

T R A N S M I T T A L



MWH

Date: March 29, 2004

Walnut Creek, CA 94597

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To: San Luis Obispo Bldrs Exchange
3563 G Sueldo St.

From: Steve Hyland
Project: Los Osos

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1	Geotechnical Report, Los Osos – Volume 2 Attachments

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FUGRO WEST, INC.

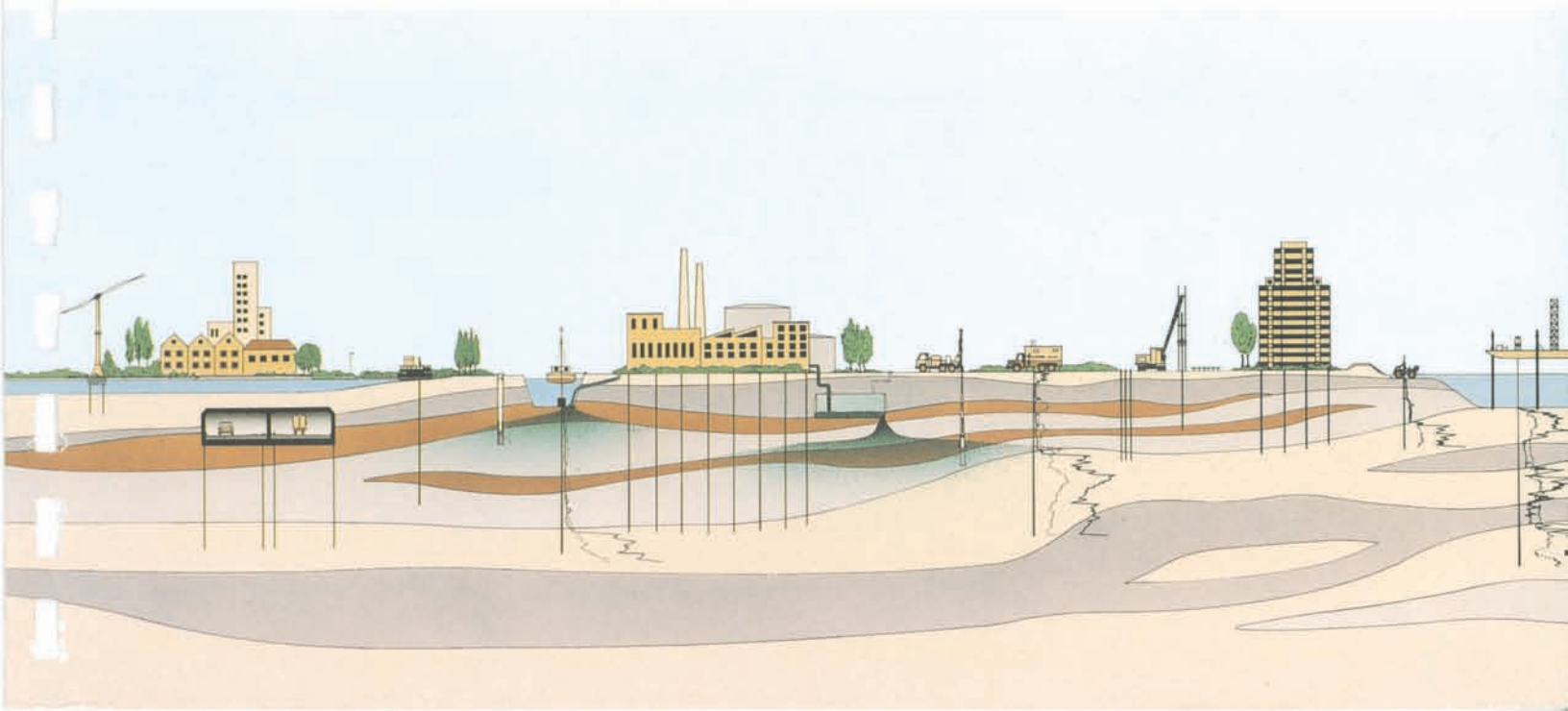


GEOTECHNICAL REPORT LOS OSOS WASTEWATER PROJECT SAN LUIS OBISPO, CALIFORNIA

VOLUME 2 - ATTACHMENTS

Prepared for:
MONTGOMERY WATSON HARZA

March 4, 2004





January 27, 2003 (reprinted March 4, 2004)
Project No. 3055.001.04

Montgomery Watson Harza
1340 Treat Boulevard, Suite 300
Walnut Creek, CA 94596

Attention: Mr. Steve Hyland

Subject: Volume 2 - Attachments to Geotechnical Report for Los Osos Wastewater Project,
San Luis Obispo County, California

Dear Mr. Hyland:

Fugro is pleased to submit this document that includes subsurface explorations and laboratory data compiled from previous reports related to the Los Osos Wastewater project in San Luis Obispo County, California. Our services are being provided according to our Consulting Services Subcontract with Montgomery Watson Harza, dated October 31, 2002. This document should be included as Volume 2 of the Geotechnical Report for the Los Osos Wastewater Project.

This document compiles field and laboratory testing data from the following four previous studies:

- ❖ CFS (2000a), *Field Explorations and Geotechnical Laboratory Data, Tri W Site, Los Osos Wastewater Project*, Los Osos, California, Project No. 991001, not previously submitted.
- ❖ CFS (2000b), *Draft Geotechnical Report, Los Osos Wastewater Project, Los Osos, California*, Project No. 991001, June 19.
- ❖ Fugro West, Inc. (1997), *Draft Geotechnical Engineering Report, Los Osos Wastewater Project, San Luis Obispo, California*, Project No. 95-92-4286, April 5.
- ❖ Fugro West, Inc. (1996), *Revised Report on Limited Geotechnical Engineering Services, Los Osos Sewer Recharge Site, San Luis Obispo, California*, Project No. 95-92-4281, February 9, including boring logs from Metcalf & Eddy.

The general conditions and limitations of the Geotechnical Report also apply to this attachment.

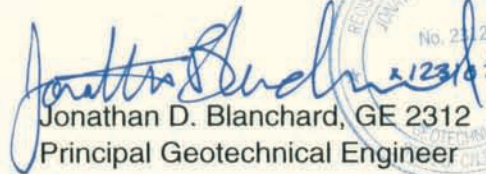




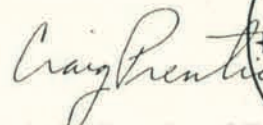
Please contact the undersigned if there are any questions concerning the report.

Sincerely,

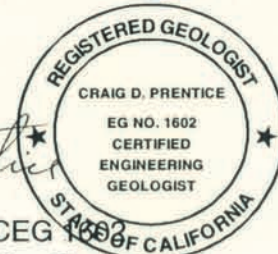
FUGRO WEST, INC.


Jonathan D. Blanchard, GE 2312
Principal Geotechnical Engineer





Craig D. Prentice, CEG 1602
Associate Engineering Geologist



Copies: 30 – Addressee

Enclosures: Volume 2 - Attachments to Geotechnical Report for Los Osos Wastewater Project, San Luis Obispo County, California

**ATTACHMENT A1
BORING LOGS
CFS (2000a)**

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Standard Penetration Test (SPT) split spoon sampler having a 2-inch (50 mm) O.D., 1 3/8-inch (35 mm) I.D. and without liners. Sampler is driven in three 6-inch (305 mm) increments by dropping a 140-lb (63 kg) weight 30 inches (760 mm). The reported blow count is the sum of the blows for the last two increments.



Modified California split spoon sampler having a 3-inch (76 mm) O.D., 2 3/8-inch (60 mm) I.D. with liners. Sampler is driven in three 6-inch (305 mm) increments by dropping a 140-lb (63 kg) weight 30 inches (760 mm).



Thick-walled modified California split spoon sampler driven 12 inches (305 mm) using the rig's kelley.



Thin-walled Shelby Tube sampler that is pushed into the ground using the rig's hydraulics.



Hand driven modified California sampler with liners.



Bulk sample obtained from drill auger flights, backhoe cuttings or hand excavation.

NR No recovery

Consistency of Cohesive Soil:

SPT N-Valve	Undrained Shear Strength (Su)		Consistency
	psf	kpa	
0 - 1	< 250	< 12	very soft
2 - 4	250 - 500	13 - 25	soft
5 - 8	500 - 1,000	25 - 50	firm
9 - 15	1,000 - 2,000	50 - 100	stiff
16 - 30	2,000 - 4,000	100 - 200	very stiff
> 31	> 4,000	> 200	hard

Relative Density of Granular Soil:

SPT N-Valve	Consistency
0 - 4	very loose
5 - 10	loose
11 - 30	medium dense
31 - 50	dense
> 50	very dense

$S_{t,uu,pp,h}$ Undrained shear strength (t = torvane, uu=uu triaxial, pp = pocket penetrometer, h = hand vane)



Initial depth to groundwater



Groundwater level after drilling

Notes:

Soil classification and descriptions are performed in general accordance with ASTM D-2487 and ASTM D-2488 based on the Unified Soil Classification System.

The logs represent the interpretation of field classifications and testing, interpolation between sample intervals, results of laboratory tests, and the conditions observed at the time of exploration. The transitions between soil types and strata are approximate and can be gradual.

Soil and rock materials vary in type and other geotechnical properties between points of observation and exploration. Groundwater and soil moisture conditions vary seasonally and for other reasons.

Explorations and services have not been requested nor performed to assess the presence or absence of hazardous or toxic materials.



Drilling Method: 7 inch (180mm) Hollow-Stem Auger

Date: May 1, 2000

Driller: Gregg Drilling

Completion Depth: 10.5m (34.5') **Ground Elevation:** 26.2m ± (86.0')

Logged by: C. Lovato

Groundwater Depth: Initial: 4.1m (13.5') **After drilling:**

Hammer Type: 140 lb Autotrip with 30-in drop

Comments:

Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1	CAL		50	1-1	Qs	Dune Sand: SAND with silt (SP-SM), medium dense, dark brown, moist, with roots at 2.5 feet	105 (16.5)	3.9	
5		BULK		1A	SAND (SP), dense, orange-brown, moist				
2						light brown, with 2-inch lenses of orangish-brown sand and 1/8-inch seams of dark brown sand			
3	SPT		35	1-2					
4	CAL		58	1-3	QTp	Paso Robles Formation: SAND (SP), dense, light brown, wet	126 (19.8)	17.1	
15									
6	SPT		61	1-4		Silty SAND (SM), very dense, light reddish brown with tan mottles, wet			Grain Size
7	CAL		>104	1-5		with layer of stiff, light gray, Lean CLAY (CL)			pp=1.3 tsf
25									
8									

LOG OF BORING 991001.GPJ_CFS_GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-1

100 feet west of Library

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-2

Drilling Method: 7 inch (180mm) Hollow-Stem Auger **Date:** May 1, 2000
Driller: Gregg Drilling **Completion Depth:** 10.5m (34.5') **Ground Elevation:** 26.2m ± (86.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 4.1m (13.5') **After drilling:**
Comments:
Hammer Type: 140 lb Autotrip with 30-in drop **Backfill Material:** Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9 30	SPT		>100	1-6		Silty SAND (SM), very dense, light reddish brown with tan mottles, wet (Continued)			
10 35	CAL		>81	1-7					
11 35						Boring terminated at 34.5 feet (10.5 meters)			
12 40									
13 45									
14 50									
15 55									
16 55									
17 55									

LOG OF BORING 991001.GPJ CFS GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-1

100 feet west of Library

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-2

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 20, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 22.9m (75.0') **Ground Elevation:** 26.5m ± (87.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 8.8m (29.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 10 feet
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1		CAL		13	1	Qs	Dune Sand: SAND with silt (SP-SM), loose, dark brown, dry, fine grained, with roots to 3 feet	99 (15.6)	2.4	Grain Size Compaction Direct Shear
1.5	5	SPT		9	2		SAND (SP), loose, brown to light brown, dry, fine grained			
2			BULK		A					
3	10	CAL		30	3		medium dense	107 (16.9)	3.5	
4						QTp	Paso Robles Formation: SAND with silt (SP-SM), medium dense, brown, moist, fine grained interbedded lenses (1/4 inch thick) of dark brown, wet, SAND with silt (SP-SC)			
6	20	CAL		45	5		interbedded lenses (1/8 to 1/4 inch thick) of dark brown SAND with clay (SP-SC)	114 (17.9)	6.9	
7							SAND with silt (SP-SM) to Silty SAND (SM), dense, brown, moist, fine grained			
8		SPT		49	6				17.1	

LOG OF BORING 991001.GPJ CFS GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-101

Tri-W Site-650' West of Palisades,
180' North of LOVR

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-3

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 20, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 22.9m (75.0') **Ground Elevation:** 26.5m ± (87.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 8.8m (29.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 10 feet
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9	30	CAL		67	7		SAND with silt (SP-SM), dense, yellowish brown, wet, fine grained (Continued)	128 (20.1)	20.8	
10	35	SPT		35	8					
12	40	CAL		78	NR		Silty SAND (SM), dense, yellowish brown, wet			
14	45	CAL	BULK	72	NR 9					
15	50	SPT		94	10					
17	55	CAL		75/9	11		Silty Clayey SAND (SC-SM), very dense, brown, wet, fine grained	128 (20.1)	20.8	

LOG OF BORING 991001.GPJ CFS GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-101
 Tri-W Site-650' West of Palisades,
 180' North of LOVR

Los Osos Wastewater Project
 Los Osos, California
 Project No. 991001

Figure A-3

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 20, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 22.9m (75.0') **Ground Elevation:** 26.5m ± (87.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 8.8m (29.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 10 feet
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
18 60	SPT		59	12		<i>move to 55'</i> with black lenses and inclusions Silty Clayey SAND (SC-SM), very dense, brown, wet, fine grained (Continued)			
19 65	CAL		93/10	13			131 (20.5)	21.2	
21 70	SPT		87/10	14		interbedded Silty SAND (SM) and SAND (SP), very dense, brown, wet, fine grained			
22 75	SPT		75/10	15					
23						Boring terminated at 75.0 feet (22.9 meters)			
24 80									
25									

LOG OF BORING 991001.GPJ CFS GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-101

Tri-W Site-650' West of Palisades,
180' North of LOVR

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-3

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 20, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 15.4m (50.5') **Ground Elevation:** 24.4m ± (80.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 9.0m (29.5') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 20 feet
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1		CAL		14	1	Qs	Dune Sand: SAND with silt (SP-SM), loose, moderate brown, dry, fine grained with roots to 3 1/2 feet	102 (16.0)	2.2	
5		CAL		25	2		SAND (SP), medium dense, light brown/tan, moist, fine grained	106 (16.6)	3.1	
3	10	SPT		21	3		lenses (1/8 inch thick) of slight iron oxide staining			Grain Size
15		CAL		28	4			114 (17.9)	9.2	
6	20	SPT		32	5	QTp	Paso Robles Formation: Silty SAND (SM) to Sandy SILT (ML), dense, orange-brown, moist with seems (less than 1/16 inch thick) of dark brown clay and pockets of white SAND		14.2	
25		CAL		61	6		interbedded lenses (1/4 inch thick) of yellowish brown clayey SAND (SC)	129 (20.3)	17.6	Consolidation

LOG OF BORING 991001.GPJ CFS GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-102

Tri-W Site-650' West of Palisades,
400' North of LOVR

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-4

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 20, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 15.4m (50.5') **Ground Elevation:** 24.4m ± (80.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 9.0m (29.5') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 20 feet
Backfill Material: Bentonite

Depth Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests	
9	30	SPT		33	7		Paso Robles Formation: Silty SAND (SM) to Sandy SILT (ML), dense, orange-brown, moist (<i>Continued</i>) brown, wet	▽		Grain Size	
10	35	CAL		72	8			127 (19.9)	18.8	Direct Shear	
12	40	SPT		52	9		interbedded Silty SAND (SM) and SAND with silt (SP-SM), very dense, brown, wet, fine grained				
14	45	CAL		75	10			129 (20.3)	21.1		
15	50	SPT		90/10	11						
							Boring terminated at 50.5 feet (15.4 meters)				
16											
17	55										

LOG OF BORING 991001.GPJ_CFS_GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-102

Tri-W Site-650' West of Palisades,
400' North of LOVR

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-4

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 23, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 12.3m (40.5') **Ground Elevation:** 28.0m ± (92.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 8.2m (27.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 19 feet
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1	CAL	BULK	17	A 1	Qs	Dune Sand: SAND with silt (SP-SM), loose to medium dense, dark brown, dry, fine grained	106 (16.7)	2.8	
5	SPT		9	2		grades to light brown SAND (SP)			
10	CAL		31	3		medium dense, moist	108 (16.9)	4.9	
15	SPT		34	4					
20	CAL		77/11	5	QTp	Paso Robles Formation: SAND with silt (SP-SM), very dense, brown, wet	125 (19.6)	19.8	
25	SPT		26	6		Silty SAND (SM) to Sandy SILT (ML), medium dense, orange-brown, wet			

LOG OF BORING 991001.GPJ CFS_GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-103

Tri-W Site-350' NW intersection of
LOVR and Palisades Avenue

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-5

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 23, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 12.3m (40.5') **Ground Elevation:** 28.0m ± (92.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 8.2m (27.0') **After drilling:**
Comments: Caved to 19 feet **Backfill Material:** Bentonite
Hammer Type: 140 lb Autotrip CME with 30-in drop

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9	30	CAL		76	7		Silty Clayey SAND (SC-SM), very dense, orange-brown, wet, fine grained (<i>Continued</i>)	125 (19.6)	16.7	
10	35	SPT		43	8		dense, interbedded layers of silty SAND (SM)			
12	40	CAL		79/11	9		Silty SAND (SM), very dense, brown, wet, fine grained	122 (19.2)	19.0	
13							Boring terminated at 40.5 feet (12.3 meters)			

LOG OF BORING 991001.GPJ CFS_GEO.GDT 11/08/00



CFS Geotechnical Consultants

BORING NO. B-103

Tri-W Site-350' NW intersection of LOVR and Palisades Avenue

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-5

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 23, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 9.3m (30.5') **Ground Elevation:** 24.4m ± (80.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 6.4m (21.0') **After drilling:** 5.3m (17.5')
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Groundwater rose from 21' to 17.5' in approx. 15 min.
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests	
1	3	CAL		12	1	Qs	Dune Sand: SAND with silt (SP-SM), loose, dark brown, dry, fine grained	101 (15.8)	2.2		
1.5	5	SPT		8	2		SAND (SP), loose, light brown/tan, dry, fine grained				
2.5	8	CAL		27	3		medium dense, moist	109 (17.2)	4.3	Consolidation	
3	10	SPT		17	4						
4.5	15	CAL		44	5	QTp	Paso Robles Formation: Silty SAND (SM), medium dense, orange-brown, moist, fine grained, with bright orange mottles, interbedded lenses (2-inches thick) of white SAND (SP)	123 (19.3)	13.6		
6	20	SPT		17	6		Clayey SAND (SC), medium dense, brown, wet, grades to Lean CLAY (CL), very stiff, alternating layers of brown and light gray, moist, with interbedded clayey SILT lenses and lenses of iron oxide staining (2-3 inches thick)		27.9	Spp=4.5+ksf Atterberg Limits	
7.5	25	CAL		72	7		SAND with silt (SP-SM), very dense, brown, wet, fine grained	116 (18.2)	9.2		
9	30	SPT		46	8		Silty SAND (SM), dense, brown, wet, fine grained, with pockets of silty, clayey SAND (SC-SM)				
							Boring terminated at 30.5 feet (9.3 meters)				

LOG OF BORING 991001.GPJ CFS GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-104

Tri-W Site-850' NW of intersection
LOVR and Palisades Avenue

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-6

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 23, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 15.4m (50.5') **Ground Elevation:** 22.6m ± (74.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 7.3m (24.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 16.5 feet
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1		CAL		11	1	Qs	Dune Sand: SAND with silt (SP-SM), loose, dark brown, dry, fine grained	101 (15.8)	2.1	
1.5	5	SPT		11	2		medium dense, grades to light brown			
3	10	CAL		45	3			104 (16.4)	2.1	
4						QTp	Paso Robles Formation: SAND with silt (SP-SM), medium dense, brown, moist, fine grained, with pockets of dark brown, clayey SAND at 10.5.			
4.5	15	CAL		68	4		dense, interbedded layers (2-3 inches thick) of dark brown, clayey SAND (SC)	112 (17.6)	5.1	
6	20	SPT		44	5		Silty Clayey SAND (SC-SM), dense, brown, moist, fine grained, with 2 inch lense of black clayey SAND (SC) at 19.5 feet			
7.5	25	CAL		87/11	6		very dense, wet, interbedded sandy SILT (ML)	123 (19.3)	17.1	

LOG OF BORING 991001.GPJ CFS GEO.GDT 11/9/00



CFS Geotechnical Consultants

BORING NO. B-105

Tri-W Site-900' W intersection of Palisades, 500' N of LOVR

Los Osos Wastewater Project
 Los Osos, California
 Project No. 991001

Figure A-7

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** October 23, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 15.4m (50.5') **Ground Elevation:** 22.6m ± (74.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 7.3m (24.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 16.5 feet
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9	30	SPT		37	7		Silty SAND (SM) to Sandy SILT (ML), dense, brown, wet			
10	35	CAL		85/11	NR		very dense drillers note: possible clay layer from 36 to 39 feet, sandy clay on centerbit			
12	40	CAL		>50	8		Silty SAND (SM), very dense, brown, wet, with pockets of Sandy CLAY			
14	45	SPT		>50	9		interbedded layers of Sandy SILT (ML)			
15	50	SPT		92/11	10		Silty, clayey SAND (SC-SM), very dense, brown, wet			
16							Boring terminated at 50.5 feet (15.4 meters)			
17	55									

LOG OF BORING 991001.GPJ CFS_GEO.GDT 11/8/00



CFS Geotechnical Consultants

BORING NO. B-105

Tri-W Site-900' W intersection of Palisades, 500' N of LOVR

Los Osos Wastewater Project
 Los Osos, California
 Project No. 991001

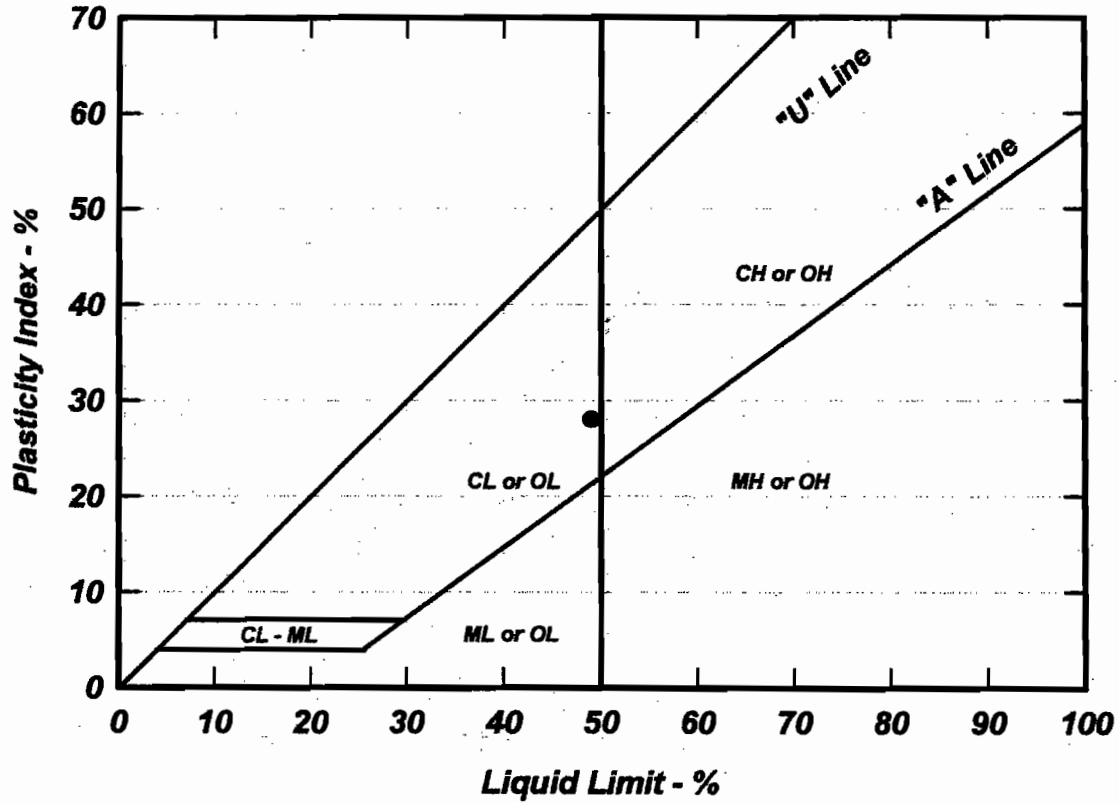
Figure A-7



**ATTACHMENT A2
LABORATORY DATA
CFS (2000a)**


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Atterberg Limits

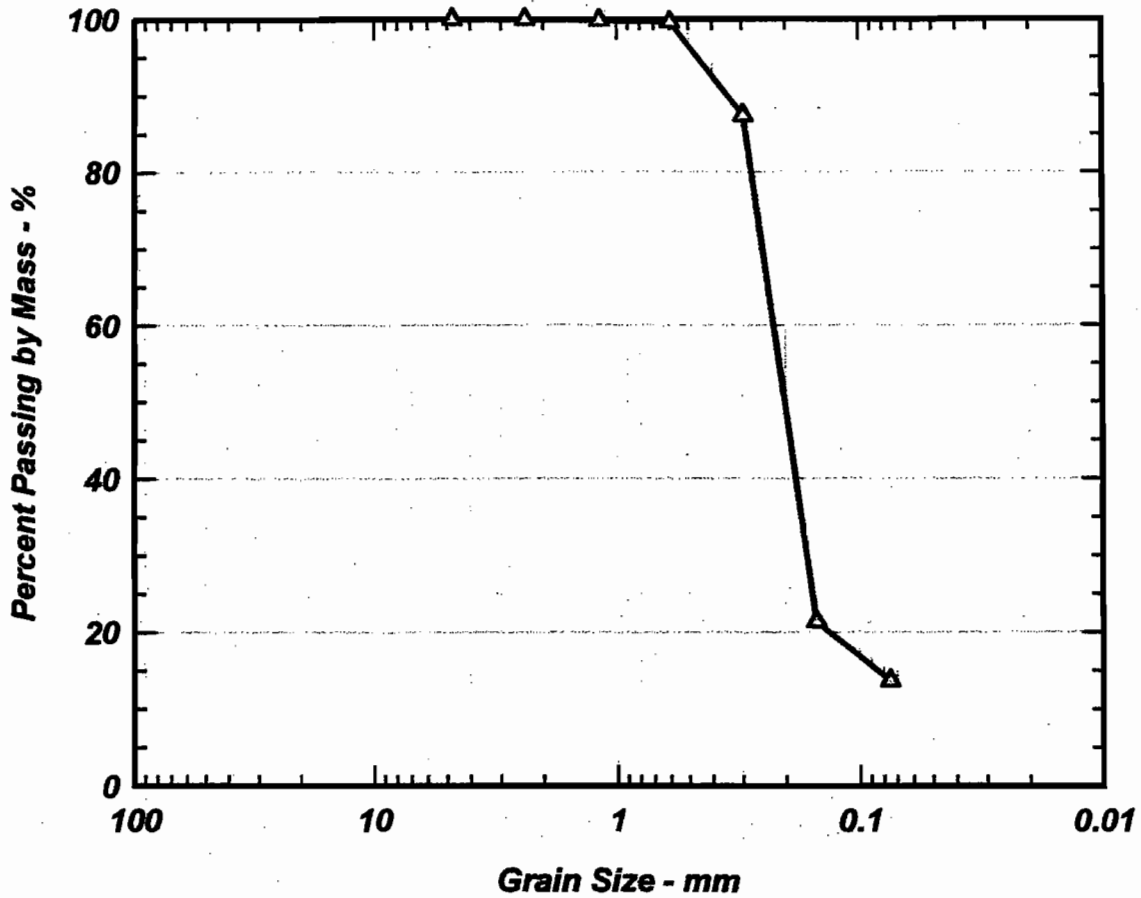


Symbol	Sample	Depth (ft)	Description and Classification	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)
•	104-6	19	Lean CLAY (CL)	49	21	28

Project: Los Osos Wastewater Project (Tri-W Site)
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D4318

 CFS Geotechnical Consultants	ATTERBERG LIMITS TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-1

Mechanical Sieve Analysis Results




GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

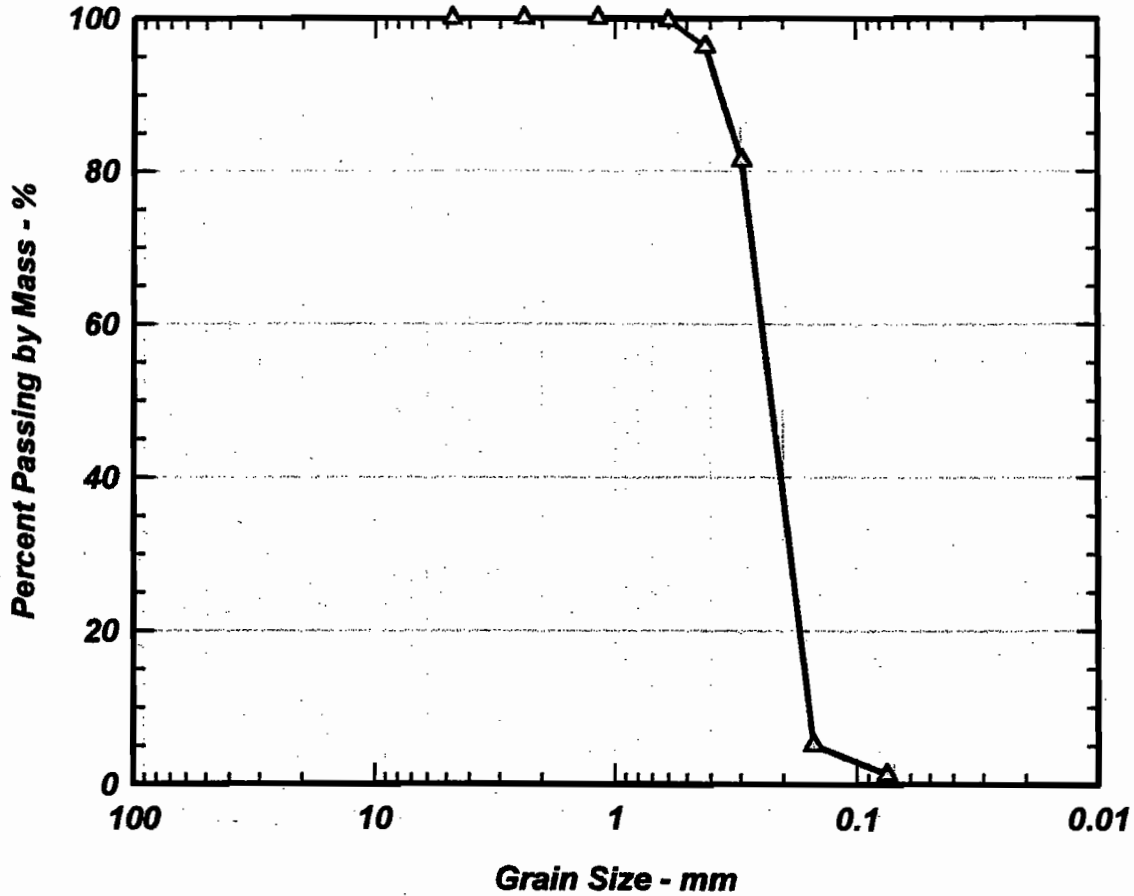
Symbol	Sample	Depth (ft)	Description and Classification	C _c	C _u
▲	1-4	18.5	Silty SAND (SM)	—	—

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D422

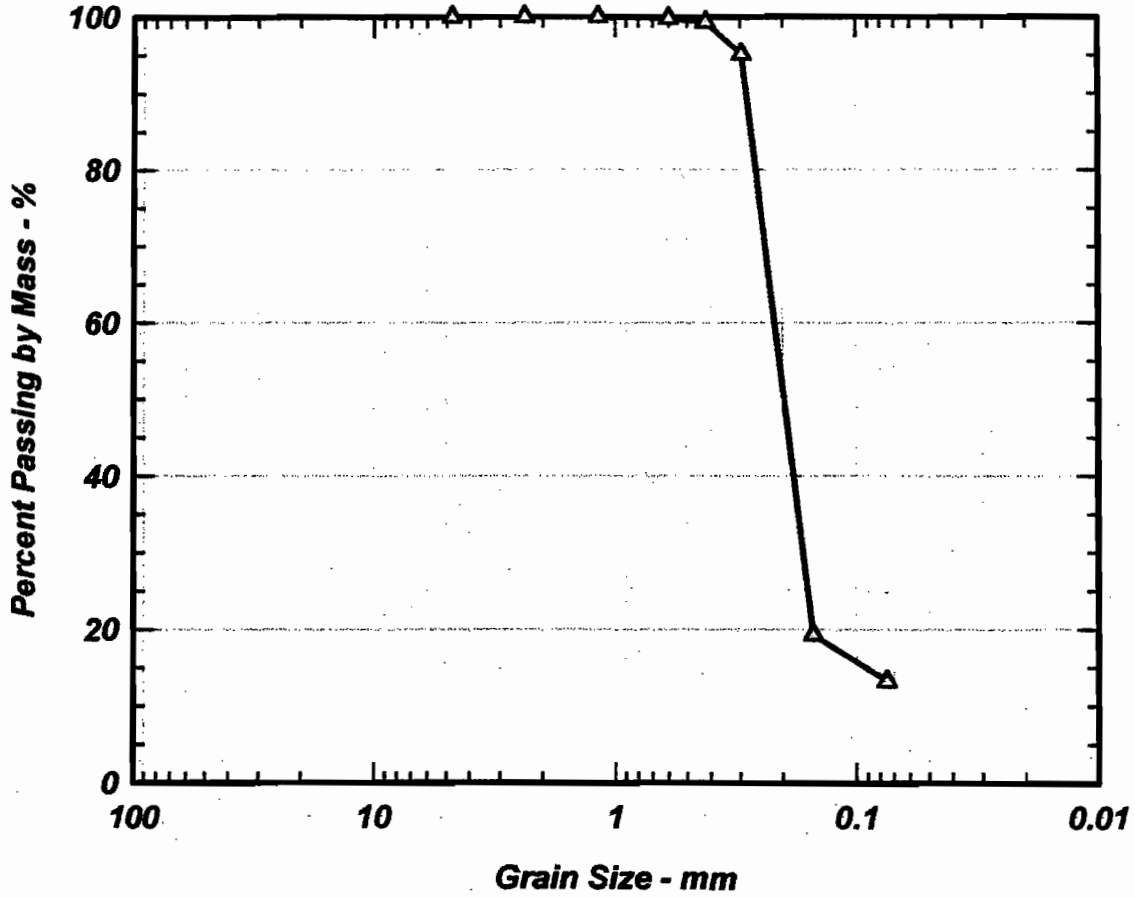
GRAIN SIZE

 CFS Geotechnical Consultants	MECHANICAL SIEVE ANALYSIS RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-2a

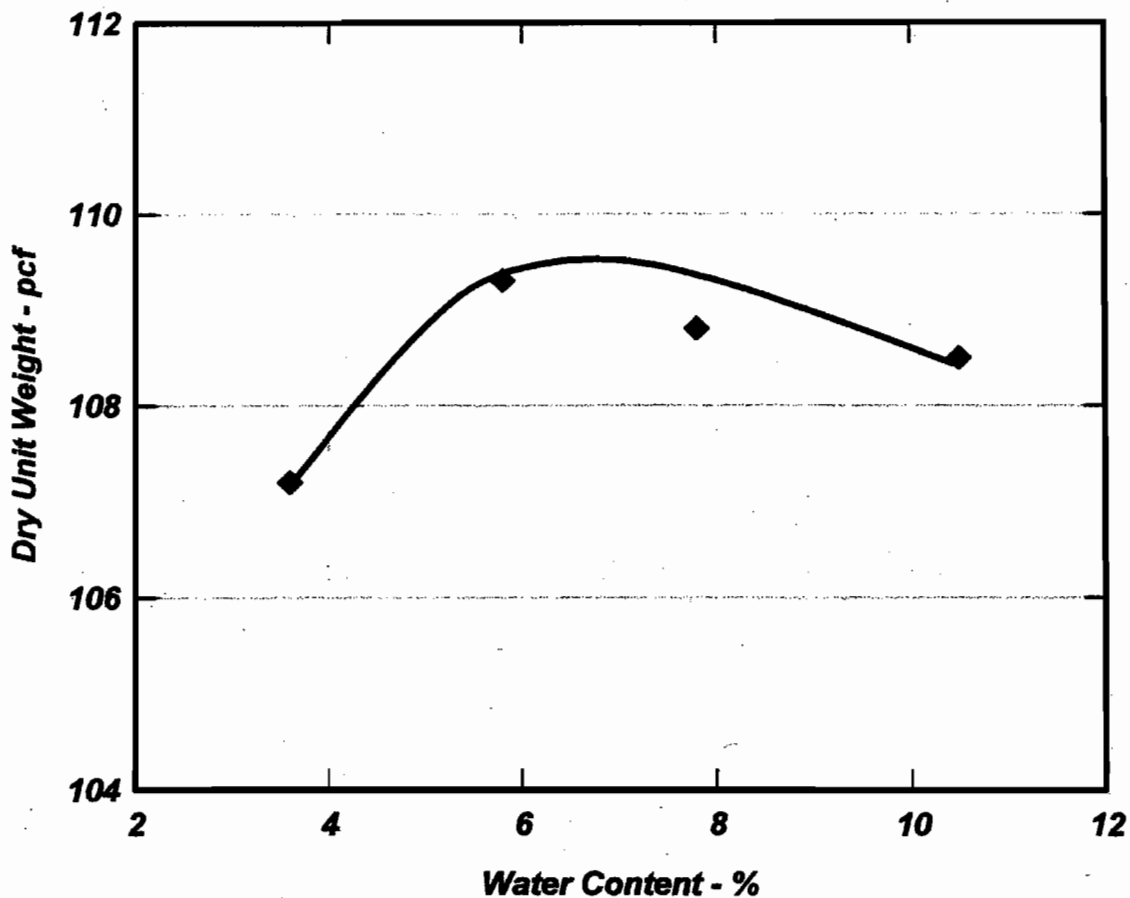
Mechanical Sieve Analysis Results



Mechanical Sieve Analysis Results




Compaction Test Results

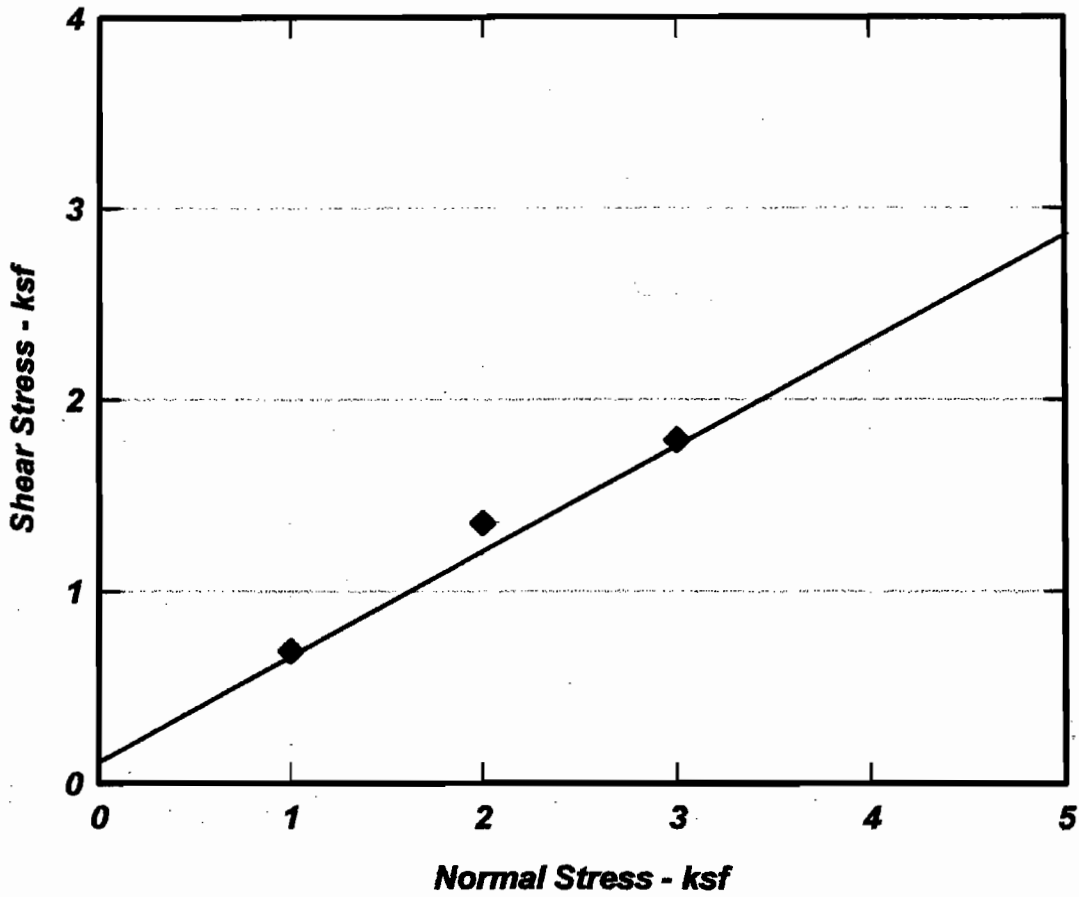


Symbol	Sample	Depth (ft)	Description and Classification	Maximum Dry Unit Weight (pcf)	Optimum Water Content (%)
◆	101A	5 to 9	Poorly Graded SAND with Silt (SP-SM)	109.5	6.6

Project: Los Osos Wastewater Project (Tri-W Site)
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D1557


 CFS Geotechnical Consultants	COMPACTION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-3

Direct Shear Test Results

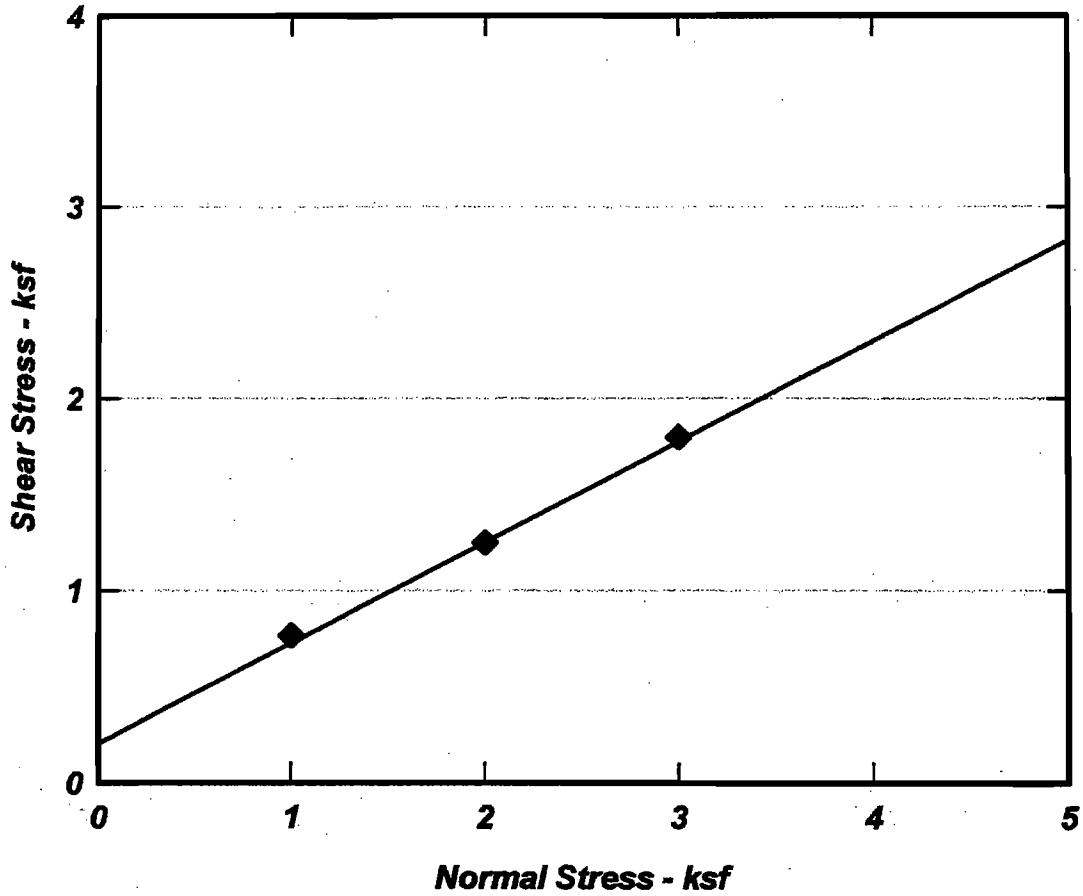


Symbols	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	101A	5 to 9	Poorly Graded SAND with Silt (SP-SM)	29	0.1

Project: Los Osos Wastewater Project (Tri-W Site)
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4a

Direct Shear Test Results

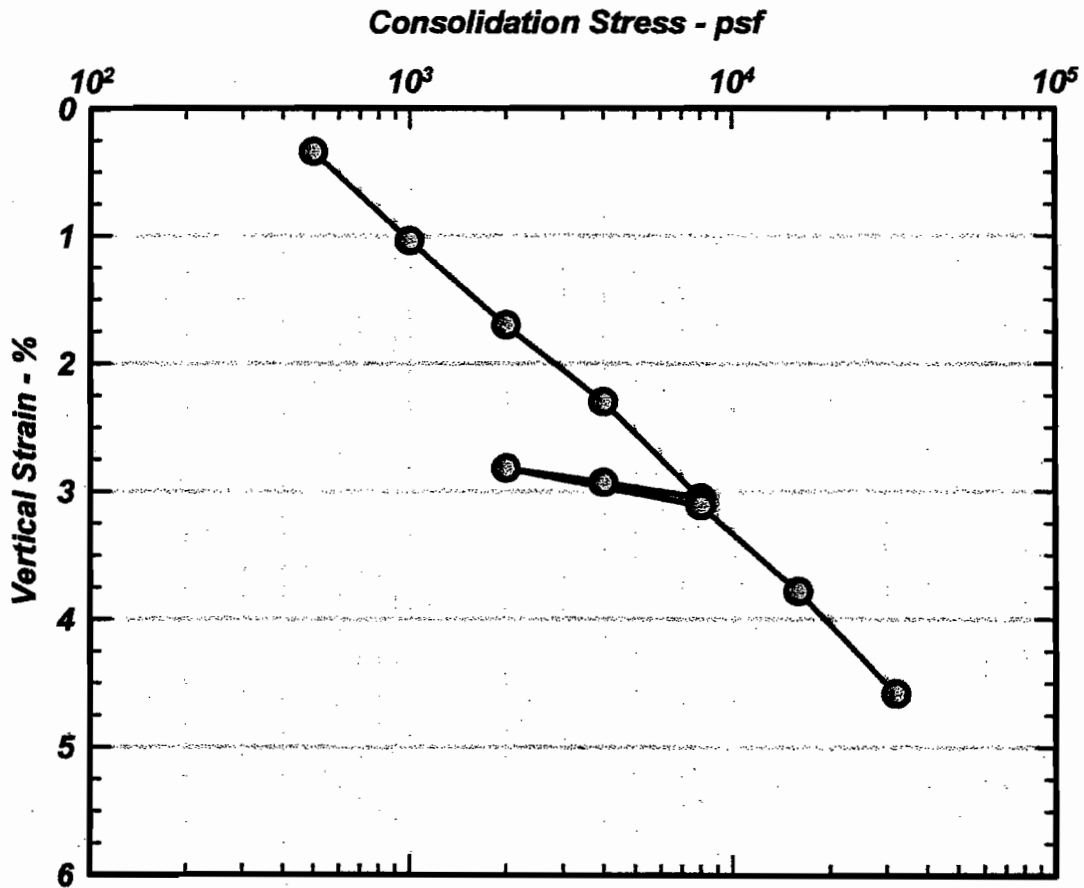


Symbols	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	102-8	34	Silty SAND (SM)	27	0.2

Project: Los Osos Wastewater Project (Tri-W Site)
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4b

Consolidation Test Results

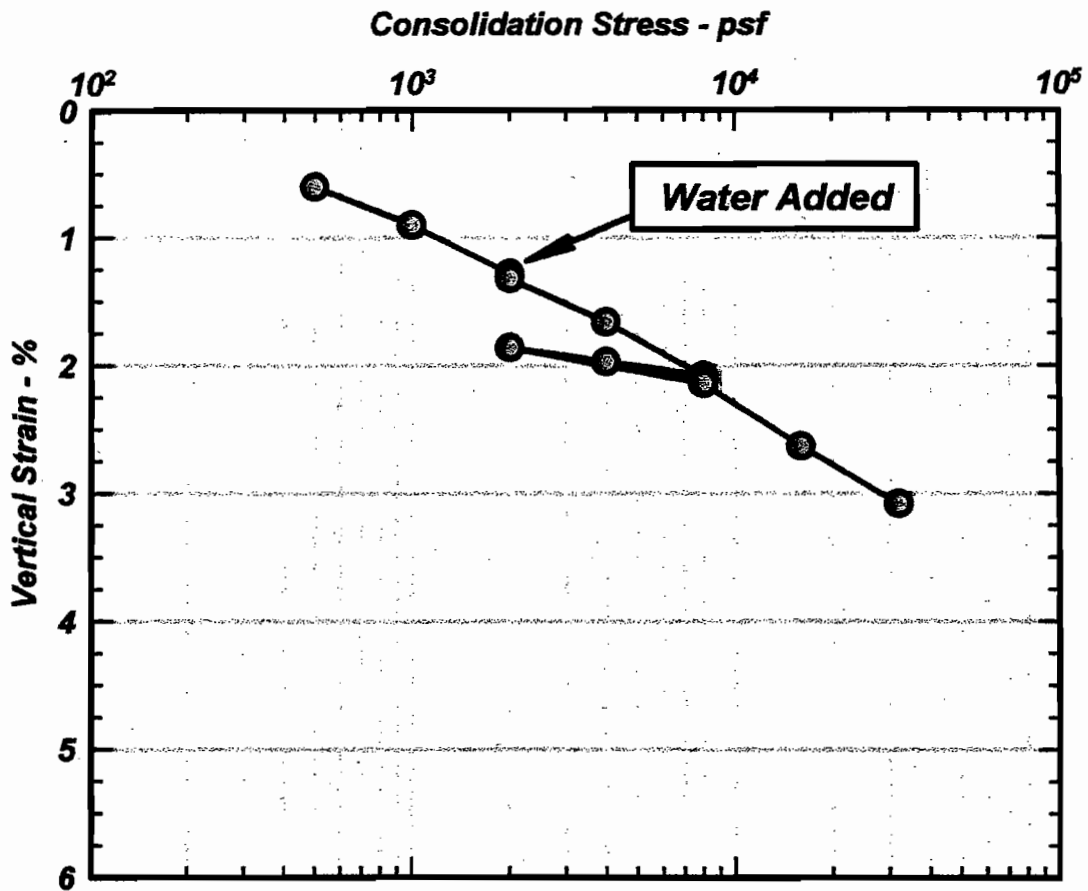


Symbol	Sample	Depth (ft)	Description and Classification	Total Unit Weight (pcf)	Water Content (%)
•	102-6	24	Silty SAND (SM)	129.2	17.6

Project: Los Osos Wastewater Project (Tri-W Site)
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D2435


 CFS Geotechnical Consultants	CONSOLIDATION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-5a

Consolidation Test Results



Symbol	Sample	Depth (ft)	Description and Classification	Total Unit Weight (pcf)	Water Content (%)
•	104-3	7.5	Poorly Graded SAND (SP)	109.3	4.3

Project: Los Osos Wastewater Project (Tri-W Site)
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D2435

 CFS Geotechnical Consultants	CONSOLIDATION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-5b

**ATTACHMENT B1
BORING LOGS
CFS (2000b)**

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Standard Penetration Test (SPT) split spoon sampler having a 2-inch (50 mm) O.D., 1 3/8-inch (35 mm) I.D. and without liners. Sampler is driven in three 6-inch (305 mm) increments by dropping a 140-lb (63 kg) weight 30 inches (760 mm). The reported blow count is the sum of the blows for the last two increments.



Modified California split spoon sampler having a 3-inch (76 mm) O.D., 2 3/8-inch (60 mm) I.D. with liners. Sampler is driven in three 6-inch (305 mm) increments by dropping a 140-lb (63 kg) weight 30 inches (760 mm).



Thick-walled modified California split spoon sampler driven 12 inches (305 mm) using the rig's kelley.



Thin-walled Shelby Tube sampler that is pushed into the ground using the rig's hydraulics.



Hand driven modified California sampler with liners.



Bulk sample obtained from drill auger flights, backhoe cuttings or hand excavation.

NR No recovery

Consistency of Cohesive Soil:

SPT N-Valve	Undrained Shear Strength (Su)		Consistency
	psf	kpa	
0 - 1	< 250	< 12	very soft
2 - 4	250 - 500	13 - 25	soft
5 - 8	500 - 1,000	26 - 50	firm
9 - 15	1,000 - 1,500	51 - 75	stiff
16 - 30	1,500 - 2,000	76 - 100	very stiff
> 31	> 2,000	> 100	hard

Relative Density of Granular Soil:

SPT N-Valve	Consistency
0 - 4	very loose
5 - 10	loose
11 - 30	medium dense
31 - 50	dense
> 50	very dense

pp Unconfined compression strength from pocket penetrometer

S_{t,v} Undrained shear strength (t = torvane, v = minivane, pp = pocket penetrometer)

 Initial depth to groundwater

 Groundwater level after drilling

Notes:

Soil classification and descriptions are performed in general accordance with ASTM D-2487 and ASTM D-2488 based on the Unified Soil Classification System.

The logs represent the interpretation of field classifications and testing, interpolation between sample intervals, results of laboratory tests, and the conditions observed at the time of exploration. The transitions between soil types and strata are approximate and can be gradual.

Soil and rock materials vary in type and other geotechnical properties between points of observation and exploration. Groundwater and soil moisture conditions vary seasonally and for other reasons.

Explorations and services have not been requested nor performed to assess the presence or absence of hazardous or toxic materials.



Drilling Method: 7 inch (180mm) Hollow-Stem Auger **Date:** May 1, 2000
Driller: Gregg Drilling **Completion Depth:** 10.5m (34.5') **Ground Elevation:** 26.2m ± (86.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 4.1m (13.5') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:**
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1	CAL		50	1-1	Qs	Dune Sand: SAND with silt (SP-SM), medium dense, dark brown, moist, with roots at 2.5 feet	105 (16.5)	3.9	
5				1A		SAND (SP), dense, orange-brown, moist			
2		BULK		1A		light brown, with 2-inch lenses of orangish-brown sand and 1/8-inch seams of dark brown sand			
3	SPT		35	1-2					
4	CAL		58	1-3	QTp	Paso Robles Formation: SAND (SP), dense, light brown, wet	126 (19.8)	17.1	Grain Size
6	SPT		61	1-4		Silty SAND (SM), very dense, light reddish brown with tan mottles, wet			
7	CAL		>104	1-5		with layers of stiff, light gray, Lean CLAY (CL)			

LOG OF BORING 991001.GPJ CFS GEO.GDT 6/14/00



CFS Geotechnical Consultants

BORING NO. B-1
100 feet west of Library

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-2

Drilling Method: 7 inch (180mm) Hollow-Stem Auger **Date:** May 1, 2000
Driller: Gregg Drilling **Completion Depth:** 10.5m (34.5') **Ground Elevation:** 26.2m ± (86.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 4.1m (13.5') **After drilling:**
Comments:
Hammer Type: 140 lb Autotrip CME with 30-in drop **Backfill Material:** Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9 30	SPT		>100	1-6		Silty SAND (SM), very dense, light reddish brown with tan mottles, wet (<i>Continued</i>)			
10 35	CAL		>81	1-7					
11 35						Boring terminated at 34.5 feet (10.5 meters)			
12 40									
13 45									
14 50									
15 55									
16 55									
17									

LOG OF BORING 991001.GPJ CFS GEO.GDT 8/14/00



CFS Geotechnical Consultants

BORING NO. B-1

100 feet west of Library

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-2

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 8, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 21.6m (71.0') **Ground Elevation:** 29.0m ± (95.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 16.5m (54.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 48 feet
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1 5 2 3 4 5 6 7 8	10 15 20 25	CAL SPT CAL SPT CAL SPT	BULK	11 11 21 16 30 17	2-1 2A 2-2 2-3 2-4 2-5 2-6	Qs	Dune Sand: SAND with silt (SP-SM), loose, light brown, dry	102 (16.0)	2.7	Compaction
							SAND (SP), loose, light orangish brown, moist			
							Paso Robles Formation: SAND with clay (SP-SC), medium dense, light orangish brown, moist with 1/2" lenses of brown Lean CLAY (CL)			
							SAND (SP), medium dense, light brown, moist, with 1/2" seams of SAND with clay (SP-SC)			
							QTp			

LOG OF BORING 991001.GPJ CFS GEO.GDT 8/14/00



CFS Geotechnical Consultants

BORING NO. B-2

350' N of Los Osos Valley Rd.,
400' E of Broderson Ave.

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-3

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 8, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 21.6m (71.0') **Ground Elevation:** 29.0m ± (95.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 16.5m (54.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 48 feet
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9	30	CAL		67	2-7	QTp	Paso Robles Formation: SAND (SP), dense, light reddish brown, moist, fine to medium grained with pockets of silt	103 (16.2)	11.6	Permeability
10	35	SPT		27	2-8		medium dense, light brown			
12	40	CAL		53	2-9		with pockets of Sandy SILT and Silty SAND	104 (16.3)	3.4	
14	45	SPT		27	2-10		light brown, with 1/4" seams of reddish brown, medium SAND			
15	50	CAL		79	2-11		3" lense of reddish brown, medium SAND	107 (16.8)	4.5	Permeability
16							SAND with silt (SP-SM), very dense, orange-brown, moist			
17	55	SPT		52	2-12		light brown, wet below 54'			

LOG OF BORING 991001.GPJ CFS GEO.GDT 6/14/00



CFS Geotechnical Consultants

BORING NO. B-2

350' N of Los Osos Valley Rd.,
400' E of Broderson Ave.

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-3

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 8, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 21.6m (71.0') **Ground Elevation:** 29.0m ± (95.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 16.5m (54.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 48 feet
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
18 60	CAL		>80	2-13	QTp	Paso Robles Formation: Silty SAND (SM), very dense, brown, wet, with black specs	127 (20.0)	17.1	
19 20 65	SPT		46	2-14					
21 70	CAL		>76	2-15		with pockets and lenses of tan, Silty CLAY	130 (20.4)	19.8	
22 23 24 25 75 80						Boring terminated at 71.0 feet (21.6 meters)			

LOG OF BORING 991001.GPJ CFS GEO.GDT 6/14/00



CFS Geotechnical Consultants

BORING NO. B-2

350' N of Los Osos Valley Rd.,
400' E of Broderson Ave.

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-3

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 8, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 12.3m (40.5') **Ground Elevation:** 19.5m ± (64.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 8.5m (28.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 29.5 feet
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1	CAL		5	3-1	Qs	Dune Sand: Silty SAND (SM), loose, dark brown, dry to moist, with roots	101 (15.9)	4.7	Grain Size
5	SPT		7	3-2		SAND (SP), very loose to loose, light brown, moist, with roots and voids, >1/8-inch thick brown clayey sand seams from 5 to 6 feet			
3	CAL		34	3-3	QTp	Paso Robles Formation: SAND with silt (SP-SM), to Silty SAND (SM), medium dense, brown, very moist	125 (19.6)	16.8	Permeability
4						SAND with silt (SP-SM), dense, light brown, moist			
6	CAL		59	3-5		SAND (SP), dense, light reddish brown, moist, fine to medium grain size			
7	SPT		33	3-6		SAND with silt (SP-SM), dense, light brown, moist, with 1/2-inch to 1-inch lenses of iron oxide staining			

LOG OF BORING 991001.GPJ CFS_GEO.GDT 8/14/00



CFS Geotechnical Consultants

BORING NO. B-3

950' N of Los Osos Valley Rd.,
400' SE terminus of skyline

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-4

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 8, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 12.3m (40.5') **Ground Elevation:** 19.5m ± (64.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 8.5m (28.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 29.5 feet
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9 -30	CAL		>81	3-7		SAND with silt (SP-SM), very dense, brown, wet	124 (19.5)	28.8	
10 -35	SPT		54	3-8		with black specs and staining			
12 -40	CAL		>100	3-9					
13 -45						Boring terminated at 40.5 feet (12.3 meters)			
14 -50									
15 -55									
16 -60									

LOG OF BORING 991001.GPJ CFS GEO.GDT 8/14/00



CFS Geotechnical Consultants

BORING NO. B-3

950' N of Los Osos Valley Rd.,
400' SE terminus of skyline

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-4

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 9, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 21.5m (70.5') **Ground Elevation:** 20.4m ± (67.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 5.5m (18.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:**
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1 5 2 3 4 5 6 7 8	1 5 10 15 20 25	SPT CAL CAL SPT CAL SPT CAL	BULK BULK BULK	7 19 14 38 34 >79	4-1 4-2 4A 4-3 4-4 4-5 4-6	Qs	Dune Sand: Silty SAND (SM), loose, light brown, dry	105 (16.4)	3.8	Compaction Direct Shear
							SAND (SP), loose, light brown, moist, with roots at 3 feet			
							medium dense			
						QTp	Paso Robles Formation: SAND with silt (SP-SM), dense, brown, very moist clay lense at 15.5 feet	125 (19.7)	15.7	
							wet			
							very dense	130 (20.3)	20.0	Direct Shear

LOG OF BORING 991001.GPJ CFS GEO.GDT 8/19/00



CFS Geotechnical Consultants

BORING NO. B-4

1500' N of Los Osos Valley Rd.,
450' NW terminus of Palisades

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-5

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 9, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 21.5m (70.5') **Ground Elevation:** 20.4m ± (67.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 5.5m (18.0') **After drilling:**
Comments:
Hammer Type: 140 lb Autotrip CME with 30-in drop **Backfill Material:** Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9	30	SPT		>72	4-7		Paso Robles Formation: SAND with silt (SP-SM), dense, brown, very moist (Continued)			
10							Fat CLAY (CH), hard, moderate brown, moist, with black specs			
11	35	CAL	BULK	64	4-8			129 (20.3)	24.7	pp=4.2 tsf Atterberg Limits Consolidation
12	40	SPT		>75	4-9		Silty SAND (SM), very dense, brown, wet, with interbedded layers of gravel to 2-inch diameter and lean clay			
13							grades to			
14	45	CAL		>73	4-10		SAND with silt (SP-SM), very dense, brown, wet, with pockets of clay	128 (20.0)	21.8	Consolidation
15	50	SPT		>88	4-11					
16							Sandy SILT (ML), hard, light yellowish brown, wet, with black specs and pockets of clay			
17	55	CAL		>68	4-12			127 (20.0)	20.7	

LOG OF BORING 991001.GPJ CFS GEO.GDT 8/18/00



CFS Geotechnical Consultants

BORING NO. B-4

1500' N of Los Osos Valley Rd.,
450' NW terminus of Palisades

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-5

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 9, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 21.5m (70.5') **Ground Elevation:** 20.4m ± (67.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 5.5m (18.0') **After drilling:**
Comments:
Hammer Type: 140 lb Autotrip CME with 30-in drop **Backfill Material:** Bentonite

Depth Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
18	60	SPT		>88	4-13		Sandy SILT (ML), hard, light yellowish brown, wet, with black specs and pockets of clay (<i>Continued</i>)			
19							Sandy SILT (ML), and Silty SAND (SM), very dense, light yellowish brown, wet			
20	65	CAL		>98	4-14		SAND with silt (SP-SM), very dense, light brown, wet	127 (19.9)	24.0	
21	70	SPT		>68	4-15		Silty SAND (SM), very dense, light brown, wet, with pockets of silty clay			
22							Boring terminated at 70.5 feet (21.5 meters)			
23	75									
24	80									
25										

LOG OF BORING 991001.GPJ CFS_GEO.GDT 8/19/00



CFS Geotechnical Consultants

BORING NO. B-4

1500' N of Los Osos Valley Rd.,
450' NW terminus of Palisades

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-5

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 8, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 15.4m (50.5') **Ground Elevation:** 20.6m ± (67.5')
Logged by: C. Lovato **Groundwater Depth: Initial:** 5.6m (18.5') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 20.5 feet
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
						Qs	Dune Sand: Silty SAND (SM), loose, dark brown, dry to moist			
	5	CAL		21	5-1		SAND (SP), medium dense, light brown, moist	107 (16.8)	3.9	
			BULK		5A					
	10	SPT		15	5-2		with 1/2-inch lenses of brown SAND with clay (SP-SC)			Grain Size
	15	CAL		32	5-3	QTp	Paso Robles Formation: SAND with silt (SP-SM), medium dense, light brown, moist	107 (16.8)	7.4	
	20	SPT		33	5-4		SAND (SP), dense, brown to light reddish brown, wet, with 3-inch lenses of medium SAND			
	25	CAL		64	5-5		Silty SAND (SM), dense, light gray to white, wet	132 (20.7)	19.8	Direct Shear

LOG OF BORING 991001.GPJ CFS GEO.GDT 6/19/00



CFS Geotechnical Consultants

BORING NO. B-5
700' East of Skyline Ave.

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-6

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 8, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 15.4m (50.5') **Ground Elevation:** 20.6m ± (67.5')
Logged by: C. Lovato **Groundwater Depth: Initial:** 5.6m (18.5') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 20.5 feet
Backfill Material: Bentonite

Depth Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9	30	SPT		39	5-6		Clayey SAND with gravel (SC), dense, brown, wet, with red gravel greater than 2-inches (<i>Continued</i>)			
10	35	CAL		>90	5-7		Silty SAND (SM), very dense, brown, wet	127 (19.9)	17.9	
12	40	SPT		55	5-8		with lenses of reddish brown, medium SAND pockets of clay and gravel clast to 1/4-inch			
14	45	CAL		>91	5-9		grades to SAND with silt (SP-SM), very dense, brown to reddish brown, wet	129 (20.2)	20.5	
15	50	SPT		58	5-10					
							Boring terminated at 50.5 feet (15.4 meters)			
17	55									

LOG OF BORING 991001.GPJ CFS_GEO.GDT 8/19/00



CFS Geotechnical Consultants

BORING NO. B-5

700' East of Skyline Ave.

Los Osos Wastewater Project
 Los Osos, California
 Project No. 991001

Figure A-6

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 9, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 15.4m (50.5') **Ground Elevation:** 22.7m ± (74.5')
Logged by: C. Lovato/G. Fiegel **Groundwater Depth: Initial:** 2.9m (9.5') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:**
Backfill Material: Bentonite

Depth Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1		CAL		12	6-1	Qs	Dune Sand: SAND (SP), loose, light yellowish brown, dry, with roots at 3 feet	100 (15.7)	1.8	
1.5	5	SPT		9	6-2		moist			
2			BULK		6A					
3	10	CAL		32	6-3	QTp	Paso Robles Formation: SAND (SP), medium dense, dark brown, wet	124 (19.4)	15.1	Grain Size
4		SPT		22	6-4		SAND with silt (SP-SM), medium dense, reddish brown to light brown, wet			
5	15	CAL		55	6-5		dense	129 (20.2)	20.3	
6	20	SPT		72	6-6		very dense			
7							interbedded clay layers at 20 feet to 24 feet			
8	25	CAL		>90	6-7					

LOG OF BORING 991001.GPJ CFS GEO.GDT 8/14/00



CFS Geotechnical Consultants

BORING NO. B-6
 260' W of Ferrel Ave.,
 375' NE terminus of Palisades

Los Osos Wastewater Project
 Los Osos, California
 Project No. 991001

Figure A-7

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 9, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 15.4m (50.5') **Ground Elevation:** 22.7m ± (74.5')
Logged by: C. Lovato/G. Fiegel **Groundwater Depth: Initial:** 2.9m (9.5') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:**
Backfill Material: Bentonite

Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9	30	SPT		13	6-8		Lean CLAY (CL), stiff, dark brown, moist	136 (21.3)	16.8	pp=4.5+tsf Atterberg Limits
							interbedded sand layers 30 feet to 35 feet			
10	35	CAL		62	6-9		Lean CLAY with sand (CL), hard, dark brown, moist			
11										
12	40	SPT		36	6-10		Clayey SAND (SC), dense, dark brown to reddish brown, moist			
13										
14	45	CAL		>92	6-11		SAND with clay and gravel (SP-SC), very dense, brown to reddish brown, moist to wet	132 (20.7)	15.3	
15	50	SPT		>99	6-12					
16							Boring terminated at 50.5 feet (15.4 meters)			

LOG OF BORING 991001.GPJ.CFS.GEO.GDT 6/14/00



CFS Geotechnical Consultants

BORING NO. B-6
 260' W of Ferrel Ave.,
 375' NE terminus of Palisades

Los Osos Wastewater Project
 Los Osos, California
 Project No. 991001

Figure A-7

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 10, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 12.2m (40.0') **Ground Elevation:** 13.1m ± (43.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 6.7m (22.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:**
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests	
1					Qs	Dune Sand: SAND with silt (SP-SM), loose, light brown, dry	114 (17.9)	2.6	Permeability	
5	CAL	BULK	14	7-1		SAND (SP), loose, light yellowish brown, moist				
10	CAL		25	7-2		SAND (SP), medium dense, light yellowish brown, moist, with lenses of brown silty sand				
15			17	7-3	QTp	Paso Robles Formation: SAND (SP), medium dense, light reddish brown, moist, medium grain size	114 (17.9)	2.6	Grain Size	
20	CAL		44	7-4						
25			32	7-5						SAND with silt (SP-SM), dense, light brown, wet, with gravel interbeds, subangular gravel to 1-inch

LOG OF BORING 991001.GPJ CFS GEO.GDT 8/14/00



CFS Geotechnical Consultants

BORING NO. B-7
 800' S of Ramona Ave.,
 35' E of mobile home park

Los Osos Wastewater Project
 Los Osos, California
 Project No. 991001

Figure A-8

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 10, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 12.2m (40.0') **Ground Elevation:** 13.1m ± (43.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 6.7m (22.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:**
Backfill Material: Bentonite

Depth	Meters	Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9		30	CAL		43	7-6		Silty SAND (SM), medium dense, light brown, wet, with gravel and pockets of silt and clay	132 (20.8)	30.1	
12		40						Boring terminated at 40.0 feet (12.2 meters)			

LOG OF BORING 991001.GPJ CFS GEO.GDT 6/14/00



CFS Geotechnical Consultants

BORING NO. B-7

800' S of Ramona Ave.,
35' E of mobile home park

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-8

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 10, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 10.8m (35.5') **Ground Elevation:** 7.9m ± (26.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 4.0m (13.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 13 feet
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1	CAL		9	8-1	Qs	Dune Sand: SAND (SP), loose, dark brown, dry to moist	104 (16.3)	2.9	Grain Size
5	SPT	BULK	7	8A 8-2		grades to brown.			
3	CAL		34	8-3	QTp	SAND with silt (SP-SM), medium dense, light yellowish brown, moist	107 (16.7)	3.4	No Recovery with CAL sampler
15	SPT		12	8-4		Paso Robles Formation: SAND (SP), medium dense, light brown, wet			
6	CAL	BULK	34	NR					
7				8-5					
25	SPT		>63	8-6					

LOG OF BORING 991001.GPJ CFS GEO.GDT 8/14/00



CFS Geotechnical Consultants

BORING NO. B-8

130' South of Ramona Ave.

Los Osos Wastewater Project
 Los Osos, California
 Project No. 991001

Figure A-9

Drilling Method: 8-1/4 in (210mm) Hollow-Stem Auger **Date:** May 10, 2000
Driller: S/G Testing Laboratories **Completion Depth:** 10.8m (35.5') **Ground Elevation:** 7.9m ± (26.0')
Logged by: C. Lovato **Groundwater Depth: Initial:** 4.0m (13.0') **After drilling:**
Hammer Type: 140 lb Autotrip CME with 30-in drop **Comments:** Caved to 13 feet
Backfill Material: Bentonite

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
9 -30	CAL	BULK	67	8-7		Paso Robles Formation: SAND (SP), medium dense, light brown, wet (Continued)			Disturbed CAL sample
10						SAND (SP), dense, light reddish brown, wet, medium grained			
11 -35	SPT		>100	8-8		Silty SAND (SM), very dense, light gray, wet Boring terminated at 35.5 feet (10.8 meters)			
12 -40									
13 -45									
14 -50									
15 -55									
16									
17									

LOG OF BORING 991001.GPJ CFS_GEO.GDT 6/14/00



CFS Geotechnical Consultants

BORING NO. B-8
130' South of Ramona Ave.

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-9

Drilling Method: 4 inch Hand-Auger

Date: December 9, 1999

Driller: CFS Geotechnical Consultants

Completion Depth: 7.6m (25.0') **Ground Elevation:** 19.5m ± (64.0')

Logged by: J. Blanchard/C. Lovato

Groundwater Depth: Initial: 7.6m (25.0') **After drilling:**

Hammer Type: 5 lb Hand Driven

Comments: Wet at 23'. Hole caving at 25'

Backfill Material: Native

Depth Meters Feet	Drive Samples	Bulk Samples	Blowcount (blows/foot)	Sample	Geologic Unit	DESCRIPTION AND CLASSIFICATION	Total Unit Weight, pcf(kN/m ³)	Moisture Content (%)	Other Tests
1		BULK		H-1	Qs	Dune Sand: Silty SAND (SM), brown, dry to moist			Compaction Direct Shear
5	CAL		13/6"	NR		Poorly graded SAND and Poorly graded SAND with silt (SP-SM), fine, light brown to tan, moist, occasional roots to 1/4 inch			
2	CAL		40/6	1-1	QTp	Paso Robles Formation: Poorly graded SAND with clay (SP-SC), brown to yellow brown, moist, orange mottles, occasional root to 1/8 inch, orange mottles, grading to orange-brown			
3						Silty Clayey SAND (SC-SM), orange-brown, moist, with orange cemented nodules to 1-1/2 inches (mottled)			
4						Silty SAND to SAND with silt (SP-SM), light yellowish brown, moist, orange mottles			
5						wet at 23 feet			
6									
7									
8						Boring terminated at 25.0 feet (7.6 meters)			

LOG OF BORING 991001.CPJ CFS GEO.GDT 6/14/00



CFS Geotechnical Consultants

BORING NO. H-1

Center of site

Los Osos Wastewater Project
Los Osos, California
Project No. 991001

Figure A-10

**ATTACHMENT B2
CPT/CPTU LOGS
CFS (2000b)**

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GREGG DRILLING & TESTING, INC.

