84
Total Depth: 29'
Elev., TOC: 537.95'
Elev., G.S.: 536.6'

Open Rock Interval: 6.5'-29'
Open Rock Elevation: 530.1'-507.6'
SWL Elevation (Date): 519.41' (7/17/84)
Drilling Method: Air track
Total Yield: <1/4 gpm

AR300705

Geologic and Well Construction Log

Modern Landfill
Well E-14



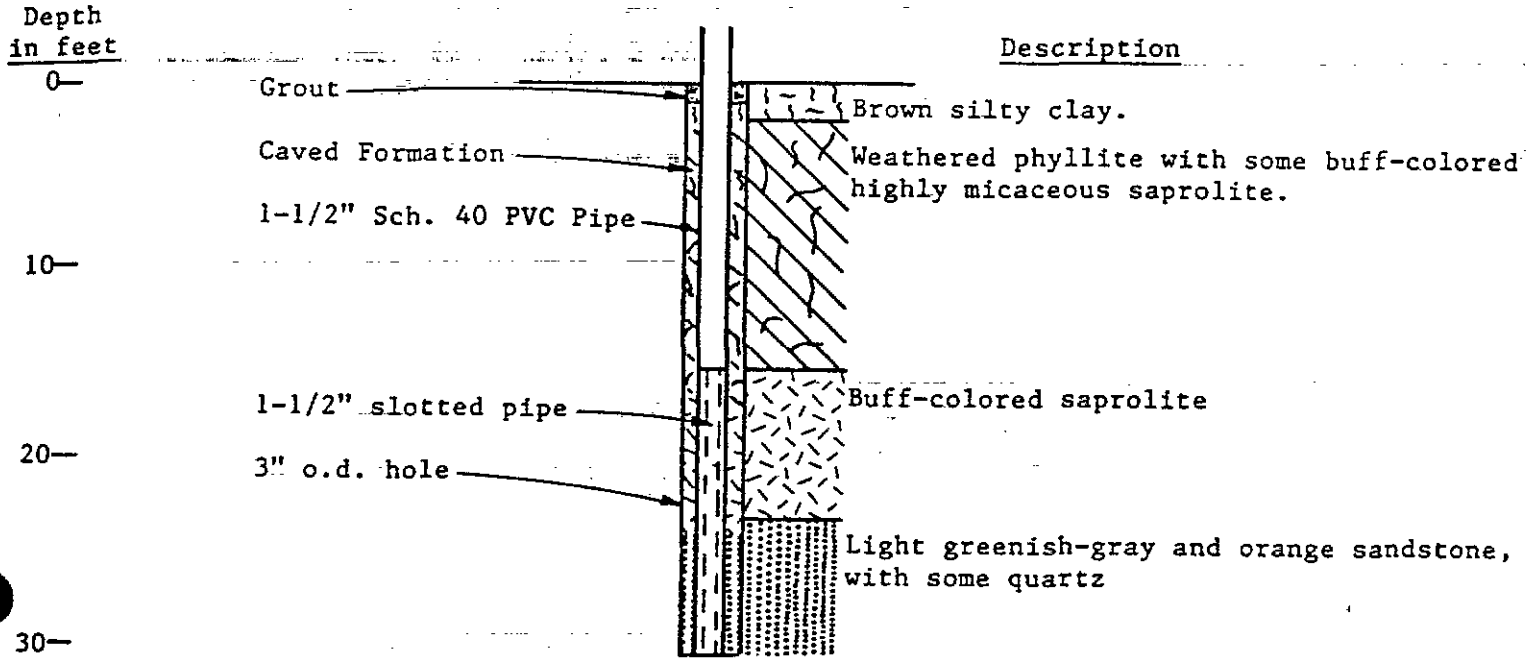
Vertical Scale 1" = 10'

Drilling Began: 5/24/84
Drilling Completed: 5/24/84
Total Depth: 33'
Elevation TOC: 529.77'
Elevation G.S.: 528.8'

Screened Interval: 19.5' - 26'
Screen Elevation: 509.3'-502.8'
SWL Elevation (Date): 503.77' (3/24/86)
WBZ: 18' - 22' (1/2 gpm)
Drilling Method: Air Track

Geologic and Well Construction Log

Modern Landfill
Well E-15



Vertical Scale 1" = 10'

Drilling Began: 5/24/84
Drilling Completed: 5/24/84
Total Depth: 30'
Elevation TOC: 523.4'
Elevation G.S.: 520.5'

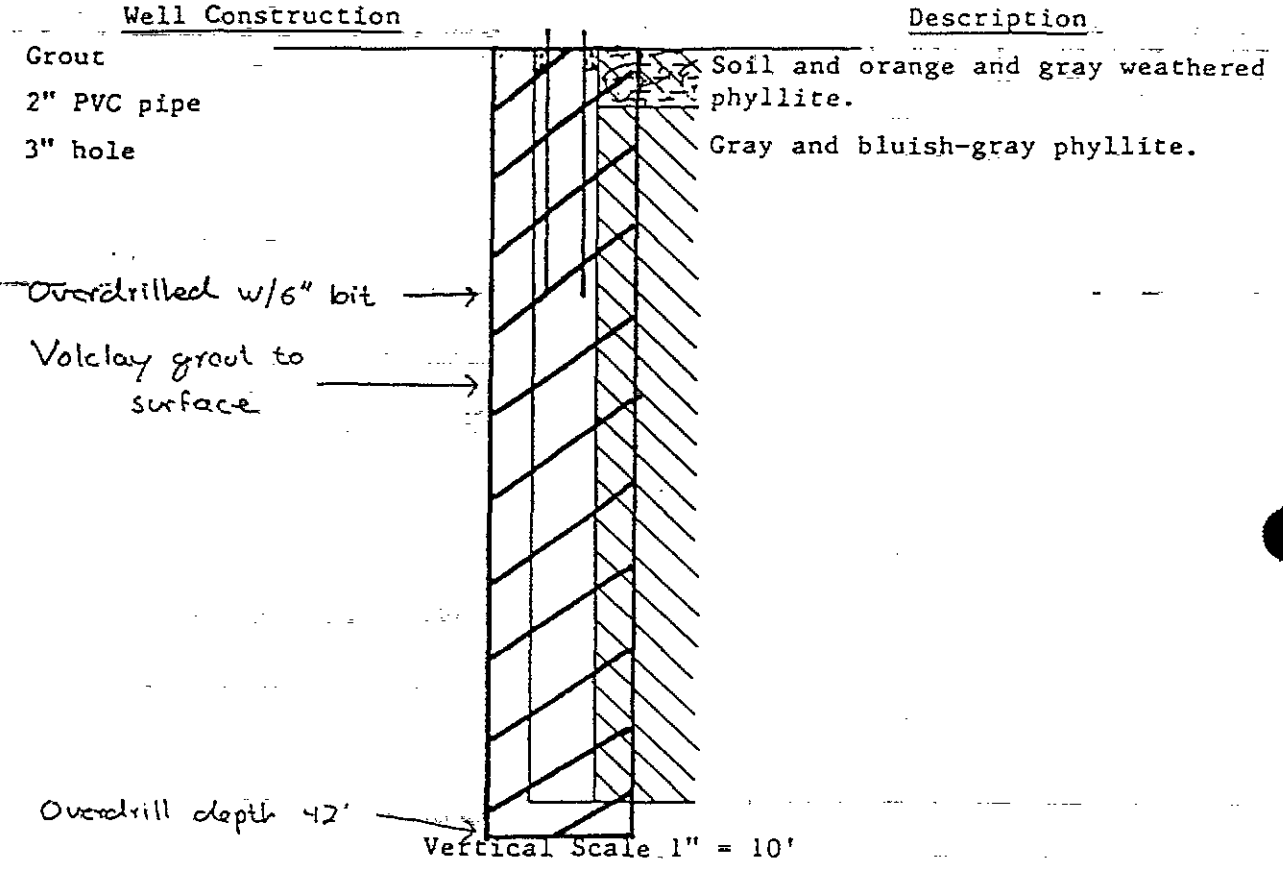
Screened Interval: 15' - 30'
Screen Elevation: 505.5-'490.5'
SWL Elevation (Date): 508.84' (3/24/86)
WBZ: 13' - 30' (1/2 gpm)
Drilling Method: Air Track

AR300707

Geologic and Well Construction Log

Modern Landfill
Well E-16

Covered w/soil, tamped, staked and photographed

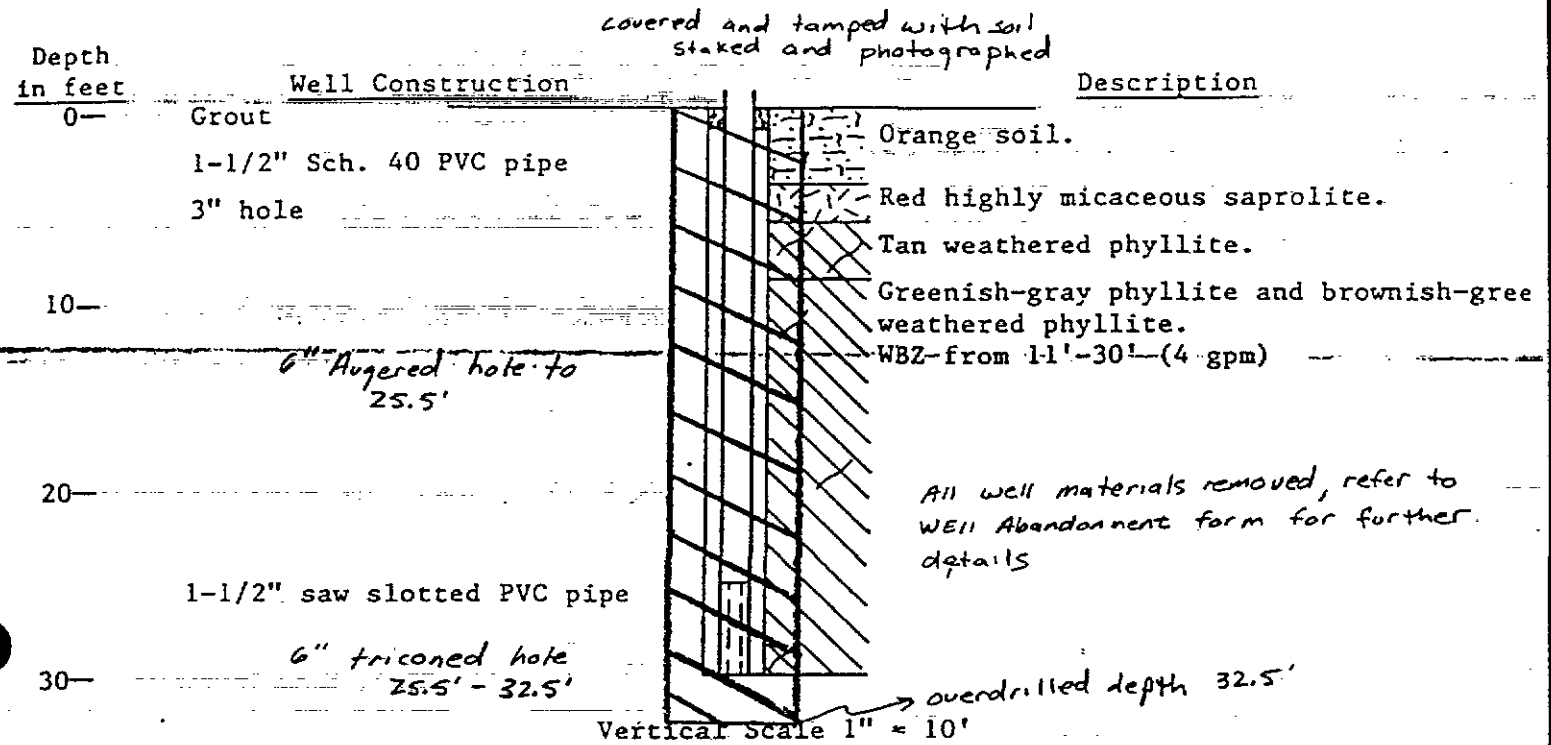


Drilling Began: 5/24/84
Drilling Completed: 5/24/84
Total Depth: 40'
Elev., TOC: 551.60'
Elev., G.S.: 550.4'

Open Rock Interval: 13'-40'
Open Rock Elevation: 537.4'-510.4'
SWL Elevation (Date): 529.87' (7/17/84)
Drilling Method: Air track
Total Yield: <1/4 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-17



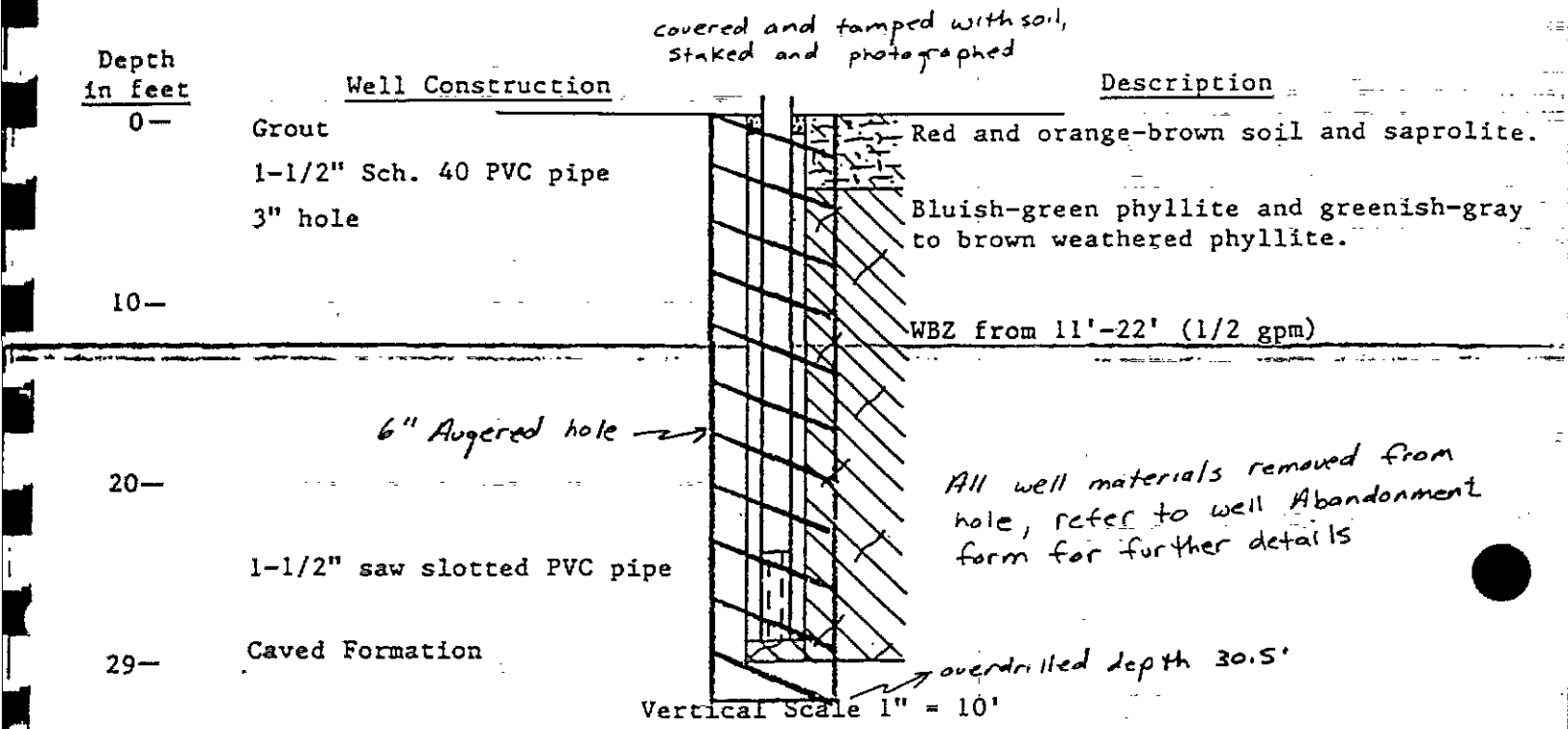
Drilling Began: 6/3/85
Drilling Completed: 6/3/85
Total Depth: 30'
Elev., TOC: 603.02'
Elev., G.S.: 600.5'

Screened Interval: 25'-30'
Screen Elevation: 575.5'-570.5'
SWL Elevation (Date):
Drilling Method: Air track
Total Yield: 4 gpm

AR300709

Geologic and Well Construction Log

Modern Landfill
Well E-18

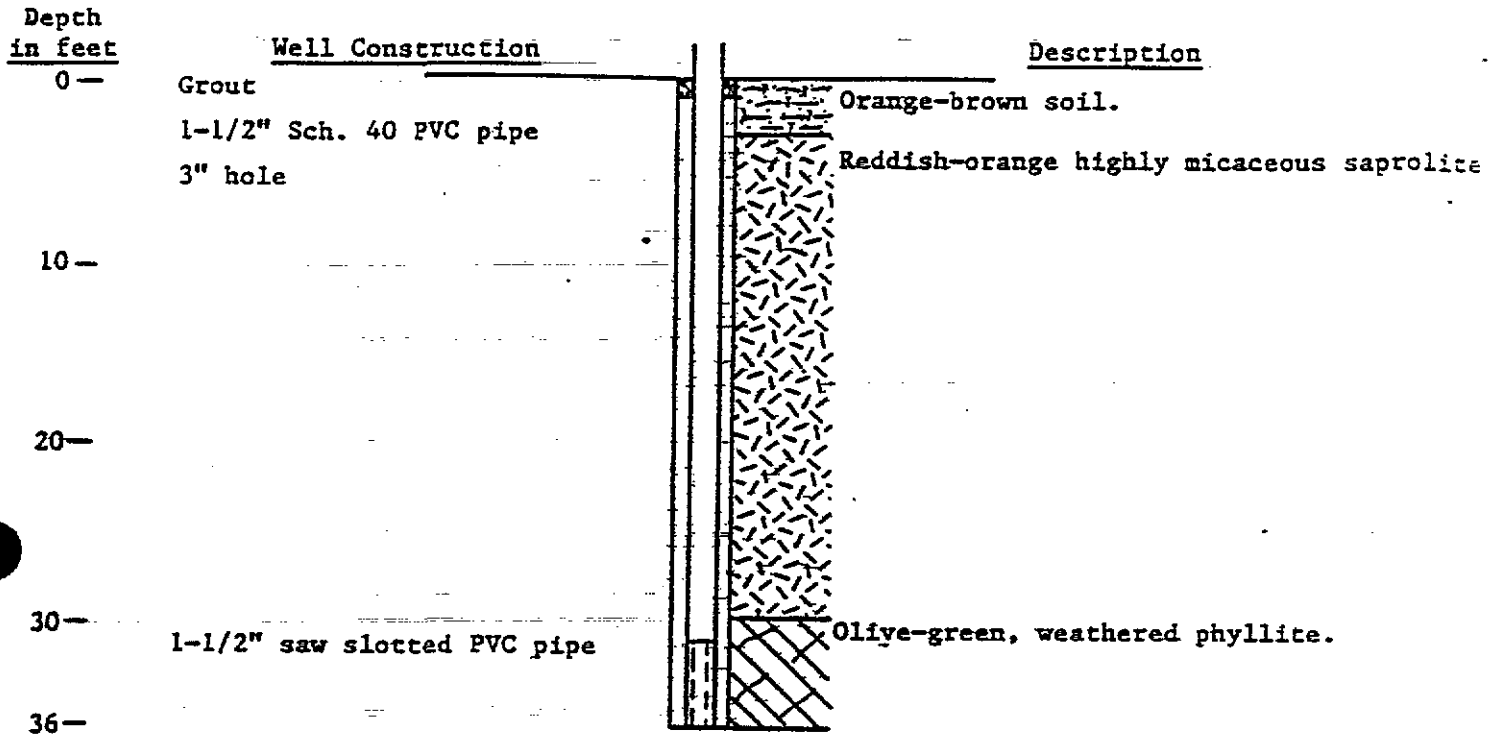


Drilling Began: 6/3/85
Drilling Completed: 6/3/85
Total Depth: 29'
Elev., TOC: 600.20'
Elev., G.S.: 599.2'

Screened Interval: 24'-29'
Screen Elevation: 575.2'-570.2'
SWL Elevation (Date):
Drilling Method: Air track
Total Yield: 1/2 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-19



Vertical Scale 1" = 10'