SPECIALIZING IN ENVIRONMENTAL, GEOTECHNICAL AND IN-SITU TESTING

PRESENTATION OF CONE PENETRATION TEST DATA

SITE INVESTIGATION

LOS OSOS, CALIFORNIA

Prepared for:
CFS Geotechnical
San Luis Obispo, California

Prepared by:
GREGG IN SITU, INC.
Martinez, California

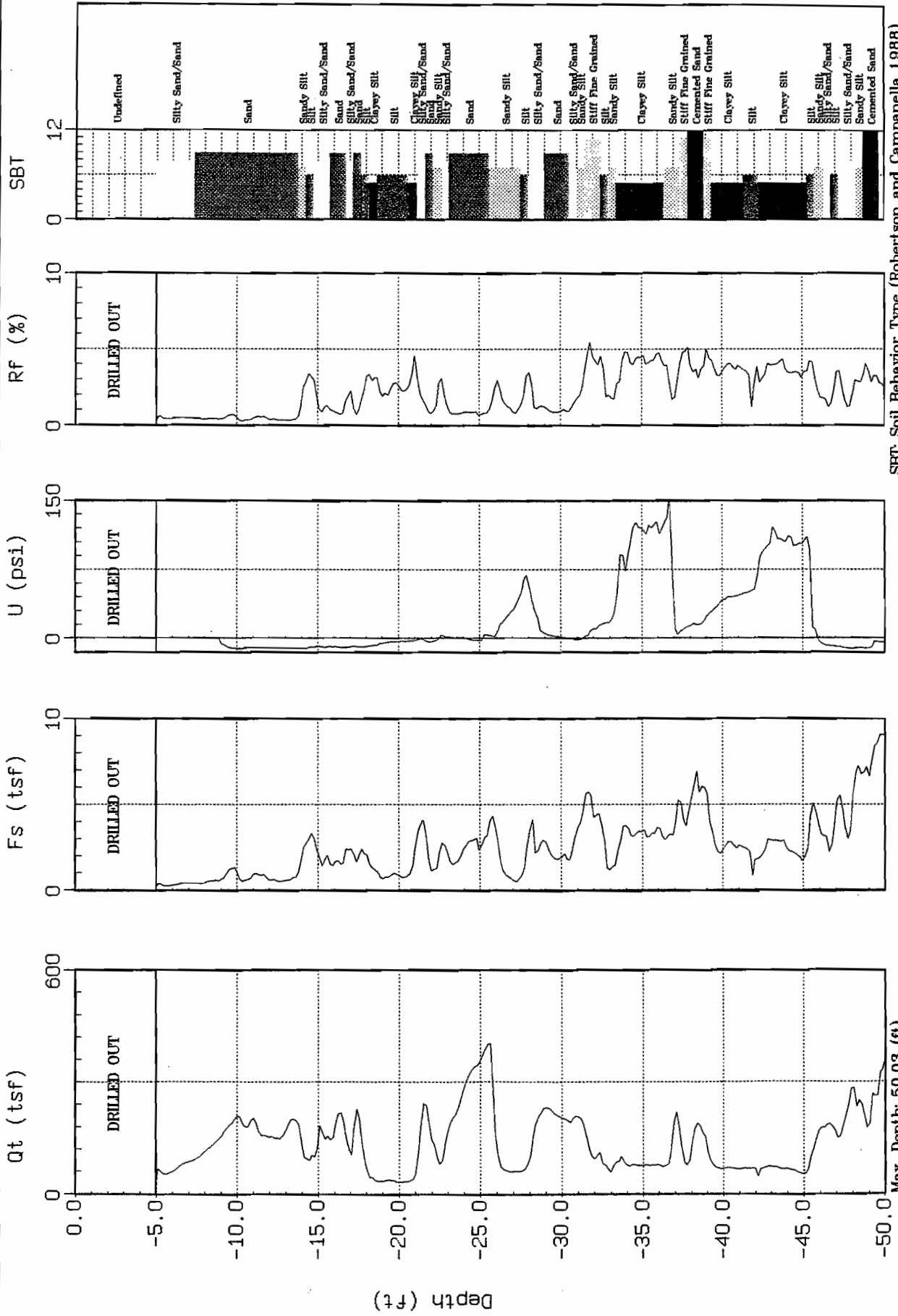
Prepared on:
December 15, 1999



CFS GEOTECHNICAL

Site : LOS OSOS WWTP
Location : CPT-01

Engineer : CHRIS LOVATO
Date : 12:11:99 09:56



SBT: Soil Behavior Type (Robertson and Campanella 1988)

Max. Depth: 50.03 (ft)

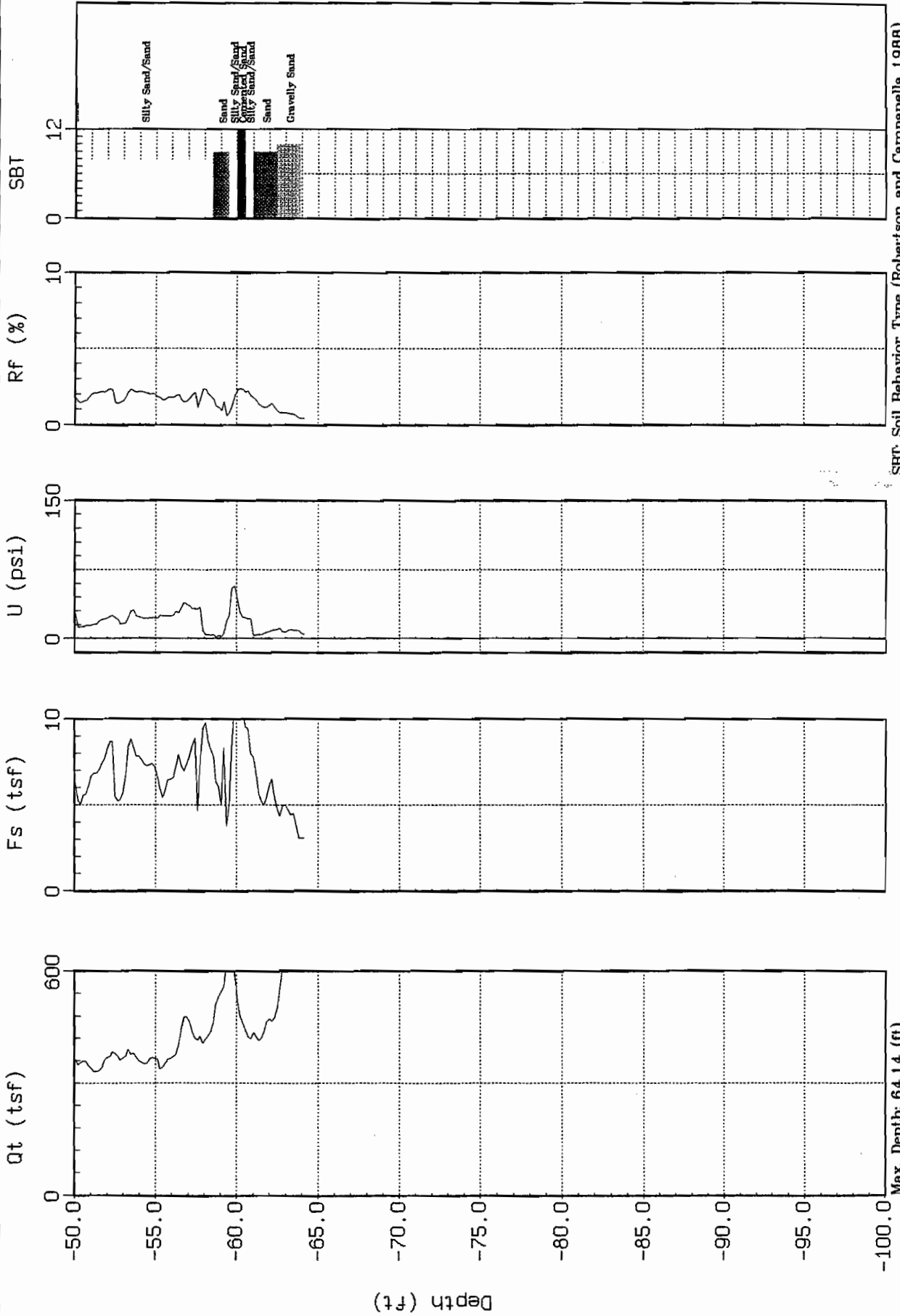
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS WWTTP
Location : CPT-04

Engineer : CHRIS LOUATO
Date : 12:11:99 14:38



SBT: Soil Behavior Type (Robertson and Campanella 1988)

Max Depth: 64.14 (ft)

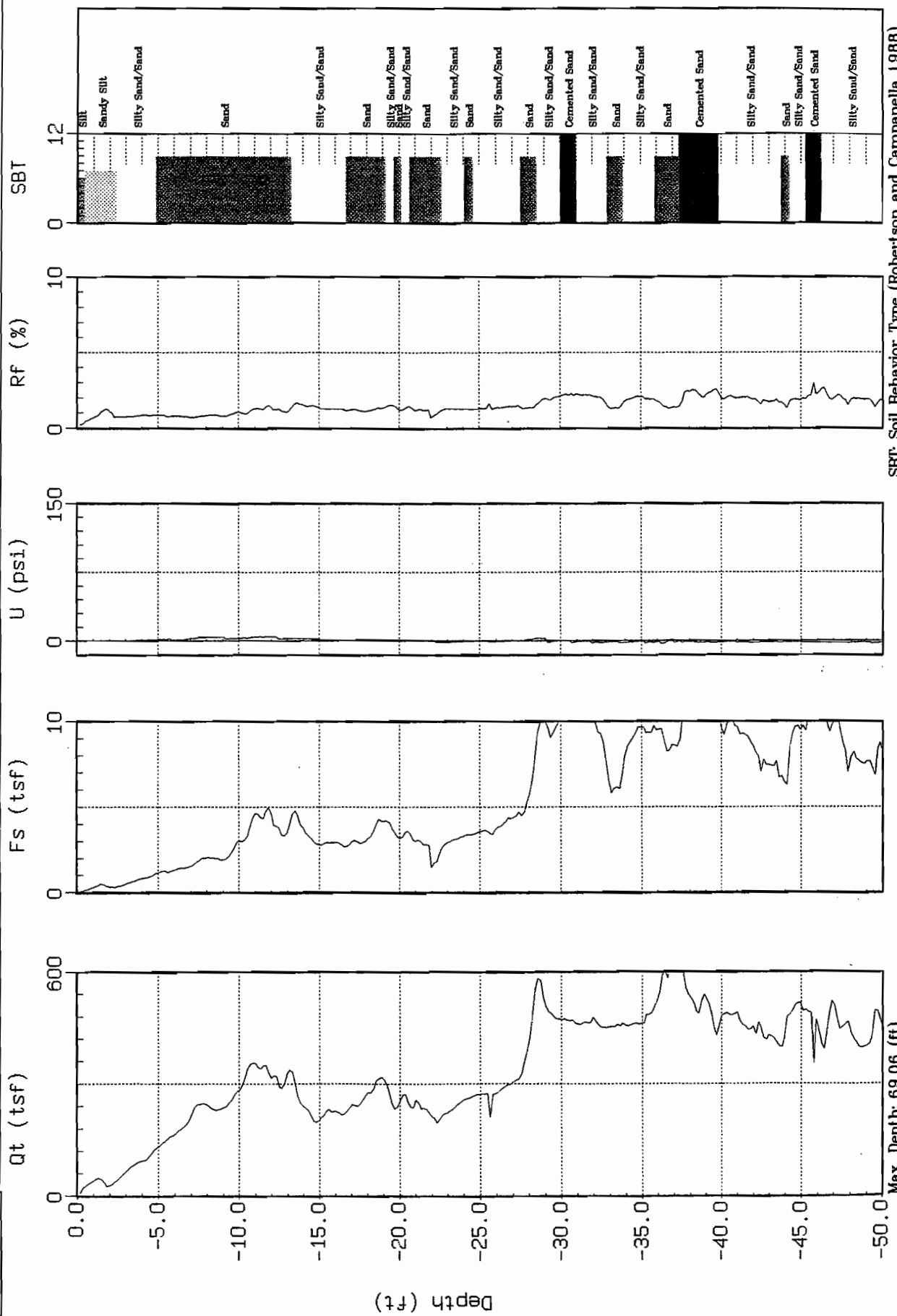
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS WWTP
Location : CPT-05

Engineer : CHRIS LOVATO
Date : 12:11:99 17:00



SBT: Soil Behavior Type (Robertson and Campanella 1988)

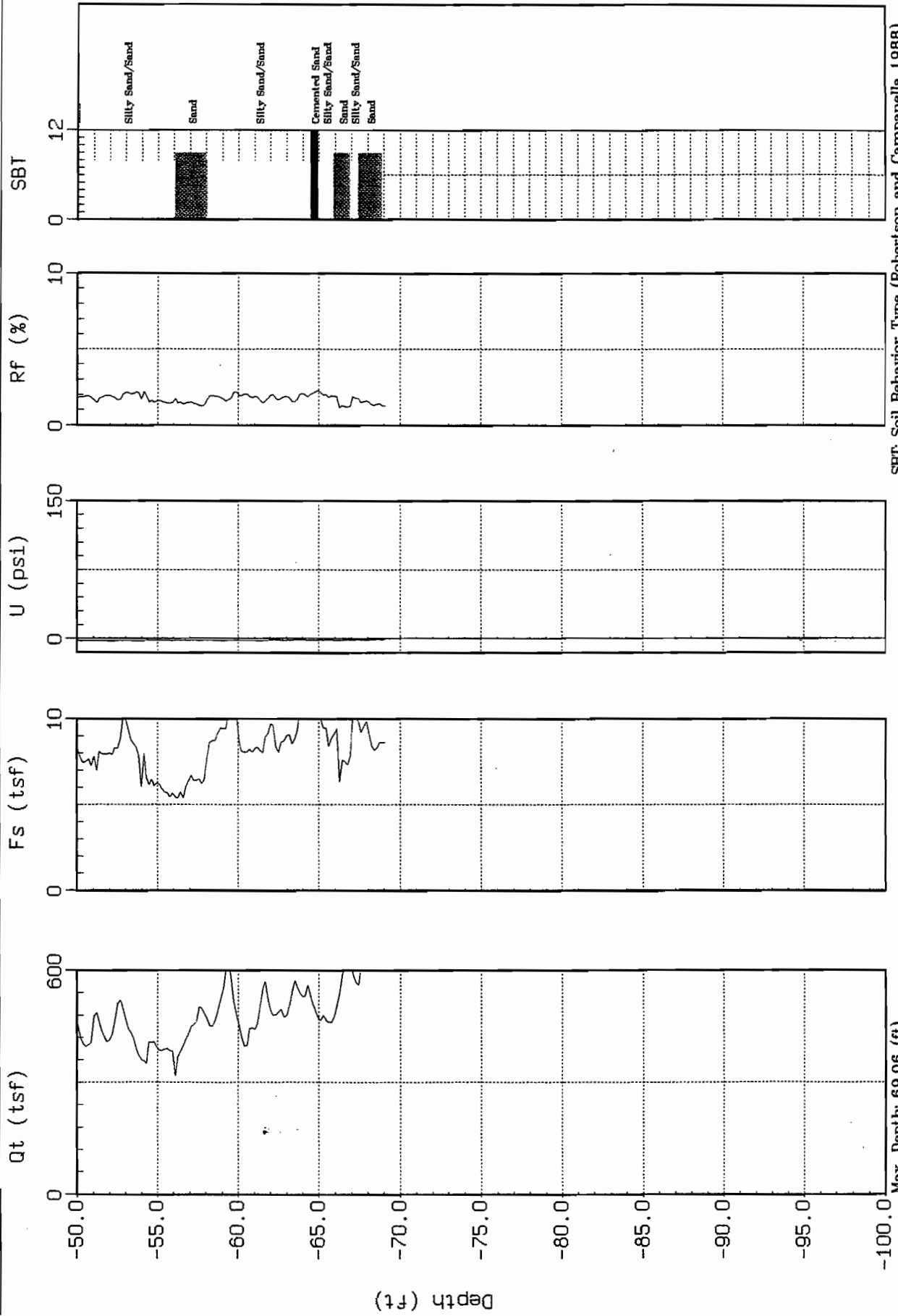
Max. Depth: 69.06 (ft)
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS WWTP
Location : CPT-05

Engineer : CHRIS LOVATO
Date : 12:11:99 17:00



Max. Depth: 69.06 (ft)
Depth Inc: 0.164 (ft)

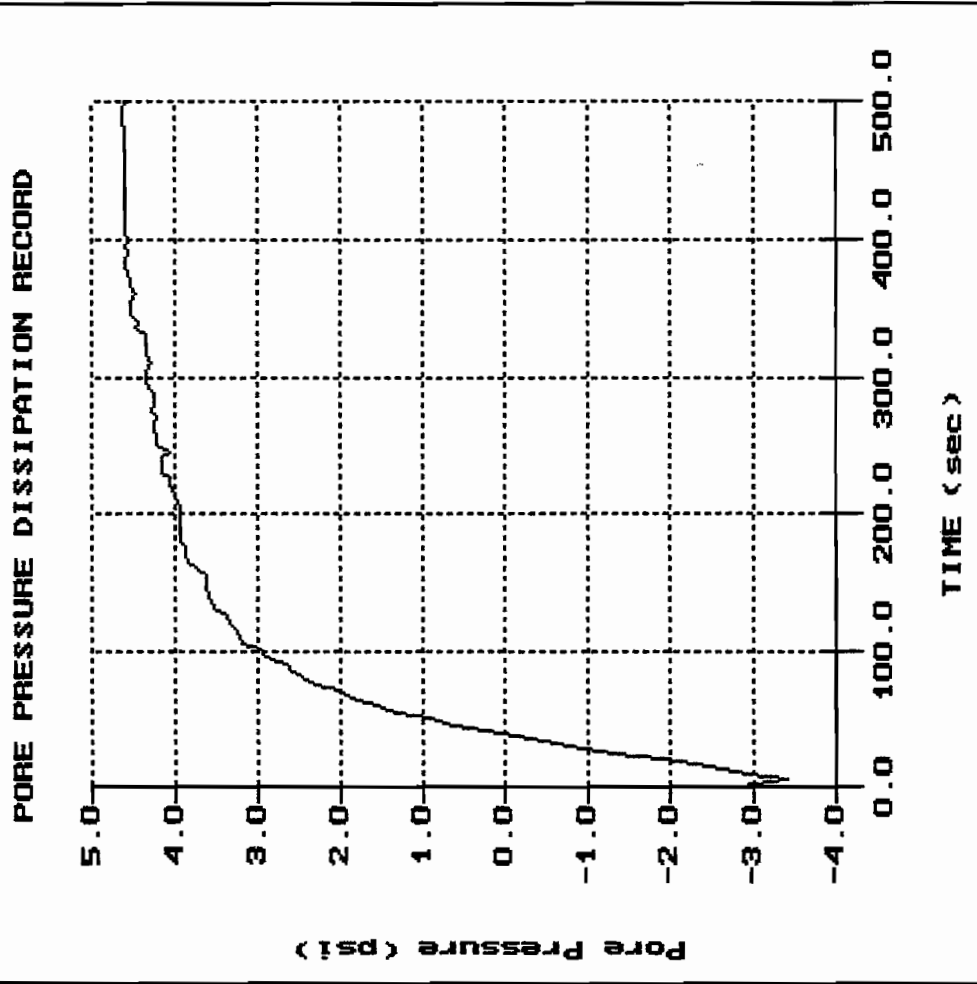
SBT: Soil Behavior Type (Robertson and Campanella 1988)

CFS GEOTECHNICAL

Hole: CPT-01
Location: MMTP

Engineer: C. LOVATO
Date: 12:11:99 09:56

File: 156001.PPD
Depth (m): 7.65
(ft): 25.10
Duration: 500.0s
U-min: -3.40 5.0s
U-max: 4.64 495.0s

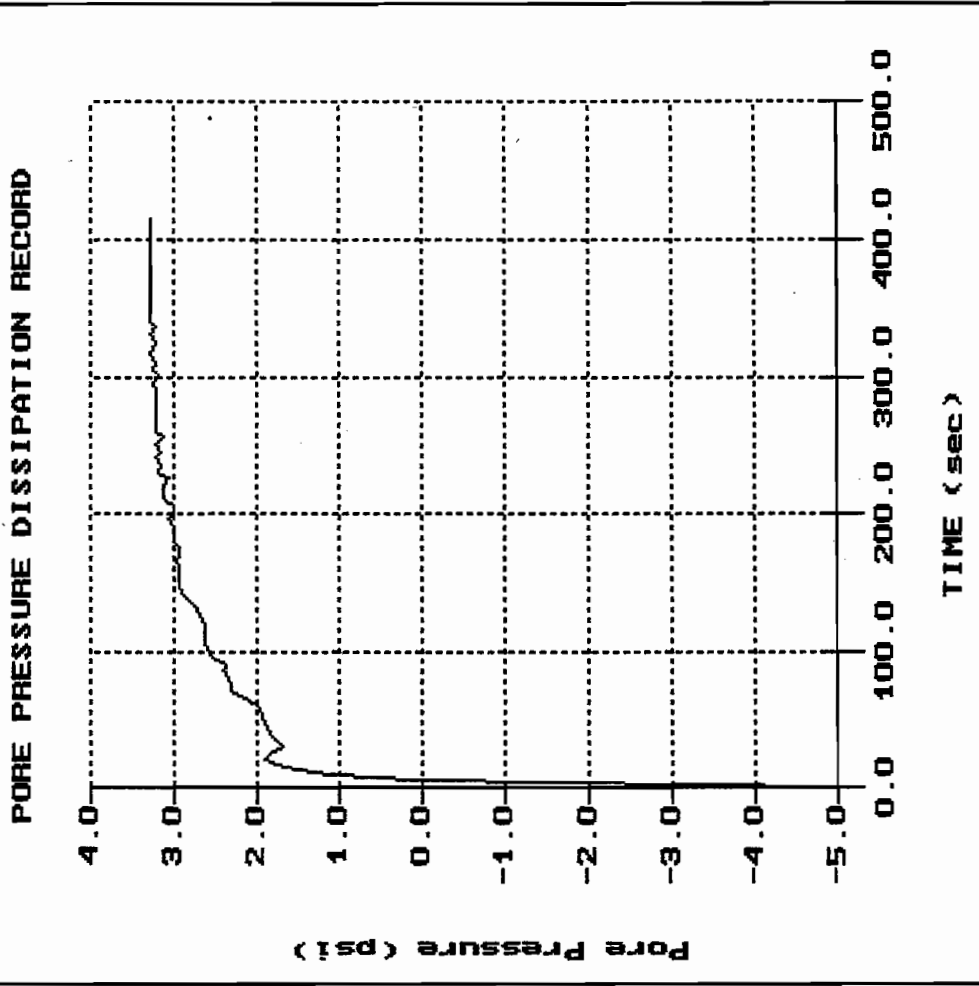


CFS GEOTECHNICAL

Hole: CPT-02
Location: MMTP

Engineer: C. LOVATO
Date: 12:11:99 10:48

File: 156002.PPD
Depth (m): 9.15
Depth (ft): 30.02
Duration: 415.0s
U-min: -4.94 0.0s
U-max: 3.28 415.0s

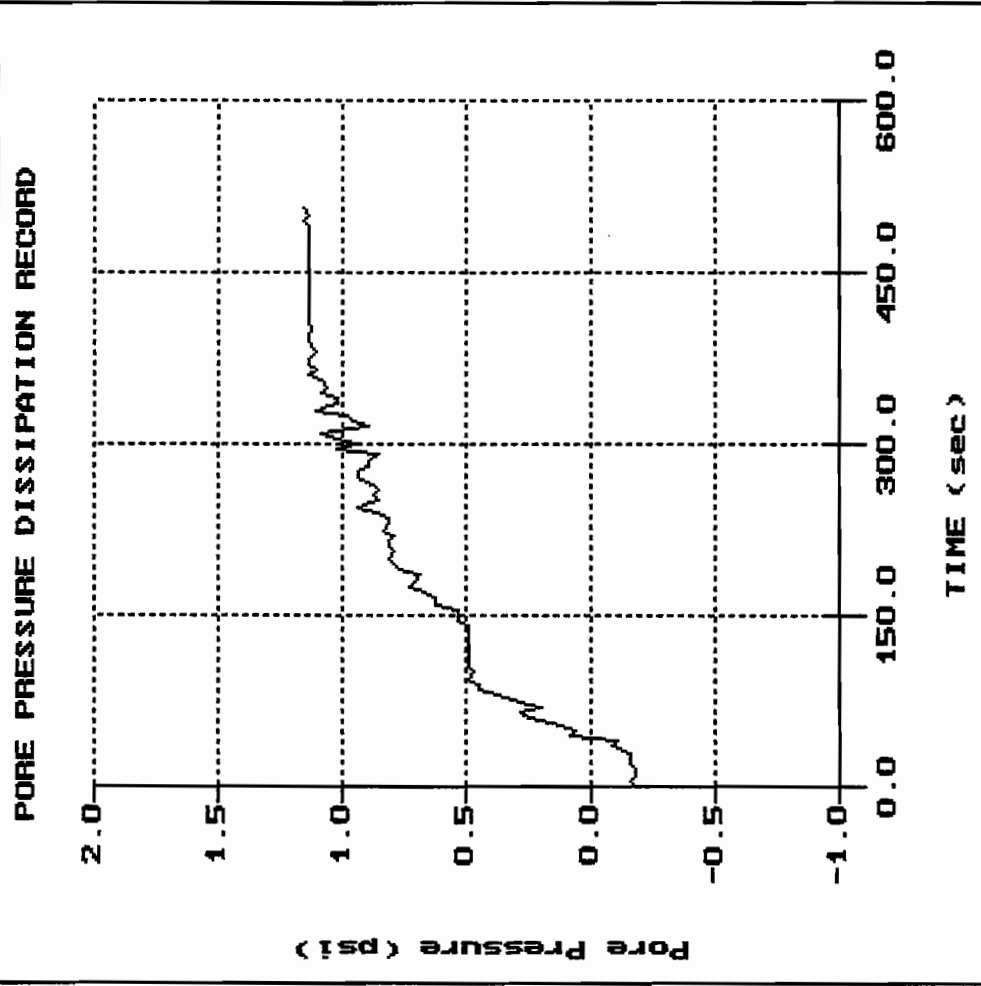


CFS GEOTECHNICAL

Hole: CPT-03
Location: WNTP

Engineer: C. LOUATO
Date: 12:11:99 12:19

File: 156C03.PPD
Depth (m): 6.10
Depth (ft): 20.01
Duration: 505.0s
U-min: -0.18 15.0s
U-max: 1.16 505.0s



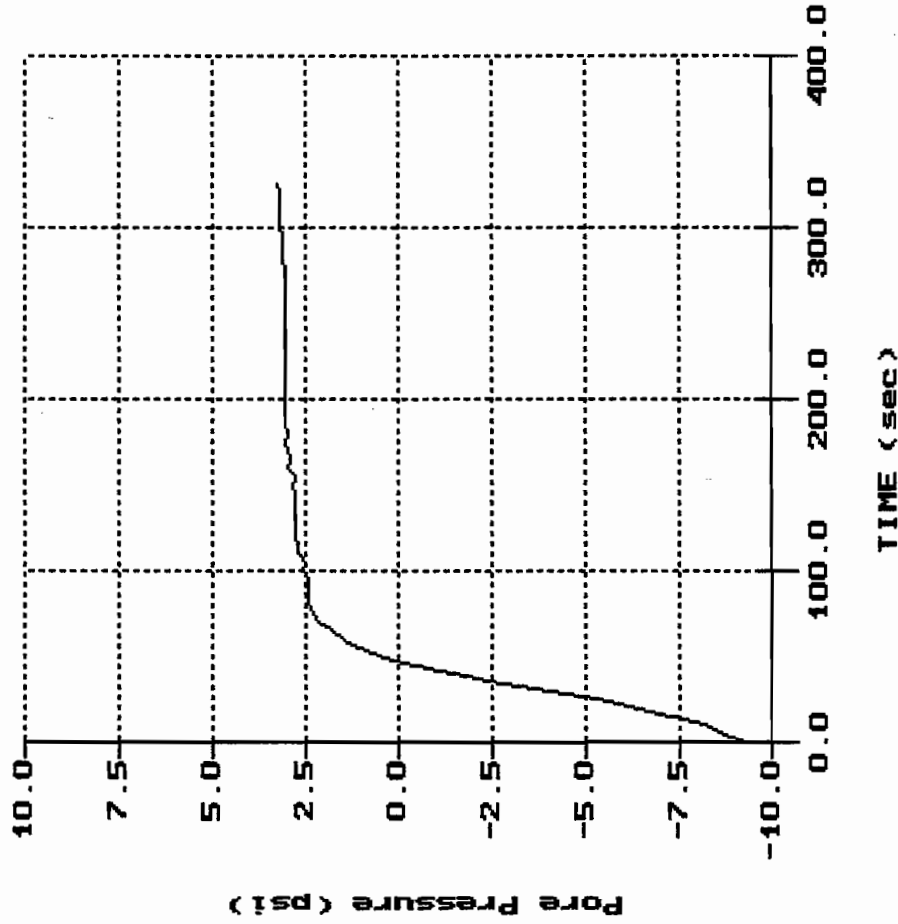
CFS GEOTECHNICAL

Hole: CPT-03
Location: WMTP

Engineer: C. LOVATO
Date: 12:11:99 12:19

File: 156C03.PPD
Depth (m): 9.15
Depth (ft): 30.02
Duration: 325.0s
U-min: -9.28 0.0s
U-max: 3.26 325.0s

PORE PRESSURE DISSIPATION RECORD

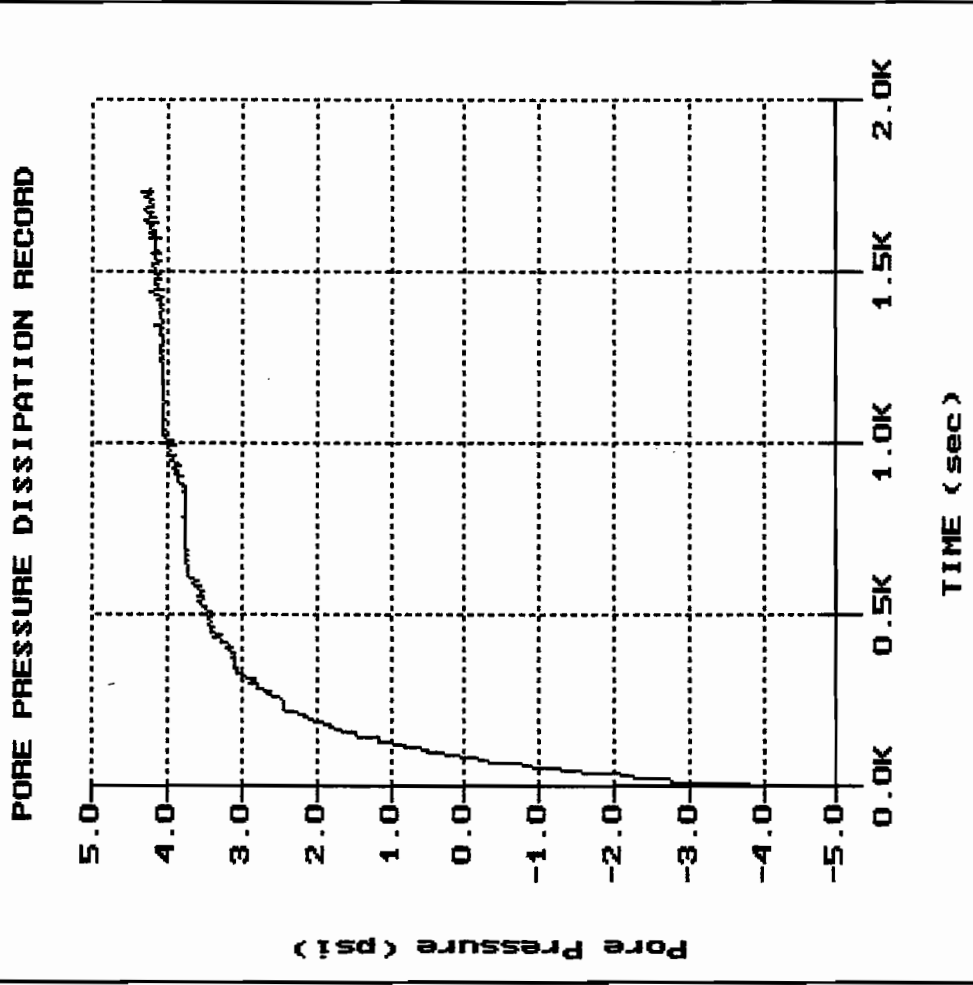


CFS GEOTECHNICAL

Hole: CPT-03
Location: WMTP

Engineer: C. LOUATO
Date: 12:11:99 12:19

File: 156C03.PPD
Depth (m): 10.70
(ft): 35.10
Duration: 1740.0s
U-min: -4.72 0.0s
U-max: 4.33 1730.0s

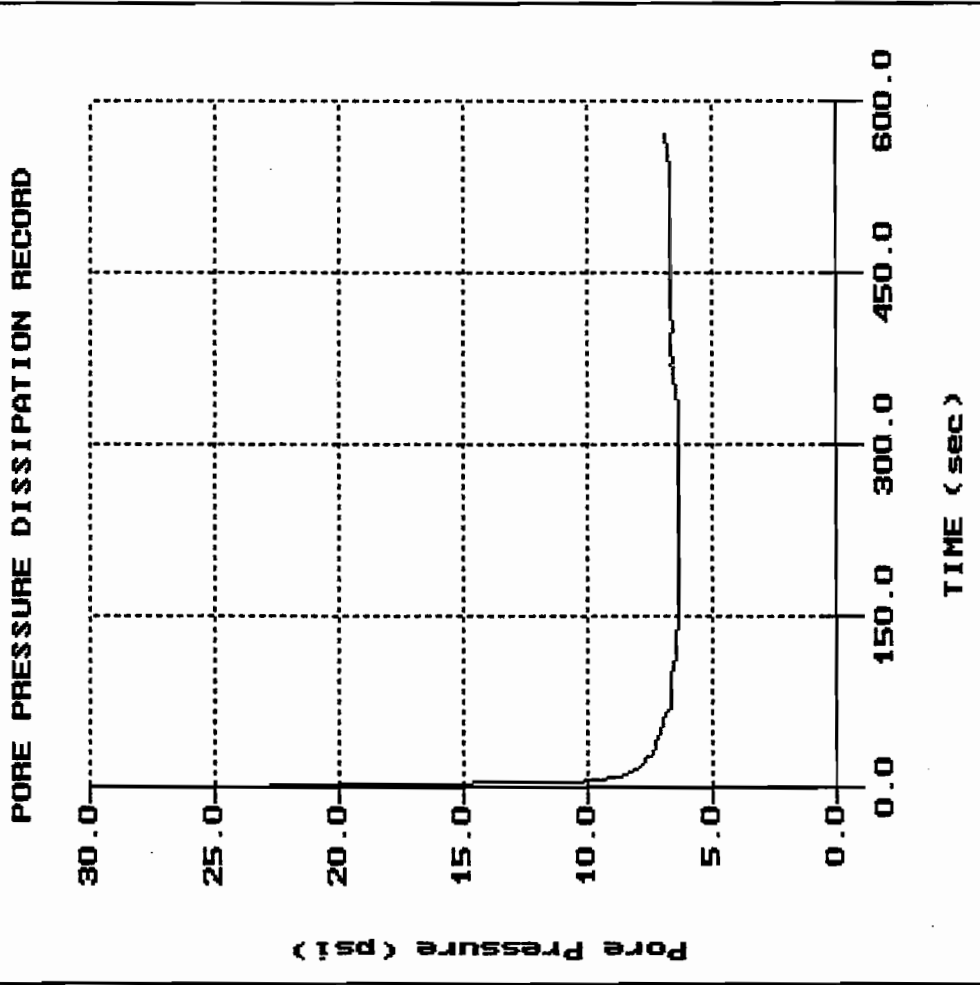


CFS GEOTECHNICAL

Hole: CPT-04
Location: MNTP

Engineer: C. LOVATO
Date: 12:11:99 14:38

File: 156C04.PPD
Depth (M): 15.25
(ft): 50.03
Duration: 570.0s
U-min: 6.33 215.0s
U-max: 26.81 0.0s

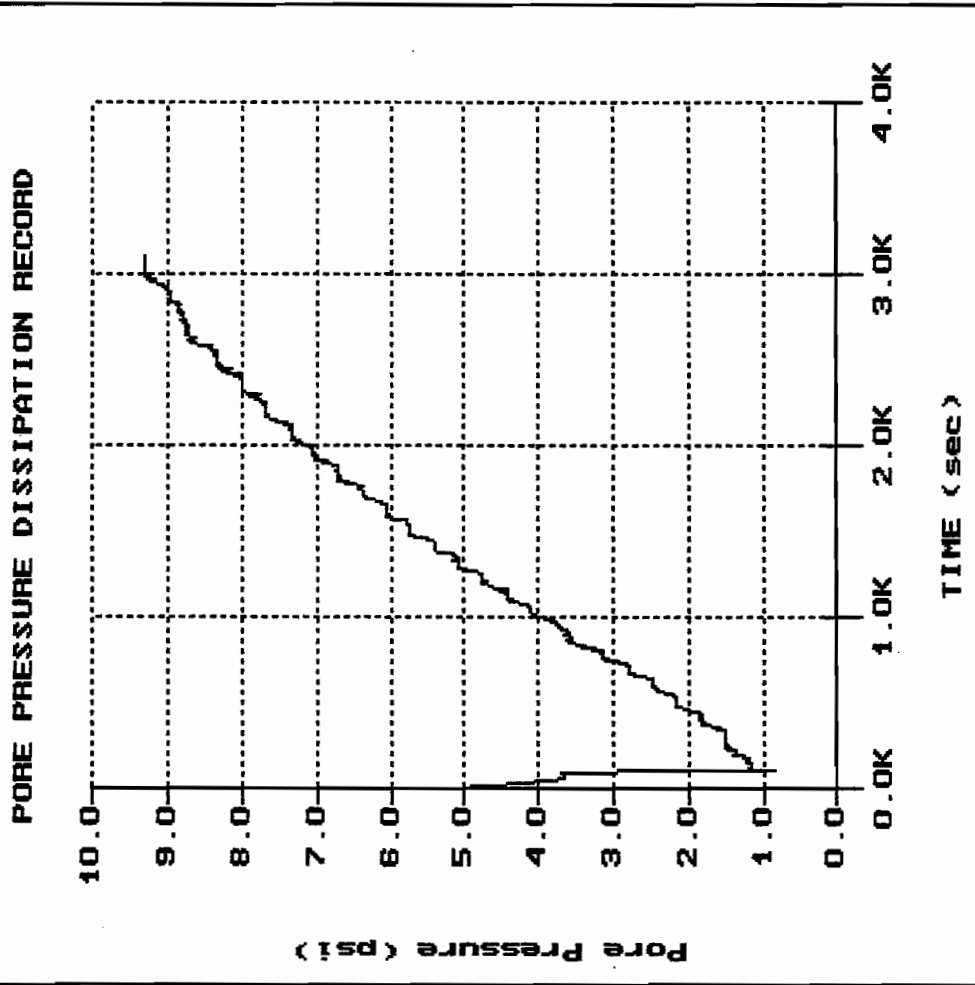


CPS GEOTECHNICAL

Hole: CPT-04
Location: WMTF

Engineer: C. LOVATO
Date: 12:11:99 14:38

File: 156C04.PPD
Depth (m): 19.55
 (ft): 64.14
Duration : 3105.0s
U-min: 0.85 105.0s
U-max: 9.32 3105.0s



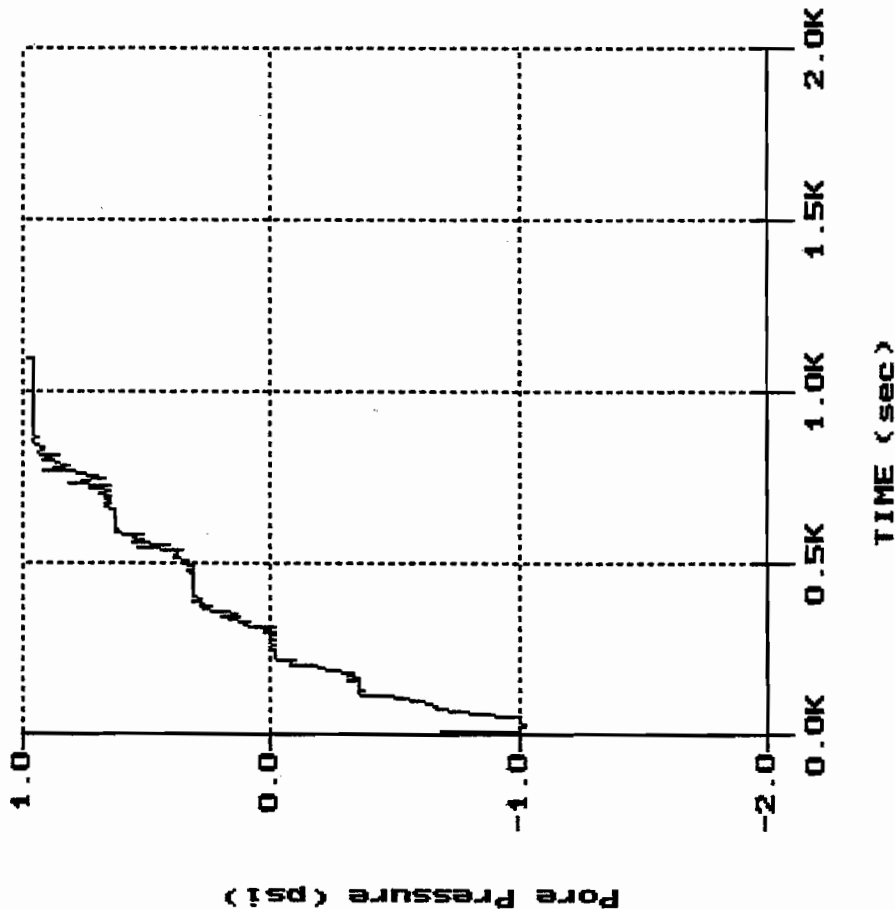
CFS GEOTECHNICAL

Hole: CPT-05
Location: MWTP

Engineer: C. LOVATO
Date: 12:11:99 17:00

File: 156C05.PPD
Depth (m): 21.05
Depth (ft): 69.06
Duration: 1100.0s
U-min: -1.02 30.0s
U-max: 0.98 1100.0s

PORE PRESSURE DISSIPATION RECORD



PRESENTATION OF CONE PENETRATION TEST DATA

LOS OSOS

LOS OSOS, CALIFORNIA

Prepared for:

**CFS GEOTECHNICAL
San Luis Obispo, California**

Prepared by:

**GREGG IN SITU, INC.
Signal Hill, California**

Prepared on:

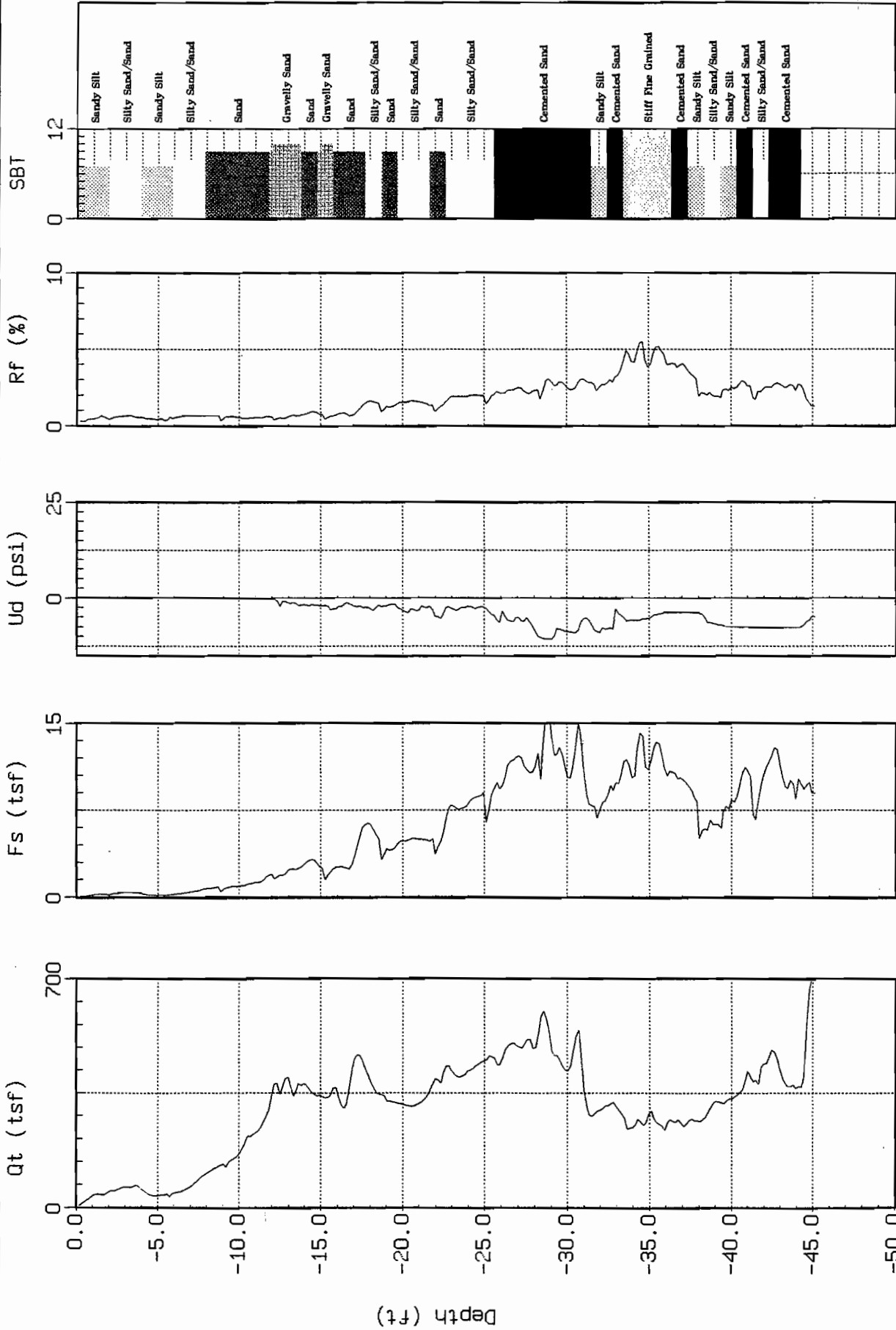
May 4, 2000



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-101

Engineer : C. LAVOTO
Date : 05:01:00 11:25



SBT: Soil Behavior Type (Robertson and Campanella 1988)

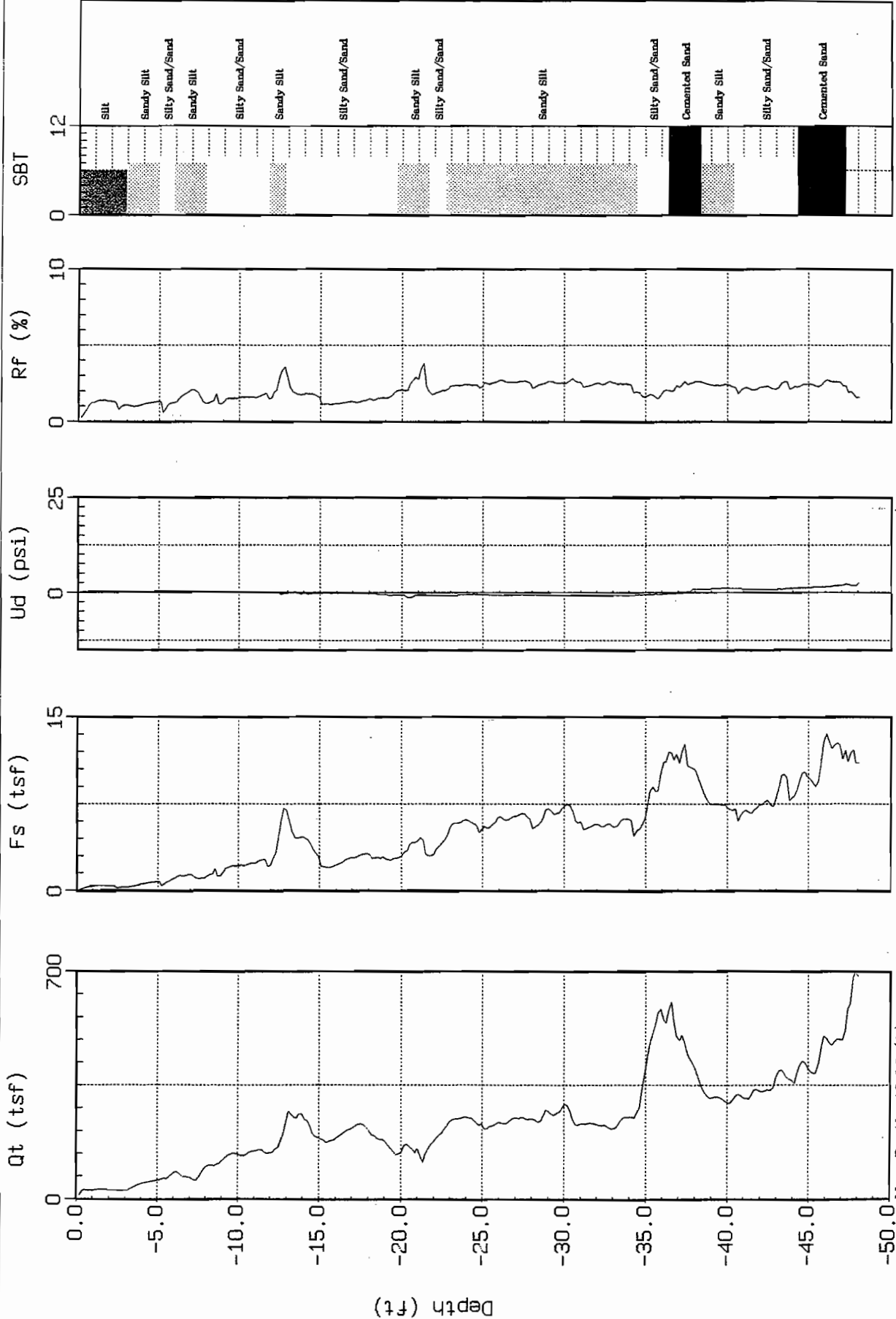
Max Depth: 45.11 (ft)
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-102

Engineer : C. LAVOTO
Date : 05:01:00 15:58



SBT: Soil Behavior Type (Robertson and Campanella 1988)

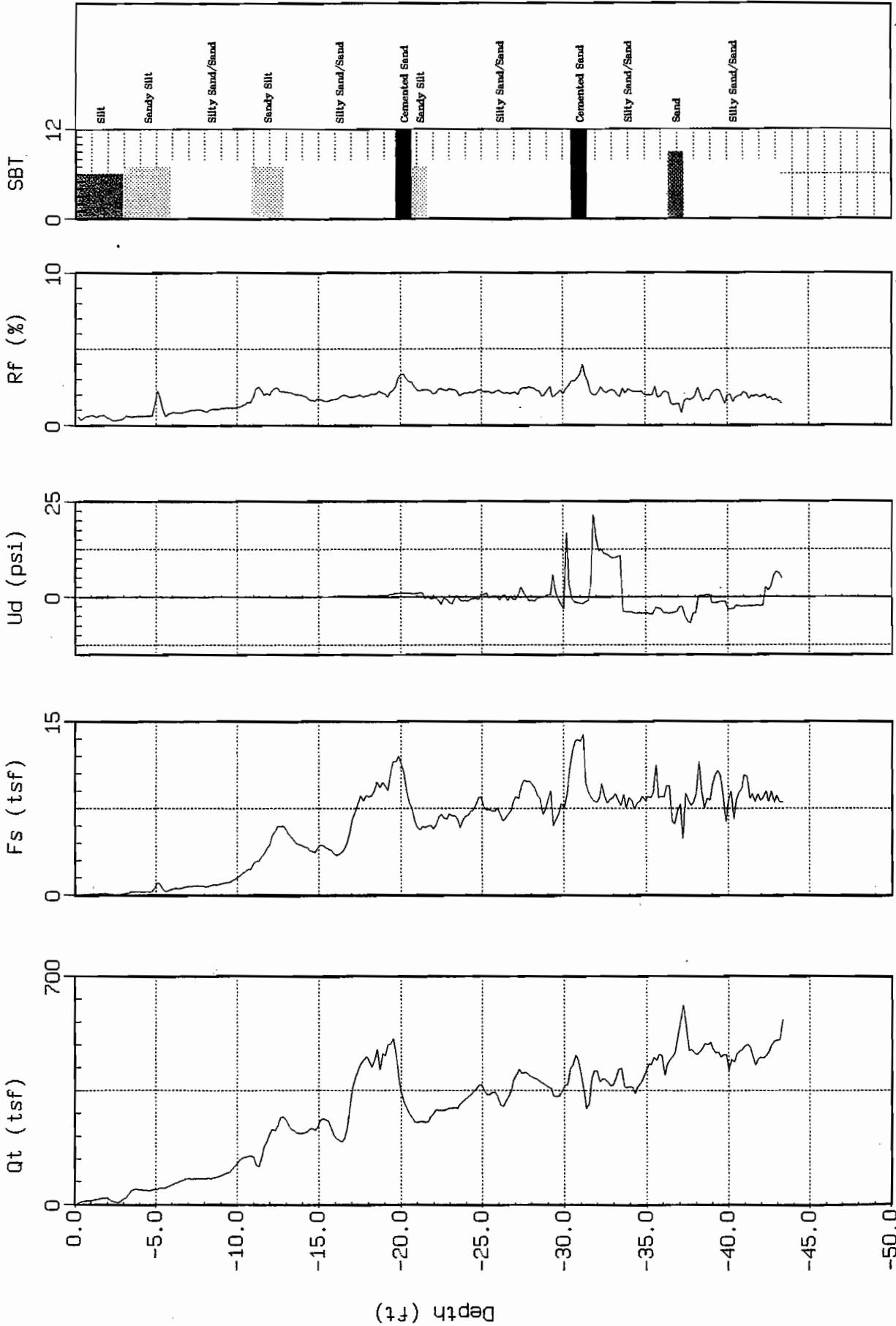
Max. Depth: 48.06 (ft)
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-103

Engineer : C. LAUOTO
Date : 05:01:00 10:30



SBT: Soil Behavior Type (Robertson and Campanella 1988)

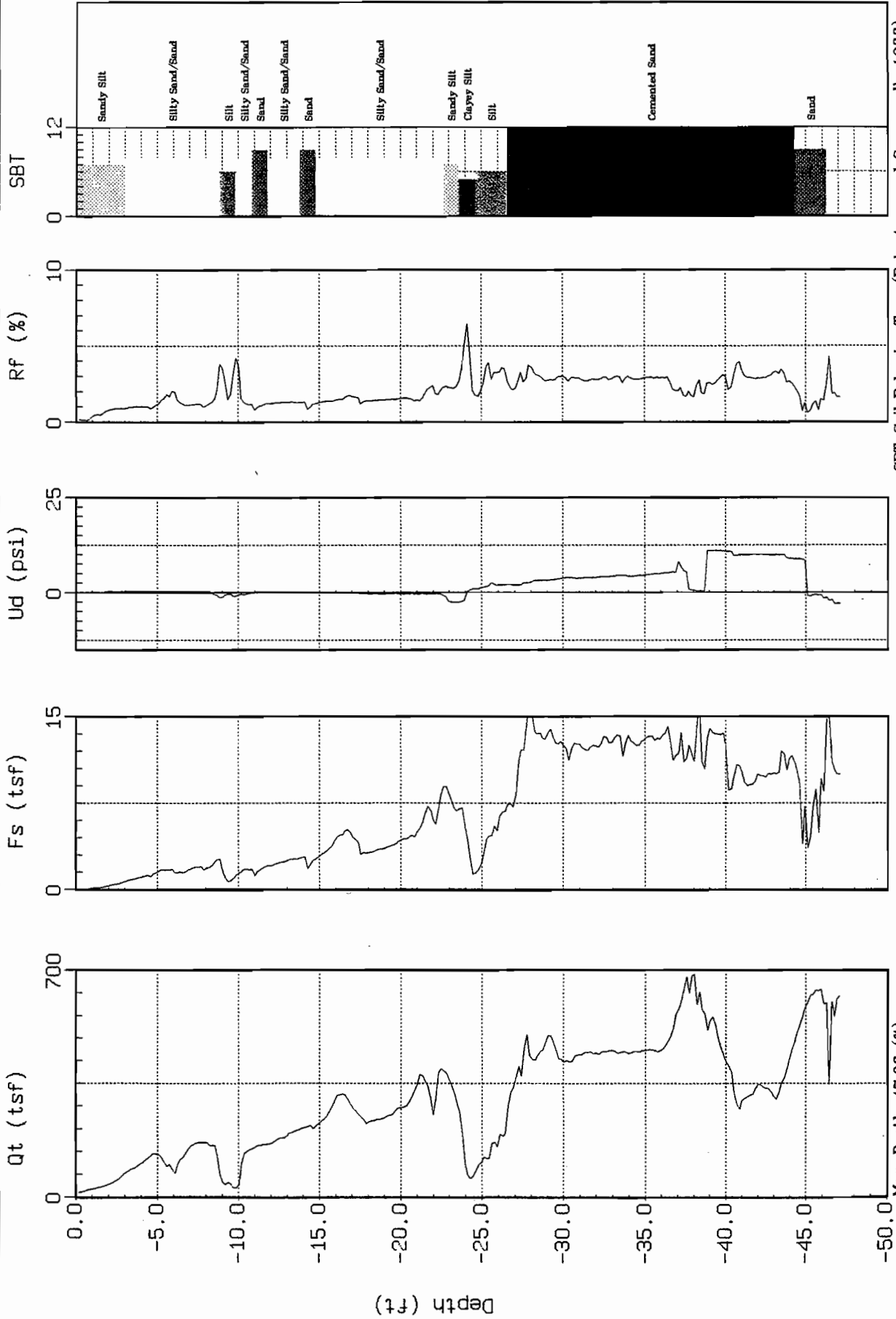
Max Depth: 43.31 (ft)
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-104

Engineer : C. LAVOTO
Date : 05:01:00 11:59



SBT: Soil Behavior Type (Robertson and Campanella 1988)

Max. Depth: 47.08 (ft)

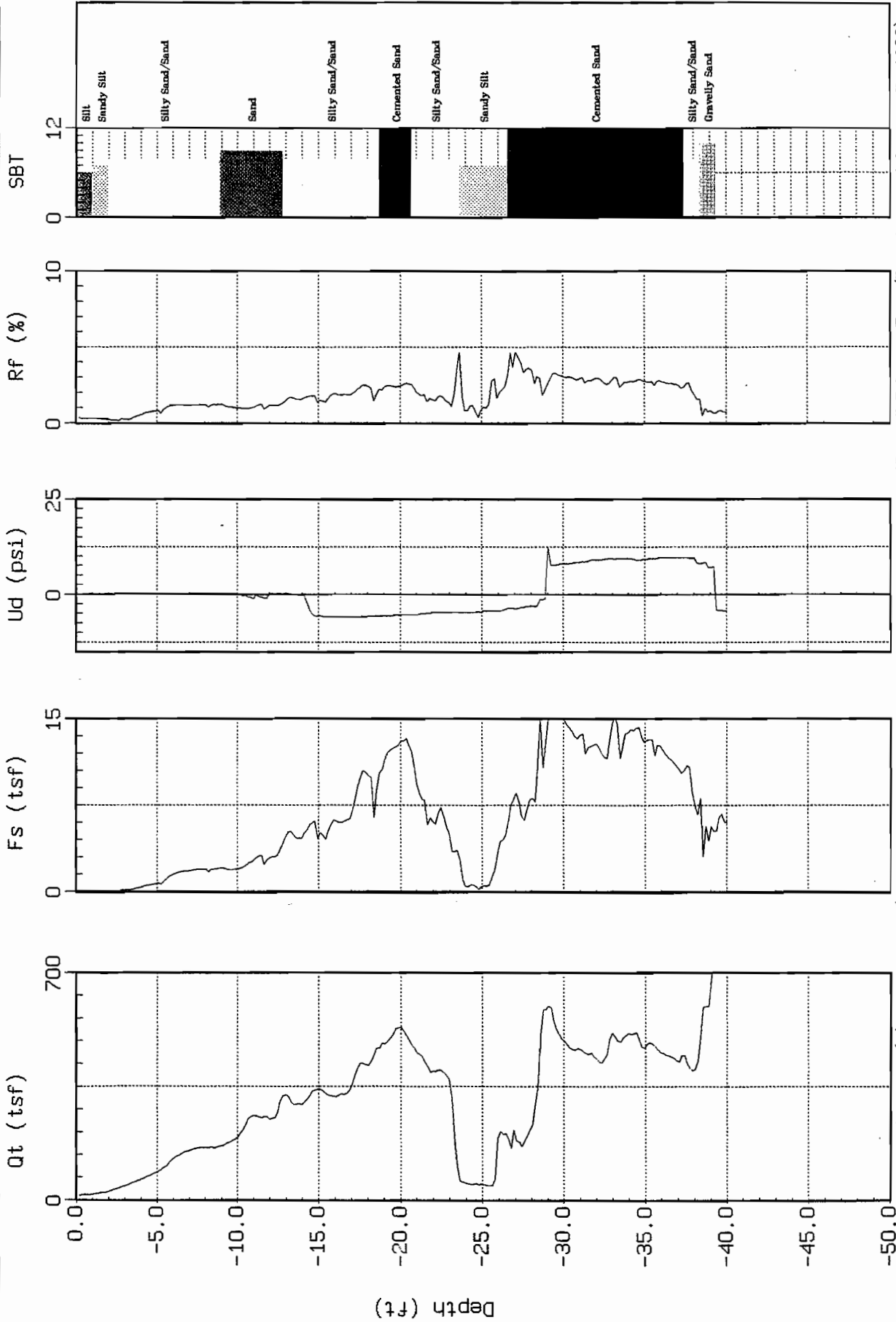
Depth Inc: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-105

Engineer : C. LAUOTO
Date : 05:01:00 12:42



SBT: Soil Behavior Type (Robertson and Campanella 1988)

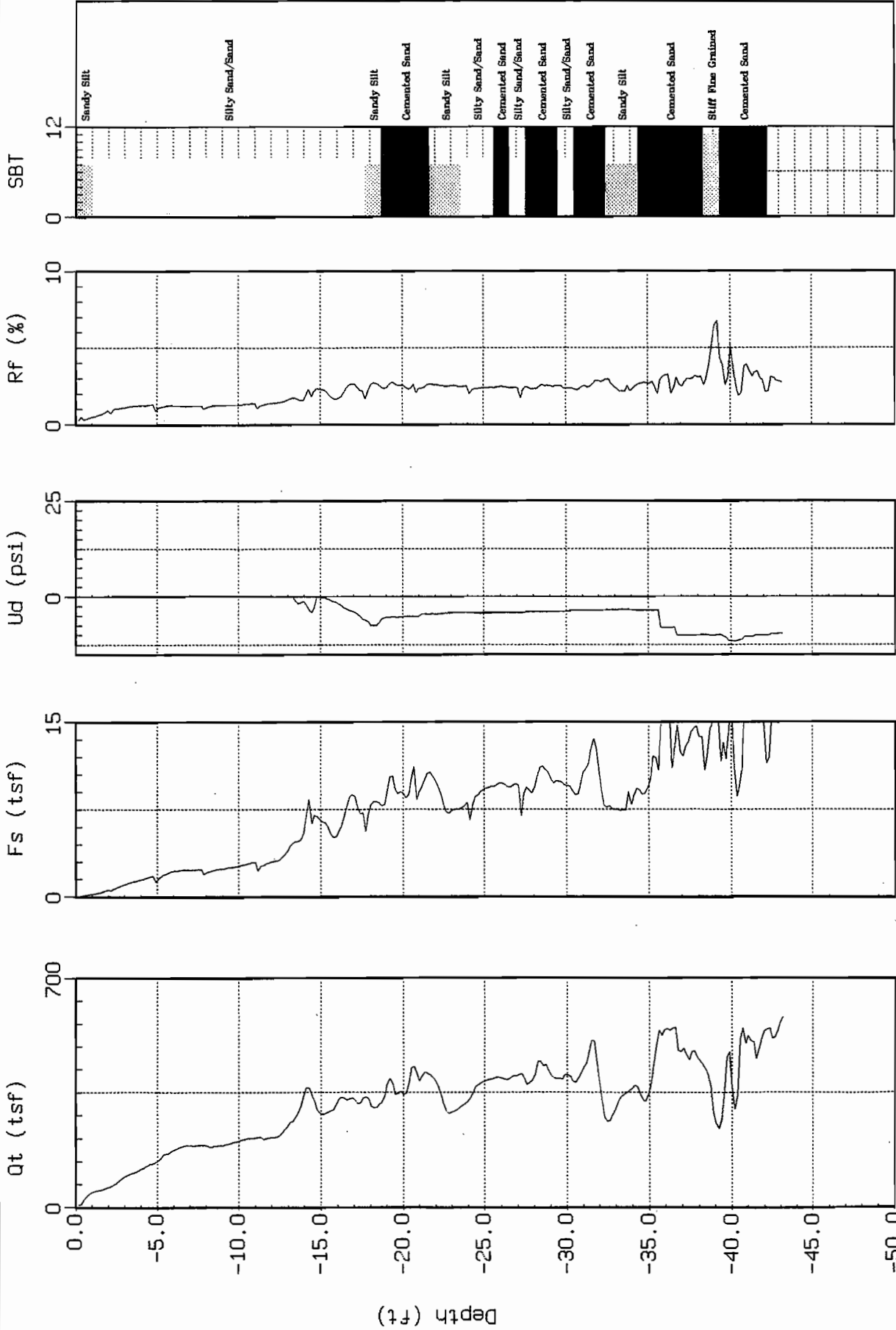
Max. Depth: 40.03 (ft)
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-106

Engineer : C. LAUOTO
Date : 05:01:00 13:16



Max. Depth: 43.14 (ft)
Depth Inc: 0.164 (ft)

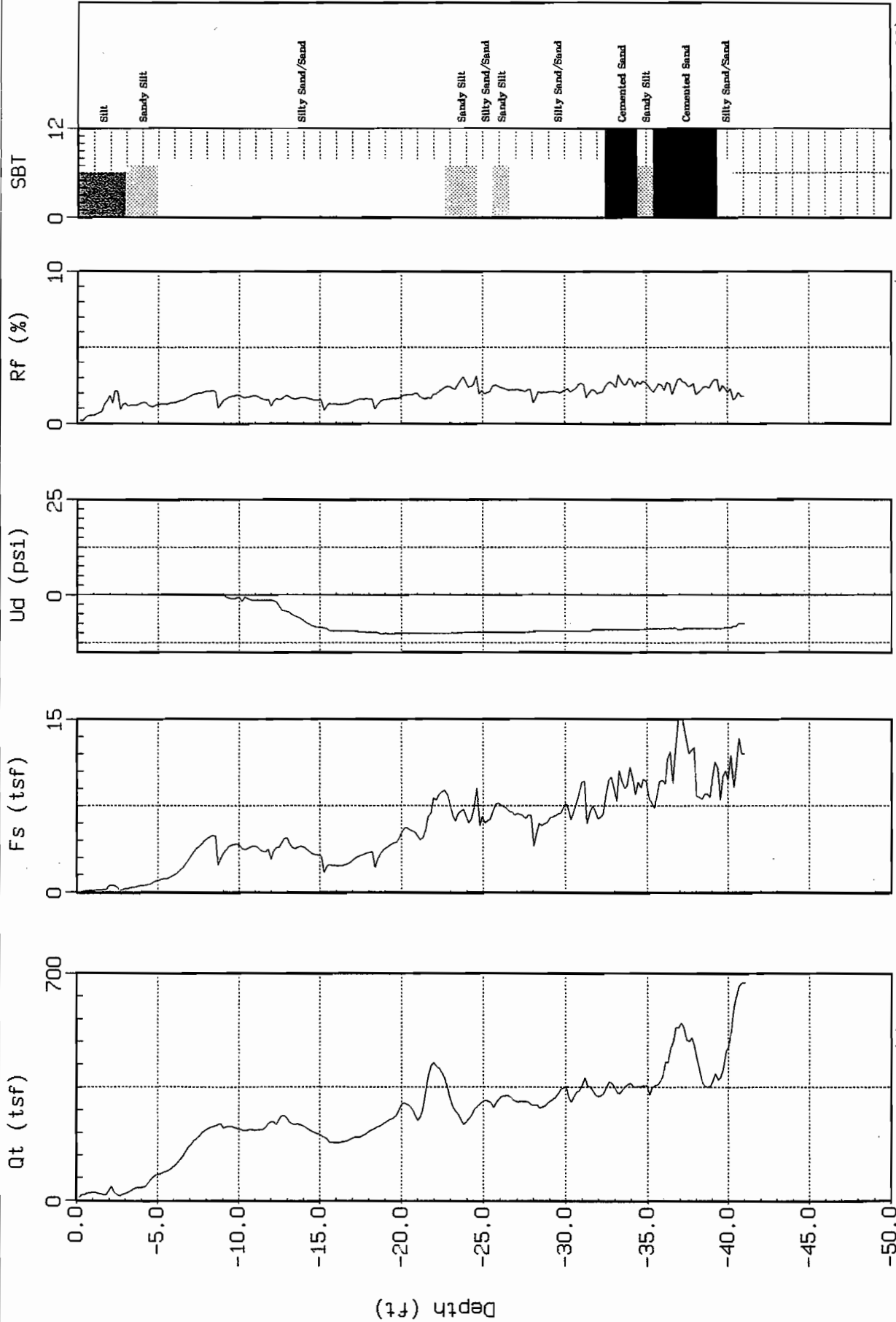
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-107

Engineer : C. LAUTO
Date : 05:01:00 13:49



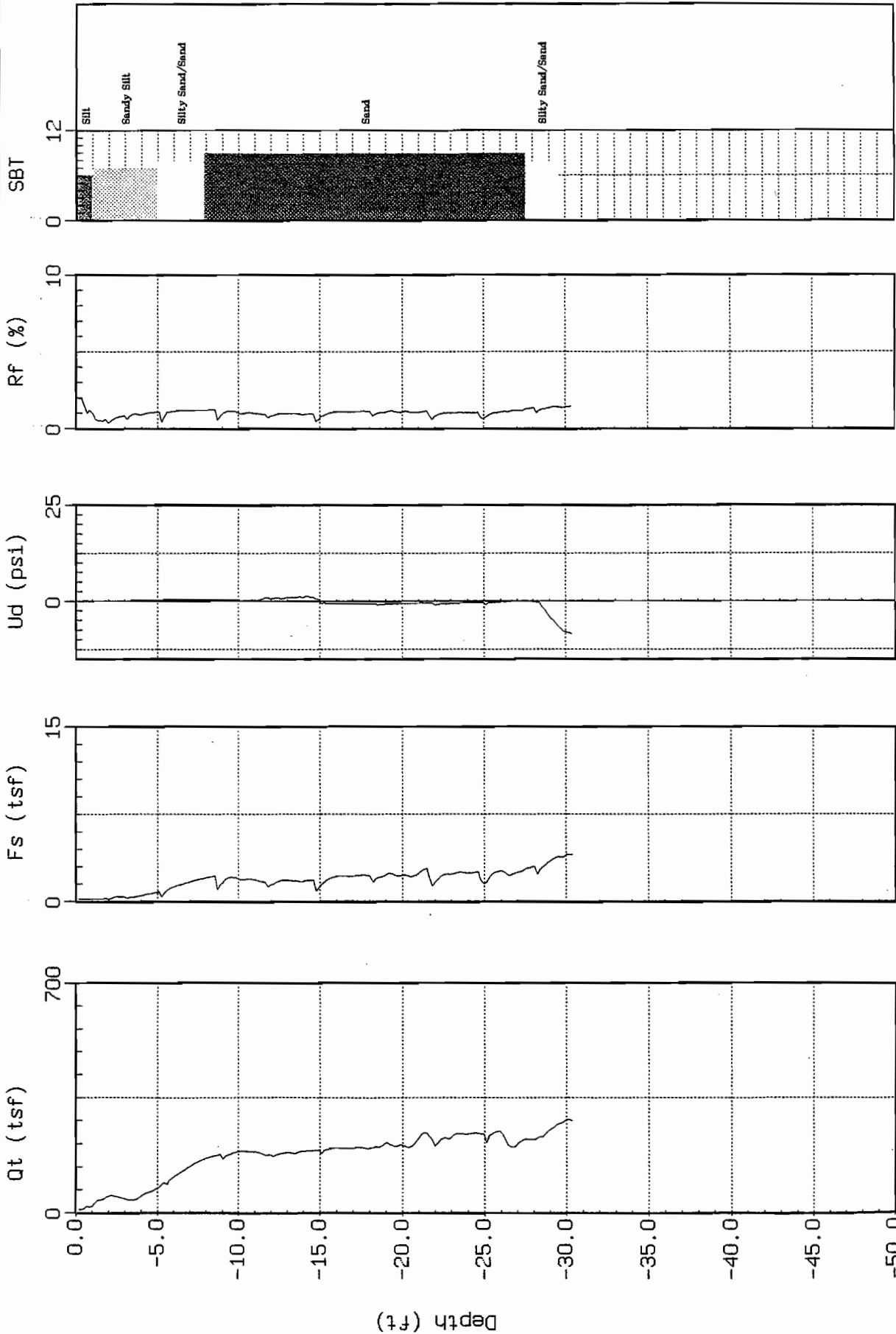
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-401

Engineer : C. LAUOTO
Date : 05:01:00 14:18



Max. Depth: 30.35 (ft)
Depth Inc.: 0.164 (ft)

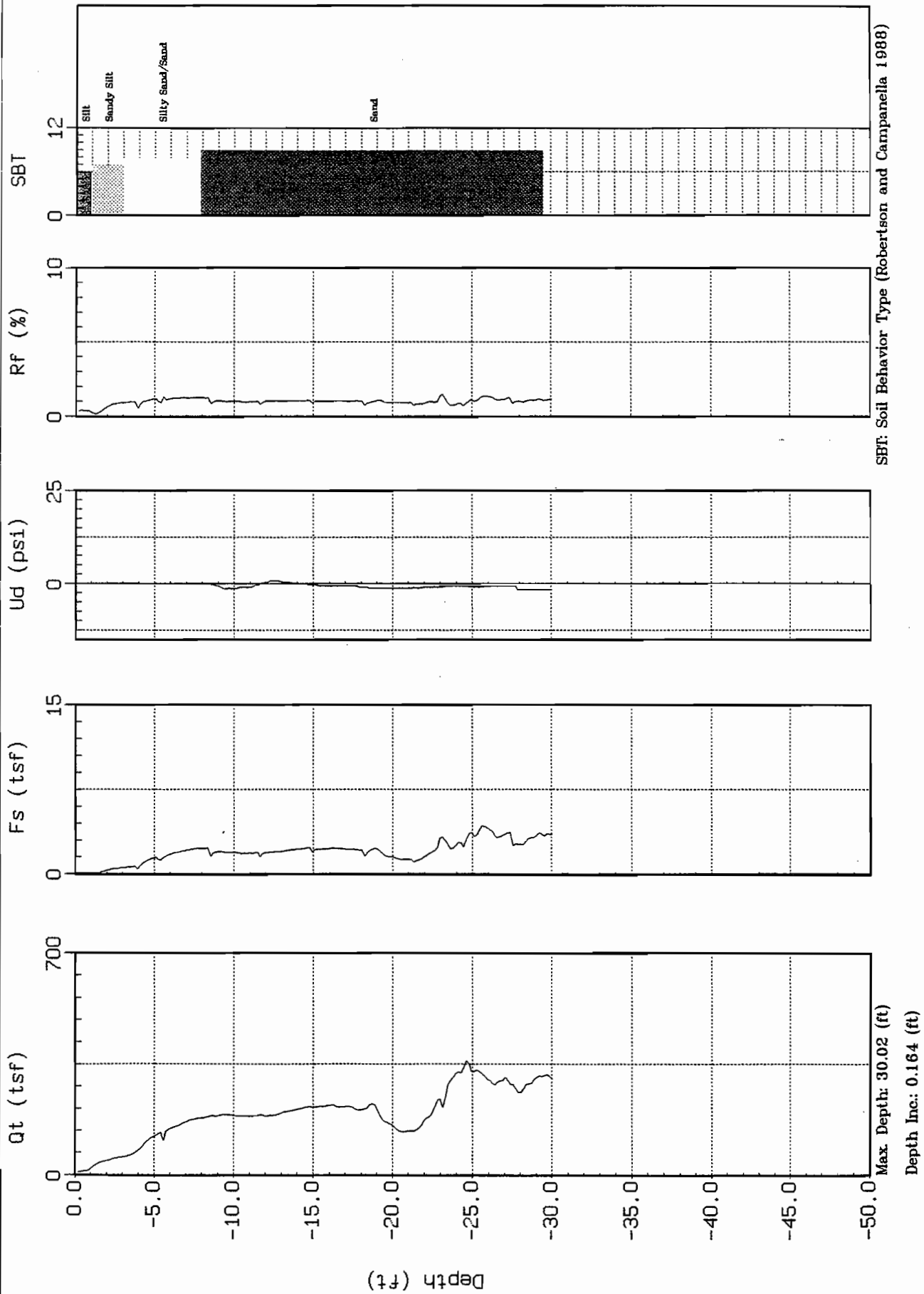
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-402

Engineer : C. LAUOTO
Date : 05:01:00 14:43



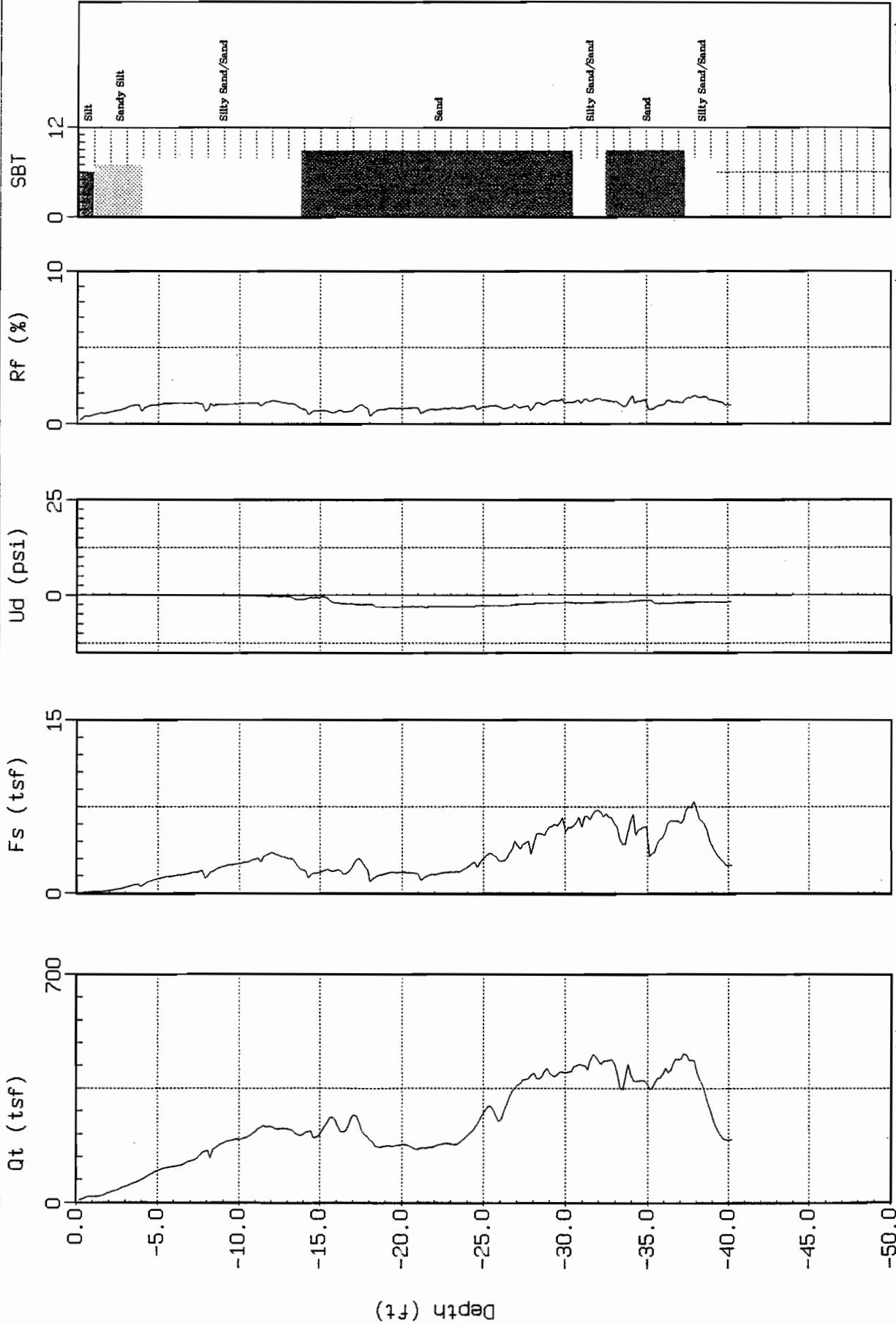
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-403

Engineer : C. LAUDTO
Date : 05:01:00 15:06



SBT: Soil Behavior Type (Robertson and Campanella 1988)

Max. Depth: 40.19 (ft)

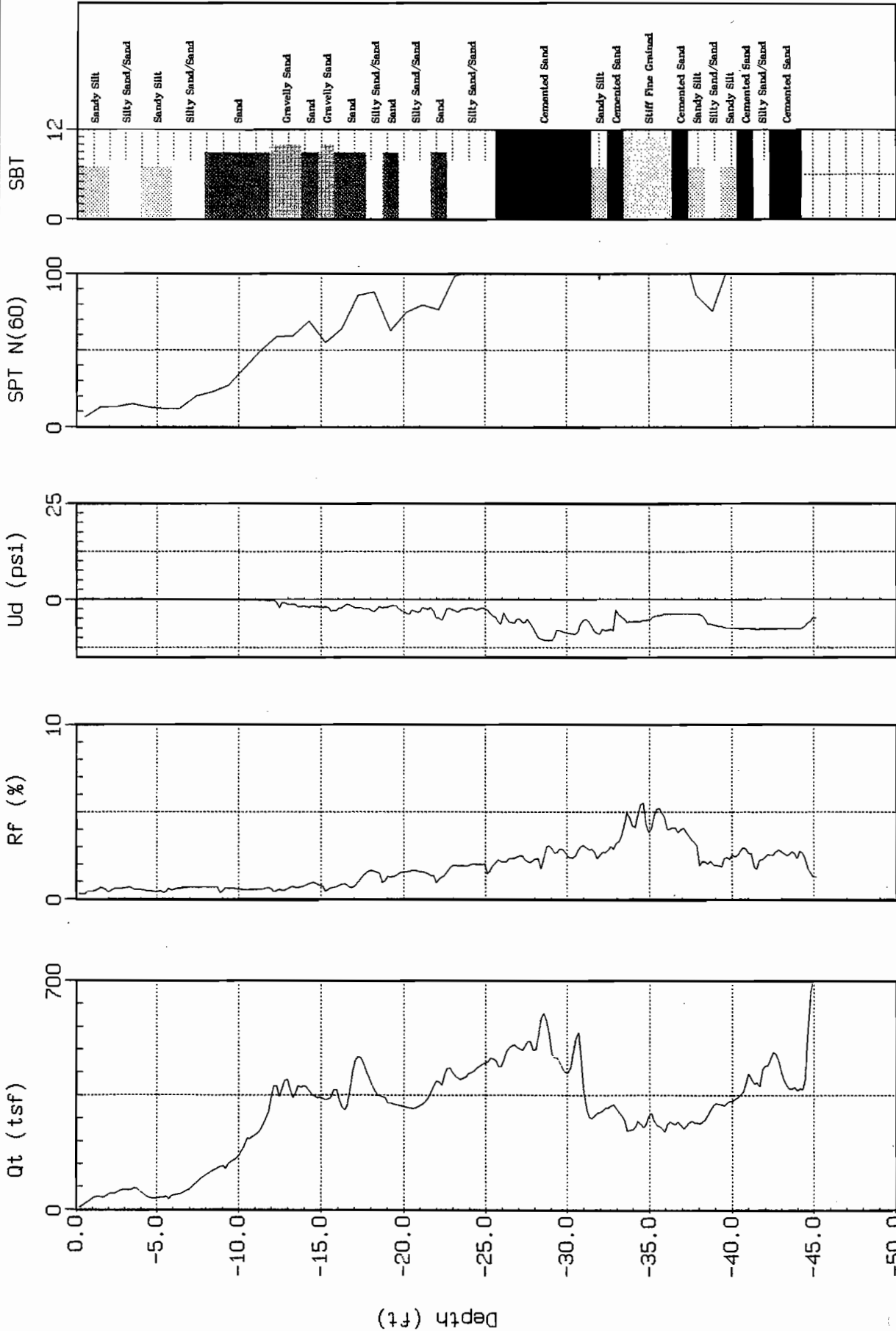
Depth Inc: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-101

Engineer : C. LAVOTO
Date : 05:01:00 11:25



Max. Depth: 45.11 (ft)
Depth Inc: 0.164 (ft)

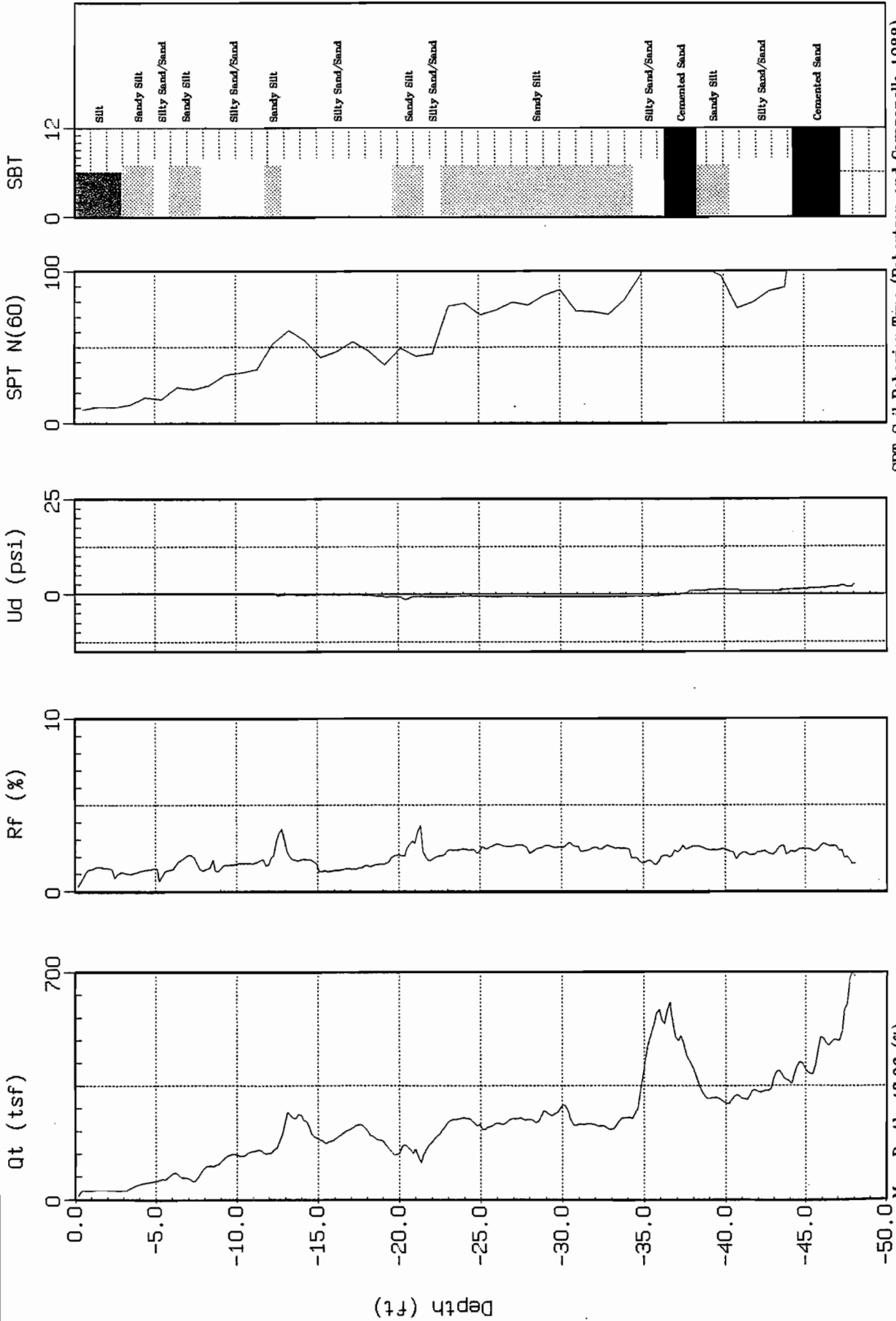
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-102

Engineer : C. LAVOTO
Date : 05:01:00 15:58



SBT: Soil Behavior Type (Robertson and Campanella 1988)

Max. Depth: 48.06 (ft)

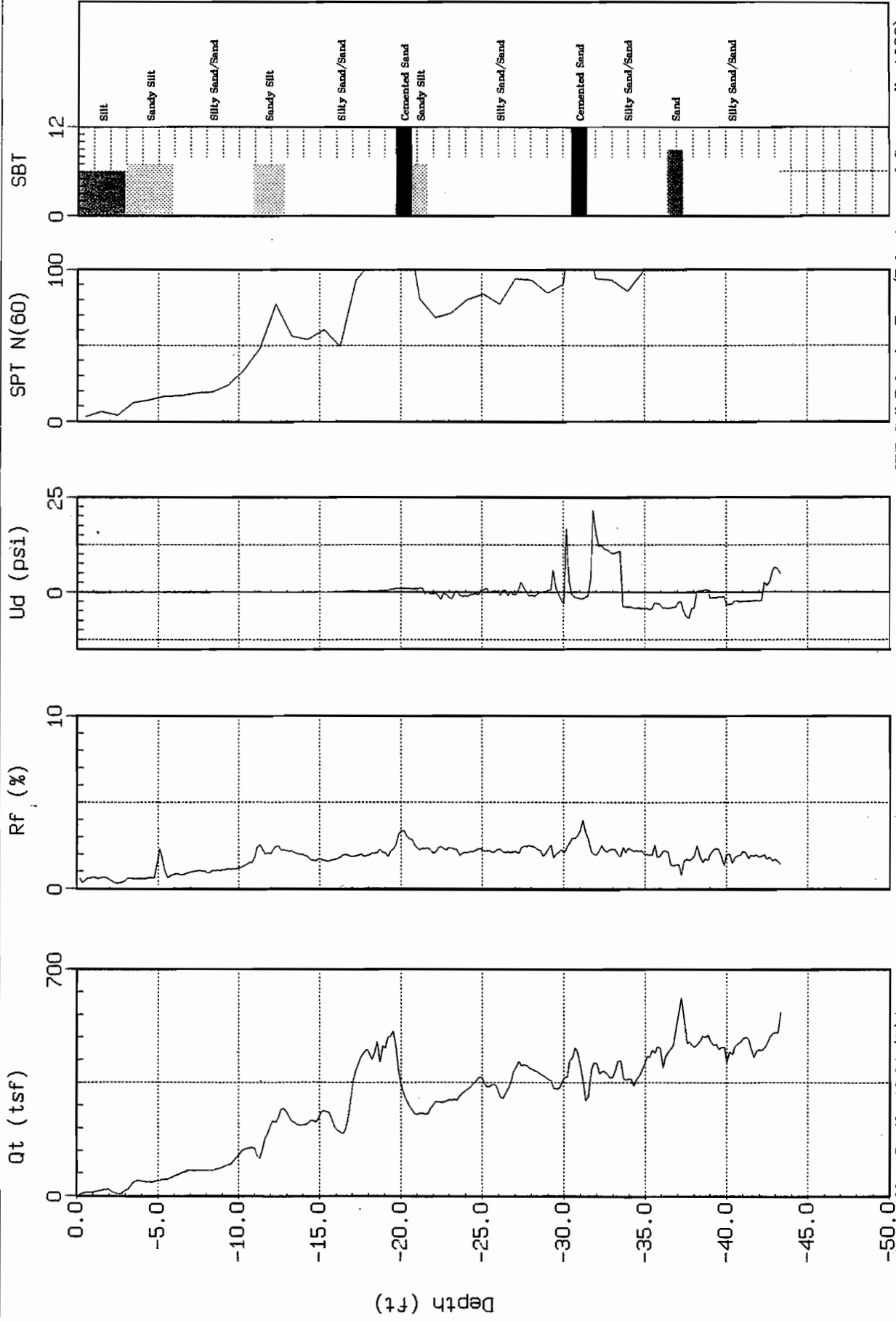
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-103

Engineer : C. LAUTO
Date : 05:01:00 10:30



SBT: Soil Behavior Type (Robertson and Campanella 1988)

Max. Depth: 43.31 (ft)

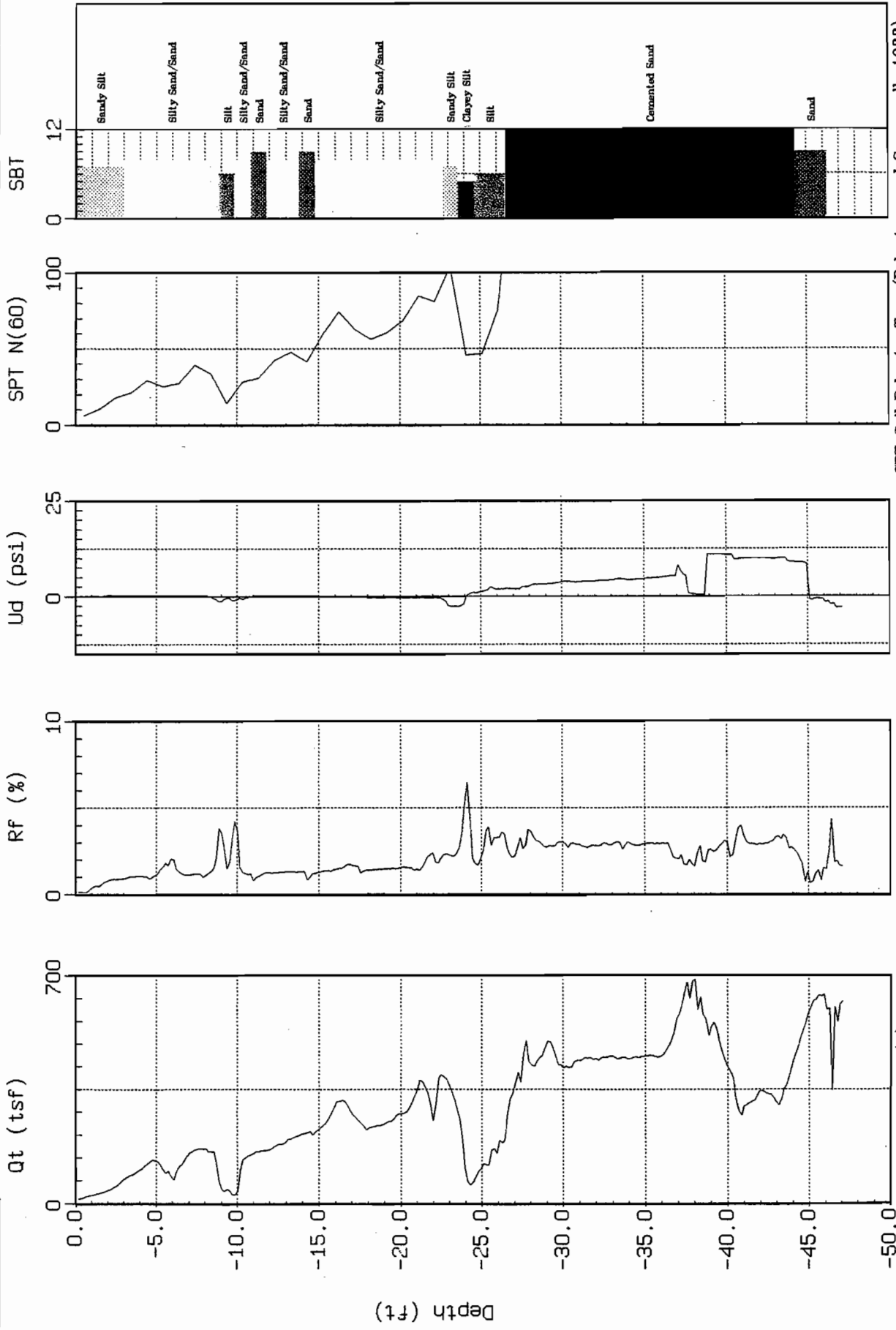
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-104

Engineer : C. LAUTO
Date : 05:01:00 11:59



Max. Depth: 47.08 (ft)
Depth Inc: 0.164 (ft)

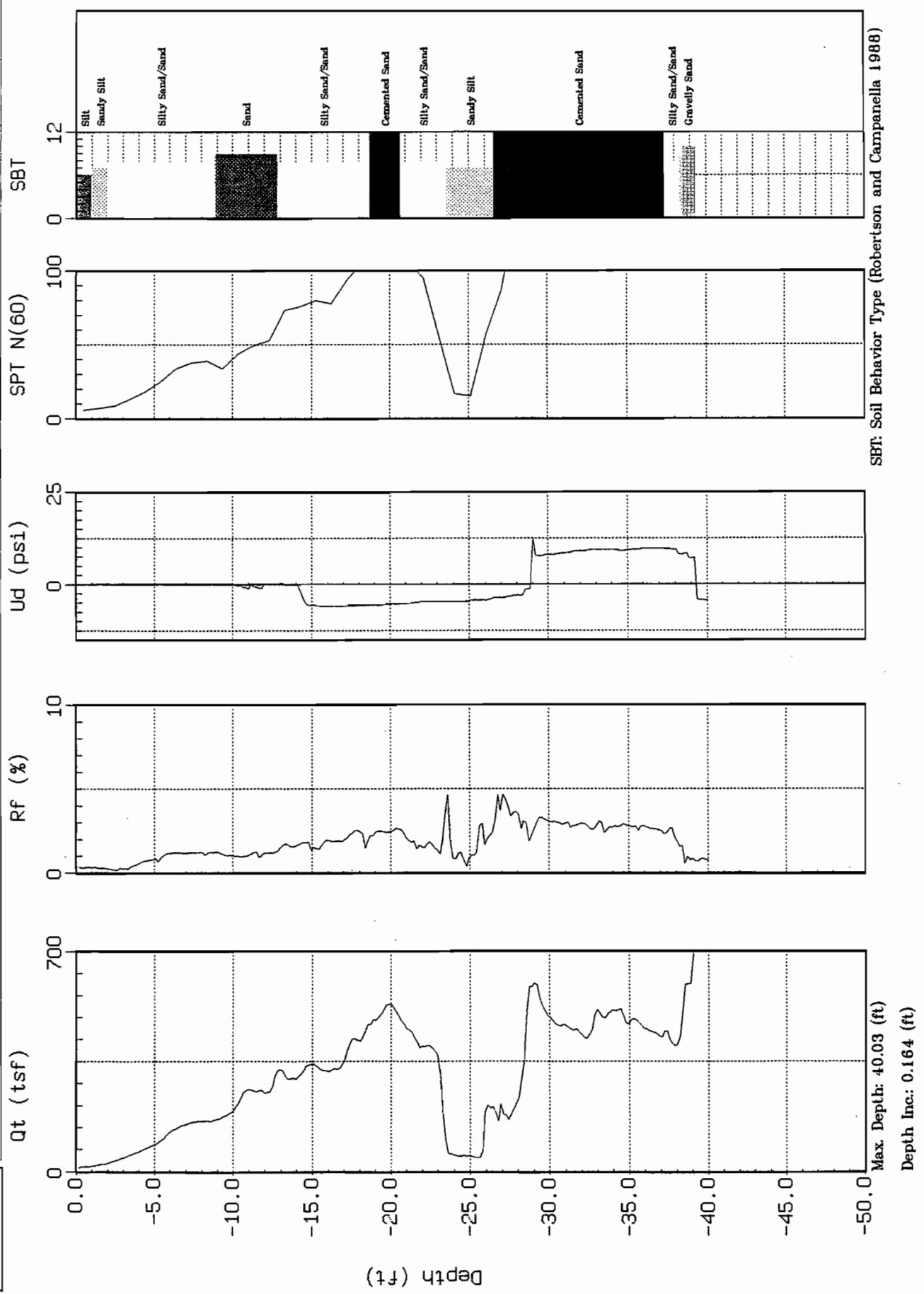
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-105

Engineer : C. LAUOTO
Date : 05:01:00 12:42



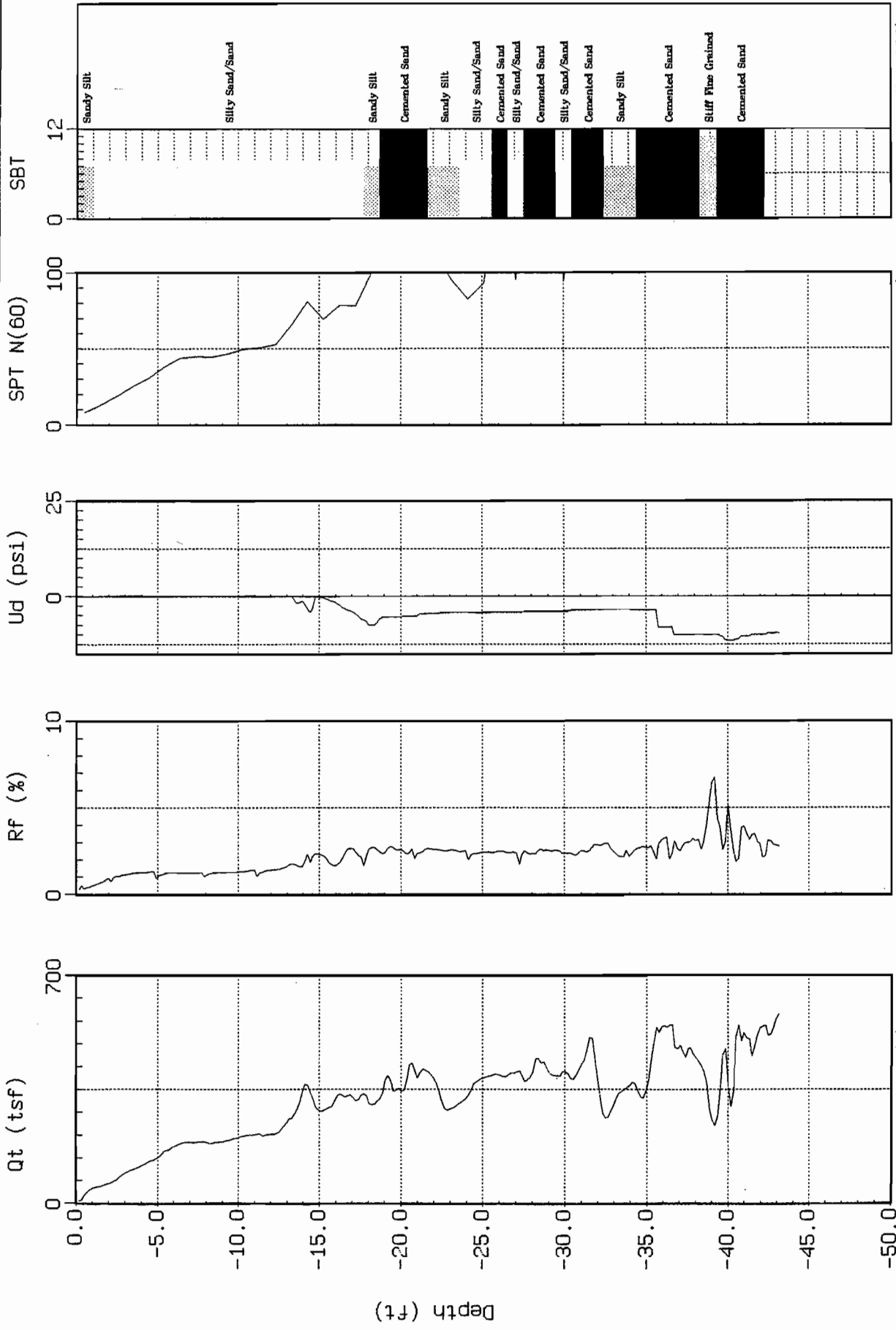
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-106

Engineer : C. LAUTO
Date : 05:01:00 13:16



SBT: Soil Behavior Type (Robertson and Campanella 1988)

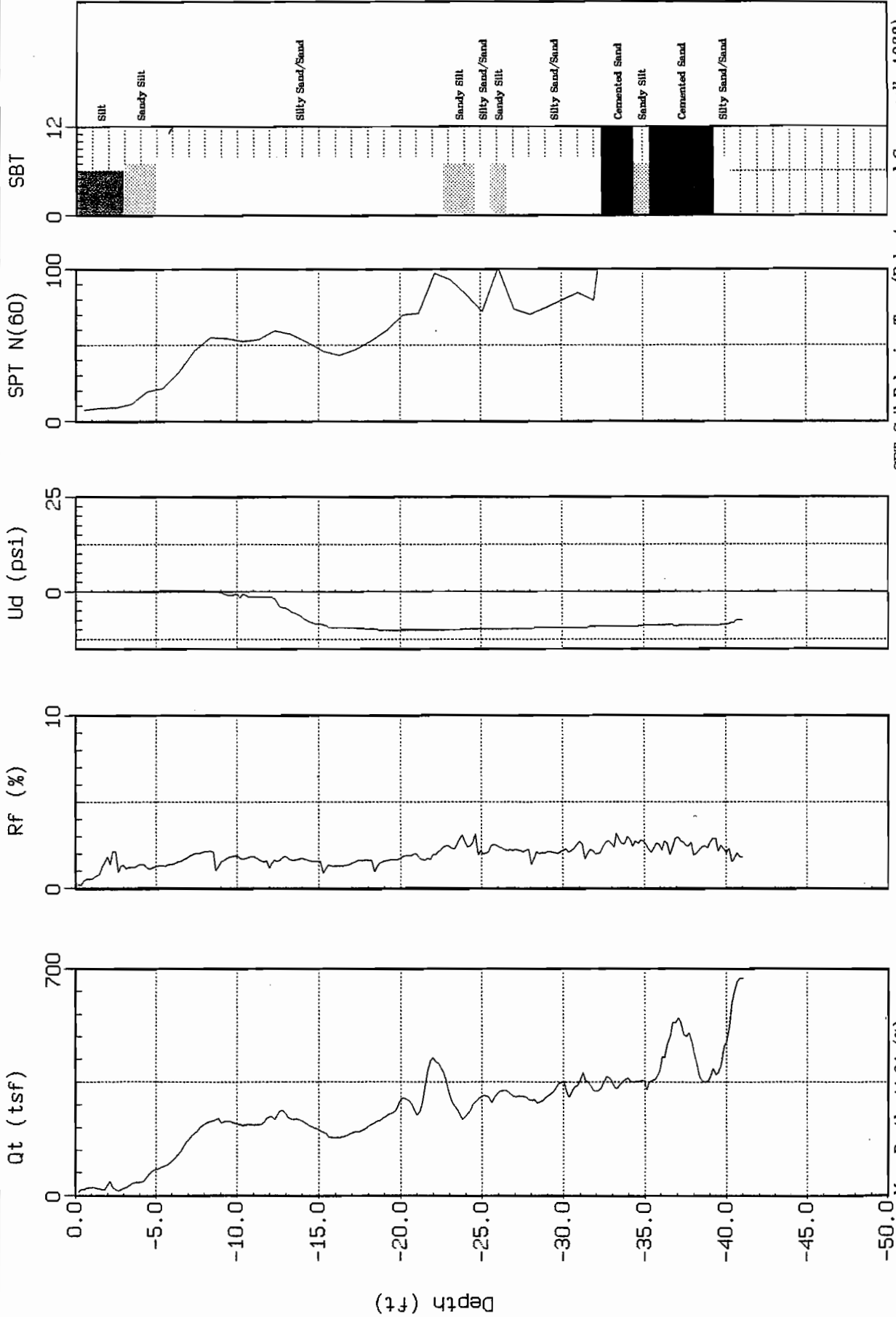
Max. Depth: 43.14 (ft)
Depth Inc: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-107

Engineer : C. LAVOTO
Date : 05:01:00 13:49



SBT: Soil Behavior Type (Robertson and Campanella 1988)

Max. Depth: 41.01 (ft)

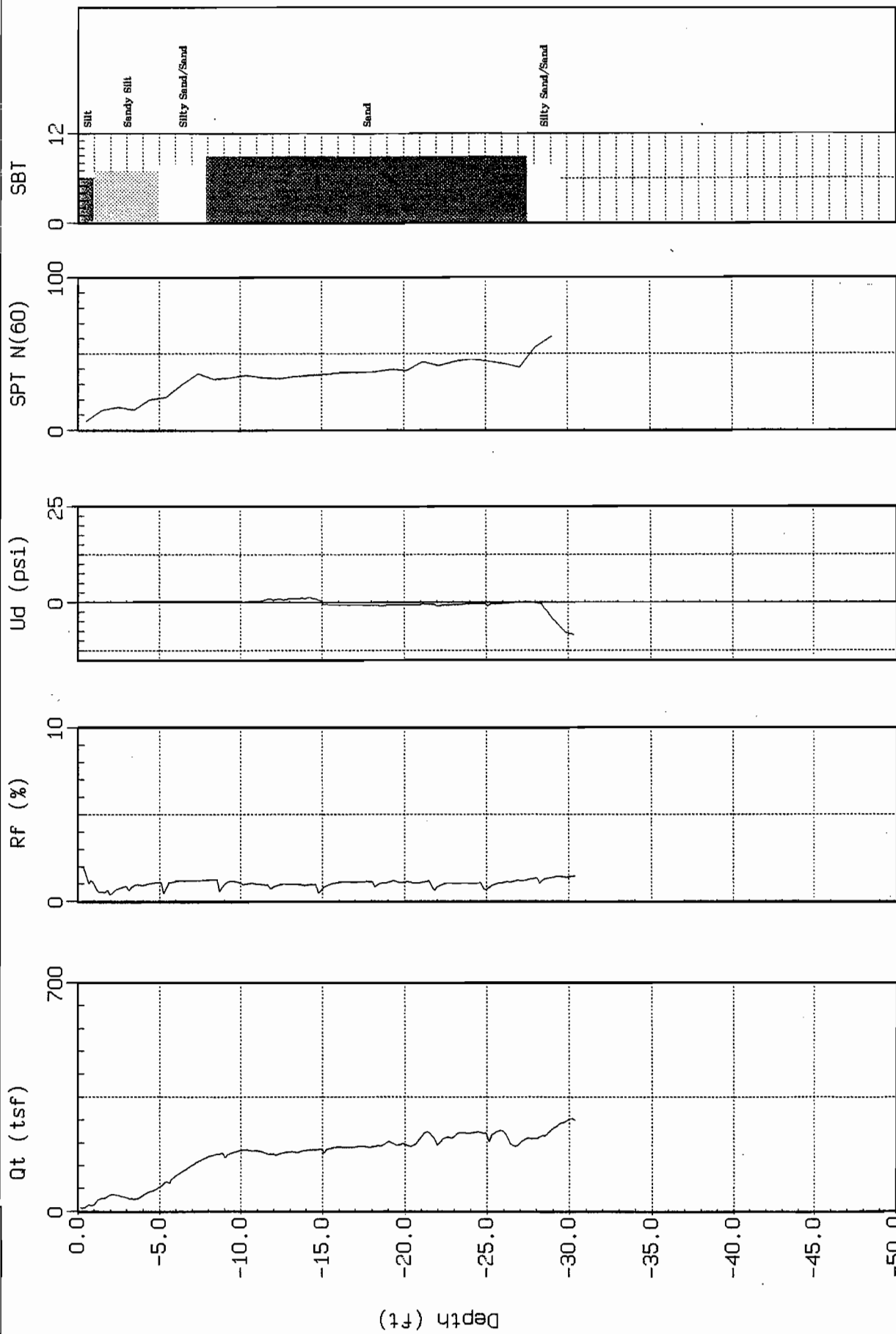
Depth Inc.: 0.164 (ft)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-401

Engineer : C. LAVOTO
Date : 05:01:00 14:18



Max. Depth: 30.35 (ft)
Depth Inc: 0.164 (ft)

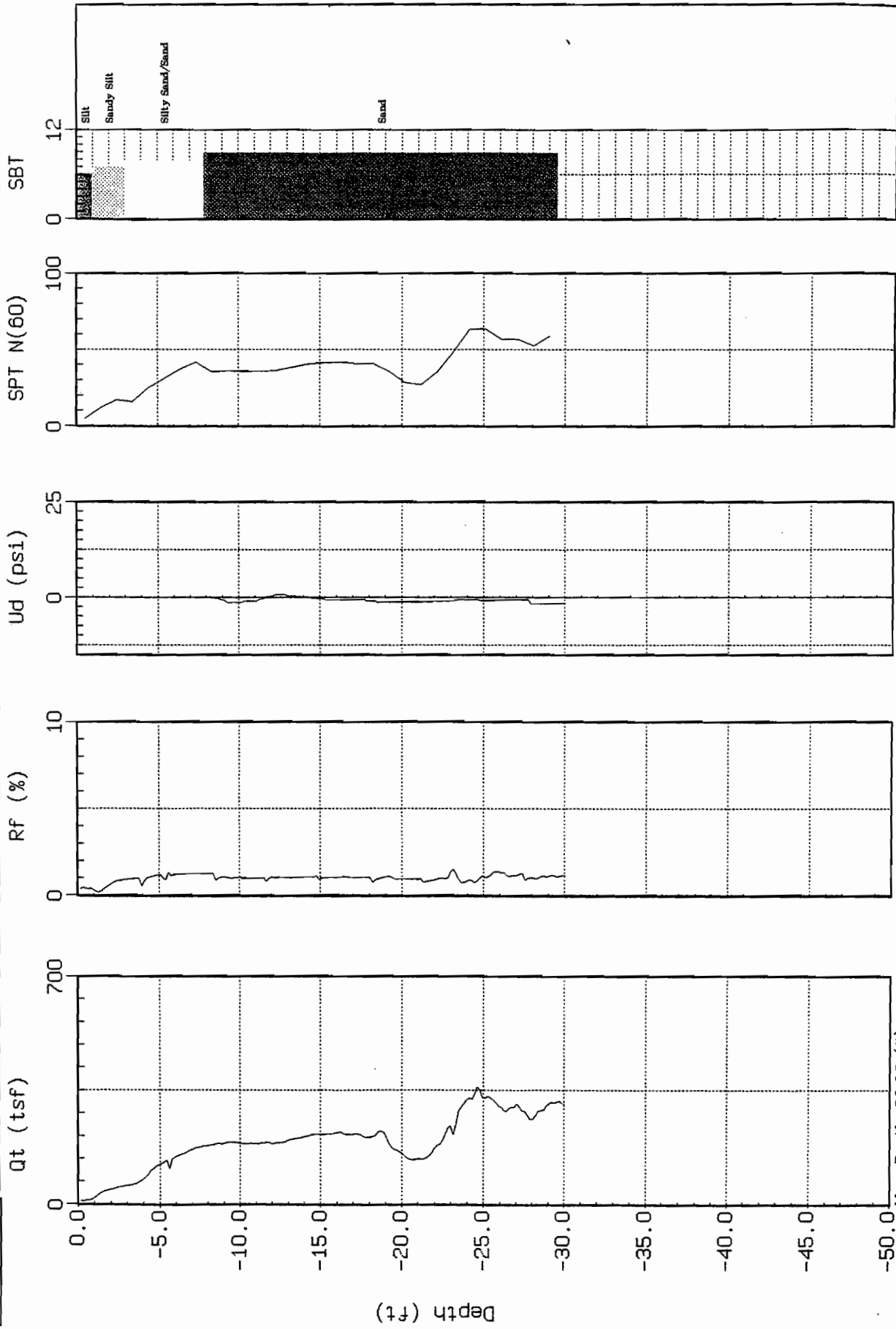
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-402

Engineer : C. LAUOTO
Date : 05:01:00 14:43



Max. Depth: 30.02 (ft)

Depth Inc: 0.164 (ft)

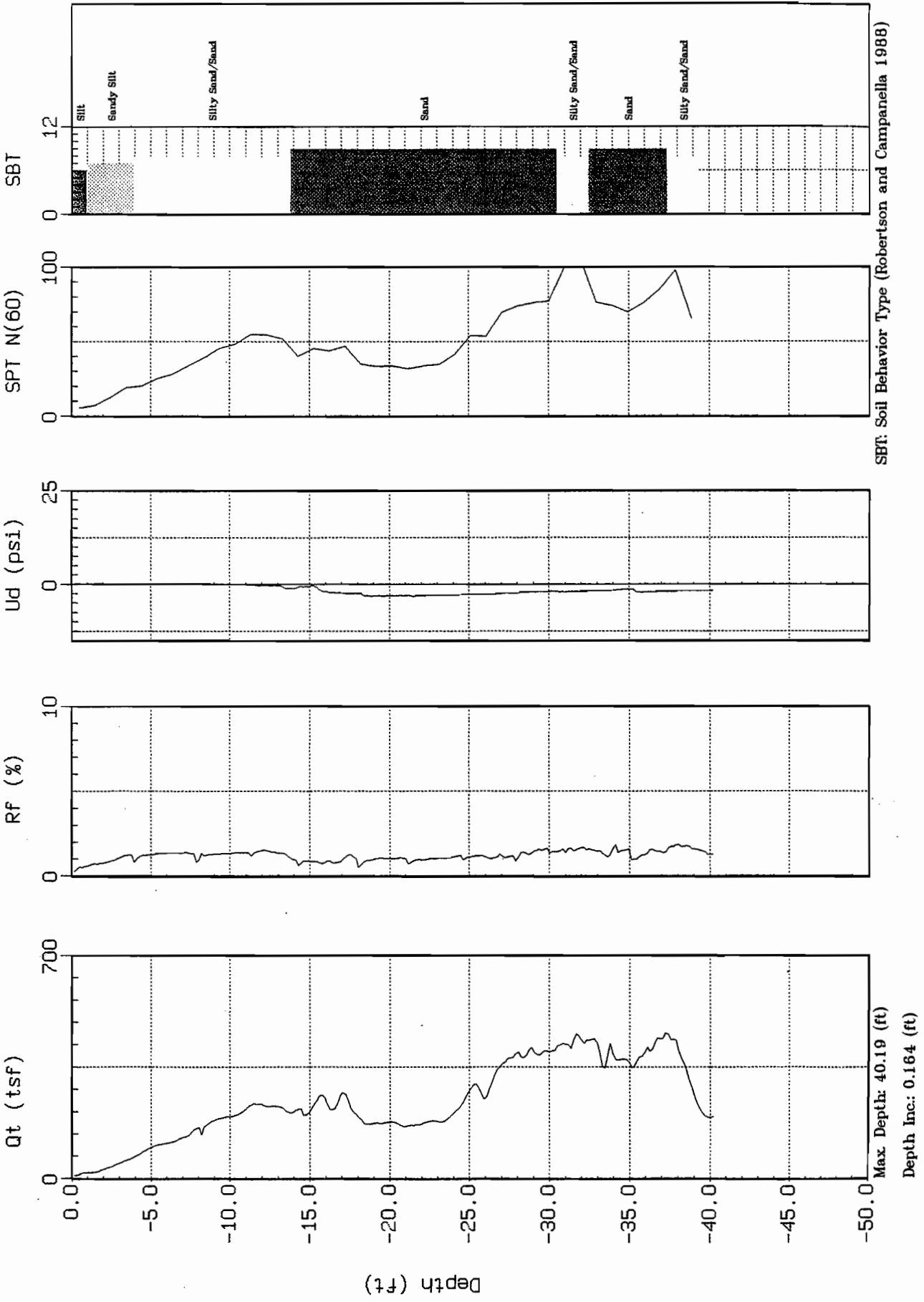
SBT: Soil Behavior Type (Robertson and Campanella 1988)



CFS GEOTECHNICAL

Site : LOS OSOS
Location : CPT-403

Engineer : C. LAUOTO
Date : 05:01:00 15:06

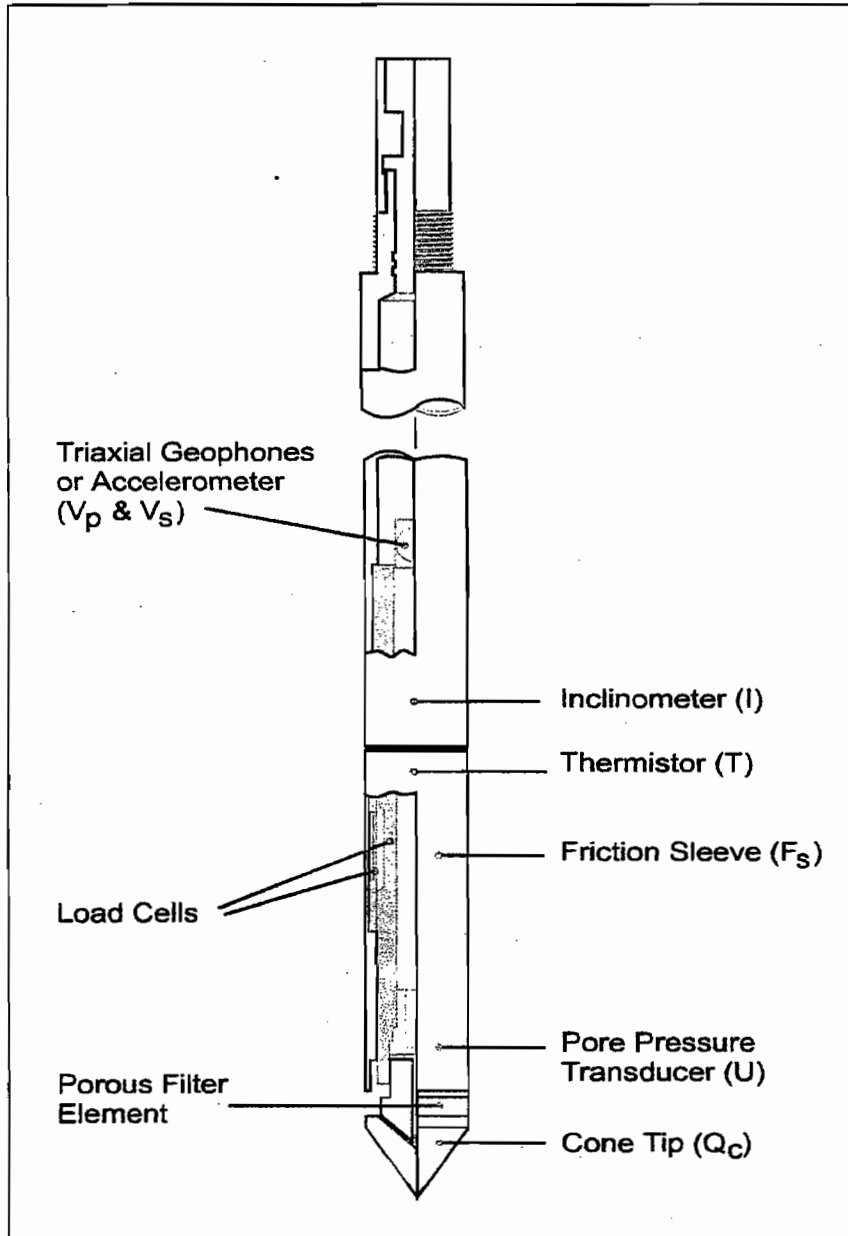


SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG IN SITU, INC.

Geotechnical and Environmental In Situ Testing Contractors

THE PIEZO CONE PENETROMETER



CPT Interpretations

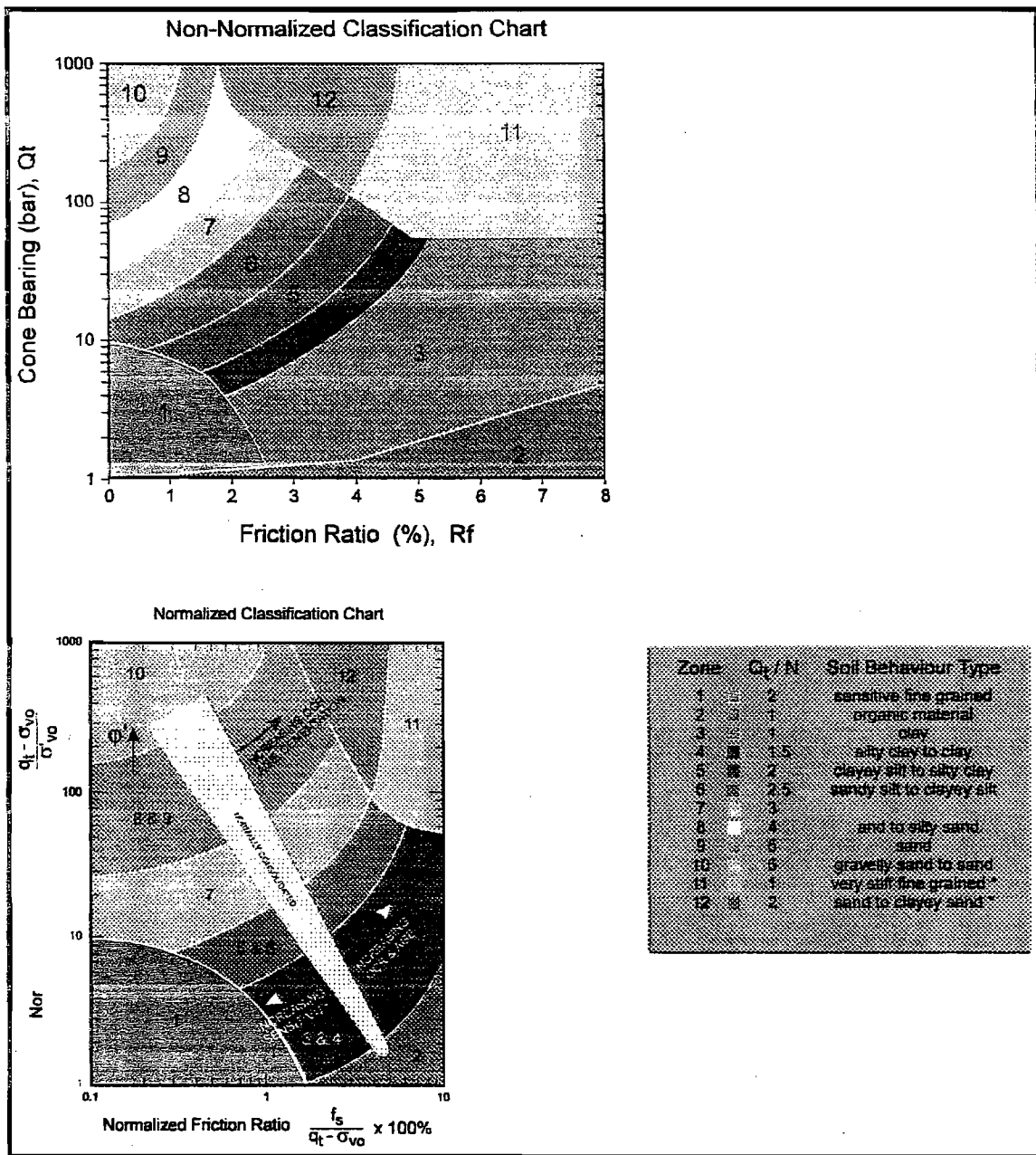
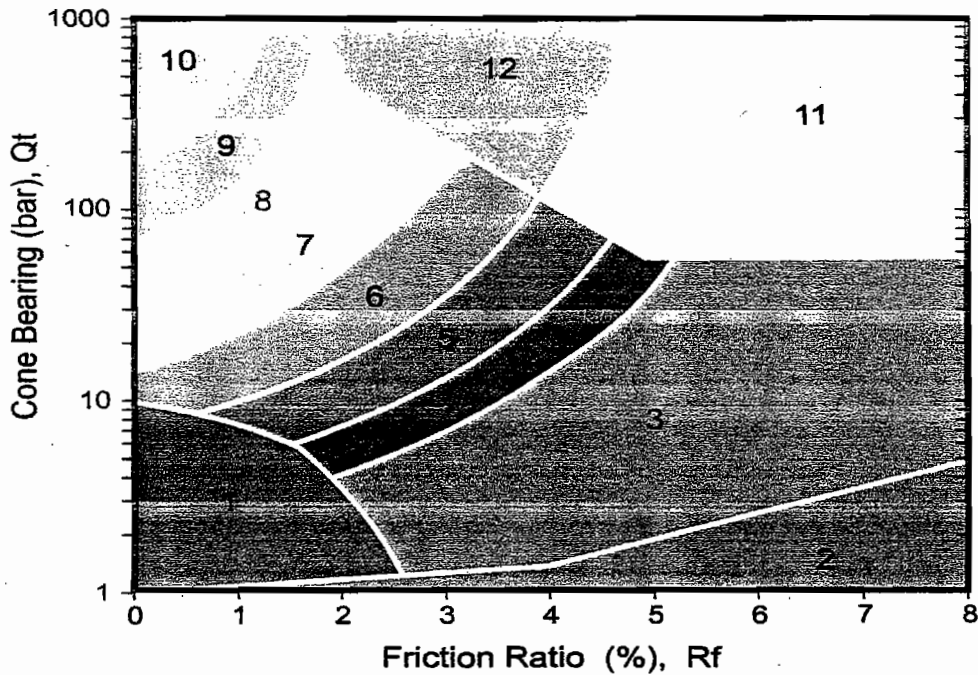


Figure 1 Non-Normalized and Normalized Soil Behavior Type Classification Charts

CPT Classification Chart

(after Robertson and Campanella, 1988)



Zone	Q_t / N	Soil Behaviour Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

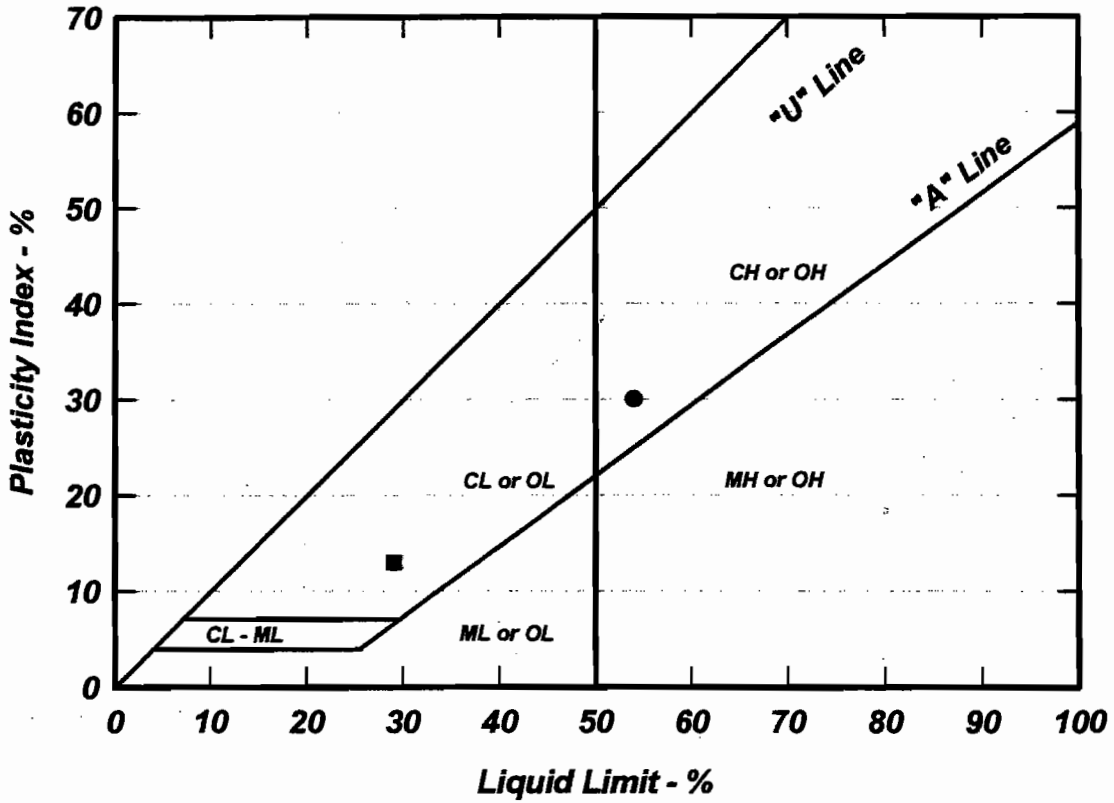
* overconsolidated or cemented



**ATTACHMENT B3
LABORATORY DATA
CFS (2000b)**


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Atterberg Limits

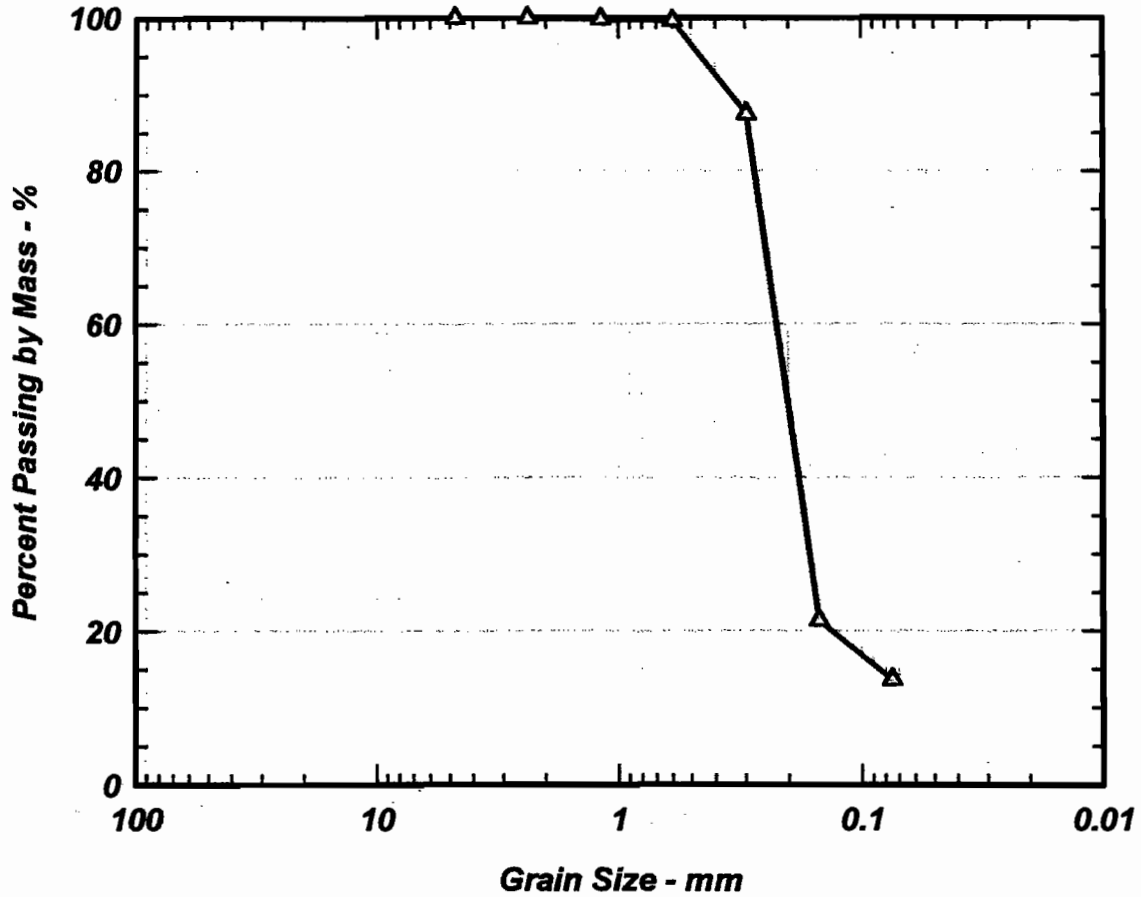


Symbol	Sample	Depth (ft)	Description and Classification	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)
●	4-8b	34	Fat CLAY (CH)	54	24	30
■	6-9	34	Lean CLAY (CL)	29	16	13

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D4318

 CFS Geotechnical Consultants	ATTERBERG LIMITS TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-1


Mechanical Sieve Analysis Results



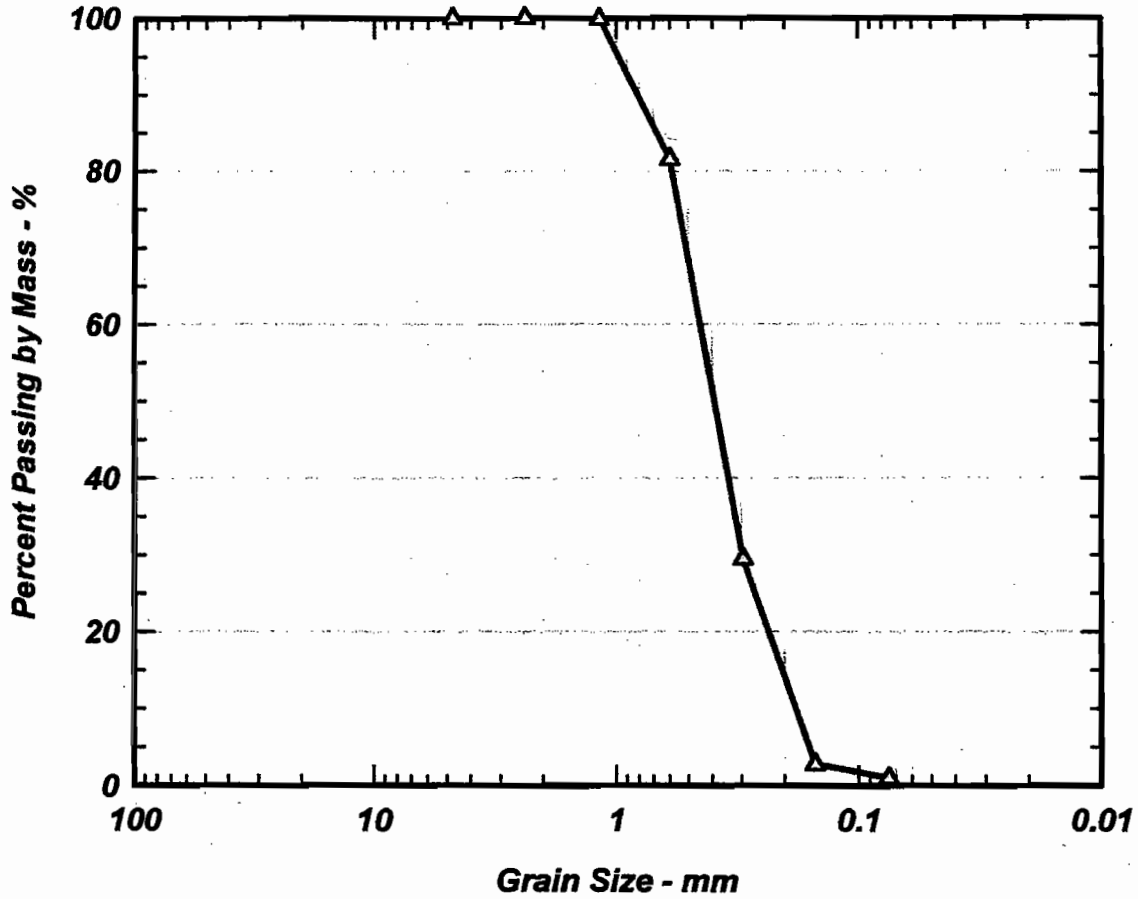
GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

Symbol	Sample	Depth (ft)	Description and Classification	C _c	C _u
▲	1-4	18.5	Silty SAND (SM)	—	—

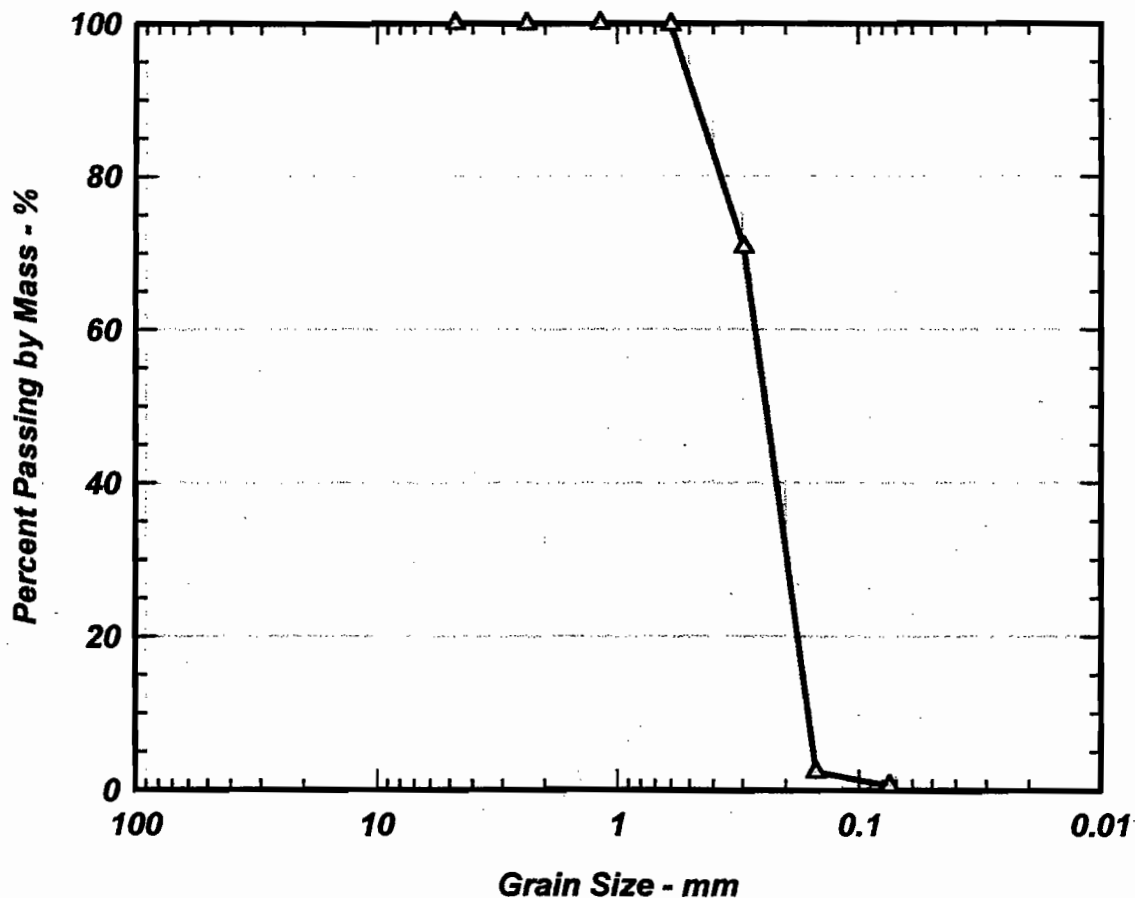
Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D422

 CFS Geotechnical Consultants	MECHANICAL SIEVE ANALYSIS RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-2a

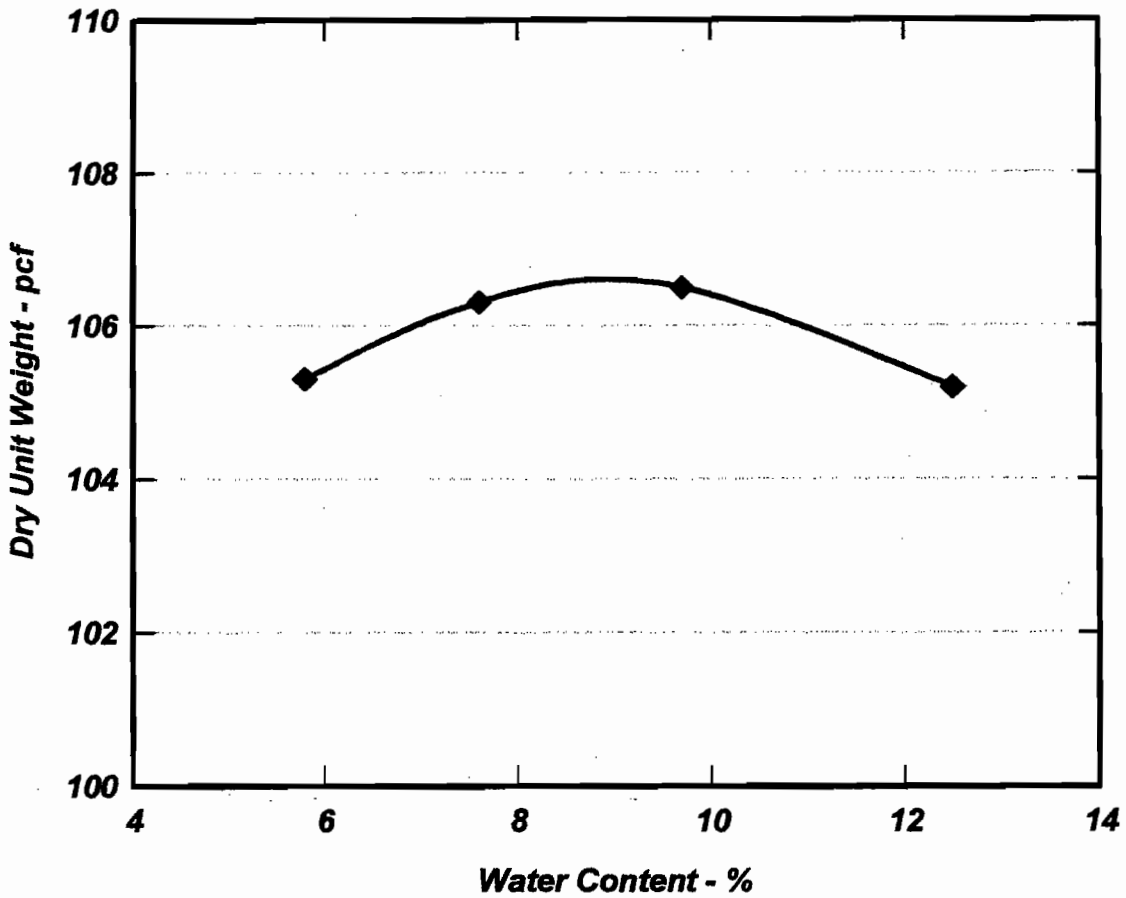
Mechanical Sieve Analysis Results



Mechanical Sieve Analysis Results



Compaction Test Results

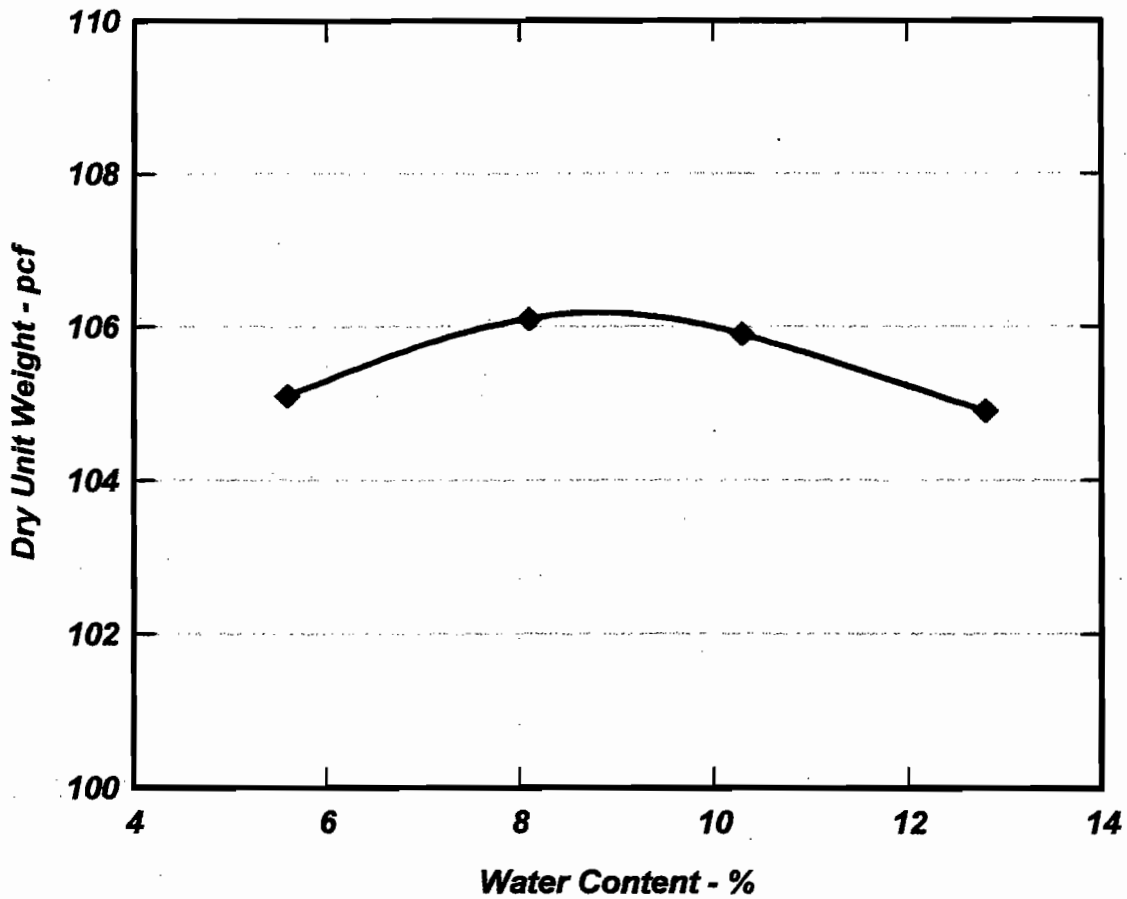


Symbol	Sample	Depth (ft)	Description and Classification	Maximum Dry Unit Weight (pcf)	Optimum Water Content (%)
◆	2A	3 to 10	Poorly Graded SAND (SP)	106.6	8.8

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D1557


 CFS Geotechnical Consultants	COMPACTION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-3a

Compaction Test Results

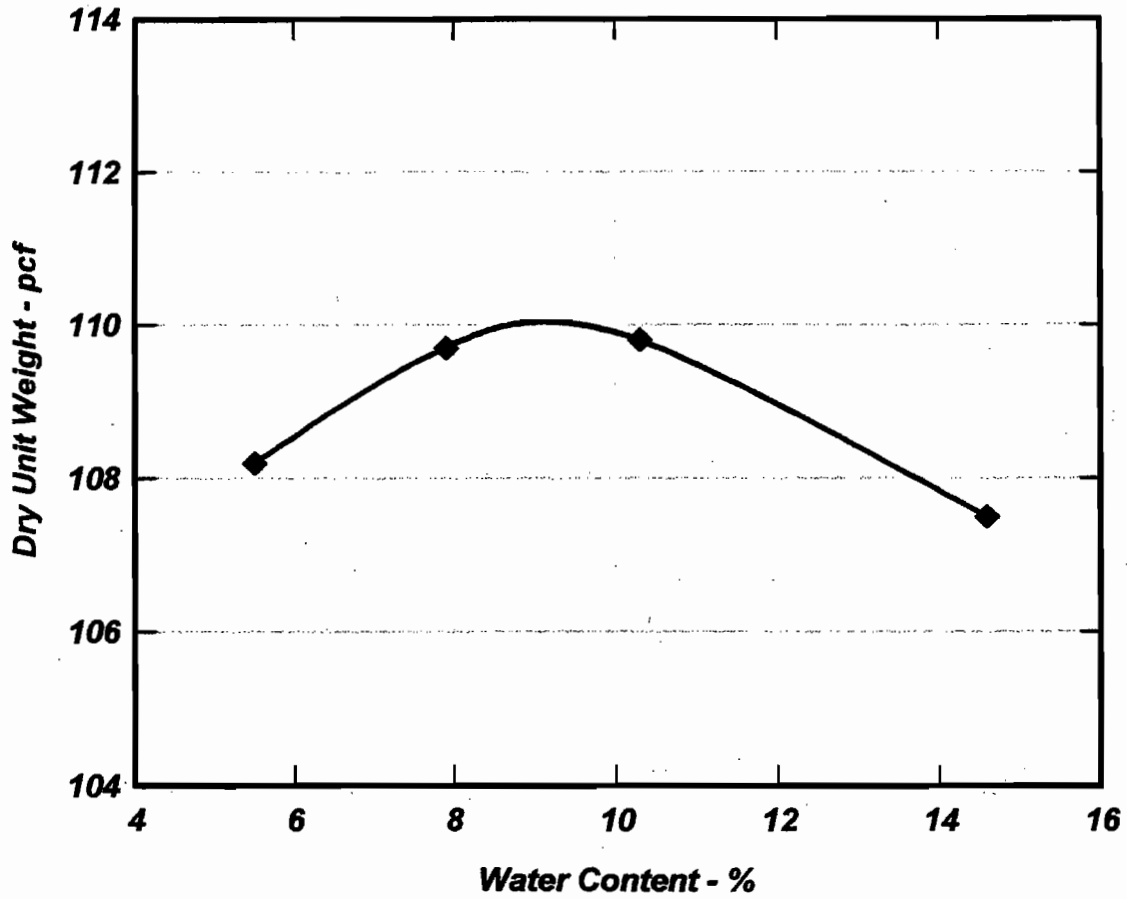


Symbol	Sample	Depth (ft)	Description and Classification	Maximum Dry Unit Weight (pcf)	Optimum Water Content (%)
◆	4A	5 to 10	Poorly Graded SAND (SP)	106.2	9.0

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D1557


 CFS Geotechnical Consultants	COMPACTION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-3b

Compaction Test Results

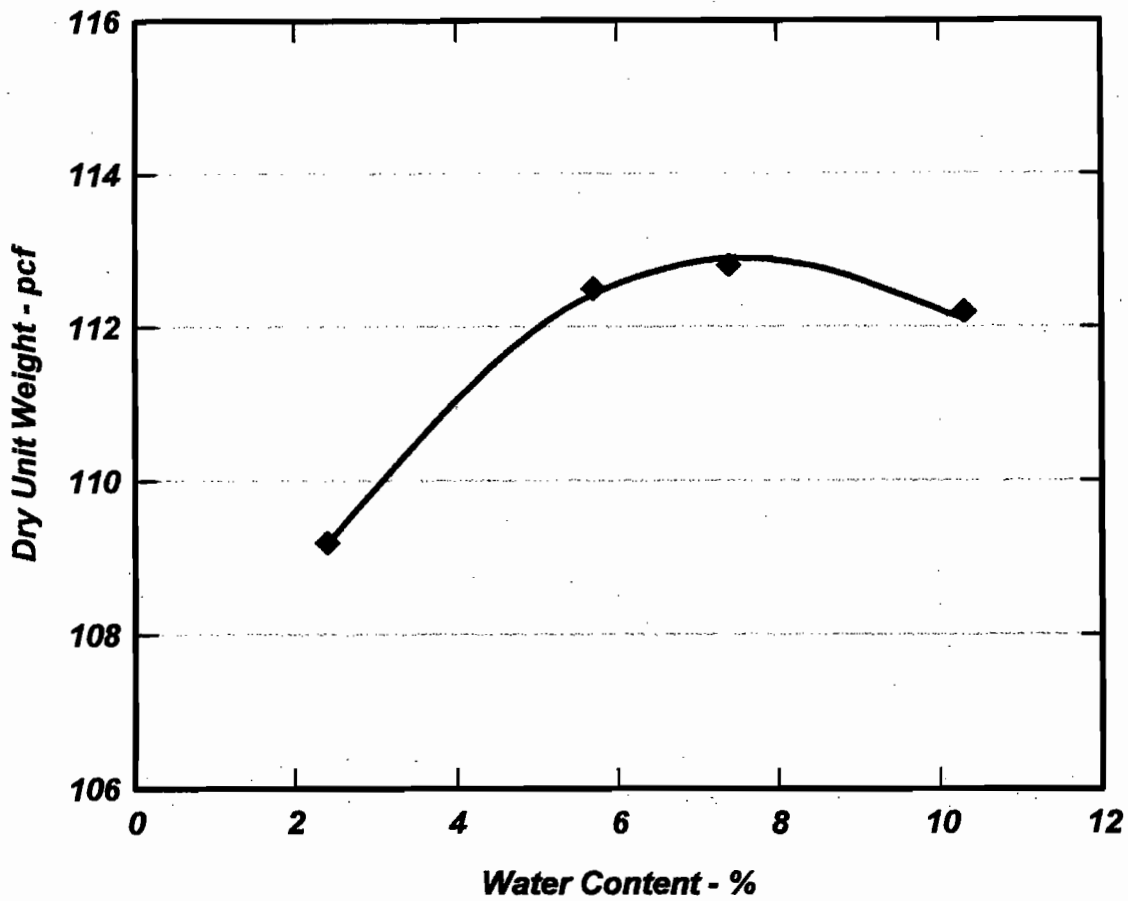


Symbol	Sample	Depth (ft)	Description and Classification	Maximum Dry Unit Weight (pcf)	Optimum Water Content (%)
◆	8A	3 to 9	Poorly Graded SAND (SP)	110.0	9.0

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D1557

 CFS Geotechnical Consultants	COMPACTION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-3c

Compaction Test Results

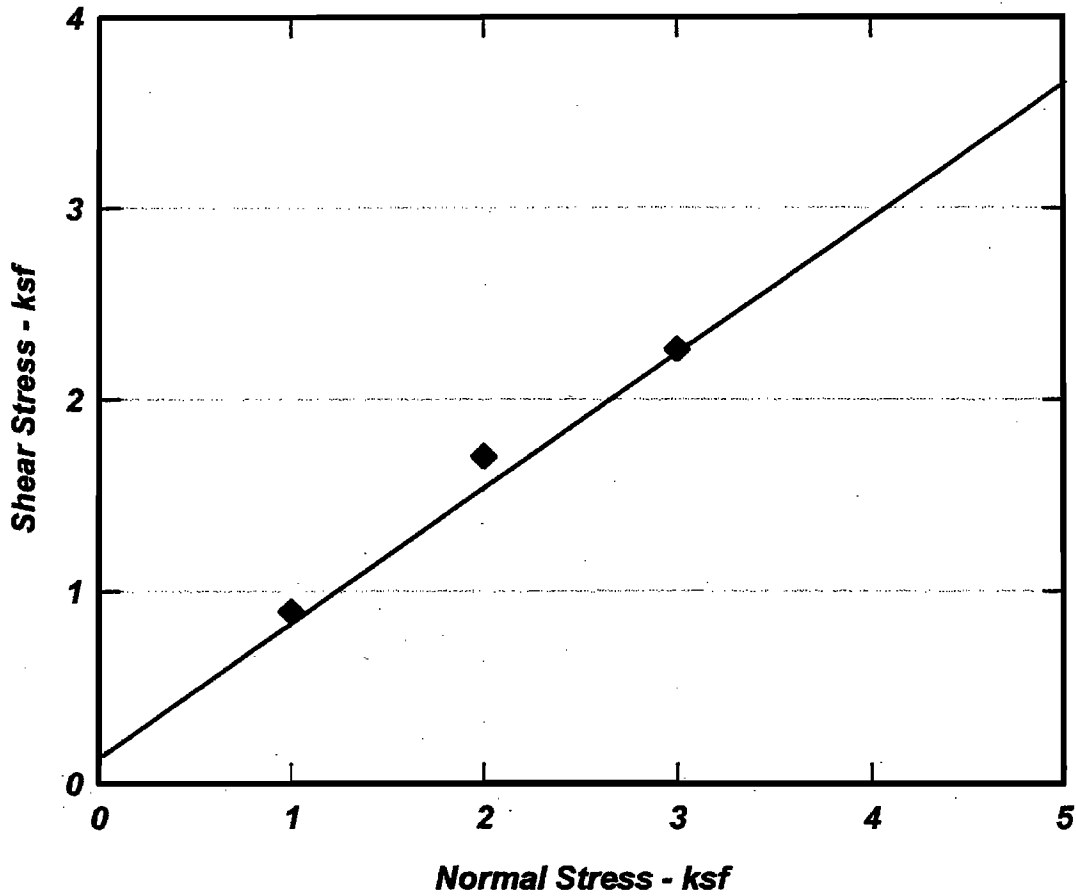


Symbol	Sample	Depth (ft)	Description and Classification	Maximum Dry Unit Weight (pcf)	Optimum Water Content (%)
◆	H-1 Bulk	1 to 5	Poorly Graded SAND (SP)	112.8	7.5

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D1557


 CFS Geotechnical Consultants	COMPACTION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-3d

Direct Shear Test Results

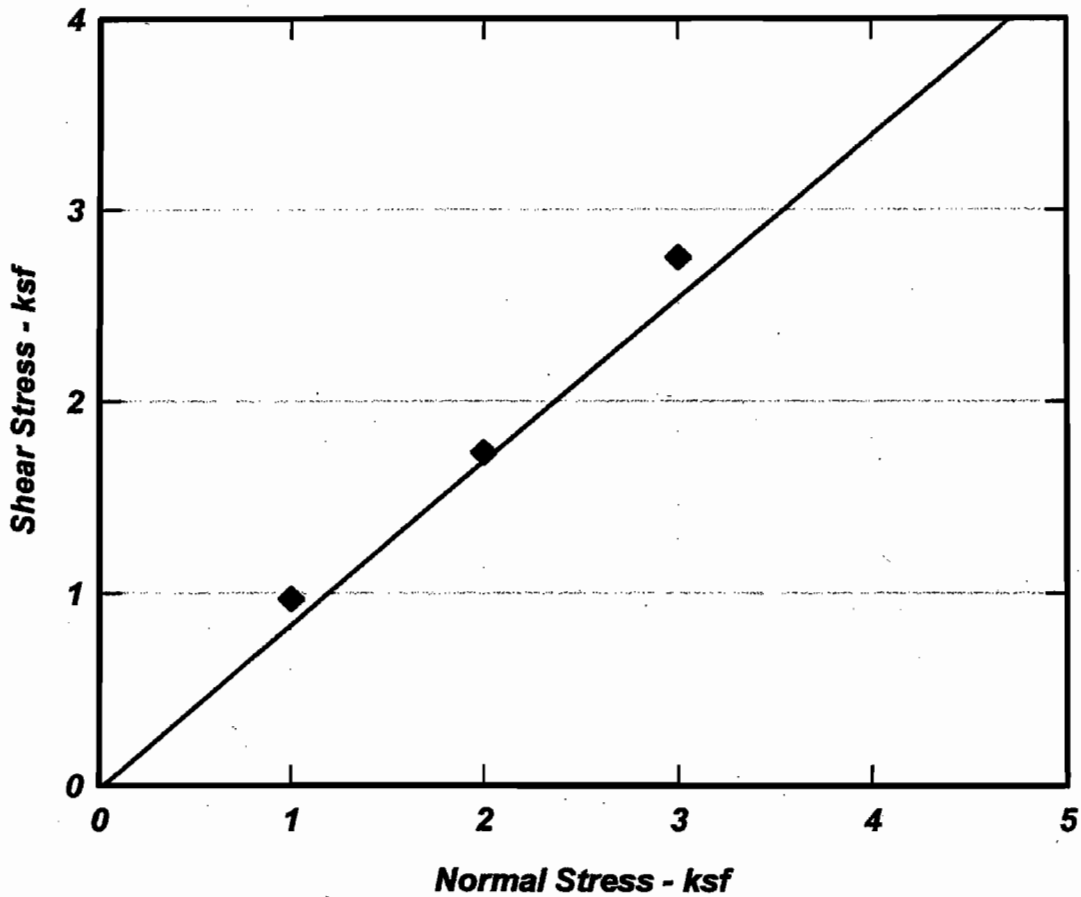


Symbols	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	2-3	9.5	Poorly Graded SAND with Clay (SP-SC)	35	0.15

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4a

Direct Shear Test Results

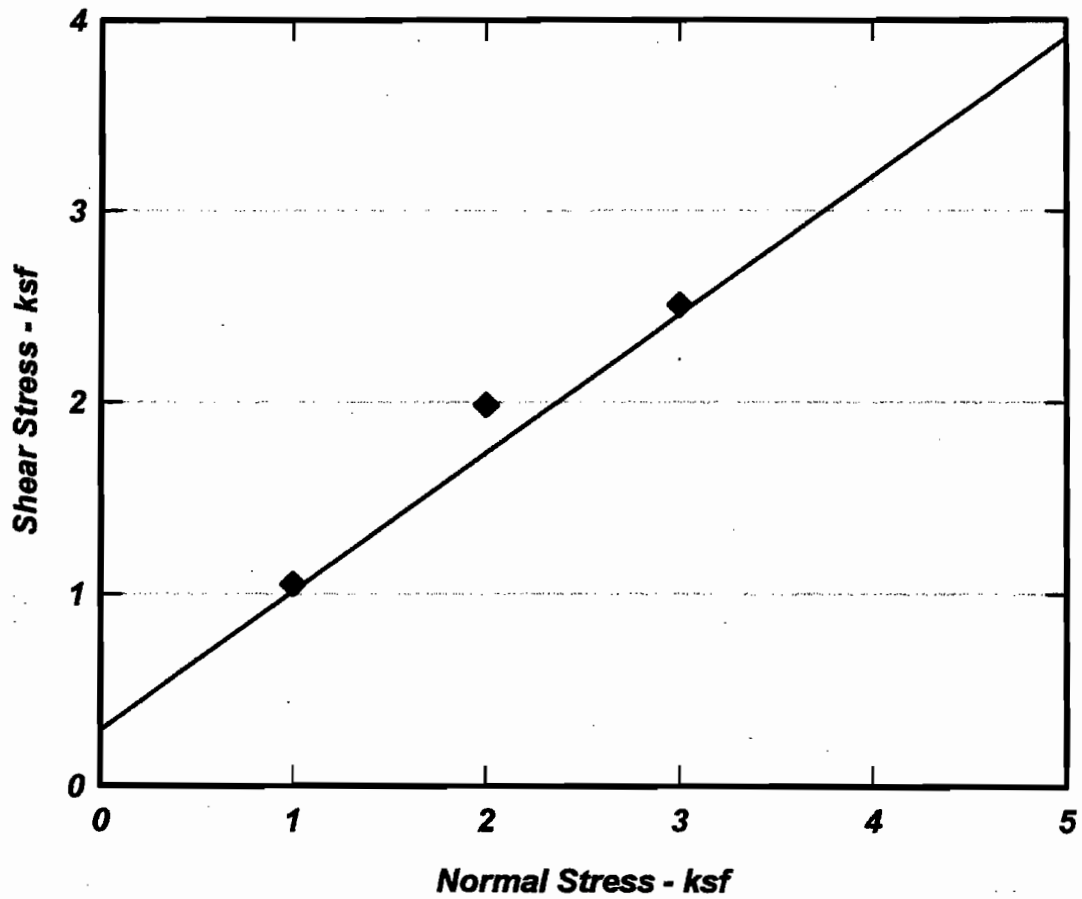


Symbols	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	4-4	14	Poorly Graded SAND (SP)	40	0

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4b

Direct Shear Test Results

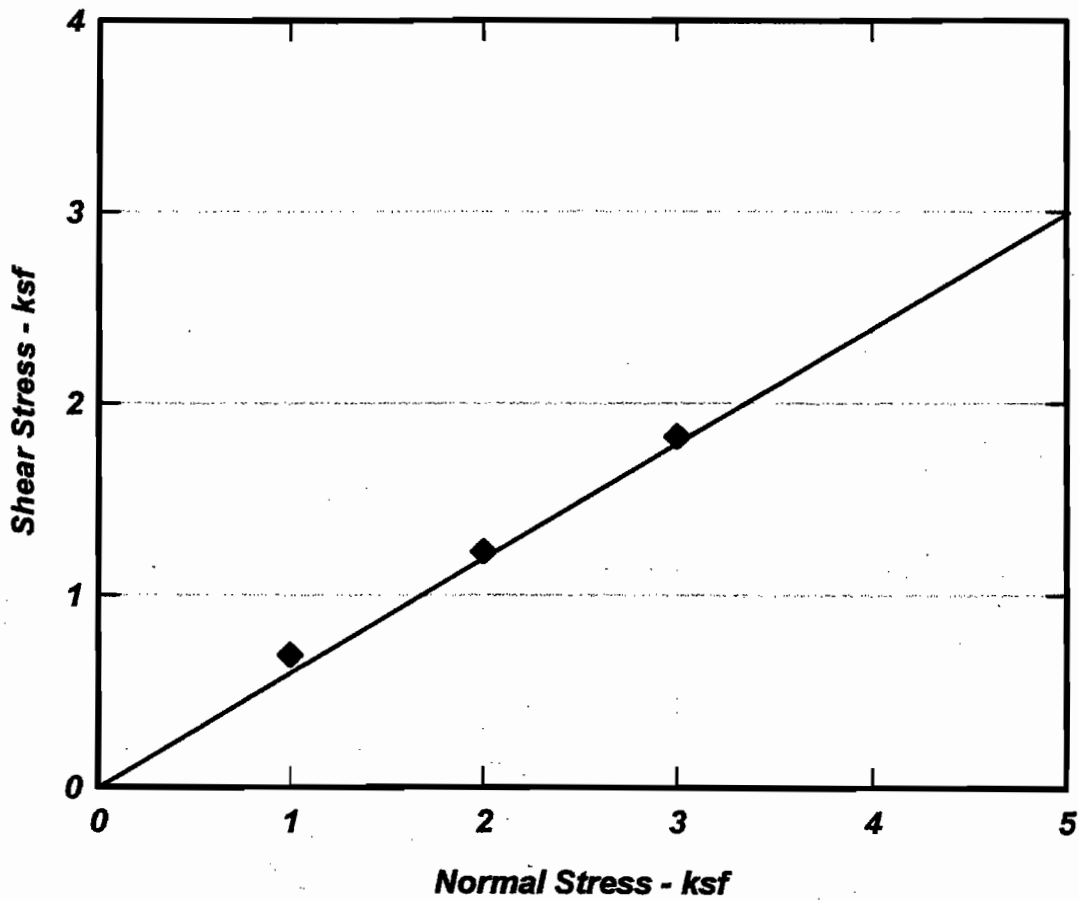


Symbols	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	4-6	24	Poorly Graded SAND with Silt (SP-SM)	36	0.3

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4c

Direct Shear Test Results

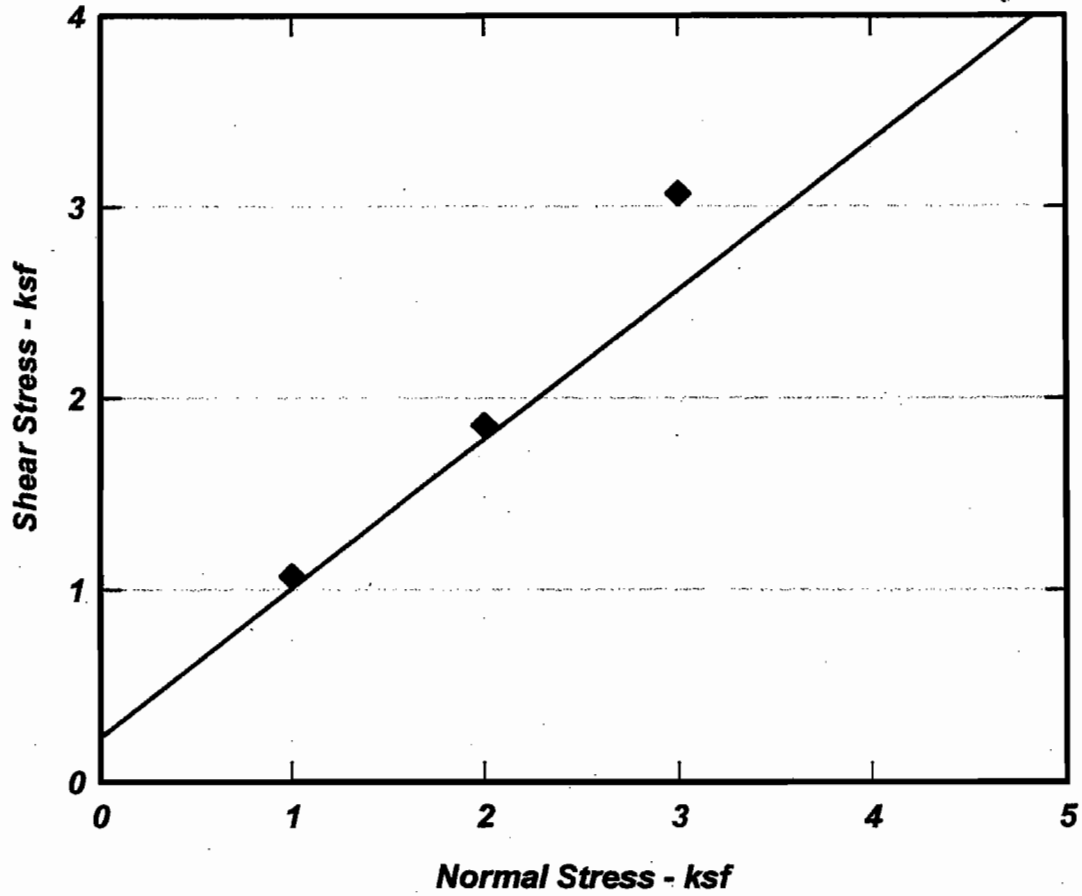


Symbols	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	4A	5 to 10	Poorly Graded SAND (SP)	31	0

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4d

Direct Shear Test Results

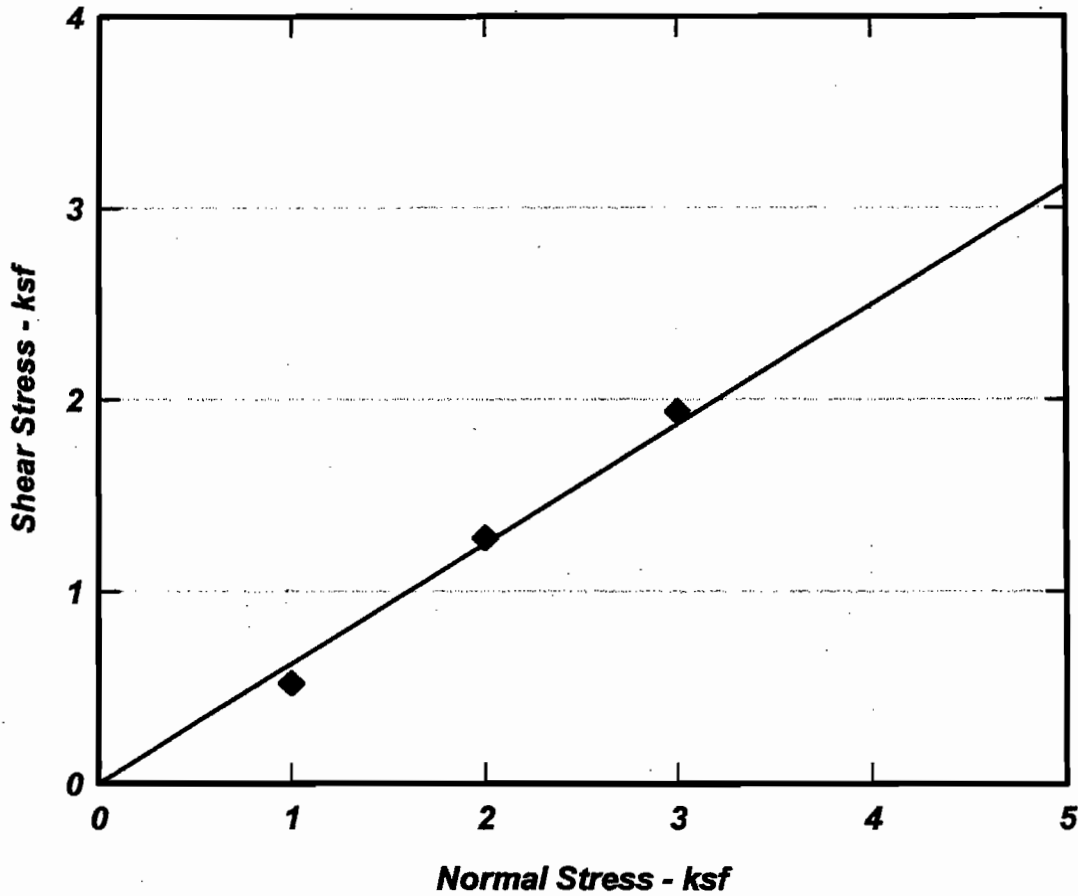


Symbols	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	5-5	24	Silty SAND (SM)	38	0.25

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4e

Direct Shear Test Results

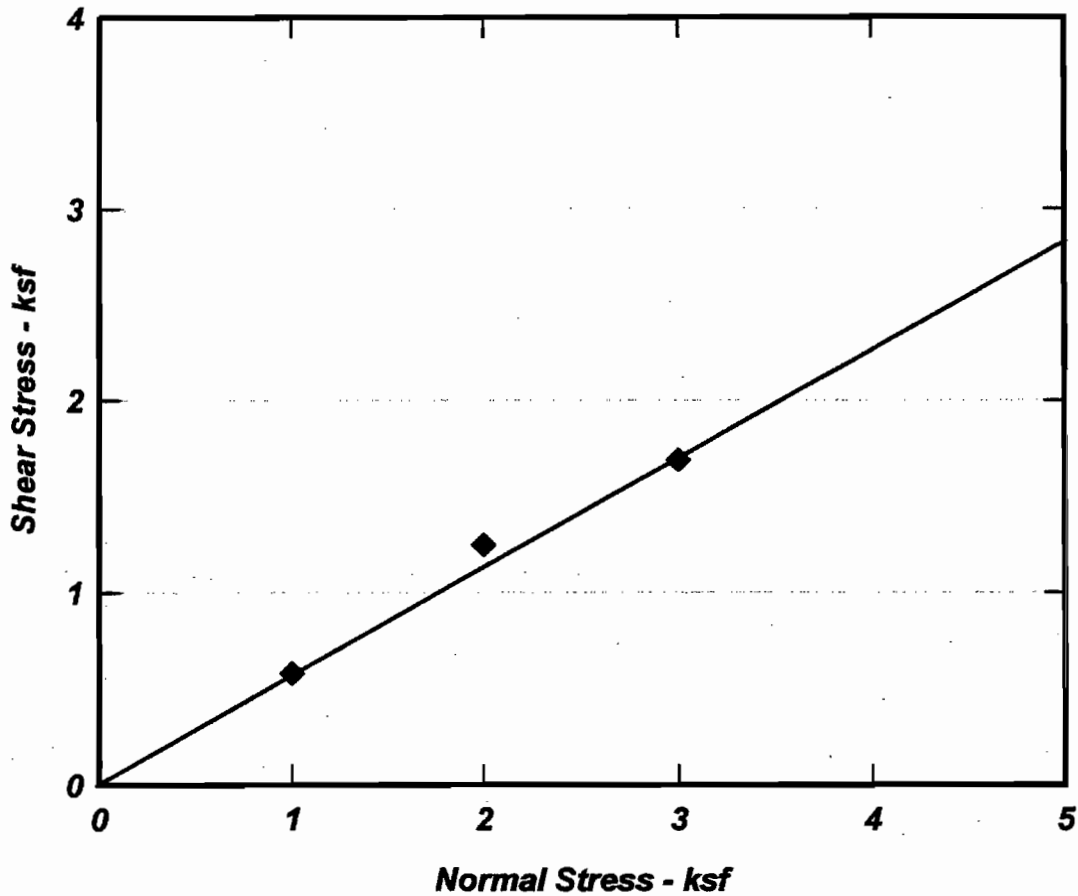


Symbols	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	8A	3 to 9	Poorly Graded SAND (SP)	32	0