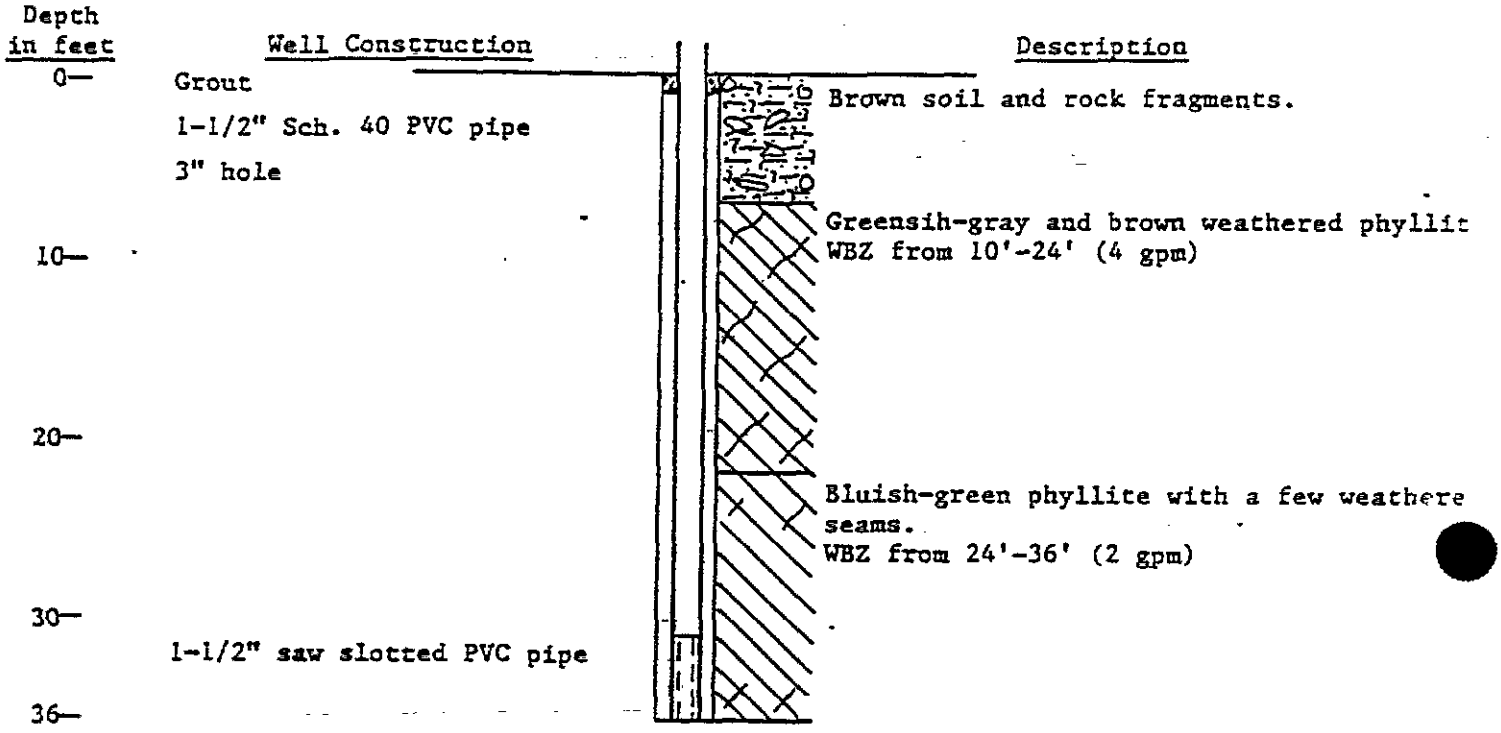
Drilling Began: 6/3/85
Drilling Completed: 6/3/85
Total Depth: 36'
Elev., TOC: 578.36
Elev., G.S.: 576.6'

Screened Interval: 31'-36'
Screen Elevation: 545.6'-540.6'
SWL Elevation (Date): 567.42' (1/7/86)
Drilling Method: Air track
Total Yield: 1/2 gpm

AR300711

Geologic and Well Construction Log

Modern Landfill
Well E-20



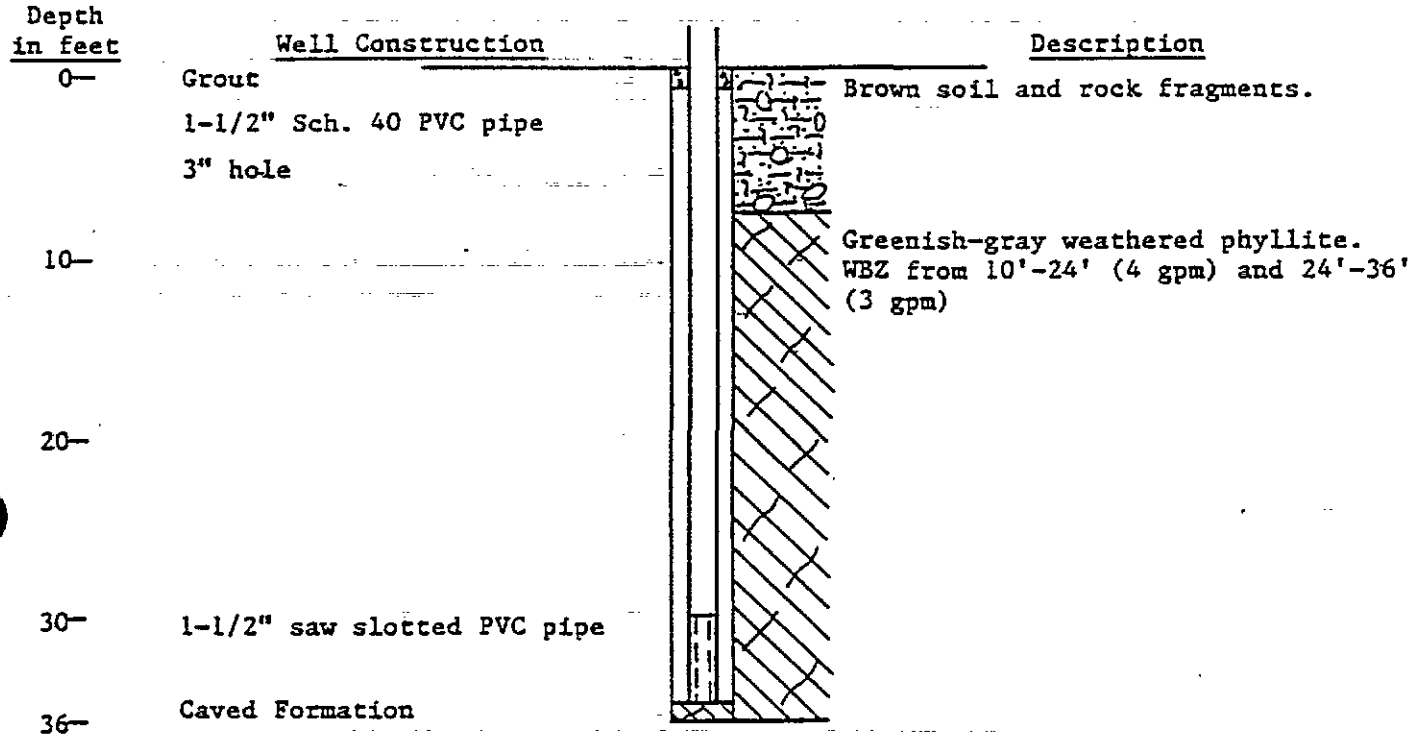
Vertical Scale 1" = 10'

Drilling Began: 6/3/85
Drilling Completed: 6/3/85
Total Depth: 36'
Elev., TOC: 571.90'
Elev., G.S.: 570.2'

Screened Interval: 31'-36'
Screen Elevation: 539.2'-534.2'
SWL Elevation (Date): 564.65' (12/11/85)
Drilling Method: Air track
Total Yield: 6 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-21



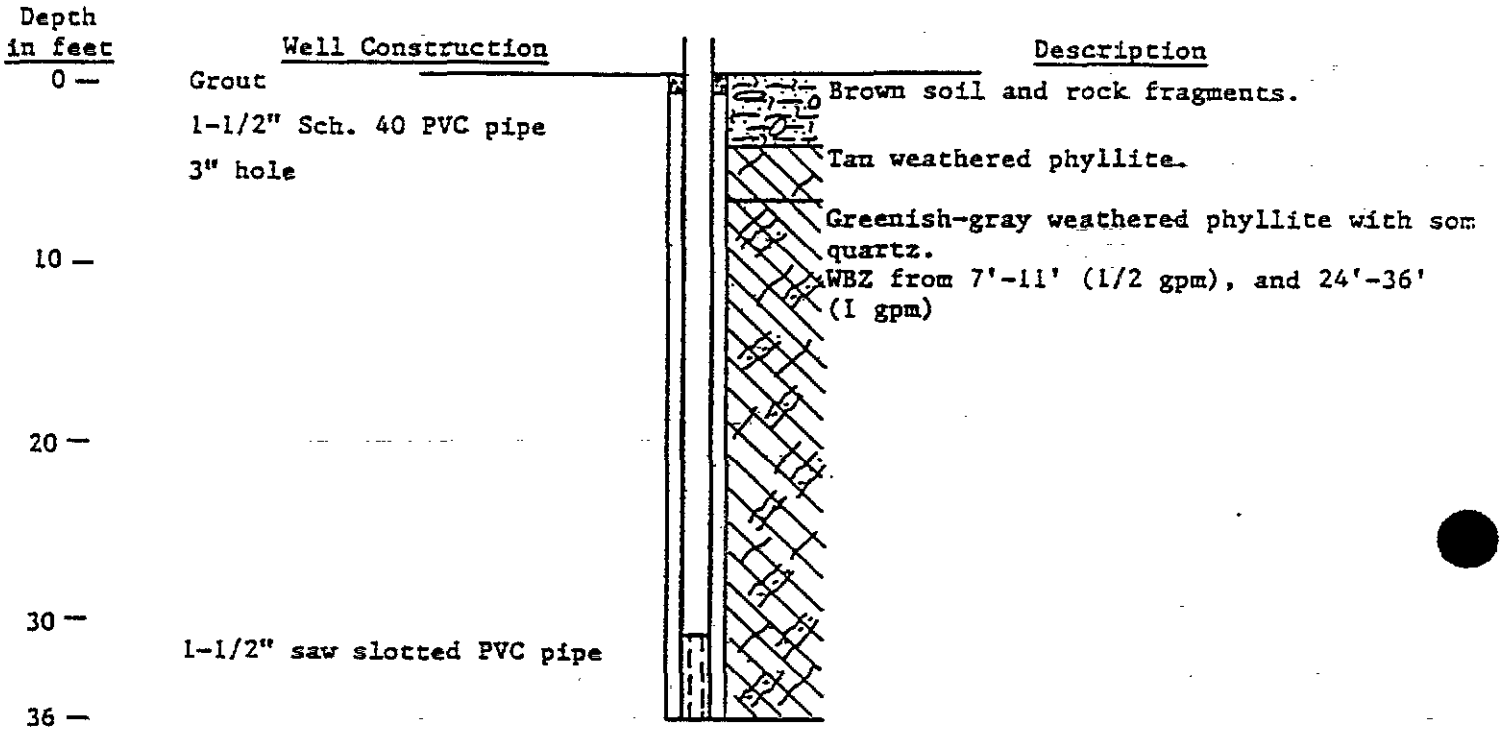
Vertical Scale 1" = 10'

Drilling Began: 6/3/85
Drilling Completed: 6/3/85
Total Depth: 36'
Elev., TOC: 566.89'
Elev., G.S.: 564.9'

Screened Interval: 30'-35'
Screen Elevation: 534.9'-529.9'
SWL Elevation (Date): 564.39' (12/10/85)
Drilling Method: Air track
Total Yield: 7 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-22



Vertical Scale 1" = 10'

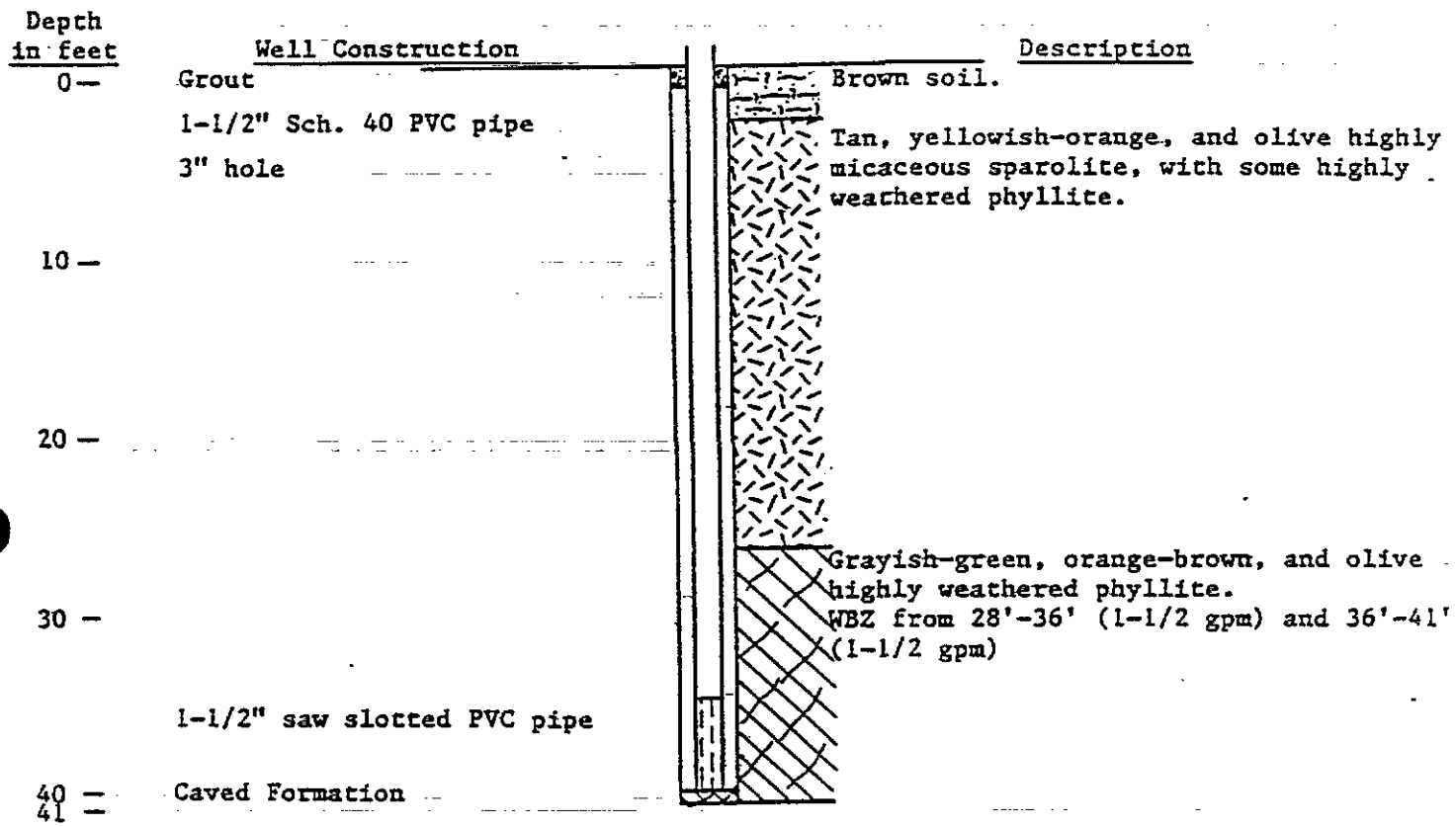
Drilling Began: 6/3/85
Drilling Completed: 6/3/85
Total Depth: 36'
Elev., TOC: 564.02'
Elev., G.S.: 561.7'

Screened Interval: 31'-36'
Screened Elevation: 530.7'-525.7'
SWL Elevation (Date): 557.19' (1/6/86)
Drilling Method: Air track
Total Yield: 3 gpm

AR300714

Geologic and Well Construction Log

Modern Landfill
Well E-23



Vertical Scale 1" = 10'

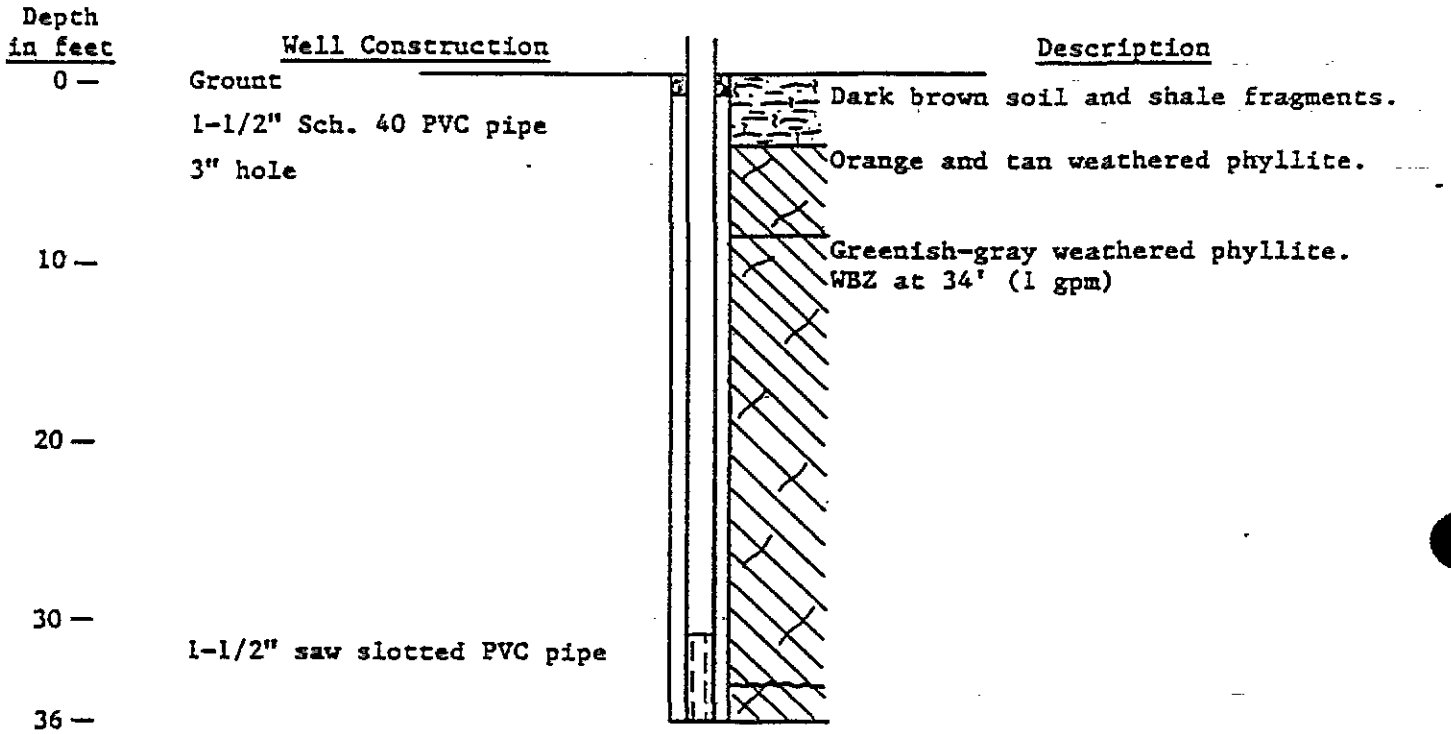
Drilling Began: 6/3/85
Drilling Completed: 6/3/85
Total Depth: 41'
Elev., TOC: 559.10'
Elev., G.S.: 557.3'

Screened Interval: 35.5'-40.5'
Screen Elevation: 521.8'-516.8'
SWL Elevation (Date): 553.48' (1/6/86)
Drilling Method: Air track
Total Yield: 3 gpm

AR300715

Geologic and Well Construction Log

Modern Landfill
Well E-24



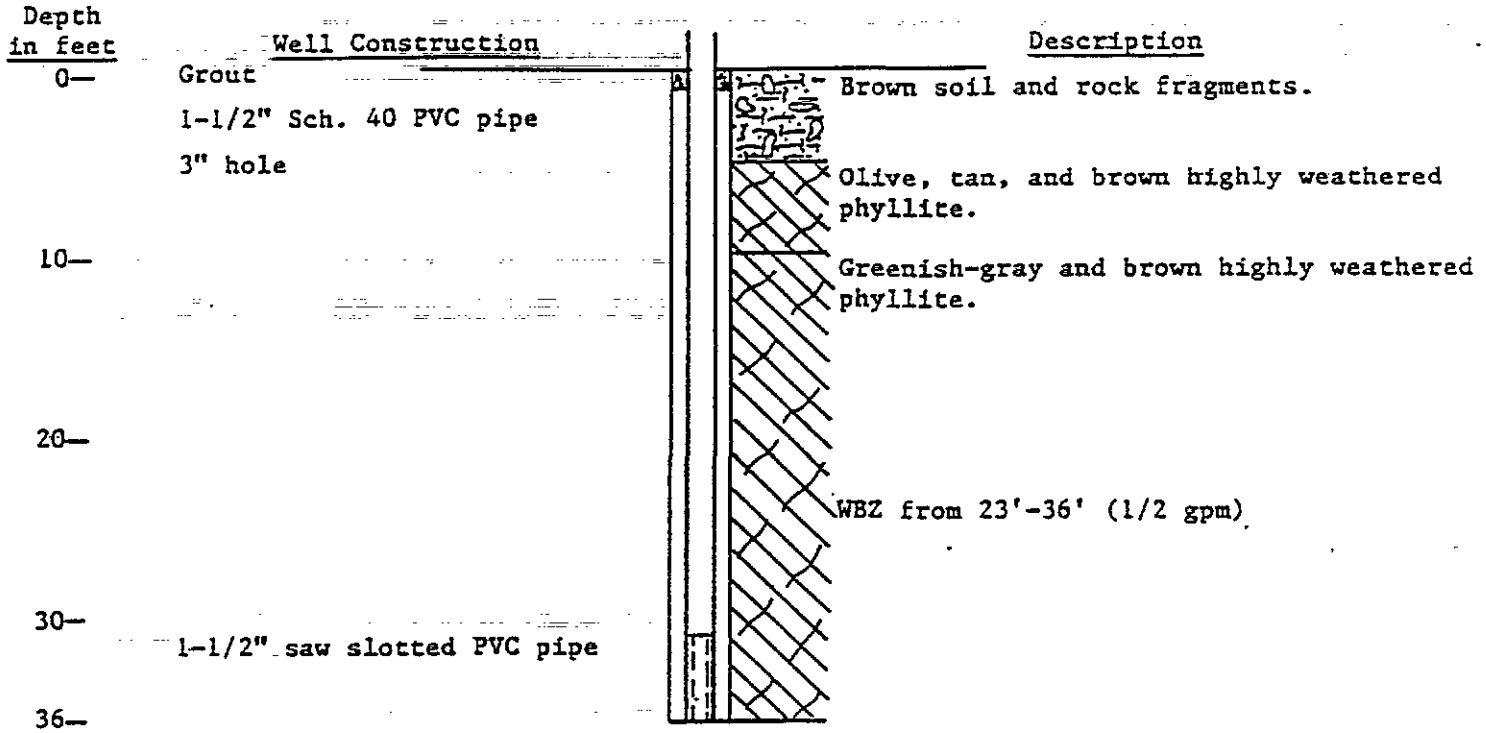
Vertical Scale 1" = 10'

Drilling Began: 6/3/85
Drilling Completed: 6/3/85
Total Depth: 36'
Elev., TOC: 556.12'
Elev., G.S.: 554.2'

Screened Interval: 31'-36'
Screen Elevation: 523.2'-518.2'
SWL Elevation (Date): 548.38' (1/8/86)
Drilling Method: Air track
Total Yield: 1 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-25



Vertical Scale 1" = 10'

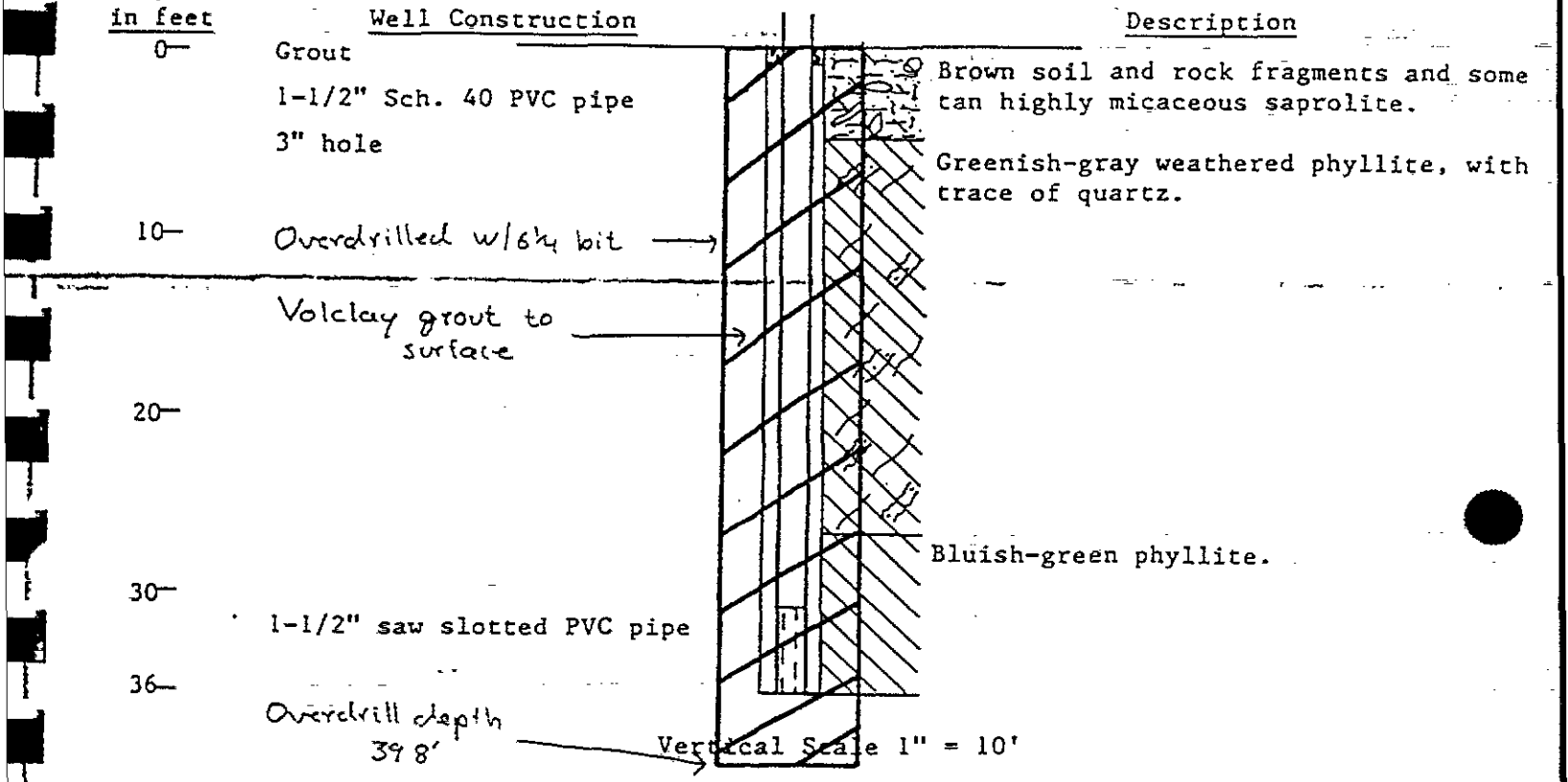
Drilling Began: 6/4/85
Drilling Completed: 6/4/85
Total Depth: 36'
Elev., TOC: 553.61'
Elev., G.S.: 551.9'

Screened Interval: 31'-36'
Screen Elevation: 520.9'-515.9'
SWL Elevation (Date): 546.49' (1/13/86)
Drilling Method: Air track
Total Yield: 1/2 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-26

Covered w/soil, tamped, stained, and photographed



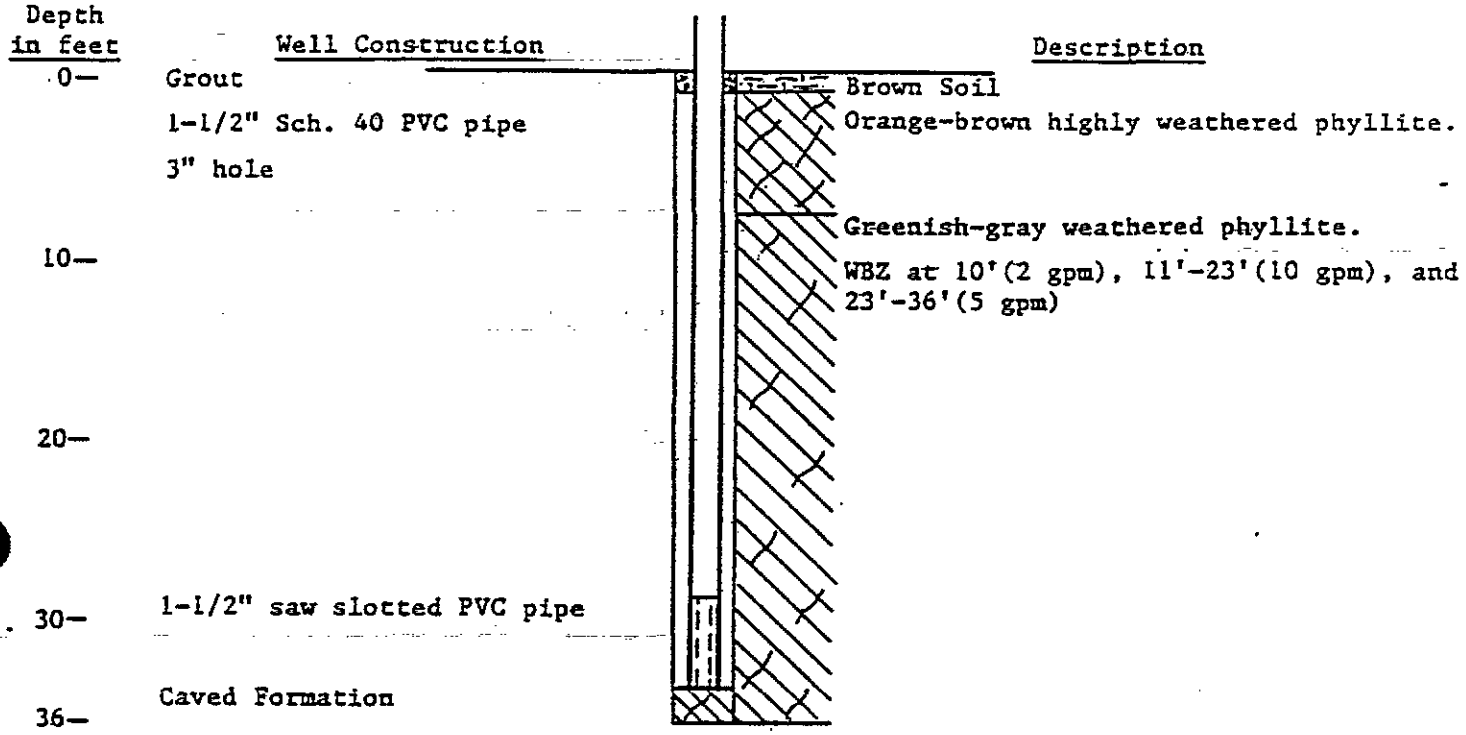
Drilling Began: 6/4/85
Drilling Completed: 6/4/85
Total Depth: 36'
Elev., TOC: 552.88'
Elev., G.S.: 551.1'

Screened Interval: 31'-36'
Screen Elevation: 520.1'-515.1'
SWL Elevation (Date): 546.01' (3/24/86)
Drilling Method: Air track
Total Yield: <1/4 gpm

AR300718

Geologic and Well Construction Log

Modern Landfill
Well E-27



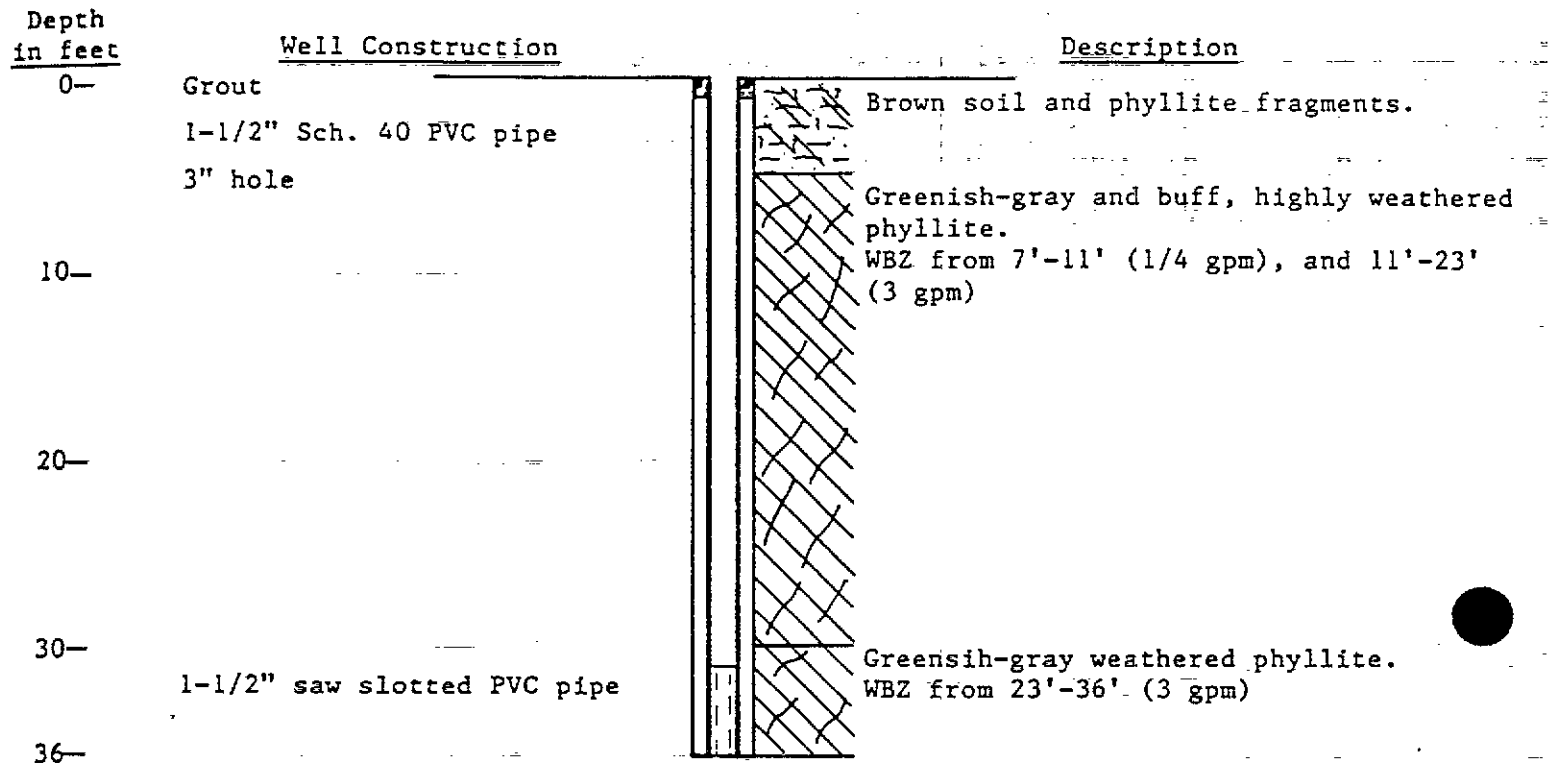
Vertical Scale 1" = 10'

Drilling Began: 6/4/85
Drilling Completed: 6/4/85
Total Depth: 36'
Elev., TOC: 553.29'
Elev., G.S.: 549.9'

Screened Interval: 29'-34'
Screen Elevation: 520.9'-515.9'
SWL Elevation (Date): 545.10' (3/24/86)
Drilling Method: Air track
Total Yield: 17 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-28



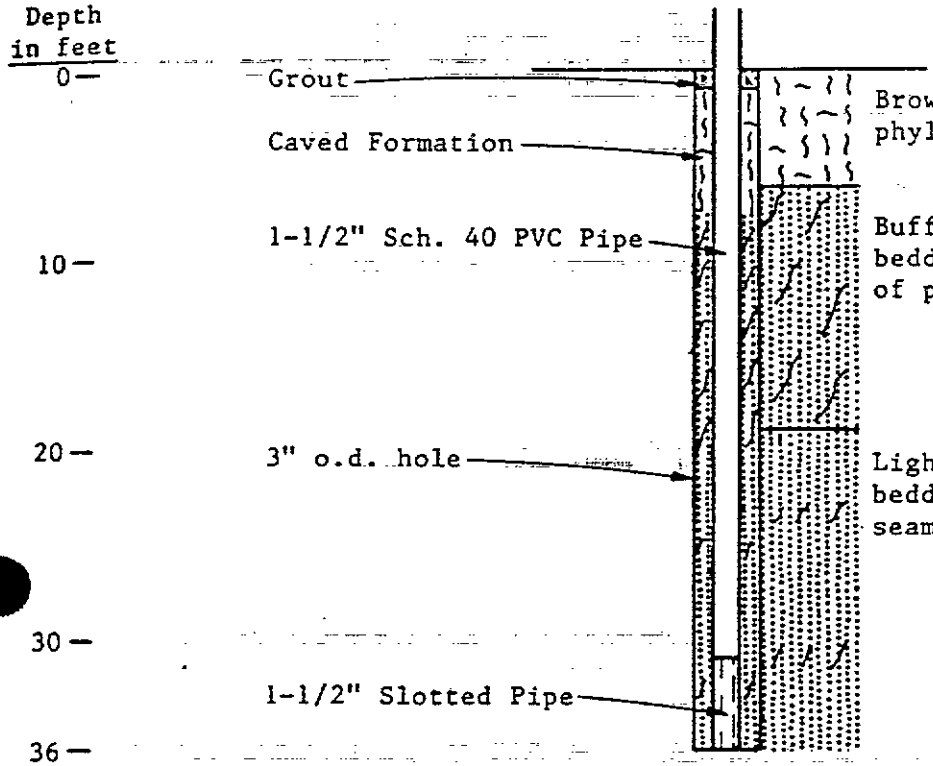
Vertical Scale 1" = 10'

Drilling Began: 6/4/85
Drilling Completed: 6/4/86
Total Depth: 36'
Elev., TOC: 547.35'
Elev., G.S.: 547.4'

Screened Interval: 31'-36'
Screen Elevation: 516.4'-511.4'
SWL Elevation (Date):
Drilling Method: Air track
Total Yield: 6 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-29



Description

Brown silty clay with sandstone and phyllite fragments.

Buff to brown, medium grained, thinly bedded weathered sandstone with traces of phyllite.

Light gray, fine to medium grained, thinly bedded sandstone, with some weathered seams.