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4f

Direct Shear Test Results

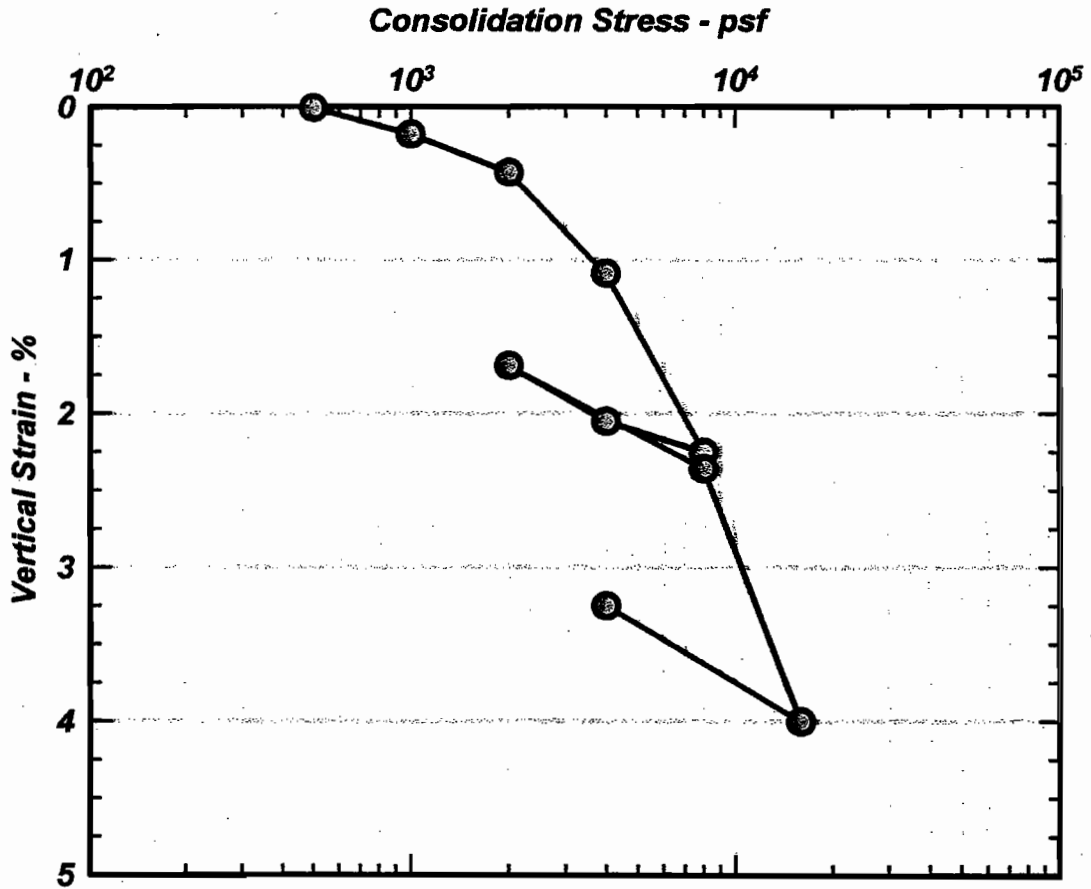


Symbol	Sample	Depth (ft)	Description and Classification	Friction Angle, ϕ (degrees)	Cohesion, c (ksf)
◆	H-1 Bulk	1 to 5	Poorly Graded SAND (SP)	30	0

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D3080


 CFS Geotechnical Consultants	DIRECT SHEAR TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-4g

Consolidation Test Results

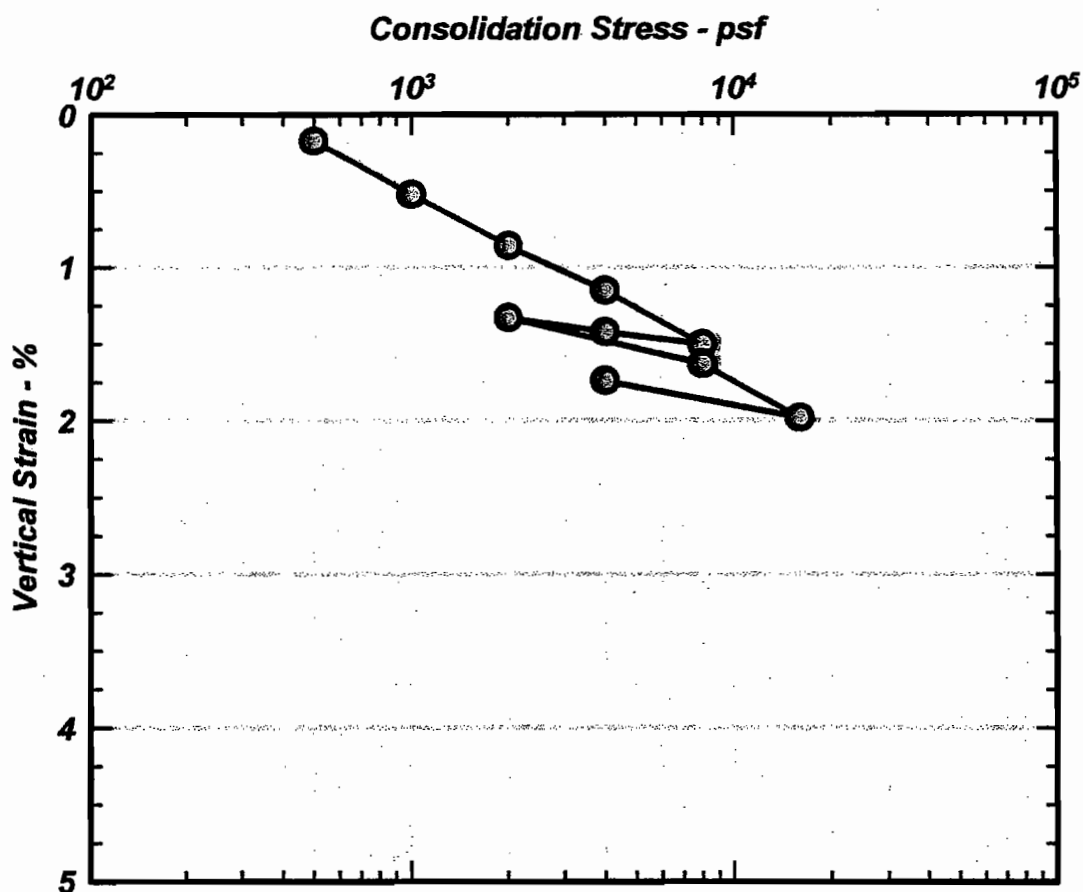


Symbol	Sample	Depth (ft)	Description and Classification	Total Unit Weight (pcf)	Water Content (%)
●	4-8a	34	Fat CLAY (CH)	129.2	24.7

Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D2435


 CFS Geotechnical Consultants	CONSOLIDATION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-5a

Consolidation Test Results




Symbol	Sample	Depth (ft)	Description and Classification	Total Unit Weight (pcf)	Water Content (%)
●	4-10	44	Poorly Graded SAND with Silt (SP-SM)	127.5	21.8

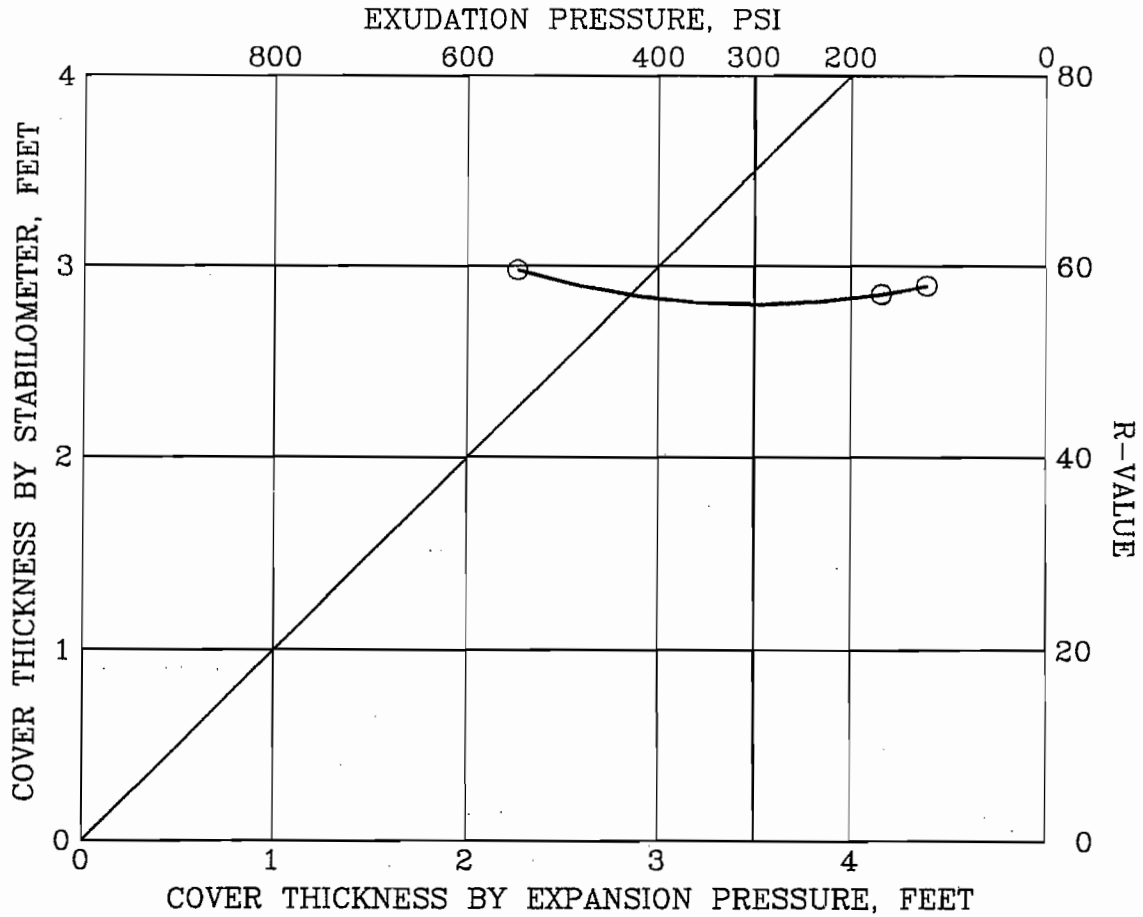
Project: Los Osos Wastewater Project
 Performed by: Gregg Fiegel, Ph.D., P.E.
 Test Method: ASTM D2435

 CFS Geotechnical Consultants	CONSOLIDATION TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-5b

**Los Osos Wastewater Project
Falling Head Permeability Tests**

Sample Number	Description	Total Unit Weight (pcf)	Water Content (%)	Permeability, k (cm/sec)
2-7	Poorly Graded SAND (SP)	103.4	11.6	2.6×10^{-2}
2-11	Poorly Graded SAND with Silt (SP-SM)	107.1	4.5	3.8×10^{-3}
3-3	Poorly Graded SAND with Silt (SP-SM)	124.8	16.8	1.5×10^{-4}
7-2	Poorly Graded SAND (SP)	113.8	2.6	9.1×10^{-3}

 CFS Geotechnical Consultants	PERMEABILITY TEST RESULTS	Los Osos Wastewater Project Los Osos, California Project No. 991001
		Figure B-6



SAMPLE LOCATION : B-8A
 SOIL DESCRIPTION : Poorly Graded Sand w/Silt (SP-SM)
 LIQUID LIMIT : SPECIFIC GRAVITY : 2.7
 PLASTIC LIMIT : DATE : 06/12/00

TEST NUMBER	1	2	3	4	5
COMPACTION PRESSURE, PSI	300.0	280.0	300.0		
INITIAL MOISTURE,	5.6	5.6	5.6		
MOISTURE AT COMPACTION,	11.8	13.1	12.4		
DRY DENSITY, PCF	111.0	109.4	110.7		
EXUDATION PRESSURE, PSI	547.5	122.6	168.7		
G.E. (STABILITY), FT	.58	.65	.60		
G.E. (EXPANSION), FT	.00	.00	.00		

R-VALUE BY STABILITY : 56.0

CFS Project No. 991001

EXAM No. 4411-5490	LOS OSOS WASTE WATER TREATMENT PLANT	
S/G Testing Labs, Inc.	R-VALUE TEST	ATTACHMENT No. 1

**ATTACHMENT C1
BORING LOGS
FUGRO WEST, INC. (1997)**

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ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLES	BLOWCOUNT / REC"/DRIVE"	LOCATION: The drill hole location referencing local landmarks or coordinates SURFACE EL: Using local, MSL, MLLW or other datum	General Notes
MATERIAL DESCRIPTION							
-12	2		1		25	Well graded GRAVEL (GW)	1 Soil Texture Symbol 2 Sloped line in symbol column indicates transitional boundary 3 Samplers and sampler dimensions (unless otherwise noted in report text) are as follows: Symbol for: 1 SPT Sampler, driven 1 3/8" ID, 2" OD 2 CA Liner Sampler, driven 2 3/8" ID, 3" OD 3 CA Liner Sampler, disturbed 2 3/8" ID, 3" OD 4 Recovery Interval 5 Thin-walled Tube, pushed 2 7/8" ID, 3" OD 6 Bulk Bag Sample (from cuttings) 7 Hand Auger Sample 8 Rock Core Sample 9 No Sample Recovered 10 Vibracore Sample 11 Pitcher Sample
-14	4		2		(25)	Poorly graded GRAVEL (GP)	
-16	6		3		(25)	Well graded SAND (SW)	
-18	8		4		(25)	Poorly graded SAND (SP)	
-20	10		5		(25)	Clayey SAND (SC)	
-22	12		6		18"/30"	Silty SAND (SM)	
-24	14		7		30"/30"	SAND with silt (SP-SM)	
-26	16		8		20"/24"	Fat CLAY (CH)	
-28	18		9		30"/30"	Lean CLAY (CL)	
-30	20		10		20"/24"	Silty CLAY (CL-ML)	
-32	22		11		30"/30"	Elastic SILT (MH)	
-34	24					SILT (ML)	
-36	26					Clayey SILT (ML/CL)	
-38	28					SANDSTONE	
-40	30					SILTSTONE	
-42	32					CLAYSTONE	
-44	34					MUDSTONE	
-46	36					GRANITE	
-48	38					SHALE	
						Paving and/or Base Materials	

KEY TO TERMS & SYMBOLS USED ON LOGS





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: Pasadena Drive, south of Santa Lucia and 1st Street SURFACE EL: 51 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
50						Artificial Fill (Af):							
	2		1		24	2" Asphalt Concrete Pavement	112	112	1				
48			2			8" Base Material, Silty SAND with gravel (SM): dense, pale red, dry							
46	4		3		26	Sand Dune Deposits (Qs):	110	109	1	2			
44	6					Fine SAND (SP): medium dense, yellowish-red, dry, uniform							
42	8												
40	10		4		20	Lense of sandy SILT (ML): grades to darker yellowish-red, some small shale in sample							
38	12					SAND with silt (SP-SM): medium dense, dark, yellowish-red, dry to slightly moist							
36	14												
34	16		5		24	SAND (SP): medium dense, yellowish-red, slightly moist, uniform color and texture, clean							
32	18												
30	20												
28	22												
26	24												
24	26												
22	28												
20	30												
18	32												
16	34												
14	36												
12	38												
10	40												
8	42												
	44												

COMPLETION DEPTH: 16 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 17, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-101
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: 25 ft of 1st St. 200 ft south of Santa Maria SURFACE EL: 12 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
-10	2		1		11	Sand Dune Deposits (Qs): Sandy SILT (ML): loose, dark brown to black, moist, organics Fine SAND (SP): loose, dark brown, moist, dry above 1.5 ft Grades to yellowish-red	110	105	5	3			
-8	4		2										
-6	6		3		5								
-4	8												
-2	10		4		30	Alluvium (Qal): SAND (SP): medium dense, flow sand, wet, pockets of dark brown sand	133	114	17				
0	12												
-2	14												
-4	16		5		>45								
-6	18												
-8	20		6		82		134	115	17				
-10	22												
-12	24												
-14	26		7		68	Flow sands, very dense, brownish-yellow, wet, iron oxide staining							
-16	28												
-18	30		8		75	Lenses of clayey SAND (SC): flow sands, brownish-yellow, soft to medium stiff, wet	132	110	20				
-20	32												
-22	34												
-24	36				Push	Flow sands							
-26	38												
-28	40		9			Grades to fine SAND (SP): yellowish-red				3			
-30	42												
-32	44												

COMPLETION DEPTH: 40 ft
 DEPTH TO WATER: 8 ft
 BACKFILLED WITH: Native
 DRILLING DATE: January 21, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log end data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-102
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: South-west corner of Santa Maria and 4th St. SURFACE EL: 25 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
24						Artificial Fill (Af): 1.75" Asphalt Concrete Pavement							
22	2		1		17	11" Base Material: silty SAND with gravel (SM)	107	105	1				
20	4		2										
18	6		3A		10	Sand Dune Deposits (Os): Fine SAND (SP): loose, yellowish-red, dry				1			
16	8												
14	10		3B		34	Medium dense, moist	125	105	19	1			
12	12												
10	14		4		40	Dense, wet, (flow sands in auger)							
8	16												
6	18												
4	20		5		> 75	Flow sands							
2	22												
0	24												
-2	26												
-4	28												
-6	30												
-8	32												
-10	34												
-12	36												
-14	38												
-16	40												
-18	42												
-20	44												

COMPLETION DEPTH: 21.5 ft
 DEPTH TO WATER: 11 ft
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 17, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-103
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East shoulder of 10th St. (top of hill) between Santa Yeabel and Santa Maria SURFACE EL: 86 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
84	2	[Symbol]	1	[Symbol]	24	Artificial Fill (Af) 2" Asphalt Concrete Pavement 4" Base Material	113	110	2				
82	4	[Symbol]	2	[Symbol]		Sand Dune Deposits (Os): Fine SAND (SP): medium dense, yellowish-red, moist, 3" layer of sandy SILT (ML) 3" layer of sandy silt, brown, dry, loose Brown, dry, loose				1			
80	6	[Symbol]	3	[Symbol]	9								
78	8	[Symbol]				Medium dense	107	105	2				
76	10	[Symbol]	4	[Symbol]	20								
74	12	[Symbol]				Dense, reddish-brown, moist							
72	14	[Symbol]											
70	16	[Symbol]	5	[Symbol]	32								
68	18	[Symbol]				Dry to moist	110	107	3				
66	20	[Symbol]	6	[Symbol]	34								
64	22	[Symbol]				Medium dense							
62	24	[Symbol]											
60	26	[Symbol]	7	[Symbol]	12								
58	28	[Symbol]				Dense, reddish-brown with white and black grains	109	107	2				
56	30	[Symbol]	8	[Symbol]	42								
54	32	[Symbol]											
52	34	[Symbol]											
50	36	[Symbol]											
48	38	[Symbol]											
46	40	[Symbol]											
44	42	[Symbol]											
42	44	[Symbol]											

COMPLETION DEPTH: 31.5 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 17, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-104
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East shoulder of 11th St. between Santa Ysabel and Santa Maria SURFACE EL: 94 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, kef
MATERIAL DESCRIPTION													
92	2		1		18	Artificial Fill (Af): Sandy SILT with gravel (ML): brown, moist	109	106	3	1			
90	4		2			Sand Dune Deposits (Qs): Fine SAND (SP): medium dense, yellowish-red, slightly moist to dry				1			
88	6		3		10	Loose				1			
86	8												
84	10		4		24	Medium dense, some small pockets of reddish-brown SAND	108	106	2				
82	12												
80	14												
78	16		5		13	1.5" lense of sandy SILT (ML)							
76	18												
74	20		6		38	Lenses of silty SAND (SM)	111	108	3				
72	22												
70	24												
68	26		7		30	Moist to slightly moist, poorly graded							
66	28												
64	30		8		76		111	107	3				
62	32												
60	34												
58	36												
56	38												
54	40												
52	42												
50	44												

COMPLETION DEPTH: 31 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native
 DRILLING DATE: January 17, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-105
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: West shoulder of South Blvd., 140 ft south of Santa Ysabel SURFACE EL: 89 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
88	2	[Symbol]	1	[Symbol]	37	Artificial Fill (Af): 4" Asphalt Concrete Base 6" Base material: silty SAND with gravel (SM): dense, brown, moist	135	122	11	24	30	10	
86	4	[Symbol]	2	[Symbol]	13		Clayey SAND with gravel (SC): fill material, medium dense, yellowish-red to brown, moist				2		
84	6	[Symbol]	3A	[Symbol]		Fine SAND (SP): medium dense, yellowish-red, slightly moist							
82	8	[Symbol]											
80	10	[Symbol]	3B	[Symbol]	29	Medium dense, pockets of slightly clayey SAND (SC) and small 0.125" gravel	115	110	5				
78	12	[Symbol]											
76	14	[Symbol]											
74	16	[Symbol]	4	[Symbol]	7	Sand Dune Deposits (Qs): Fine Sand (SP): loose, dark gray to black, slightly moist				3			
72	18	[Symbol]											
70	20	[Symbol]	5	[Symbol]	28	Grades medium dense, reddish-brown	115	110	4				
68	22	[Symbol]											
66	24	[Symbol]	6	[Symbol]	20	Yellowish-red							
64	26	[Symbol]											
62	28	[Symbol]											
60	30	[Symbol]	7	[Symbol]	48	Pockets/lenses of silty SAND (SM): dark brown	111	106	4				
58	32	[Symbol]											
56	34	[Symbol]	8	[Symbol]	51	Flow sands, dense, yellowish-red, wet, lenses of iron oxide staining							
54	36	[Symbol]											
52	38	[Symbol]											
50	40	[Symbol]	9	[Symbol]	>70	Flow sands, lense of dark iron oxide staining							
48	42	[Symbol]											
46	44	[Symbol]											

COMPLETION DEPTH: 41.5 ft
DEPTH TO WATER: 33 ft
BACKFILLED WITH: Native/Cold Patch
DRILLING DATE: January 23, 1997

DRILLING METHOD: Hollow Stem Auger
DRILLED BY: S & G Drilling
LOGGED BY: CLLovato
CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-106
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East shoulder of 18th St., 50 ft north of Paso Robles St. SURFACE EL: 75 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, kef
MATERIAL DESCRIPTION													
74	2	[Symbol]	1	[Symbol]	28	Artificial Fill (Af): 3.5" Asphalt Concrete Pavement	112	109	3				
72	4	[Symbol]	2	[Symbol]		5" Base material, sandy GRAVEL (GW): dense, gray							
70	6	[Symbol]	3	[Symbol]	8	Sand Dune Deposits (Qs): Fine SAND (SP): loose to medium dense, reddish-brown, dry to slightly moist, lense of silty SAND (SM) at 2 ft				2			
68	8	[Symbol]											
66	10	[Symbol]	4	[Symbol]	34	Flow sands grades from yellowish-red to brownish-yellow, wet	130	112	16				
64	12	[Symbol]											
62	14	[Symbol]											
60	16	[Symbol]	5	[Symbol]	23	Flow sands							
58	18	[Symbol]											
56	20	[Symbol]		[Symbol]	5	Flow sands							
54	22	[Symbol]											
52	24	[Symbol]											
50	26	[Symbol]	6	[Symbol]	51	Flow sands							
48	28	[Symbol]											
46	30	[Symbol]	7	[Symbol]	23	Brownish-yellow, wet	127	103	23				
44	32	[Symbol]											
42	34	[Symbol]											
40	36	[Symbol]	8	[Symbol]	>30	Paso Robles Formation (Qpr): Sandy lean CLAY (CL): very hard, reddish brown, wet Flow sands							
38	38	[Symbol]											
36	40	[Symbol]											
34	42	[Symbol]											
32	44	[Symbol]											

COMPLETION DEPTH: 40 ft
 DEPTH TO WATER: 9.5 ft
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 20, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-107
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: South-east corner of Pismo and South Bay Blvd. SURFACE EL: 85 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf	
MATERIAL DESCRIPTION														
84	2	[Symbol]	1	[Symbol]	10	Sand Dune Deposits (Os): Fine SAND (SP): loose, yellowish-red, moist, some small roots and organics in upper 1'	104	100	4					
82	4	[Symbol]	2	[Symbol]	22		Grades to light yellowish-red, dry to slightly moist	108	103	5	1			
80	6	[Symbol]	3	[Symbol]	16									
78	8	[Symbol]												
76	10	[Symbol]												
74	12	[Symbol]												
72	14	[Symbol]												
70	16	[Symbol]	4	[Symbol]	85	SAND (SP): very dense, yellowish-red, wet, (flowsands)								
68	18	[Symbol]												
66	20	[Symbol]												
64	22	[Symbol]												
62	24	[Symbol]												
60	26	[Symbol]												
58	28	[Symbol]												
56	30	[Symbol]												
54	32	[Symbol]												
52	34	[Symbol]												
50	36	[Symbol]												
48	38	[Symbol]												
46	40	[Symbol]												
44	42	[Symbol]												
42	44	[Symbol]												

COMPLETION DEPTH: 16.5 ft
 DEPTH TO WATER: 14 ft
 BACKFILLED WITH: Native
 DRILLING DATE: January 20, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-108
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: West shoulder of 9th street between El Morro and Paso Robles SURFACE EL: 34 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
						MATERIAL DESCRIPTION							
32	2	[Symbol]	1	[Symbol]	12	Artificial Fill (Af): 1"-1.5" Asphalt Concrete Pavement	109	105	4	3			
30	4	[Symbol]	2	[Symbol]		4" Silty SAND (SM): medium dense, dark brown, moist							
28	6	[Symbol]	3	[Symbol]	20	Sand Dune Deposits (Qs): Fine to medium SAND (SP): loose, yellowish-red, slightly moist (No recovery, pushed SPT to recover sample) Medium dense, yellowish-red, wet							
24	10	[Symbol]	4	[Symbol]	48	Fine SAND (SP): dense, reddish-brown, wet, flow sands							
18	16	[Symbol]		[Symbol]	74	No Recovery, flow sands							
16	18												
14	20												
12	22												
10	24												
8	26												
6	28												
4	30												
2	32												
0	34												
-2	36												
-4	38												
-6	40												
-8	42												
-10	44												

COMPLETION DEPTH: 16 ft
 DEPTH TO WATER: 5.5 ft
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 17, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-109
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: Psimo St., 20 ft east EEP off of 4th St. (dirt trail) SURFACE EL: 19 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
18	2		1		23	Alluvium (Oa): SAND with gravel (SP): medium dense, yellowish-brown, very moist	132	118	12				
16	4		2		2								
14	6		3		1	SAND with silt (SP-SM): very loose, dark gray to black, wet				5			
12	8												
10	10				21	No recovery							
8	12												
6	14		4		19	Fine SAND (SP): medium dense, reddish-brown, wet, flow sands							
4	16												
2	18												
0	20		5		43	SAND (SP): medium dense, yellowish-red, wet	138	118	17				
-2	22												
-4	24												
-6	26		6		17								
-8	28												
-10	30				41								
-12	32												
-14	34												
-16	36		7		19	Lenses of SAND with silt (SP-SM): medium dense, light gray, very moist to wet, lense of clayey SAND (SC): iron oxide staining, 1/8" to 1/4" gravel							
-18	38												
-20	40					Lenses of dark brown lean CLAY (CL), lenses of reddish-brown peat with organics, small pieces of wood, organic odor							
-22	42		8		81	SAND with silt (SP-SM): dense, yellowish-red, wet, lenses of dark brown sandy lean CLAY (CL): soft, wet	133	114	18				
-24	44												

COMPLETION DEPTH: 41 ft
 DEPTH TO WATER: 3 ft
 BACKFILLED WITH: Native
 DRILLING DATE: January 23, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchard

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-110
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: 8th St. south of Romona SURFACE EL: 90 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
88	2	[Symbol]	1	[Symbol]	18	Artificial Fill (Af): 2" Asphalt Concrete Pavement 6" Base Material	111	108	3	1			
86	4	[Symbol]	2	[Symbol]		Sand Dune Deposits (Os): Fine SAND (SP): medium dense, light brown, dry, with silt Brownish-yellow, slightly moist							
84	6	[Symbol]	3	[Symbol]	28		110	108	2				
82	8	[Symbol]											
80	10	[Symbol]	4	[Symbol]	12	Loose							
78	12	[Symbol]											
76	14	[Symbol]											
74	16	[Symbol]	5	[Symbol]	39	Lenses of silty SAND (SM): dry	111	106	4				
72	18	[Symbol]											
70	20	[Symbol]	6	[Symbol]	36								
68	22	[Symbol]											
66	24	[Symbol]											
64	26	[Symbol]											
62	28	[Symbol]											
60	30	[Symbol]											
58	32	[Symbol]											
56	34	[Symbol]											
54	36	[Symbol]											
52	38	[Symbol]											
50	40	[Symbol]											
48	42	[Symbol]											
46	44	[Symbol]											

COMPLETION DEPTH: 21 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 20, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-111
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: North shoulder of Los Olivos, 50 ft east of 10th St. SURFACE EL: 128 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
128	2	[Symbol]	1	[Symbol]	20	Artificial Fill (Af): 2.5" Asphalt Concrete Pavement 2" Base material, silty SAND with gravel (SM): dark gray	138	126	10				
124	4	[Symbol]	2	[Symbol]									
122	6	[Symbol]	3	[Symbol]	10	Sand Dune Deposits (Qs): SAND with silt (SP-SM): medium dense, dark gray to black, moist				2			
120	8	[Symbol]		[Symbol]		Sandy SILT with gravel (ML): medium stiff, dark brown, moist, mottled							
118	10	[Symbol]	4	[Symbol]	30	Fine SAND (SP): loose, reddish-brown, slightly moist Medium dense lenses of sandy SILT (ML) to silty SAND (SM): light brown, dry	110	105	5	2			
116	12	[Symbol]		[Symbol]									
114	14	[Symbol]	5	[Symbol]	12	Loose, brownish-yellow, dry to slightly moist							
112	16												
110	18												
108	20												
106	22												
104	24												
102	26												
100	28												
98	30												
96	32												
94	34												
92	36												
90	38												
88	40												
86	42												
84	44												

COMPLETION DEPTH: 15.5 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 20, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-112
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: West lane of Mountain View, 150 ft north of Los Olivos SURFACE EL: 101 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
100	0	[Symbol]	1	[Symbol]	25	Artificial Fill (Af): 2.5" Asphalt Concrete Pavement	107	105	2				
98	2	[Symbol]	2	[Symbol]		4" Base material, silty SAND with gravel (SM): brown, dry				2			
96	4	[Symbol]		[Symbol]	15	Sand Dune Deposits (Os): Silty SAND (SM): medium dense, pale red, dry							
94	6	[Symbol]		[Symbol]		Fine SAND (SP): medium dense, brownish-yellow, dry to slightly moist							
92	8	[Symbol]		[Symbol]		Loose							
90	10	[Symbol]	3	[Symbol]	9	Clayey SAND (SC): loose, pale red, very moist, iron oxide staining, some black inclusions				17			
88	12	[Symbol]		[Symbol]									
86	14	[Symbol]	4	[Symbol]	40	Fine SAND (SP): medium dense, flow sands, brownish-yellow, wet							
84	16												
82	18												
80	20												
78	22												
76	24												
74	26												
72	28												
70	30												
68	32												
66	34												
64	36												
62	38												
60	40												
58	42												
44													

COMPLETION DEPTH: 15.5 ft
 DEPTH TO WATER: 5 ft
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 20, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-113
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: South shoulder of Los Osos Valley Rd., 80 ft east of Sunny Oaks MHP SURFACE EL: 158 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
156	2	[Symbol]	1	[Symbol]	23	Artificial Fill (Af): 5.5" Asphalt concrete pavement 0.75" Base material, silty SAND with gravel (SM): gray	111	107	5				
154	4	[Symbol]	2	[Symbol]									
152	6	[Symbol]	3	[Symbol]	19	Fine SAND (SP): medium dense, yellowish-red, slightly moist 3" lense of silty SAND (SM): moist, medium dense, 0.125" pieces of shale, dark gray							
150	8	[Symbol]											
148	10	[Symbol]	4	[Symbol]	25		108	103	5				
146	12	[Symbol]											
144	14	[Symbol]											
142	16	[Symbol]	5	[Symbol]	19	Sand Dune Deposits (Qs): Fine SAND (SP): medium dense, brownish-yellow to yellowish-red, slightly moist							
140	18	[Symbol]											
138	20	[Symbol]		[Symbol]	46	No recovery							
136	22	[Symbol]											
134	24	[Symbol]											
132	26	[Symbol]	6	[Symbol]	46	Dense, yellowish-red, wet, lenses of iron oxide staining, flow sands							
130	28	[Symbol]											
128	30	[Symbol]	7	[Symbol]	> 70	Light gray pockets, flow sands	132	112	18				
126	32	[Symbol]											
124	34	[Symbol]											
122	36	[Symbol]	8	[Symbol]	41	Dense, yellowish-red, flow sands, pockets/lenses of light gray silty SAND (SM)							
120	38	[Symbol]											
118	40	[Symbol]	9	[Symbol]	65	Paso Robles Formation (Qpr): Lean CLAY with pockets of sand (CL): stiff, olive gray to gray, slightly moist, flowsands	135	113	20				
116	42	[Symbol]											
114	44	[Symbol]											

COMPLETION DEPTH: 41 ft
 DEPTH TO WATER: 20 ft
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 23, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-114
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East lane of Pecho Rd., 200 ft north of Los Osos Valley Rd. SURFACE EL: 66 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, kaf
MATERIAL DESCRIPTION													
.64	2	[Symbol]	1	[Symbol]	13	Artificial Fill (Af): 2.5" Asphalt Concrete Pavement 6" Aggregate base, dense, light yellowish-brown	106	102	3				
.62	4	[Symbol]	2	[Symbol]									
.60	6	[Symbol]	3	[Symbol]	16	Sand Dune Deposits (Qs): Silty SAND (SM): loose, reddish-brown, dry Medium dense, brownish-yellow				13			
.58	8	[Symbol]		[Symbol]									
.56	10	[Symbol]	4	[Symbol]	73	Dense, yellow to light brown	114	109	5				
.54	12	[Symbol]		[Symbol]									
.52	14	[Symbol]	5	[Symbol]	29	Lenses of silty SAND with gravel (SM)							
.50	16	[Symbol]		[Symbol]									
.48	18	[Symbol]		[Symbol]									
.46	20	[Symbol]		[Symbol]									
.44	22	[Symbol]		[Symbol]									
.42	24	[Symbol]		[Symbol]									
.40	26	[Symbol]		[Symbol]									
.38	28	[Symbol]		[Symbol]									
.36	30	[Symbol]		[Symbol]									
.34	32	[Symbol]		[Symbol]									
.32	34	[Symbol]		[Symbol]									
.30	36	[Symbol]		[Symbol]									
.28	38	[Symbol]		[Symbol]									
.26	40	[Symbol]		[Symbol]									
.24	42	[Symbol]		[Symbol]									
.22	44	[Symbol]		[Symbol]									

COMPLETION DEPTH: 16 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 24, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-115
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East lane of Solano St., at south Butte Dr. intersection SURFACE EL: 13 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
12						Artificial Fill (Af): 2.5" Asphalt Concrete Pavement							
10	2		1		19	6" Aggregate Base							
8	4		2		8	Sand Dune Deposits (Qs): Fine SAND (SP): medium dense, reddish-brown to dark brown, slightly moist				4			
6	6					Loose, yellowish-red, moist							
4	8												
2	10		3			Flow sands							
0	12												
-2	14												
-4	16					Flow sands							
-6	18												
-8	20		4			SAND with silt (SP-SM): yellowish-red to brownish-yellow, wet, poorly graded							
-10	22												
-12	24												
-14	26												
-16	28												
-18	30												
-20	32												
-22	34												
-24	36												
-26	38												
-28	40												
-30	42												
-32	44												

COMPLETION DEPTH: 20 ft
 DEPTH TO WATER: 3 ft
 BACKFILLED WITH: Native/Cold Patch
 DRILLING DATE: January 24, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-116
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: North shoulder of Lupine St., east of Doris Ave., 1 ft outside EEP SURFACE EL: 12 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, kef
10	2		1		11	MATERIAL DESCRIPTION Artificial Fill (Af): Slightly clayey SAND (SC): loose, brown, moist Sand Dune Deposits (Qs): Fine SAND (SP): loose, yellowish-red, moist Medium dense, wet Grades to fine SAND with silt (SP-SM): lenses of iron oxide staining. Paso Robles Formation (Qpr): Clayey SAND (SC): medium dense, light brown SAND (SP): dense, yellowish-red, wet Lense of medium grained SAND No Recovery	110	103	7				
8	4		2		12					2			
6	6		3										
4	8												
2	10		4		49			134	114	17			
0	12												
-2	14										11		
-4	16		5		29								
-6	18		6		29								
-8	20				> 70			130	107	22			
-10	22												
-12	24												
-14	26		8		60								
-16	28												
-18	30		9		> 75		130	108	20				
-20	32												
-22	34												
-24	36		10		> 76								
-26	38												
-28	40												
-30	42												
-32	44												

COMPLETION DEPTH: 41 ft
 DEPTH TO WATER: 4 ft
 BACKFILLED WITH: Native
 DRILLING DATE: January 21, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-117
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: North-east corner of north-east basin SURFACE EL: 215 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
214	2					Sand Dune Deposits (Qs): Fine SAND with silt (SP-SM): loose, brown, moist	105	100	5				
212	4		1		12								
210	6		2		15	Dark brown	109	103	6				
208	8		3										
206	10		4		14	CLAY lense at 10 ft. Medium dense, yellowish-brown to tan							
204	12												
202	14												
200	16		5		36	Tan, some pockets of dark brown SAND	113	105	8				
198	18												
196	20		6		22	Interbedded lenses of brown clayey SAND (SC)				6			
194	22												
192	24												
190	26		7		91	Paso Robles Formation (Qpr): Fine SAND with silt (SP-SM): dense, tan, moist, pockets of dark brown clayey SAND	120	110	9				
188	28												
186	30		8		30	Fine SAND (SP): dense, tan, moist							
184	32												
182	34												
180	36		9		59	Fine SAND with silt (SP-SM): dense, tan, moist	111	104	6				
178	38												
176	40		10		32	Layers of sandy SILT (ML): visible water but not saturated							
174	42												
172	44												

COMPLETION DEPTH: 41.5 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native
 DRILLING DATE: January 15, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLlovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-201
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: North side of north-west basin SURFACE EL: 205 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
204						Sand Dune Depsits (Qs):							
	2		1		10	Fine SAND (SP): loose, reddish-brown, moist	107	102	6				
202													
	4		2										
200			3		17	Grades to medium dense, brownish-yellow	109	104	5				
198													
	6												
196													
	8												
194			4		13								
192													
	10												
190			5		38		112	103	9				
188													
	16												
186													
	18												
184			6		21								
182													
	20												
180			7		52	Dense, some small brown to black inclusions	114	104	9				
178													
	26												
176													
	28												
174			8		29	Medium dense				1			
172													
	30												
170			9		>70	Paso Robles Formation (Qpr): Fine SAND (SP): dense, brownish-yellow to brown, moist	109	104	5				
168													
	36												
166													
	38												
164			10		25	Medium dense				1			
162													
	40												
162													
	42												
162													
	44												

COMPLETION DEPTH: 41.5 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native
 DRILLING DATE: January 16, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-202
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: West end of north-east basin SURFACE EL: 220 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
218	2		1		13	Sand Dune Deposits (Qs): Silty SAND (SM): medium dense, dark reddish-brown, moist, some roots Grades from light brown to tan	106	102	4				
216	4		2										
214	6		3		19		107	103	5				
212	8					Medium dense							
210	10		4		13								
208	12					Fine SAND with silt (SP-SM)							
206	14												
204	16		5		27	Light brown, pockets of dark brown to gray SAND	116	104	12				
202	18					Brown to dark reddish-brown, lenses of clayey SAND (SC)							
200	20		6		23								
198	22					Paso Robles Formation (Qpr): Fine SAND (SP): dense, light brown, moist, lenses of dark brown silty SAND							
196	24												
194	26		7		75	114	108	6					
192	28					Very dense, light brown to orangish brown, moist, medium to coarse at 35.5 ft							
190	30		8		37								
188	32					Moist, lenses of clayey SAND (SC)							
186	34												
184	36		9		80	114	107	6					
182	38												
180	40		10		76								
178	42												
176	44												

COMPLETION DEPTH: 41.5 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native
 DRILLING DATE: January 15, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-203
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East end of south-west basin SURFACE EL: 240 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
238	2	[Symbol]	1	[Symbol]	29	Sand Dune Deposits (Os): Fine silty SAND (SM): medium dense, reddish-brown, dry	97	94	3				
236	4	[Symbol]	2	[Symbol]									
234	6	[Symbol]	3	[Symbol]	17		99	97	2				
230	10	[Symbol]	4	[Symbol]	13	Yellowish-brown to brown, dry to moist							
224	16	[Symbol]	5	[Symbol]	30	Dark reddish-brown mottles	107	103	4				
218	22	[Symbol]	6	[Symbol]	23	Interbedded lenses of reddish-brown silty fine SAND (SM)							
216	24	[Symbol]											
214	26	[Symbol]											
212	28	[Symbol]											
210	30	[Symbol]											
208	32	[Symbol]											
206	34	[Symbol]											
204	36	[Symbol]											
202	38	[Symbol]											
200	40	[Symbol]											
198	42	[Symbol]											
196	44	[Symbol]											

COMPLETION DEPTH: 21.5 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native
 DRILLING DATE: January 16, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-204
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: North-west corner of Operations Bld. SURFACE EL: 85 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, kef
MATERIAL DESCRIPTION													
84	2		1		11	Sand Dune Deposits (Qs): Fine SAND (SP): loose, reddish-brown, dry to moist, quickly grades to yellowish-red, some small roots	109	102	6				
82	4		2										
80	6		3		23	Medium dense	108	104	4	2			
78	8												
76	10		4		15	Yellowish-red, dry							
74	12												
72	14												
70	16		5		41	Brownish-yellow, moist, iron oxide staining	111	105	6				
68	18												
66	20		6		22	Grades from fine SAND (SP) to SAND with silt (SP-SM): medium dense, brownish-yellow, wet							
64	22												
62	24												
60	26		7		> 50	Very dense	132	110	20				
58	28												
56	30		8		51								
54	32												
52	34												
50	36		9		40	Medium dense (flowsands)	128	105	22	1			
48	38												
46	40												
44	42		10		57	Paso Robles (Qpr): Lean CLAY (CL): very stiff to hard, dark gray/brown, moist			20		49	21	
42													
44													

COMPLETION DEPTH: 61.5 ft
 DEPTH TO WATER: 24 ft
 BACKFILLED WITH: Native
 DRILLING DATE: January 16, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-301
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: North-west corner of Operations Bld. SURFACE EL: 85 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
38	48	[Material symbol: Fine Sand (SP) and clayey sand (SC) with sandy clay (CL) lenses]	11	[Sampler symbol]	63	Fine Sand (SP): dense, dark brown to brown, wet, layers of clayey SAND (SC) and sandy CLAY (CL)	134	119	13				
36	48												
34	50			12	[Sampler symbol]	51	Very dense, dark brown to yellowish-red, moist to wet						
32	52												
30	54												
28	56			13	[Sampler symbol]	> 93	Lenses of slightly clayey SAND (SC): iron oxide staining						
26	58												
24	60			14	[Sampler symbol]	50							
22	62												
20	64												
18	66												
16	68												
14	70												
12	72												
10	74												
8	76												
6	78												
4	80												
2	82												
0	84												
-2	86												
-4	88												

COMPLETION DEPTH: 61.5 ft
 DEPTH TO WATER: 24 ft
 BACKFILLED WITH: Native
 DRILLING DATE: January 16, 1997

DRILLING METHOD: Hollow Stem Auger
 DRILLED BY: S & G Drilling
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanhard

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. DH-301
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: North shoulder of Los Olivos, 50 ft east of Fairchild SURFACE EL: 122 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
120	2	[Symbol: Dotted pattern]				Sand Dune Deposits (Qs): Silty fine SAND (SM): dark brown, dry to moist 0.25" Diameter reddish-brown to orange mottling							
118	4					Grades to fine SAND (SP): light brown, moist, iron cemented inclusions (0.25")							
116	6												
114	8												
112	10												
110	12												
108	14												
106	16												
104	18												
102	20												
100	22												
98	24												
96	26												
94	28												
92	30												
90	32												
88	34												
86	36												
84	38												
82	40												
80	42												
78	44												

COMPLETION DEPTH: 6 ft
 DEPTH TO WATER: Not Encountered
 BACKFILLED WITH: Native
 DRILLING DATE: January 28, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: JDBlanchar
 LOGGED BY: JDBlanchar
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-1
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East shoulder of 18th St., 138 ft south of Paso Robles Street. SURFACE EL: 71 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, kef
						MATERIAL DESCRIPTION							
70	2	[Material Symbol: Dotted pattern]				Sand Dune Deposits (Qs): Silty SAND (SM): gray-brown, wet							
68	4					Grades to light brown							
66	6					Grades to yellowish-brown							
64	8					Caved at 4 ft							
62	10					Orange mottles							
60	12												
58	14												
56	16												
54	18												
52	20												
50	22												
48	24												
46	26												
44	28												
42	30												
40	32												
38	34												
36	36												
34	38												
32	40												
30	42												
28	44												

COMPLETION DEPTH: 6 ft
 DEPTH TO WATER: 0 ft
 BACKFILLED WITH: Native
 DRILLING DATE: January 28, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: JDBlanchar
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-2
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: South-west corner of Los Olivos and Mountain View Ave. SURFACE EL: 122 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
120	2	[Symbol: Dotted pattern]				Sand Dune Depsits (Os): Clayey SAND with gravel (SC): black, very moist Grades to silty SAND (SM): dark gray/black, wet, organic odor Grades to brown							
118	4												
116	6												
114	8												
112	10												
110	12												
108	14												
106	16												
104	18												
102	20												
100	22												
.98	24												
.96	26												
.94	28												
.92	30												
.90	32												
.88	34												
.86	36												
.84	38												
.82	40												
.80	42												
.78	44												

COMPLETION DEPTH: 5 ft
 DEPTH TO WATER: 3 ft
 BACKFILLED WITH: Native
 DRILLING DATE: February 18, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: CLLovato
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-3
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East shoulder of 11th St., 125 feet south of end of 11th St. SURFACE EL: 53 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
52						Sand Dune Deposits (Os):							
	2					Fine silty SAND (SM): dark brown, moist							
50						Fine SAND with silt (SP-SM): yellowish-brown, slightly moist							
	4												
48													
	6												
46													
	8												
44													
	10												
42													
	12												
40													
	14												
38													
	16					Fine SAND (SP): brown, wet							
36													
	18												
34													
	20												
32													
	22												
30													
	24												
28													
	26												
26													
	28												
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22													
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16													
	38												
14													
	40												
12													
	42												
10													
	44												

COMPLETION DEPTH: 17 ft
 DEPTH TO WATER: 16.5 ft
 BACKFILLED WITH: Native
 DRILLING DATE: February 18, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: CLLovato
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-4
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: South Santa Ysabel, west of South Bay Blvd. SURFACE EL: 80 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
.78	2					Sand Dune Deposits (Qs): Fine silty SAND (SM): dark brown, dry to slightly moist							
.76	4												
.74	6					Grades to fine SAND (SP): dark yellowish-brown, slightly moist							
.72	8												
.70	10												
.68	12												
.66	14												
.64	16												
.62	18												
.60	20												
.58	22												
.56	24												
.54	26												
.52	28												
.50	30												
.48	32												
.46	34												
.44	36												
.42	38												
.40	40												
.38	42												
.36	44												

COMPLETION DEPTH: 22.25 ft
 DEPTH TO WATER: 22 ft
 BACKFILLED WITH: Native
 DRILLING DATE: February 18, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: CLLovato
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-5
Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East shoulder 15th St., 320 feet south of Ramona Ave. SURFACE EL: 95 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf	
MATERIAL DESCRIPTION														
94		[Dotted pattern]				Sand Dune Deposits (Qs): Fine SAND with silt (SP-SM): dark reddish-brown, dry to slightly moist Grades to fine Sand (SP): yellowish-brown to tan, moist								
92	2													
90	4													
88	6													
86	8				▽									
84	10													
82	12													
80	14													
78	16													
76	18													
74	20													
72	22													
70	24													
68	26													
66	28													
64	30													
62	32													
60	34													
58	36													
56	38													
54	40													
52	42													
50	44													

COMPLETION DEPTH: 9 ft
 DEPTH TO WATER: 8.5 ft
 BACKFILLED WITH: Native
 DRILLING DATE: February 18, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: CLlovato
 LOGGED BY: CLlovato
 CHECKED BY: JDBianchard

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-6
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East shoulder Pasadena Dr., 100 feet south of Santa Ysabel SURFACE EL: 9 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
8						Alluvium (Qal):							
6	2					Fine silty SAND (SM): dark gray/black, wet, organics							
4	4					Grades to fine SAND with silt (SP-SM): gray, wet							
2	6												
0	8												
-2	10												
-4	12												
-6	14												
-8	16												
-10	18												
-12	20												
-14	22												
-16	24												
-18	26												
-20	28												
-22	30												
-24	32												
-26	34												
-28	36												
-30	38												
-32	40												
-34	42												
-38	44												

COMPLETION DEPTH: 5.5 ft
 DEPTH TO WATER: 2.5 ft
 BACKFILLED WITH: Native
 DRILLING DATE: February 18, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: CLLovato
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchard

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-7
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286



ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: East shoulder of Doris Ave., 180 feet south of Lupine St. SURFACE EL: 8 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
						MATERIAL DESCRIPTION							
6	2					Estuarine Deposits (Qe): Fat CLAY with gravel (CH): dark brown, wet, organics							
4	4					Silty fine SAND (SM): dark brown/gray, wet							
2	6					Fat CLAY with sand (CH): black, wet, organic odor							
0	8					Silty SAND (SM): gray, wet, iron oxide mottling							
-2	10												
-4	12												
-6	14												
-8	16												
-10	18												
-12	20												
-14	22												
-16	24												
-18	26												
-20	28												
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-24	32												
-26	34												
-28	36												
-30	38												
-32	40												
-34	42												
-36	44												

COMPLETION DEPTH: 6 ft ft
 DEPTH TO WATER: 1.5 ft
 BACKFILLED WITH: Native
 DRILLING DATE: February 18, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: CLlovato
 LOGGED BY: CLlovato
 CHECKED BY: JDBlanchar

The log end data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-8
 Los Osos Wastewater Project





ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: UV Disinfection Site SURFACE EL: 74 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
MATERIAL DESCRIPTION													
.72	2	[Material Symbol: Dotted pattern]				Sand Dune Deposits (Qs): Silty fine SAND (SM): dark brown, dry to moist							
.70	4					Grades to fine SAND (SP): yellowish-brown, moist							
.68	6												
.68	8					▼ Iron oxide mottling at 8 ft.							
.64	10					▼ Light yellow, very wet							
.62	12												
.60	14												
.58	16												
.56	18												
.54	20												
.52	22												
.50	24												
.48	26												
.46	28												
.44	30												
.42	32												
.40	34												
.38	36												
.36	38												
.34	40												
.32	42												
.30	44												

COMPLETION DEPTH: 14 ft
 DEPTH TO WATER: 8.5 ft
 BACKFILLED WITH:
 DRILLING DATE: February 13, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: CLLovato
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-301
 Los Osos Wastewater Project



April 1997

Project No. 95-92-4286



ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOWCOUNT	LOCATION: Clarifier Site SURFACE EL: 82 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
						MATERIAL DESCRIPTION							
80	2					Silty fine SAND (SP): dark brown, dry to slightly moist							
78	4					Fine Sand (SP): yellowish-brown, moist							
76	6												
74	8												
72	10												
70	12												
68	14					Flow sands							
66	16												
64	18												
62	20												
60	22												
58	24												
56	26												
54	28												
52	30												
50	32												
48	34												
46	36												
44	38												
42	40												
40	42												
38	44												

COMPLETION DEPTH: 14.5 ft
 DEPTH TO WATER: 12.5 ft
 BACKFILLED WITH: Native
 DRILLING DATE: February 13, 1997

DRILLING METHOD: Hand Auger
 DRILLED BY: CLLovato
 LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

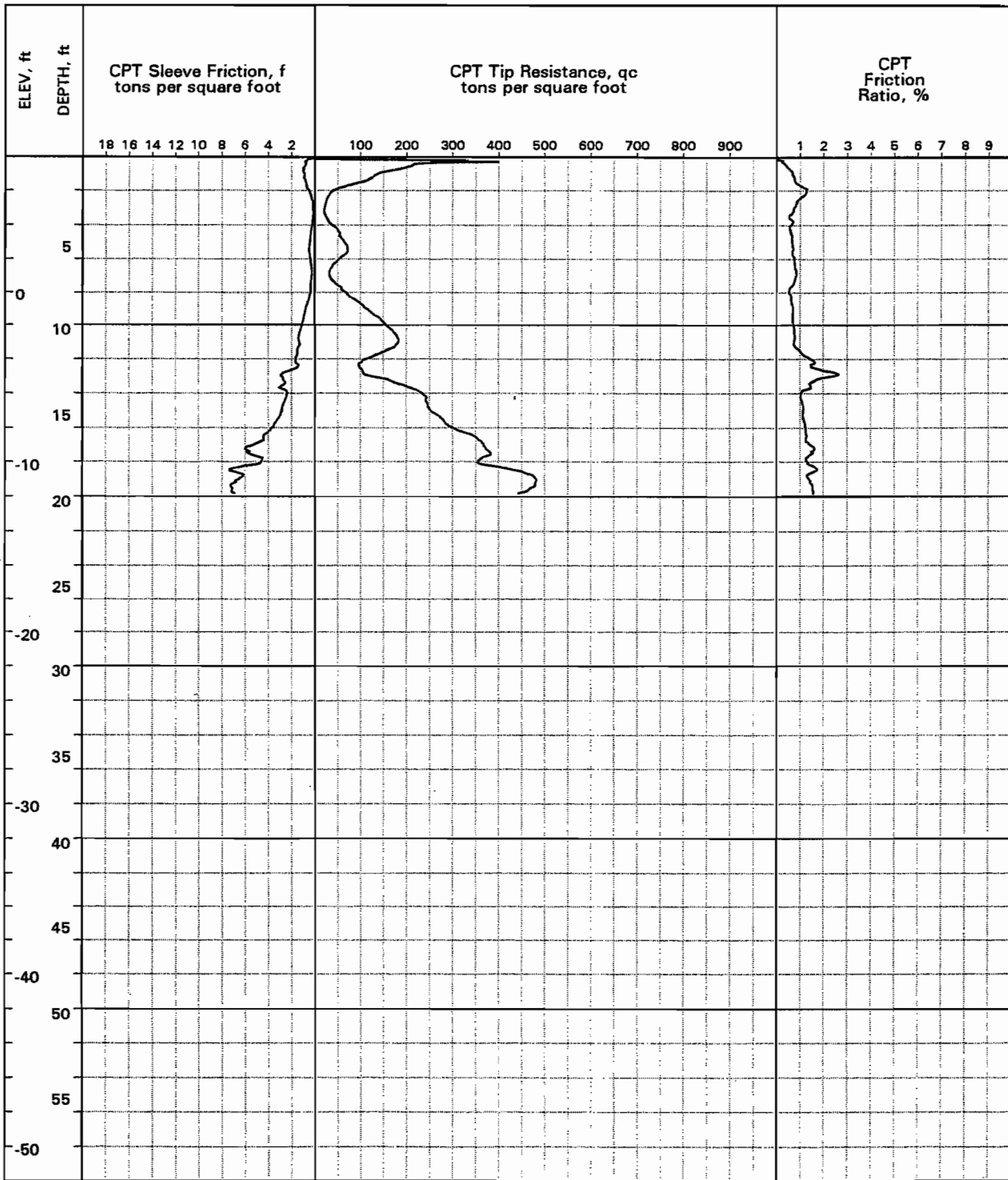
The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

LOG OF DRILL HOLE NO. HA-302
 Los Osos Wastewater Project



**ATTACHMENT C2
CPT/CPTU LOGS
FUGRO WEST, INC. (1997)**

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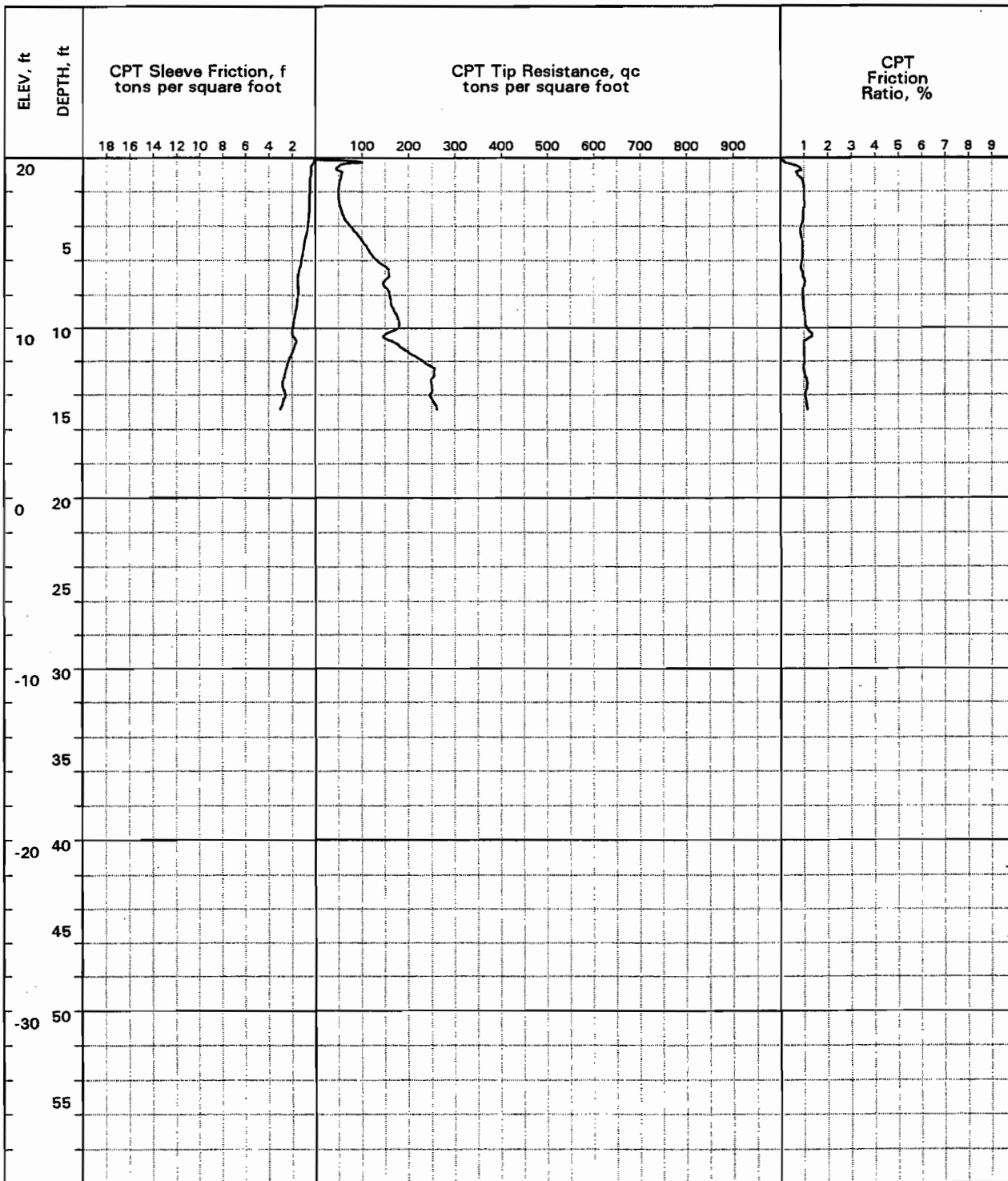


LOCATION: East shoulder Pasadena Drive, 100 ft south of Santa Ysabel
 SURFACE EL: 8.5 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 19.9 ft
 TESTING DATE: JAN 20 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT101
Los Osos Wastewater Project





LOCATION: South shoulder Pasadena Drive, 20 ft west of First Street

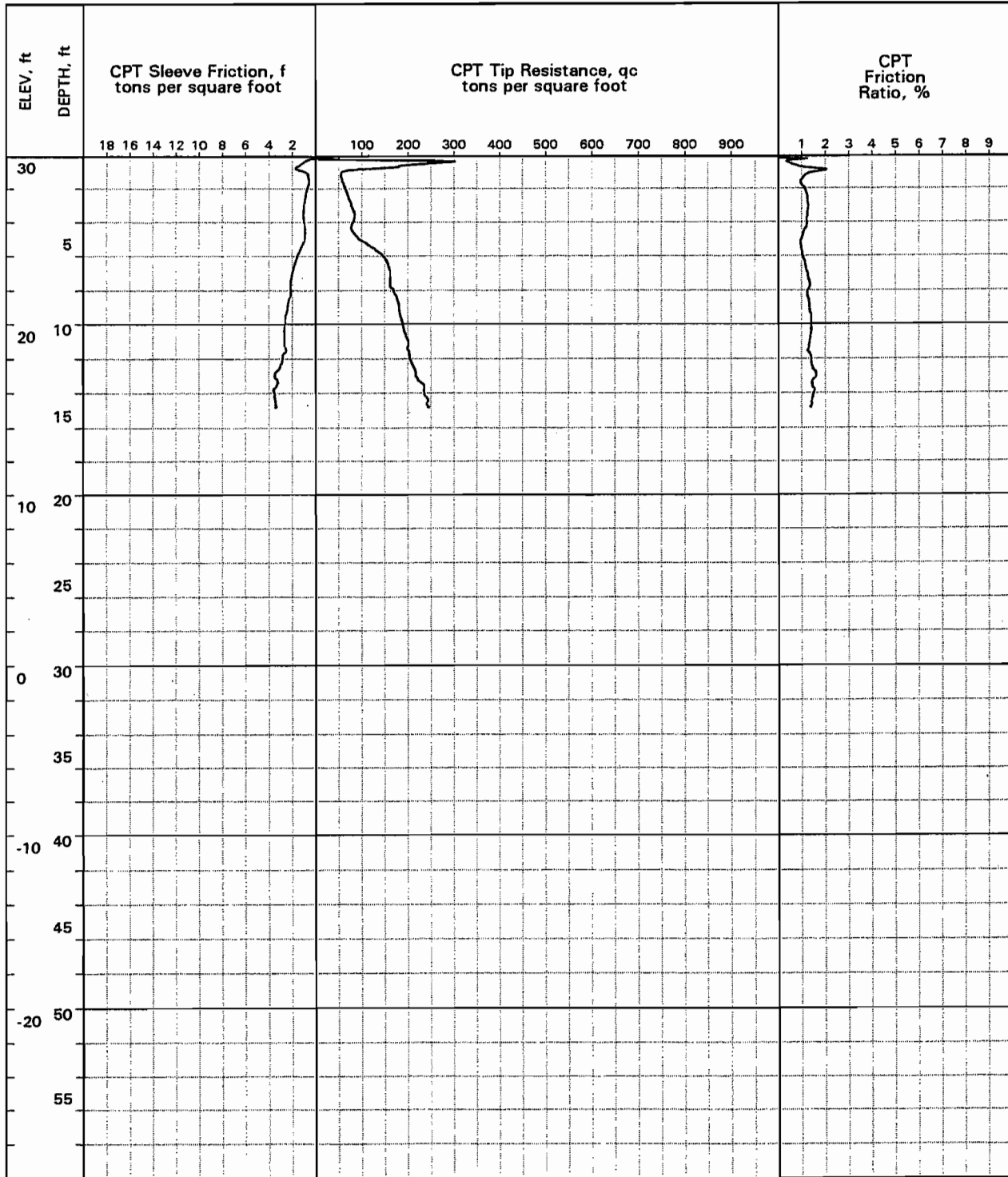
TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

SURFACE EL: 21.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 14.9 ft
 TESTING DATE: JAN 20 97

LOG OF CPT NO: CPT102
Los Osos Wastewater Project

April 1997

Project No. 95-92-4286



LOCATION: West shoulder Third Street, 110 ft south of Santa Lucia

TESTING METHOD: Cone Penetrometer

SURFACE EL: 31.0 ft +/- (rel. MSL datum)

TESTED BY: Fugro Geosciences

COMPLETION DEPTH: 15.3 ft

REVIEWED BY: JDBlanchar

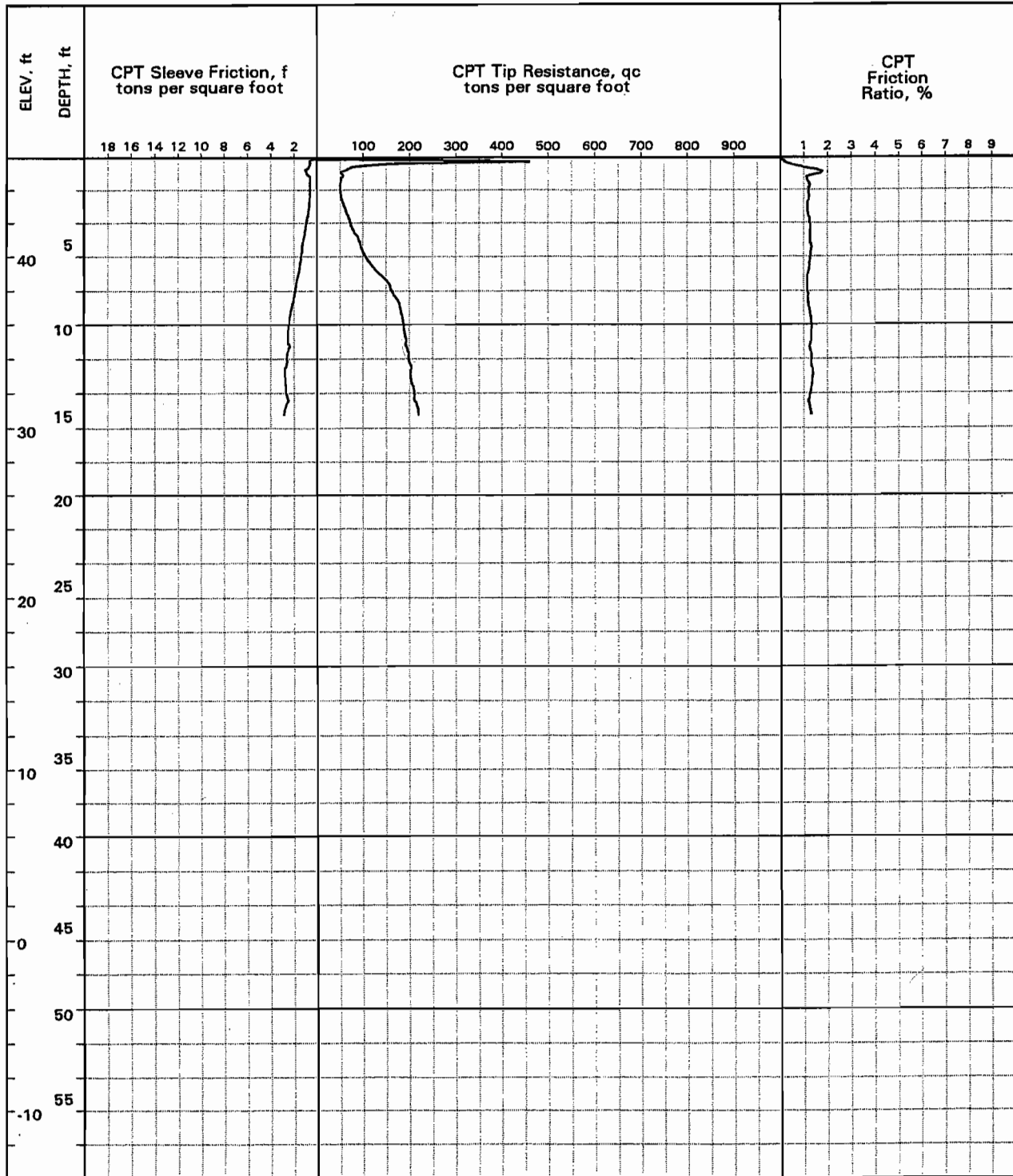
TESTING DATE: JAN 20 97

LOG OF CPT NO: CPT103
Los Osos Wastewater Project

PLATE A-36

CPT(54286/CPT103)
4/4/97\11:07





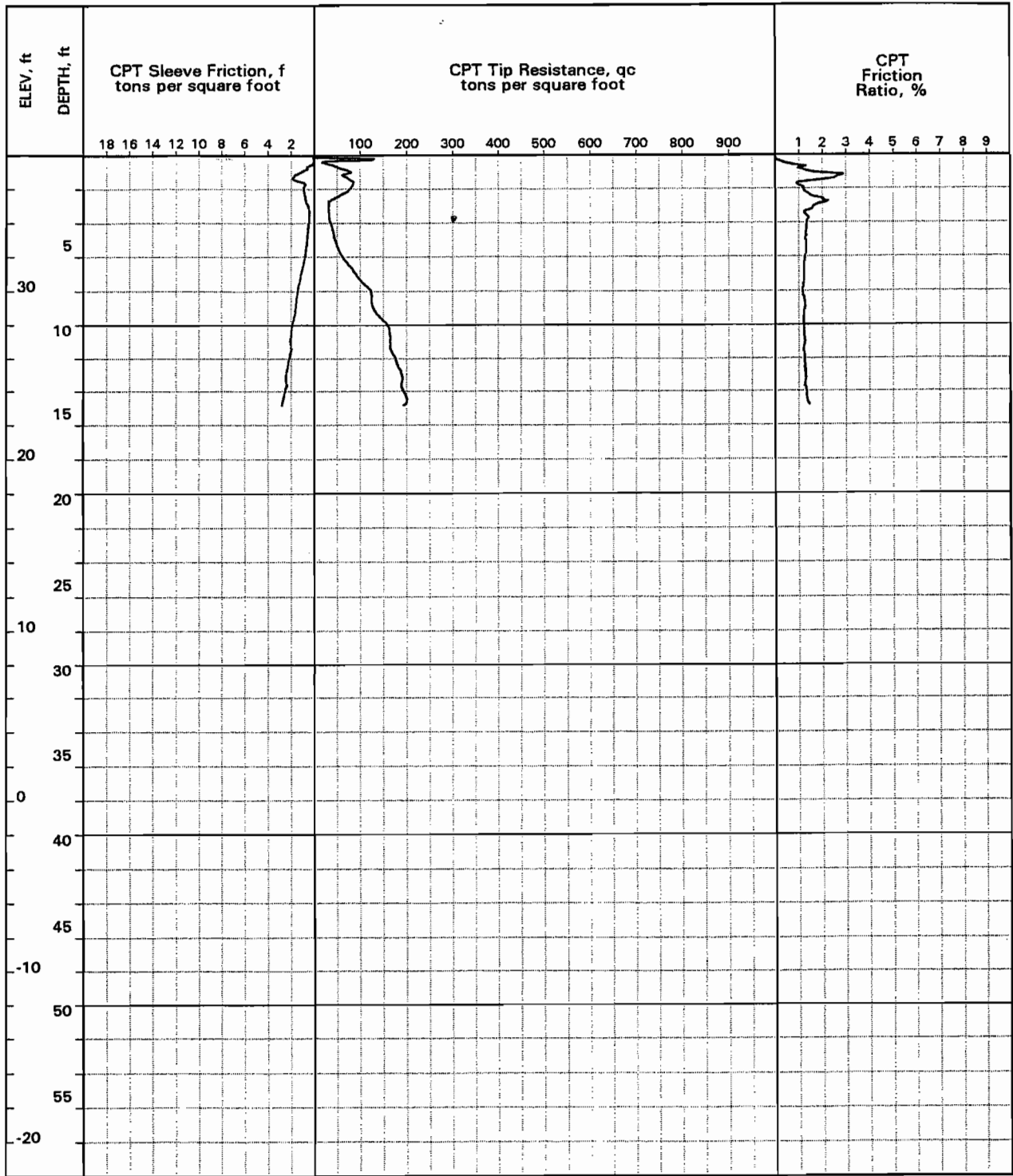
LOCATION: East shoulder Fifth Street, 230 ft north of Santa Ysabel

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

SURFACE EL: 46.5 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 15.3 ft
 TESTING DATE: JAN 20 97

LOG OF CPT NO: CPT104
Los Osos Wastewater Project





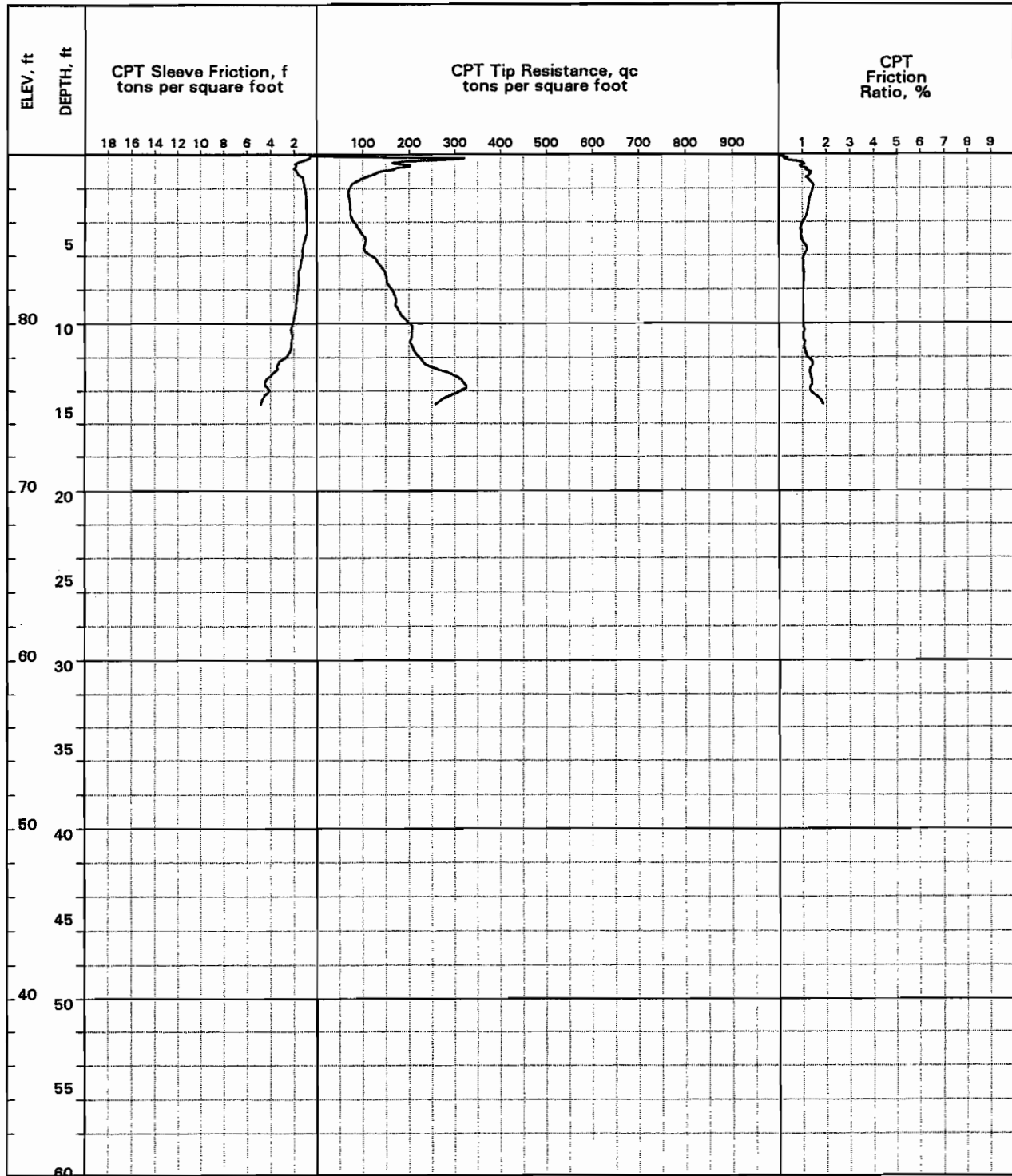
LOCATION: West shoulder Ninth Street, 95 ft north of Santa Ysabel

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

SURFACE EL: 38.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 14.9 ft
 TESTING DATE: JAN 20 97

LOG OF CPT NO: CPT105
Los Osos Wastewater Project





LOCATION: East shoulder 12th Street, 10 ft north of Santa Ysabel

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

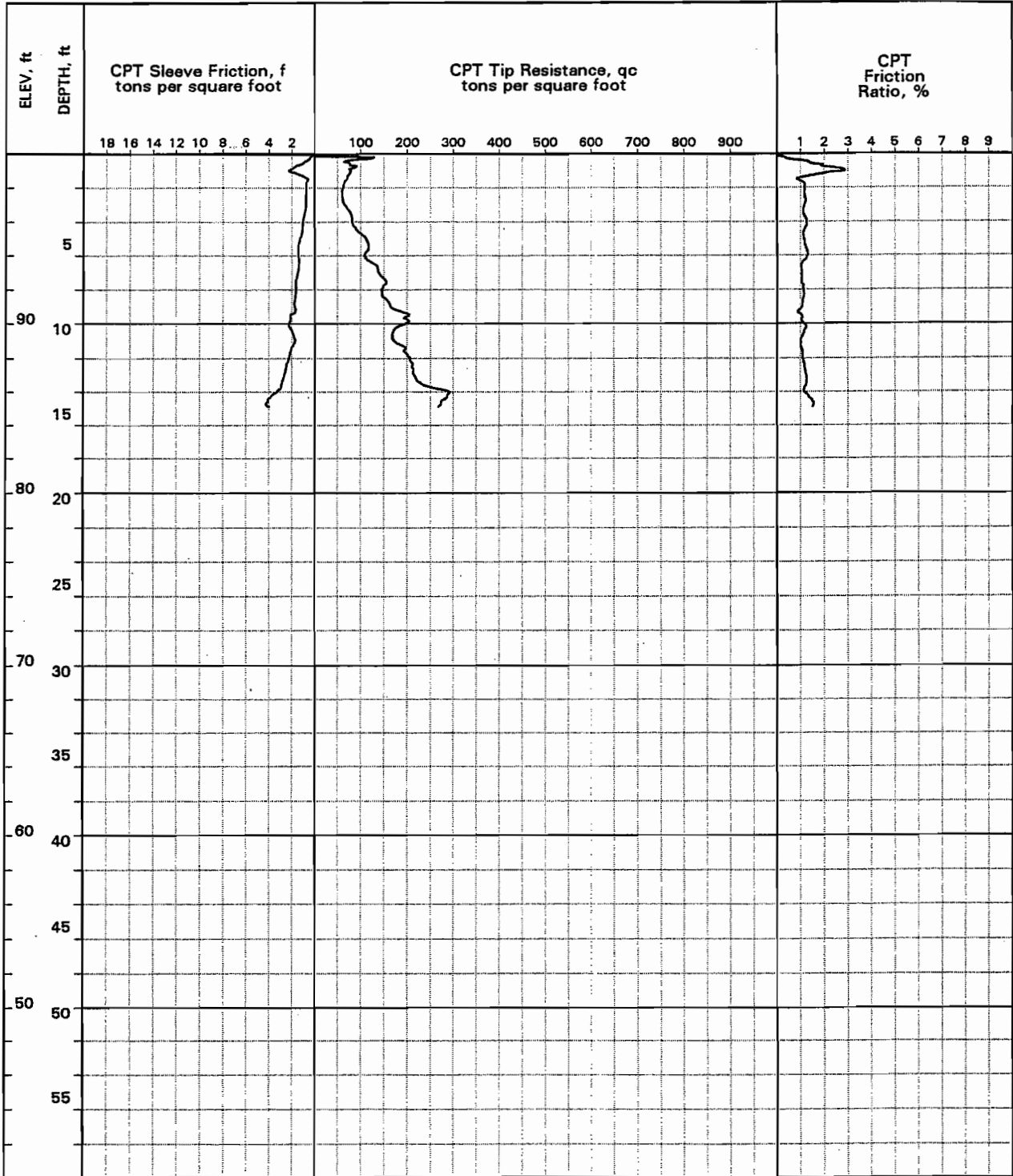
SURFACE EL: 90.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 14.9 ft
 TESTING DATE: JAN 20 97

LOG OF CPT NO: CPT106
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286



LOCATION: East shoulder Fifteenth Street, 150 ft north of Santa Ysabel
SURFACE EL: 100.0 ft +/- (rel. MSL datum)
COMPLETION DEPTH: 14.9 ft
TESTING DATE: JAN 20 97

TESTING METHOD: Cone Penetrometer
TESTED BY: Fugro Geosciences
REVIEWED BY: JDBlanchard

LOG OF CPT NO: CPT107
Los Osos Wastewater Project

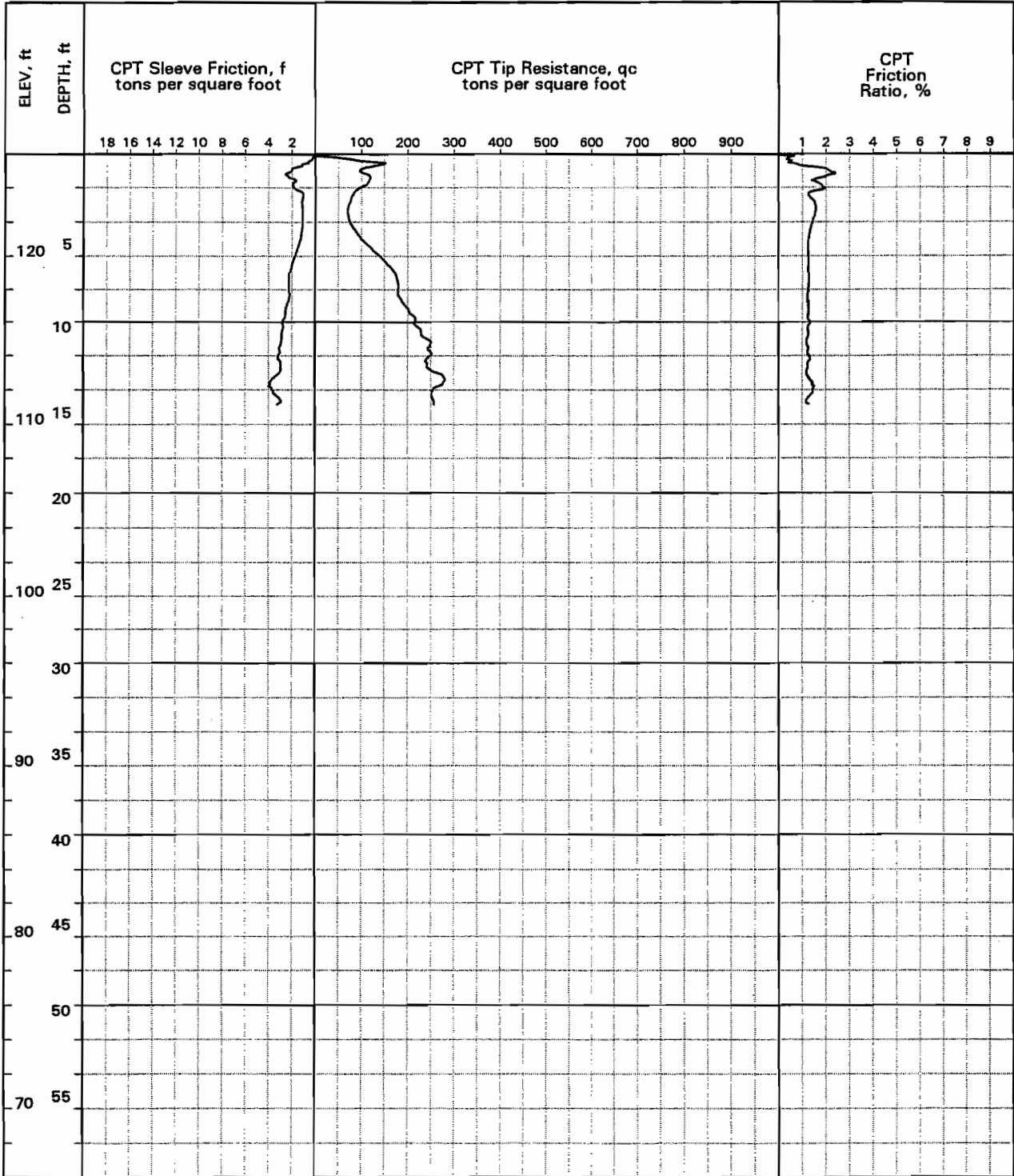
PLATE A-40

CPT(54286/CPT107)
4/4/97\11:08



April 1997

Project No. 95-92-4286



LOCATION: North shoulder Santa Maria, 210 ft east of Seventeenth Street
SURFACE EL: 126.0 ft +/- (rel. MSL datum)
COMPLETION DEPTH: 29.8 ft
TESTING DATE: JAN 20 97

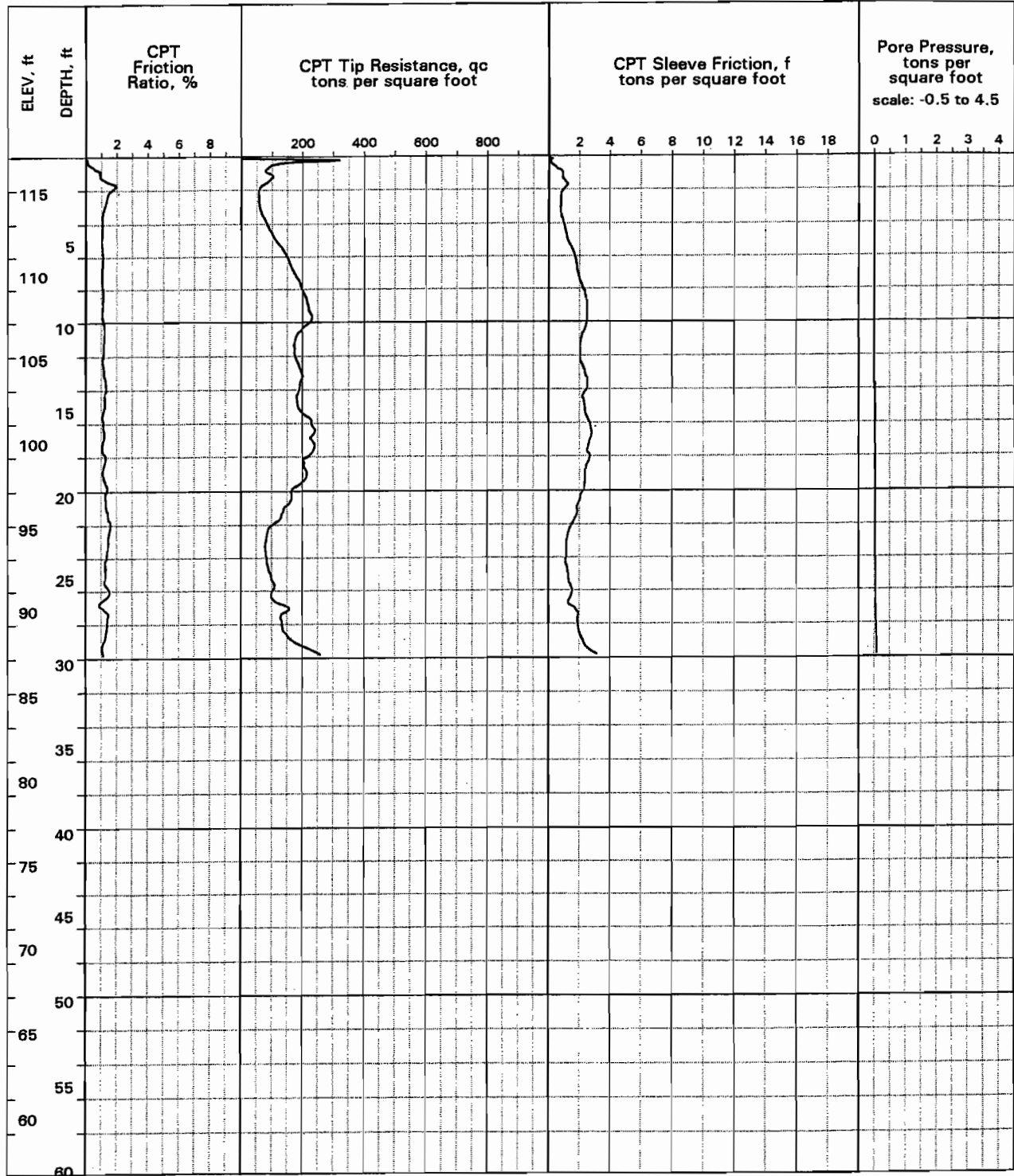
TESTING METHOD: Cone Penetrometer
TESTED BY: Fugro Geosciences
REVIEWED BY: JDBlanhard