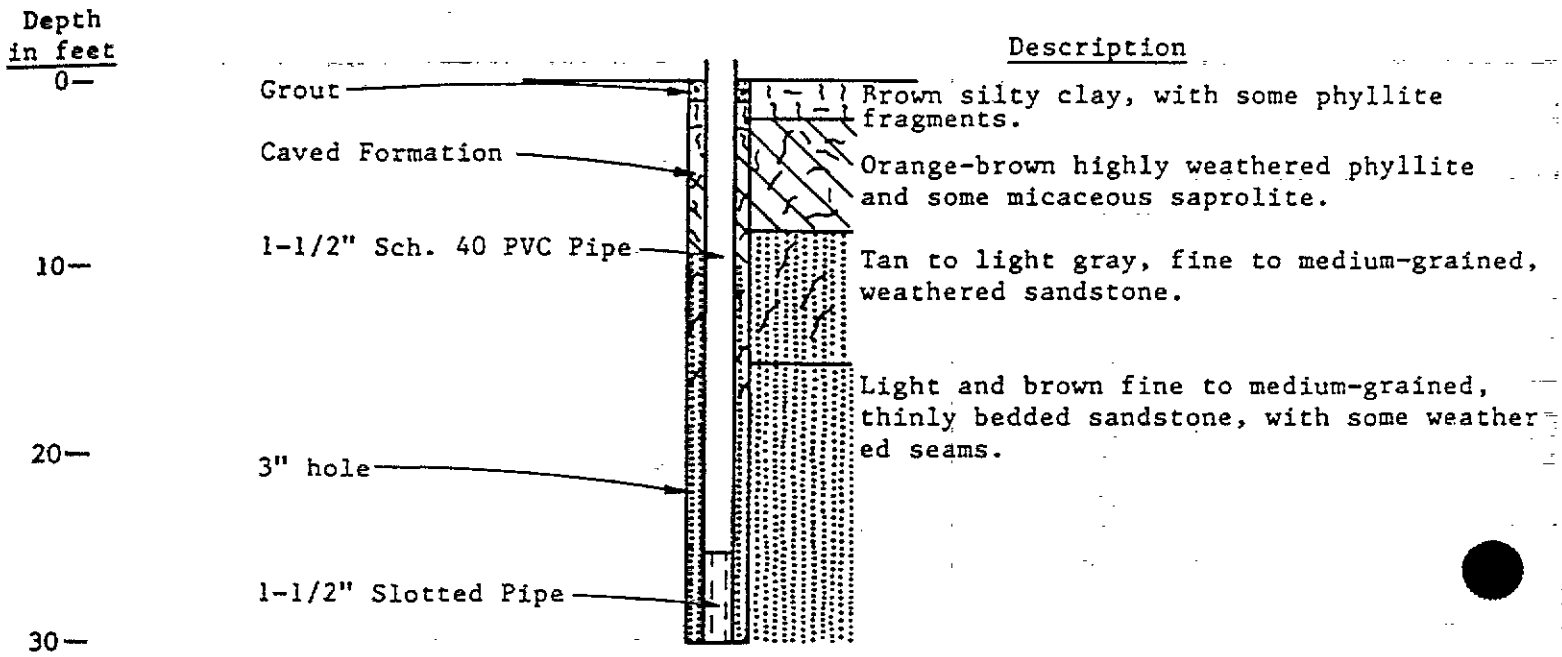
Vertical Scale 1" = 10'

Drilling Began: 6/6/85
Drilling Completed: 6/6/85
Total Depth: 36'
Elevation TOC: 545.22'
Elevation G.S.: 543.0'

Screened Interval: 31' - 36'
Screen Elevation: 512.0'-507.0'
SWL Elevation (Date): 539.62' (3/24/86)
WBZ: 3' - 11' (1/4 gpm)
Drilling Method: Air Track

Geologic and Well Construction Log

Modern Landfill
Well E-30



Vertical Scale 1" = 10'

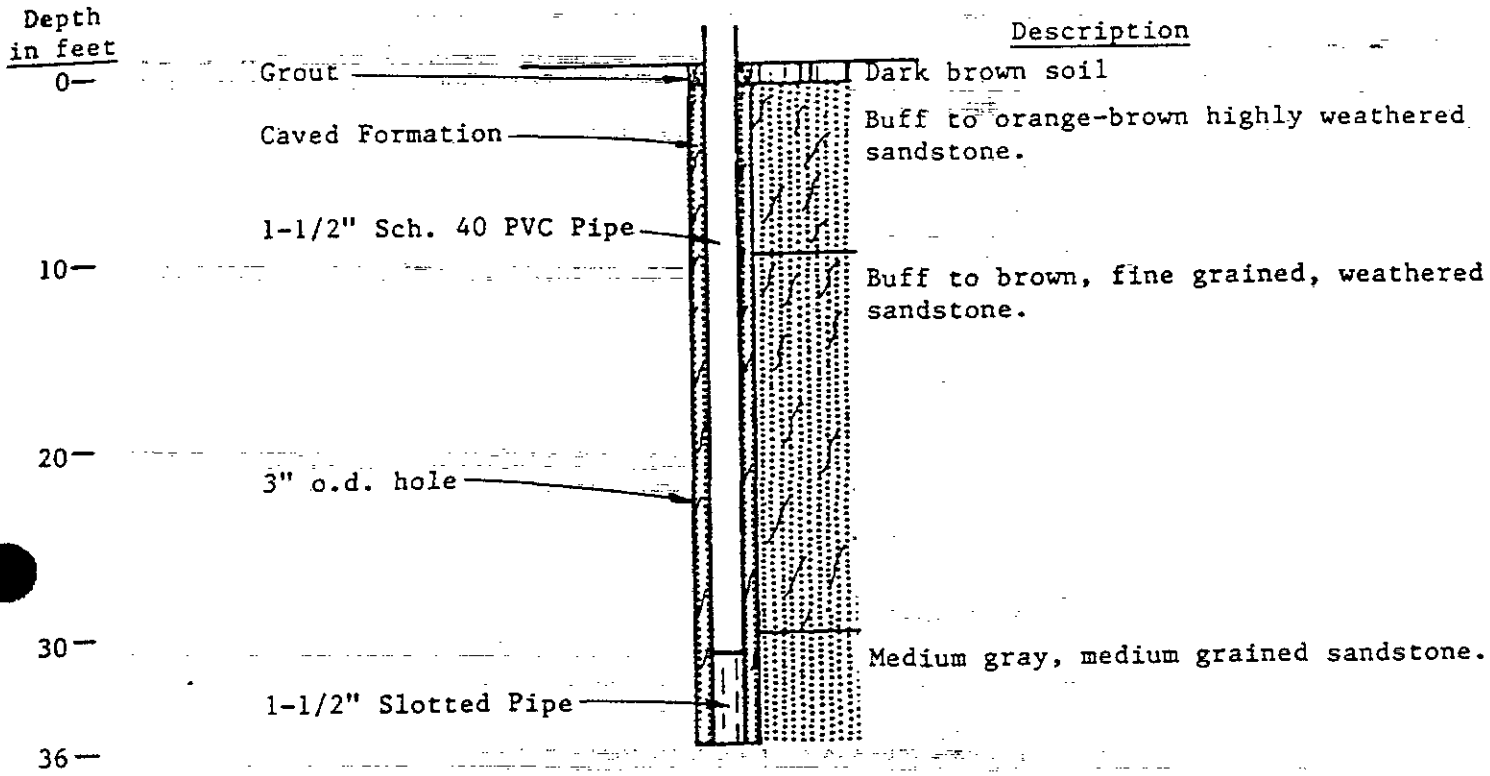
Drilling Began: 6/5/85
Drilling Completed: 6/5/85
Total Depth: 30'
Elevation TOC: 539.23'
Elevation G.S.: 538.3'

Screened Interval: 25' - 30'
Screen Elevation: 513.3'-508.3'
SWL Elevation (Date): 533.21' (3/24/86)
SBZ: 21' (1 gpm)
Drilling Method: Air Track

AR300722

Geologic and Well Construction Log

Modern Landfill
Well E-31



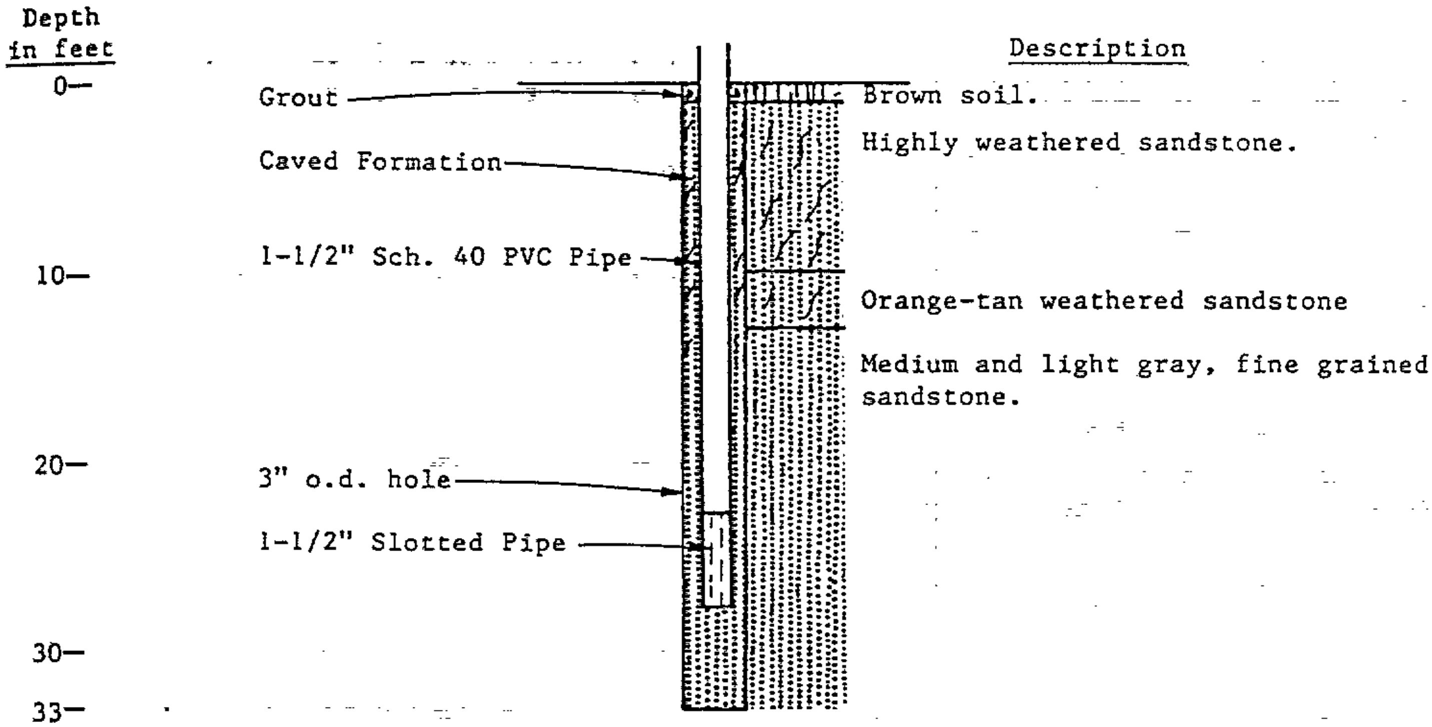
Vertical Scale 1" = 10'

Drilling Began: 6/5/85
Drilling Completed: 6/5/85
Total Depth: 36'
Elevation TOC: 533.30
Elevation G.S.: 531.4'
Drilling Method: Air Track

Screened Interval: 31' - 36'
Screen Elevation: 500.4'-495.4'
SWL Elevation (Date): 528.36' (3/24/86)
WBZ: 5' - 11' (1 gpm), 11' - 23' (4 gpm), 23' - 36' (5 gpm)
Total Yield: 10 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-32



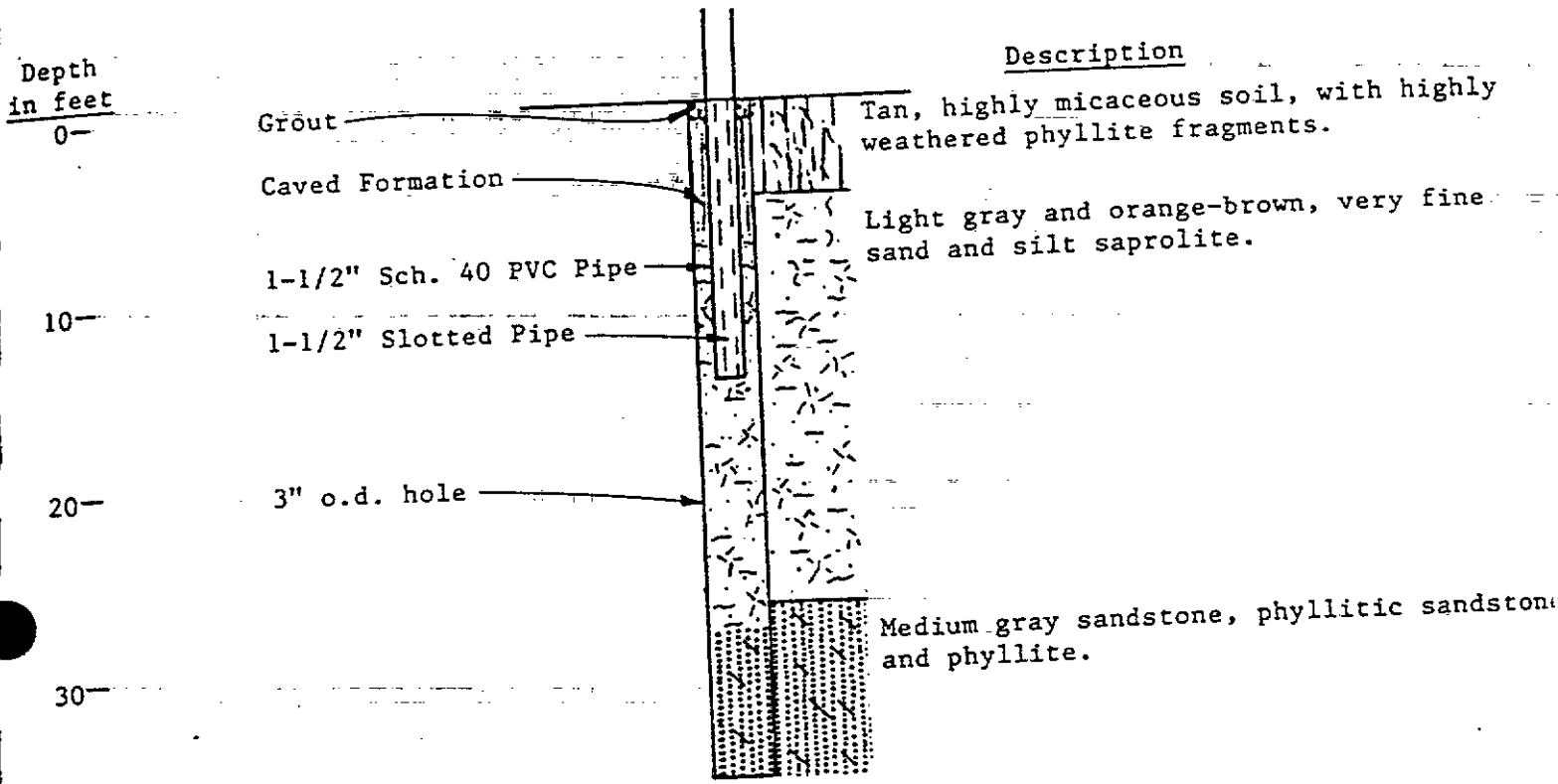
Vertical Scale 1" = 10'

Drilling Began: 6/5/85
Drilling Completed: 6/5/85
Total Depth: 33'
Elevation TOC: 529.14'
Elevation G.S.: 527.1'
Drilling Method: Air Track

Screened Interval: 22.5' - 27.5'
Screen Elevation: 504.6' - 499.6'
SWL Elevation (Date): 525.77' (3/24/86)
WBZ: 11' - 33' (5 gpm)

Geologic and Well Construction Log

Modern Landfill
Well E-33



Vertical Scale 1" = 10'

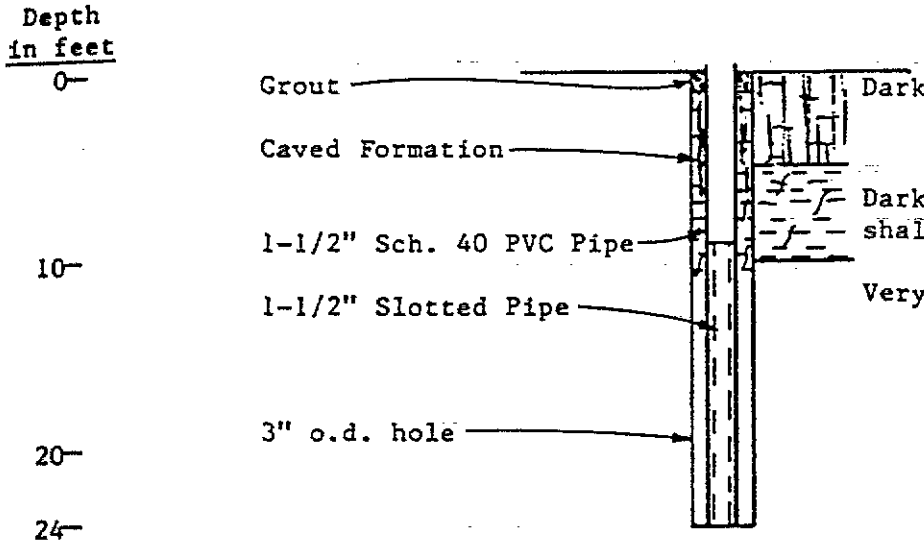
Drilling Began: 6/5/85
Drilling Completed: 6/5/85
Total Depth: 36'
Elevation TOC: 528.32'
Elevation G.S.: 523.6'

Screened Interval: 0' - 15'
Screen Elevation: 523.6'-508.6'
SWL Elevation (Date): 521.63' (3/24/86)
Drilling Method: Air Track

AR300725

Geologic and Well Construction Log

Modern Landfill
Well E-34



Vertical Scale 1" = 10'

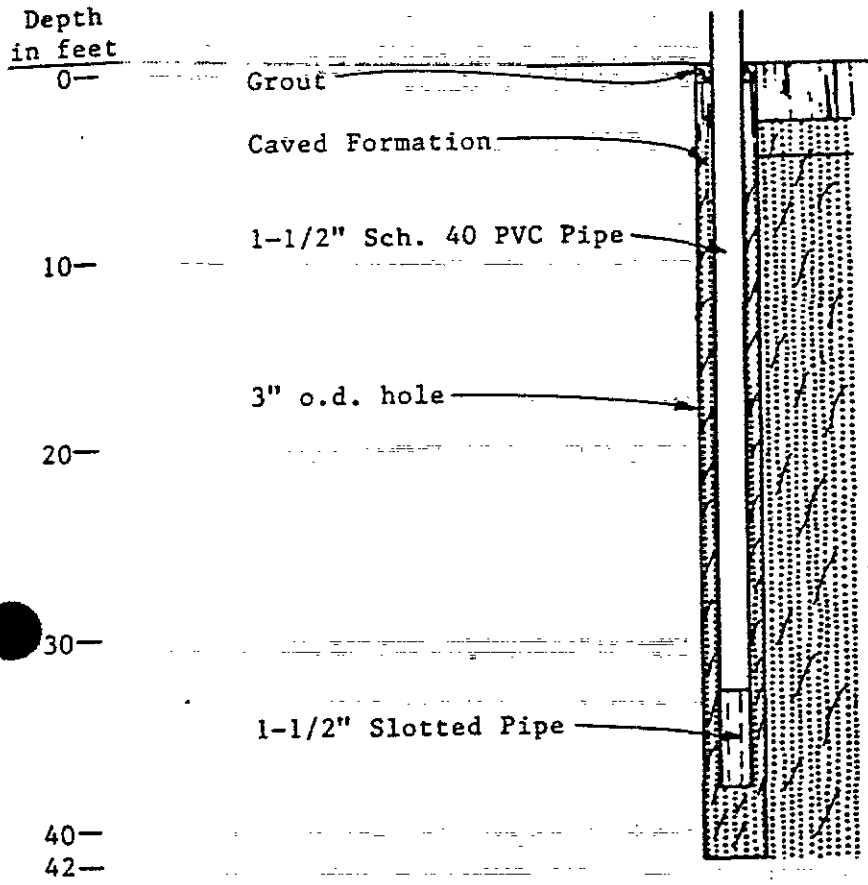
Drilling Began: 6/5/85
Drilling Completed: 6/5/85
Total Depth: 24'
Elevation G.S.: ~522.3''

Screened Interval: 9' - 24'
Screen Elevation: ~513.3'-498.3'
SWL Elevation (Date): 511.72' (8/22/85)
WBZ: 5' - 11' (1/2 gpm)
Drilling Method: Air Track

AR300726

Geologic and Well Construction Log

Modern Landfill
Well E-35



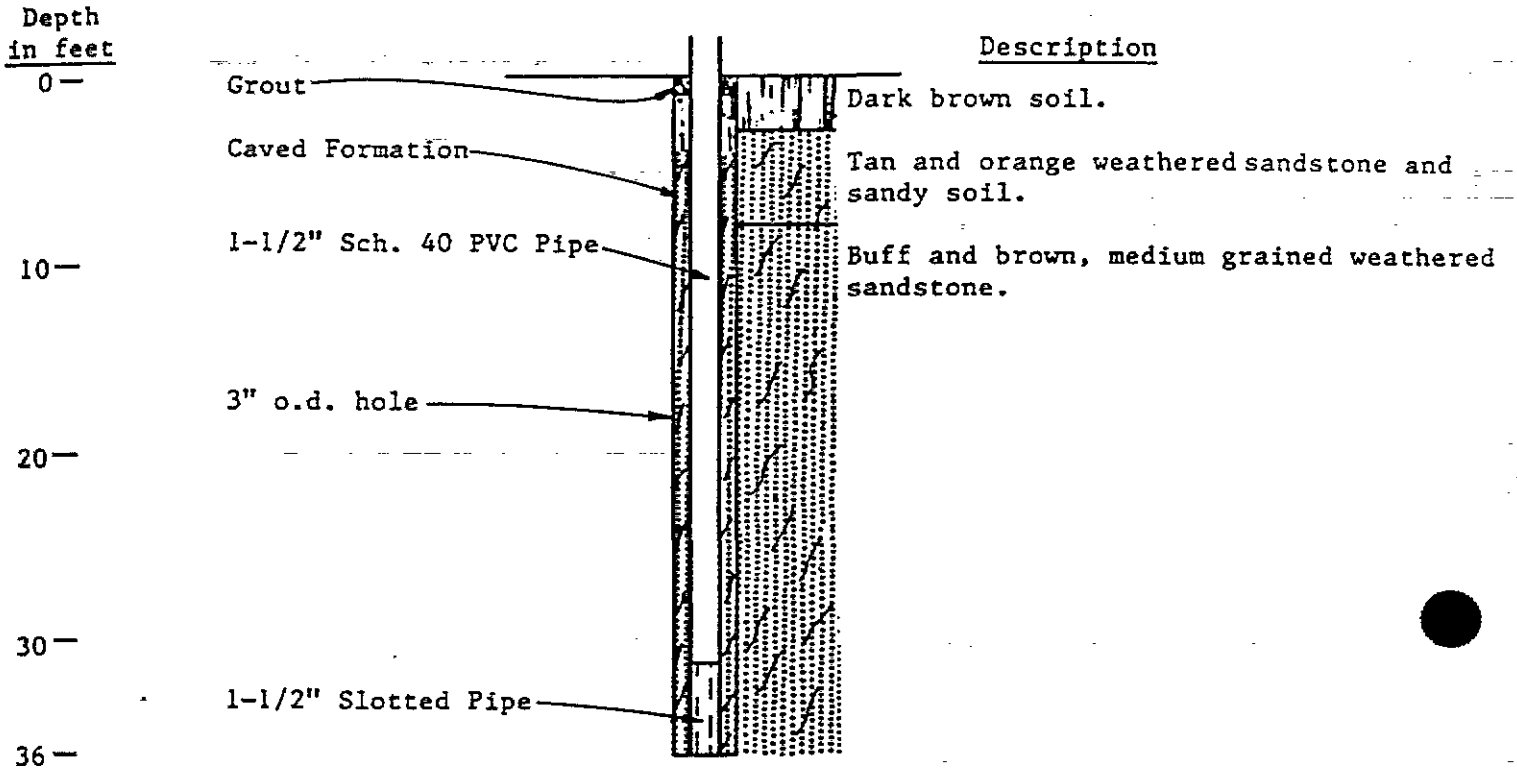
Vertical Scale 1" = 10'

Drilling Began: 6/5/85
Drilling Completed: 6/5/85
Total Depth: 42'
Elevation TOC: 523.95'
Drilling Method: Air Track
Elevation G.S.: 521.0'

Screened Interval: 33' - 38'
Screen Elevation: 488.0'-483.0'
SWL Elevation (Date): 518.60' (3/24/86)
WBZ: 11' - 24' (1/2 gpm), 24' - 36' (1-1/2 gpm)
36' - 42' (1 - 2 gpm)
Total Yield: 3 - 4 gpm

Geologic and Well Construction Log

Modern Landfill
Well E-36

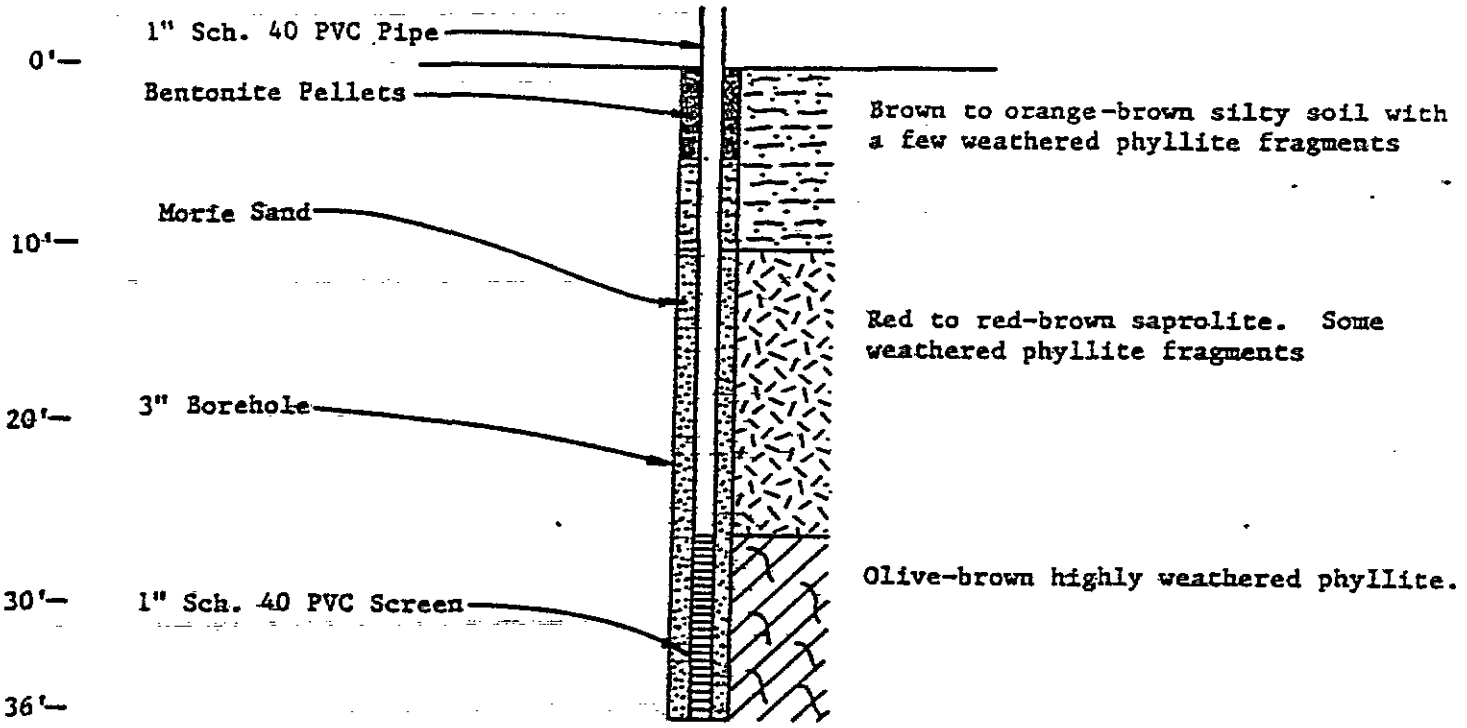


Vertical Scale 1" = 10'

Drilling Began: 6/5/85
Drilling Completed: 6/5/85
Total Depth: 36'
Elevation TOC: 521.23'
Elevation G.S.: 519.1'

Screened Interval: 31' - 36'
Screen Elevation: 488.1'-483.1'
SWL Elevation (Date): 514.19' (3/24/86)
WBZ: 11' - 23' (7 gpm)
Drilling Method: Air Track

Geologic and Well Construction Log
Modern Landfill
Well E-37

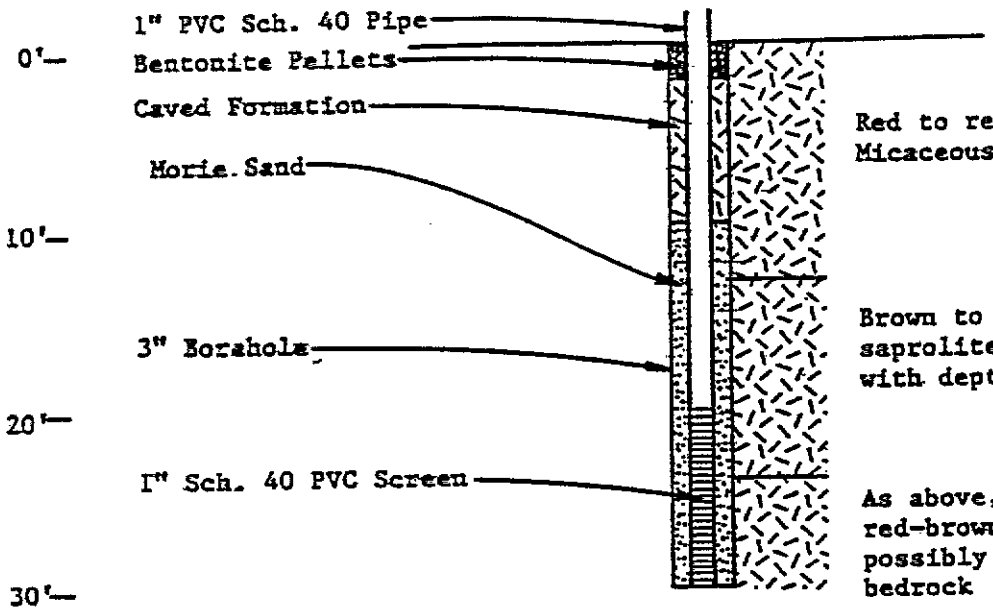


Vertical Scale 1" = 10'

Drilling Started: 7/30/85
Drilling Completed: 7/30/85
Total Depth: 36'
Elev., TOC: 545.00'
Elev., G.S.: 541.5'

Screened Interval: 26'-36'
Screen elevation: 515.5'-505.5'
SWL Elevation (Date): 525.32' (3/24/86)
Drilling Method: Air Track

Geologic and Well Construction Log
Modern Landfill
Well E-38

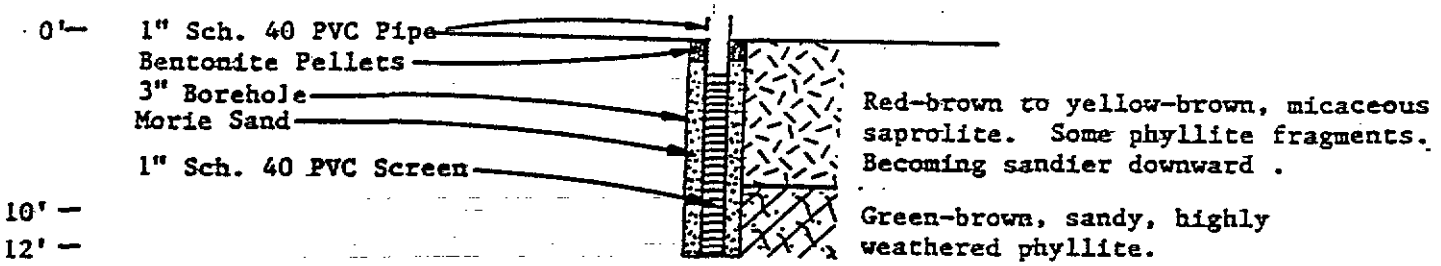


Vertical Scale 1" = 10'

Drilling Began: 7/30/85
Drilling Completed: 7/30/85
Total Depth: 30'
Elev., TOC: 533.90'
Elev., G.S.: 531.9'

Screened Interval: 20'-30'
Screen Elevation: 511.9'-501.9'
SWL Elevation (Date): 527.09' (3/24/86)
Drilling Method: Air Track

Geologic and Well Construction Log
Modern Landfill
Well E-39 (S)

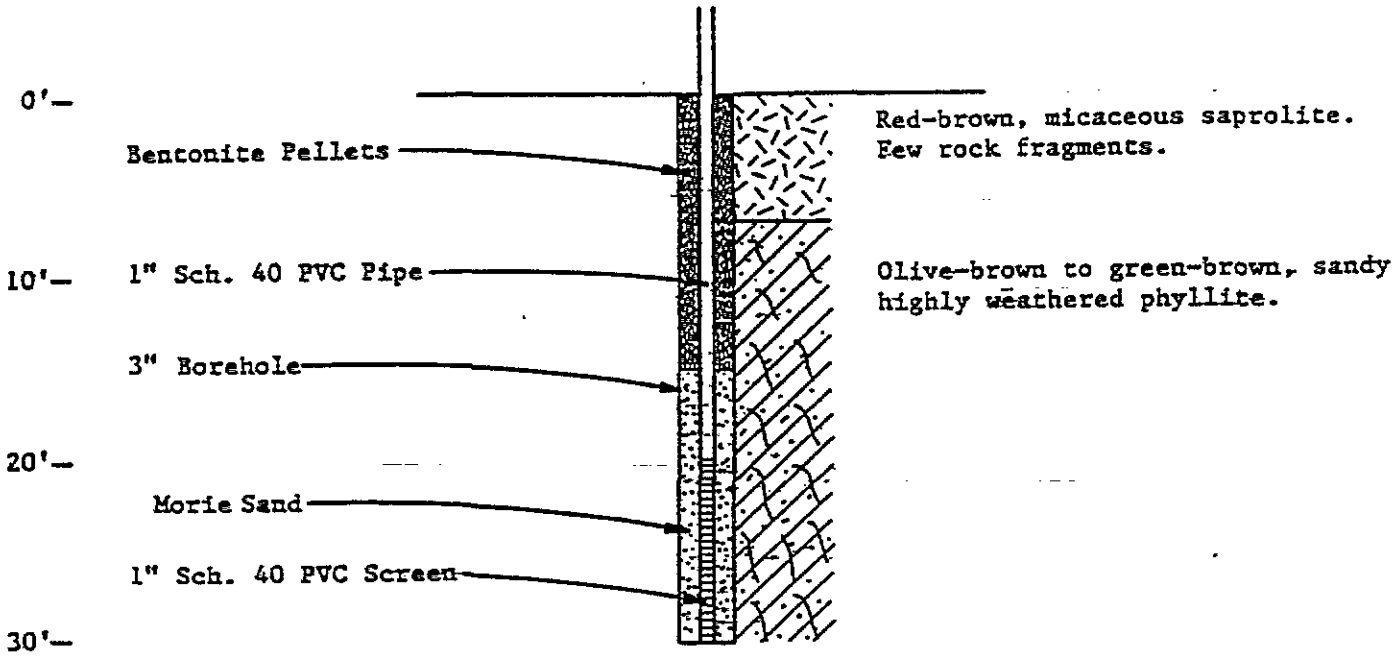


Vertical Scale 1" = 10'

Drilling Began: 7/30/85
Drilling Completed: 7/30/85
Total Depth: 12'
Elev., TOC: 532.35'
Elev., G.S.: 529.4''

Screened Interval: 2'-12'
Screen Elevation: 527.4'-517.4'
SWL Elevation (Date): 526.45' (3/24/86)
Drilling Method: Air Track

Geologic and Well Construction Log
Modern Landfill
Well E-39 (D)



Vertical Scale 1" = 10"

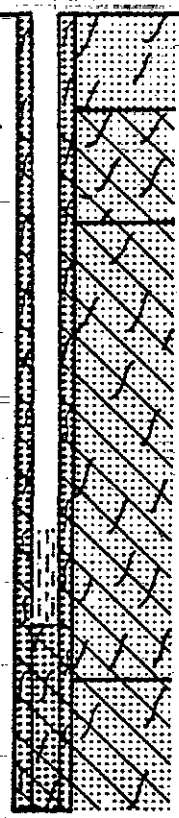
Drilling Began: 7/30/85
Drilling Completed: 7/30/85
Total Depth: 30'
Elev., TOC: 534.26'
Elev., G.S.: 529.3'

Screened Interval: 20'-30'
Screen Elevation: 509.3'-499.3'
SWL Elevation (Date): 525.80' (3/24/86)
Drilling Method: Air Track

Geologic and Well Construction Log

Modern Landfill
Well E-40

Depth in feet	Well Construction	Description
0	3" hole to 42'	Light brown, highly weathered, fine grained sandstone.
	1-1/2" PVC riser and slotted from 0-27' and 27-32', respectively	Light brown, highly weathered, fine grained phyllitic sandstone.
10	0-42' Caved Formation	Light gray to buff, highly weathered, phyllitic sandstone.
20		
30		Buff, weathered phyllitic sandstone and fine grained sandstone.
40		
42		



Vertical Scale 1" = 10'

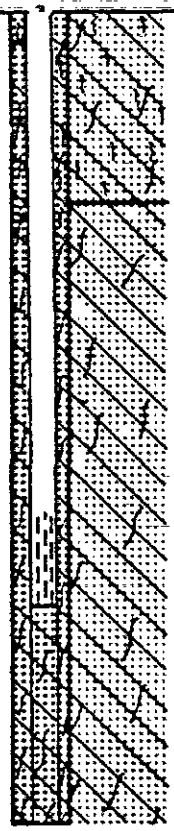
Drilling Completed: 2/24/86
Well Construction Completed: 3/24/86
Total Depth: 42'
Elevation, TOC: 524.84'
Elevation, G.S.: 524.5'
Screen Elevation: 487.5'-482.5'

Slotted Interval: 27' - 32'
Hole Diameter: 3"
Monitoring Tube: 1-1/2"
Yield: 5 gpm
SWL Elevation (Date): 517.07' (3/24/86)
Drilling Method: Air Track

Geologic and Well Construction Log

Modern Landfill
Well E-41

Depth in feet	Well Construction	Description
0	3" hole to 43' 1-1/2" PVC riser and slotted from 0-26.5' and 26.5-31.5' respectively 0-43' Caved Formation	Light brown to buff, highly weathered, fine grained phyllitic sandstone and clayey, sandy soil.
10		Light brown to buff, highly weathered, fine grained phyllitic sandstone. Highly micaceous in places.
20		
30		
40		
43		



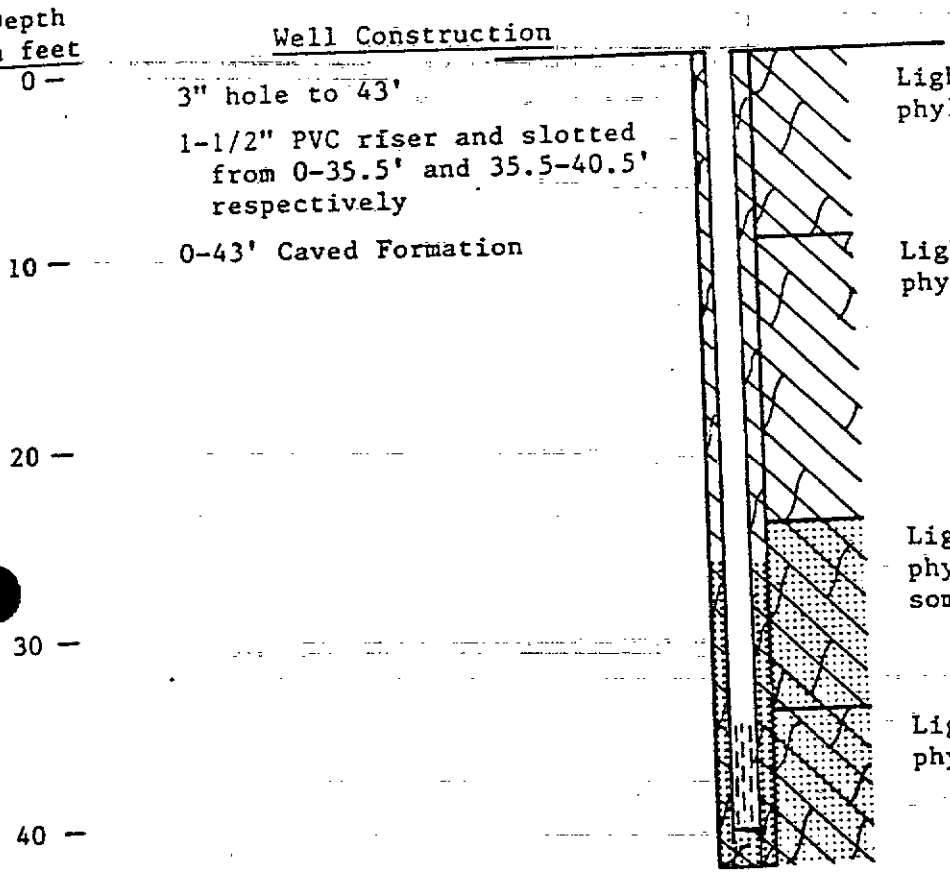
Vertical Scale 1" = 10'

Drilling Completed: 2/24/86
Well Construction Completed: 3/24/86
Total Depth: 43'
Elevation, TOC: 525.71'
Elevation, G.S.: 524.8'
Screen Elevation: 486.8'-481.8'

Slotted Interval: 26.5' - 31.5'
Hole Diameter: 3"
Monitoring Tube: 1-1/2"
Yield: 1 gpm
SWL Elevation (Date): 516.84' (3/24/86)
Drilling Method: Air Track

Geologic and Well Construction Log

Modern Landfill
Well E-42



Vertical Scale 1" = 10'

Drilling Completed: 2/24/86
Well Construction Completed: 3/24/86
Total Depth: 43'
WBZ: 35' (2-3 gpm)
Elevation, TOC: 526.39'
Elevation, G.S.: 525.3'
Screen Elevation: 487.3'-482.3'

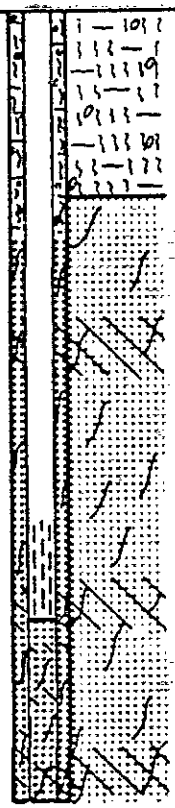
Slotted Interval: 35.5' - 40.5'
Hole Diameter: 3"
Monitoring Tube: 1-1/2"
Yield: 2-3 gpm
SWL Elevation (Date): 516.63' (3/24/86)
Drilling Method: Air Track

[illegible] associates, inc.