LOG OF CPT NO: CPT108
Los Osos Wastewater Project

CPT(54286/CPT108)
4/4/97/11:09

PLATE A-41



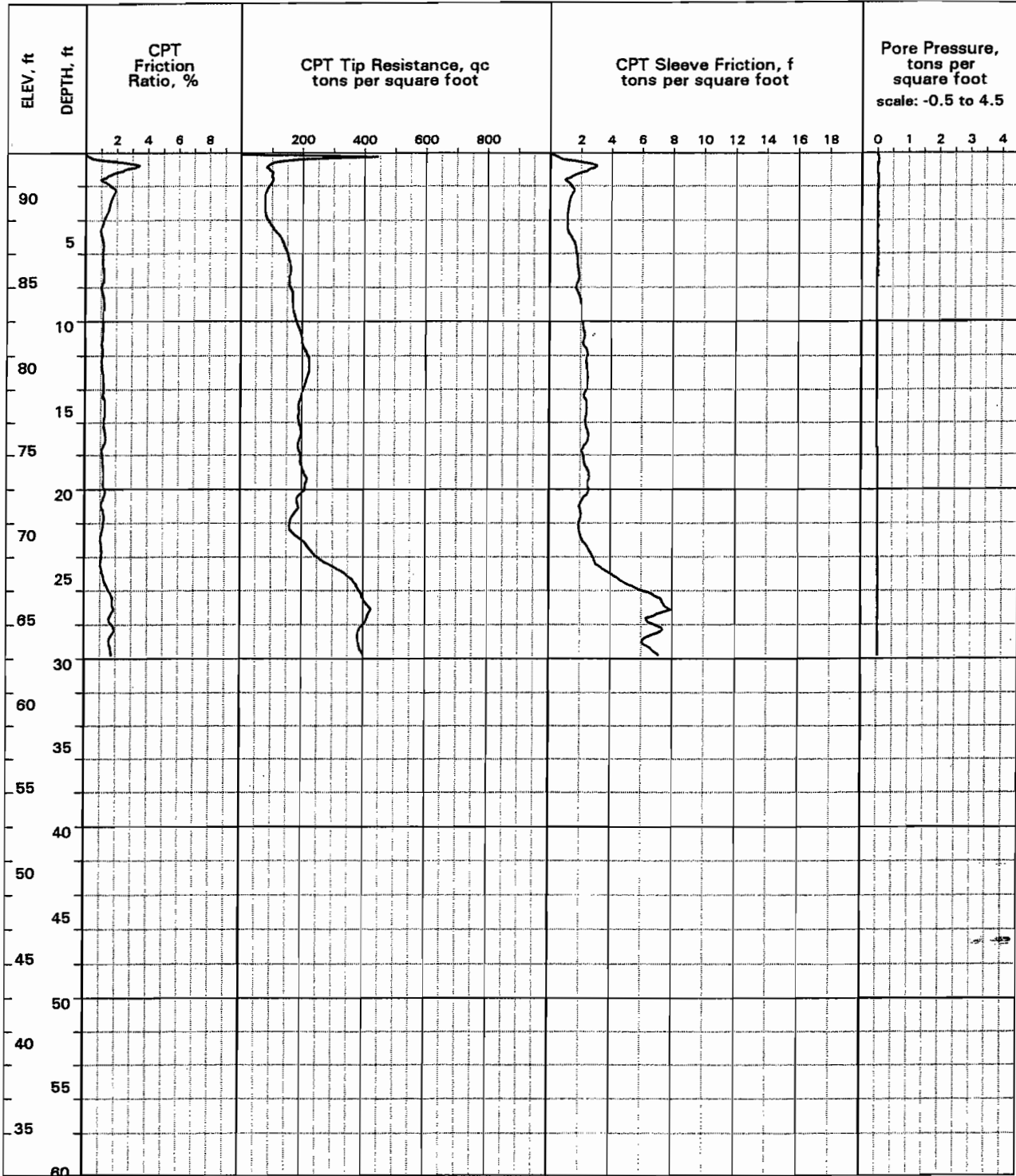


LOCATION: , West shoulder 12th Street, 185 ft north of Santa Maria
 SURFACE EL: 117.5 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 29.8 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 20 97

LOG OF CPT NO. CPT109
Los Osos Wastewater Project

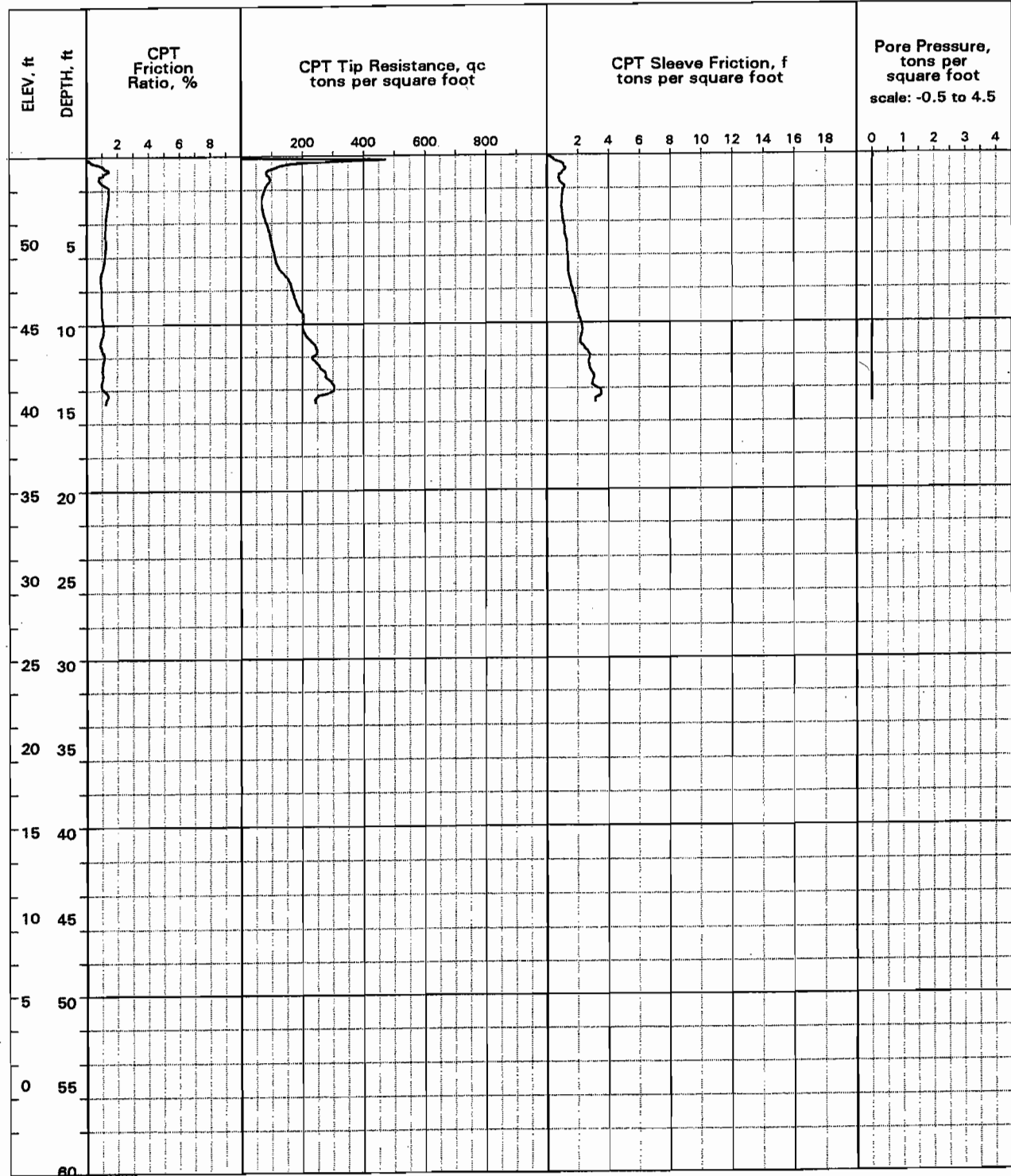




LOCATION: , West shoulder Eleventh Street, 250 ft north of Santa Maria EXPLORATION METHOD: Cone Penetrometer
 SURFACE EL: 93.0 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
 DEPTH TO GROUND WATER: Not Encountered EXPLORATION DATE: JAN 20 97
 COMPLETION DEPTH: 29.8 ft

LOG OF CPT NO. CPT110
Los Osos Wastewater Project





LOCATION: , West shoulder Ninth Street, 40 ft north of Santa Maria
 SURFACE EL: 55.5 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 14.9 ft

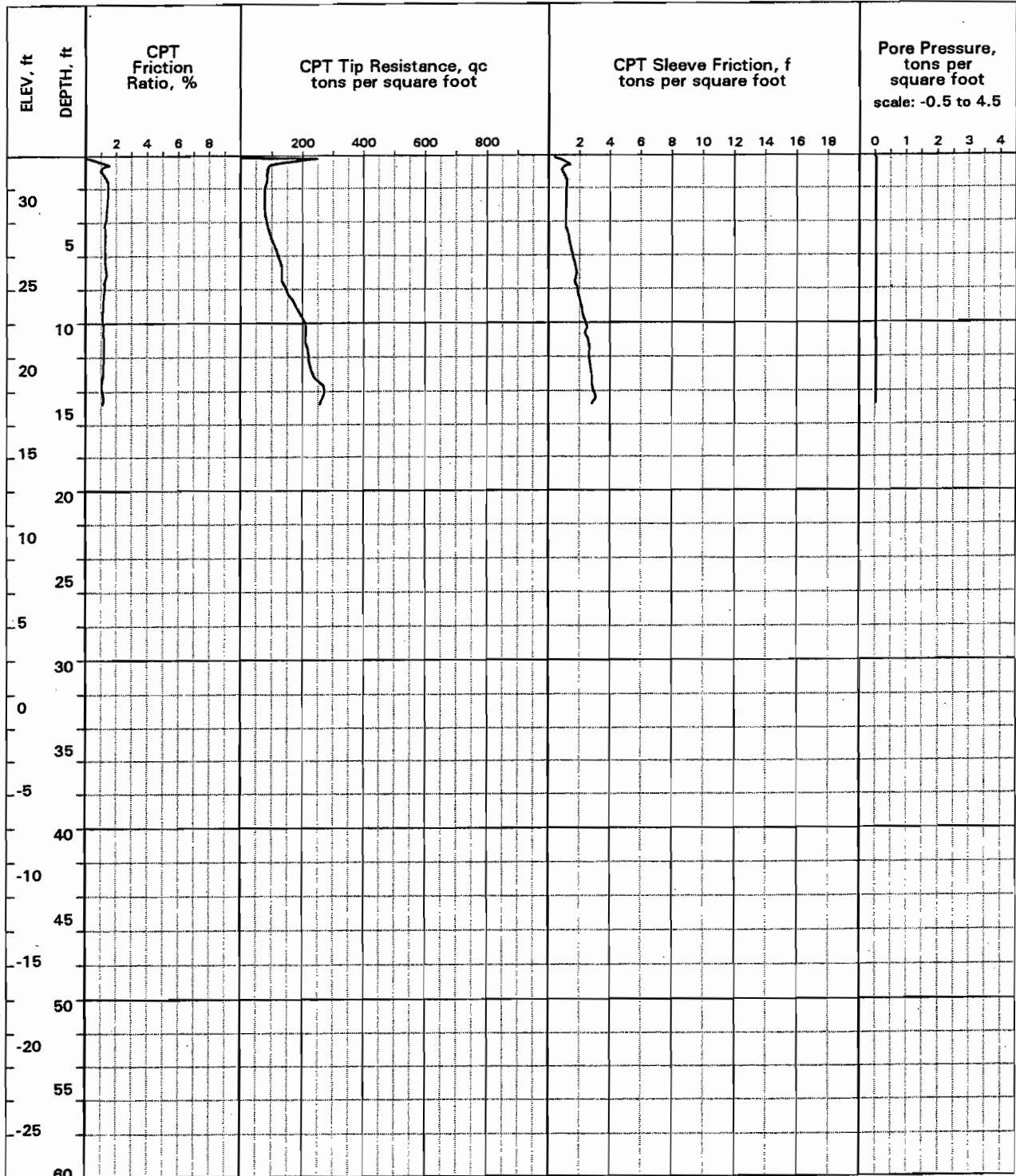
EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 20 97

LOG OF CPT NO. CPT111
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286

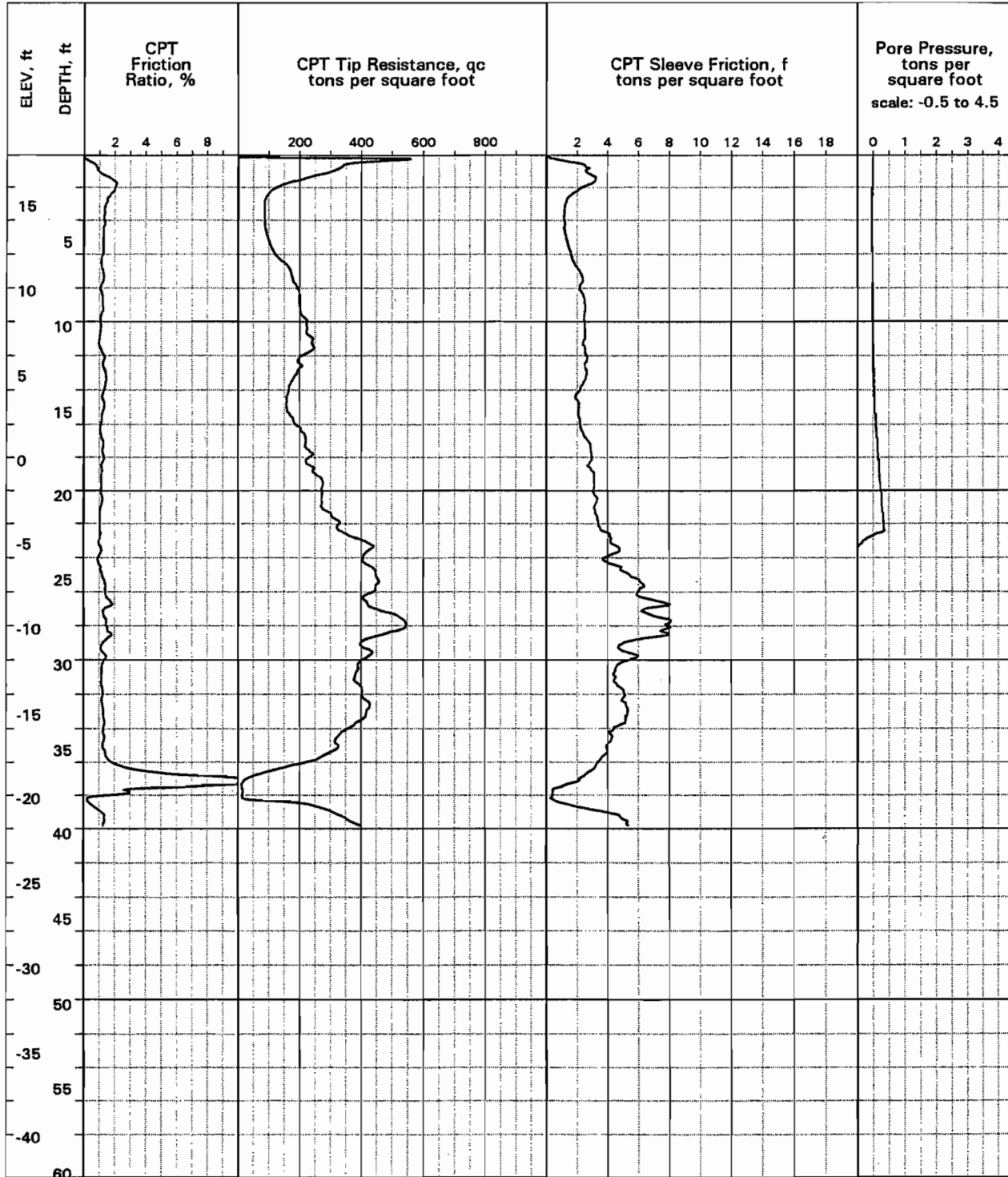


LOCATION: , West shoulder Sixth Street, 160 ft north of Santa Maria
SURFACE EL: 33.0 ft +/- (rel. MSL datum)
DEPTH TO GROUND WATER: Not Encountered
COMPLETION DEPTH: 39.9 ft

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
EXPLORATION DATE: JAN 20 97

LOG OF CPT NO. CPT112 Los Osos Wastewater Project





LOCATION: , South shoulder Santa Maria, 140 ft west of First Street
 SURFACE EL: 18.5 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 12 ft
 COMPLETION DEPTH: 39.9 ft

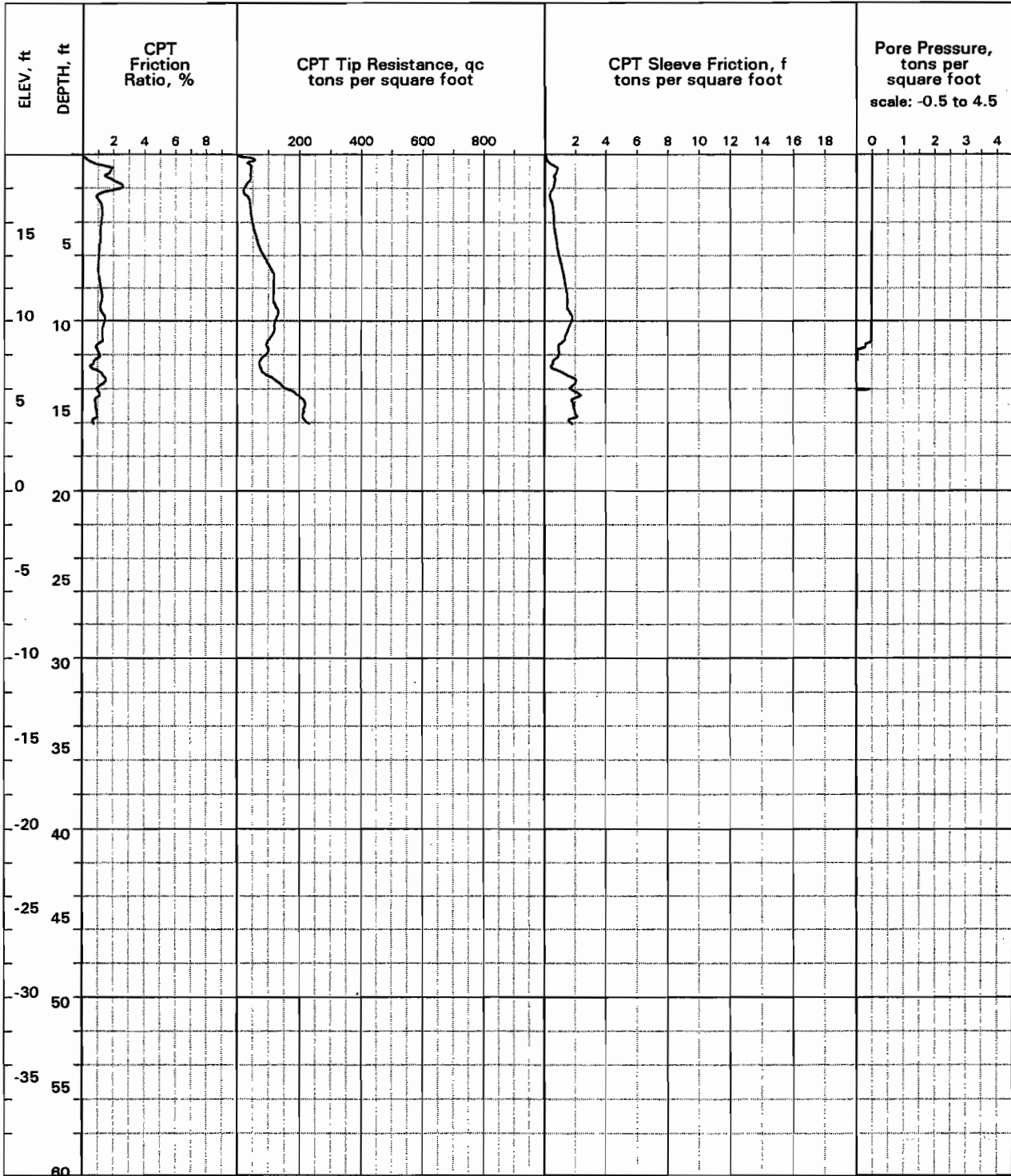
EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 21 97

LOG OF CPT NO. CPT113
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286

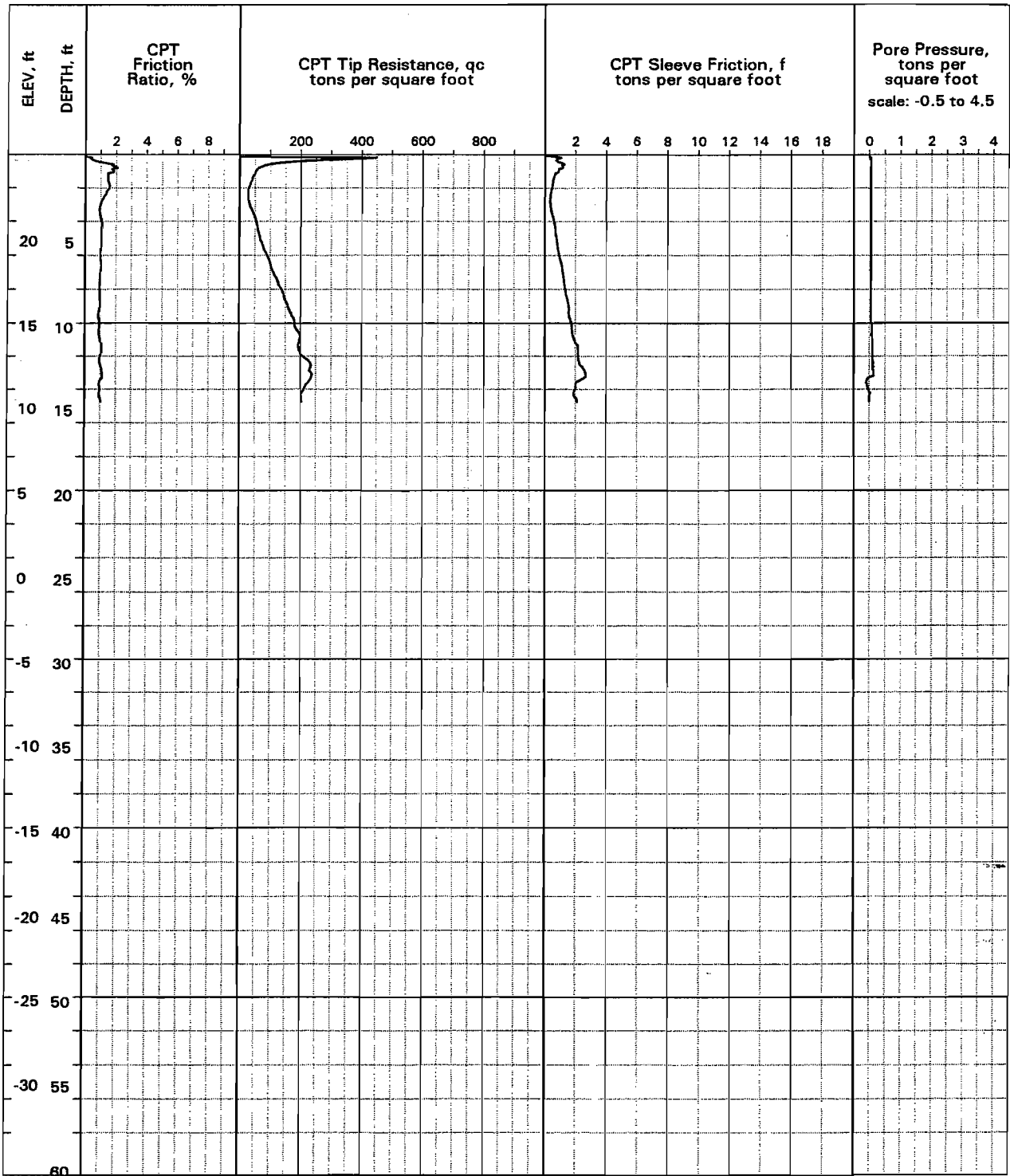


LOCATION: , West shoulder Third Street, 400 ft south of El Morro
SURFACE EL: 20.0 ft +/- (rel. MSL datum)
DEPTH TO GROUND WATER: 11.5 ft
COMPLETION DEPTH: 16.1 ft

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
EXPLORATION DATE: JAN 21 97

LOG OF CPT NO. CPT114 Los Osos Wastewater Project



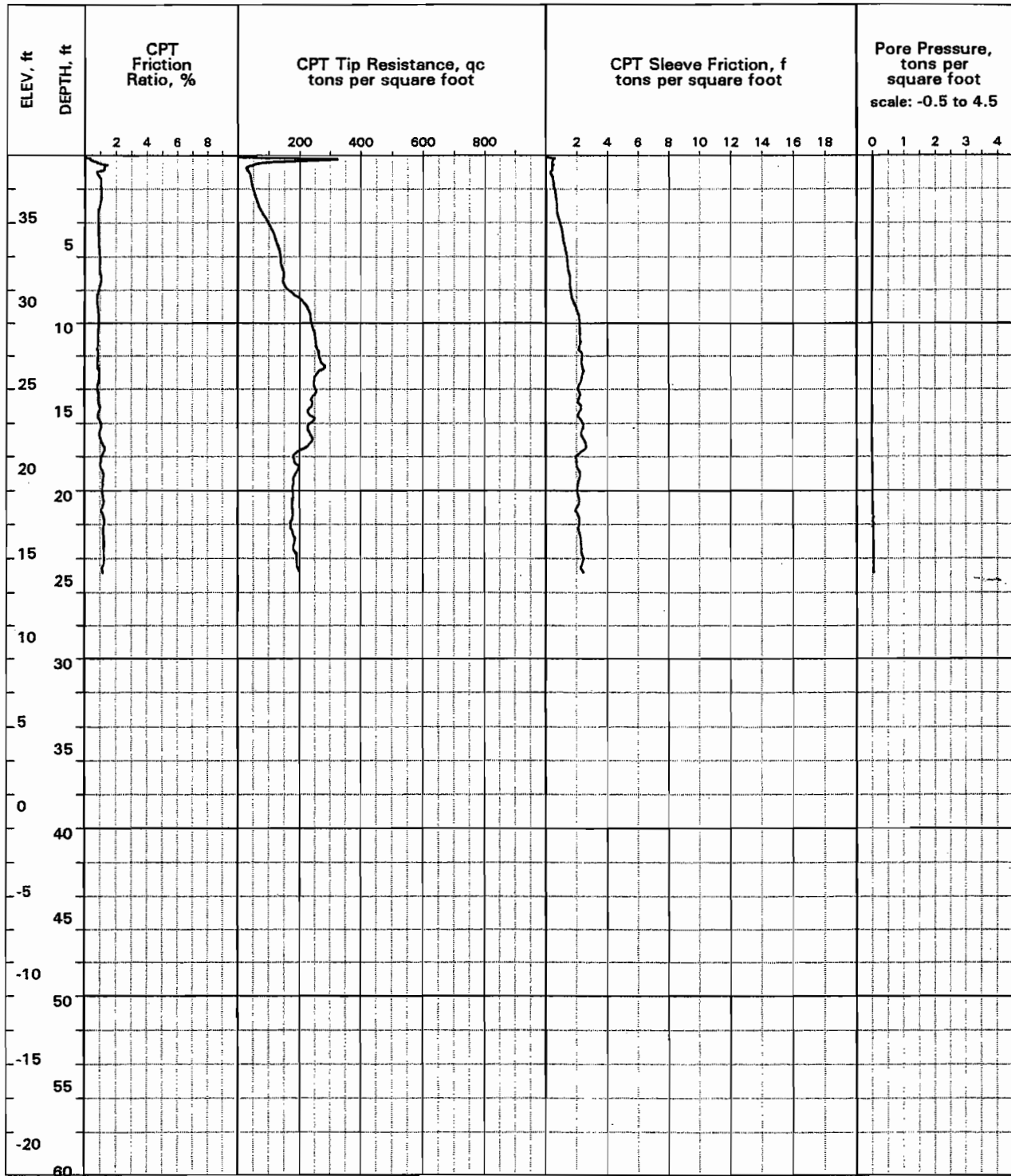


LOCATION: , South shoulder El Morro, 25 ft west of Fifth Street
 SURFACE EL: 25.5 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 10 ft
 COMPLETION DEPTH: 14.8 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 21 97

LOG OF CPT NO. CPT115
Los Osos Wastewater Project



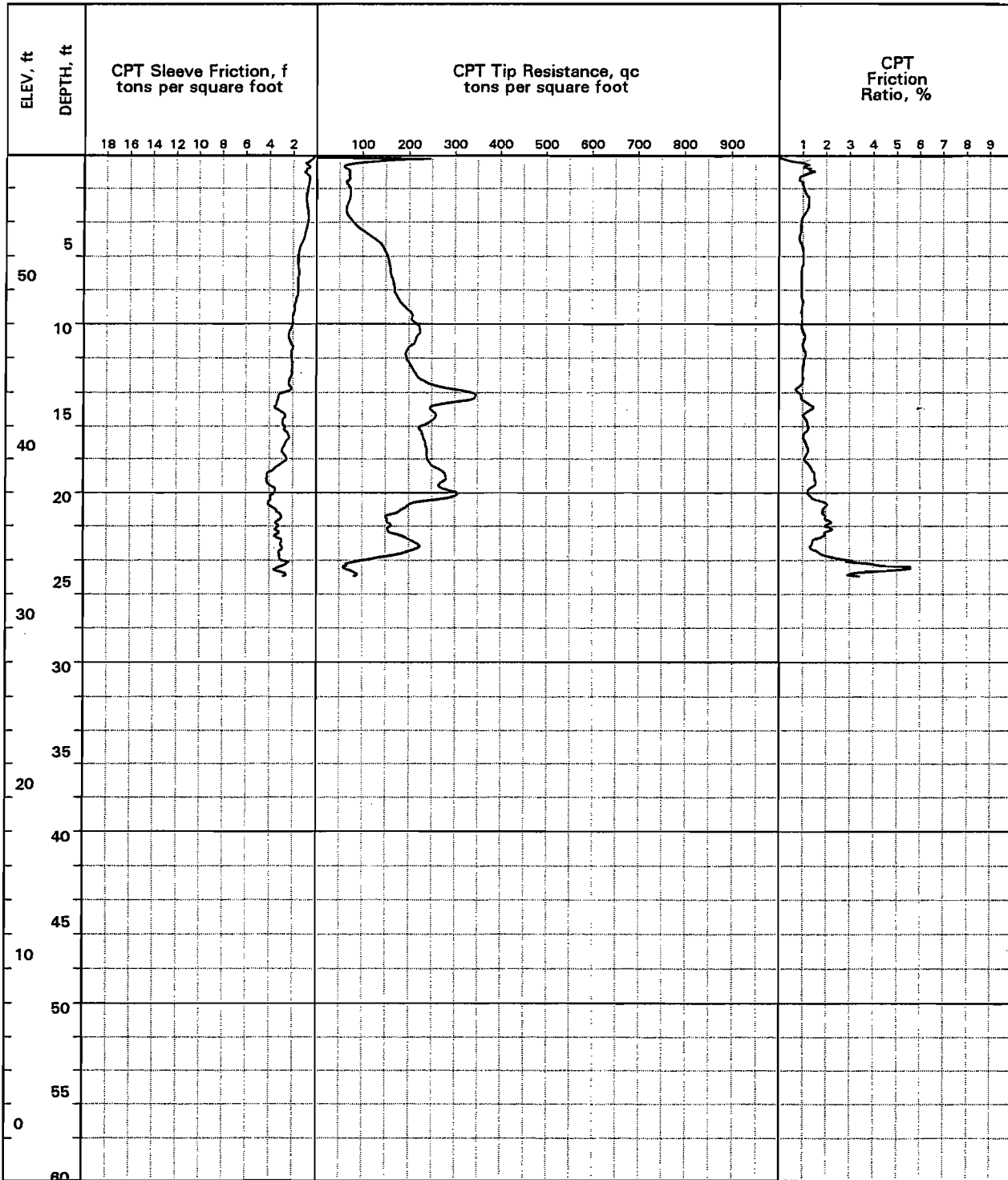


LOCATION: , West shoulder Sixth Street, 210 ft north of Paso Robles
 SURFACE EL: 39.0 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 22 ft
 COMPLETION DEPTH: 24.9 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 21 97

LOG OF CPT NO. CPT116
Los Osos Wastewater Project





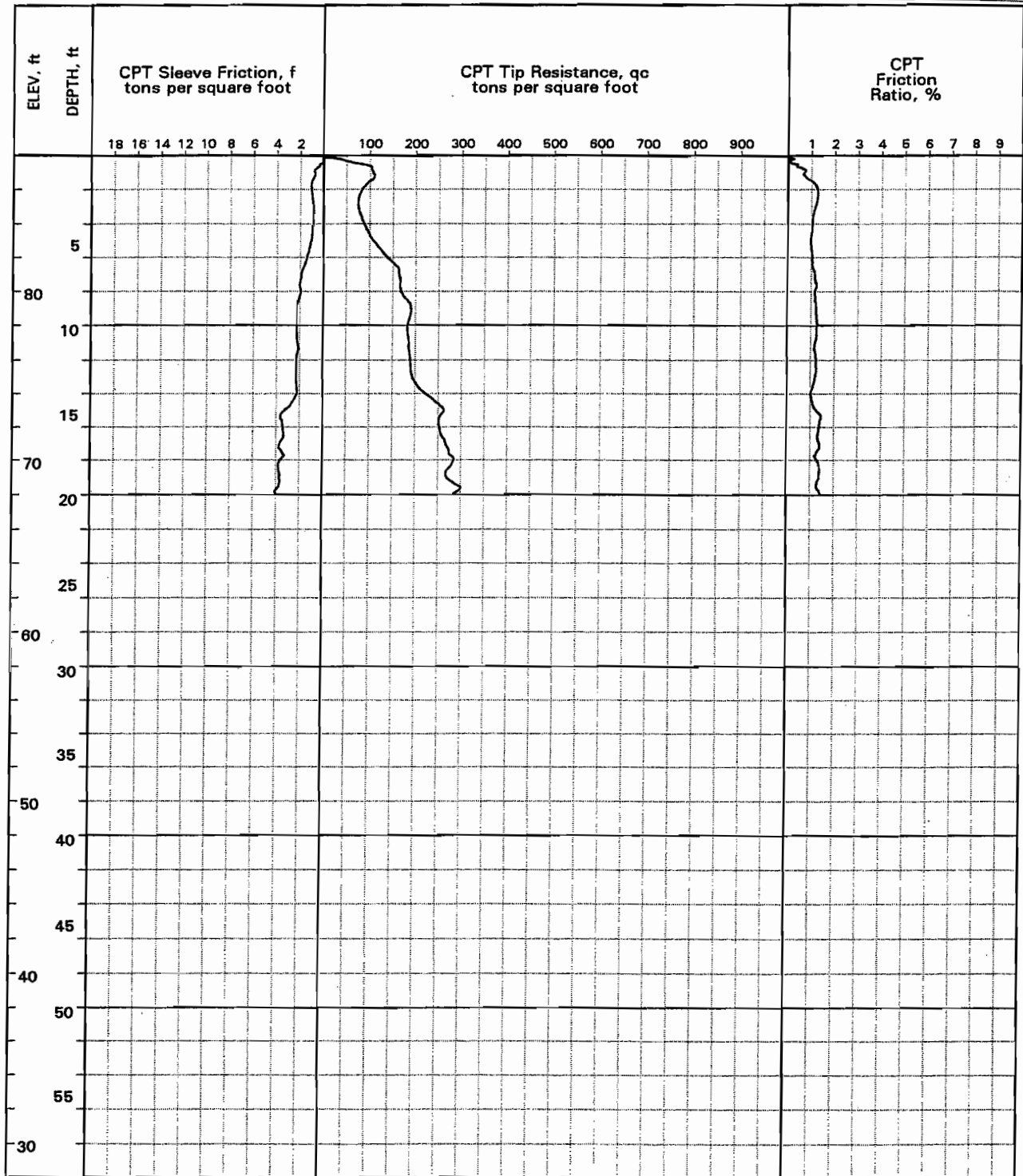
LOCATION: East shoulder 12th Street, 165 ft south of El Morro

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

SURFACE EL: 57.5 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 25.0 ft
 TESTING DATE: JAN 21 97

LOG OF CPT NO: CPT117
Los Osos Wastewater Project





LOCATION: West shoulder Fifteenth Street, 25 ft south of El Morro

TESTING METHOD: Cone Penetrometer

SURFACE EL: 88.5 ft +/- (rel. MSL datum)

TESTED BY: Fugro Geosciences

COMPLETION DEPTH: 20.0 ft

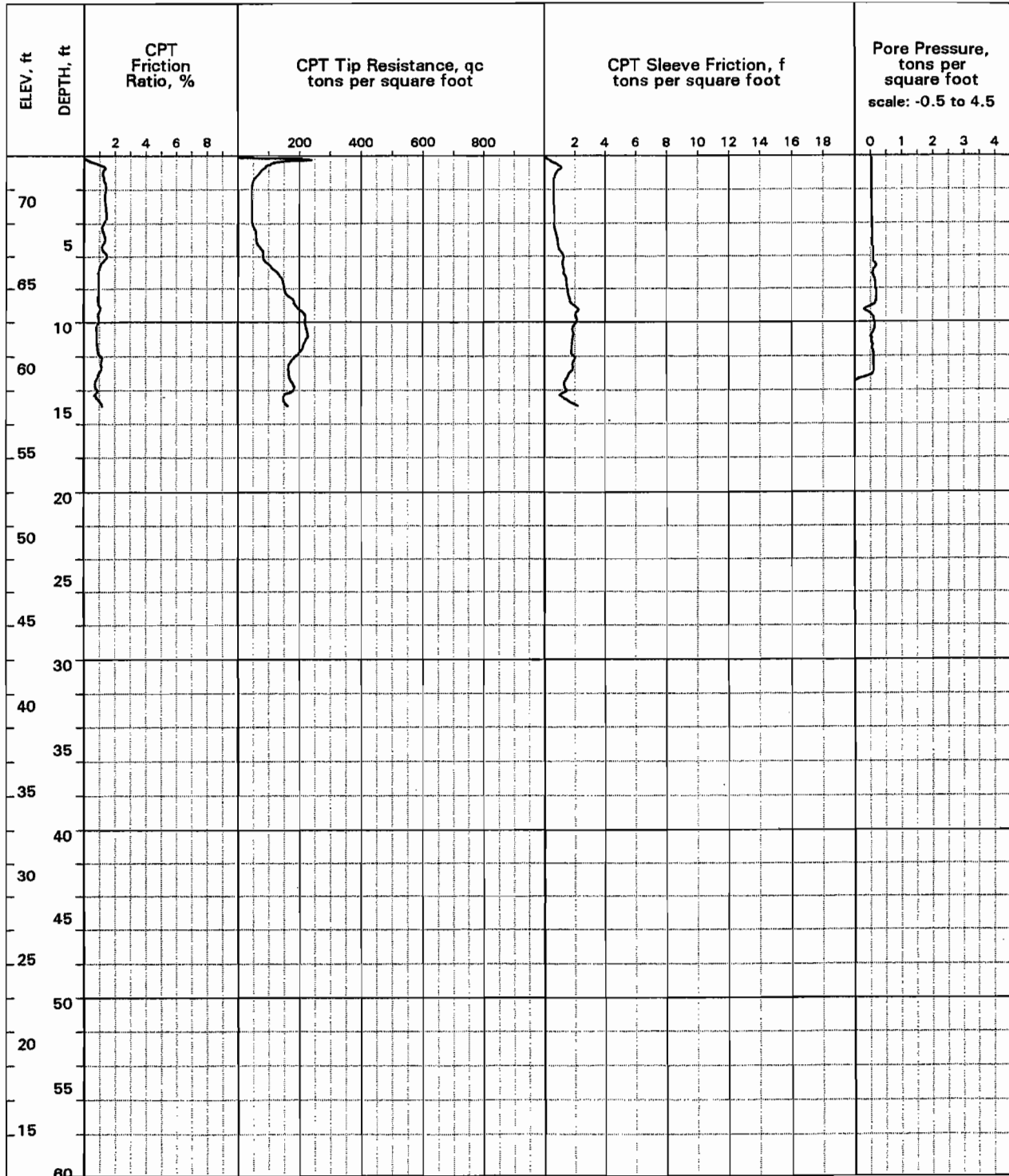
REVIEWED BY: JDBlanchar

TESTING DATE: JAN 21 97

LOG OF CPT NO: CPT118
Los Osos Wastewater Project

PLATE A-51

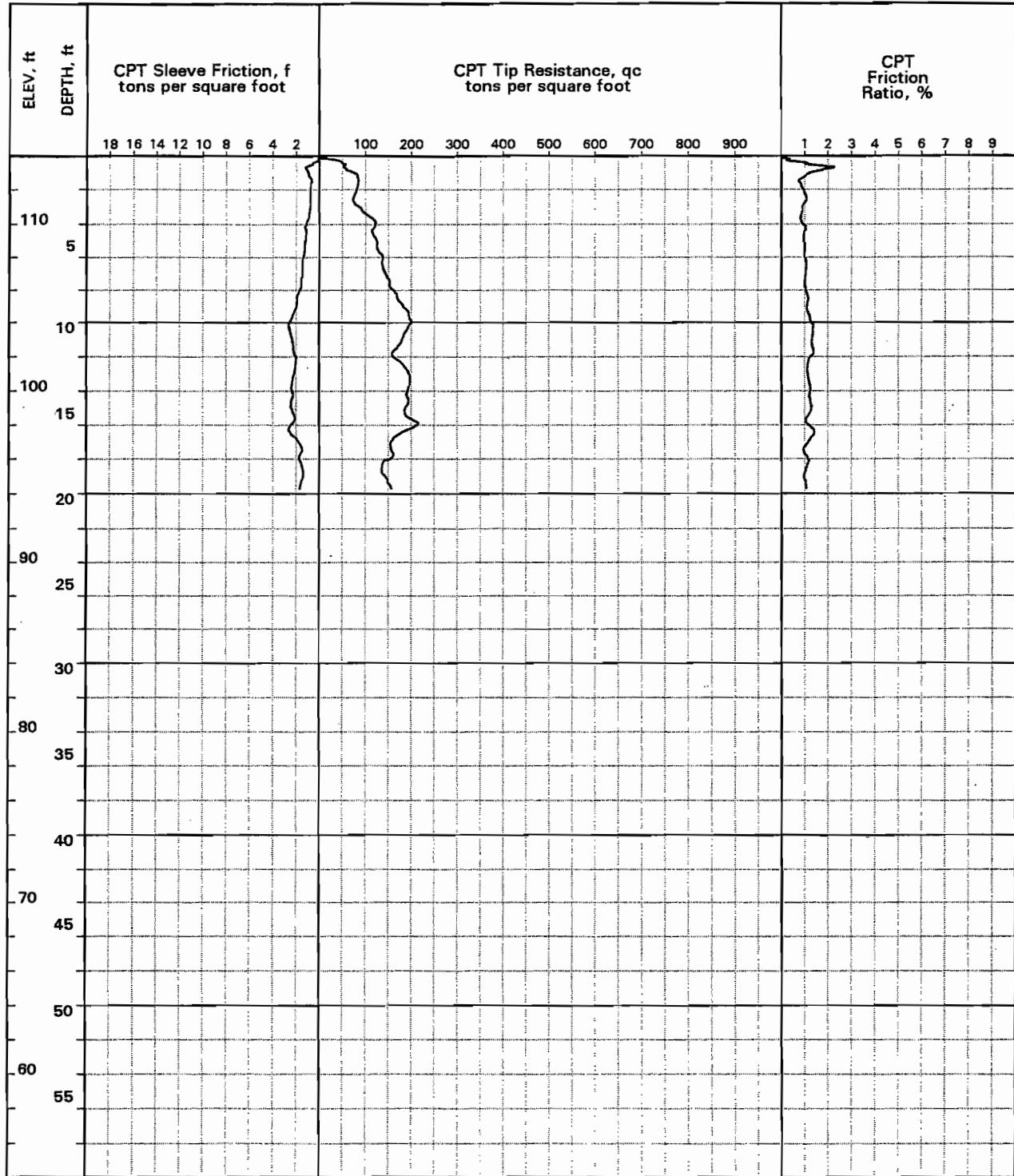




LOCATION: , South shoulder Paso Robles, 70 ft west of Sixteenth Street EXPLORATION METHOD: Cone Penetrometer
 SURFACE EL: 73.0 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
 DEPTH TO GROUND WATER: 4 ft EXPLORATION DATE: JAN 21 97
 COMPLETION DEPTH: 15.0 ft

LOG OF CPT NO. CPT119
Los Osos Wastewater Project



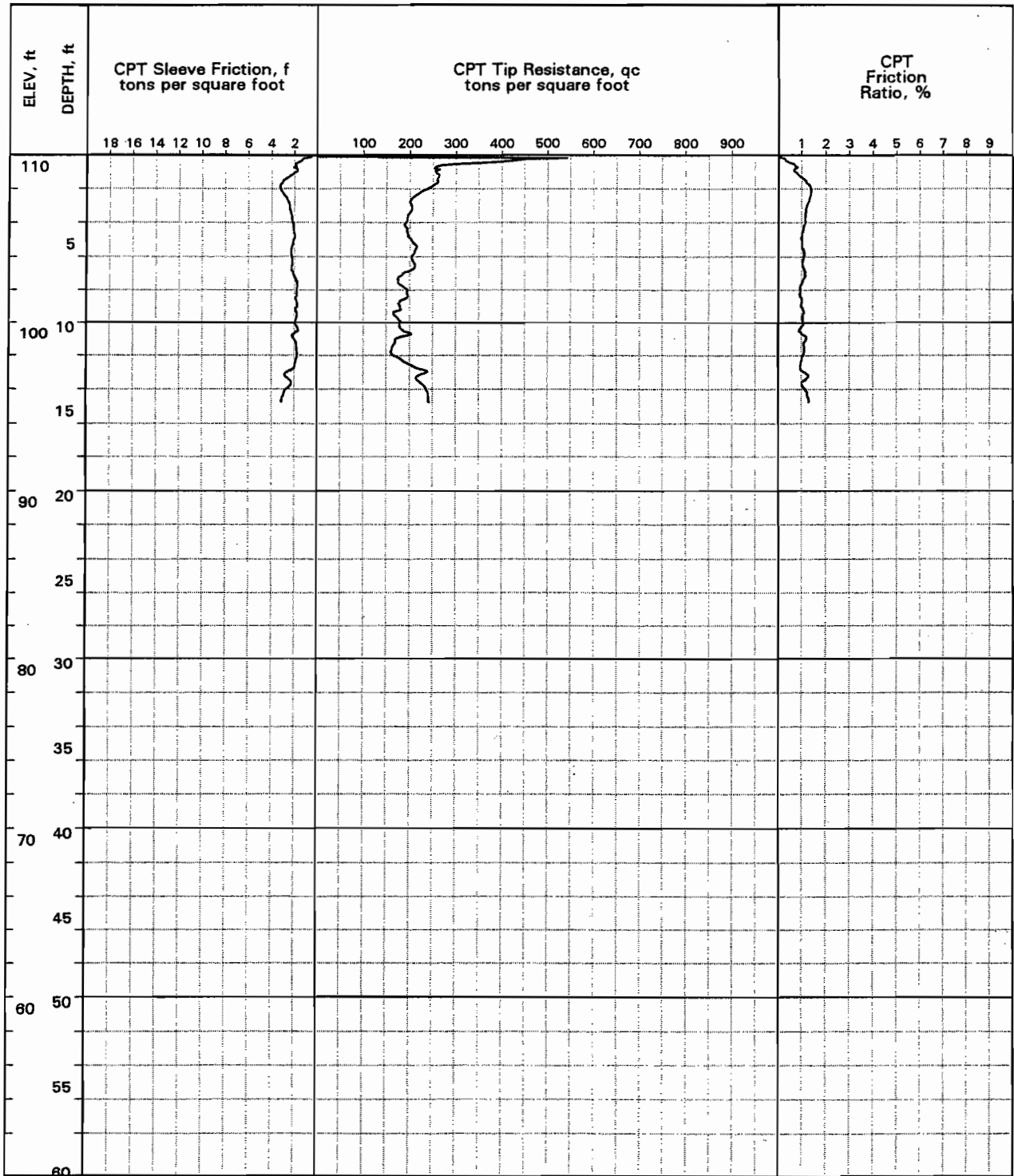


LOCATION: West shoulder Fifteenth Street, 40 ft north of Pismo Avenue
 SURFACE EL: 114.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 19.7 ft
 TESTING DATE: JAN 21 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanhard

LOG OF CPT NO: CPT120
Los Osos Wastewater Project





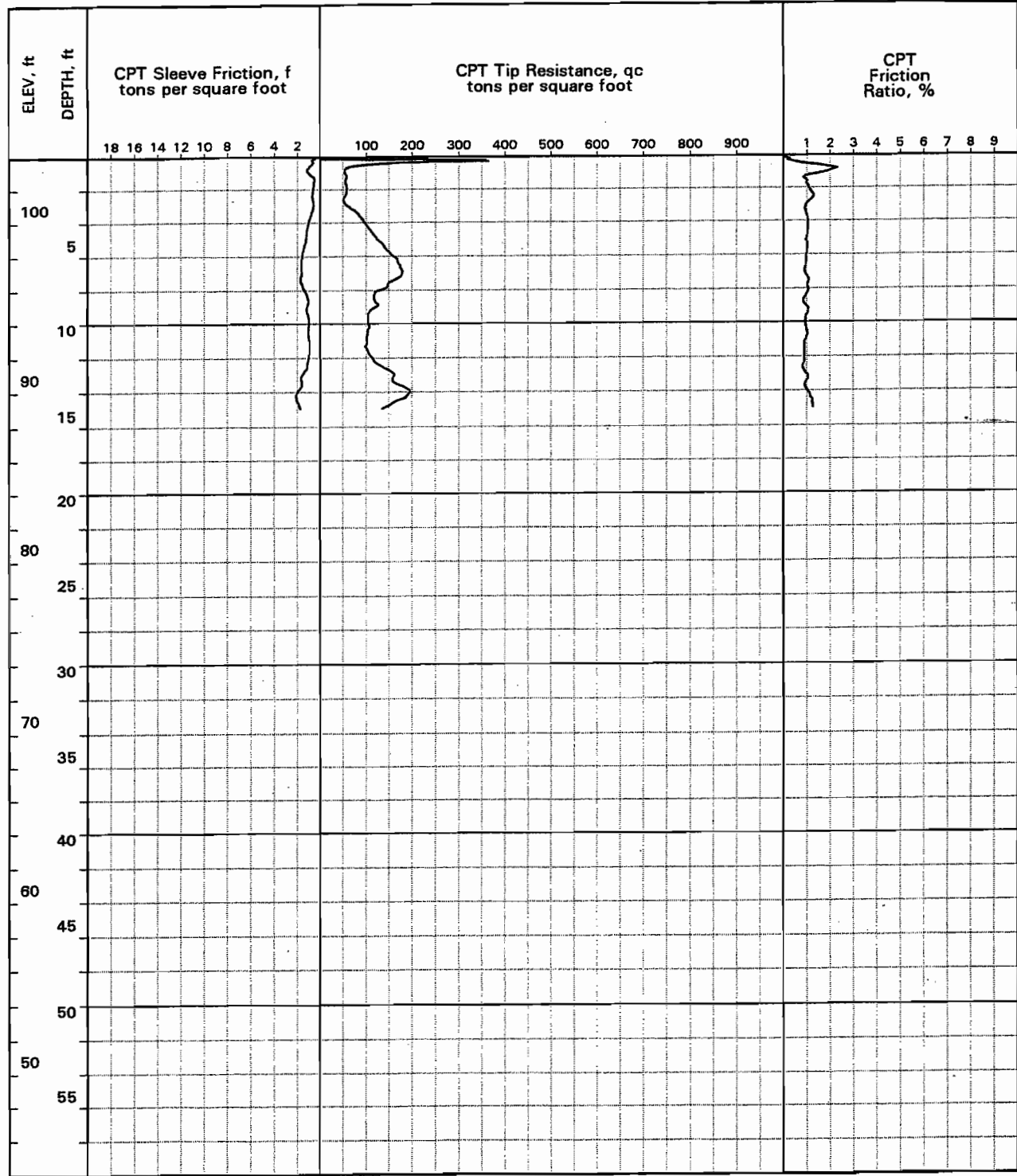
LOCATION: 12th Street, 180 ft north of Pismo Avenue

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

SURFACE EL: 111.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 14.8 ft
 TESTING DATE: JAN 21 97

LOG OF CPT NO: CPT121
Los Osos Wastewater Project





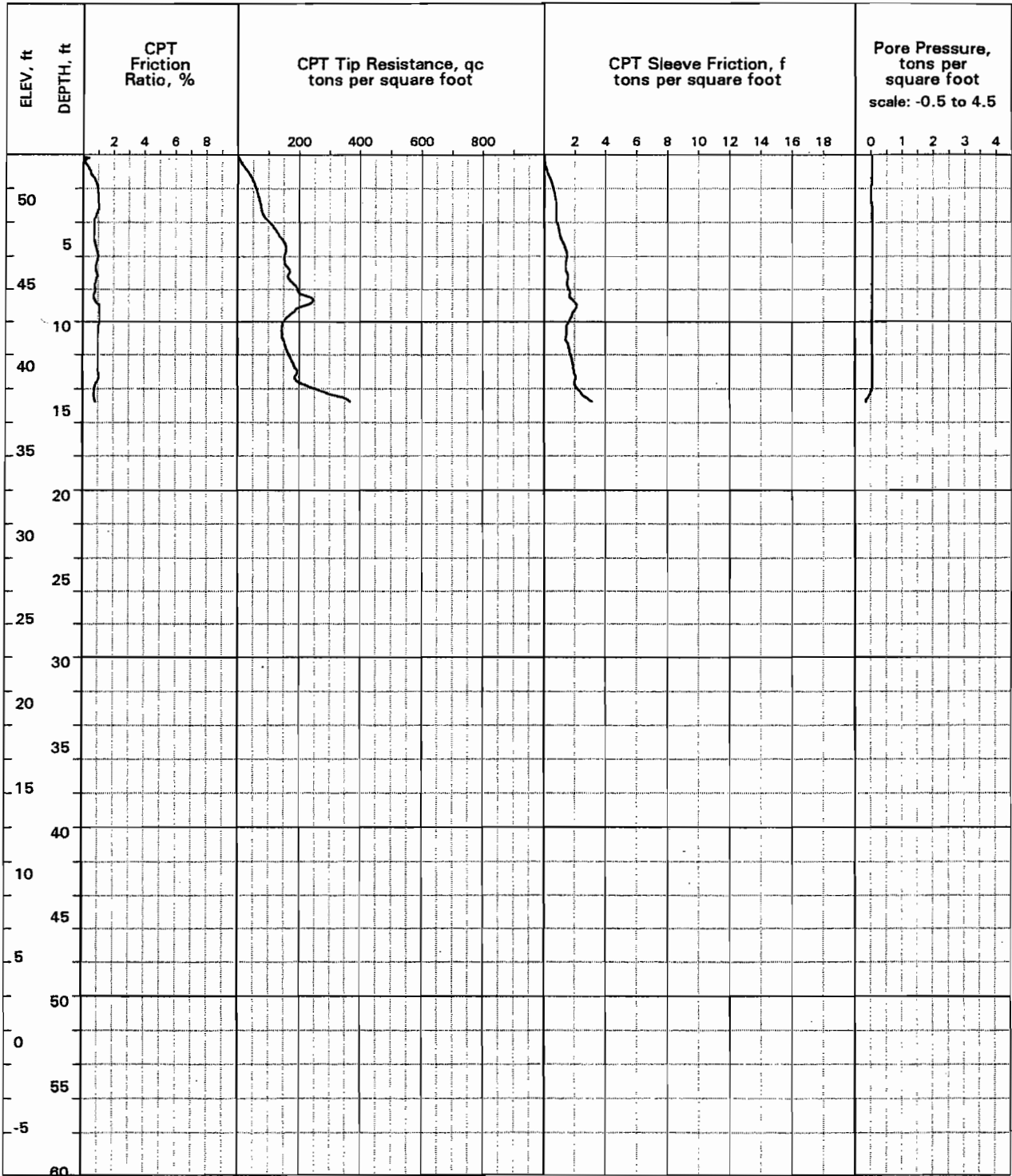
LOCATION: East shoulder North Street, 20 ft south of Pismo Avenue

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

SURFACE EL: 103.5 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 15.0 ft
 TESTING DATE: JAN 21 97

LOG OF CPT NO: CPT122
Los Osos Wastewater Project



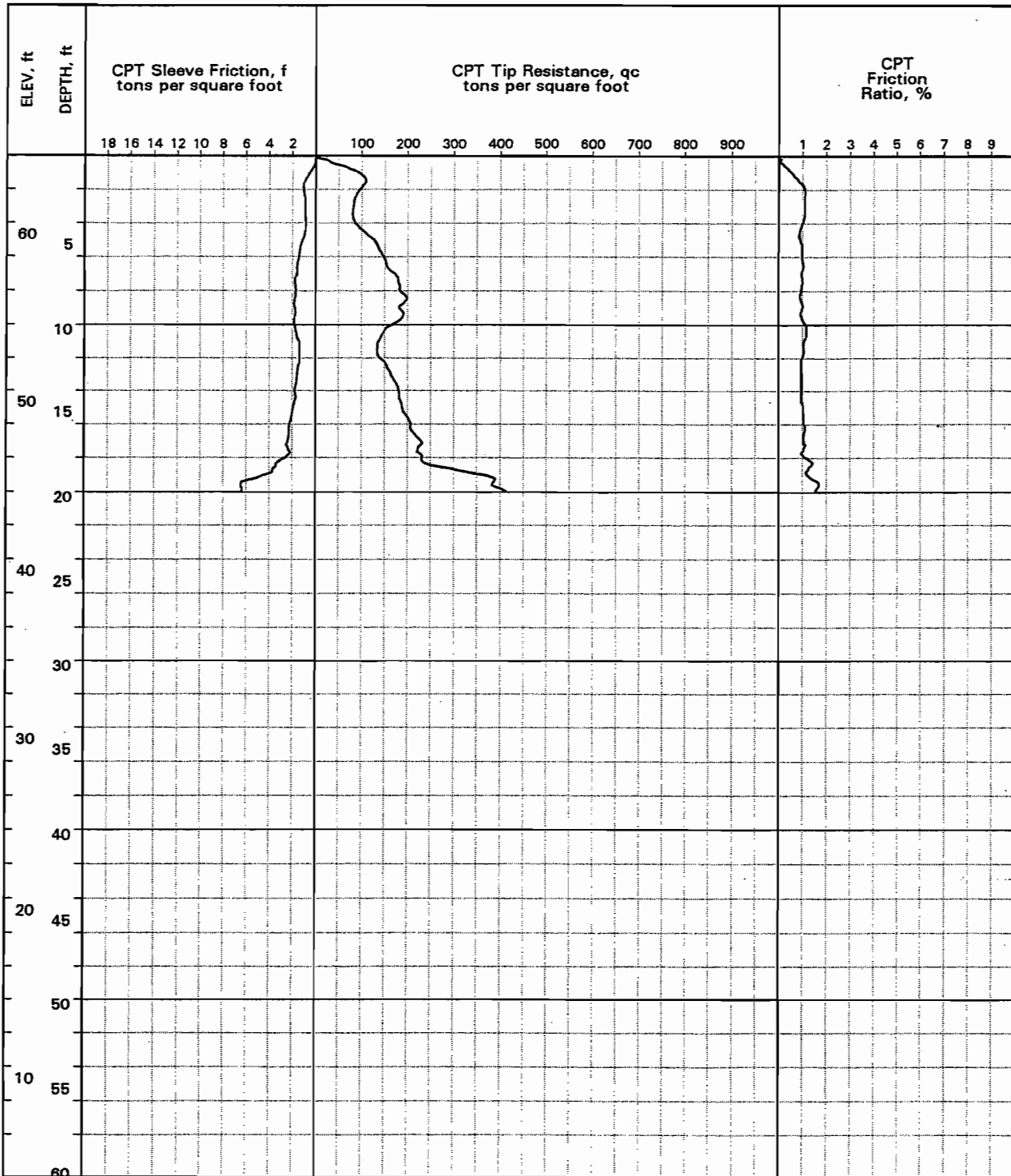


LOCATION: , Pismo Avenue, 150 ft west of Seventh Street
 SURFACE EL: 53.0 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 14 ft
 COMPLETION DEPTH: 14.8 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 21 97

LOG OF CPT NO. CPT123
Los Osos Wastewater Project



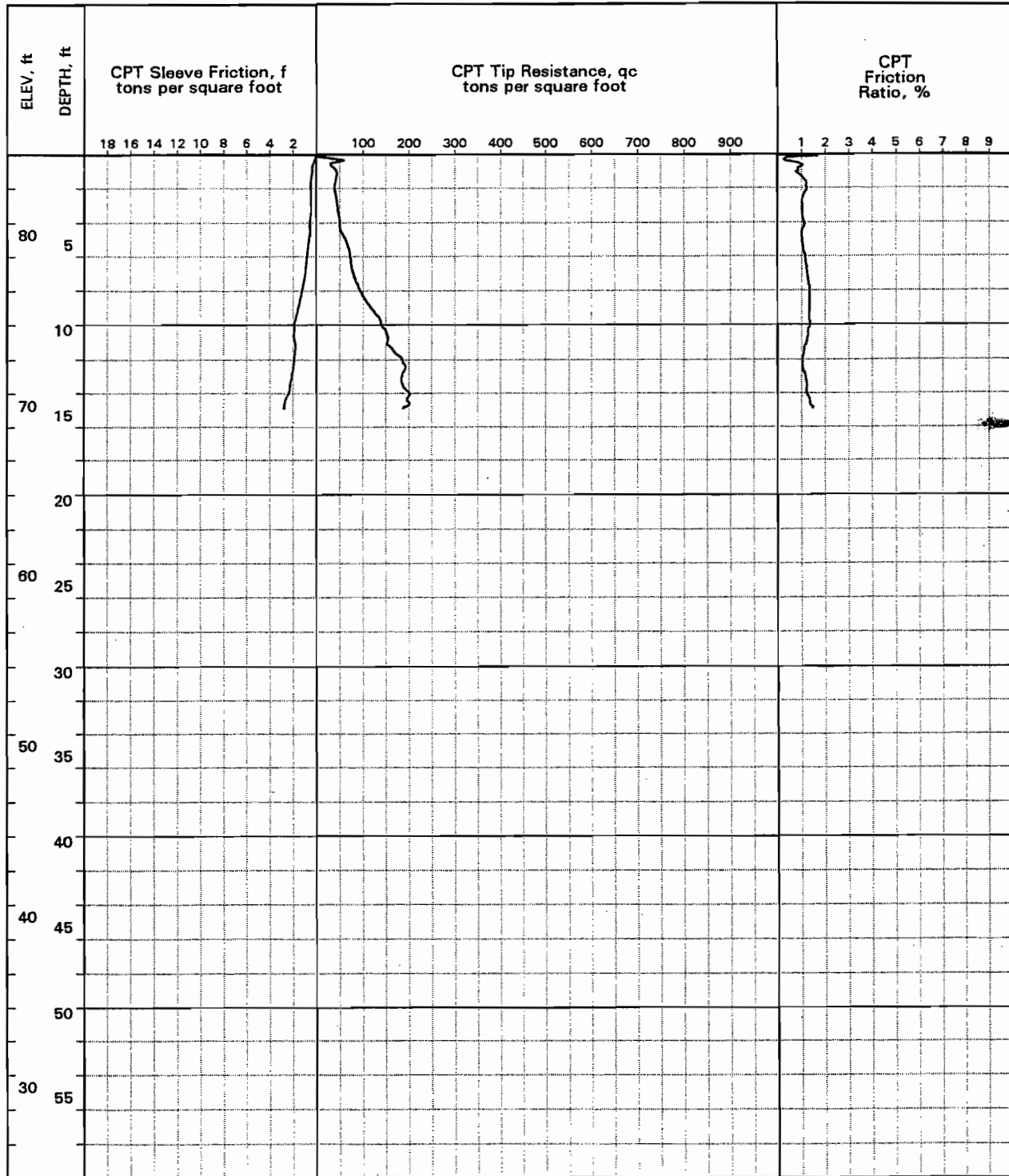


LOCATION: East shoulder Fifth Street, 175 ft south of Romona Avenue
 SURFACE EL: 65.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 20.0 ft
 TESTING DATE: JAN 21 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBianchard

LOG OF CPT NO: CPT124
Los Osos Wastewater Project



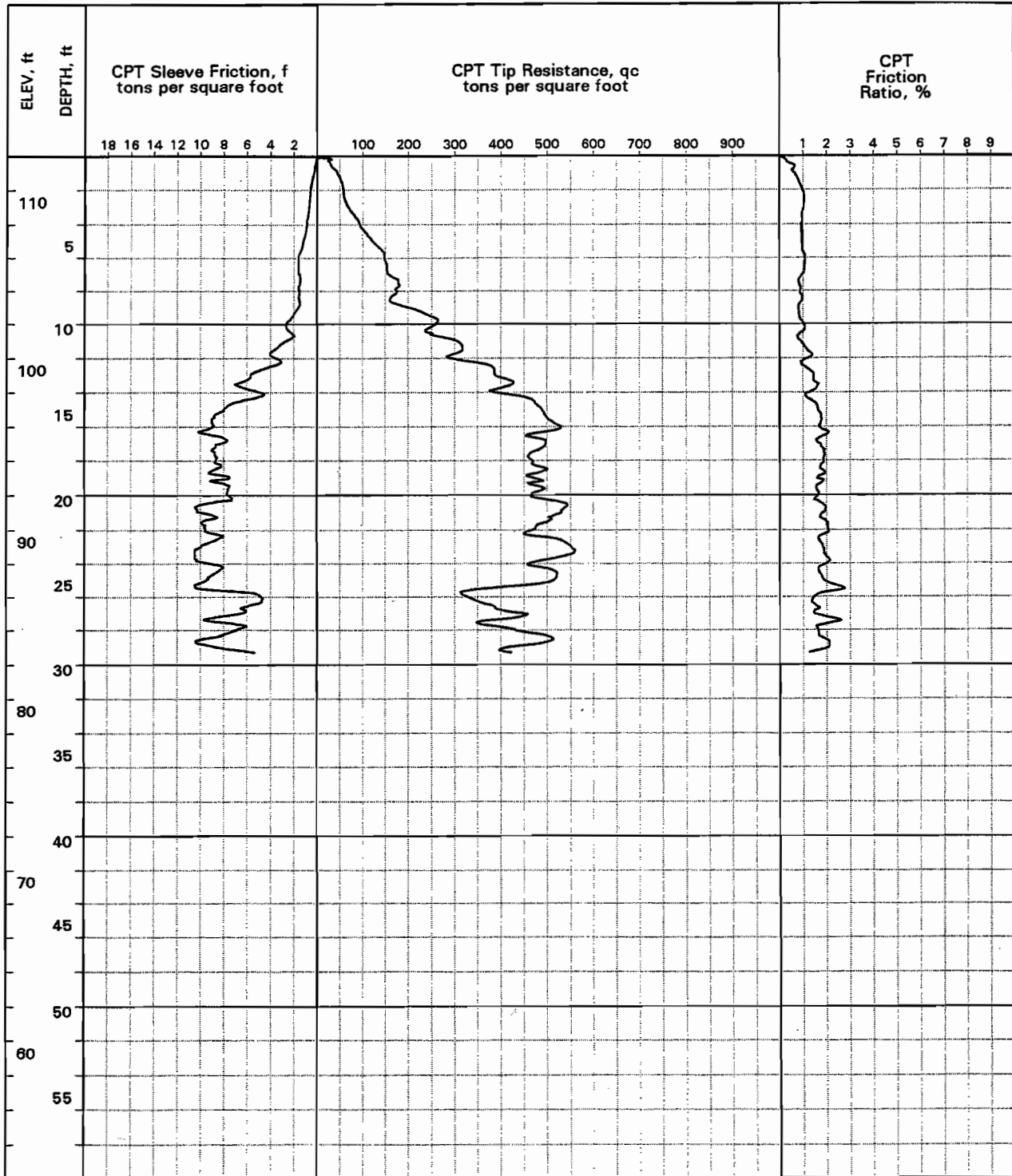


LOCATION: South shoulder Romona Avenue, 110 ft east of Eleventh Street
 SURFACE EL: 85.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 14.9 ft
 TESTING DATE: JAN 21 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchard

LOG OF CPT NO: CPT125
Los Osos Wastewater Project



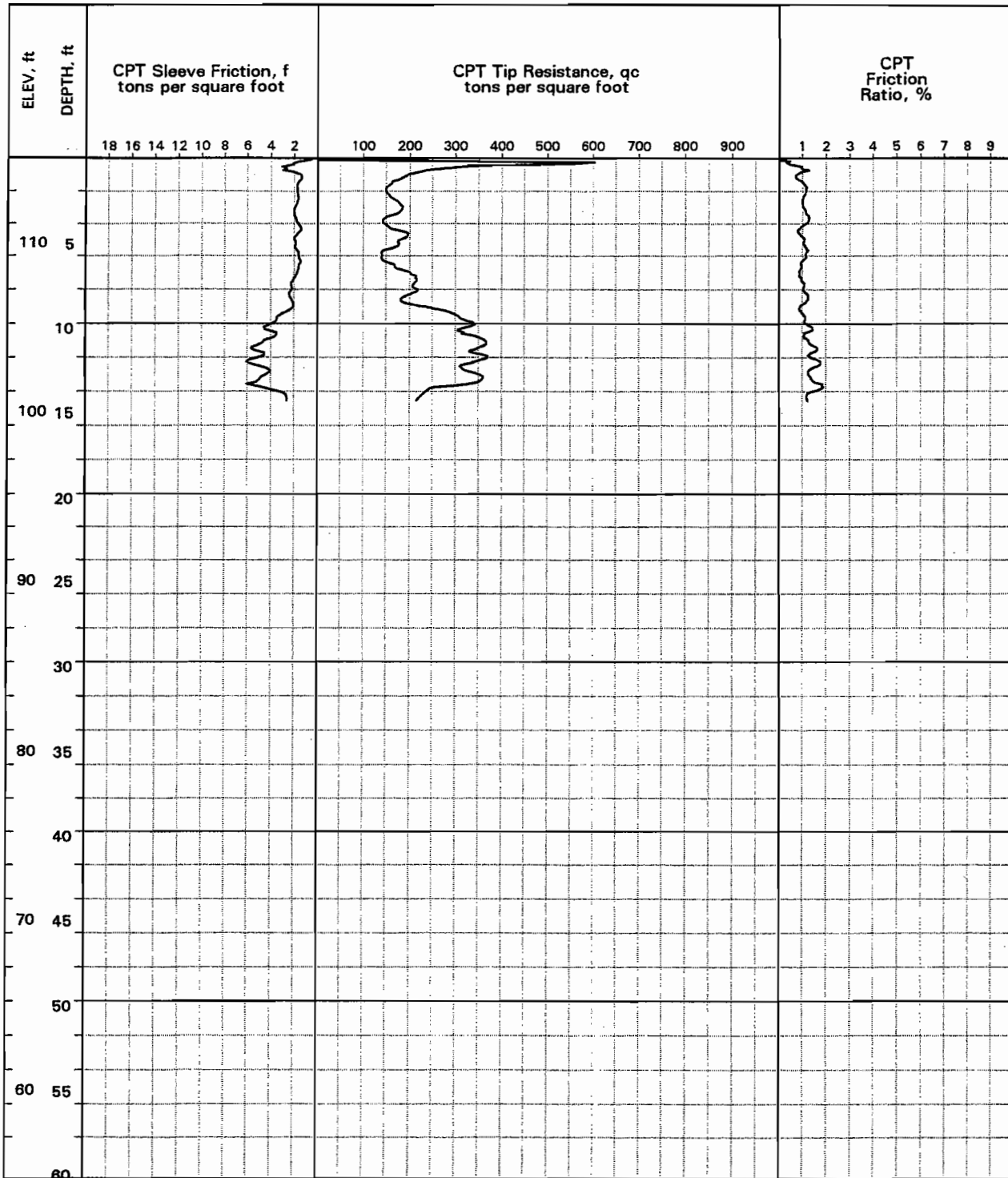


LOCATION: South shoulder Romona Avenue, 110 ft east of Thirteenth Street
 SURFACE EL: 113.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 29.4 ft
 TESTING DATE: JAN 21 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT126
Los Osos Wastewater Project





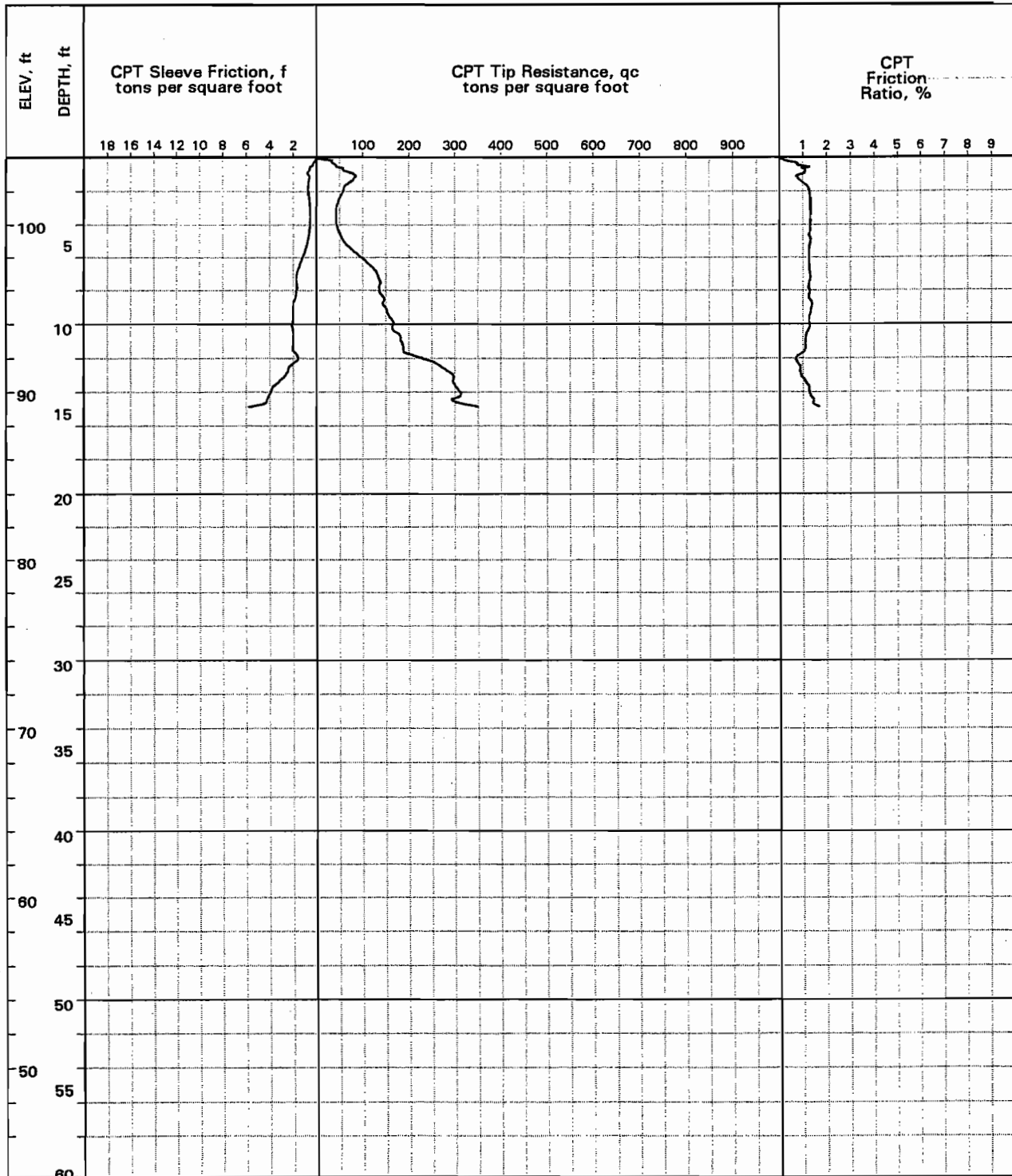
LOCATION: West shoulder 17th Street, 225 ft north Nipomo Avenue

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

SURFACE EL: 115.5 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 14.6 ft
 TESTING DATE: JAN 21 97

LOG OF CPT NO: CPT127
Los Osos Wastewater Project





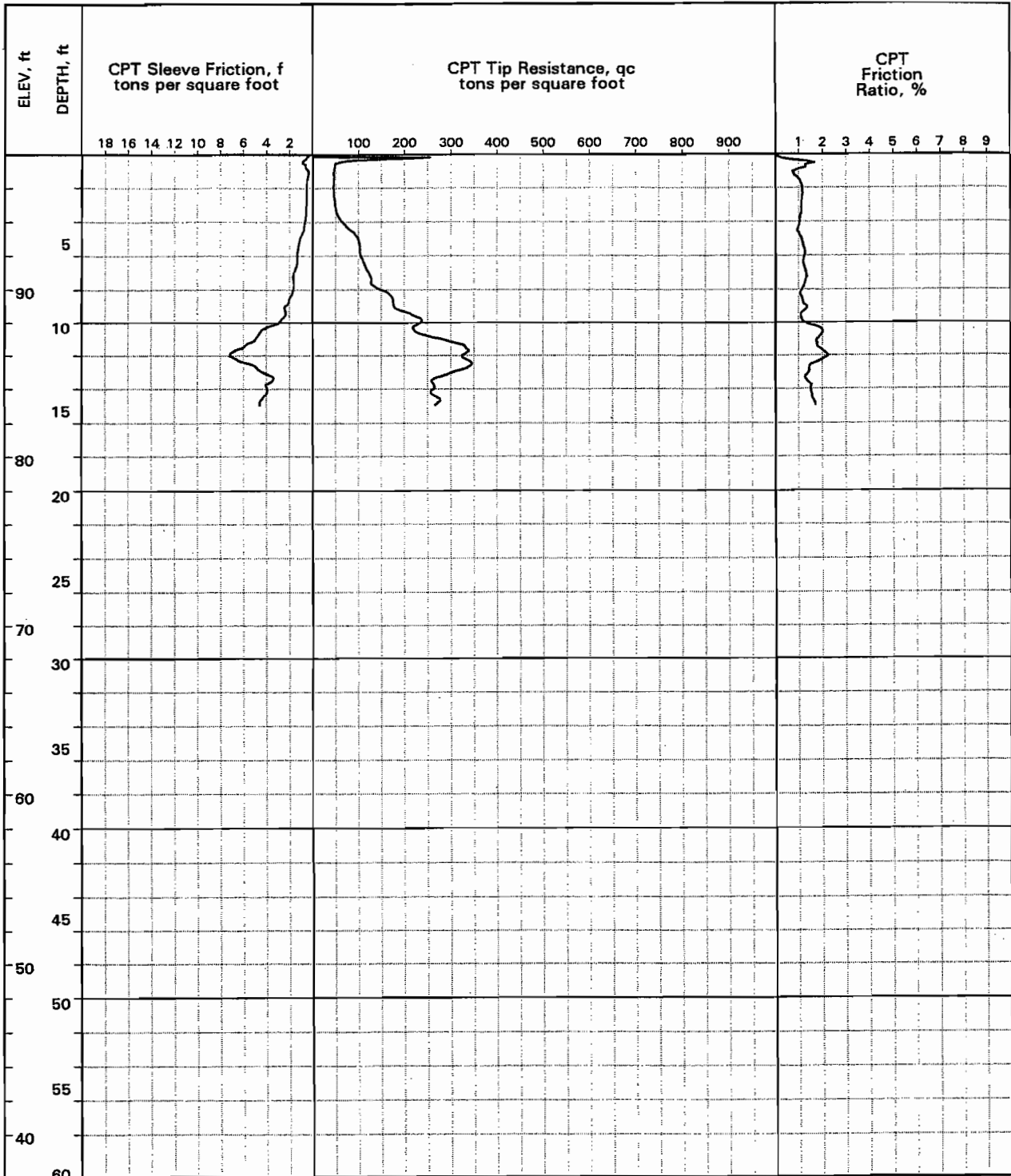
LOCATION: East shoulder Seventh Street, 60 ft north Nipomo Avenue

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

SURFACE EL: 104.5 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 14.9 ft
 TESTING DATE: JAN 21 97

LOG OF CPT NO: CPT128
Los Osos Wastewater Project



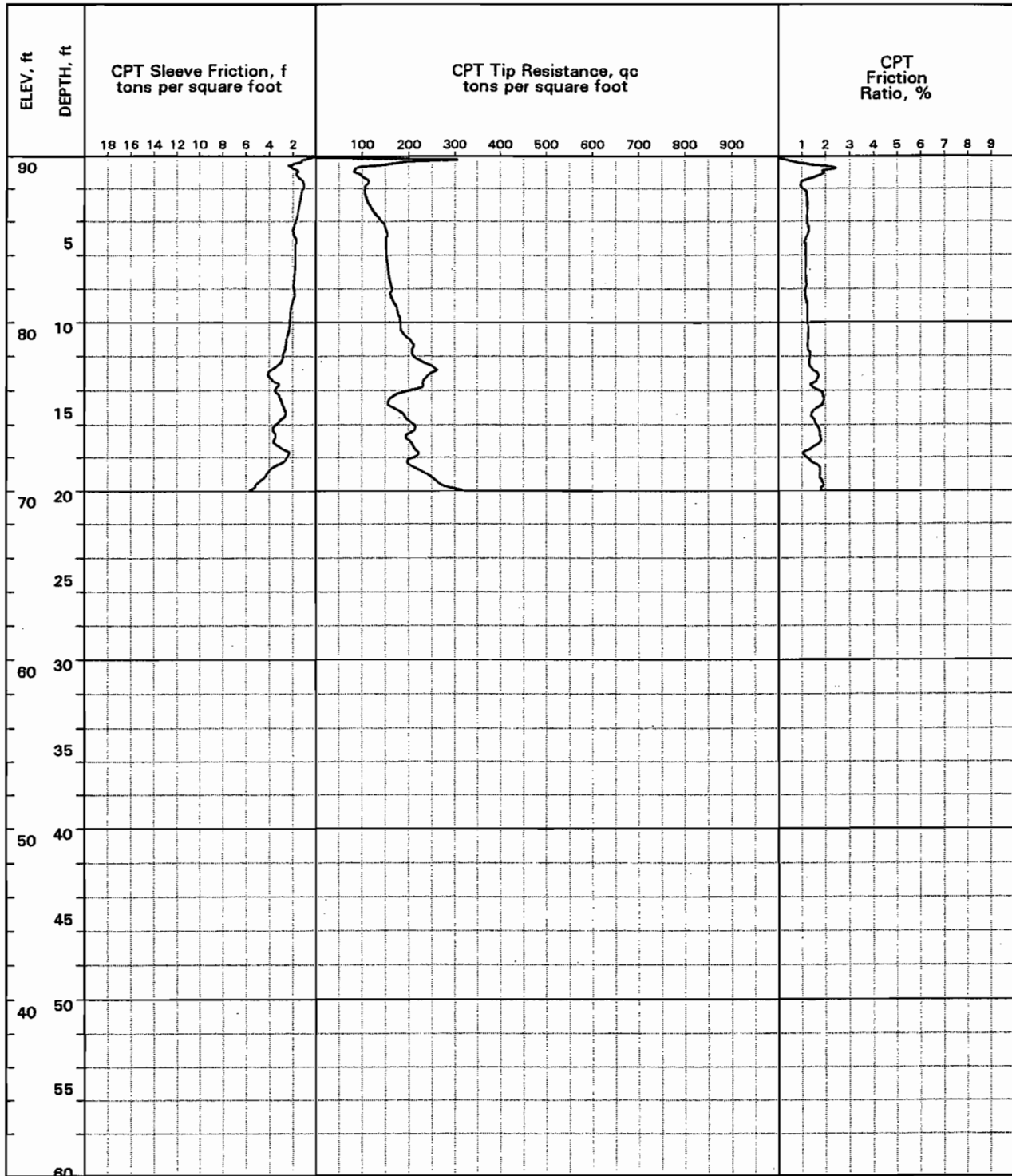


LOCATION: Ferrel Drive, 1150 ft north of Bush Street intersection
 SURFACE EL: 98.5 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 15.0 ft
 TESTING DATE: JAN 21 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT129
Los Osos Wastewater Project