Geologic and Well Construction Log

Modern Landfill
Well E-43

Depth in feet	Well Construction	Description
0—	3" hole to 42' 1-1/2" PVC riser and slotted from 0-27' and 27-32' respectively.	Buff to light brown to orange silty clay. Few highly weathered rock fragments.
10—	0-42' Caved Formation	Buff to orange to light gray, highly weathered, fine grained sandstone and phyllitic sandstone.
20—		
30—		
40—		
42—		



Vertical Scale 1" = 10'

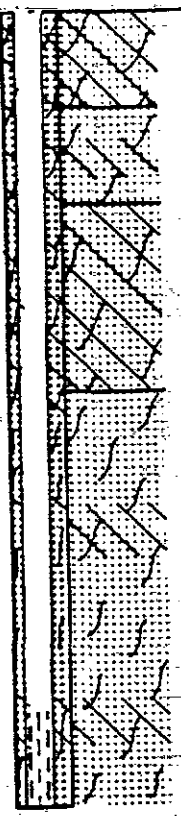
Drilling Completed: 2/24/86
Well Construction Completed: 3/24/86
Total Depth: 42'
Elevation, TOC: 524.86'
Elevation, G.S.: 524.0'
Screen Elevation: 487.0'-482.0'

Slotted Interval: 27' - 32'
Hole Diameter: 3"
Monitoring Tube: 1-1/2"
Yield: 2 gpm
SWL Elevation (Date): 516.14'
Drilling Method: Air Track

Geologic and Well Construction Log

Modern Landfill
Well E-44

Depth in feet	Well Construction	Description
0	3" hole to 42' 1-1/2" PVC riser and slotted from 0-37' and 37-42' respectively	Buff to light brown, highly weathered, fine grained phyllitic sandstone.
10	0-42' Caved Formation	Buff, weathered, fine grained sandstone and phyllitic sandstone. Light olive-brown, weathered, fine grained phyllitic sandstone.
20		Buff to olive to orange, weathered, fine grained sandstone and phyllitic sandstone
40		
42		



Vertical Scale 1" = 10'

Drilling Completed: 12/24/86
Well Construction Completed: 3/24/86
Total Depth: 42'
Elevation, TOC: 524.87'
Elevation, G.S.: 524.2'
Screen Elevation: 487.2'-482.2'

Slotted Interval: 37-42'
Hole Diameter: 3"
Monitoring Tube: 1-1/2"
Yield: 10 gpm
SWL Elevation (Date): 516.16' (3/24/86)
Drilling Method: Air Track

LAMBERT, Inc.
337 FAWCETT CHURCH ROAD • BRIDGEVILLE, PA 15017

James Crockell

DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

...ace Elevation ______
...ter Depth Dry 24 hrs. ______
...mmer Weight Sa. ______ lbs. Drop ______ in.
...mmer Weight Ca. ______ lbs. Drop ______ in.
...sing Size ______ in. Sam. Size ______ in.

Project No. ______
Hole No. T-1 Sheet 1 of 1
Station ______
For MODERN LANDFILL
Location YORK PA
Started 6-25 Completed 7-1

...ON	DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / RECY.	LOG OF HOLE
	1-1.5	7-9-6			S-1	0-3 Br silt Fill
						3-37 Refuse
	5-6.5	7-12-20			S-2	
						Clean Fill 0-1' 2-3'
	15-16.5	10-12-4			S-3	Bentonite pellet seal
						Gravel Fill 3-40'
						Top of screen 5'
	25-26.5	16-17-14			S-4	
						Bot of screen 37'
	35-36.5	10-12-19			S-5	37-40
	40	50/ 70			S-6	Br silty shale
						EOB 40'

* Note could not sample through all of the refuse because of the hollow stem augers, but I could tell by the cuttings...

AR300738

LAMBERT, Inc.
337 FAWCETT CHURCH ROAD • BRIDGEVILLE, PA 15017

James Crockett

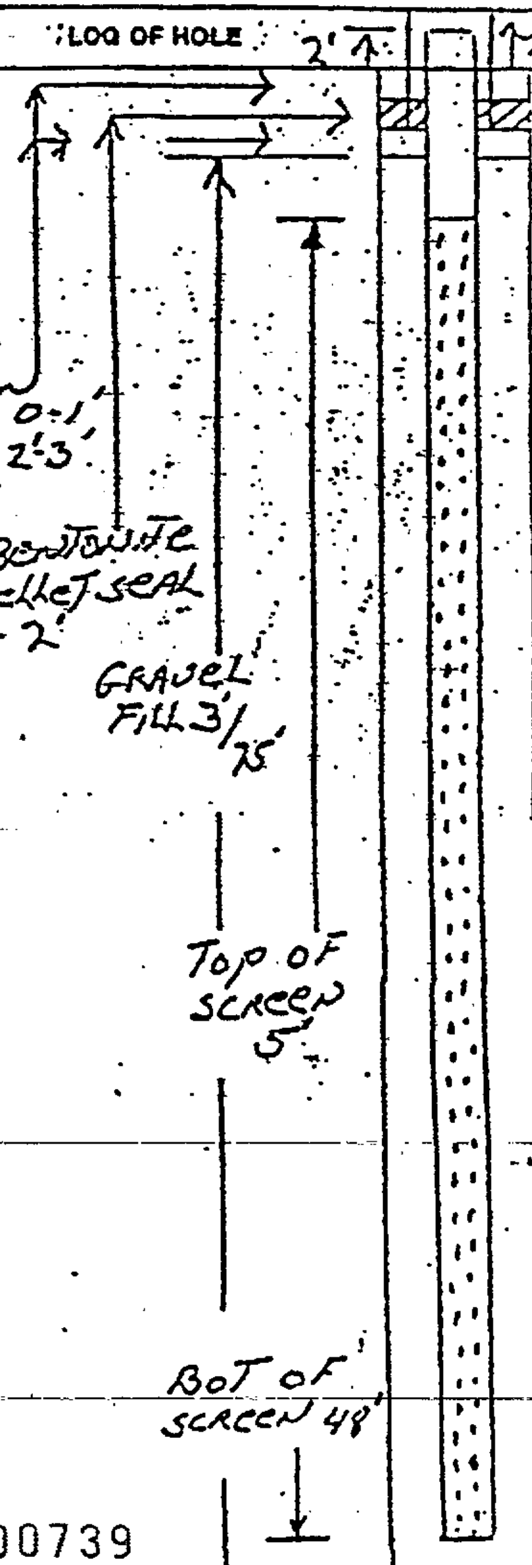
Elevation ______
[Wat]er Depth DRY 24 hrs. ______
[Ha]mmer Weight Sa. ____ lbs. Drop ____ in.
[Ha]mmer Weight Ca. ____ lbs. Drop ____ in.
[Cas]ing Size ____ in. Sam. Size ____ in.

DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

Project No. ______
Hole No. T-2 Sheet 1 of 2
Station ______
For MODERN LANDFILL
Location YORK PA
Started 6-29 Completed 6-29

[ELEVATI]ON	DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / RECY.	LOG OF HOLE
	0-1.5	6-7-6			S-1	0-3 Br SILT FILL
	5-6.5	7-8-10			S-2	3-72 Refuse
	15-16.5	6-10-5			S 3	
	25-26.5	10-12-9			S-4	
	35-36.5	6-7-6			S-5	
	45-46.5	18-22-16			S-6	



AR300739

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337 FAWCETT CHURCH ROAD • BRIDGEVILLE, PA 15017

Jones Crockett

face Elevation

r Depth DRY 24 hrs.

mer Weight Ss. lbs. Drop in.

mmer Weight Ca. lbs. Drop in.

ing Size in. Sam. Size in.

DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

Project No.

Hole No. T-2 Sheet 2 of 2

Station

For MODERN LANDFILL

Location YORK PA

Started 6-79 Completed 6-79

ION	DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / REC'Y.	LOG OF HOLE
						3-72 REFUSE
	55 563	12-14-11			S-7	
	563 65	20-18-22			S-8	
	72-76.5	18-25-25			S-9	72-76.5 RED SILTY SHALE
						EOB-76.5

AR300740

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DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

Project No. _____

Hole No. T-3 Sheet 1 of 2

Station _____

For MODERN LANDFILL

Location York Pa

Started 2-28 Completed 2-28

James Rockell

face Elevation _____

ter Depth DR. / 24 hrs. _____

mmer Weight Sa. / lbs. Drop _____ in.

mmer Weight Ca. _____ lbs. Drop _____ in.

sing Size _____ in. Sam. Size _____ in.

ION	DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / REC'Y.
	0-1.5	5-6-5			S-1
	5-6.5	12-15-14			S-2
	15-16.5	15-10-8			S-3
	25-26.5	5-12-9			S-4
	35-36.5	12-9-15			S-5
	45-46.5	15-10-8			S-6

LOG OF HOLE

0-11 Br SILT FILL

4-5'6 Refuse

CLEAN FILL 0-1', 2-3'

BENTONITE PELLET SEAL 1'-2'

GRAVEL FILL 3'-60'

4" PVC well casing

1½ PVC well set 48' deep + 2 stick-up = 50'

TOP OF SCREEN 5'

BOT OF SCREEN 48'

AR300741

LAMBERT, Inc.
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James Crockett

DRILLER'S TEST BORING RECORD
NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

Project No. ____
Hole No. T-3 Sheet 2 of 2
Station ____
For MODERN LANDFILL
Location YORK PA
Started 6-28 Completed 6-28

...e Elevation ____
...ter Depth DRY 24 hrs. ____
...mmer Weight Sa. / lbs. Drop ____ in.
...mmer Weight Ca. ____ lbs. Drop ____ in.
...ing Size ____ in. Sam. Size ____ in.

...TION	DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / RECY.	LOG OF HOLE
						?-58 REFUSE
	55-56.5	6-8-7			S-7	
						58-60.5 GRY SHALE
	60-60.5	60/5			S-8	
						EOB - 60.5'

AR300742

LAMBERT, Inc.

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DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

Project No.

Hole No. T-5 Sheet 1 of 1

Station

For MADISON LANDFILL

Location York PA

Started 6-26 Completed 6-28

James Corbett

ace Elevation

r Depth Dry 24 hrs.

mer Weight Sa. 1 lbs. Drop in.

mer Weight Ca. lbs. Drop in.

ng Size in. Sam. Size in.

DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / RECT.
0-1.5	3-4-3			S-1
5-6.5	11-15-15			S-2
10-11.5	25-31-39/5			S-3

LOG OF HOLE

0-9' REDISH-BROWN SILTY

T-11.5 BT TO GRY SHALE

EOB - 11.5

CLEAN FILL 0-1-2-3

BENTONITE 1-2' PELLET SEAL

GRAVEL FILL 3-10'

TOP OF SCREEN 5

BOT OF SCREEN 10

4" PVC well casing

1 1/2 PVC well set

10 Deep

+ 2 Stick up

12'

AR300743

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DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

JAMES CROCKETT

Project No.

Hole No. T-6 Sheet 1 of 2

Station

For MODERN LANDFILL

Location YORK PA

Started 6-27 Completed 6-27

Surface Elevation

Water Depth DRY 24 hrs.

Hammer Weight Sa. lbs. Drop in.

Hammer Weight Ca. lbs. Drop in.

Casing Size in. Sam. Size in.

ION	DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / REC'V.
	0-15	4-3-4			S-1
	5-6.5	7-8-8			S-2
	15-16.5	6-7-6			S-3
	25-26.5	22-28-32			S-4
	35-36.5	12-16-20			S-5

LOG OF HOLE

0-3 BR SILT FILL

3-33 REFUSE

CLAY FILL 0'-1' 2'-3'

BENTONITE PELLET SEAL 1'-2'

GRAVEL FILL 3'-33'

TOP OF SCREEN 3'

BOT OF SCREEN 33'

33-36.5 BR + RD SAND/SILT WATER

EOB - 365

4" PVC WELL CASING USED

1½ PVC WELL SET 33' DEEP +2 STICKUP

AR300744

35'

LAMBERT, Inc.

207 FAWCETT CHURCH ROAD • BRIDGEVILLE, PA 15017

DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

Project No.

Hole No. I-7 Sheet 1 of 1

Station

For MODERN LANDFILL

Location YORK PA

Started 6-26 Completed 6-27

or JAMES CRICKELL

ace Elevation

r Depth Dry 24 hrs.

mer Weight Ba. lbs. Drop in.

mer Weight Ca. lbs. Drop in.

ng Size in. Sam. Size in.

DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO: REC'Y.
2-3'	6-7-5			S-1
5-6.5	8-1-6			S-2
5-16	25-28-35			S-3
2-26	8-15-8			S-4
2-36	8-6-7			S-5
4/5 1/2	21-11-12			S-6
	5-4			S-7

LOG OF HOLE

0-3 BLT FILL

3-4/5 REFUSE

CLEAN FILL 0-1' 2-3'

BENTONITE PELLET SEAL 1'-2'

GRAVEL FILL 5'-50'

4" PVC well CASING

1½ AX well set

48' DEEP

+2 STICK UP

50'

TOP OF SCREEN 5'

AR300745

AR300745 TOP OF SCREEN 4/5'

4/5-50 BOTTOM

LAMBERT, Inc.

337 FAWCETT CHURCH ROAD • BRIDGEVILLE, PA 15017

Eric(?) Crockell

Elevation

Depth Dry : 24 hrs.

Hammer Weight Sa. lbs. Drop in.

Hammer Weight Ca. lbs. Drop in.

Casing Size in. Sam. Size in.

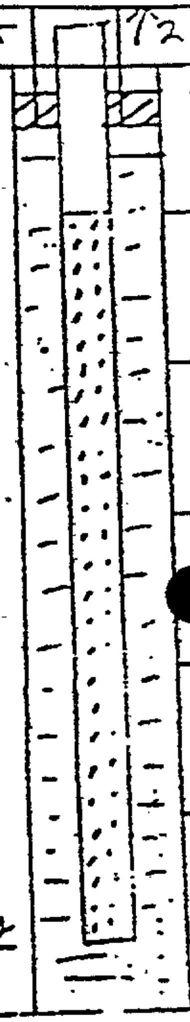
DRILLER'S TEST BORING RECORD
NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

Project No. —
Hole No. T-2 Sheet 1 of 1
Station
For proposed Landfill
Location York PA
Started 6-25 Completed 6-25

DEPTH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / RECT.	LOG OF HOLE
0-1.5	1-14-14			S-1	0-3 Br sandy silt; Bentonite pellet 1-2' seal
					3-29 Refuse; Clean fill 0-1, 2-3; Top of screen 5
5-6.5	9-11-13			S-2	
					Gravel fill 3-30
20-21.5	2-14-20			S-3	
					Bot of screen 29'±
30-31.5	8-7-7			S-4	29-31.5 Br fired silty weathered shale
					EOB -31.5

2' T

T2



4" PVC well casing 2.4
+ 2.0
4.4

1½ PVC well used

29 deep
+2 stick up
31' used

AR300746

LAMBERT, Inc.

...TT CHURCH ROAD • BRIDGEVILLE, PA 15017

Crockell

13.E.1	24 hrs.	
t Sa. 1 lbs.	Drop	in.
t Ca. lbs	Drop	in.
in.	Sam. Size	in.

DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION, OR ENGINEER'S REPORT.

Project No. ____

Hole No. T-11 Sheet 1 of 1

Station ____

For Modern Landfill

Location York PA

Started 6-25 Completed 6-25

TH	HAMMER BLOWS SAMPLE	HAMMER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / RECY.	LOG OF HOLE
.5	3-5-5			S-1	0-3 Br silt & clay Fill
					3-12 Refuse
4.5	9-12-12			S-2	
-14	21-30-46			S-3	12-14 Br & red sand natural
					EOB -14'

4" PVC well casing

1½ PVC well set 12' deep + 2' stick up = 14'

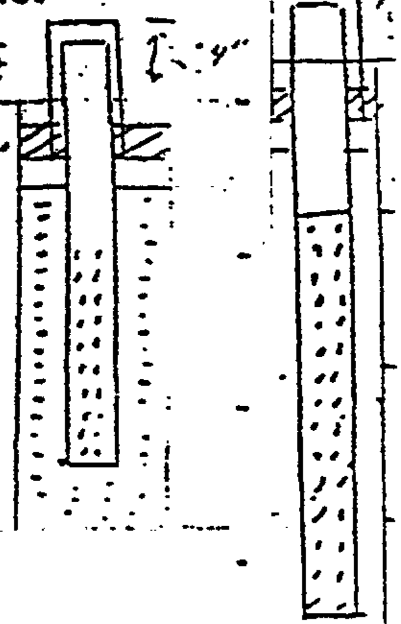
Clean Fill 0-1', 2-3'

Bentonite pellet seal 1-2'

Top of screen 5'

Gravel fill 3'-14'

Bot of screen 12



AR300747

LAMBERT, Inc.

337 FAWCETT CHURCH ROAD • BRIDGEVILLE, PA 15017

James Crockett

Elevation

er Depth DRY 24 hrs.

mer Weight Ba. 140 lbs. Drop in.

mer Weight Ca. lbs. Drop in.

ng Size in. Sam. Size in.

DRILLER'S TEST BORING RECORD

NOT TO BE USED AS OR IN PLACE OF A GEOLOGIST'S DESCRIPTION OR ENGINEER'S REPORT.

Project No.

Hole No. T-19 Sheet 1 of 1

Station

For MODERN LANDFILL

Location YORK PA

Started 7-1 Completed 7-1

DEPTH	NUMBER BLOWS SAMPLE	NUMBER BLOWS CASING	DEPTH DRILLED	SAMPLE NO. / REC'Y.
0-1.5	6-3-4			S-1
5-6.5	12-20-20			S-2
15-16.5	6-12-18			S-3
25-26.5	12-15-15			S-4

LOG OF HOLE

0-3 BUILT FILL

3-22 RCRA

BENTONITE PELLET SEAL 1'-2'

GRAVEL FILL 3/25

CLEAN FILL 0-1', 2-3'

TOP OF SCREEN 5'

BOT OF SCREEN 22'

22-26.5' RED/GRAY SILTY SHALE

EOB 26.5

4" PVC WELL CASING

1½ PVC WELL SET 22' DEEP +2 STICKUP

24'

AR300748

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

OJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill = Gas Management		
ORING NUMBER: W 1	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/17/86	
DRILLING METHODS: E/Z Bore rig w/ 36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M Neubeck		GWL: none AT HRS.	

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-3	brown-orange micaceous clay with silt.	dry			
5	3-6	trash: paper, plastic, some cloth (dry), some blackish material. office paper & memos from late 1979 to 81.	damp	low	cool to warm	
10	6-25	newspaper at 10' from 7/1982 paper, moist plywood (not weathered), plastic, card board, old rugs (soggy, but not wet) trace rubber, & scrap metal predominately paper, card board	damp	low	75-80	at 8'
					80° at 16'	
20						
25	25-28	newspaper 5/1982, paper cloth (dry), wood boards (moist, warm), some dense, clayey material, sheets of plastic, wire, scrap metal	damp to moist	low	warm	
30					80° at 27'	
	29	plastic, wood and orange-brown clayey material (liner). Stopped drilling	dry			
		Total depth 29'				

TES:

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill: Gas Management		
BORING NUMBER: W 2	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/17/86	
DRILLING METHODS: E/Z Bore rig w/ 36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT HRS.	

DEPTH (ft)	INTERVAL (ft.)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-3.5	brown-orange micaceous top soil and clay, some silt	dry			
	4-20	Wet black and grey decomposed trash, some plastic, paper, and wire, most unrecognizable (not dripping water.) very strong odor	WET	HIGH	65°	at 10'
					60°	at 17'
	20-25	blackened moist trash and "dirt", rubber hose, paper, wet cardboard, plastic, some clumps of dense clayey material. strong odor.	moist	HIGH	cool	
	25-38	blackened wet to moist decomposed trash and shredded paper, plastic, trace metal scrap and glass, damp cloth.	moist	HIGH	cool	
					~62°	at 26'
	38-42	black decomposed trash, some grey-brown silt/sand. last bucket has saturated black decomp-trash, strong odor. with clay (tan & orange), micaceous (liner). Total depth 42'	wet to moist	HIGH	cool	

NOTES:

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W 3	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/18/86	
DRILLING METHODS: E/Z Bore Rig w/ 36" bucket		PAGE: 1 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT HRS.	

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-4	brown-orange micaceous clay cap, some silt & gravel	dry			
	5-15	trash: paper, plastic, trace metal, soggy cardboard, wire, wicker furniture scraps. Some brown dirt and clayey material mixed in w/refuse.	damp to moist	low	60-70 @ 5-7' 70° at 10'	
	15-20 thru 24	dark brown to black color, plastic, paper, trace scrap metal, some dry cloth, insulation (warm) - blackish in places.	damp to moist	med.	98° at 20'	
	24-27	paper, cardboard (damp), plastic, IRS and insurance form dated 1981	damp	low	110° at 26'	
	28	newspaper dated 12/83			120°	at 28'
	28-30	metal plate, paper, leaves, plastic, rug, burlap, wood, bottle caps, invoice from 9/1981.	dry to damp	low	warm	
	30-35	lots of damp cardboard, office paper, some black decomp. organic material.	moist	med to high	110°	at 32'

NOTES: Stopped drilling on 07/17 at 30'. Left bucket in hole overnite. Con't drilling on 07/18/86.

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
RING NUMBER: W 3	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/18/86	
DRILLING METHODS: E/Z Bore Rig w/36" bucket		PAGE: 2 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT HRS.	

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	35-43	black "dirt" in trash, paper, plastic, blackened wood, cloth, trace metal, paper is soggy, compacted. Strong odor.	moist	med-high	120°	at 37'
					100°	at 41'
	43-60	Much roofing tar & shingles, sticky, warm, black. Some dry cloth, plastic, (possibly from bore walls), tar is sticky; compressed shingles hard to drill thru. Some wood boards & soggy paper.	moist	med-high	range 90°-110° some cool areas of 70°.	
	60-65	black trash & roofing material, tar. Blackened wood, some paper, cardboard, plastic. Last bucket is wet (not dripping) grey-black decomposed refuse mixed w/ clayey material (possibly liner?)	moist to wet	med to high	80-110° (depending on how compressed)	
		Total depth 65'				

NOTES:

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W4	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/18/86	
DRILLING METHODS: E/Z Bore rig w/36" bucket		PAGE: 1 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-4.5	brown-orange micaceous silty clay and topsoil	dry			
	5-6	refuse: 1983 newspaper, some plastic, cardboard	damp	low	75°	
	7-20	loose trash, paper, plastic, cardboard, trace clay clumps, furniture pads, un-decomposed wood	damp	low	81°	
	@ 21	Dec 1978 invoice (probably) cold May 1983 newspaper Some paper is dry	damp	low	warm	
	22-24	metal grill, blackend wood boards, roofing tar & shingles.	damp		cool-warm	
	25-33	clayey material compacted in refuse of paper, plastic, cardboard, trace metal	damp to moist	low to med	70°	at 25'
					80°	at 30'
	33-37	decomposed refuse and plastic, paper, cardboard, trace scrap metal and trace glass. Some cloth (dry) - Rest is moist, warm	moist	med.	80° at	37'
	40' 7/17	Stopped drilling for day. Left bucket in hole.				

NOTES:

AR300753

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W4	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/18/86	
DRILLING METHODS: E/Z Bore rig w/36" bucket		PAGE: 2 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT HRS.	

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
		7/18/86 start drilling at 40'				
	41-44	lite grey cement; ground up powder and some large hard blocks ripped up by bucket.	dry	low	120°	bucket is hot; temp. may be due to friction from grinding
	44	cement; powder & chunks, a few blocks of low grade metamorphic shist	dry	low	110° at 44'	
	Stopped	drilling @ 44' - could not get thru cement - too hard	dry			
		Total depth 44'				

NOTES:

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W 5	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/17/86	
DRILLING METHODS: E/Z Bore rig w/ 36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-4.5	brown-orange clay and topsoil, some silt and few large gravel pieces.	dry			
	4.5-9	refuse: black decomposed trash with wood boards, some paper and damp cardboard. Jan 1980 newspaper.	damp	low to med	cool ~60°	at 8'
	10-11	creosote wood (railroad ties) strong odor				
	12-25	paper, cardboard (moist), plastic bags & containers, trace metal scrap; cans, furniture padding, hair. Med. brown dirt material mixed in. Organic material decomposed, strong odor. Other refuse is damp, not decomposed	damp to moist	low to med	60° at 15'	
	25-28	Jan 1980 newspaper paper cartons, cardboard, insulation material. Predominately plastic.	damp	low	70° at	25'
	29	plastic, cardboard, paper, strong odor	damp	low	cool 60° at	29'
	29.5	clayey material in trash. stopped drilling				
		Total depth 29.5'				

NOTES:

HART

GAS

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W 6	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/17/86	
DRILLING METHODS: E/Z Bore rig w/ 36" bucket		PAGE: 1 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-1	.0-.5 clayey soil, orange-brown, micaceous .5-1 same clay with few pieces of paper trash mixed	dry			
	2-7	blackened refuse; paper, plastic, metal scrap, foam pads. strong odor	moist	med.		
	8-11	blackened decomposed refuse, trace recognizable paper, plastic.	moist	high	70° at 8'	
	12-13	zone of black, warm, "steamy" refuse. Loose.	moist	high	75° at 13'	
	13-14	mostly plastic in sheets and large rolls, some paper	damp	low		
	15-17	@ 15' black lense of roofing shingles and tar. Rest is clayey, dense material mixed in w/ refuse of paper, plastic	damp	low to med	76° at 17'	difficult to get good temperature reading; refuse is loose; un-consolidated
	17-28	plastic, cardboard (moist), metal shavings, trace cloth. @ 20' March 1979 newspaper @ 25' May 1980 newspaper	damp to moist	low	warm ~75° @ 20-22'	

NOTES:

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W 6	ELEVATION:	DATE STARTED: 07/17/86	
COORDINATES:		DATE COMPLETED: 07/17/86	
DRILLING METHODS: E/Z Bore Hg w/ 36" bucket		PAGE: 2 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	29-31	dark brown soil and refuse predominately plastic (tarp, roll of plastic, bags). Also paper, cardboard (moist), some metal scraps	damp	low to med.	78° at 29'	
	32.5	Zone of black, decomposed refuse, "steamy"; odor.	moist	high	98° @ 32.5'	
	33-35	blackened, decomposed refuse and large, partly decayed wood logs.	moist	med. to high	120-140° range	
	36	getting orange-brown clayey material, probably liner. Stopped drilling	dry			
		Total depth 36'				

NOTES:

AR300757

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W7	ELEVATION:	DATE STARTED: 07/16/86	
COORDINATES:		DATE COMPLETED: 07/17/86	
DRILLING METHODS: E/Z Bore rig w/36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-2.5	6" brown topsoil, then 6" tan clay, bottom 1.5 feet is tan and orange gravelly clay, micaceous	dry			
	2.5 - 20	refuse; loose, undecomposed; paper, plastic, trace glass, metal (can, scrap metal), cardboard boxes (damp). Rubber hoses at 10-12' magazine July 1980 @ ~15'	dry to damp	low	cool 60° at 12'	
	20-39	paper, plastic, cardboard, wood boards (blackened on outside), tree roots, some cloth (dry), roofing tiles.	damp to moist	low	cool 58-60° 20-25'	
	7/17/86	- Stopped @ 39' on 7/16/86. Left bucket in hole overnite.				
	39-40	yellow housing insulation (un-decomposed)	dry	low	cool	
	41	red-orange clay, pieces of highly weathered shist (breakable by hand) Stopped @ 41'	dry			
		Total depth 41				

TES:

AR300758

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W 8	ELEVATION:	DATE STARTED: 07/16/86	
COORDINATES:		DATE COMPLETED: 07/16/86	
DRILLING METHODS: E/Z Bore rig w/ 36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-3	brown-orange clay and low grade mica schist (weathered) gravel. Some hard clay cobbles	dry			
	3-6	refuse: paper, plastic, minor glass (unbroken), metal scraps, few unweathered wood boards, appreciable clay mixed in trash. Newspaper dated Feb. 1979	damp to moist	low	cool ~60°	
	6-15	refuse mixed with dense, moist clayey material. paper, diapers, scrap metal, plastic bags and containers, some glass bottles (unbroken).	moist	low	54° at	10'
	15	@15' getting black "dirt", decomposed organic material, in loose refuse.	damp	med. to high	58° at	15°
	15-23	below 15' - not getting clayey material in refuse anymore.				
		Predominately paper, with cardboard, plastic, cloth rags @ 20' newspaper dates Sept. and Oct. 1973	damp	low	cool	
	23-25	dry layer of cloth and rags, some shredded.	dry	low	60° at	25'
	26-30	wood boards, grass (moist, cool), few paper, plastic	moist	low	cool	
	30.5	clayey material (liner), stopped drilling				

Total depth 30.5'

HART

GAS

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W9	ELEVATION:	DATE STARTED: 07/15/86	
COORDINATES:		DATE COMPLETED: 07/15/86	
DRILLING METHODS: E/T Bore Rig w/36" bucket		PAGE: 1 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT HRS.	

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-5	topsoil and clay; micaceous lite orange-tan and some red and greenish clay. Some pieces of hard mica & gravel	dry			
	5-8	refuse: plastic (bags, containers), paper, cloth, glass, few metal cans, scrap metal (wire, rebar, grill, hangers), cardboard. Organic material is decomposed, paper is not. Some lite-brown sand mixed in refuse	damp	low to med.	60° at 7.5'	
	9-13	@ 9' Feb 1976 newspaper cardboard, paper, plastic, rope, fiberglass insulation, burlap, @ 10' telephone books, tree branch, paper and cardboard	damp	low	cool 60° at 10'	
		wood (black on surface), shredded paper & cloth.	damp	low	60° at 13'	
	13-13.5	roofing tiles & tar (black). paper from March 1976				
	14-23	paper, cardboard, cloth, rolls of carbon paper	damp	low	60° at 23'	
		@ 23' Sept. 1974 newspaper				

NOTES:

HART

GAS

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management	
BORING NUMBER: W 9	ELEVATION:	DATE STARTED: 07/15/86
COORDINATES:		DATE COMPLETED: 07/15/86
DRILLING METHODS: E/Z Bore Rig w/36" bucket		PAGE: 2 OF 2
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	24-28	grass cuttings (green, moist, cool), plastic, minor glass, scrap metal. Cloth, rags (dry), color print on paper intact, dry., some dark brown dirt included (moist).	dry to moist	low	cool ~60°	
	29	started picking up red-brown micaceous clayey material w/ mica gravel stopped drilling.	dry			
		Total depth 29'				

NOTES:

GAS

HART

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W10	ELEVATION:	DATE STARTED: 07/15/86	
COORDINATES:		DATE COMPLETED: 07/15/86	
DRILLING METHODS: E/Z Bore rig w/36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-3	topsoil and red & brown dry micaceous clay - Few hard pieces of clay and cobble size shist rock.	dry			
	3-6	clay fill and refuse = newspaper, shredded cloth and paper, plastic, wood boards, trace unbroken glass, some moist, compacted paper; some dirt mixed in refuse	damp to moist	low	58°@	6'
	6-9	cloth, paper, plastic, trace scrap metal. Organic material is decomposed, not paper or plastic. Paper is damp to soggy. @ 7.5' newspaper dated Oct. 1976. @ 9' is newspaper dated March 1976	damp to moist	low	56°@	9'
	9-19	plastic, paper, wood boards & pieces of furniture, rags, cans (beverage & aersol). paper and cardboard is damp to moist, not decayed.	damp to moist	low	58°	at 16'
	19	roofing tar & shingles (black)				
	20-23	paper, cardboard, plastic, trace metal. Newspaper Oct. 1974 (damp, not decayed)	damp to moist	low	60°	at 19.5'

NOTES:

23.5 getting orange and green-brown micaceous clay (liner) with some shist gravel

Total depth 23.5'

HART

GAS

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W 11	ELEVATION:	DATE STARTED: 07/14/86	
COORDINATES:		DATE COMPLETED: 07/14/86	
DRILLING METHODS: E/Z Bore rig w/ 36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-3	clay - orange brown, micaceous material				
	3-48	refuse = predominately paper, plastic (bags and containers), card board. Little glass & scrap metal. Organic material has decomposed. Paper & card board moist, not decayed.	damp to moist	low to med	cool to touch	
		Total depth 48 feet.				
		Note: W 11 Drilled and completed by Kellet drillers. Material encountered reported to be similar to W12 and W10, in composition and temperature, moisture.				

NOTES:

HART

GAS

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W 12	ELEVATION:	DATE STARTED: 07/15/86	
COORDINATES:		DATE COMPLETED: 07/15/86	
DRILLING METHODS: E/Z Bore Rig w/36" bucket		PAGE: 1 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-3	few inches of top soil, then brown-orange clay; micaceous, some silt and few gravel up to 4".				
	3-8	refuse : paper, cloth, plastic, trace scrap metal, some brown sand mixed in.	damp to moist	low	60° @ 3'	
		Cardboard (damp), rags, sneakers. Grass clippings at 4'. Newspapers (2) dated May 1976.			58° @ 4'	(grass)
	8-12	refuse feels slightly cooler, moist, darker brown color of some sand mixed in. Paper, plastic, trace metal and glass.	moist	low	58° @ 8'	
		@ 9-10' grass clippings (green to blackened), cool, moist		low to med	58° @ 10'	
	12-17	blackened debris (unidentified), undecayed paper, plastic, wood, moist grass	moist to dry	low to med	cool	
		@ 12' Coloring book says 1975				
		@ 13' blackend leaves, magazine from April 1976				
		@ 14 paper is dry, intact				

NOTES:

HART

GAS

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 0400I-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W12	ELEVATION:	DATE STARTED: 07/15/86	
COORDINATES:		DATE COMPLETED: 07/15/86	
DRILLING METHODS: E/Z Bore rig w/36" bucket		PAGE: 2 OF 2	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	17.5 to 19	Nov. 1974 meeting notice, Oct 1974 newspaper	damp to moist	low	cool	
		Paper, cardboard (moist), glass, wood, cans & scrap metal, plastic bags			60°	at 18'
		Some clay (red-orange and brown, loose) mixed in refuse.				
		@ 18' Sept. 1974 newspaper				
	19-22	grass clippings, discolored and moist paper, plastic, cans, glass (trace).	moist	low to med	cool	
	22-24	black coated wood boards, and unidentifiable trash, some blackened.	moist	low to med	65°	@ 23'
		White fibrous material (fiberglass?), paper, cardboard, some decayed and blackened on outside				
	24-30	Paper, plastic, cardboard, trace metal. Some blackened material "dirty", moist. Clay at	moist 30'	low to med.	cool	
		Total depth 30'				

NOTES:

HART

GAS

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
BORING NUMBER: W 13	ELEVATION:	DATE STARTED: 07/15/86	
COORDINATES:		DATE COMPLETED: 07/15/86	
DRILLING METHODS: E/Z Bore Rig w/36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-2	orange-brown clay with trace silt, micaceous. few inches of topsoil, some gravel.	dry			
	2-5	refuse: paper, plastic, wood boards, cloth, plastic fibers, cardboard, unbroken glass bottles (few).	damp	low	60°	at 6'
	6	roofing shingles, moist, soft, broken				
	7-11	@ 7' newspaper date 7/1974 styrofoam, paper, wood, trace metal; plastic. Some shist cobbles from 8-9', brown sand also. Plywood @ 10', top of paint can (?), diapers.	damp to moist	low	60°	@ 10'
	11-11.5	clay and shist cobbles; boulders up to 1 foot long, paper, cloth, boards.	dry	low	60°	@ 11.5'
	12	clayey material and large gravel. Stopped drilling.	dry			
		Total depth 12'				

NOTES:

HART

GAS

VISUAL CLASSIFICATION OF SUBSURFACE MATERIAL

PROJECT NUMBER: 04001-00 85059-00	PROJECT NAME: Modern Landfill : Gas Management		
[redacted]NG NUMBER: W 14	ELEVATION:	DATE STARTED: 07/19/86	
JRDINATES:		DATE COMPLETED: 07/19/86	
DRILLING METHODS: E/Z Bore rig w/36" bucket		PAGE: 1 OF 1	
ENGINEER / GEOLOGIST: Jean M. Neubeck		GWL: none AT	HRS.

DEPTH (ft)	INTERVAL (ft)	DESCRIPTION OF MATERIAL	MOISTURE	DEGREE OF DECOMPOSITION	REFUSE TEMP.	REMARKS
	0-2.5	topsoil and clayey material w/ some silt. Orange-brown, micaceous. Last 6" is metamorphic fractured rock and gravel in silt.	dry			
	3-4	rubber tires (3) and dirt, damp to dry			cool dirt	
	5-8	refuse mixed with clay & dirt; paper (dry), plastic, cardboard (damp), wire @ 7' newspaper from 1975	dry to damp	low	60°	at 6'
	9'	May 1974 newspaper. Blackened dirt and refuse of damp cardboard, plastic bags, office paper (bound), wood boards (not decayed).	damp	low to med	60°	at 9'
	10	hit brown-orange clay w/ silt, bottom of hole.	dry			
		Total depth 10'				

[redacted]S:

BORING NO. HC-31

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: H082	PROJECT NAME: Geotechnical Evaluation - Modern Landfill		
BORING NUMBER: HC-31	COORDINATES: N231,225.08 E2,323,685.81	DATE: 04/01/86	
ELEVATION: 513.4	GWL: Depth 11.5 Date/Time 4/2-16:00	DATE STARTED: 04/01/86	
ENGINEER/GEOLOGIST: M. Findlay	TOC Depth 10.96 Date/Time 4/3- 7:30	DATE COMPLETED: 04/01/86	
DRILLING METHODS: Hollow Stem Auger - 24" Split Spoon Sampler		PAGE 1 OF 5	

DEPTH (Ft.)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER (6")	RECOVERY (In.)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
0							
1.5	S-1	6 11 10	10	Very stiff, light brown-orange sandy silt with trace clay, highly weathered rock, cleavage orientation and fragments of more competent material (can be broken with fingers) are evident, very stiff, micaceous minerals visible on cleavage plane	-	-	Damp
3							
4.5	S-2	5 5 6	12	Stiff, as above, medium orange brown	-	-	Damp
6							
7.5	S-3	7 13 10	7	Very stiff, as above, sulfur odor, cleavage orientation much less obvious	-	-	Moist
9							
10.5	S-4	14 10 7	12	Very stiff, medium orange brown silty sand with more competent rock fragments (broken with fingers with difficulty), cleavage made obvious by rock parting and gray-buff layering	-	-	Moist
12							
13.5	S-5	13 15 15	9	As above, fewer more competent rock fragments	-	-	Moist
15							

NOTES

All of the "unconsolidated" material collected from the surface to 43.5' is a highly weathered clayey very fine grained sandstone -- a phyllitic sandstone saprolite.

Elevations and coordinates obtained by Land Survey Consultants, Inc. on April 9, 1986.

AR300769

PROJECT NUMBER: H082	PROJECT NAME Geotechnical Evaluation - Modern Landfill		
BORING NUMBER: HC-31	COORDINATES N231,225.08 E2,323,685.81	DATE 04/01/86	
ELEVATION: 513.4	GWL: Depth Date/Time	DATE STARTED: 04/01/86	
ENGINEER/GEOLOGIST M. Findlay	Depth Date/Time	DATE COMPLETED 04/01/86	
DRILLING METHODS. Hollow Stem Auger - 24" Spilt Spoon Sampler		PAGE 2 OF 5	

DEPTH (Ft)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER (6")	RECOVERY (In)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
15							
16.5	S-6	4 4 5	22	Medium stiff to stiff, orange brown sandy silt with trace clay, trace more competent rock fragments (can be broken with fingers), cleavage orientation evident	-	-	Ouside of spoon is wet
18				Absence of more competent rock fragments			
19.5	S-7	15 13 12	20	Very stiff, fewer rock fragments Orange-brown, more rock fragments Buff-gray sandy silt with trace clay, brown and mafic colored zones	-	-	Outside of spoon is wet
20							
21							
22.5	S-8	4 7 5	20	Stiff, gray brown sandy silt with trace clay, cleavage less evident Orange-brown sandy silt with trace clay, cleavage orientation	-	-	Wet
24				As above, cleavage less evident			
25							
25.5	S-9	6 5 7	20	Stiff, gray brown sandy silt with trace clay, cleavage Orange-brown sandy silty with trace clay, cleavage	-	-	Moist
27							
28.5	S-10	4 4 6	23	Medium stiff gray-buff and orange brown sandy silt with trace clay, cleavage less obvious Dark brown orange sandy silt with trace clay and more competent rock fragments (breakable with fingers) cleavage	-	-	Moist
30							

NOTES

(Upper) C (Top)

B

(Lower) A (Bottom)

Note: In the case where more sample was necessary, samples jars are designated A, B, C as shown here.

FRED C. HART ASSOCIATES, INC.

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:	H082	PROJECT NAME	Geotechnical Evaluation - Modern Landfill		
BORING NUMBER:	HC-31	COORDINATES:	N231,225.08 E2,323,685.81	DATE:	04/01/86
ELEVATION:	513.4	GWL: Depth	Date/Time	DATE STARTED	04/01/86
ENGINEER/GEOLOGIST	M. Findlay	Depth	Date/Time	DATE COMPLETED	04/01/86
DRILLING METHODS:	Hollow Stem Auger - 24" Split Spoon Sampler			PAGE	3 OF 5

DEPTH (Ft)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER 6"	RECOVERY (In)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
30							
31.5	S-11	7 17 24	24	Very stiff to hard orange-brown sandy silt with trace clay, trace fragments of more competent rock (broken with fingers with difficulty)	-	-	cleaned hole with 3" SS to remove infilling
33.5				Stiff, dark orange-brown sandy silt with trace clay, cleavage slightly less evident Same as above with some more competent rock (can be broken with fingers)			
35	S-12	6 8 7	13	Gray-brown argillaceous siltstone, highly weathered, mafic flecks, cleavage evident	-	-	Moist to wet
36				Very stiff, dark red brown sandy silty with trace clay, cleavage only slightly evident			
37.5	S-13	13 15 20	12	Gray brown argillaceous siltstone, mafic minerals along cleavage planes, highly weathered	-	-	Damp
39				Green-gray sandy silt with trace clay, trace micaceous grains, red-brown layers along cleavage faces			
40.5	S-14	4 1 4	23	Soft orange-brown silty sand with trace clay, cleavage evident	-	-	
42				Gray-green sandy silt with trace clay and rock fragments (can be broken with fingers) Orange-brown silty sand with trace clay, cleavage evident			During 45.0-46.5 run, split spoon was bent, appears to have slid along rock
43.5	S-15	WOR /15" 5/3"	21	Very soft dark black brown and green-gray sandy silt with trace clay, very fine grained metamorphic minerals	-	-	Moist to wet 15-21"
45				As above Green-gray sandy silt with trace clay, cleavage evident			

NOTES

FRED C. HART ASSOCIATES, INC.