LOCATION: South shoulder Santa Ynez, 45 ft east of Eighth Street

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

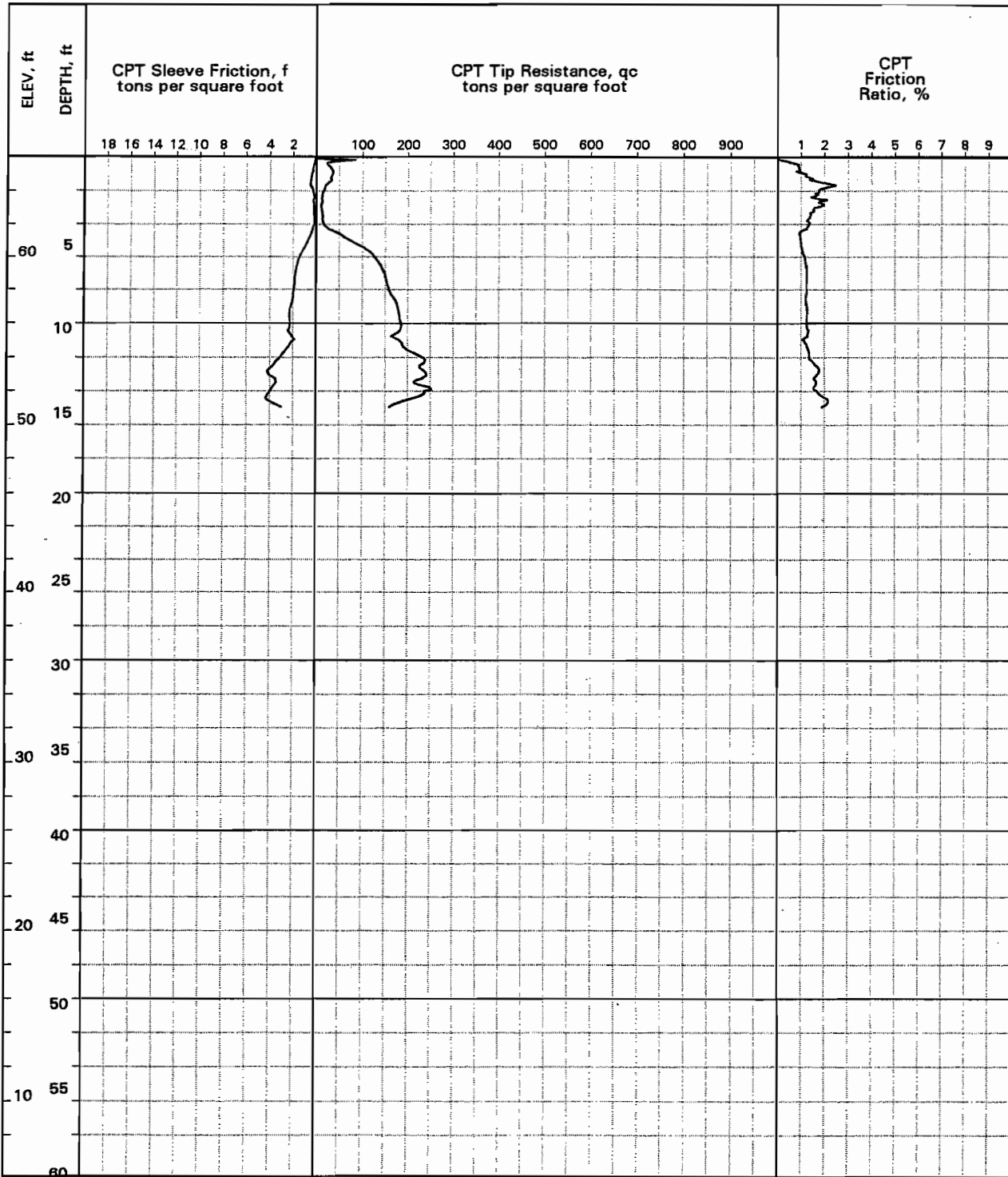
SURFACE EL: 91.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 20.0 ft
 TESTING DATE: JAN 22 97

LOG OF CPT NO: CPT130
Los Osos Wastewater Project

PLATE A-63

CPT(54286/CPT130)
 4/4/97 15:00





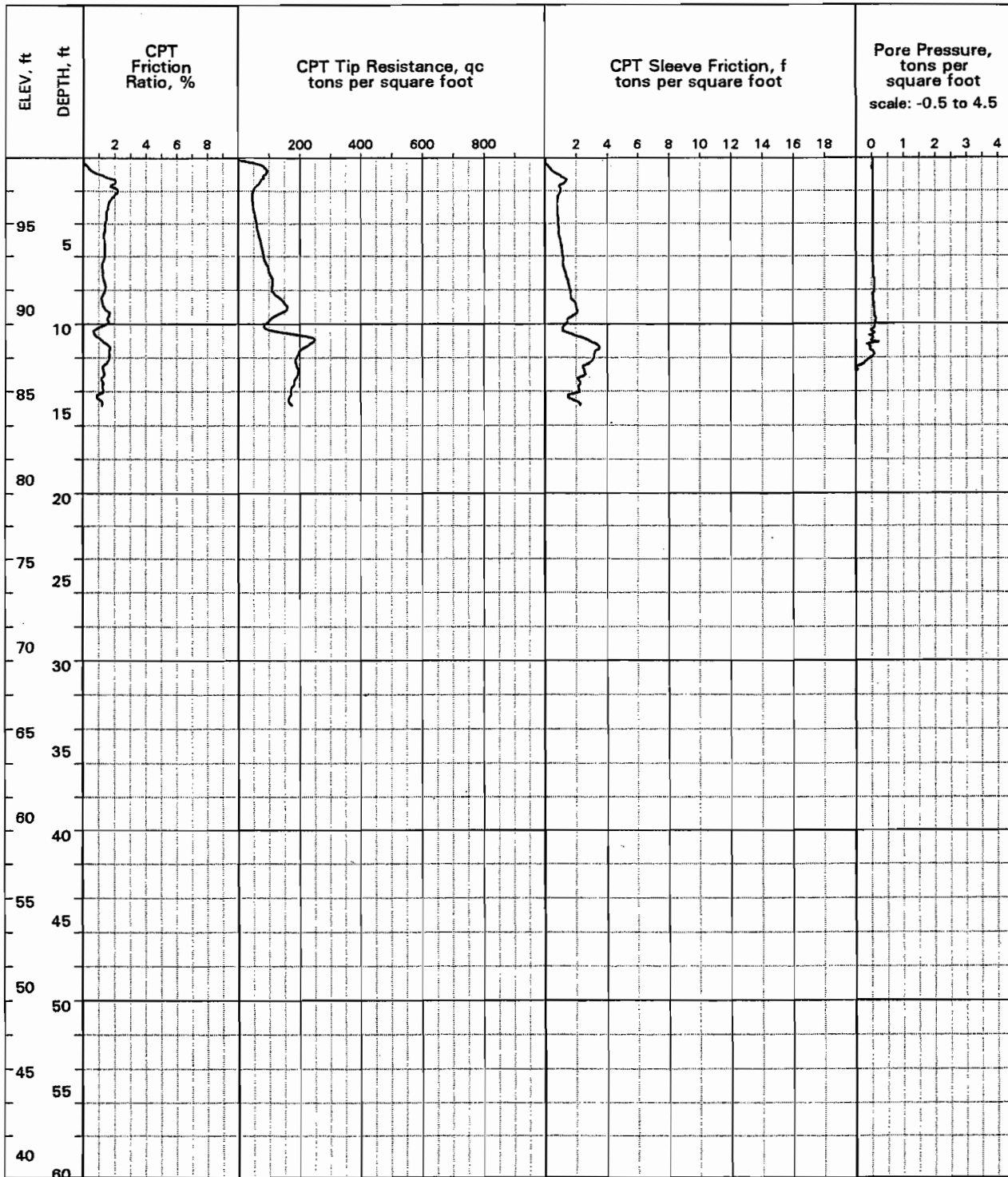
LOCATION: South shoulder Santa Ynez, 70 ft east of Eleventh Street

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchard

SURFACE EL: 66.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 15.0 ft
 TESTING DATE: JAN 22 97

LOG OF CPT NO: CPT131
Los Osos Wastewater Project





LOCATION: , West shoulder Fairchild, 35 ft south of Santa Ynez
 SURFACE EL: 99.5 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 10.5 ft
 COMPLETION DEPTH: 14.9 ft

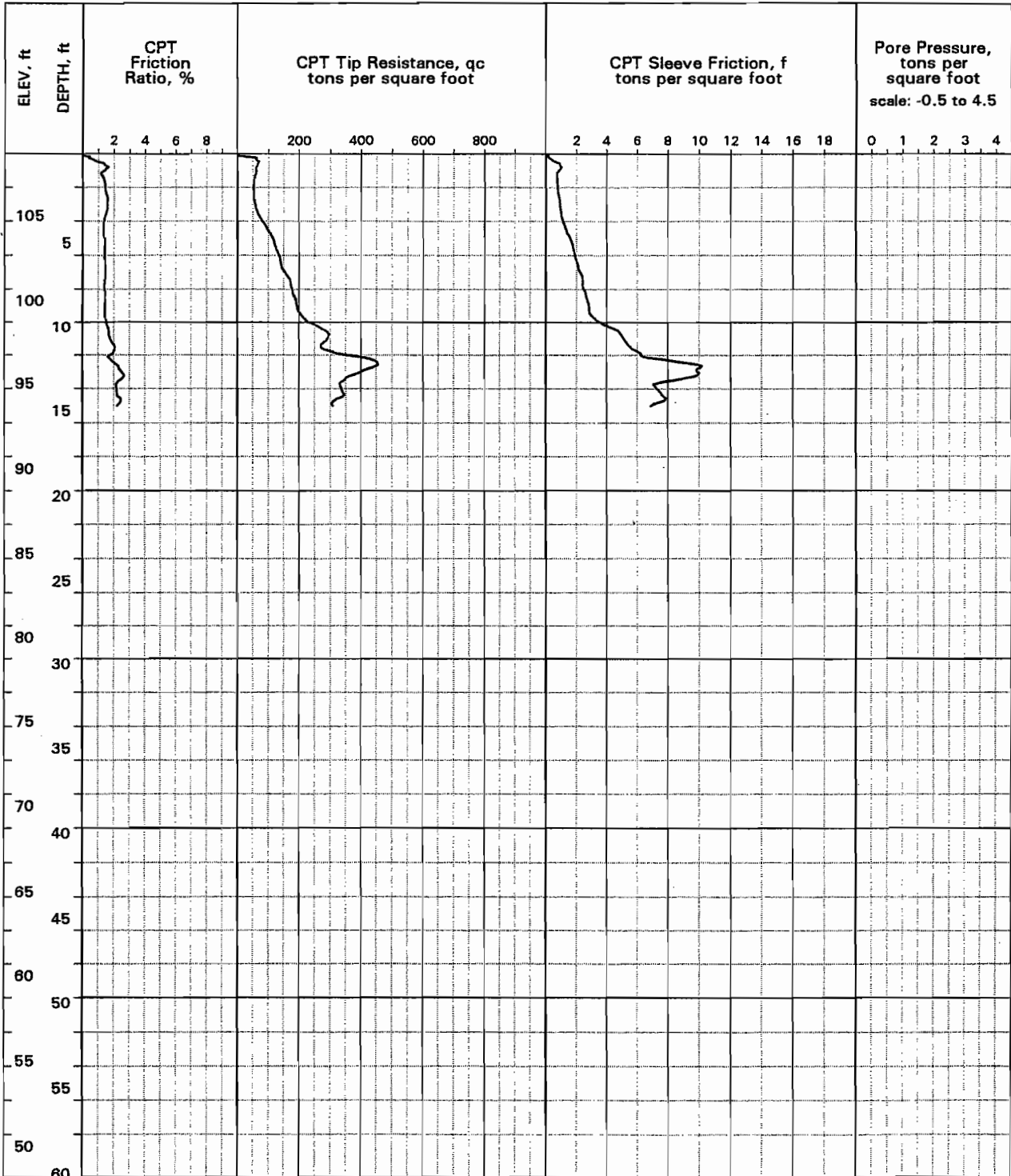
EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 21 97

LOG OF CPT NO. CPT132
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286

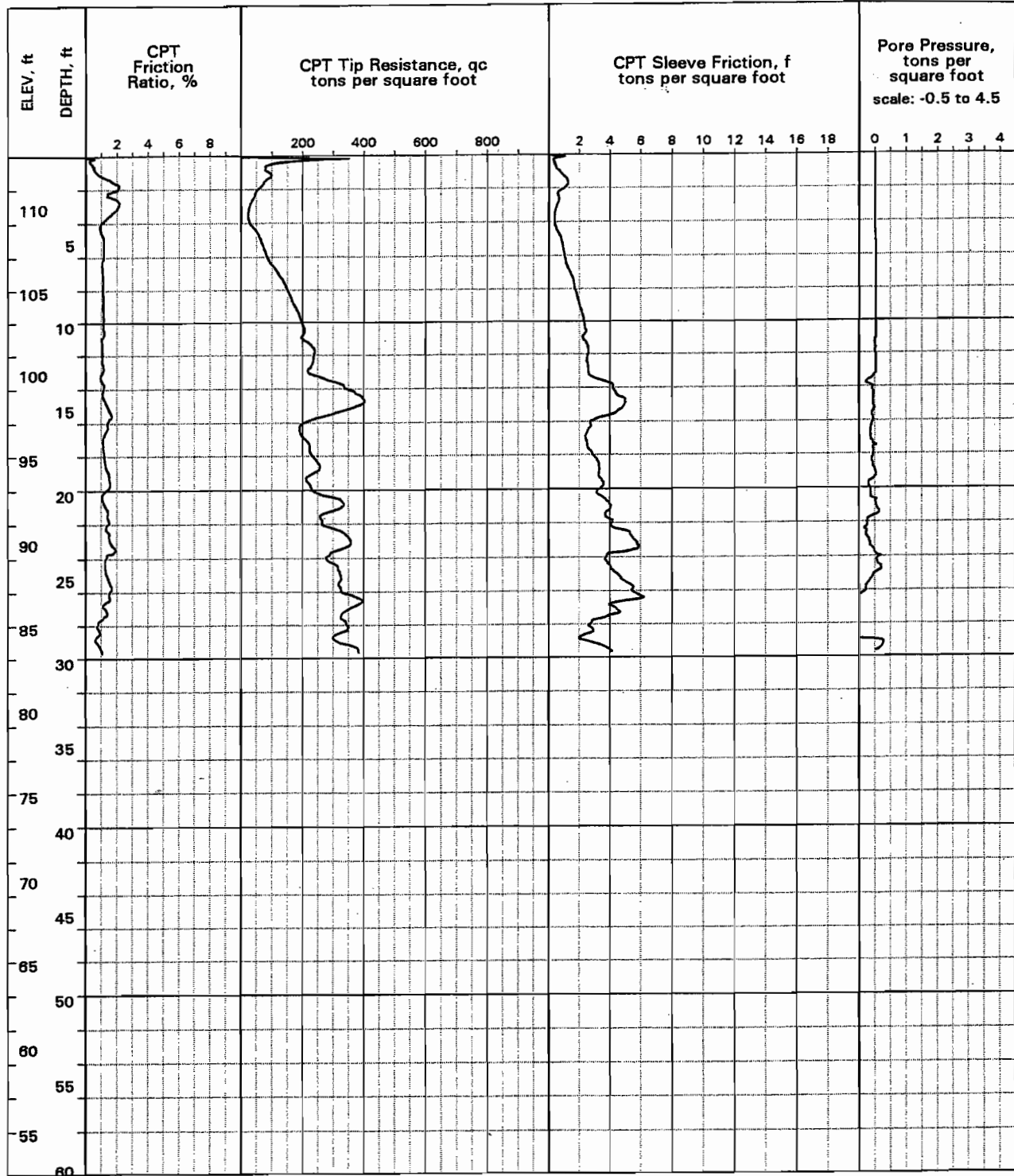


LOCATION: , North shoulder Santa Ynez Avenue, 70 ft west of Mountain View
SURFACE EL: 109.0 ft +/- (rel. MSL datum)
DEPTH TO GROUND WATER:
COMPLETION DEPTH: 15.1 ft

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
EXPLORATION DATE: JAN 22 97

LOG OF CPT NO. CPT133 Los Osos Wastewater Project





LOCATION: West shoulder Fairchild Avenue, 35 ft south Santa Ynez
 SURFACE EL: 113.5 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 13 ft
 COMPLETION DEPTH: 29.7 ft

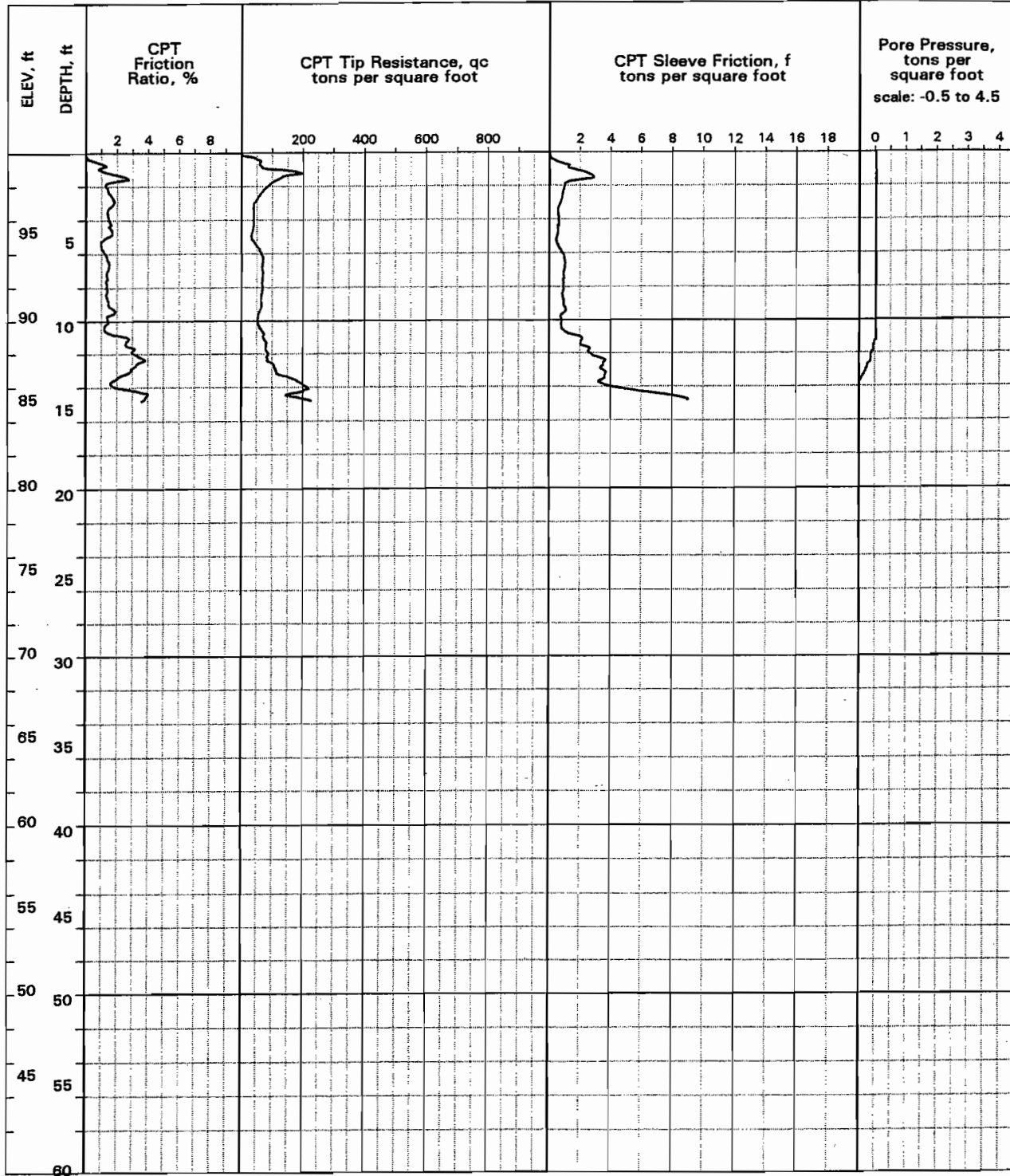
EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 21 97

LOG OF CPT NO. CPT134
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286



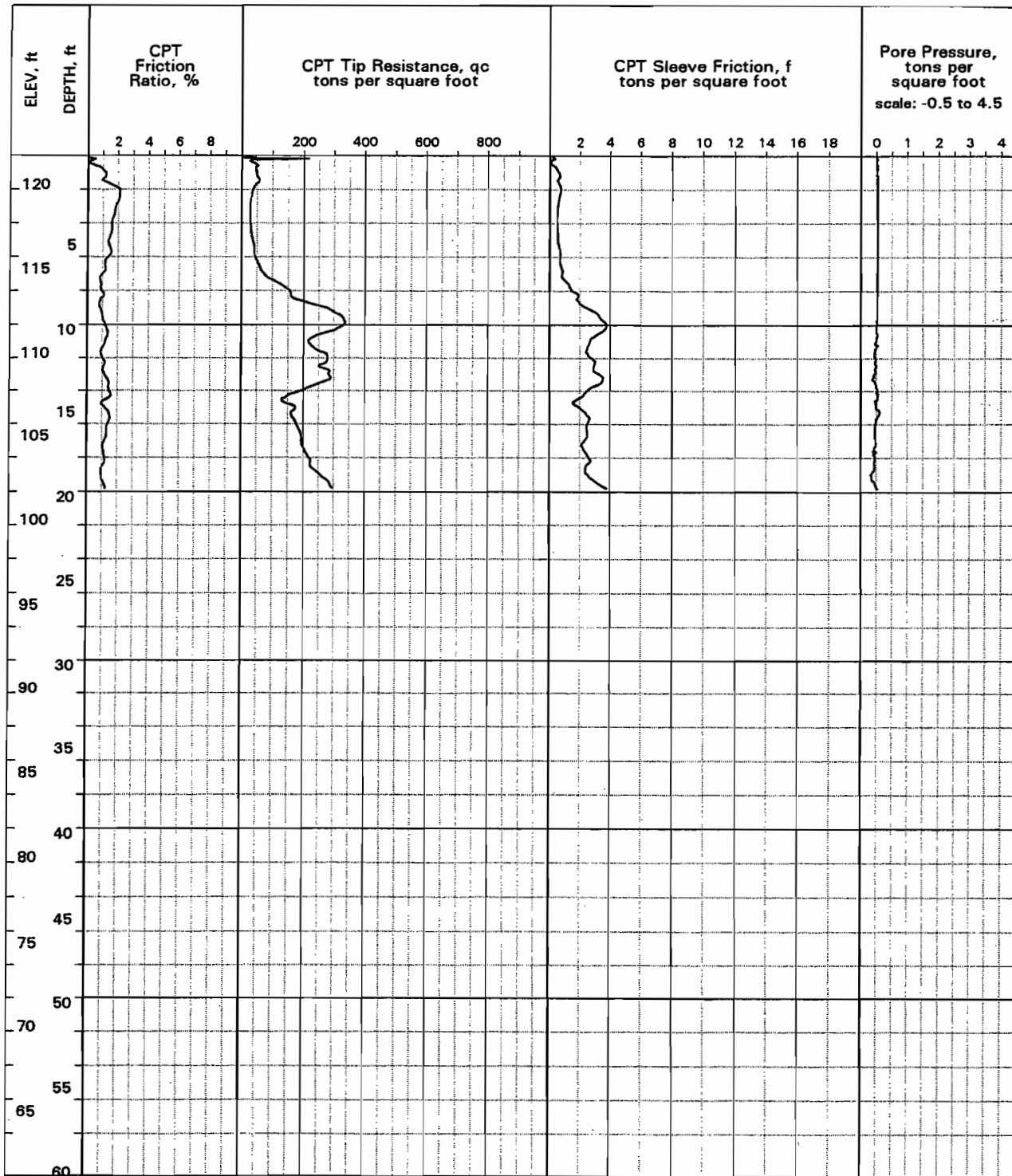
LOCATION: , North shoulder Santa Ynez Ave, 40 ft west Mountain View EXPLORATION METHOD: Cone Penetrometer
SURFACE EL: 100.0 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
DEPTH TO GROUND WATER: 11 ft EXPLORATION DATE: JAN 21 97
COMPLETION DEPTH: 14.9 ft

LOG OF CPT NO. CPT135
Los Osos Wastewater Project

CPT W/PP
4/4/97/14:44

PLATE A-68

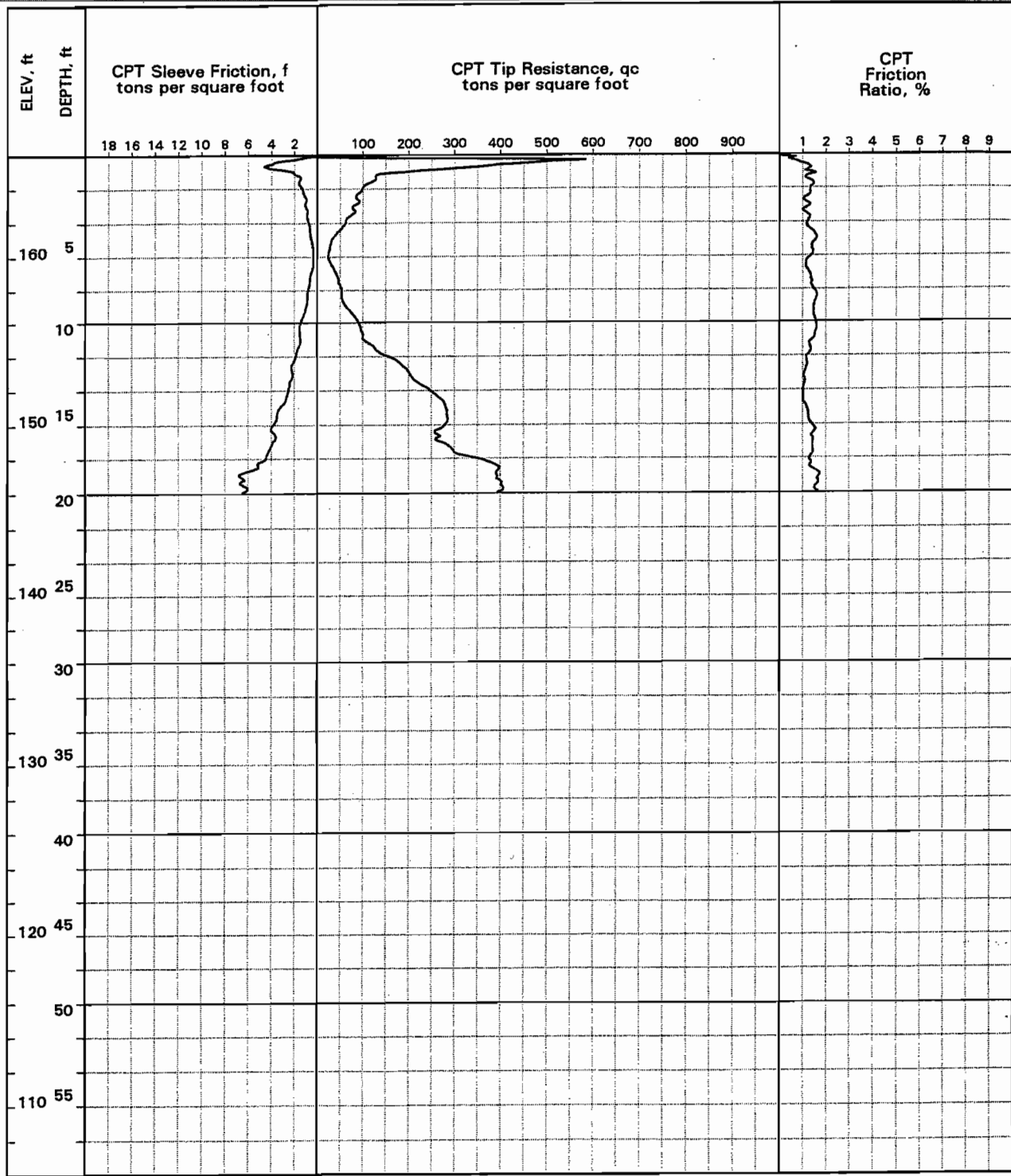




LOCATION: , North shoulder Los Olivos Ave, 50 ft east of Fairchild Ave. EXPLORATION METHOD: Cone Penetrometer
 SURFACE EL: 122.0 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
 DEPTH TO GROUND WATER: 11 ft EXPLORATION DATE: JAN 22 97
 COMPLETION DEPTH: 19.9 ft

LOG OF CPT NO. CPT136
Los Osos Wastewater Project





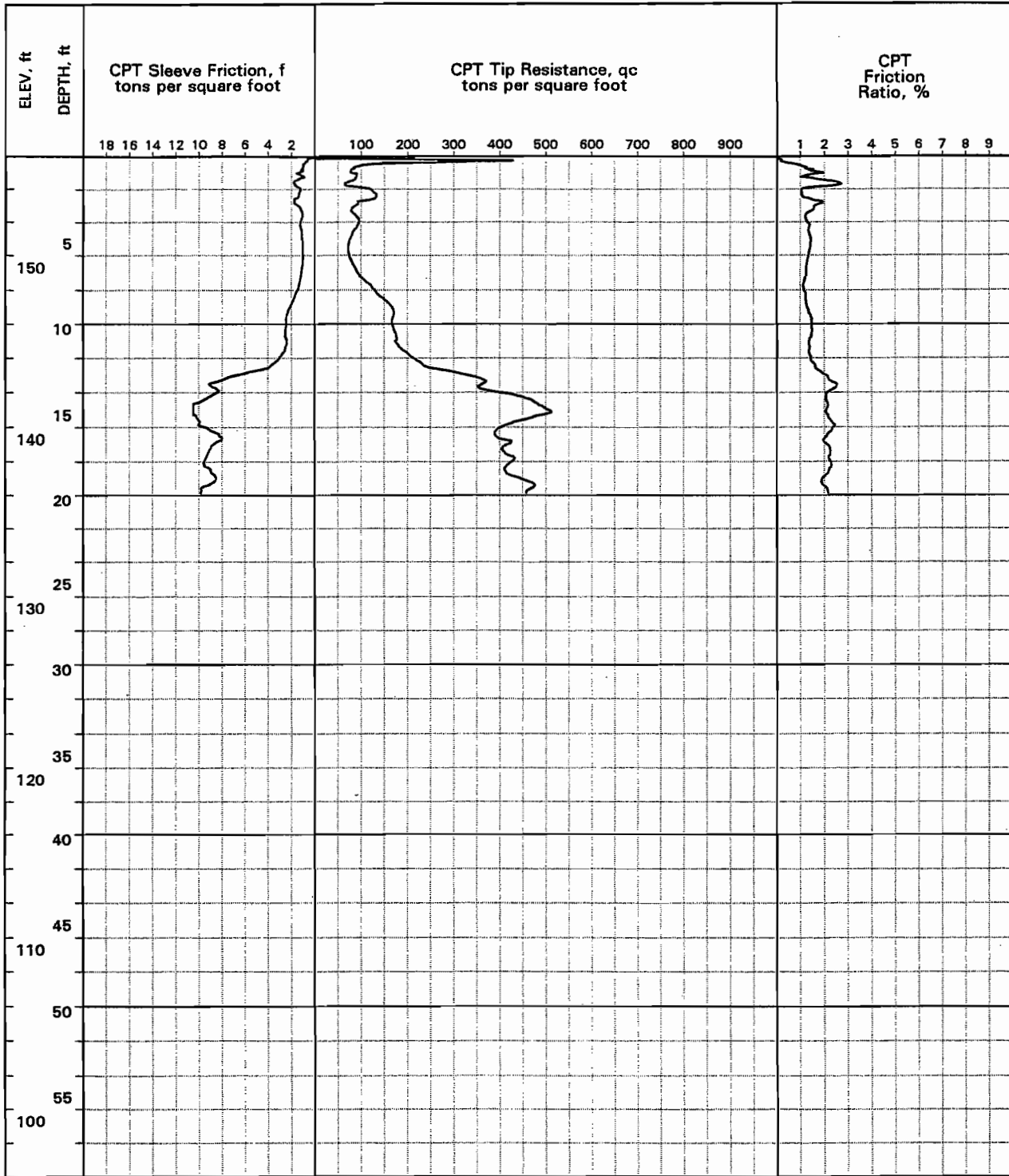
LOCATION: East shoulder Bayview Avenue, 65 ft south of Highland Drive
 SURFACE EL: 166.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 20.0 ft
 TESTING DATE: JAN 22 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT137
Los Osos Wastewater Project

PLATE A-70





LOCATION: East shoulder South Bay Boulevard, 170 ft north Los Osos Valley Road
 SURFACE EL: 157.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 19.9 ft
 TESTING DATE: JAN 22 97

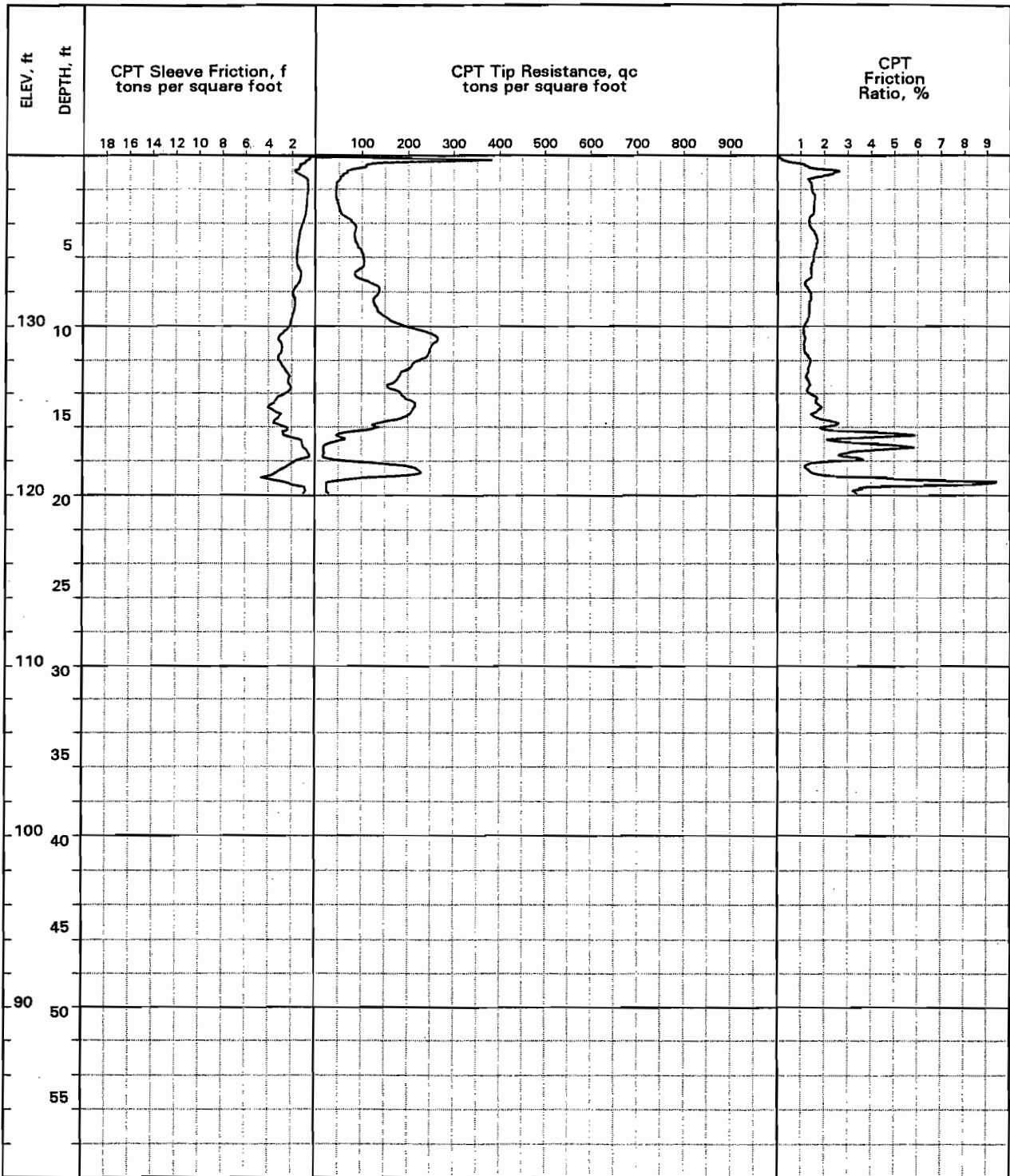
TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT138
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286



LOCATION: West shoulder Fairchild, 200 ft north Los Osos Valley Road
SURFACE EL: 140.0 ft +/- (rel. MSL datum)
COMPLETION DEPTH: 19.9 ft
TESTING DATE: JAN 22 97

TESTING METHOD: Cone Penetrometer
TESTED BY: Fugro Geosciences
REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT139
Los Osos Wastewater Project

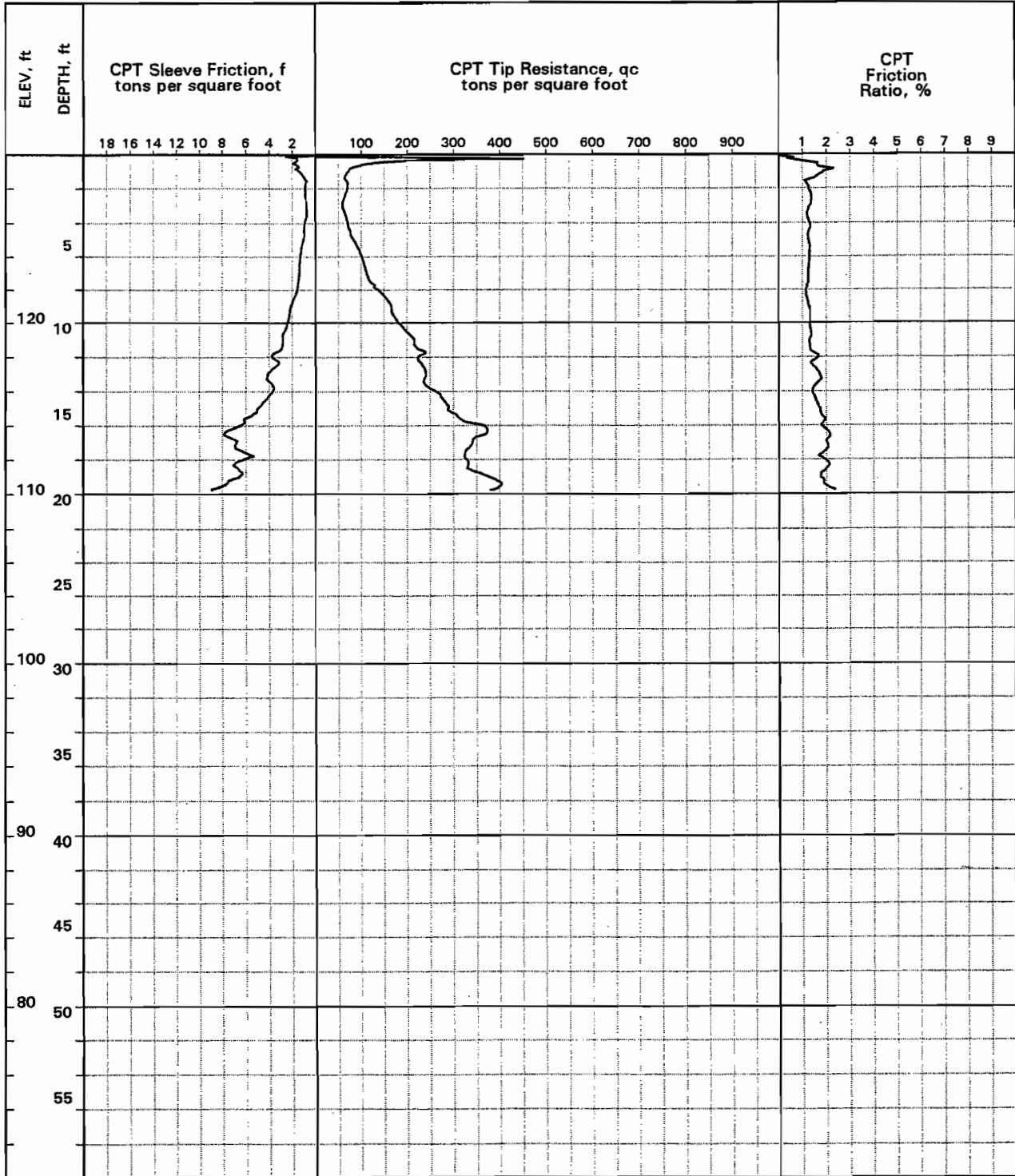
PLATE A-72

CPT(54286/CPT139)
4/4/97\11:12



April 1997

Project No. 95-92-4286



LOCATION: West shoulder Tenth Street, 300 ft north of Los Osos Valley Road
SURFACE EL: 130.0 ft +/- (rel. MSL datum)
COMPLETION DEPTH: 19.8 ft
TESTING DATE: JAN 22 97

TESTING METHOD: Cone Penetrometer
TESTED BY: Fugro Geosciences
REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT140
Los Osos Wastewater Project

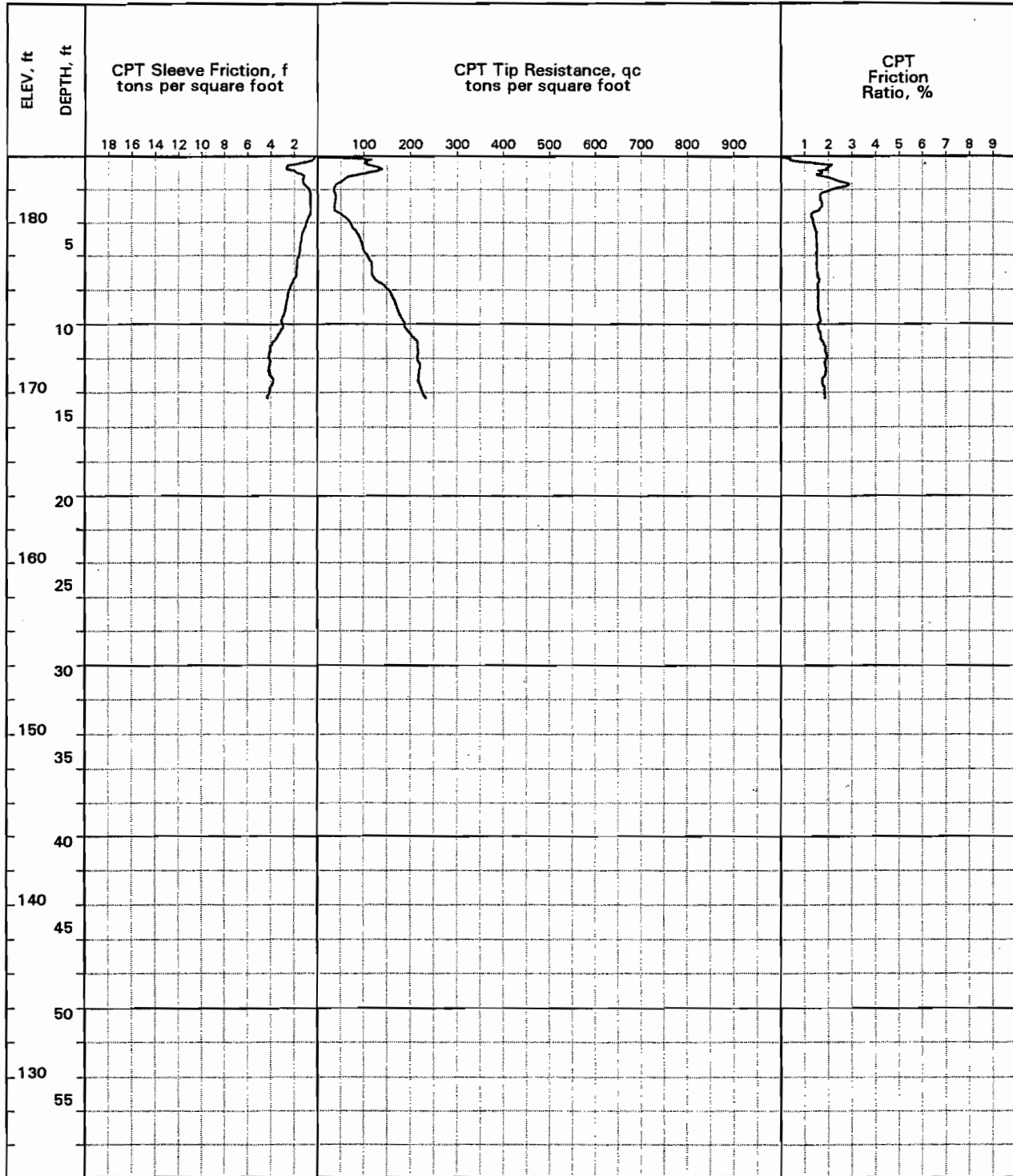
PLATE A-73

CPT(54286/CPT140)
4/4/97/11:13



April 1997

Project No. 95-92-4286



LOCATION: East shoulder Bayview Drive, 65 ft north of Highland Drive
SURFACE EL: 184.0 ft +/- (rel. MSL datum)
COMPLETION DEPTH: 14.4 ft
TESTING DATE: JAN 22 97

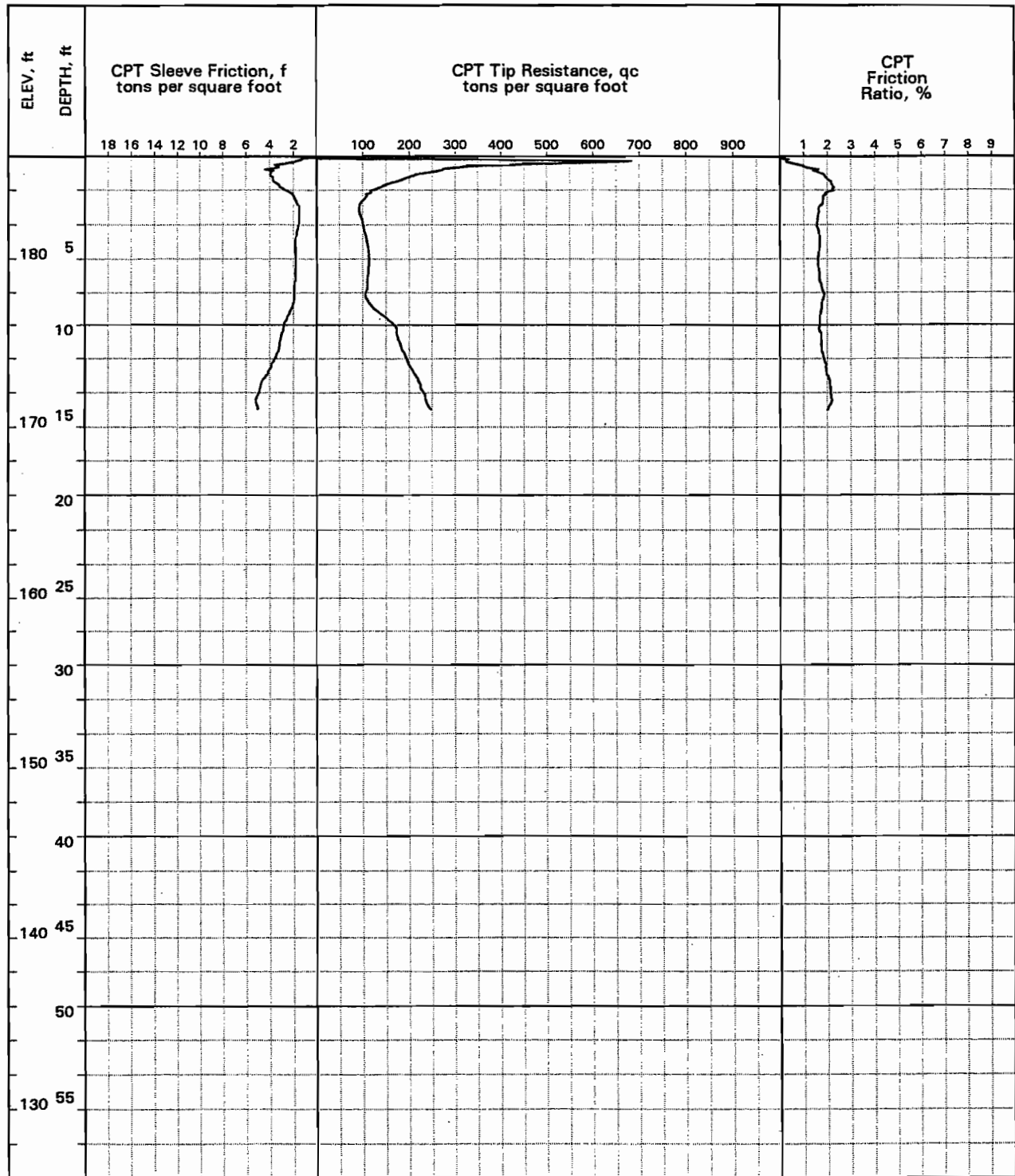
TESTING METHOD: Cone Penetrometer
TESTED BY: Fugro Geosciences
REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT141
Los Osos Wastewater Project

CPT(54286/CPT141)
4/4/97/11:13

PLATE A-74



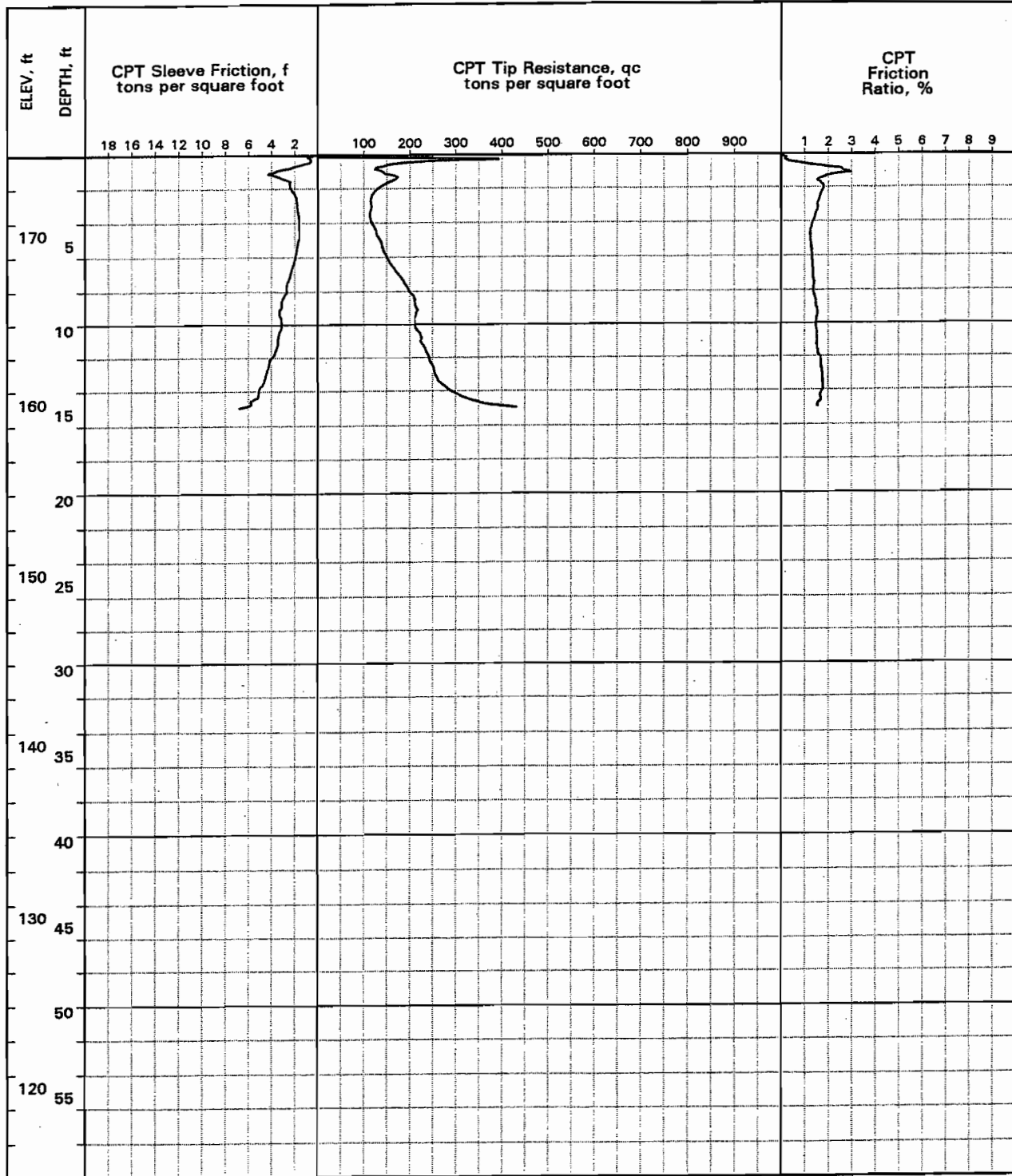


LOCATION: East shoulder Palasades Drive, 25 ft north of Highland Drive
 SURFACE EL: 186.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 15.0 ft
 TESTING DATE: JAN 22 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT142
Los Osos Wastewater Project



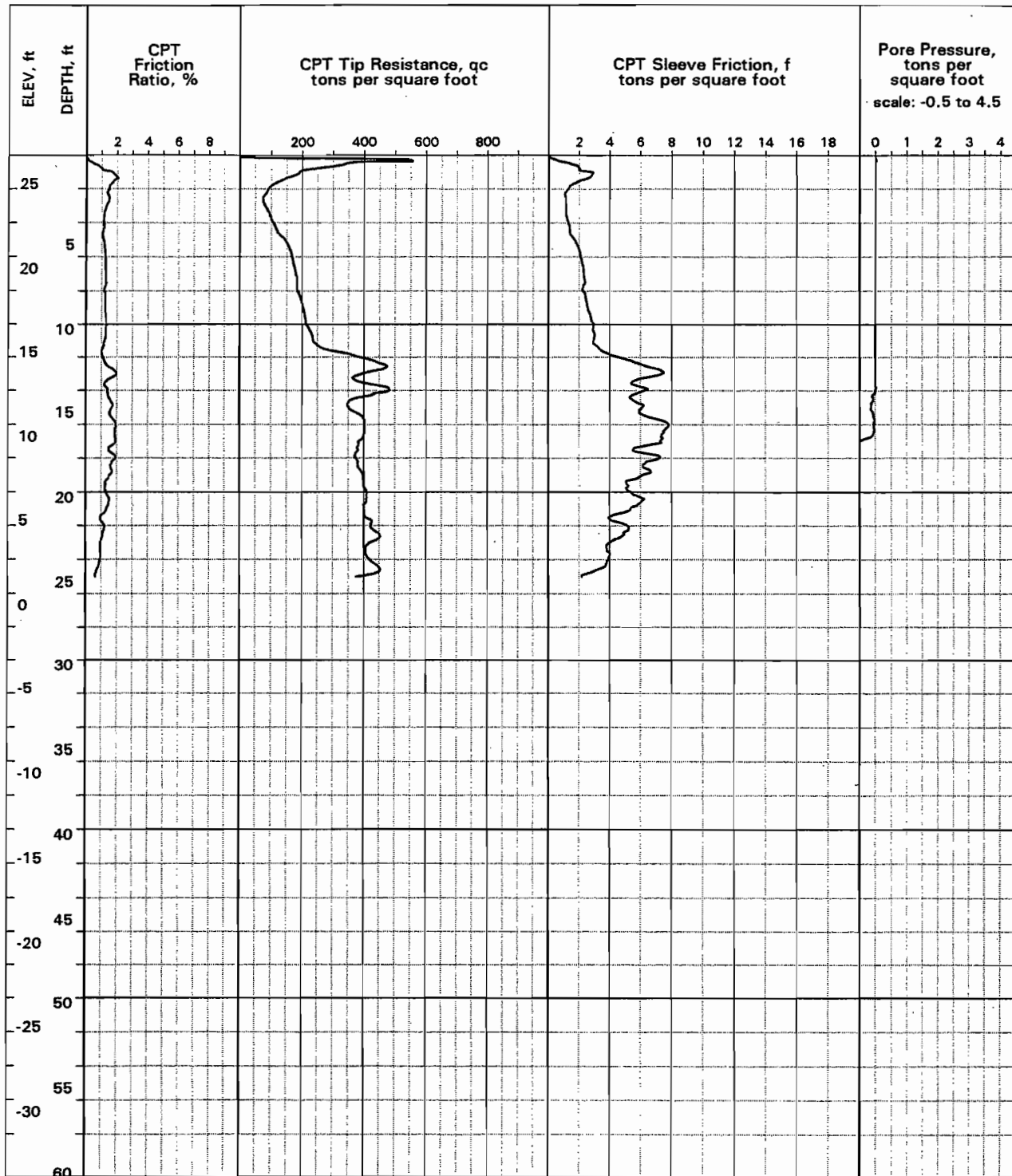


LOCATION: East shoulder Ravenna, 25 ft north Highland Drive
 SURFACE EL: 175.0 ft +/- (rel. MSL datum)
 COMPLETION DEPTH: 15.0 ft
 TESTING DATE: JAN 22 97

TESTING METHOD: Cone Penetrometer
 TESTED BY: Fugro Geosciences
 REVIEWED BY: JDBlanchar

LOG OF CPT NO: CPT143
Los Osos Wastewater Project





LOCATION: , South shoulder Romona Ave, 410 ft east Broderson Ave.
 SURFACE EL: 27.0 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 14 ft
 COMPLETION DEPTH: 25.0 ft

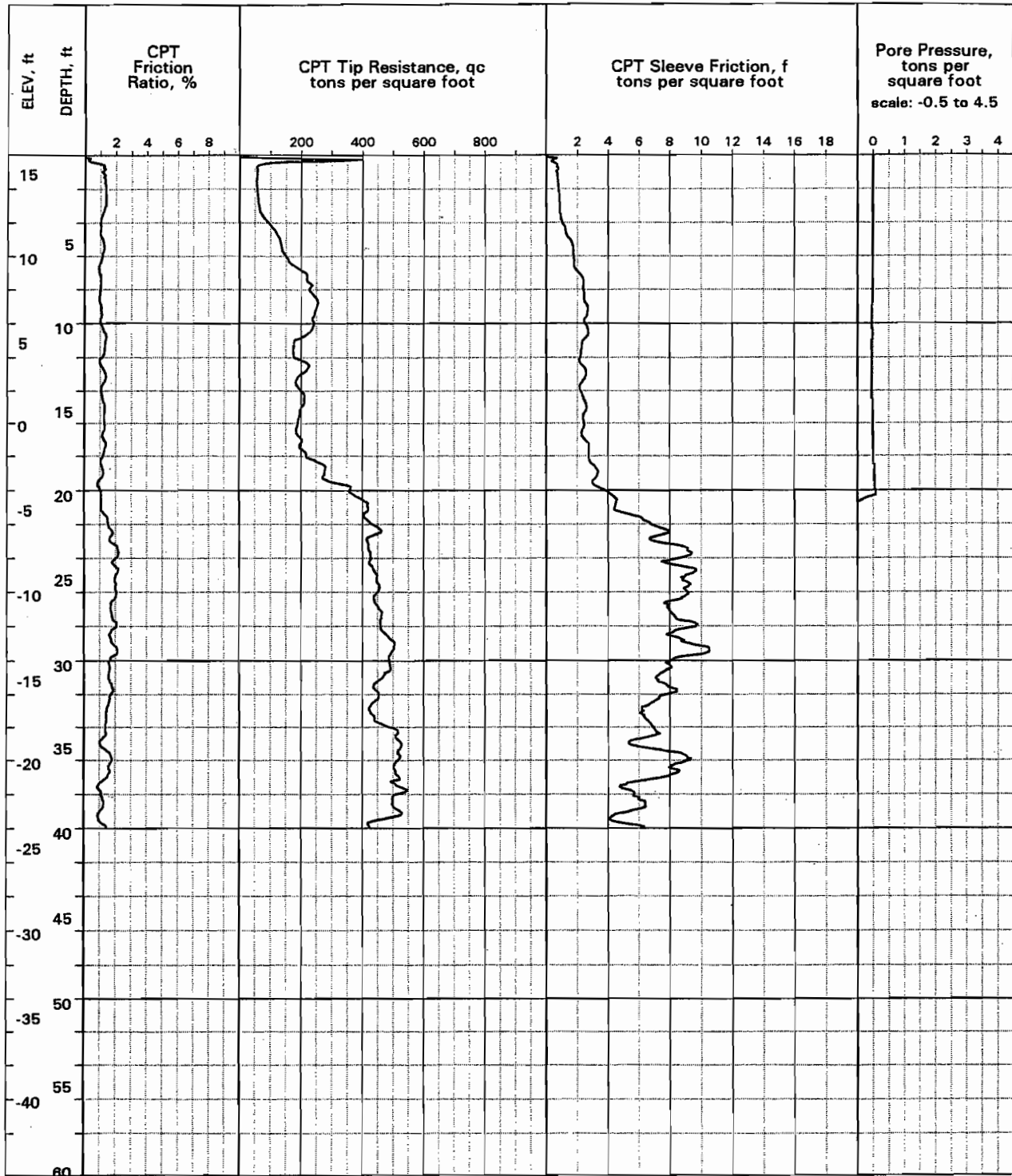
EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 22 97

LOG OF CPT NO. CPT144
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286



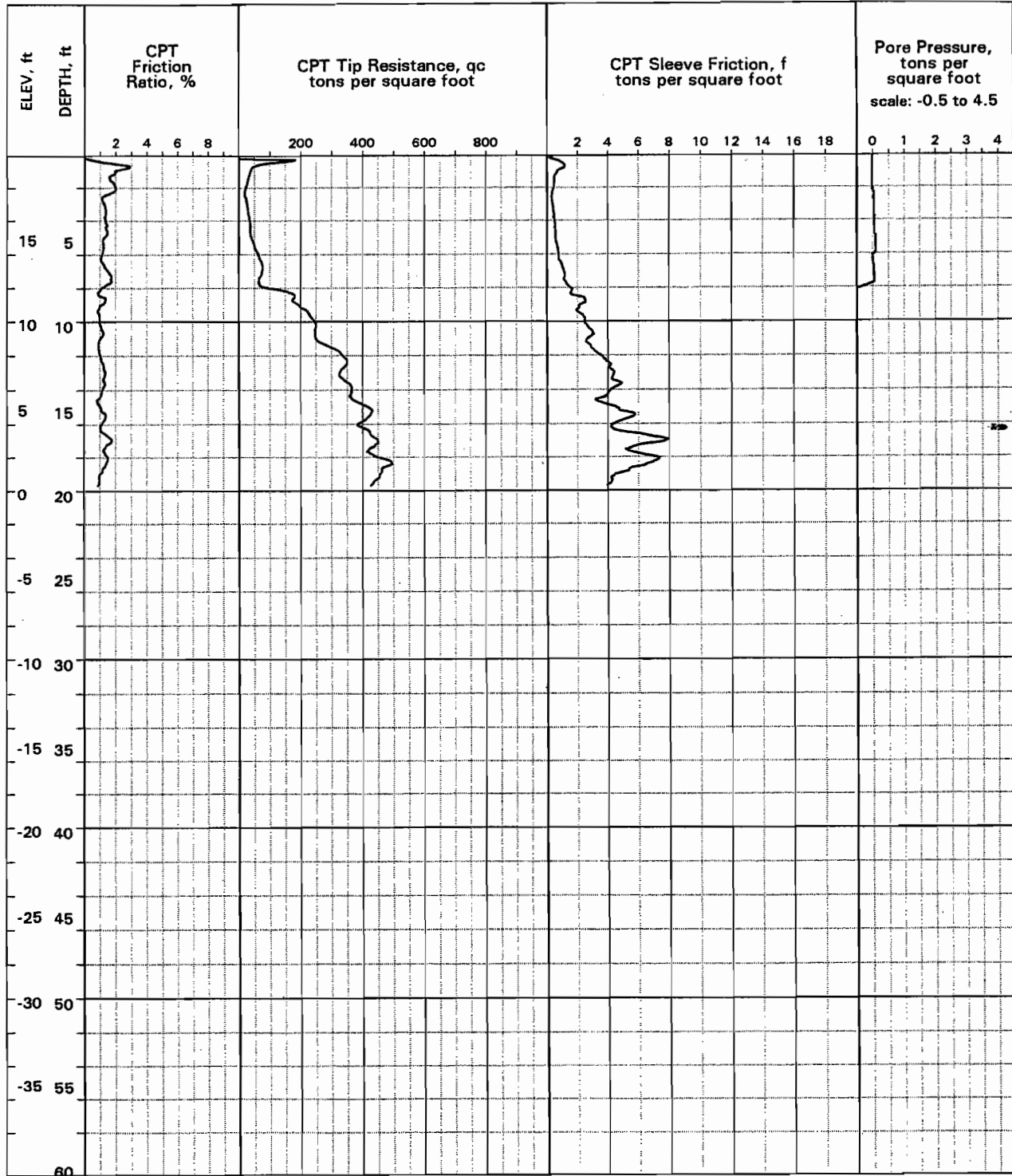
LOCATION: , South shoulder Mitchel Drive, 215 ft west of Doris Avenue EXPLORATION METHOD: Cone Penetrometer
SURFACE EL: 16.5 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
DEPTH TO GROUND WATER: 20 ft EXPLORATION DATE: JAN 22 97
COMPLETION DEPTH: 39.9 ft

LOG OF CPT NO. CPT145
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286



LOCATION: , North shoulder Mitchel Drive, 100 ft west of Pine Avenue
SURFACE EL: 20.5 ft +/- (rel. MSL datum)
DEPTH TO GROUND WATER: 13.5 ft
COMPLETION DEPTH: 19.7 ft

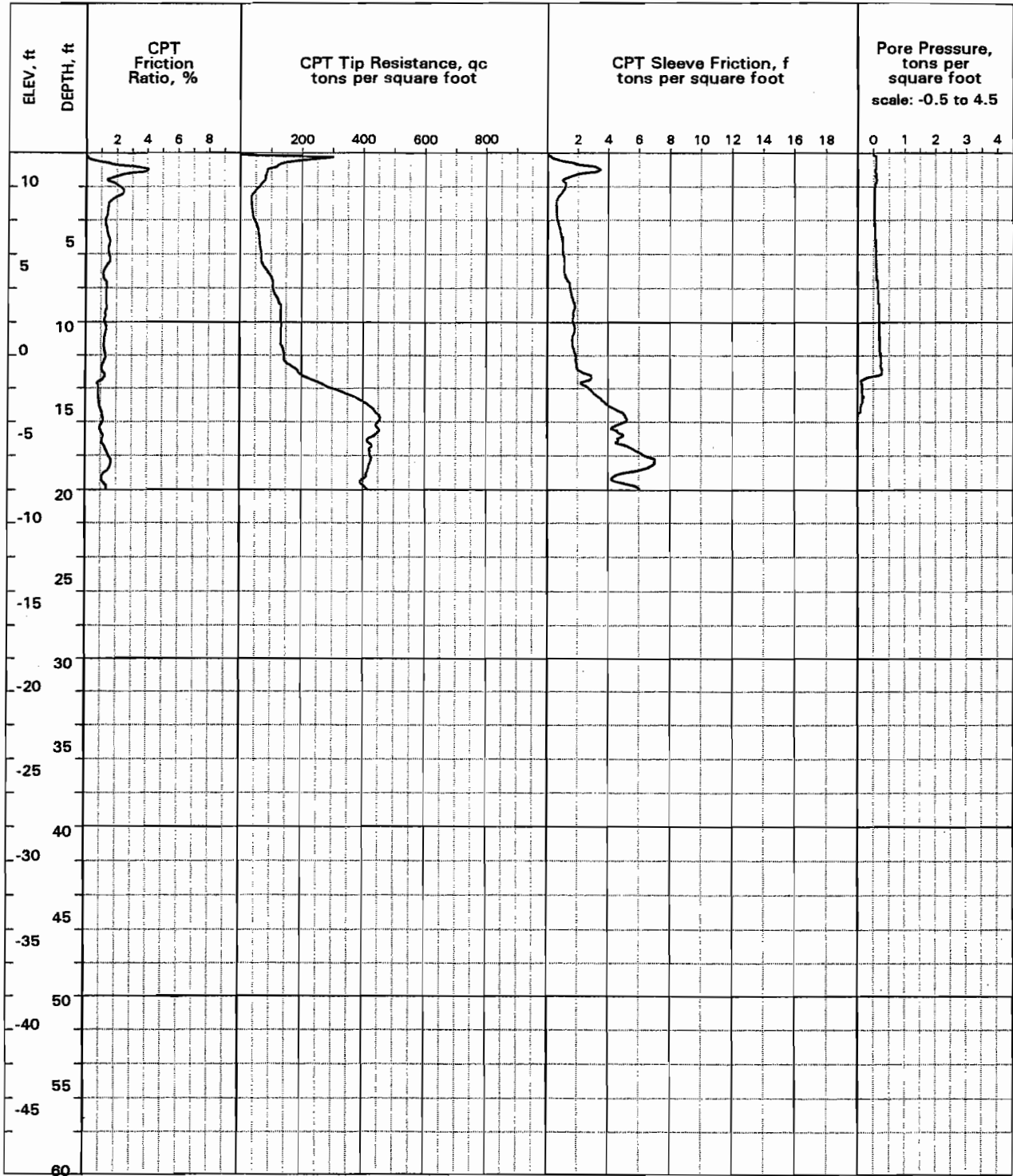
EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
EXPLORATION DATE: JAN 23 97

LOG OF CPT NO. CPT146 Los Osos Wastewater Project



April 1997

Project No. 95-92-4286

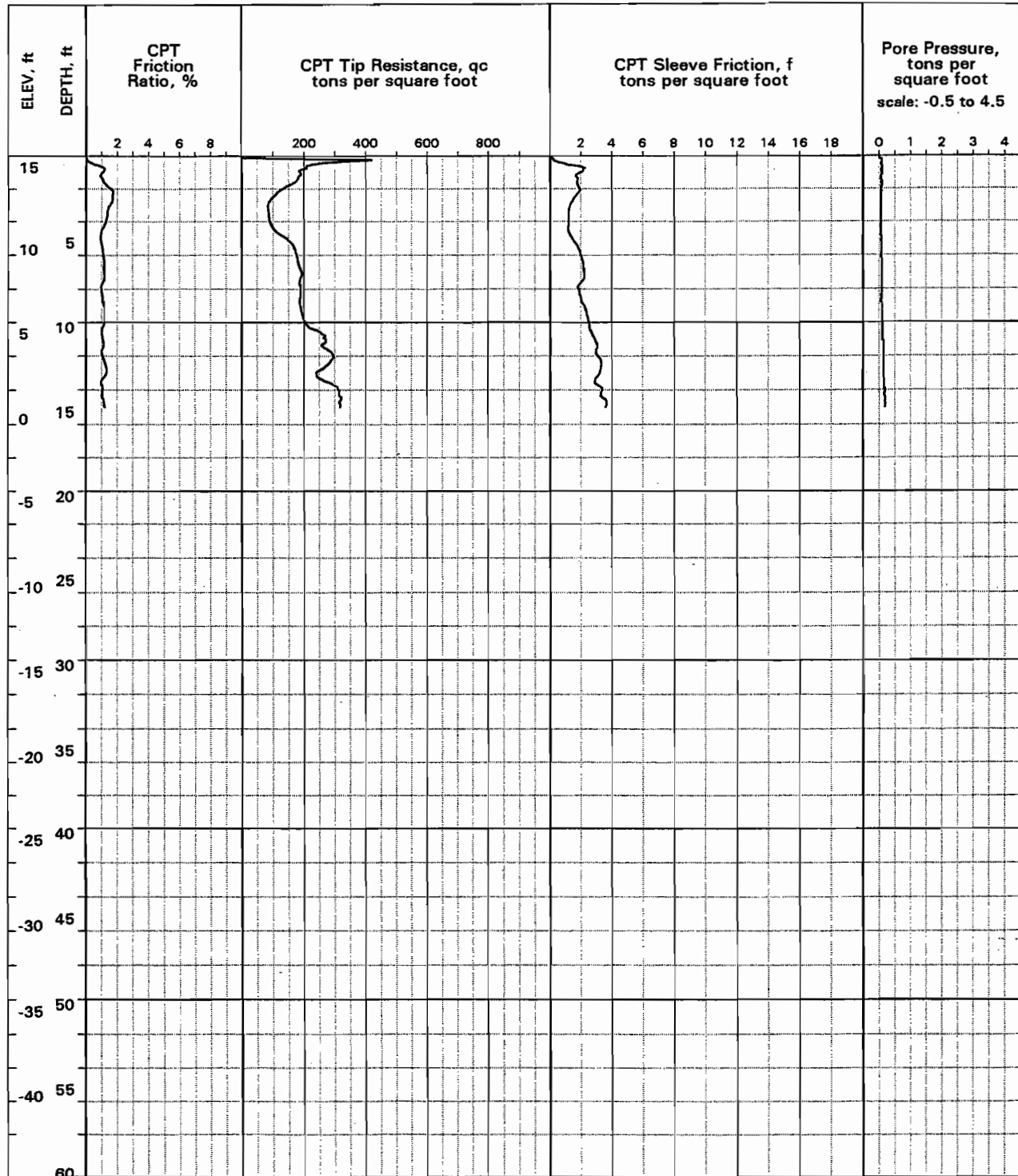


LOCATION: , North shoulder of Binscarth, 40 ft east of Maple Avenue
SURFACE EL: 12.0 ft +/- (rel. MSL datum)
DEPTH TO GROUND WATER: 4 ft
COMPLETION DEPTH: 20.0 ft

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
EXPLORATION DATE: JAN 23 97

LOG OF CPT NO. CPT147
Los Osos Wastewater Project

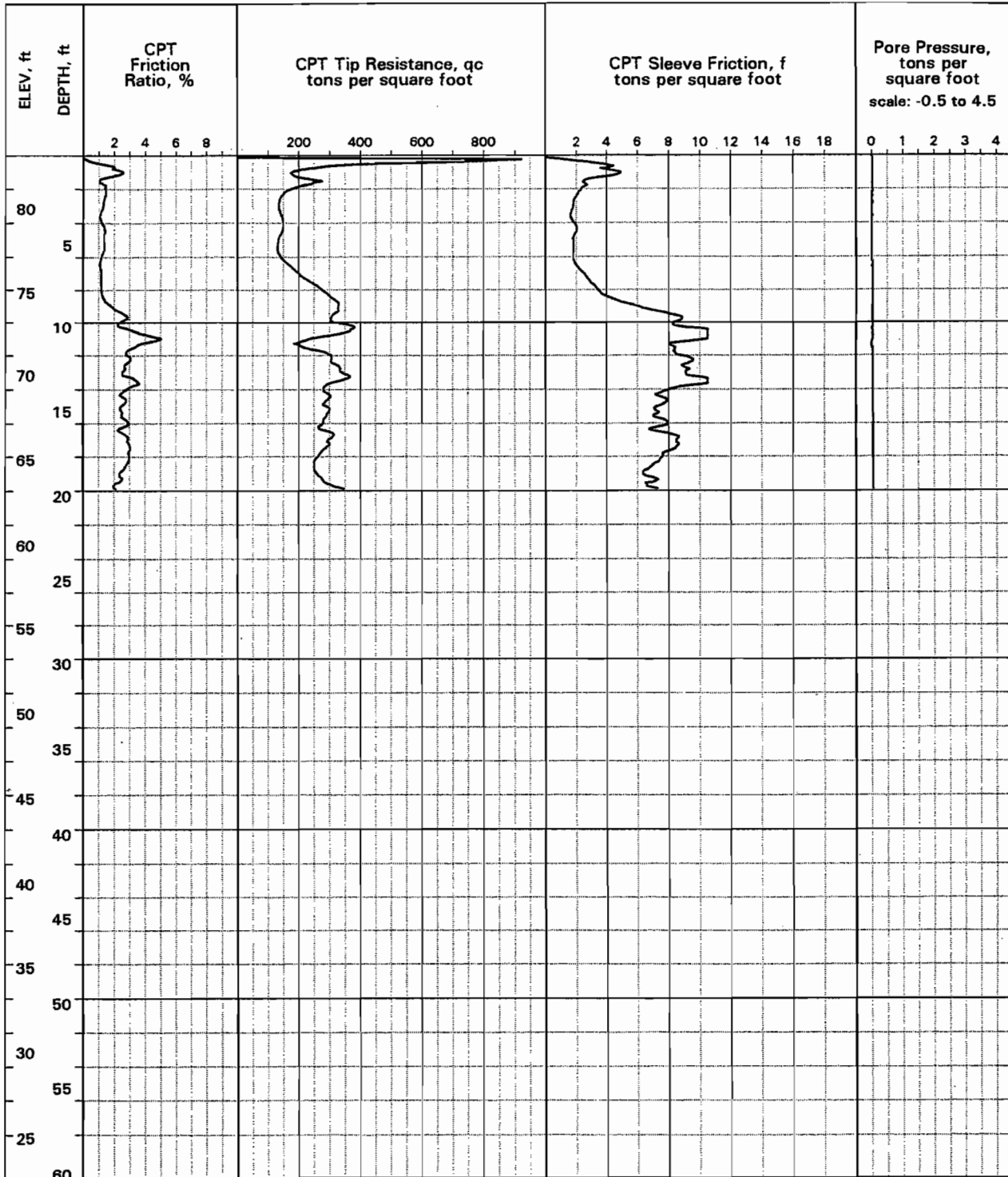




LOCATION: , North shoulder of Butte Drive, 100 ft west of Nevada Court EXPLORATION METHOD: Cone Penetrometer
 SURFACE EL: 16.0 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
 DEPTH TO GROUND WATER: 3 ft EXPLORATION DATE: JAN 23 97
 COMPLETION DEPTH: 15.1 ft

LOG OF CPT NO. CPT148
Los Osos Wastewater Project



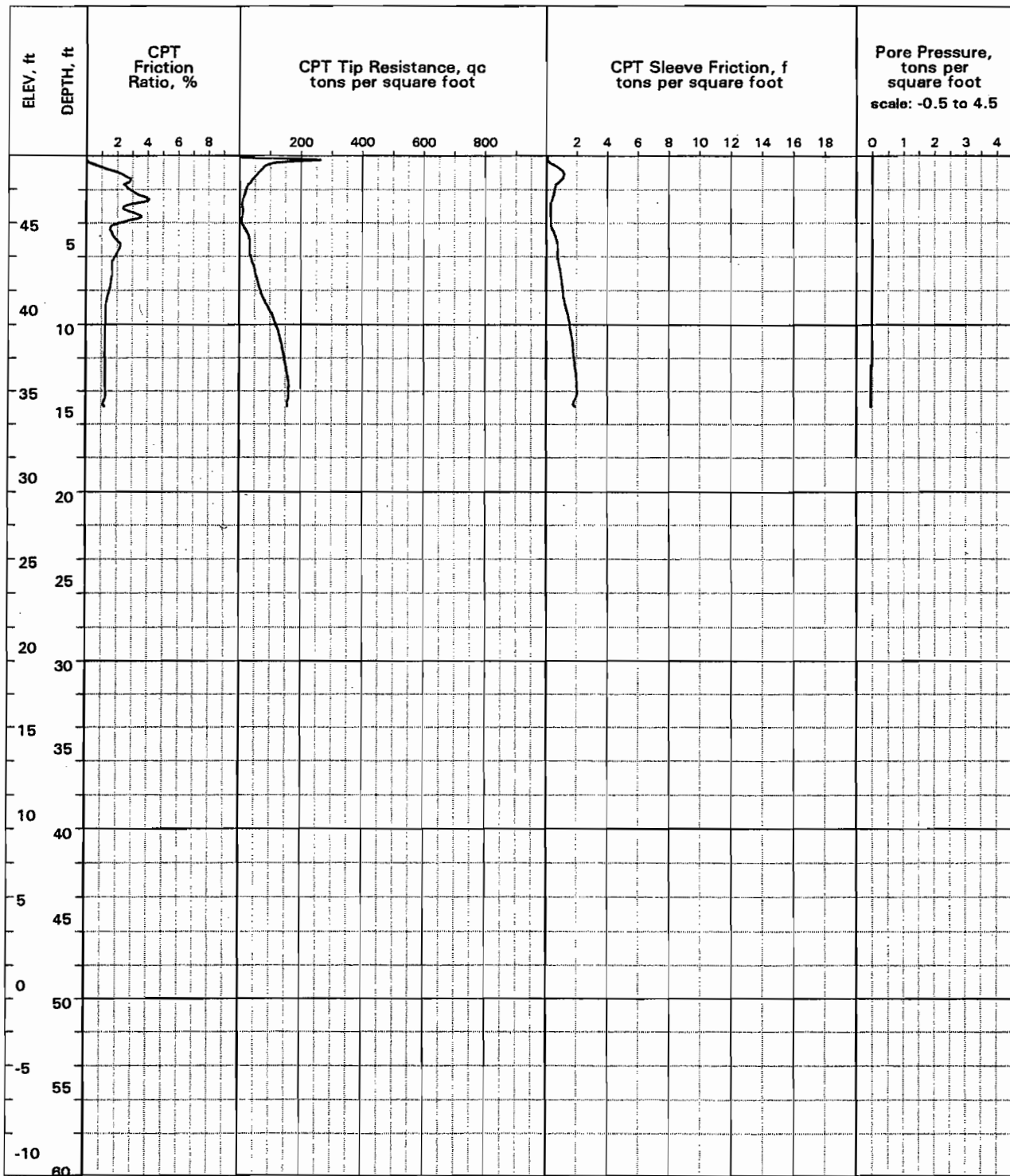


LOCATION: , Northeast corner of Doris Avenue and Rosina intersection
 SURFACE EL: 83.5 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 19.9 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 23 97

LOG OF CPT NO. CPT149
Los Osos Wastewater Project



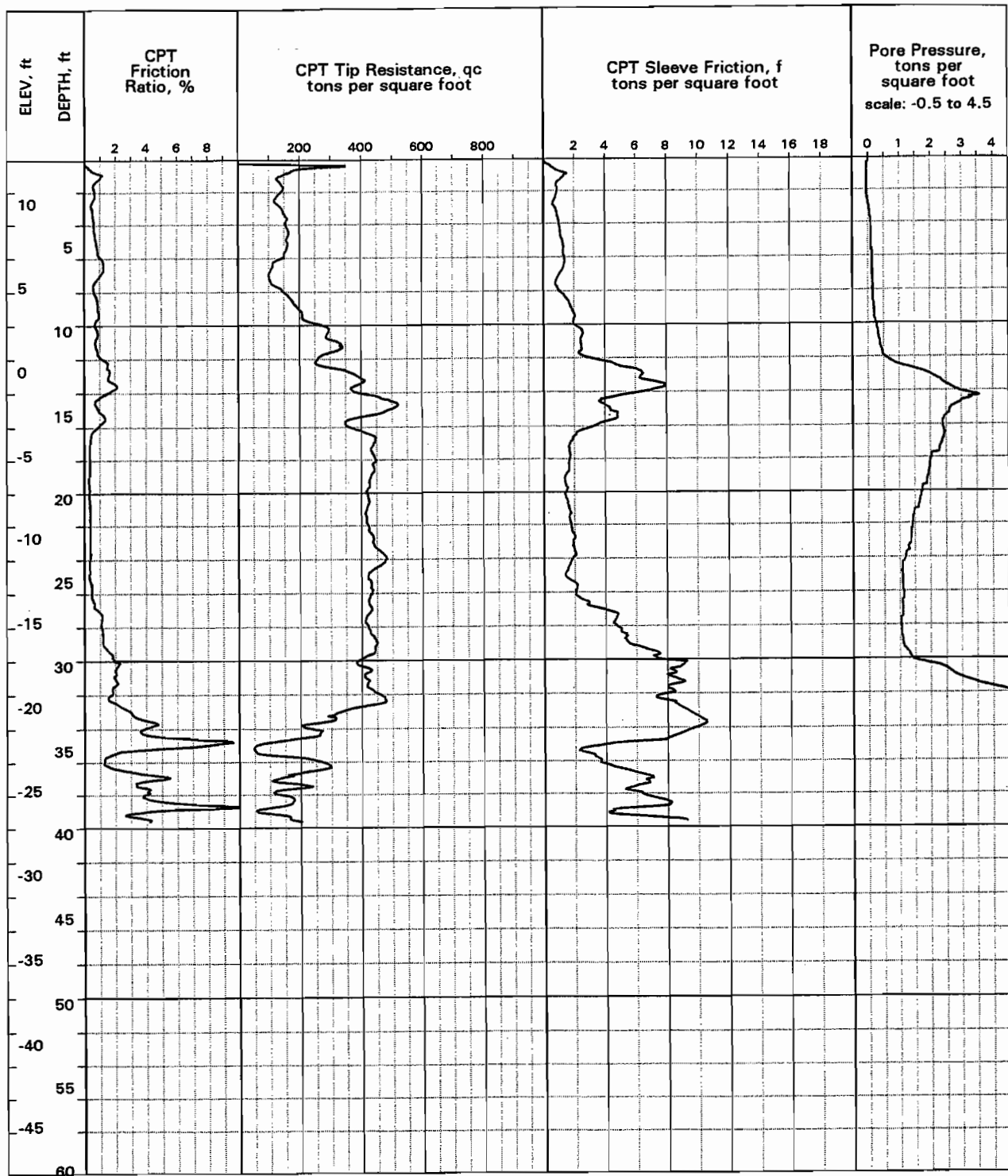


LOCATION: Southeast corner of Skyline and Broderson intersection
 SURFACE EL: 49.5 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 15.0 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: JAN 23 97