AR300771

VISUAL CLASSIFICATION OF ROCK

PROJECT NUMBER H082 FIELD ENG./GEO. M. Findlay PAGE 4 OF 5
PROJECT NAME Geotechnical Evaluation - Modern Landfill BORING NO HC-31
APPROX. ELEV. 513.4 CORE SIZE NX DATE 04/01/86
DRILLING METHOD Wire-line coring DATE STARTED 04/01/86
COORDINATES N231,225.08 E2,323,685.81 DATE COMPLETED 04/01/86

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
		See Page 1 of 5			

RUN NUMBER	DEPTH (Ft.)	RECOVERY (Ft.)	% RECOVERY	% ROD	DESCRIPTION	JOINT SPACING MAXIMUM	JOINT SPACING MINIMUM	JOINT SPACING AVERAGE	REMARKS
	45								
CS-17	46.5	.67	27	0	Hard, green-gray limey dolomite, very fine crystals with fine grained red-brown sand grains, slightly broken	-	-	-	Cored approximately 45.0 - 46.0', tools suddenly advanced a significant amount. Immediately stopped (at 46.5') and pulled core. Then took a split spoon thru soft area. Spoon was not advanced, merely bounced with each hammer blow indicating spoon was directly on competent rock. Therefore material in spoon was probably sitting on top of the rock.
S-18	47.3	8"	weight of rods		Dolomite rock fragments (angular) cobble-size in black silty sand, wet matrix (2 inches) Wet black silty sand (4 inches) Dolomite rock fragments (angular) cobble-size in black silty sand, wet matrix (2 inches)	-	-	-	
CS-19	54.5	7.5	94	72	Hard blue-gray dolomite very fine crystalline, trace to some brown sand and silt occuring along cleavage face, cleavage is approximately 45° from horizontal, trace very fine shiny grains - probably pyrite, trace green-gray lenses oriented along cleavage planes approximately 1 cm. thick, massive	-	-	-	
CS-20	60	10.4	*108	63	Very fine crystals of pyrite along horizontal fracture (approximately 57.5')	-	-	-	*47.3-54.5 core run failed to pick up approximately 0.4' at bottom. It was retreived during the next run, hence the 108% recovery.

AR300772

VISUAL CLASSIFICATION OF ROCK

PROJECT NUMBER H082 FIELD ENG./GEO. M. Findlay PAGE 5 OF 5
PROJECT NAME Geotechnical Evaluation - Modern Landfill BORING NO. HC-31
APPROX. ELEV. 513.4 CORE SIZE NX DATE 04/01/86
DRILLING METHOD Wire-line coring DATE STARTED 04/01/86
COORDINATES N231,225.08 E2,323,685.81 DATE COMPLETED 04/01/86

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
		See Page 1 of 5			

RUN NUMBER	DEPTH (Ft.) 60	RECOVERY (Ft.)	% RECOVERY	% ROD	DESCRIPTION	JOINT SPACING MAXIMUM	JOINT SPACING MINIMUM	JOINT SPACING AVERAGE	REMARKS
CS-20	64.1	10.4	108	63	Green mica along a fracture, approximately 50 - 55° from horizontal (60.5'- 61.0') Vertical fracture, broken(61-61.5') Vertical fracture (62.5-63.0') Broken green mica along vertical fracture face (63.0-64.1')	-	-	-	
									64.1' bottom of boring

FRED C. HART ASSOCIATES, INC.

BORING NO. HC-32

ENGINEER/GEOLOGIST [illegible] CLIENT [illegible]

DRILLING METHODS: Hollow Stem Auger - 2" Split Spoon Sampler | PAGE 1 OF 11

DEPTH (Ft.) 0	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER 6"	RECOVERY (In)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
3							
4.5	S-1	5 4 4	18"	Stiff Orange-brown clayey silt with trace sand, no cleavage orientation visible	-	-	Moist
6							
7.5	S-2	3 2 1	18"	Soft to medium stiff Orange-brown clayey silt with trace to some sand (less clay than above), no cleavage orientation evident	-	-	Moist
9							
10.5	S-3	3 3 3	15"	Medium stiff Sand to cobble size fragments of white quartzite Orange-brown clayey silt with trace sand	-	-	Damp Moist
12							
13.5	S-4	3 3 3	14"	As above	-	-	Moist to wet
15							

NOTES

Samples from the unconsolidated material from the surface to 128 feet are actually a highly weathered clayey, very fine-grained sandstone - a phyllitic sandstone saprolite.

Elevations and coordinates obtained by Land Survey Consultants, Inc. on April 9, 1986

FRED C. HART ASSOCIATES, INC.

PROJECT NUMBER: [illegible]	PROJECT NAME: Geotechnical Evaluation - Modern Landfill	
BORING NUMBER: HC-32	COORDINATES: N231,232.72 E2,323,944.21	DATE: 04/02/86
ELEVATION: 520.5	GWL: Depth — Date/Time —	DATE STARTED: 04/02/86
ENGINEER/GEOLOGIST: M. Findlay	Depth — Date/Time —	DATE COMPLETED: 04/04/86
DRILLING METHODS: Hollow Stem Auger - 24" Split Spoon Sampler		PAGE 2 OF 11

DEPTH (Ft.)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER 6"	RECOVERY (In.)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
15							
16.5	S-5	2 3 5	19"	Medium stiff Orange brown clayey silt with trace sand and little more competent rock fragments (can be broken with fingers) orientation slightly evident	-	-	Hammer blows started ringing on 3rd blow Moist
18				As above with little more competent rock fragments (can be broken with fingers)			Moist Cleaned cave-in material out, augered to 21', attempted Shelby tube, able to push the tube 1.5'. Allowed to sit 3 minutes, twisted and retracted. Outside of tube wet, there is a 1.5' of material in the tube that appears wet.
19.5	S-6	2 3 22	19"	Medium stiff Orange brown sandy silt with some (approximately 20%) clay, cleavage orientation very slightly evident	-	-	
21							
22.5	ST-7	Shelby	18"	Shelby Tube Sample	-	-	
24	S-8	14 18 20	17"	Hard orange brown clayey silt with some (approximately 20%) sand, cleavage orientation slightly evident	-	-	Moist to wet
25.5	S-9	25 29 39	18"	Hard orange brown sandy silt with some (approximately 20%) clay, cleavage evident	-	-	Moist
27							
28.5	S-10	12 16 15	18"	Very stiff Orange brown clayey silt with trace sand, cleavage evident,	-	-	Moist to damp
30				Brown orange, sandy silt with some clay mafic-colored layers along cleavage planes, green-gray slightly calcareous siltstone cobbles (trace)			

NOTES

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PROJECT NUMBER: H082	PROJECT NAME: Geotechnical Evaluation - Modern Landfill		
BORING NUMBER: HC-32	COORDINATES: N231,232.72 E2,323,944.21	DATE: 04/02/86	
ELEVATION: 520.5	GWL: Depth — Date/Time —	DATE STARTED: 04/02/86	
ENGINEER/GEOLOGIST: M. Findlay	Depth — Date/Time —	DATE COMPLETED: 04/04/86	
DRILLING METHODS: Hollow Stem Auger - 24" Split Spoon Sampler		PAGE 3 OF 11	

DEPTH (Ft.)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER 6"	RECOVERY (In.)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
30							
31.5	S-11	23 28 28	19"	Hard Orange-brown sandy silt with trace clay, cleavage orientation slightly evident, mafic colored zones along cleavage orientation	-	-	Moist Cleaned caved-in material out
33							
34.5	S-12	11 7 12	21"	Very Stiff Orange-brown sandy silt with trace clay, cleavage evident Orange brown silty clay with some (aproximately 20%) clay, mafic colored zones, cleavage oreint-ation evident	-	-	Damp Driller reports auger is softer 34.5 - 36' so a Shelby was attempted at 36.0'. Could only be pushed 0.5'
36							
36.5	ST-12			Attempted Shelby;advanced 0.5'			*
36.7	S-13	50/2"	5"	Green gray clayey silt to siltstone			Spoon advanced only approximately 2", bounced indicating rock
40	CS-14	Recovery 0.33 ft. 10% Recov 0% RQD		Green-gray silty sandstone with trace clay, cleavage orientation evident, trace thin iron-stained lenses and trace pitted iron-stained flecks			Rock coring from 36.7 to 40'. Retrieved approximately 4" of saprolite material. Resumed Split Spoon sampling at 40.0'
41.5	S-15	4 11 7	18"	Stiff Orange-brown sandy silt with trace more competent rock fragments (can be broken with fingers), cleavage evident	-	-	Wet
43				Brown sandy silt with trace clay, more competent rock fragments (can be broken with fingers)			
44.5	S-16	5 7 6	12"	Stiff Orange sandy silt with trace clay, more competent rock fragments (can be broken with fingers)	-	-	Damp Moist
45				Orange-brown sandy silt with trace clay, cleavage evident			Moist

NOTES

AR300777

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER:	H082	PROJECT NAME:	Geotechnical Evaluation - Modern Landfill		
BORING NUMBER:	HC-32	COORDINATES:	N231,232.72 E2,323,944.21	DATE:	04/02/86
ELEVATION:	520.5	GWL: Depth	Date/Time	DATE STARTED:	04/02/86
ENGINEER/GEOLOGIST:	M. Findlay	Depth -	Date/Time -	DATE COMPLETED	04/04/86
DRILLING METHODS:	Hollow Stem Auger - 24" Split Spoon Sampler			PAGE	4 OF 11

DEPTH (Ft)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER (6")	RECOVERY (In)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
45							
46				Hard Orange-brown sandy silt with trace clay, cleave made evident by mafic and orange colored bands			Moist
47.5	S-17	14 18 22	16"		-	-	
49							
50.5	S-18	23 18 15	18"	As above	-	-	Damp
52							
53.5	S-19	9 13 29	23"	Hard As above, some (approximately 25%) clay, more competent rock fragments (can be broken with fingers) cleavage evident	-	-	Moist
55							
56.5	S-20	8 11 37	24"	Hard Red-brown clayey silt, trace mica, slight yellow-brown mottling throughout with hard grains of clayey silt, crushable with fingers	-	-	
58							
59.5	S-21	5 8 16	18"	As above, very stiff orange-brown clayey silt	-	-	Water encountered at 59.0' Wet
60							

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VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: H082	PROJECT NAME: Geotechnical Evaluation - Modern Landfill		
BORING NUMBER: HC-32	COORDINATES: N231,232.72 E2,323,944.21	DATE: 04/03/86	
ELEVATION: 520.5	GWL: Depth - Date/Time -	DATE STARTED 04/02/86	
ENGINEER/GEOLOGIST K. Interval	Depth - Date/Time -	DATE COMPLETED 04/04/86	
DRILLING METHODS: Hollow Stem Auger with 24" Split Spoon		PAGE 5 OF 11	

DEPTH (Ft)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER (6")	RECOVERY (In)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
60							
61				Very stiff			Cleaned cave-in material with 3"ø split spoon
62.5	S-22	8 9 13	18"	Orange-brown clayey silt; reddish brown soft rock fragments approximately 1/8" ø in bottom 6"	-	-	Wet
64							
65.5	S-23	20 25 26	16"	Hard Orange-brown clayey silt, black saprolite, mottling cleavage oriented 45°, light orange rock fragments in bottom 4"	-	-	Wet
67							
68.5	S-24	7 7 20	13"	Stiff to very stiff Medium to dark brown (when wet) silty clay, linear rock fragments	-	-	Damp
70				Brown-gray, clay, slightly foliated, micaceous			
71.5	S-25	26 34 50	17"	Hard Brown silty clay, no foliation, orange brown, soft foliated rock fragments	-	-	Wet
73				Saprolite (not completed decomposed) foliations obvious, gray, micaceous; red-brown foliations in gray matrix			S-26 appears close to rock, judging by incompleteness of decomposition (possibly just a thin layer of wet mica schist)
74.5	S-26	15 14 18	19"		-	-	
75				Very stiff Orange-brown silty clay, trace sand foliation slightly evident, dense			Wet

NOTES

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VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER.	H082	PROJECT NAME	Geotechnical Evaluation - Modern Landfill		
BORING NUMBER.	HC-32	COORDINATES.	N231,232.72 E2,323,944.21	DATE:	04/03/86
ELEVATION:	520.5	GWL: Depth -	Date/Time -	DATE STARTED	04/02/8[redacted]
ENGINEER/GEOLOGIST.	K. Interval	Depth -	Date/Time -	DATE COMPLETED:	04/0[redacted]6
DRILLING METHODS.	Hollow Stem Auger with 24" Split Spoon			PAGE	6 OF 11

DEPTH (Ft)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER (6")	RECOVERY (In)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
75							
76				Stiff			
77.5	S-27	4 7 14	18"	Brown clayey silt with white clay veins and orange brown mottling throughout. Traces of soft micaschist, no apparent foliation	-	-	Damp
79							
80.5	S-28	9 9 10	15"	Very stiff Orange-brown (saprolite) speckled brown silt with rock fragments, crushable with fingers, foliation not apparent	-	-	Wet
82				Stiff Dark brown, clayey silt, orange-brown low angle (25°) veins (all saprolite), trace mica, medium dense with more orange matrix saprolite with brown specks			
83.5	S-29	7 7 9	18"		-	-	Moist
85							
86.5	S-30	7 8 13	18"	Stiff Dark brown clayey silt and orange-brown clay veins with bornn speckles; no foliation apparent, top 3" more granualr than the bottom 15"	-	-	Wet
88							
89.5	S-31	15 11 12	18"	As above, very stiff Orange-brown clay veins occur in two distinct "zones" (4" and 9")	-	-	Wet
90							

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VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: H082	PROJECT NAME: Geotechnical Evaluation - Modern Landfill		
BORING NUMBER: HC-32	COORDINATES: n231,232.72 E2,323,944.21	DATE: 04/03/86	
ELEVATION: 520.5	GWL: Depth – Date/Time –	DATE STARTED 04/02/86	
ENGINEER/GEOLOGIST: K. Interval	Depth – Date/Time –	DATE COMPLETED 04/04/86	
DRILLING METHODS: Hollow Stem Auger with 24" Split Spoon		PAGE 7 OF 11	

DEPTH (Ft)	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER (6")	RECOVERY (In)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
90							
91				Very Stiff			
92.5	S-32	8 11 14	18"	Medium brown clayey silt with light orange-brown speckled clay throughout, speckled clay more competent (less decomposed) than similar looking material above	–	–	
94							Moist
95.5	S-33	10 10 10	16"	As above	–	–	
97							
98.5	S-34	3 2 1	18"	Medium Stiff Dark brown silty sand with orange-brown speckled clay, no foliation, thin clay layer (1/2") bordered above and below by white clay	–	–	
100	–	–	–				
102	Shelby Tube	No Recovery	0	Shelby Tube - No Recovery			Spoon dropped to 104' onto hard soil
104	S-35 B	weight of rod		Very soft dark brown sandy silt, no foliation, trace orange-brown silt, Wet	–	–	
104.8	S-35 A	70 52/2"		Very hard Light orange-brown sanyd silt with trace rock fragments, brown speckles, dry			
105							

NOTES

VISUAL CLASSIFICATION OF SOILS

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BORING NUMBER: HC-32	COORDINATES: N231,232.72 E2,323,944.21	DATE: 04/03/86	
ELEVATION: 520.5	GWL: Depth – Date/Time –	DATE STARTED 04/02/86	
ENGINEER/GEOLOGIST K. Interval	Depth – Date/Time –	DATE COMPLETED: 04/04/86	
DRILLING METHODS: Hollow Stem Auger with 24" Split Spoon		PAGE 8 OF 11	

DEPTH (ft) 105	SAMPLE TYPE & NO	BLOWS ON SAMPLER PER (6")	RECOVERY (In)	DESCRIPTION	USCS SYMBOL	MEASURED CONSISTENCY (TSF)	REMARKS
105.5		–	–		–	–	Augered 2 feet from 104.8 to 106.8 hole cleaned to 108 feet with tri-cone bit.
106.8							
108	Tri-cone clean out	–	–	Hard to medium stiff Yellow-brown sandy silt to fine sand and silt with dark specks, vertical foliations barely visible	–	–	
109.5	S-36	18 20 18	12"	Stiff Orange-brown and brown silty very fine sand, yellow-brown alternating with brown horizontal foliation	–	–	Damp
111				Hard Orange-brown speckled rock fragments; weathering; moderate to moderately severe			
111.5	S-37	57/5"	3"		–	–	Coring attempted at 111.5 feet
				Siltstone, yellow-brown soft, well sorted black and reddish-brown staining, broken (same as the yellow-brown speckled soil above, except not as decomposed)			
				End of soil sampling at 111.5'			

NOTES

VISUAL CLASSIFICATION OF ROCK

PROJECT NUMBER H082 FIELD ENG./GEO. K. Interval PAGE 9 OF 11
PROJECT NAME Geotechnical Evaluation - Modern Landfill BORING NO. HC-32
APPROX. ELEV. 520.5 CORE SIZE NX DATE 04/04/86
DRILLING METHOD Wire line with Diamond studded bit DATE STARTED 04/03/86
COORDINATES N231,232.72 E2,323,944.21 DATE COMPLETED 04/04/86

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
		See Page 1 of 11			

RUN NUMBER	DEPTH (Ft)	RECOVERY (Ft)	% RECOVERY	% ROD	DESCRIPTION	JOINT SPACING MAXIMUM	JOINT SPACING MINIMUM	JOINT SPACING AVERAGE	REMARKS
	111.5								
CS-38	115	2.5	71.4	8.6	Soft siltstone Soft yellow-brown staining with mafic specks, these specks tend to occur in linear planes at 45° very broken well cemented	4"	1/4"	1/2"	
CS-39	125	2.6	26	0		-	-	-	Going to 5 foot runs to attempt better recovery

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VISUAL CLASSIFICATION OF ROCK

PROJECT NUMBER H082 FIELD ENG./GEO. K. Interval PAGE 10 OF 11
PROJECT NAME Geotechnical Evaluation - Modern Landfill BORING NO. HC-32
APPROX. ELEV. 520.5 CORE SIZE NX DATE 04/04/86
DRILLING METHOD Wire line with Diamond studded bit DATE STARTED 04/03/86
COORDINATES N231,232.72 E2,323,944.21 DATE COMPLETED 04/04/86

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
		See Page 1 of 11			

RUN NUMBER	DEPTH (Ft) 125	RECOVERY (Ft)	% RECOVERY	% ROD	DESCRIPTION	JOINT SPACING MAXIMUM	JOINT SPACING MINIMUM	JOINT SPACING AVERAGE	REMARKS
CS-40	130	4	80	30	125-128 As Above 128-130 As above but color change to grayish-green medium hard, broken, closely space joints at approximately 60°, visible in longer sections recovered whole (approximately 8" sections) weathering slight to moderate	-	-	-	Grayish-green material gave better recovery 130'
CS-41	135	4.3	85	60	Dolomite Greenish-gray, very hard, microscopic grain size, very slight weathering, natural breaks at high angles (approximately 80°), white calcite on cleavage planes, flakes of muscovite on cleavage planes, foliations apparent on outside of core, slightly borken	-	-	-	
CS-42	140	4.8	96	68		-	-	-	

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VISUAL CLASSIFICATION OF ROCK

PROJECT NUMBER H082 FIELD ENG./GEO. K. Interval PAGE 11 OF 11
PROJECT NAME Geotechnical Evaluation - Modern Landfill BORING NO. HC-32
APPROX. ELEV. 520.5 CORE SIZE NX DATE 04/04/86
DRILLING METHOD Wire line with Diamond studded bit DATE STARTED 04/03/86
COORDINATES N231,232.72 E2,323,944.21 DATE COMPLETED 04/04/86

CASING INFORMATION		GROUNDWATER LEVEL DATA			
SIZE	DEPTH	ACTUAL TIME	DEPTH	ACTUAL TIME	DEPTH
		See Page 1 of 11			

RUN NUMBER	DEPTH (Ft)	RECOVERY (Ft)	% RECOVERY	% RQD	DESCRIPTION	JOINT SPACING MAXIMUM	JOINT SPACING MINIMUM	JOINT SPACING AVERAGE	REMARKS
	140								
CS-43		9	100	86	Very hard Greenish-gray sandy dolomite, slightly micaceous	16"	3"	10"	
	149								Bottom of boring at 149.0 feet

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BORING NO. HC-33