LOG OF CPT NO. CPT150
Los Osos Wastewater Project



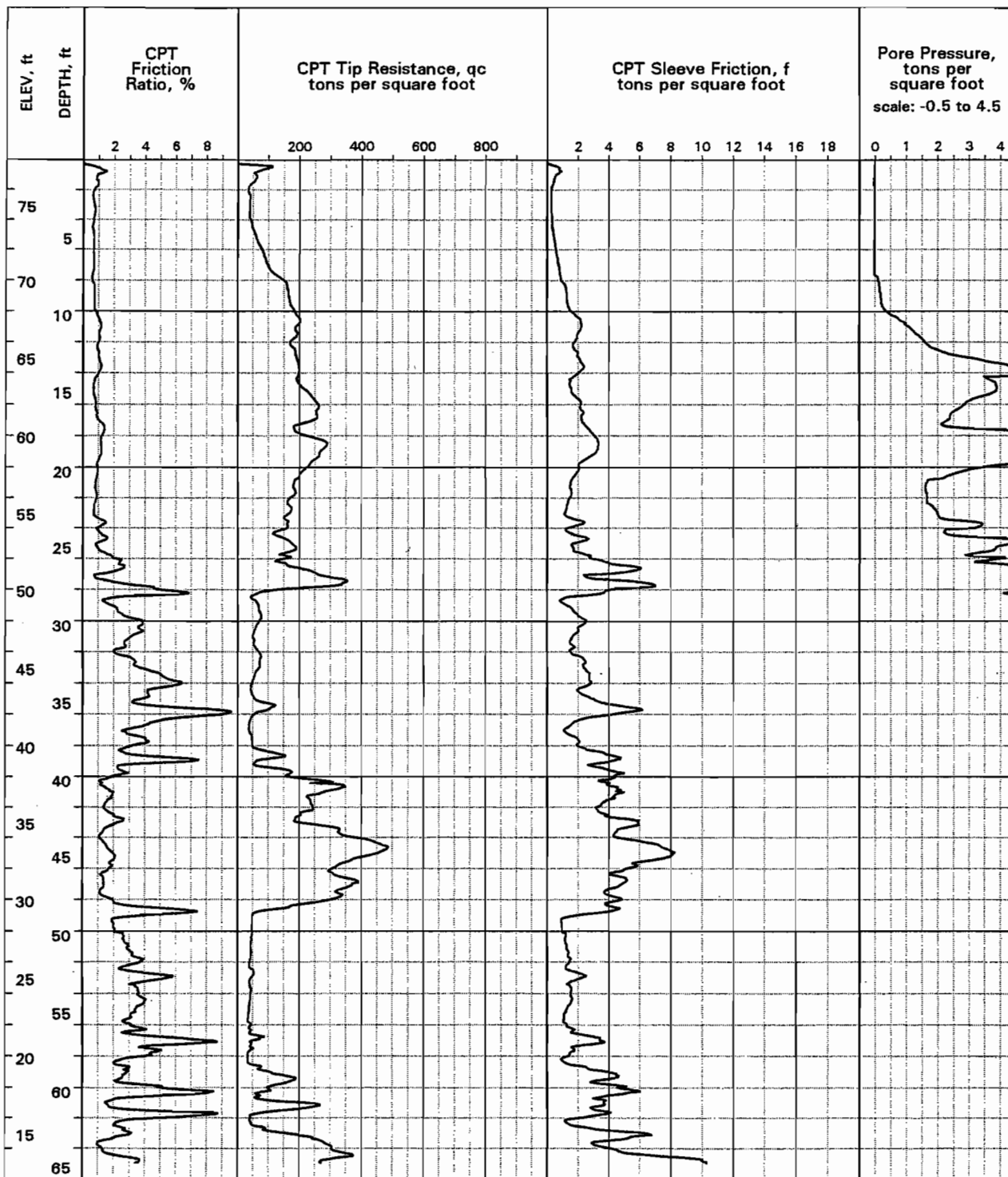


LOCATION: , East shoulder Solano Street, 50 ft south of Butte Drive
 SURFACE EL: 13.0 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 3 ft
 COMPLETION DEPTH: 39.7 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: FEB 6 97

LOG OF CPT NO. CPT151
Los Osos Wastewater Project





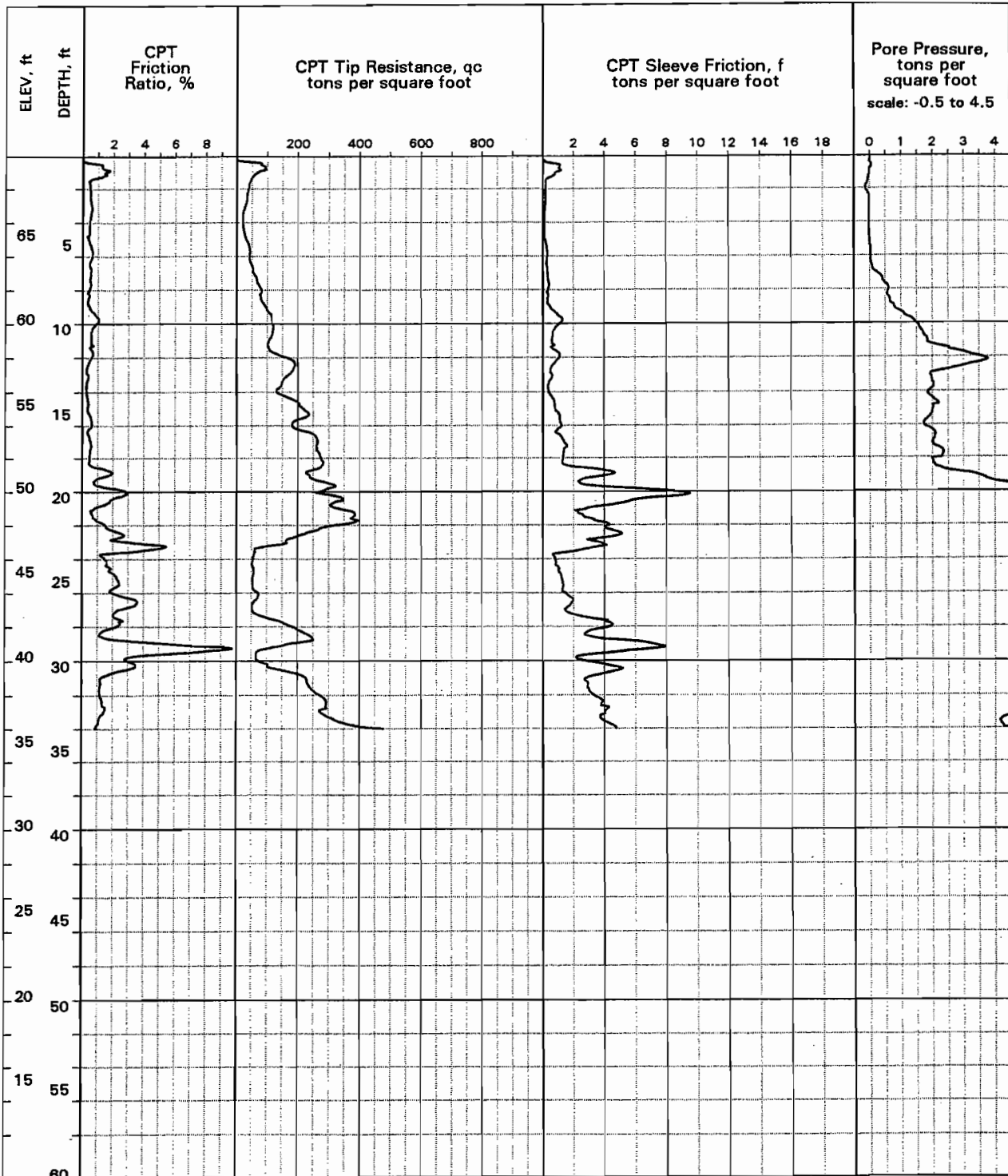
LOCATION: , Parking lot near Pismo Site, 350 feet east of South Bay Blvd. EXPLORATION METHOD: Cone Penetrometer
 SURFACE EL: 78.5 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
 DEPTH TO GROUND WATER: 10 ft EXPLORATION DATE: FEB 6 97
 COMPLETION DEPTH: 64.8 ft

LOG OF CPT NO. CPT301
Los Osos Wastewater Project



April 1997

Project No. 95-92-4286



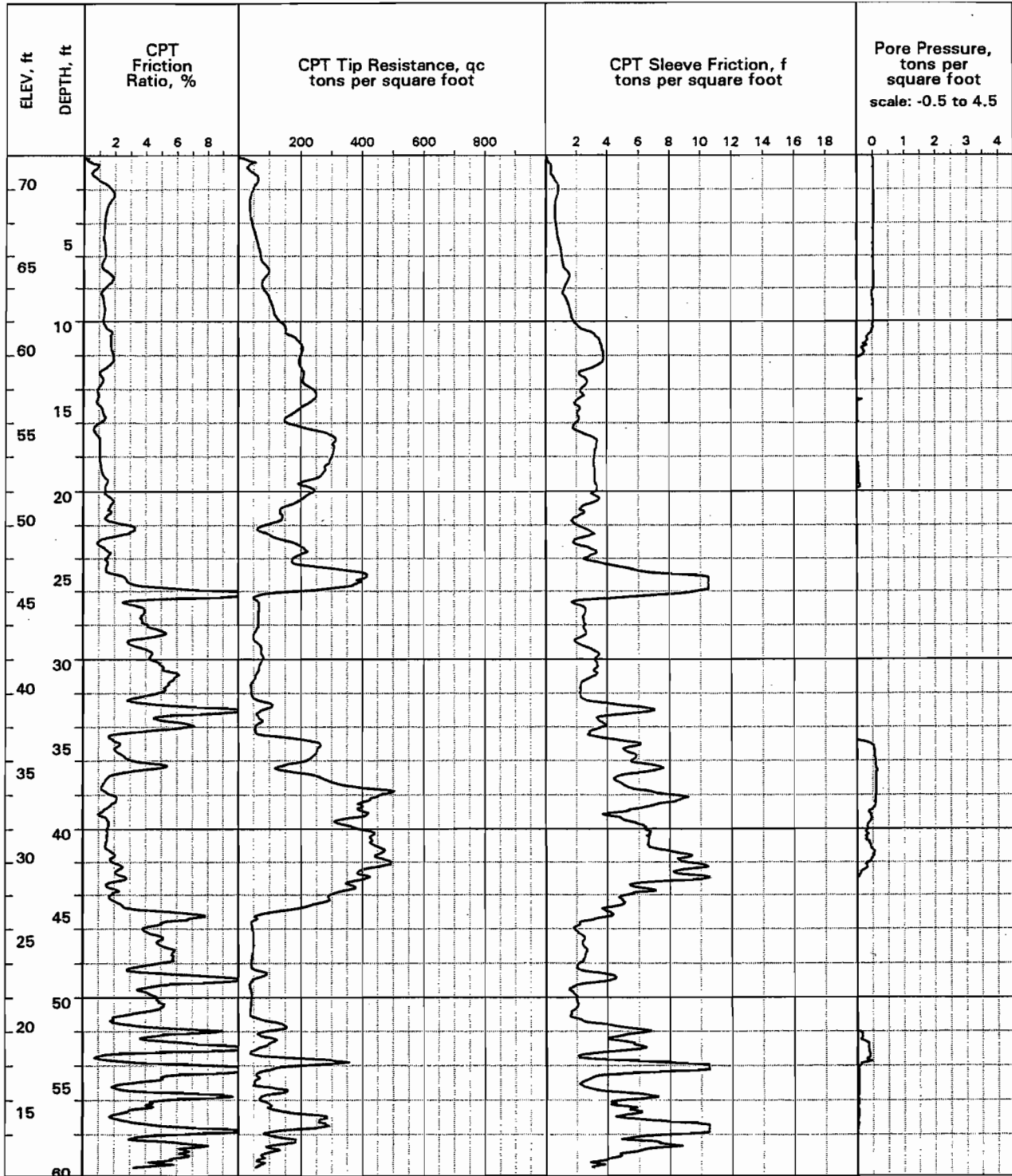
LOCATION: , Parking lot near Pismo Site, 755 feet east of South Bay Blvd. EXPLORATION METHOD: Cone Penetrometer
SURFACE EL: 70.0 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
DEPTH TO GROUND WATER: 7 ft EXPLORATION DATE: FEB 6 97
COMPLETION DEPTH: 33.8 ft

LOG OF CPT NO. CPT302
Los Osos Wastewater Project

PLATE A-86

CPT W/PP
4/4/97\12:42





LOCATION: , Parking lot near Pismo Site, 600 feet east of South Bay Blvd. EXPLORATION METHOD: Cone Penetrometer
 SURFACE EL: 72.0 ft +/- (rel. MSL datum) PERFORMED BY: Fugro Geosciences
 DEPTH TO GROUND WATER: 10 ft EXPLORATION DATE: JAN 22 97
 COMPLETION DEPTH: 59.8 ft

LOG OF CPT NO. CPT303
Los Osos Wastewater Project



**ATTACHMENT C3
TEST PIT LOGS
FUGRO WEST, INC. (1997)**

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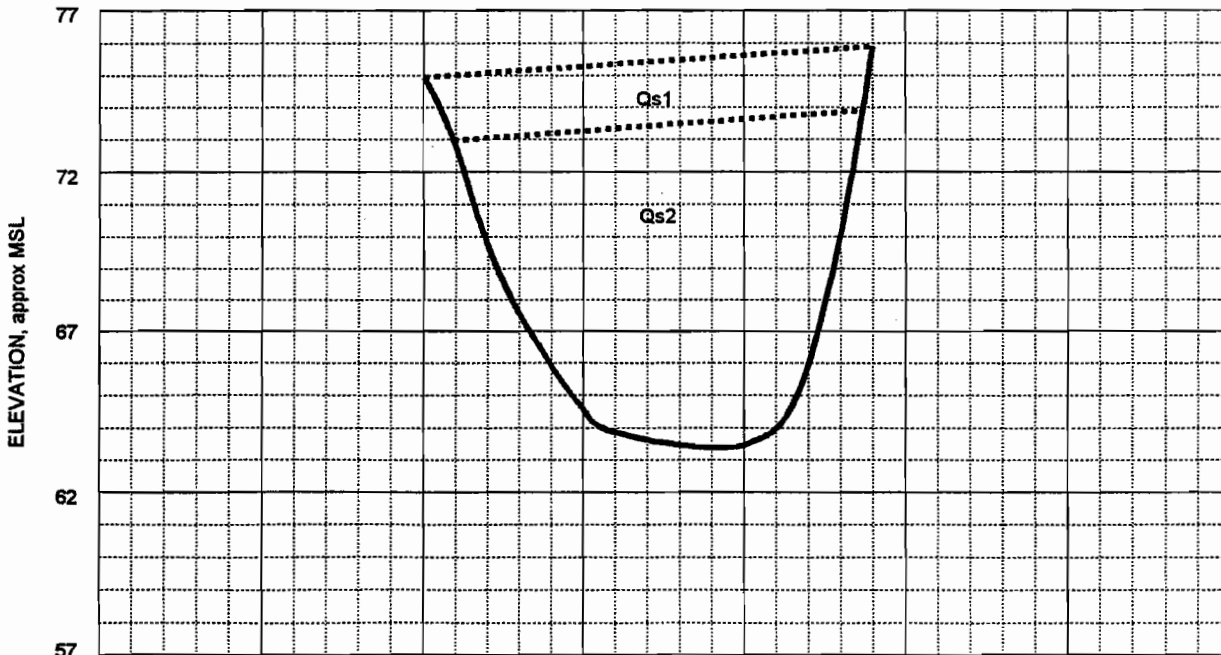
ELEV. ft	DEPTH ft	GEOLOGIC UNIT	LOCATION: West shoulder of 10th St., 110 ft north of Santa Maria SURFACE EL: 76 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
			MATERIAL DESCRIPTION							
74	2	Qs1	Sand Dune Deposits (Qs): Silty SAND (SM): dark to medium brown, moist				7			
72	4	Qs2	Fine SAND with silt (SP-SM): light orange-brown, moist slight sloughing of sidewalls							
70	6									
68	8									
66	10									
64	12		West wall of trench caved at 11 ft							
62	14		East wall of trench caved at 12.5 ft							
60	16									

The log and data presented are a simplification of actual conditions encountered at the time of excavating at the excavated location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 12.5 ft
 DEPTH TO WATER: Not Encountered.
 EXPLORATION DATE: FEB 6 97

LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

TEST PIT GRAPHICAL REPRESENTATION



LOG OF TEST PIT NO. T-101
 Los Osos Wastewater Project



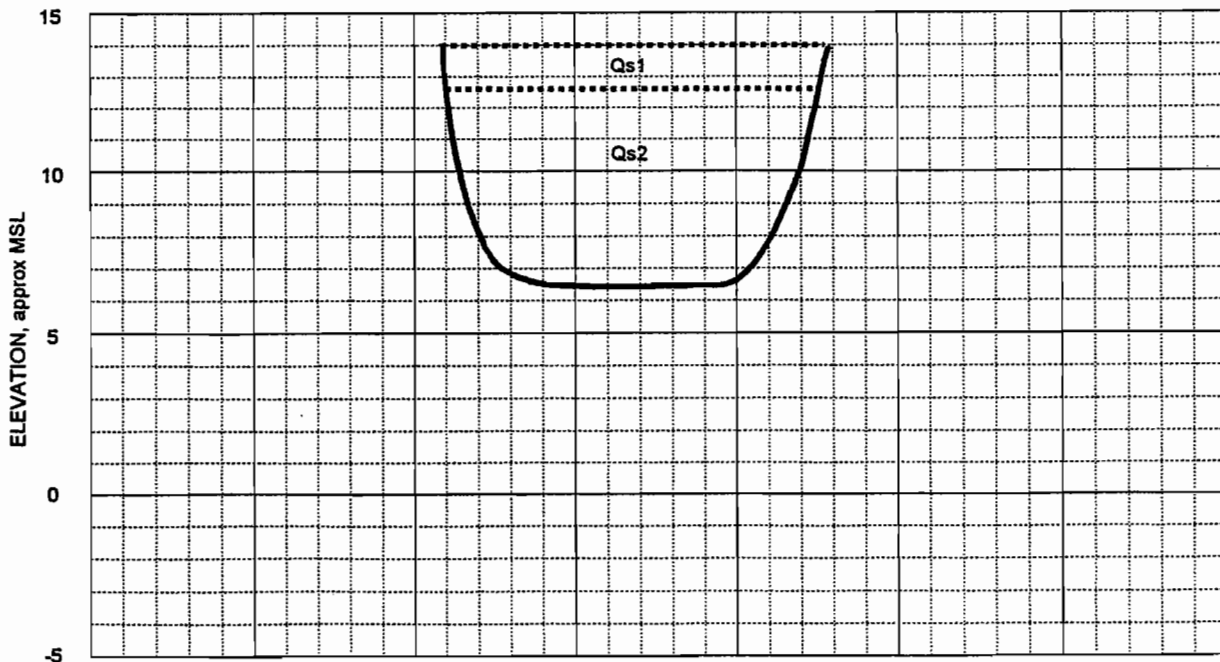
ELEV. ft	DEPTH, ft	GEOLOGIC UNIT	LOCATION: West shoulder of 1st St, 110 ft south of Santa Maria	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	S _u , ksf
			SURFACE EL: 14 ft +/- (rel. MSL datum)							
MATERIAL DESCRIPTION										
12	2	Qs1	Sand Dune Deposits (Qs):							
		Qs2	Silty SAND (SM): dark brown, moist to dry, roots to 2.5 ft				2			
10	4		Fine SAND (SP): yellowish-brown, moist							
8	6									
6	8		West wall of trench caved at 6.5 ft							
			East wall of trench caved at 7.5 ft							
4	10									
2	12									
0	14									
-2	16									

The log and data presented are a simplification of actual conditions encountered at the time of excavating at the excavated location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 7.5 ft
 DEPTH TO WATER: Not Encountered
 EXPLORATION DATE: FEB 6 97

LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

TEST PIT GRAPHICAL REPRESENTATION



LOG OF TEST PIT NO. T-102
 Los Osos Wastewater Project



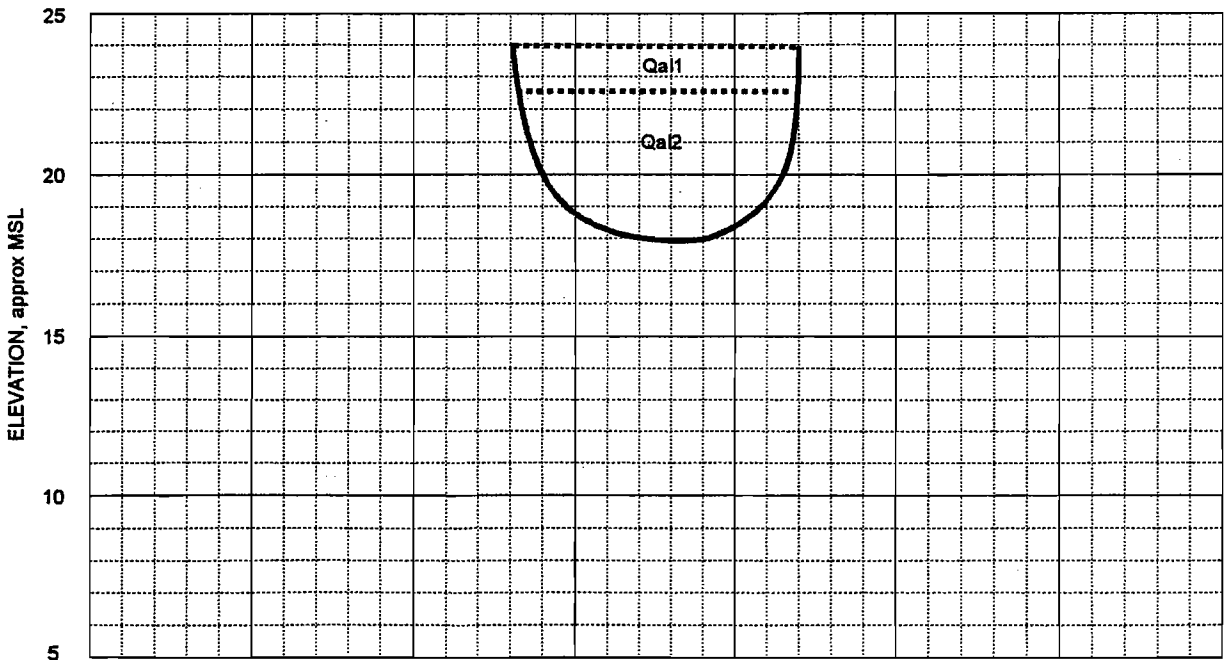
ELEV. ft	DEPTH ft	GEOLOGIC UNIT	MATERIAL DESCRIPTION	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
22	2	Qa11	Alluvium (Qa1): Fine silty SAND (SM): yellowish brown, moist							
20	4	Qa12	Fine SAND (SP): dark gray to black, wet Trench walls caved heavily below watertable				4			
18	6									
16	8									
14	10									
12	12									
10	14									
8	16									

The log and data presented are a simplification of actual conditions encountered at the time of excavating at the excavated location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 6 ft
 DEPTH TO WATER: 4 ft
 EXPLORATION DATE: FEB 6 97

LOGGED BY: CLlovato
 CHECKED BY: JDBlanchar

TEST PIT GRAPHICAL REPRESENTATION



LOG OF TEST PIT NO. T-103
 Los Osos Wastewater Project



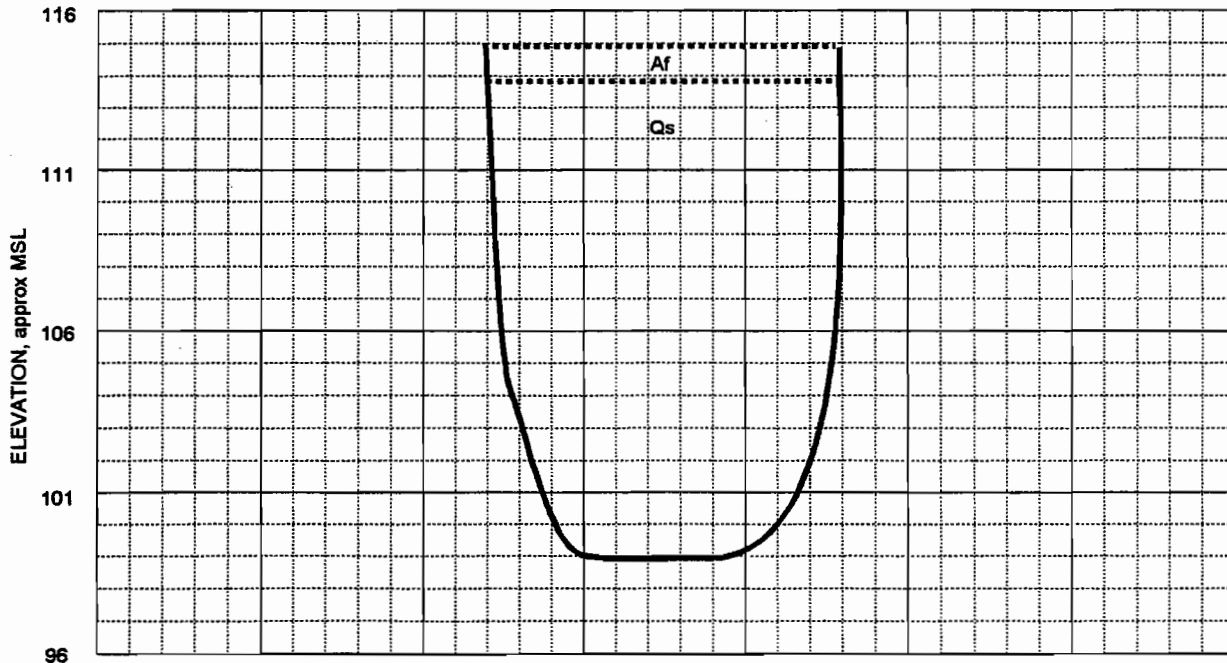
ELEV. ft	DEPTH ft	GEOLOGIC UNIT	LOCATION: West lane of 13th St., 5 ft south of Pismo Ave. SURFACE EL: 115 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
114		Af	8" Aggregate base							
112	2	Qs	Sand Dune Deposits (Qs): Fine SAND with silt (SP-SM): dark yellowish-brown, dry							
110	4		Grades to SAND (SP): brownish-yellow, moist							
108	6									
106	8									
104	10									
102	12						1			
100	14									
98	16		Wall of trench caved at 16 ft after completing depth of excavation							

The log and data presented are a simplification of actual conditions encountered at the time of excavating at the excavated location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 16 ft
 DEPTH TO WATER: Not Encountered
 EXPLORATION DATE: FEB 6 97

LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

TEST PIT GRAPHICAL REPRESENTATION



LOG OF TEST PIT NO. T-104
 Los Osos Wastewater Project



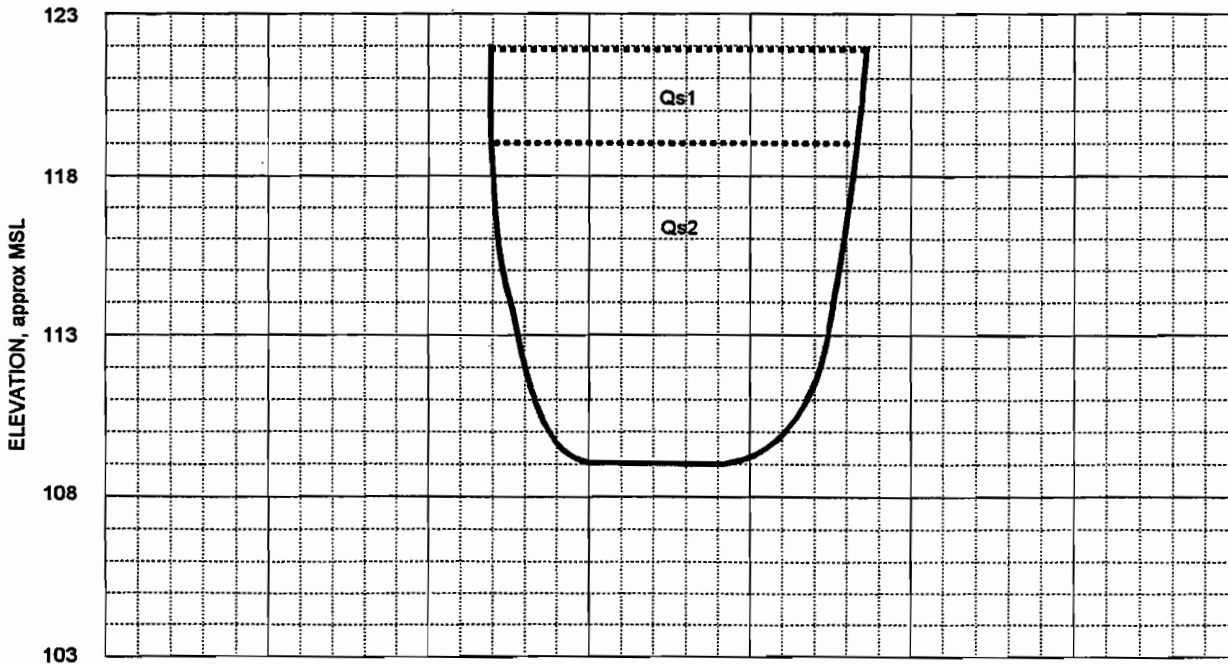
ELEV. ft DEPTH, ft	GEOLOGIC UNIT	MATERIAL DESCRIPTION	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
		SURFACE EL: 122 ft +/- (rel. MSL datum)							
120 2	Qs1	Sand Dune Deposits (Qs): Fine silty SAND (SM): dark brown, moist							
118 4	Qs2	Fine SAND with silt (SP-SM): yellowish brown, moist							
116 6		West wall of trench caved at 6.5 ft							
114 8		Wet at 8 ft East wall of trench caved at 8.5 ft							
112 10		Yellowish-brown to tan, wet, water seepage							
110 12									
108 14									
106 16									

The log and data presented are a simplification of actual conditions encountered at the time of excavating at the excavated location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 13 ft
 DEPTH TO WATER: 11 ft
 EXPLORATION DATE: FEB 6 97

LOGGED BY: CLLovato
 CHECKED BY: JDBlanchar

TEST PIT GRAPHICAL REPRESENTATION



LOG OF TEST PIT NO. T-105
 Los Osos Wastewater Project



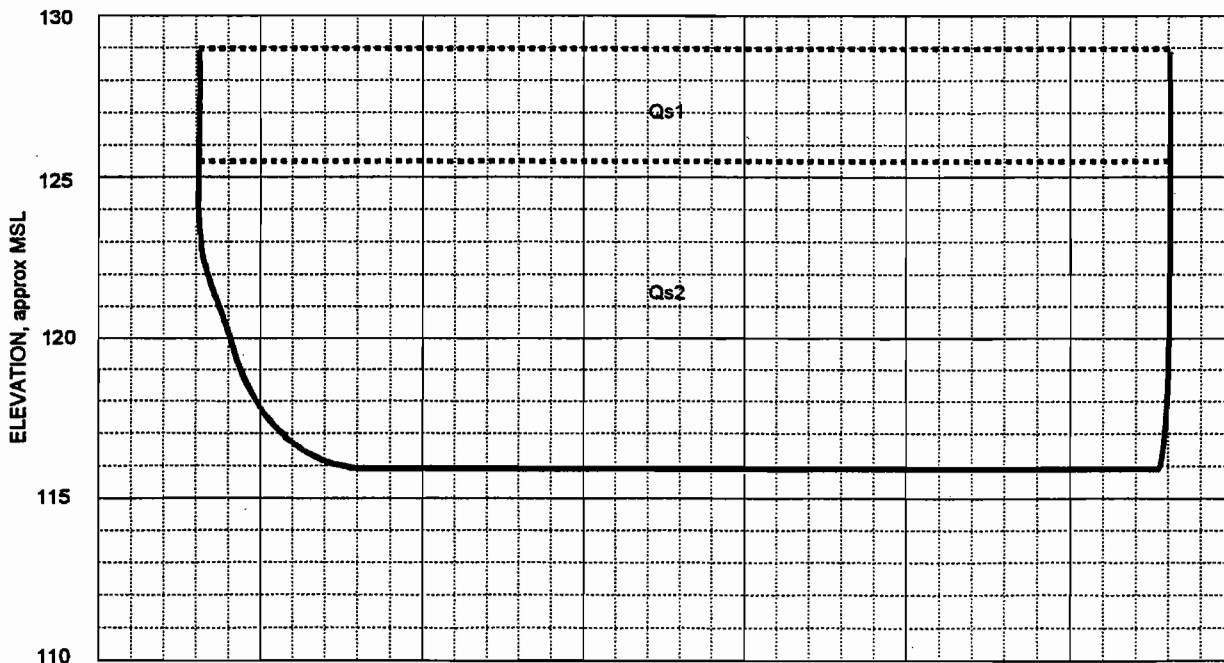
ELEV. ft DEPTH, ft	GEOLOGIC UNIT	LOCATION: East lane of Fairchild, 25 ft north of Los Olivos SURFACE EL: 129 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	S _u , ksf
MATERIAL DESCRIPTION									
128	Qs1	Sand Dune Deposits (Qs): Fine silty SAND (SM): brown, dry to moist							
126									
124	Qs2	SAND with silt (SP-SM): brownish-yellow, moist East wall caved at 5 ft West wall caved at 7 ft Iron oxide mottling at 8 ft Trench wall caved heavily as lengthened trench							
122									
120									
118									
116									
114									
112									

The log and data presented are a simplification of actual conditions encountered at the time of excavating at the excavated location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 13 ft
DEPTH TO WATER: Not Encountered
EXPLORATION DATE: FEB 7 97

LOGGED BY: CLLovato
CHECKED BY: JDBlanchar

TEST PIT GRAPHICAL REPRESENTATION



LOG OF TEST PIT NO. T-106
Los Osos Wastewater Project



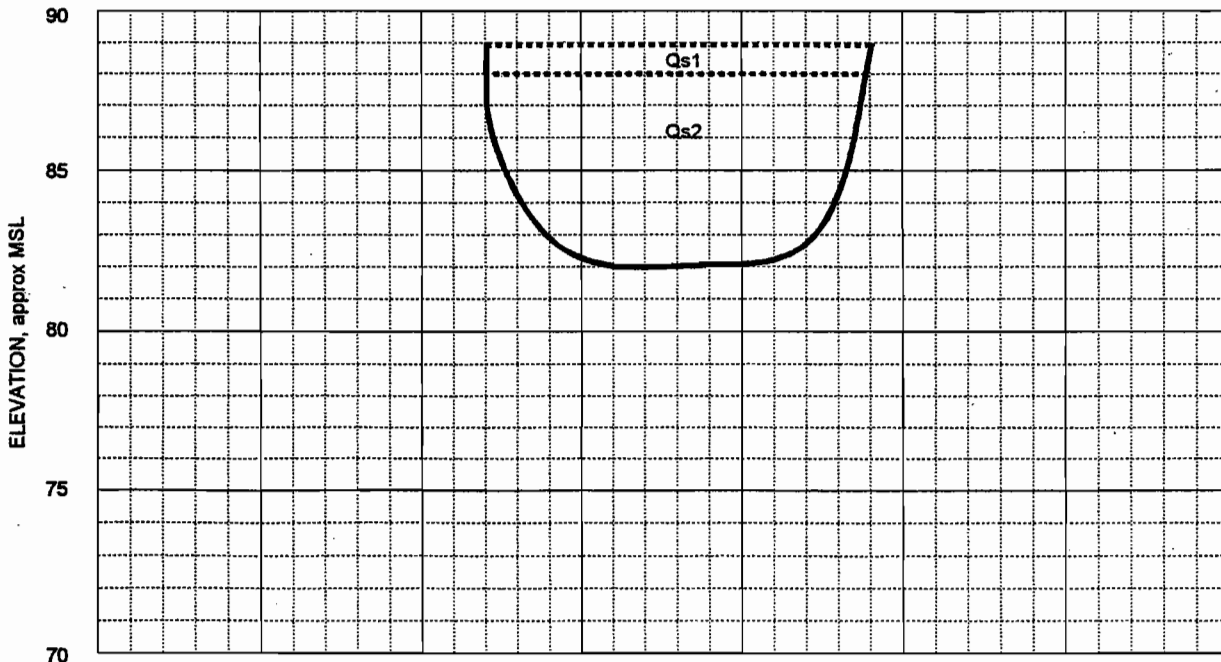
ELEV. ft	DEPTH, ft	GEOLOGIC UNIT	LOCATION: North shoulder of Romona, west of 7th St. SURFACE EL: 89 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	Su, ksf
88	2	Qs1	MATERIAL DESCRIPTION Sand Dune Deposits (Qs): Silty fine SAND (SM): light brown to tan, dry Fine SAND with silt (SP-SM): yellowish-brown, moist Trench walls caved at 7 ft							
86	4	Qs2								
84	6									
82	8									
80	10									
78	12									
76	14									
74	16									
72										

The log and data presented are a simplification of actual conditions encountered at the time of excavating at the excavated location. Subsurface conditions may differ at other locations and with the passage of time.

COMPLETION DEPTH: 7 ft
 DEPTH TO WATER: Not Encountered
 EXPLORATION DATE: FEB 7 97

LOGGED BY: CLLovato
 CHECKED BY: JDBlanckard

TEST PIT GRAPHICAL REPRESENTATION



LOG OF TEST PIT NO. T-107
 Los Osos Wastewater Project



**ATTACHMENT C4
LABORATORY DATA
FUGRO WEST, INC. (1997)**





LOCATION SAMPLE NUMBER	SAMPLE CLASSIFICATION							COMPACTION TEST	DIRECT SHEAR TEST	COMPRESSIVE STRENGTH TESTS	CORROSIIVITY TESTS				PERMEABILITY (k, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SE)	TEST LISTING
	UWW pcf	UDW pcf	MC %	FINES %	LL, %	PI, %	MAX DD pcf				OPT MC %	C	PHI	Qu,kef			
DH-101	SAND (SP)																T
1																	
1.5	112.3	111.5	0.7														
DH-101	SAND (SP)							110	9			3393	6.33	9	19	4.7	CO, k, P, SE
2																	
2.0																	
DH-101	SAND (SP)																S, T
3																	
4.5	110.3	109.4	0.8	2													
DH-102	SAND (SP)																T
1																	
1.0	110.2	105.1	4.9														
DH-102	SAND (SP)							113	10	0.1	31.0					1.8	D, k, P, S, SE
2																	
2.0				3													
DH-102	SAND (SP)																T
4																	
9.5	133.3	113.6	17.3														
DH-102	SAND (SP)																SE
5																	
14.5																	
DH-102	SAND (SP)																T
6																	
19.5	134.5	115.2	16.8														
DH-102	SAND (SP)																T
8																	
29.5	132.5	110.2	20.2														
DH-102	SAND (SP)																S
9																	
40.0				3													

SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project

LABSMRY8
PLATE B-1a

* = Composite sample

Classification Tests
UWW = Unit Wet Weight
UDW = Unit Dry Weight
MC = Moisture Content
LL = Liquid Limit
PI = Plasticity Index

Compaaction Test
MAX DD = Maximum Dry Density
OPT MC = Optimum Moisture Content

Direct Shear Test
C = Assigned Cohesion, kef
PHI = Assigned Friction Angle, degrees

Compressive Strength Tests
Qu = Unconfined Compression
Su = Undrained Shear Strength
u = Unconsolidated Undrained
p = Pocket Penetrometer
t = Torvene
m = Miniature Vane

Corrosivity Tests
R = Resistivity, ohm-cm
pH = pH
Cl = Chloride, ppm
SO4 = Sulfate, ppm

Test Listing Abbreviations
M = Moisture Content
T = Total & Dry Density
S = Grain Size Analysis
H = Hydrometer
A = Atterberg Limits
D = Direct Shear Test
C = Consolidation Test
P = Compaction Test
Q = UC Triaxial
U = UU Triaxial
SE = Sand Equivalent
EI = Expansion Index



LOCATION	SAMPLE CLASSIFICATION							COMPACTION TEST	DIRECT SHEAR TEST	COMPRESSIVE STRENGTH TESTS	CORROSIIVITY TESTS				PERMEABILITY (k, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SD)	TEST LISTING	
	SAMPLE NUMBER	UWW pcf	UDW pcf	MC %	FINES %	LL, %	PI, %				MAX DD pcf	OPT MC %	C	PHI				Qu, ksf
DH-103	1	SAND (SP)								0.1	34.0							D, T
	1.5	106.9	105.4	1.4														
DH-103	2	SAND (SP)							112	11								k, P, SE
	2.0																	
DH-103	3A	SAND (SP)																S
	5.0				1													
DH-103	3B	SAND (SP)																CO, T
	11.0	124.7	105.1	18.7	1									11979	6.98	7	18	
DH-104	1	SAND (SP)																T
	1.5	112.7	110.4	2.1														
DH-104	2	SAND (SP)							111	9								k, P, SE
	2.0																	
DH-104	3	SAND (SP)																S
	5.5				1													
DH-104	4	SAND (SP)								0.1	33.0							D, T
	9.0	107.2	104.9	2.2														
DH-104	6	SAND (SP)								0.0	36.0							D, T
	20.0	110.0	107.0	2.8														
DH-104	7	SAND (SP)																CO
	25.0													26136	7.50	<0.1	<0.1	

Classification Tests
 UWW = Unit Wet Weight
 UDW = Unit Dry Weight
 MC = Moisture Content
 Fines = % passing #200 Sieve
 LL = Liquid Limit
 PI = Plasticity Index

Compaction Test
 MAX DD = Maximum Dry Density
 OPT MC = Optimum Moisture Content

Direct Shear Test
 C = Assigned Cohesion, ksf
 PHI = Assigned Friction Angle, degrees

Compressive Strength Tests
 Qu = Unconfined Compression
 Su = Undrained Shear Strength
 u = Pocket Penetrometer
 t = Torvane
 m = Miniature Vane

Corrosivity Tests
 R = Resistivity, ohm-cm
 pH = pH
 CI = Chloride, ppm
 SO4 = Sulfate, ppm

Test Listing Abbreviations
 M = Moisture Content
 T = Total & Dry Density
 S = Grain Size Analysis
 H = Hydrometer
 A = Atterberg Limits
 D = Direct Shear Test
 C = Consolidation Test
 P = Compaction Test
 Q = UC Triaxial
 U = UU Triaxial
 SE = Sand Equivalent
 EI = Expansion Index

SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project



LOCATION	SAMPLE CLASSIFICATION										COMPACTION TEST	DIRECT SHEAR TEST	COMPRESSIVE STRENGTH TESTS	CORROSIIVITY TESTS				PERMEABILITY (k, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SE)	TEST LISTING					
	SAMPLE NUMBER	DEPTH,ft	UWW pcf	UDW pcf	MC %	FINES %	LL, %	PI, %	MAX DD pcf	OPT MC %				C	PHI	Qu,ksf	Su,ksf				R	pH	CI	SO4	
DH-104	8																			T					
	30.0	109.1	106.6	2.4																					
DH-105	1																								
	1.0	108.8	105.8	2.8																					
DH-105	2																								
	2.0				1					114	11														
DH-105	3																								
	4.5				1																				
DH-105	4																								
	9.5	108.3	105.8	2.4							0.2	32.0													
DH-105	6																								
	19.5	111.5	107.8	3.4																					
DH-105	8																								
	30.0	110.8	107.4	3.2																					
DH-106	1																								
	1.0	135.5	122.0	11.1																					
DH-106	2																								
	2.0				24	30	10																		
DH-106	3A																								
	4.5				2																				

SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project

* = Composite sample

Classification Tests
 UWW = Unit Wet Weight
 UDW = Unit Dry Weight
 MC = Moisture Content
 Fines = % passing #200 Sieve
 LL = Liquid Limit
 PI = Plasticity Index

Compressive Strength Tests
 Qu = Unconfined Compression
 Su = Undrained Shear Strength
 u = Unconsolidated Undrained
 p = Pocket Penetrometer
 t = Torvane
 m = Miniature Vane

Compaction Test
 MAX DD = Maximum Dry Density
 OPT MC = Optimum Moisture Content

Direct Shear Test
 C = Assigned Cohesion, ksf
 PHI = Assigned Friction Angle, degrees

Corrosivity Tests
 R = Resistivity, ohm-cm
 pH = pH
 Cl = Chloride, ppm
 SO4 = Sulfate, ppm

Test Listing Abbreviations
 M = Moisture Content
 T = Total & Dry Density
 S = Grain Size Analysis
 H = Hydrometer
 A = Atterberg Limits
 D = Direct Shear Test
 C = Consolidation Test
 P = Compaction Test
 Q = UC Triaxial
 U = UU Triaxial
 SE = Sand Equivalent
 EI = Expansion Index



LOCATION SAMPLE NUMBER	SAMPLE CLASSIFICATION								COMPACTION TEST MAX DD pcf	DIRECT SHEAR TEST C	COMPRESSION STRENGTH TESTS Qu,ksf Su,ksf	CORROSIVITY TESTS				PERMEABILITY (k, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SE)	TEST LISTING
	UWW pcf	UDW pcf	MC %	FINES %	LL, %	PL, %	R	pH				CI	SO4					
DH-108	SAND (SP)											26136	5.56	7	69		CO, S, T	
2	108.5																	
4.5	103.1																	
3	5.2																	
9.5	1																	
1	SAND (SP)																	
1.0	109.1																	
2	105.1								0.2									
2.0	3.8																	
4	3																	
10.0	SAND (SP)																	
1	SAND with gravel (SP)								113	0.1								
1.0	132.1																	
2	118.4																	
2.0	11.6																	
3	SAND with silt (SP-SM)																	
4.5	5																	
5	SAND (SP)																	
19.5	137.5																	
8	117.8																	
39.5	16.8																	
	SAND with silt (SP-SM)																	
	133.5																	
	113.6																	
	17.5																	

Classification Tests
 UWW = Unit Wet Weight
 UDW = Unit Dry Weight
 MC = Moisture Content
 Fines = % passing #200 Sieve
 LL = Liquid Limit
 PL = Plasticity Index

Compressive Strength Tests
 Qu = Unconfined Compression
 Su = Undrained Shear Strength
 u = Unconsolidated Undrained
 p = Pocket Penetrometer
 t = Torvane
 m = Miniature Vane

Corrosivity Tests
 R = Resistivity, ohm-cm
 pH = pH
 CI = Chloride, ppm
 SO4 = Sulfate, ppm

Test Listing Abbreviations
 M = Moisture Content
 T = Total & Dry Density
 S = Grain Size Analysis
 H = Hydrometer
 A = Atterberg Limits
 D = Direct Shear Test
 C = Consolidation Test
 P = Compaction Test
 Q = UC Triaxial
 U = UU Triaxial
 SE = Sand Equivalent
 EI = Expansion Index

SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project



LOCATION SAMPLE NUMBER	SAMPLE CLASSIFICATION							COMPACTION TEST MAX DD pcf	DIRECT SHEAR TEST C	COMPRESSIVE STRENGTH TESTS		CORROSIIVITY TESTS				PERMEABILITY (k, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SE)	TEST LISTING
	UWW pcf	UDW pcf	MC %	FINES %	LL, %	PI, %	OPT MC %			PHI	Qu, ksf	Su, ksf	R	pH	CI			
DH-111	SAND (SP)																T	
1	111.1	108.1	2.8															
1.5	SAND (SP)							110	12			27951	7.82	<1.0	<10	70	CO, k, P, S, SE	
DH-111	SAND (SP)																D, T	
2				1														
2.0	SAND (SP)																	
DH-111	110.5	108.1	2.2						0.1	35.0						SE		
3	SAND (SP)																	
4.5	SAND (SP)																	
DH-111	SAND (SP)																	
4																		
9.5	SAND (SP)																	
DH-111	SAND (SP)																	
5																		
14.5	111.2	106.5	4.4															
DH-112	SAND with silt (SP-SM)																	
1	138.5	126.2	9.8						0.7	30.0								
1.5	Sandy SILT with gravel (ML)																	
2																		
2.0	SAND (SP)																	
DH-112	SAND (SP)																	
3																		
5.0	SAND (SP)																	
DH-112	110.4	105.4	4.7	2														
4	SAND (SP)																	
9.0	Silty SAND (SM)																	
DH-113	Silty SAND (SM)																	
1	107.2	104.9	2.2						0.1	34.0								
1.0	SAND (SP)																	

SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project

Classification Tests
 UWW = Unit Wet Weight
 UDW = Unit Dry Weight
 MC = Moisture Content
 Fines = % passing #200 Sieve
 LL = Liquid Limit
 PI = Plasticity Index
 * = Composite sample

Compaction Test
 MAX DD = Maximum Dry Density
 OPT MC = Optimum Moisture Content

Direct Shear Test
 C = Assigned Cohesion, ksf
 PHI = Assigned Friction Angle, degrees

Compressive Strength Tests
 Qu = Unconfined Compression
 Su = Undrained Shear Strength
 u = Unconsolidated Undrained
 p = Pocket Penetrometer
 t = Torvane
 m = Miniature Vane

Corrosivity Tests
 R = Resistivity, ohm-cm
 pH = pH
 Cl = Chloride, ppm
 SO4 = Sulfate, ppm

Test Listing Abbreviations
 M = Moisture Content
 T = Total & Dry Density
 S = Grain Size Analysis
 H = Hydrometer
 A = Atterberg Limits
 D = Direct Shear Test
 C = Consolidation Test
 P = Compaction Test
 O = UC Triaxial
 U = UU Triaxial
 SE = Sand Equivalent
 EI = Expansion Index



LOCATION SAMPLE NUMBER	SAMPLE CLASSIFICATION						COMPACTION TEST MAX DD pcf	DIRECT SHEAR TEST C	COMPRESSION STRENGTH TESTS Qu, ksf	CORROSION TESTS R, pH, CI, SO4	PERMEABILITY (K, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SE)	TEST LISTING			
	UWW pcf	UDW pcf	MC %	FINES %	LL, %	PI, %										
DH-113	SAND (SP)						109			7986	6.50	8	16	4.0	56	CO, k, P, S, SE
2																
2.0																
DH-113	Clayey SAND (SC)															S
3																
9.0																
DH-114	SAND (SP)															T
1																
1.0	111.5	106.7	4.5													
2																
2.0																
4								0.0	39.0							D, T
9.5	108.0	102.6	5.3													
7																T
29.5	132.2	112.3	17.7													
9	Lean CLAY with pockets of SAND (CL)															T
39.5	135.4	112.9	19.9													
1	Silty SAND (SM)															
1.0	105.6	102.4	3.1													
2																
2.0																
3	Silty SAND (SM)						118			3230	5.71	347	46	0.2	24	CO, k, P, SE
4.5																
				13												S

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Compaaction Tests
 MAX DD = Maximum Dry Density
 OPT MC = Optimum Moisture Content

Direct Shear Test
 C = Assigned Cohesion, ksf
 PHI = Assigned Friction Angle, degrees

Compression Strength Tests
 Qu = Unconfined Compression
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 u = Unconsolidated Undrained
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 t = Torvane
 m = Miniature Vane

Corrosivity Tests
 R = Resistivity, ohm-cm
 pH = pH
 CI = Chloride, ppm
 SO4 = Sulfate, ppm

Test Listing Abbreviations
 M = Moisture Content
 T = Total & Dry Density
 S = Grain Size Analysis
 H = Hydrometer
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 U = UU Triaxial
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SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project

* = Composite sample



LOCATION SAMPLE NUMBER	SAMPLE CLASSIFICATION							COMPACTION TEST MAX DD pcf OPT MC %	DIRECT SHEAR TEST C PHI	COMPRESSIVE STRENGTH TESTS Qu,kef Su,kef	CORROSIIVITY TESTS				PERMEABILITY (k, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SP)	TEST LISTING
	UWW pcf	UDW pcf	MC %	FINES %	LL, %	Pl, %	R				pH	Cl	SO4				
DH-115	Silty SAND (SM)															T	
4																	
9.5	113.6	108.6	4.6														
DH-116	SAND (SP)							109	12	0.1	31.0				36	D, P, SE	
1																	
2.0																	
2	SAND (SP)														S		
4.5				4													
DH-117	SAND (SP)															T	
1																	
0.5	109.8	103.0	6.6														
2	SAND (SP)							108	13	0.1	32.0				1.6	D, k, P	
2.0																	
3	SAND (SP)															S, SE	
4.5				2													
4	SAND (SP)															T	
9.5	133.8	114.1	17.3														
5	SAND with silt (SP-SM)															S	
14.5				11													
7	SAND (SP)															T	
19.5	130.0	106.8	21.7														
9	SAND (SP)															T	
29.5	130.2	108.9	19.6														

Classification Tests
UWW = Unit Wet Weight
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MC = Moisture Content
Fines = % passing #200 Sieve
LL = Liquid Limit
Pl = Plasticity Index

Compressive Strength Tests
Qu = Unconfined Compression
Su = Undrained Shear Strength
u = Unconsolidated Undrained
p = Pocket Penetrometer
t = Torvane
m = Miniature Vane

Compaction Test
MAX DD = Maximum Dry Density
OPT MC = Optimum Moisture Content

Direct Shear Test
C = Assigned Cohesion, kef
PHI = Assigned Friction Angle, degrees

Corrosivity Tests
R = Resistivity, ohm-cm
pH = pH
Cl = Chloride, ppm
SO4 = Sulfate, ppm

Test Listing Abbreviations
M = Moisture Content
T = Total & Dry Density
S = Grain Size Analysis
H = Hydrometer
A = Atterberg Limits
D = Direct Shear Test
C = Consolidation Test
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Q = UC Triaxial
U = UU Triaxial
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SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project



LOCATION SAMPLE NUMBER	SAMPLE CLASSIFICATION							COMPACTION TEST		DIRECT SHEAR TEST		COMPRESSIVE STRENGTH TESTS		CORROSION TESTS				PERMEABILITY (k, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SE)	TEST LISTING		
	DEPTH, ft	UWW pcf	UDW pcf	MC %	FINES %	LL, %	PI, %	MAX DD pcf	OPT MC %	C	PHI	Qu,kef	Su,kef	R	pH	Cl	SO4					
DH-201	1	SAND with silt (SP-SM)																		T		
	2.0	104.7	99.9	4.8																		
DH-201	2	SAND with silt (SP-SM)							102	12	0.0	33.0								D, k, P		
	4.0																					
DH-201	3	SAND with silt (SP-SM)																			C, T	
	5.0	109.0	103.2	5.6																		
DH-201	5	SAND with silt (SP-SM)									0.2	34.0									D, T	
	15.0	113.4	105.3	7.7																		
DH-201	6	SAND with silt (SP-SM)																			S	
	20.0						6															
DH-201	7	SAND with silt (SP-SM)																				T
	25.0	120.0	109.7	9.4																		
DH-201	9	SAND with silt (SP-SM)																				k, T
	35.0	110.7	104.0	6.4																		
DH-202	1	SAND (SP)																				T
	2.0	107.3	101.6	5.6																		
DH-202	3	SAND (SP)									0.2	35.0										D, T
	5.0	109.0	103.7	5.1																		
DH-202	5	SAND (SP)																				k, T
	15.0	112.1	103.2	8.6																		

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 MC = Moisture Content
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 PI = Plasticity Index
 * = Composite sample

Compaction Test
 MAX DD = Maximum Dry Density
 OPT MC = Optimum Moisture Content
 Direct Shear Test
 C = Assigned Cohesion, kef
 PHI = Assigned Friction Angle, degrees

Compressive Strength Tests
 Qu = Unconfined Compression
 Su = Undrained Shear Strength
 u = Unconsolidated Undrained
 p = Pocket Penetrometer
 t = Torvane
 m = Miniature Vane

Corrosivity Tests
 R = Resistivity, ohm-cm
 pH = pH
 Cl = Chloride, ppm
 SO4 = Sulfate, ppm

Test Listing Abbreviations
 M = Moisture Content
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SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project



LOCATION SAMPLE NUMBER	SAMPLE CLASSIFICATION							COMPACTION TEST		DIRECT SHEAR TEST		COMPRESSIVE STRENGTH TESTS		CORROSIIVITY TESTS				PERMEABILITY (k), x10 ⁻³ cm/sec	SAND EQUIVALENT (SE)	TEST LISTING		
	DEPTH,ft	UWW pcf	UDW pcf	MC %	FINES %	LL, %	PI, %	MAX DD pcf	OPT MC %	C	PHI	Qu,kef	Su,kef	R	pH	Cl	SO4					
DH-204	1	Silty SAND (SP-SM)																		T		
	1.5	96.7	94.2	2.7															T			
DH-204	3	Silty SAND (SP-SM)																		T		
	5.0	99.5	97.4	2.2															C, T			
DH-204	5	Silty SAND (SP-SM)																		C, T		
	15.0	107.2	103.5	3.6															C, T			
DH-301	1	SAND (SP)									0.0	38.0								D, T,		
	1.5	109.0	102.4	6.4																D, CO, P, SE		
DH-301	2	SAND (SP)							101	12	0.2	32.0			79860	5.39	<0.5	<0.5			D, CO, P, SE	
	3.0																					
DH-301	3	SAND (SP)																			C, S, T,	
	5.0	108.5	104.1	4.2	2																C, T	
DH-301	5	SAND (SP)																				C, T
	15.0	110.9	104.6	6.0																		
DH-301	7	SAND with silt (SP-SM)																				T
	25.0	131.7	109.9	19.8																		
DH-301	9	SAND (SP)									0.1	37.0										D, S, T
	35.0	128.2	104.7	22.4	1																	
DH-301	10	Lean CLAY (CL)																				A, M
	40.0			20.2		49	21															

Classification Tests
UWW = Unit Wet Weight
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PI = Plasticity Index
* = Composite sample

Compressive Strength Tests
Qu = Unconfined Compression
Su = Undrained Shear Strength
u = Unconsolidated Undrained
p = Pocket Penetrometer
t = Torvane
m = Miniature Vane

Corrosivity Tests
R = Resistivity, ohm-cm
pH = pH
Cl = Chloride, ppm
SO4 = Sulfate, ppm

Test Listing Abbreviations
M = Moisture Content
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SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project



LOCATION	SAMPLE CLASSIFICATION							COMPACTION TEST	DIRECT SHEAR TEST	COMPRESSIVE STRENGTH TESTS	CORROSIIVITY TESTS				PERMEABILITY (K, x10 ⁻³ cm/sec)	SAND EQUIVALENT (SE)	TEST LISTING	
	SAMPLE NUMBER	UWW pcf	UDW pcf	MC %	FINES %	LL. %	PI. %				MAX DD pcf	OPT MC %	C	PHI				Qu,kef
DH-301		SAND (SP)																T
	11																	
	45.0	133.7	118.7	12.6														S
T-101		SAND with silt (SP-SM)																
	A																	
	1.5				7													S
T-102		SAND (SP)																
	C																	
	1.5				2													S
T-103		SAND (SP)																
	E																	
	5.5				4													S
T-104		SAND (SP)																
	F																	
	12.0				1													S, SE

Classification Tests
 UWW = Unit Wet Weight
 UDW = Unit Dry Weight
 MC = Moisture Content
 LL = Liquid Limit
 PI = Plasticity Index

Composite sample

Compaction Test
 MAX DD = Maximum Dry Density
 OPT MC = Optimum Moisture Content

Direct Shear Test
 C = Assigned Cohesion, kef
 PHI = Assigned Friction Angle, degrees

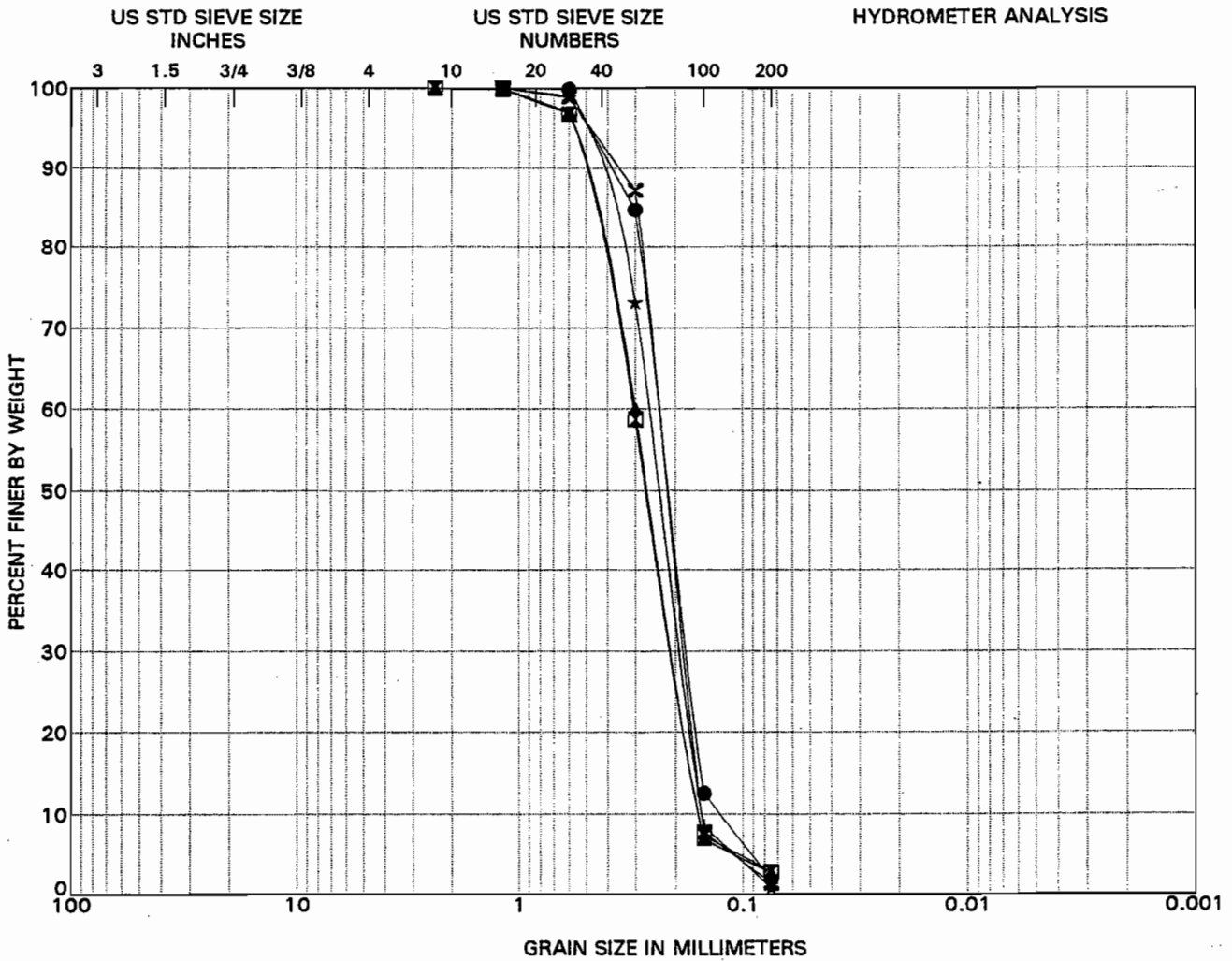
Compressive Strength Tests
 Qu = Unconfined Compression
 Su = Undrained Shear Strength
 u = Unconsolidated Undrained
 t = Torvane
 m = Miniature Vane

Corrosivity Tests
 R = Resistivity, ohm-cm
 pH = pH
 CI = Chloride, ppm
 SO4 = Sulfate, ppm

Test Listing Abbreviations
 M = Moisture Content
 T = Total & Dry Density
 S = Grain Size Analysis
 H = Hydrometer
 A = Atterberg Limits
 D = Direct Shear Test
 C = Consolidation Test
 P = Compaction Test
 Q = UC Triaxial
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SUMMARY OF LABORATORY TEST RESULTS

Los Osos Wastewater Project



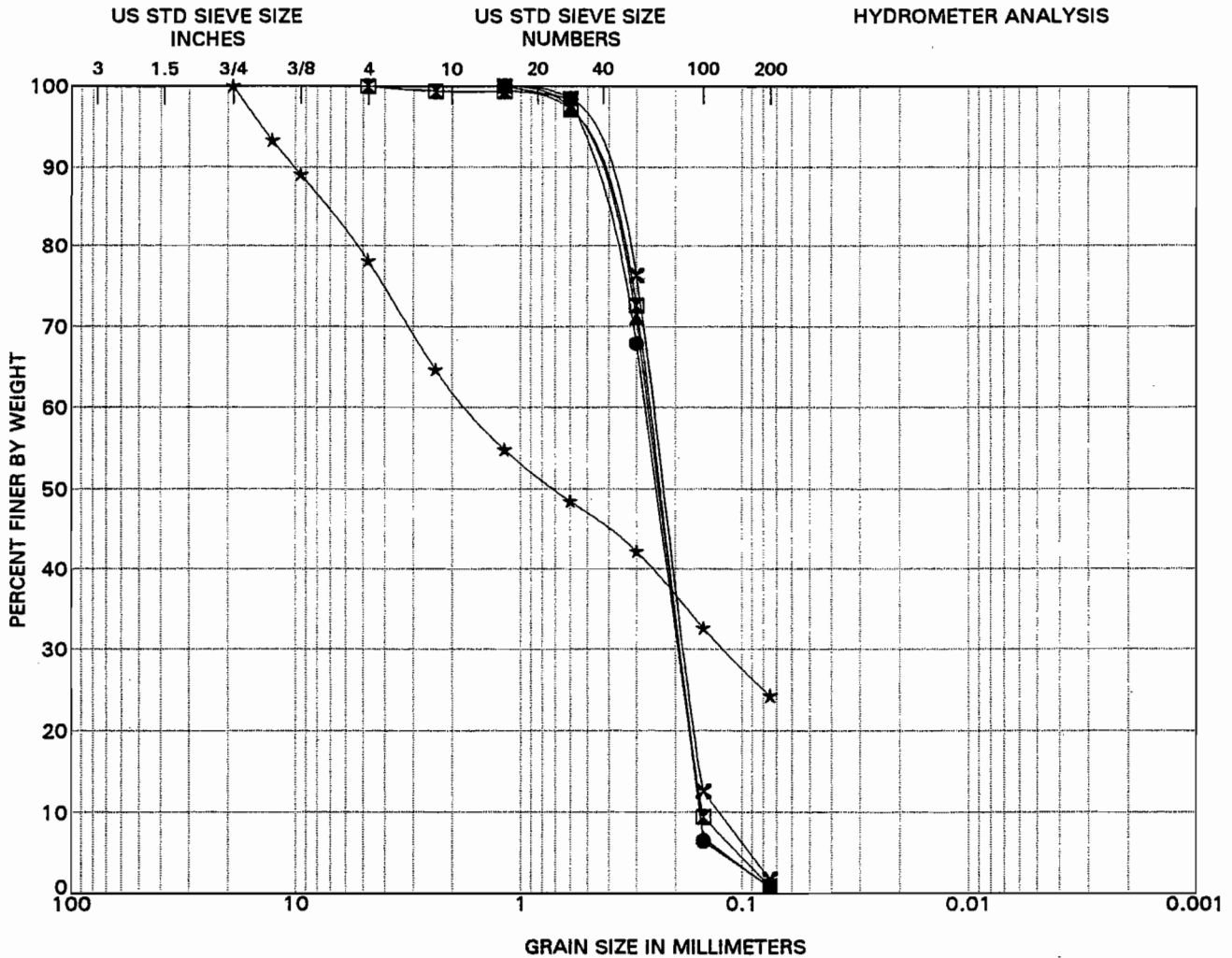
GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND		
	(location)	(depth, ft)
●	DH-101	4.5
⊠	DH-102	2.0
▲	DH-102	40.0
★	DH-103	5.0
✕	DH-103	11.0

CLASSIFICATION		<u>C_c</u>	<u>C_u</u>
SAND (SP)		1.0	1.9
SAND (SP)		0.9	2.0
SAND (SP)		0.9	1.9
SAND (SP)		0.9	1.7
SAND (SP)		0.9	1.5

GRAIN SIZE CURVES
 Los Osos Wastewater Project





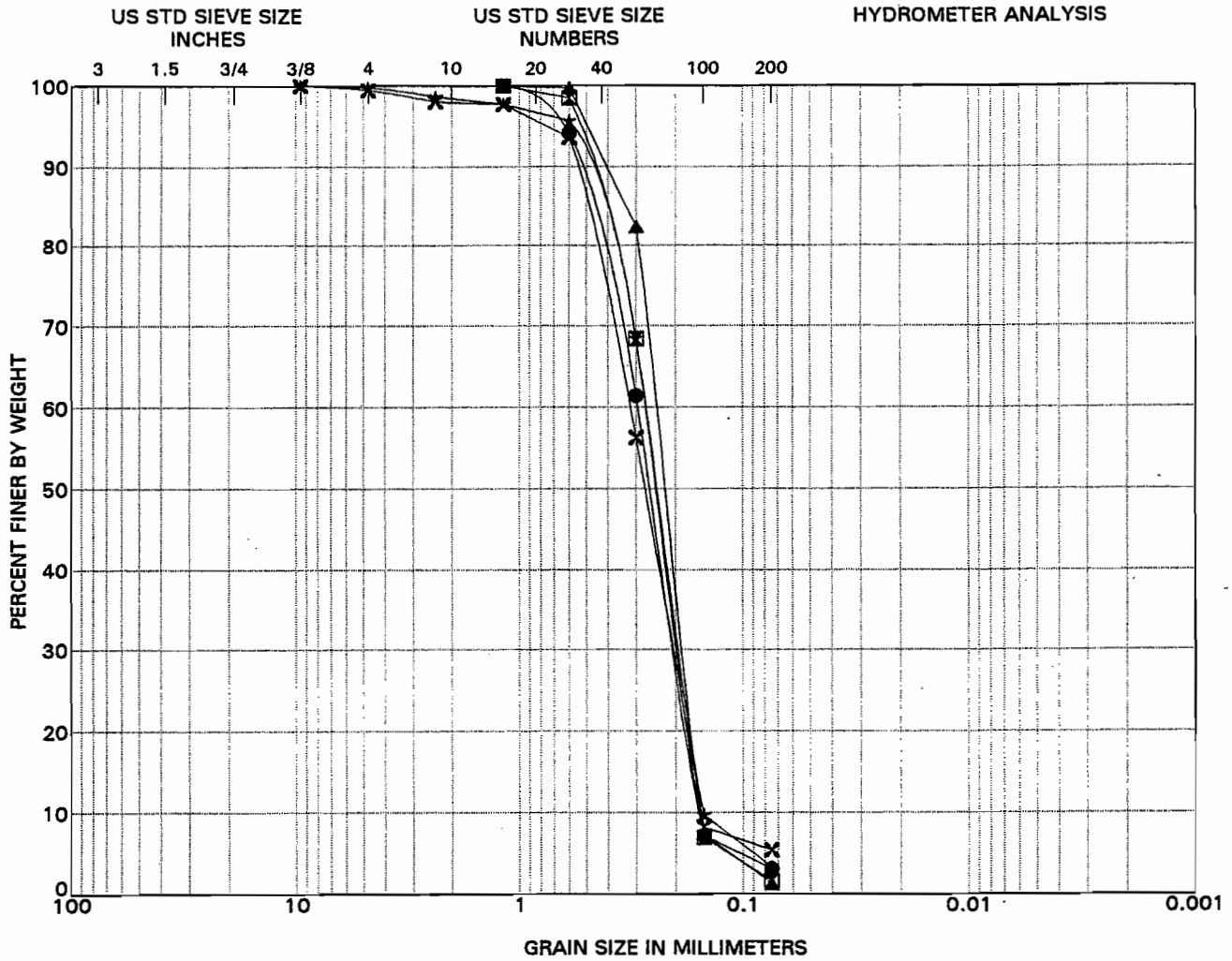
GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND		
	(location)	(depth, ft)
●	DH-104	5.5
⊠	DH-105	2.0
▲	DH-105	4.5
★	DH-106	2.0
×	DH-106	4.5

CLASSIFICATION		Cc	Cu
SAND (SP)		0.9	1.8
SAND (SP)		0.9	1.7
SAND (SP)		0.9	1.7
Clayey SAND with gravel (SC)			
SAND (SP)		1.0	2.0

GRAIN SIZE CURVES
 Los Osos Wastewater Project



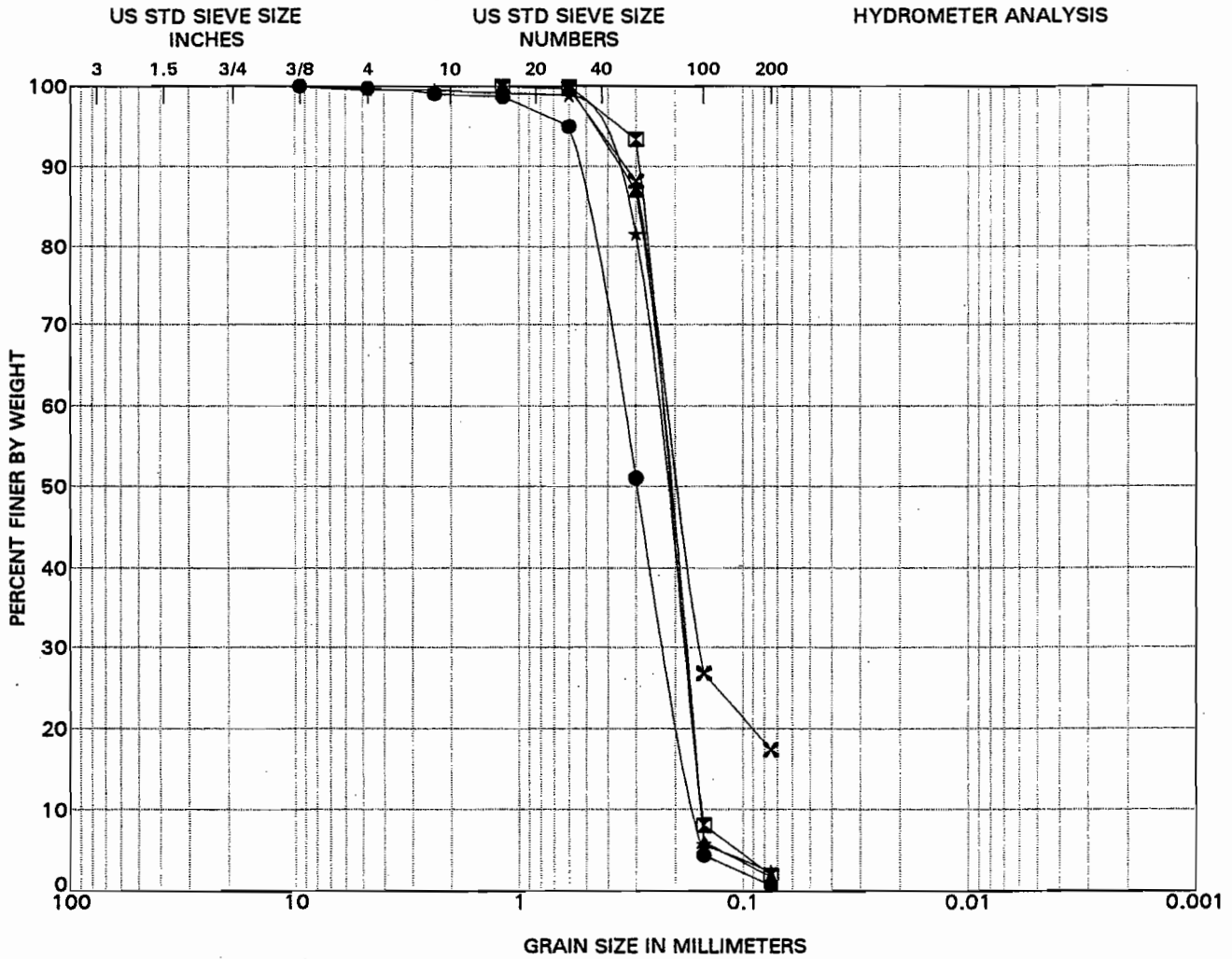


GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND		CLASSIFICATION		C _c	C _u
(location)	(depth, ft)				
●	DH-106 14.5	SAND (SP)		0.9	1.9
☒	DH-107 4.5	SAND (SP)		0.9	1.8
▲	DH-108 4.5	SAND (SP)		0.9	1.6
★	DH-109 2.0	SAND (SP)		0.9	1.8
×	DH-110 4.5	SAND with silt (SP-SM)		0.9	2.1

GRAIN SIZE CURVES
 Los Osos Wastewater Project





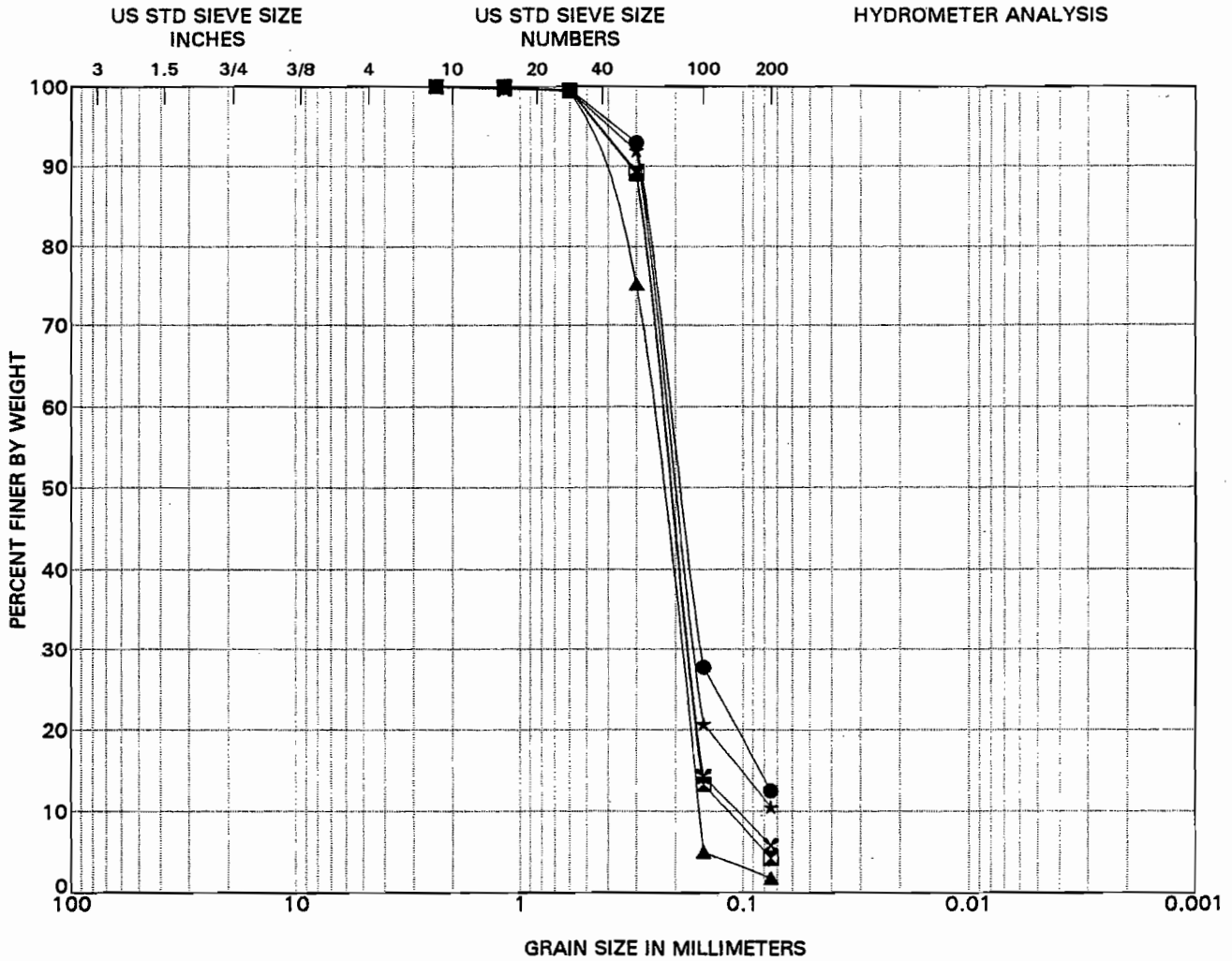
GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND		
	(location)	(depth, ft)
●	DH-111	2.0
☒	DH-112	5.0
▲	DH-112	9.0
★	DH-113	2.0
✕	DH-113	9.0

CLASSIFICATION	Cc	Cu
SAND (SP)	0.9	2.1
SAND (SP)	0.9	1.5
SAND (SP)	0.9	1.5
SAND (SP)	0.9	1.6
Clayey SAND (SC)		

GRAIN SIZE CURVES
 Los Osos Wastewater Project



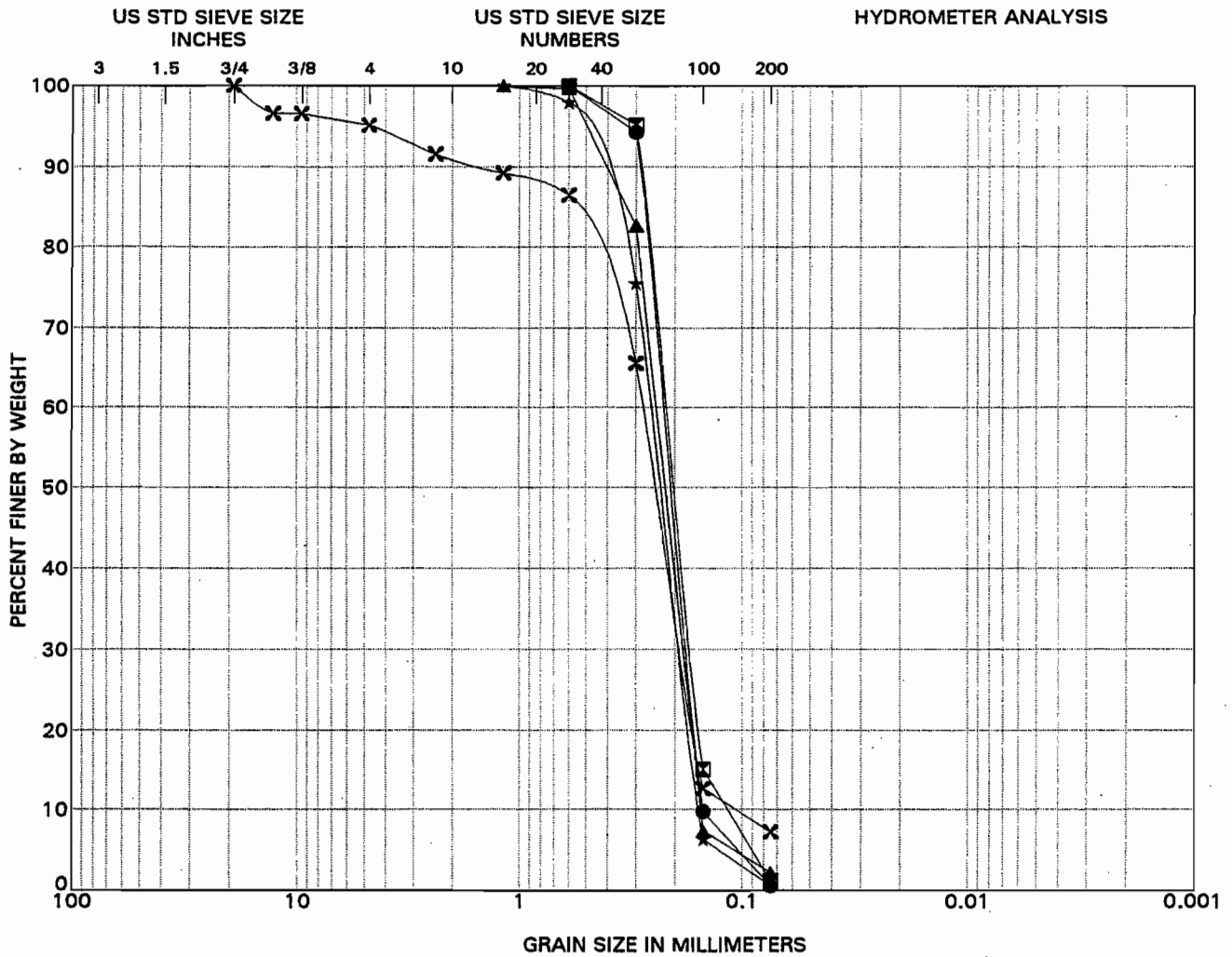


GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND		CLASSIFICATION	Cc	Cu
(location)	(depth, ft)			
●	DH-115 4.5	Silty SAND (SM)		
☒	DH-116 4.5	SAND (SP)	1.1	2.0
▲	DH-117 4.5	SAND (SP)	0.9	1.6
★	DH-117 14.5	SAND with silt (SP-SM)	1.8	3.1
✕	DH-201 20.0	SAND with silt (SP-SM)	1.2	2.2

GRAIN SIZE CURVES
 Los Osos Wastewater Project



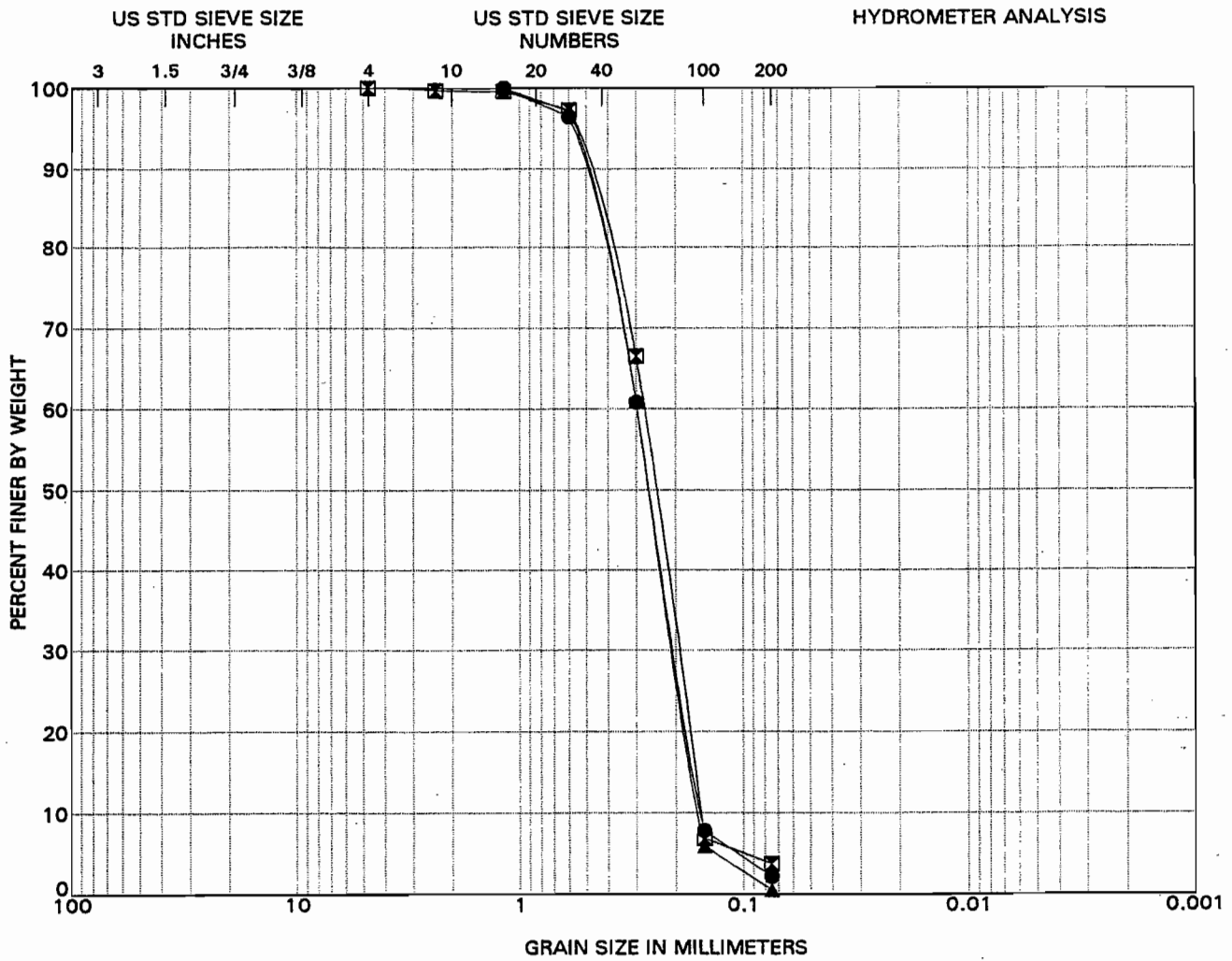


GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND			CLASSIFICATION		C _c	C _u
(location)	(depth, ft)					
●	DH-202	30.0	SAND (SP)		0.9	1.5
⊠	DH-202	40.0	SAND (SP)		1.1	1.9
▲	DH-301	5.0	SAND (SP)		0.9	1.6
★	DH-301	35.0	SAND (SP)		0.9	1.7
×	T-101	1.5	SAND with silt (SP-SM)		1.2	2.6

GRAIN SIZE CURVES
 Los Osos Wastewater Project



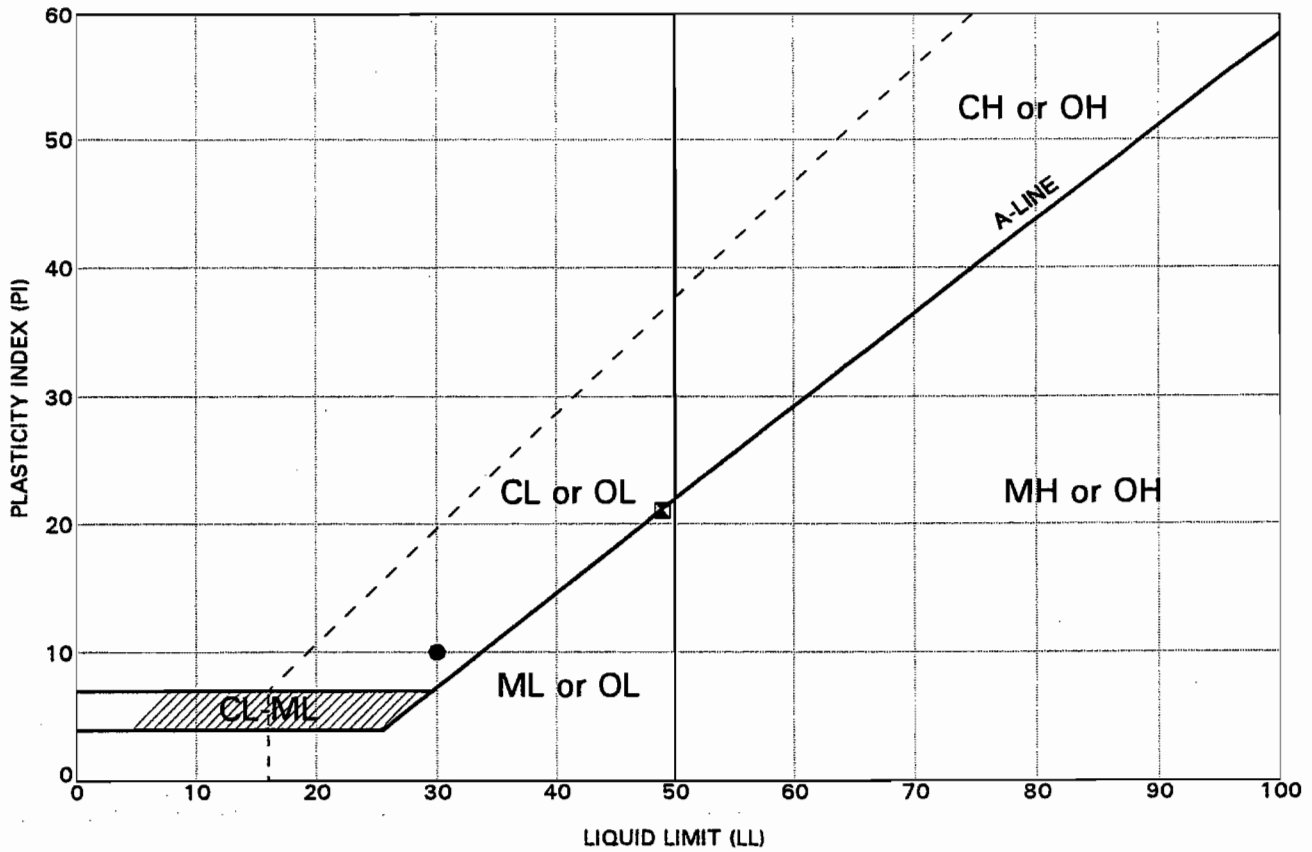


GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND			CLASSIFICATION		<u>C_c</u>	<u>C_u</u>
(location)	(depth, ft)					
●	T-102	1.5	SAND (SP)		0.9	1.9
⊠	T-103	5.5	SAND (SP)		0.9	1.8
▲	T-104	12.0	SAND (SP)		0.9	1.9

GRAIN SIZE CURVES
 Los Osos Wastewater Project





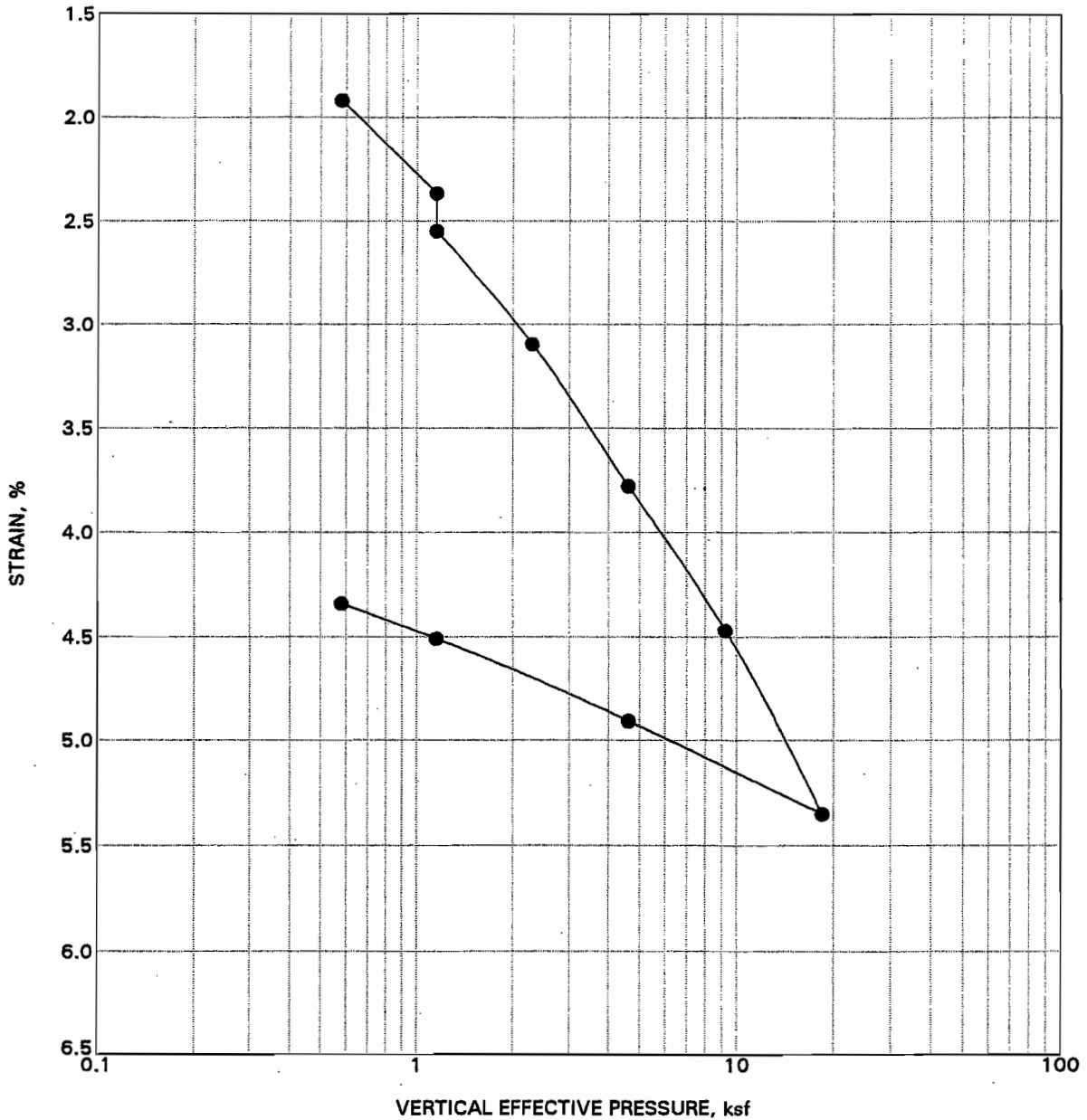
LEGEND	
(location)	(depth, ft)
●	DH-106 2.0
⊠	DH-301 40.0

CLASSIFICATION
Clayey SAND with gravel (SC)
Lean CLAY (CL)

ATTERBERG LIMITS TEST RESULTS		
LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTICITY INDEX (PI)
30	20	10
49	28	21

PLASTICITY CHART
 Los Osos Wastewater Project

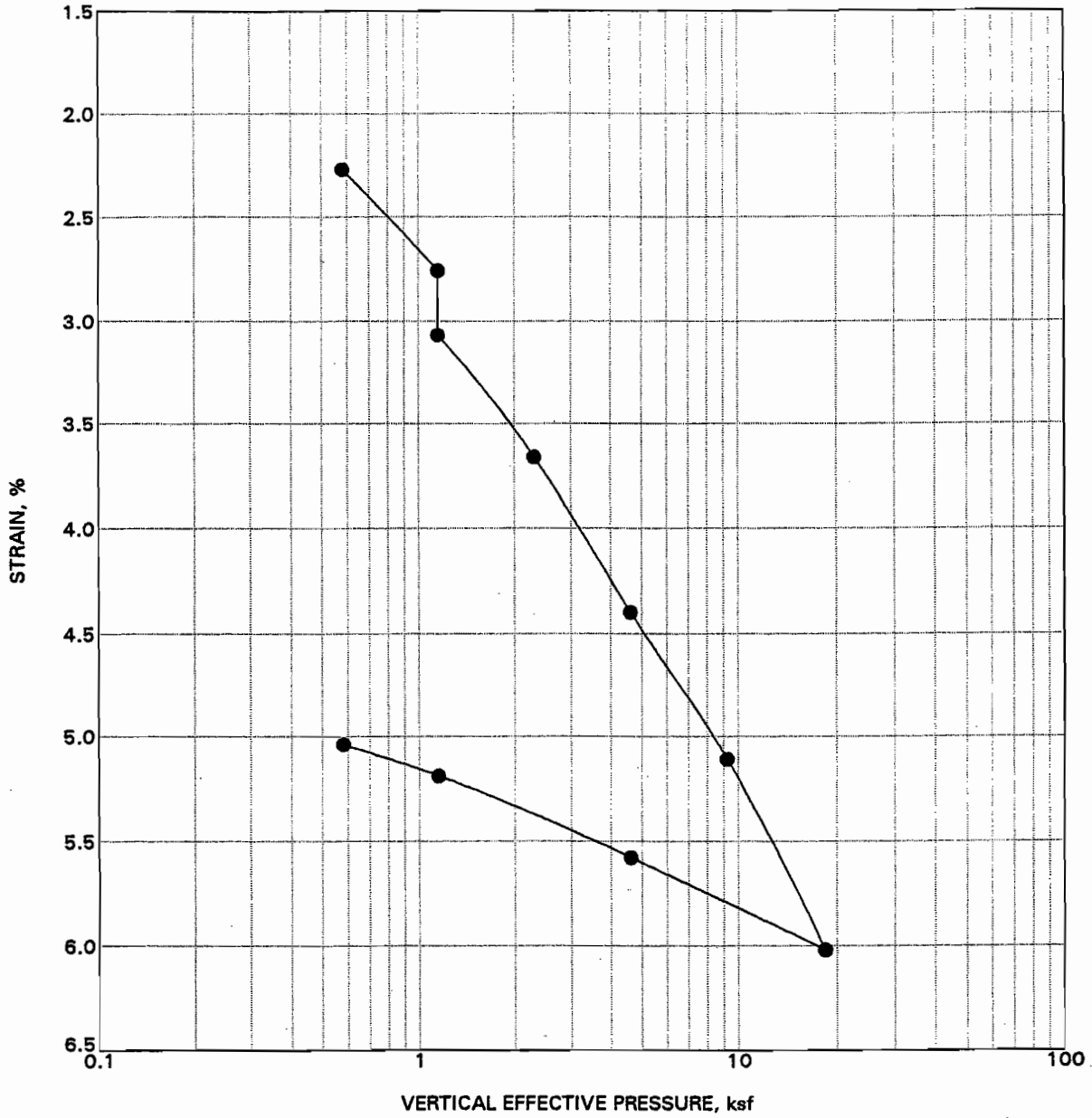




LOCATION	DH-201
DEPTH, ft	5.0
INITIAL MOISTURE CONTENT, %	6
UNIT DRY WEIGHT, pcf	103
MATERIAL DESCRIPTION	SAND with silt (SP-SM)

CONSOLIDATION TEST RESULTS
Los Osos Wastewater Project

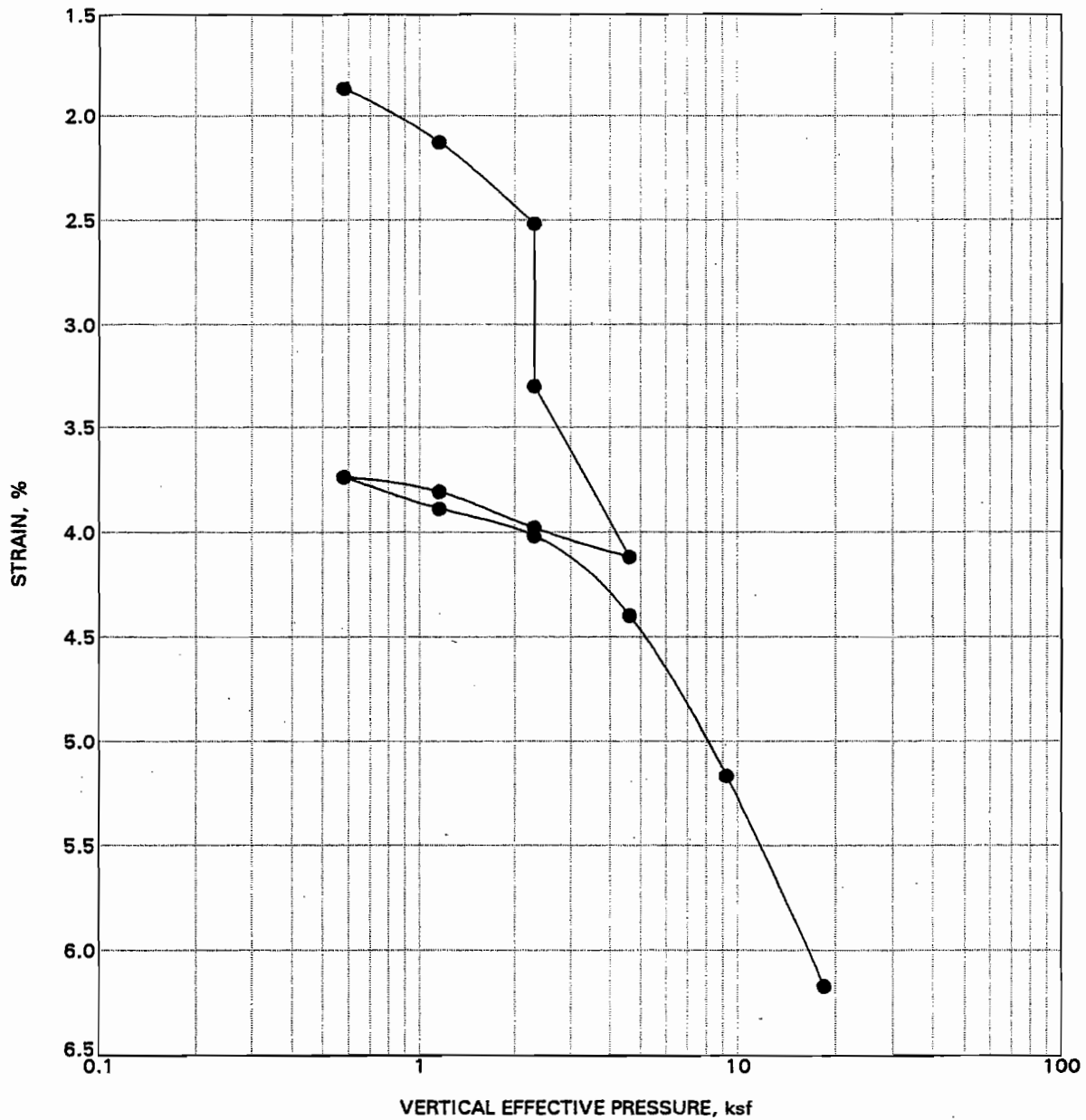




LOCATION	DH-204
DEPTH, ft	15.0
INITIAL MOISTURE CONTENT, %	4
UNIT DRY WEIGHT, pcf	103
MATERIAL DESCRIPTION	Silty SAND (SP-SM)

CONSOLIDATION TEST RESULTS
 Los Osos Wastewater Project

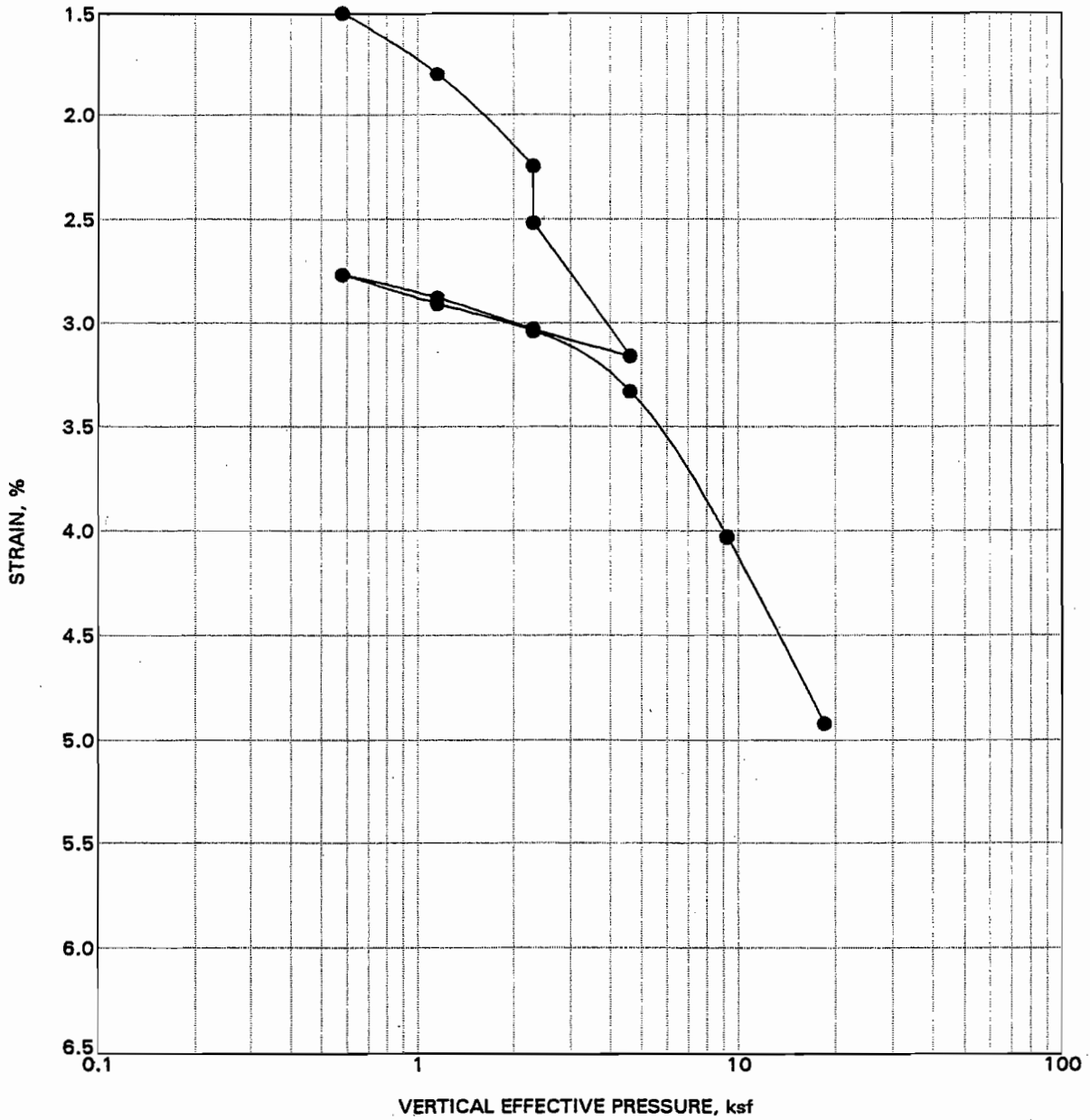




LOCATION	DH-301
DEPTH, ft	5.0
INITIAL MOISTURE CONTENT, %	4
UNIT DRY WEIGHT, pcf	104
MATERIAL DESCRIPTION	SAND (SP)

CONSOLIDATION TEST RESULTS
 Los Osos Wastewater Project

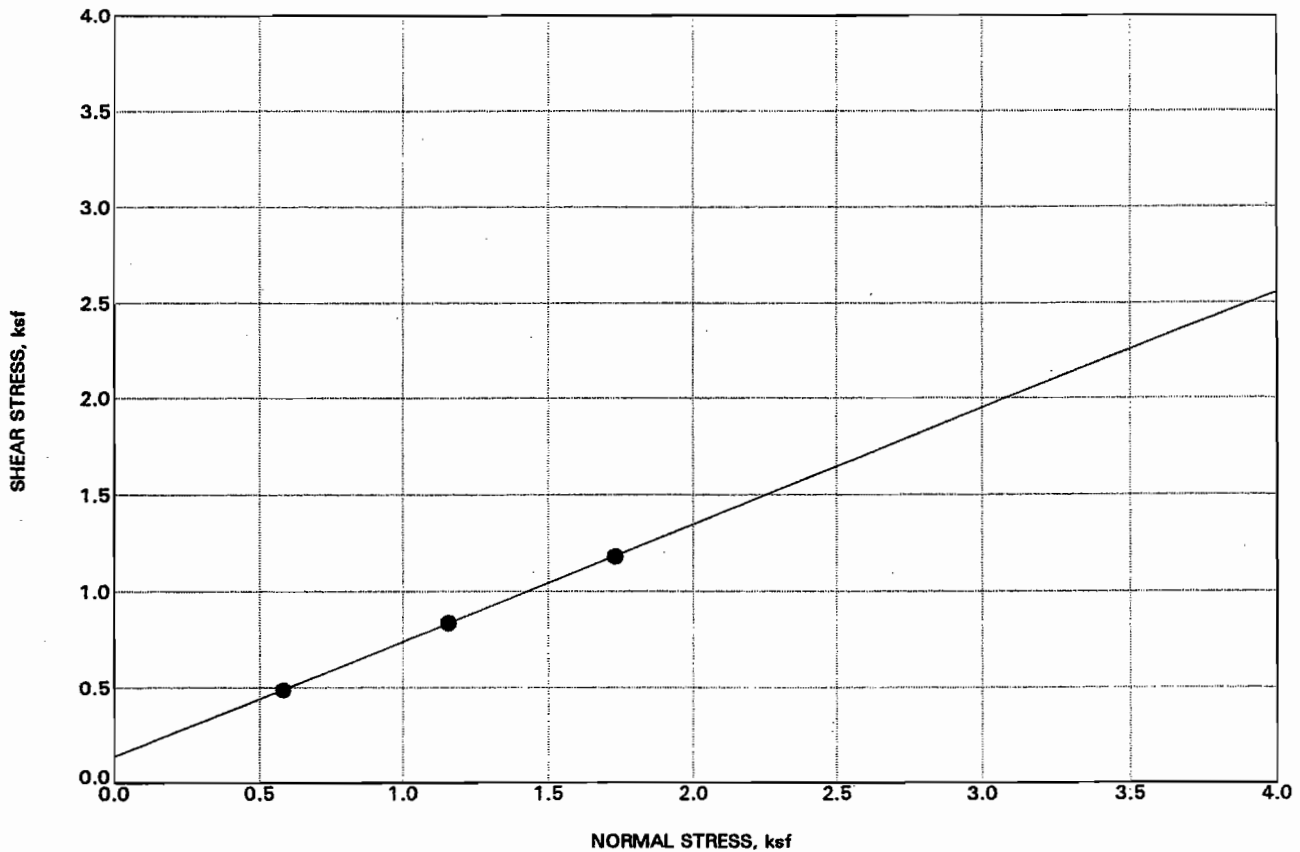




LOCATION	DH-301
DEPTH, ft	15.0
INITIAL MOISTURE CONTENT, %	6
UNIT DRY WEIGHT, pcf	105
MATERIAL DESCRIPTION	SAND (SP)

CONSOLIDATION TEST RESULTS
 Los Osos Wastewater Project





EFFECTIVE COHESION, ksf 0.10

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 31

LOCATION DH-102

DEPTH, ft 2.0

MOISTURE CONTENT, %

UNIT DRY WEIGHT, pcf

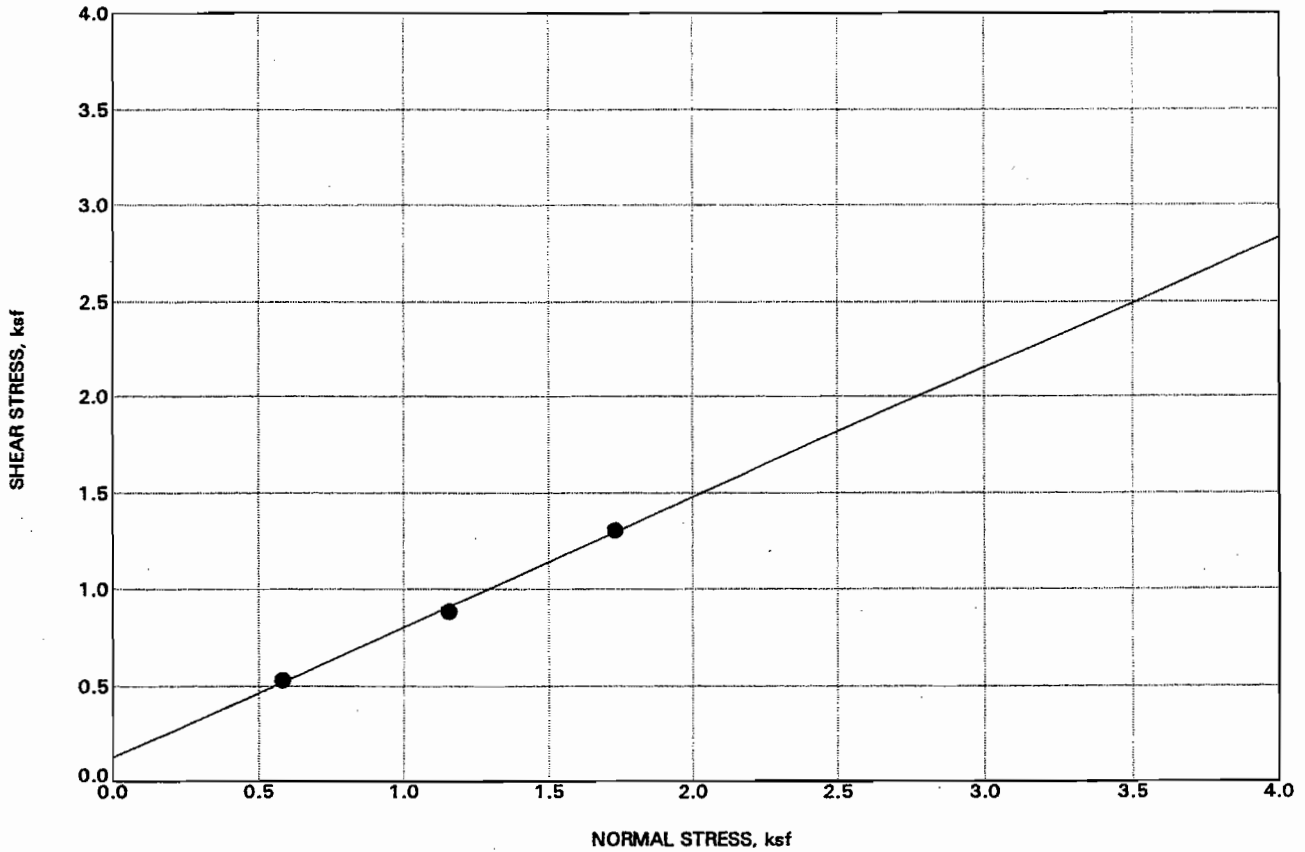
MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5a





EFFECTIVE COHESION, ksf 0.13

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 34

LOCATION DH-103

DEPTH, ft 1.5

MOISTURE CONTENT, % 1

UNIT DRY WEIGHT, pcf 105

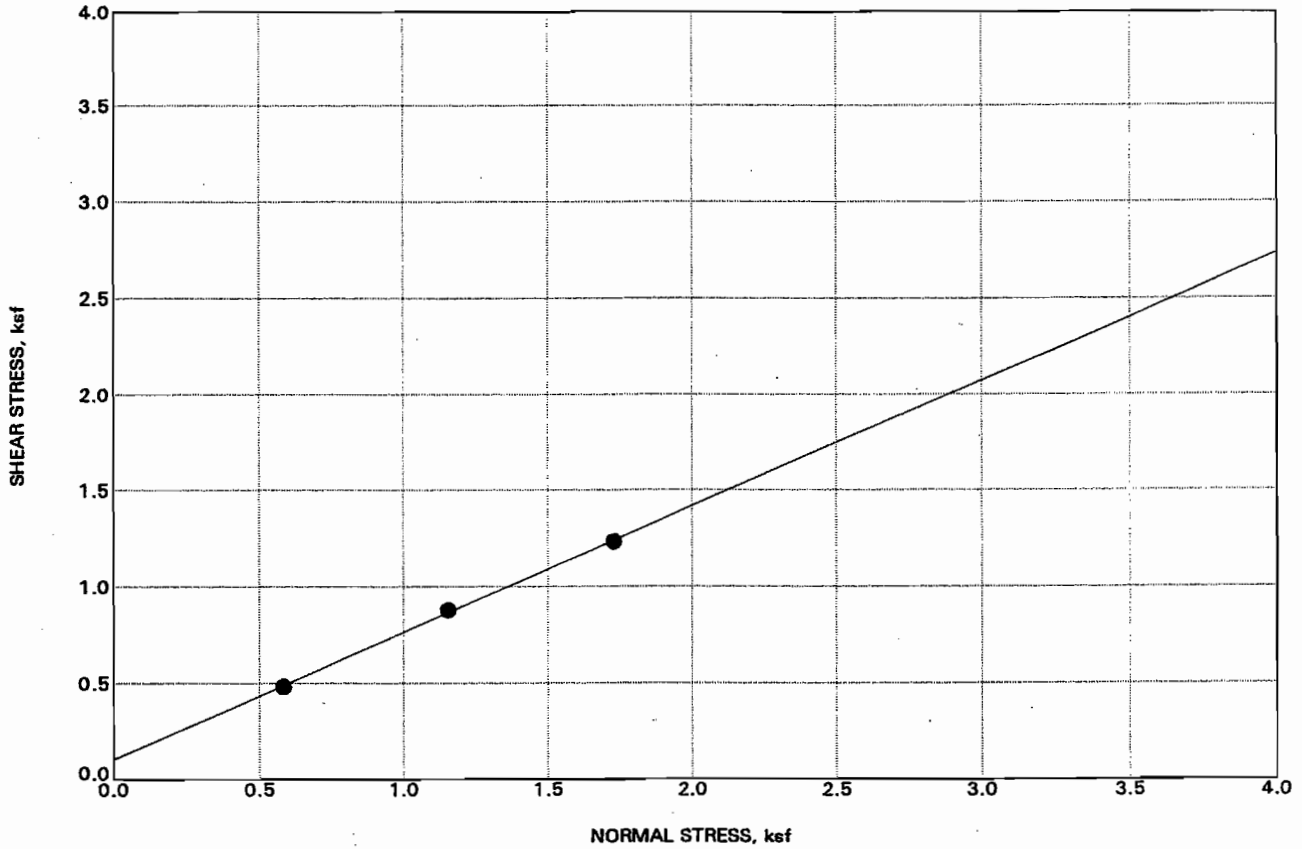
MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5b





EFFECTIVE COHESION, ksf 0.11

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 33

LOCATION DH-104

DEPTH, ft 9.0

MOISTURE CONTENT, % 2

UNIT DRY WEIGHT, pcf 105

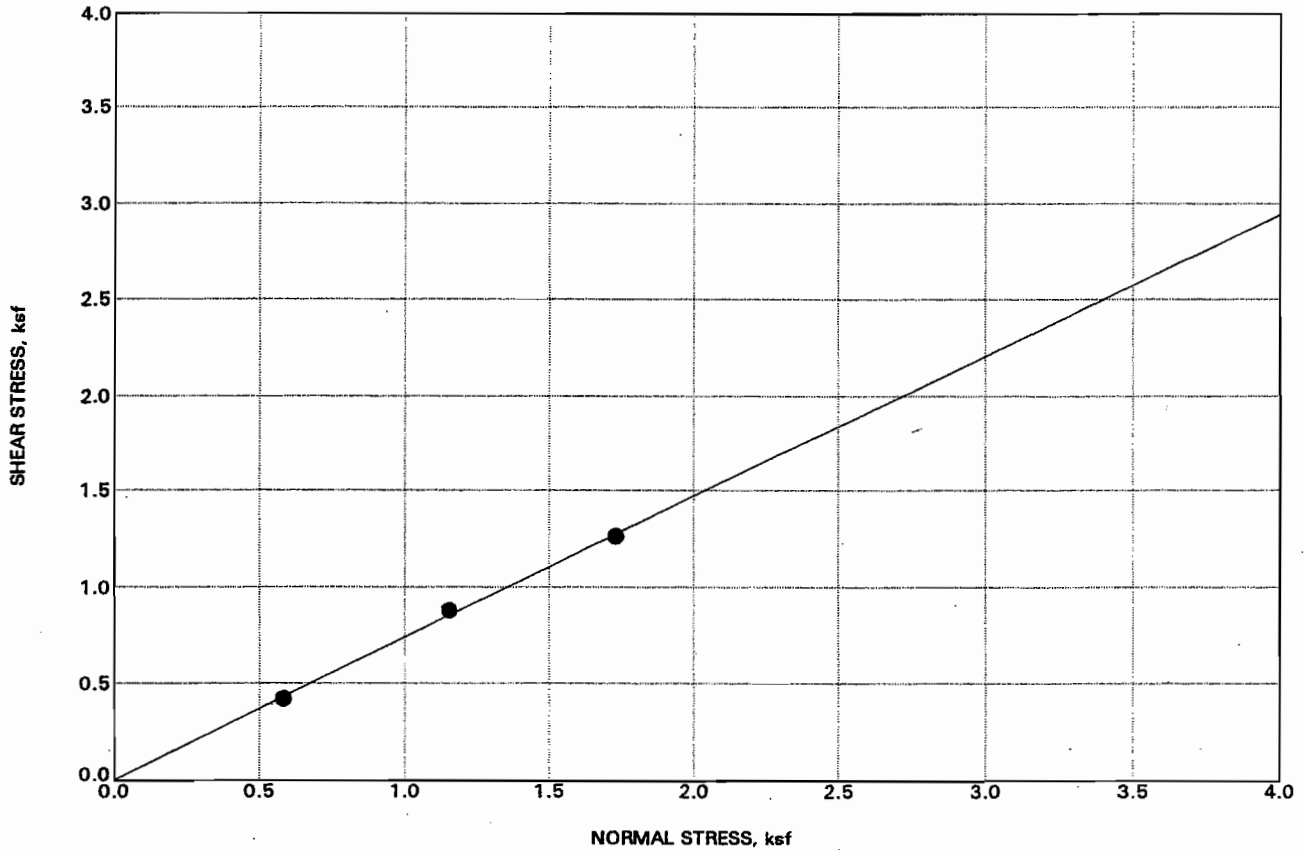
MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5c





EFFECTIVE COHESION, ksf 0.01

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 36

LOCATION DH-104

DEPTH, ft 20.0

MOISTURE CONTENT, % 3

UNIT DRY WEIGHT, pcf 107

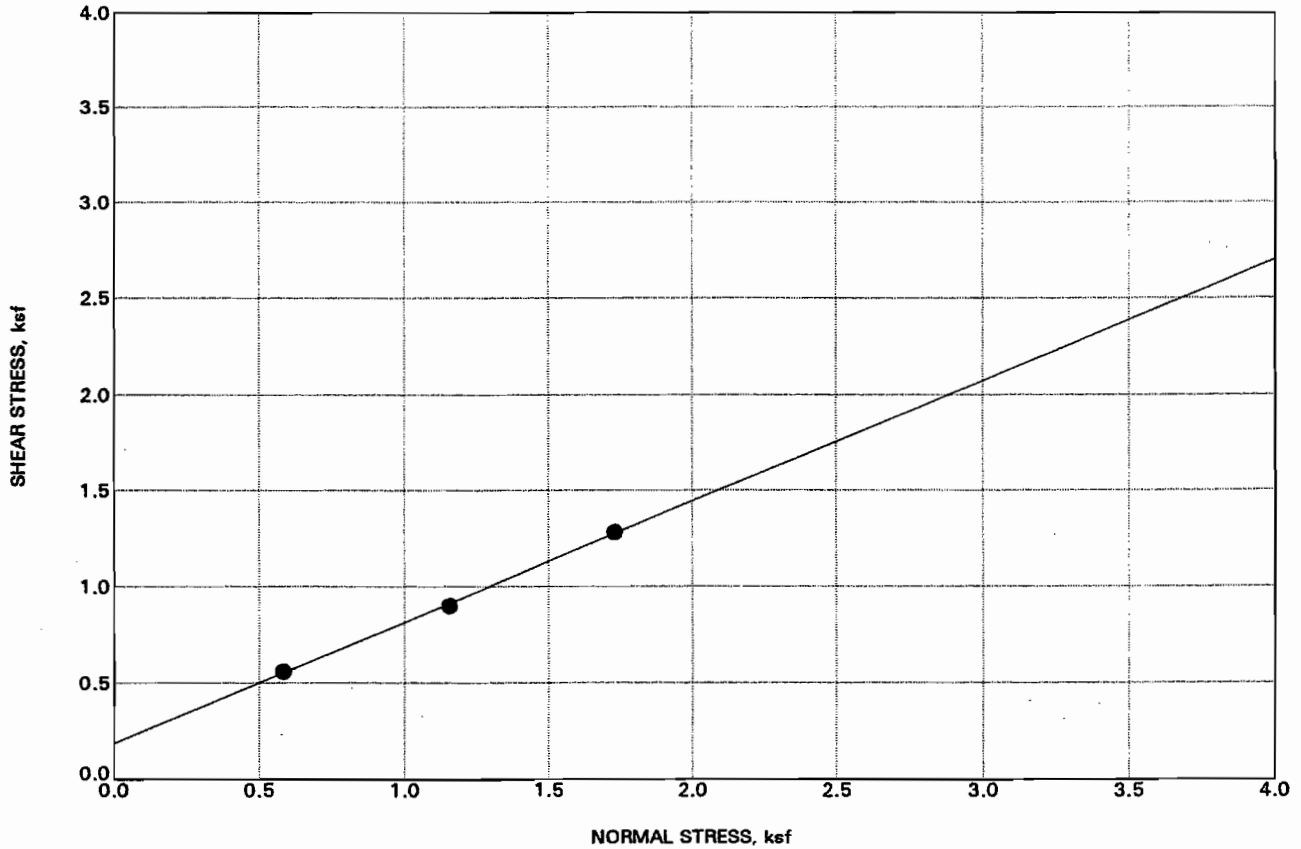
MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5d





EFFECTIVE COHESION, ksf 0.19

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 32

LOCATION DH-105

DEPTH, ft 9.5

MOISTURE CONTENT, % 2

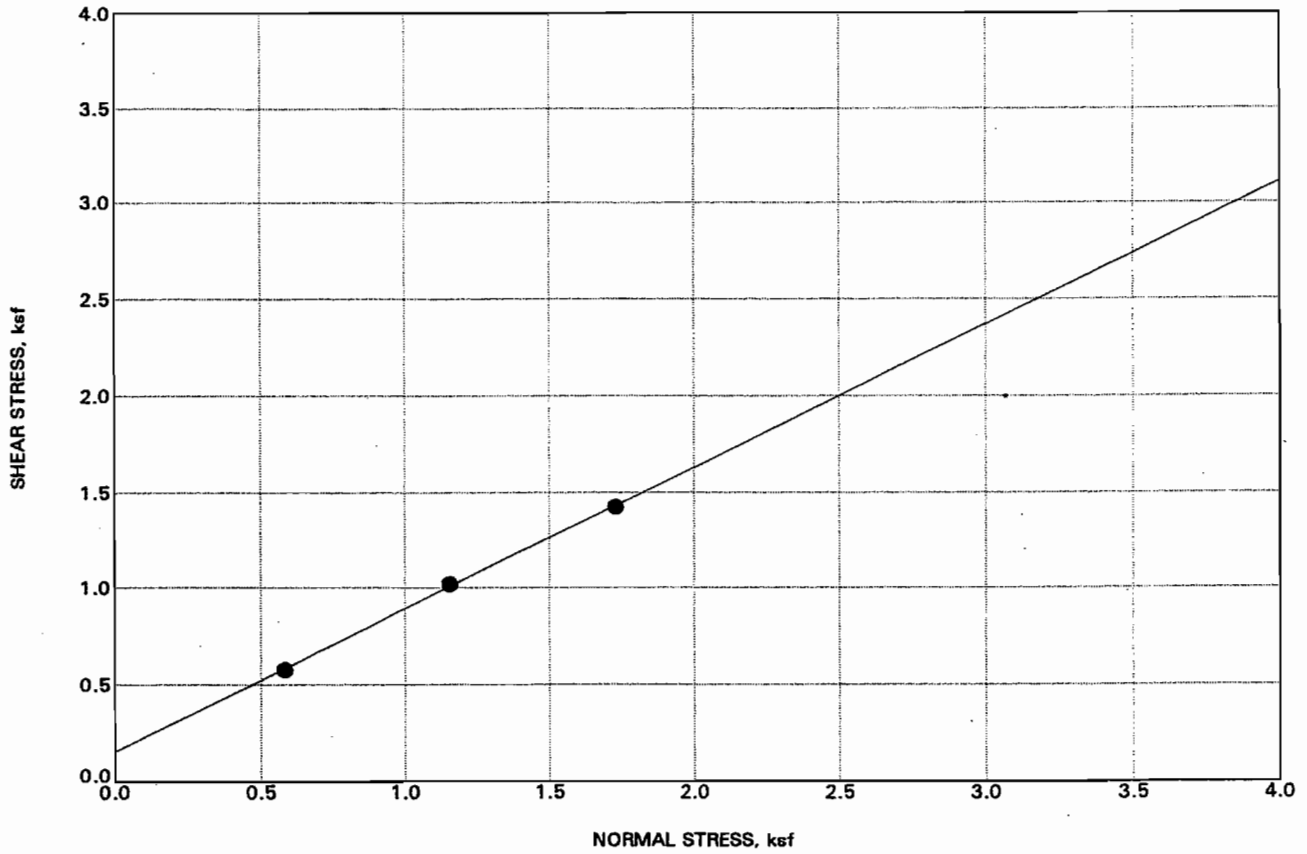
UNIT DRY WEIGHT, pcf 106

MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project



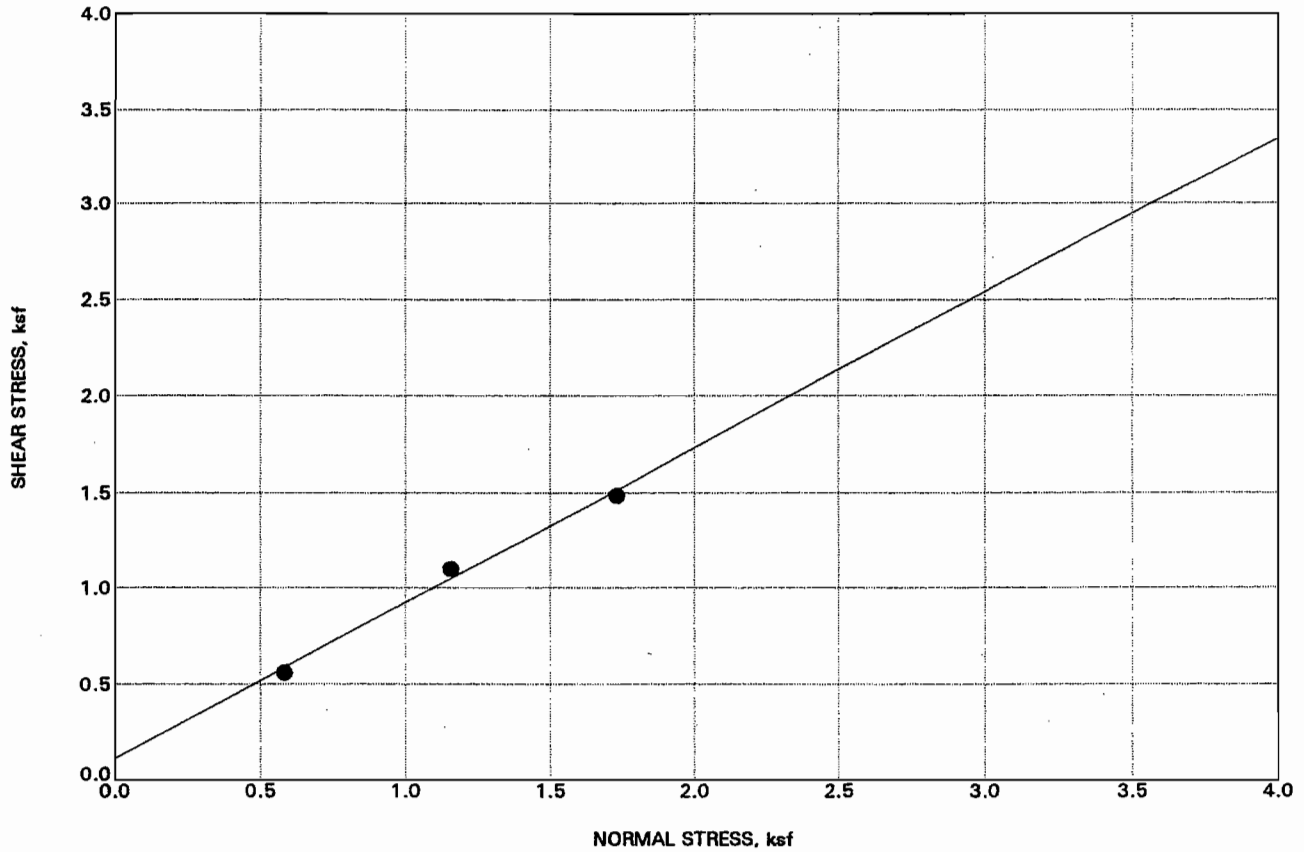


EFFECTIVE COHESION, ksf	0.15
EFFECTIVE ANGLE OF INTERNAL FRICTION, deg	36
LOCATION	DH-106
DEPTH, ft	9.5
MOISTURE CONTENT, %	5
UNIT DRY WEIGHT, pcf	110
MATERIAL DESCRIPTION	SAND (SP)
SAMPLE CONDITION	

DIRECT SHEAR TEST RESULTS
 Los Osos Wastewater Project

PLATE B-5f





EFFECTIVE COHESION, ksf 0.11

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 39

LOCATION DH-107

DEPTH, ft 9.5

MOISTURE CONTENT, % 16

UNIT DRY WEIGHT, pcf 112

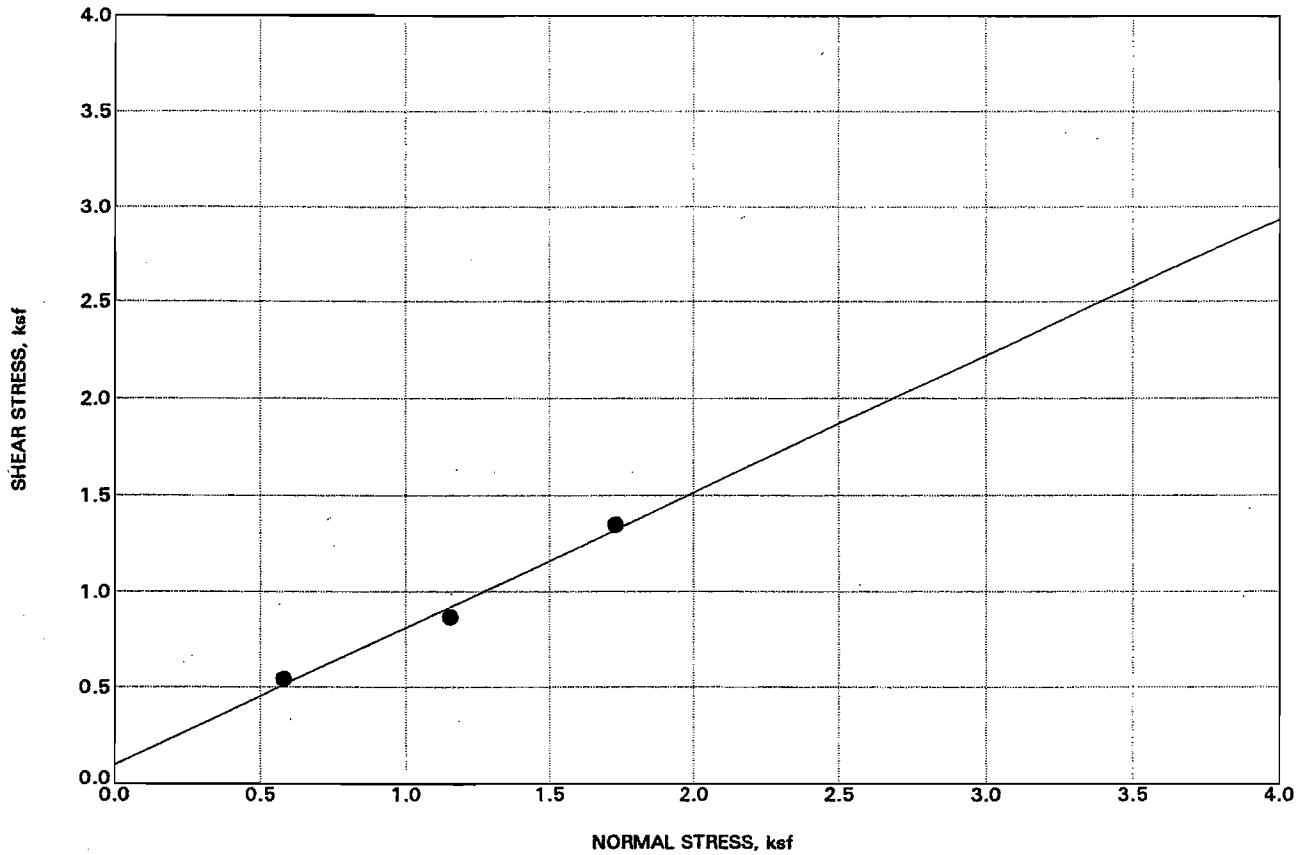
MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5g



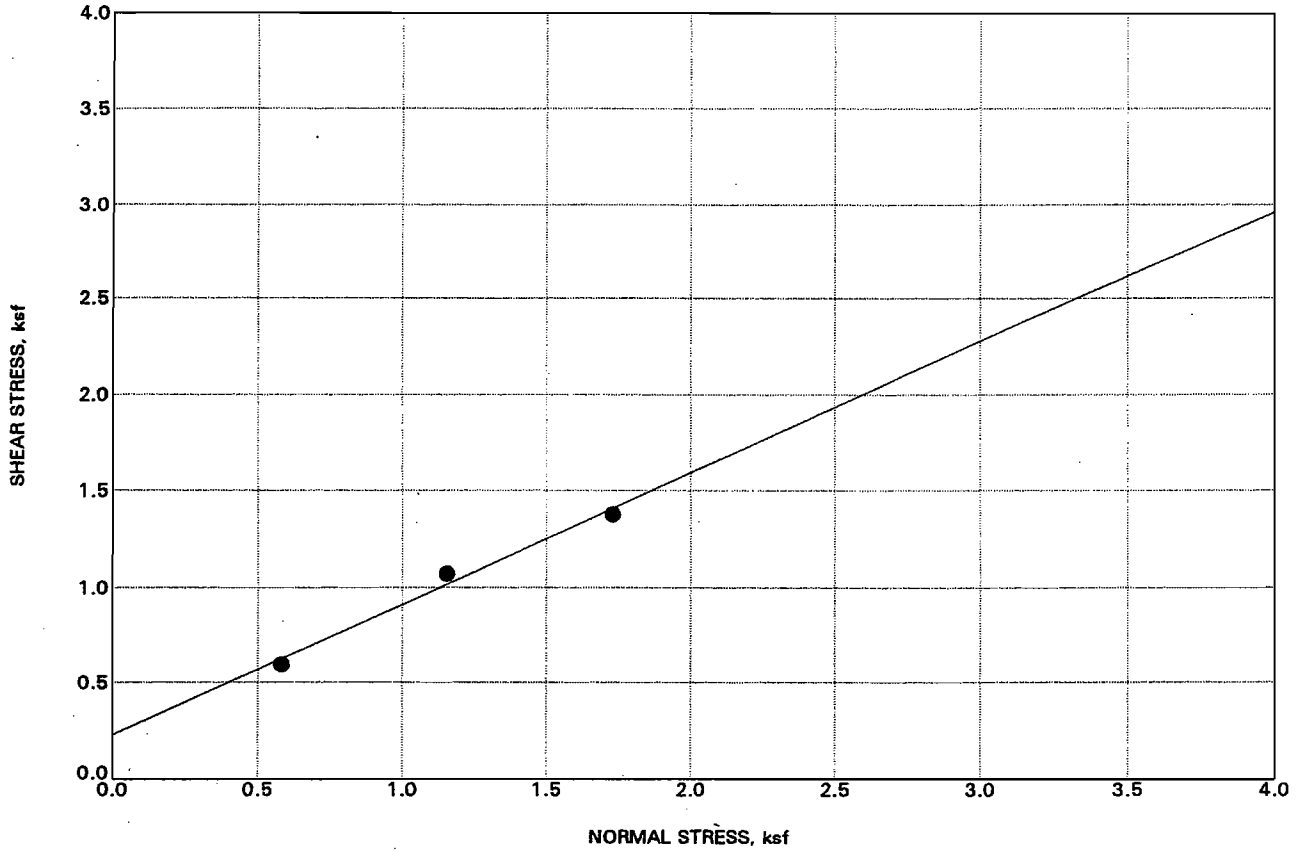


EFFECTIVE COHESION, ksf	0.10
EFFECTIVE ANGLE OF INTERNAL FRICTION, deg	35
LOCATION	DH-108
DEPTH, ft	0.5
MOISTURE CONTENT, %	4
UNIT DRY WEIGHT, pcf	100
MATERIAL DESCRIPTION	SAND (SP)
SAMPLE CONDITION	

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5h





EFFECTIVE COHESION, ksf 0.22

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 34

LOCATION DH-109

DEPTH, ft 1.0

MOISTURE CONTENT, % 4

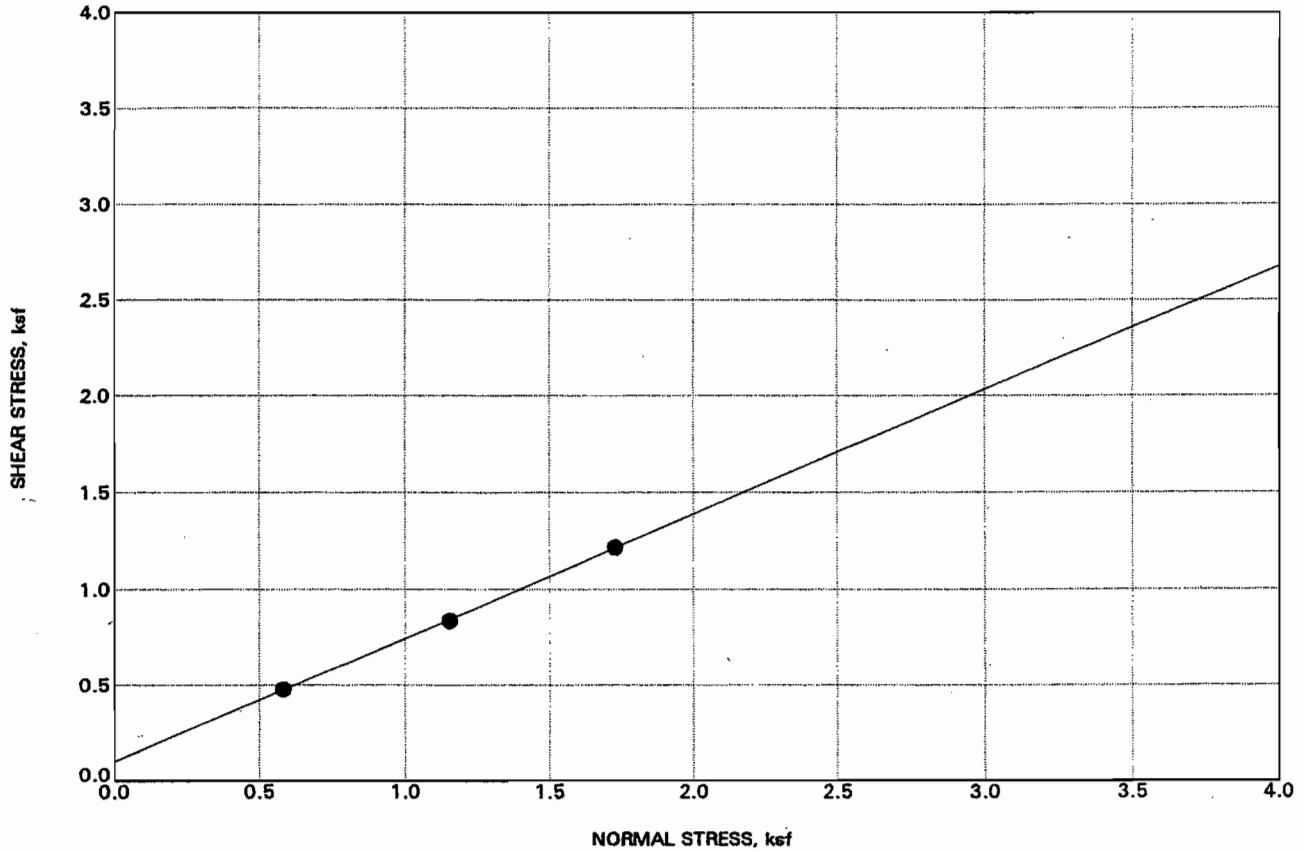
UNIT DRY WEIGHT, pcf 105

MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project



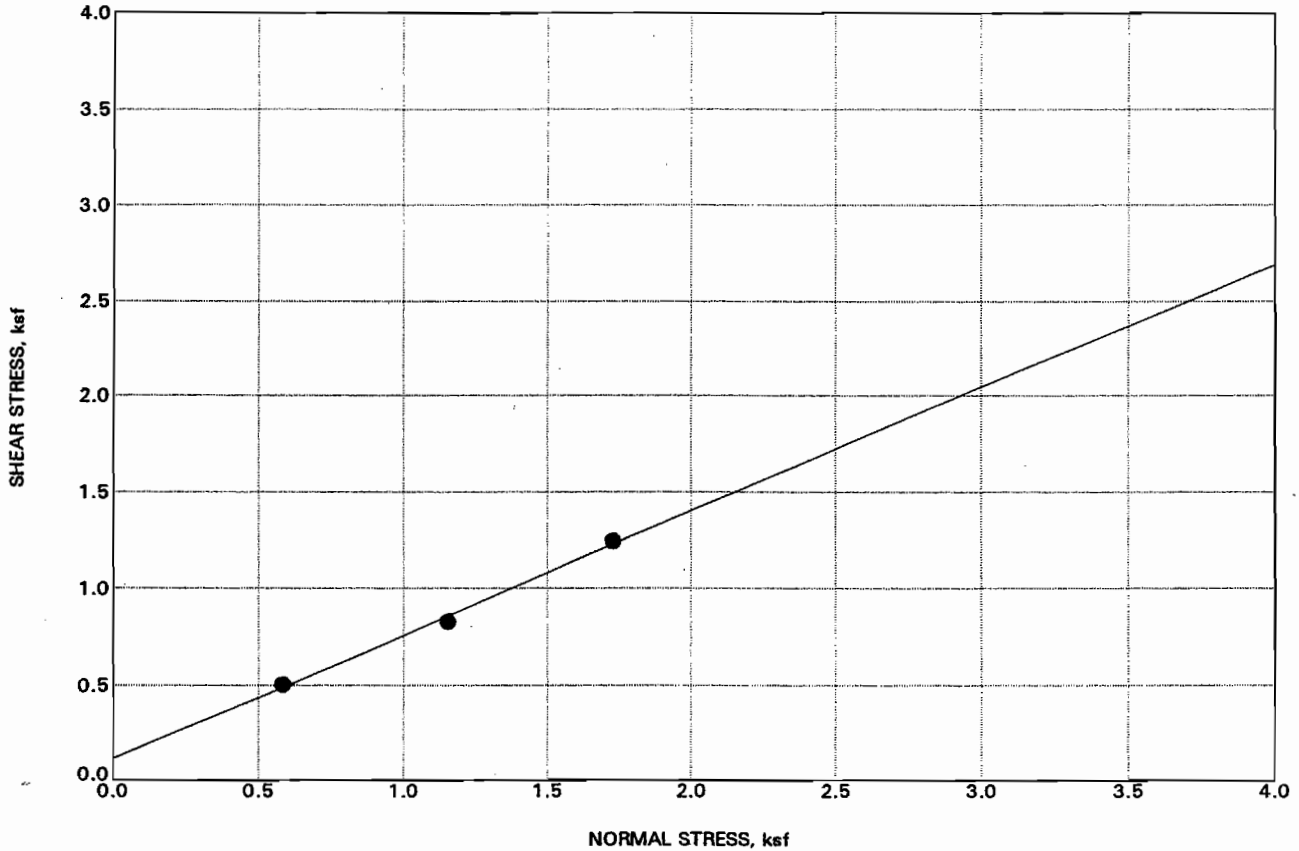


EFFECTIVE COHESION, ksf	0.10
EFFECTIVE ANGLE OF INTERNAL FRICTION, deg	33
LOCATION	DH-109
DEPTH, ft	2.0
MOISTURE CONTENT, %	
UNIT DRY WEIGHT, pcf	
MATERIAL DESCRIPTION	SAND (SP)
SAMPLE CONDITION	

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5j





EFFECTIVE COHESION, ksf 0.11

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 33

LOCATION DH-110

DEPTH, ft 2.0

MOISTURE CONTENT, %

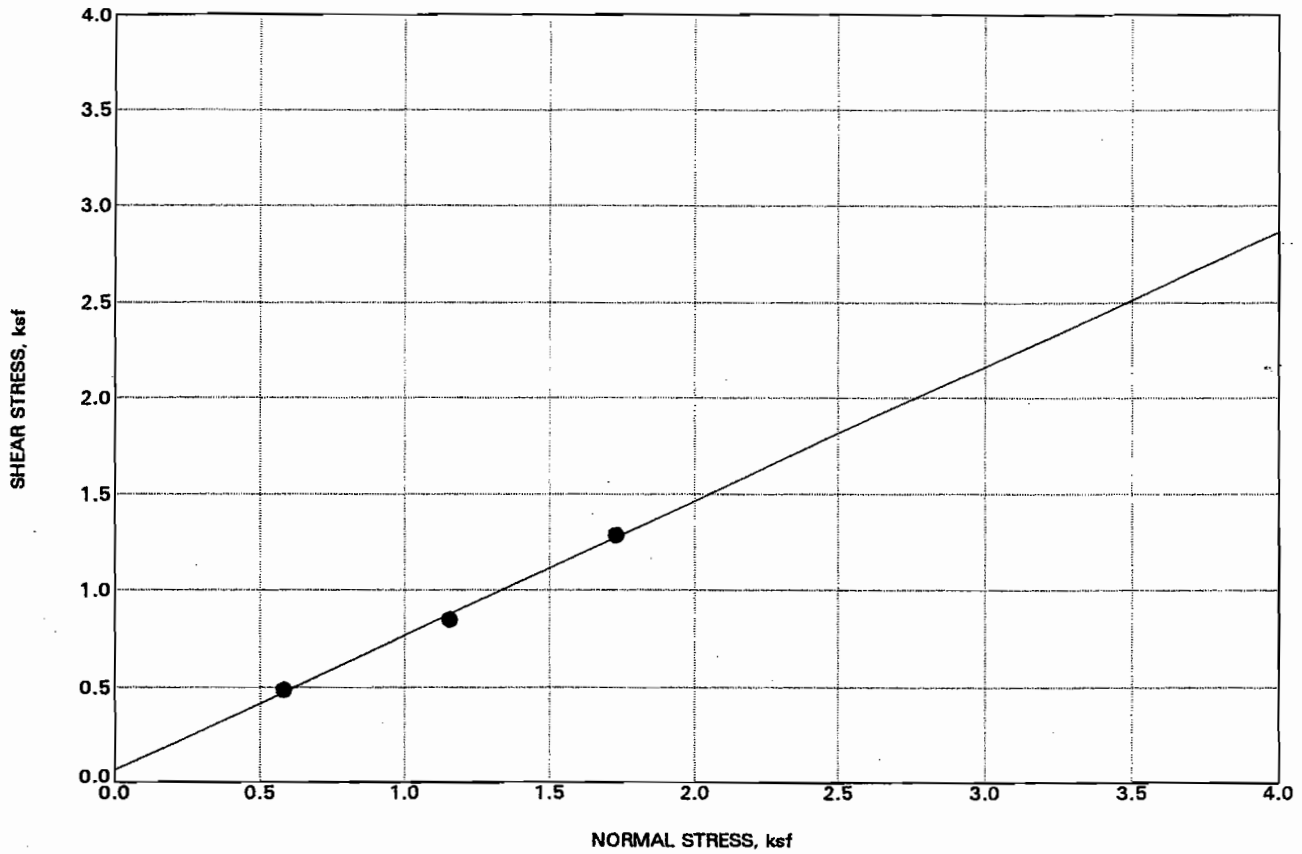
UNIT DRY WEIGHT, pcf

MATERIAL DESCRIPTION SAND with gravel (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project





EFFECTIVE COHESION, ksf 0.07

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 35

LOCATION DH-111

DEPTH, ft 4.5

MOISTURE CONTENT, % 2

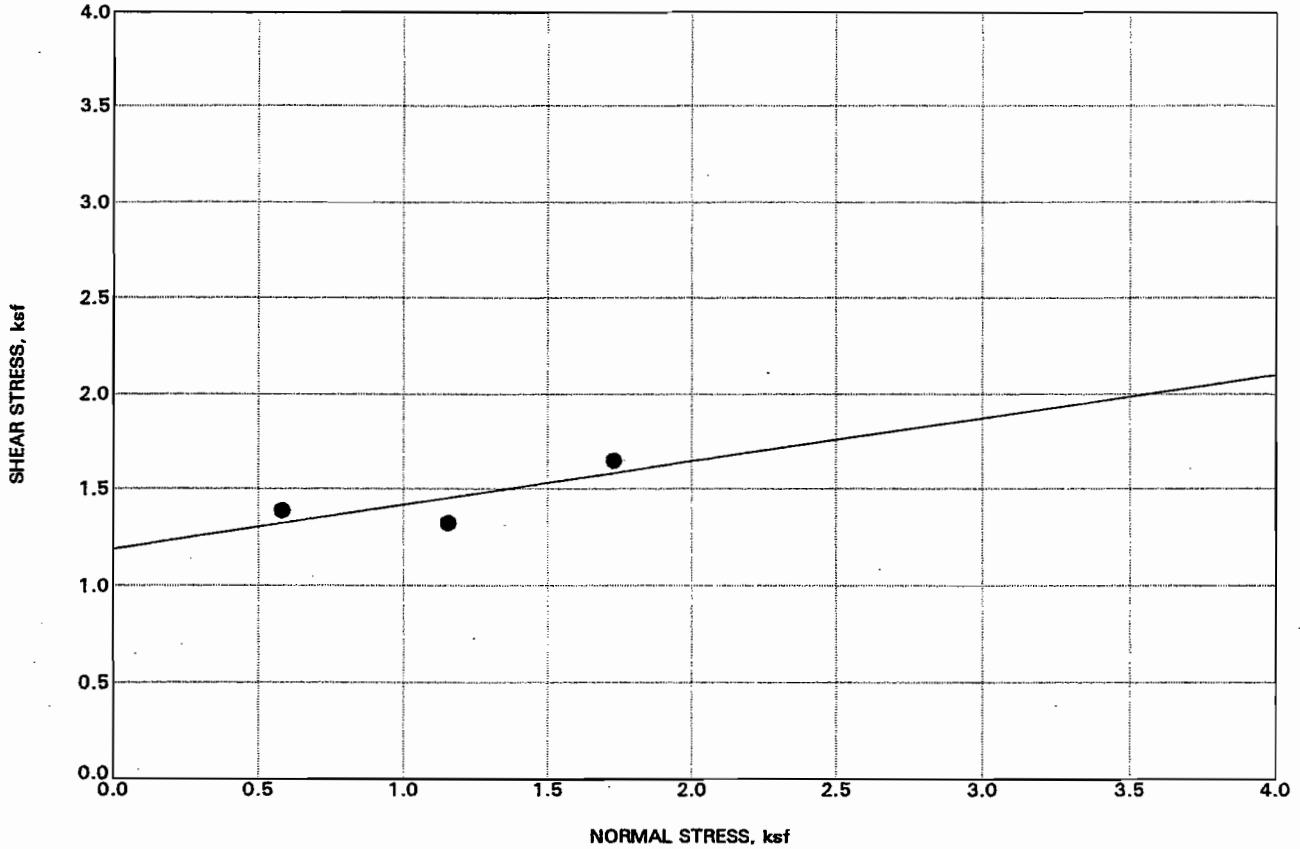
UNIT DRY WEIGHT, pcf 108

MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project





EFFECTIVE COHESION, ksf 0.65

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 30

LOCATION DH-112

DEPTH, ft 1.5

MOISTURE CONTENT, % 10

UNIT DRY WEIGHT, pcf 126

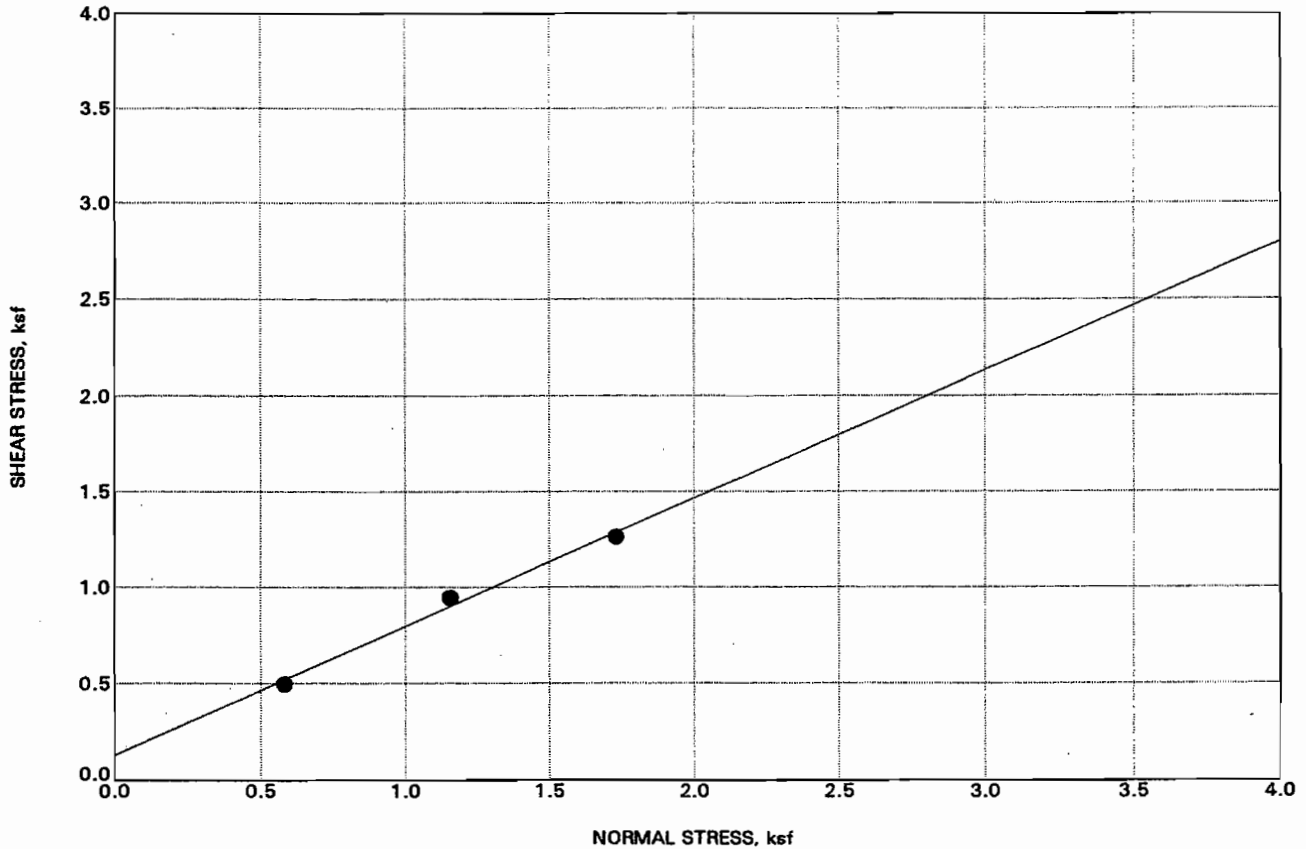
MATERIAL DESCRIPTION SAND with silt (SP-SM)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5m





EFFECTIVE COHESION, ksf 0.13

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 34

LOCATION DH-113

DEPTH, ft 1.0

MOISTURE CONTENT, % 2

UNIT DRY WEIGHT, pcf 105

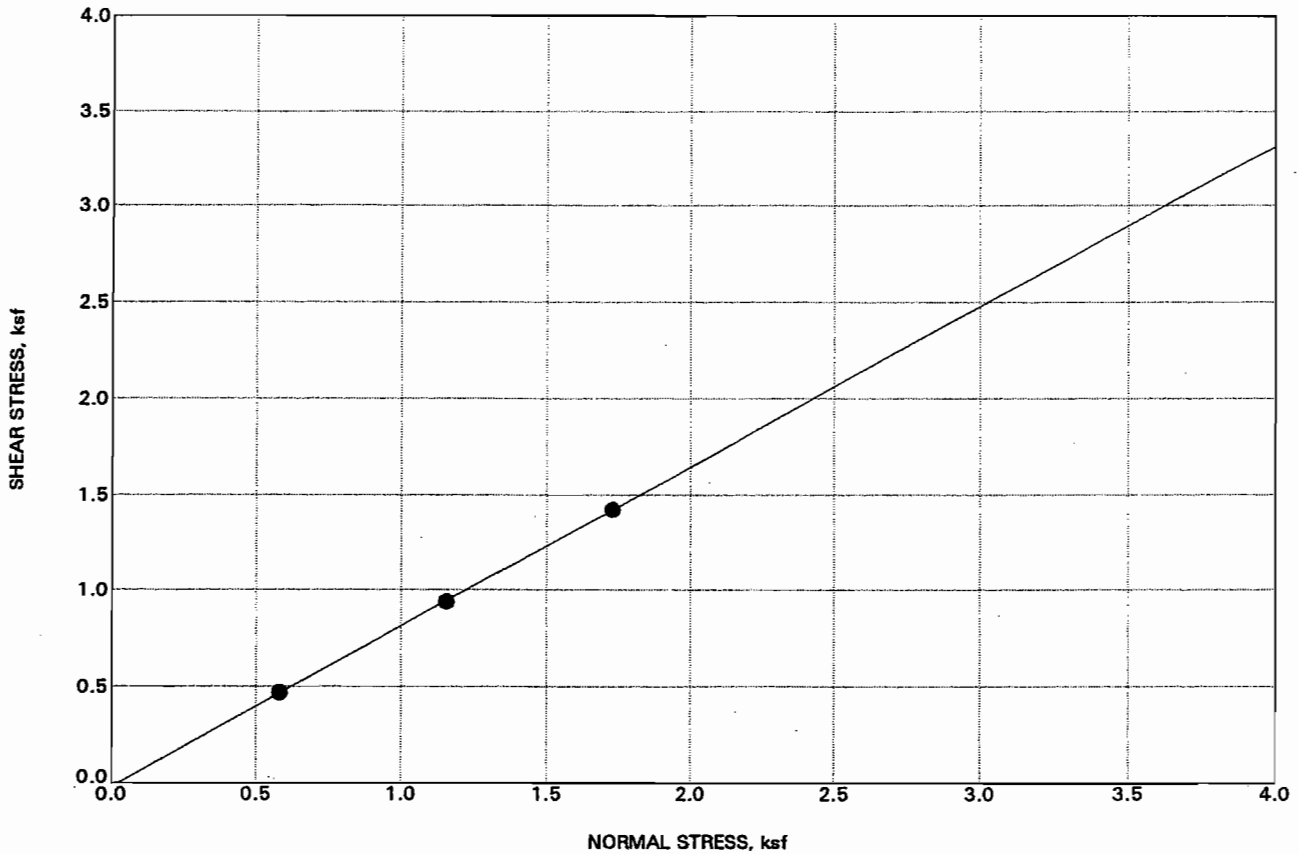
MATERIAL DESCRIPTION Silty SAND (SM)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5n



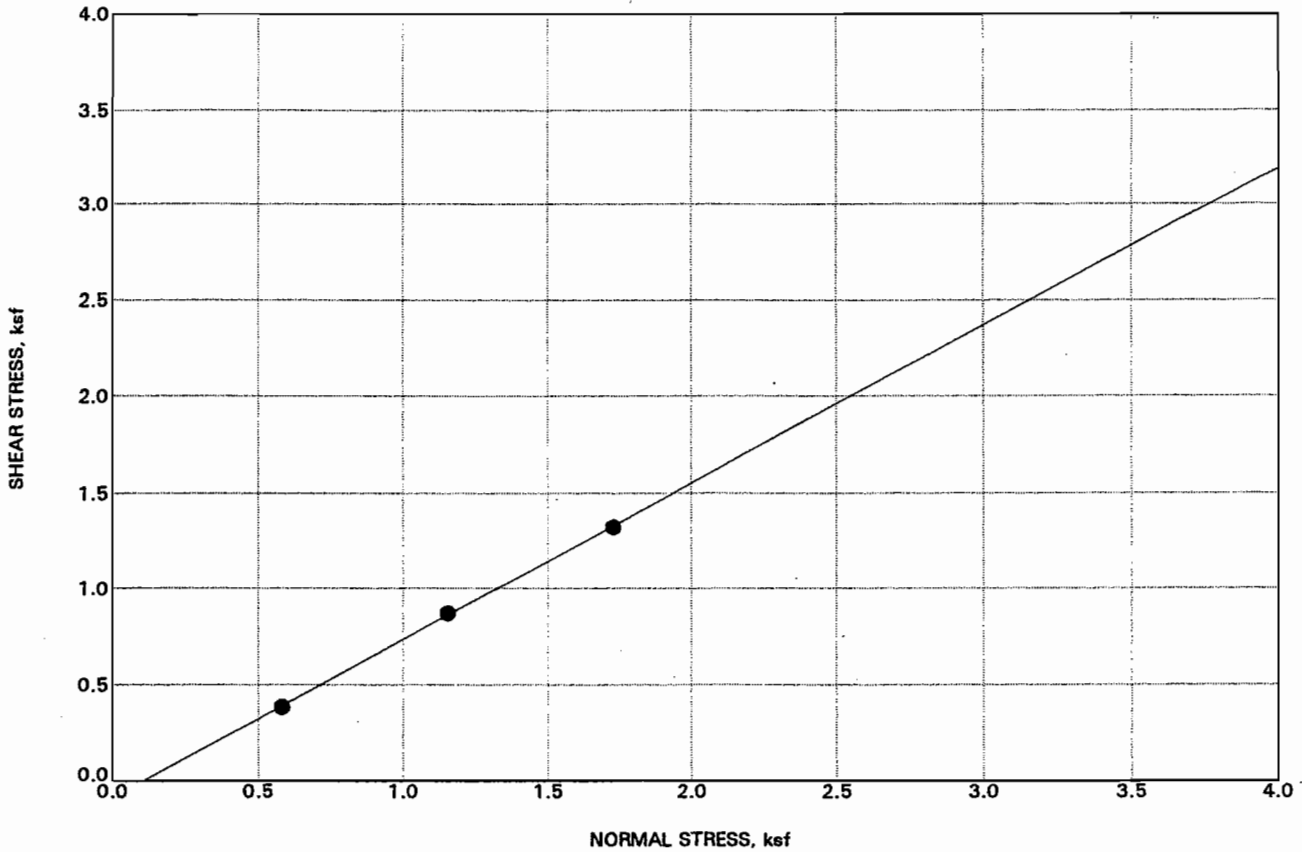


EFFECTIVE COHESION, ksf	0.00
EFFECTIVE ANGLE OF INTERNAL FRICTION, deg	39
LOCATION	DH-114
DEPTH, ft	9.5
MOISTURE CONTENT, %	5
UNIT DRY WEIGHT, pcf	103
MATERIAL DESCRIPTION	SAND (SP)
SAMPLE CONDITION	

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5o



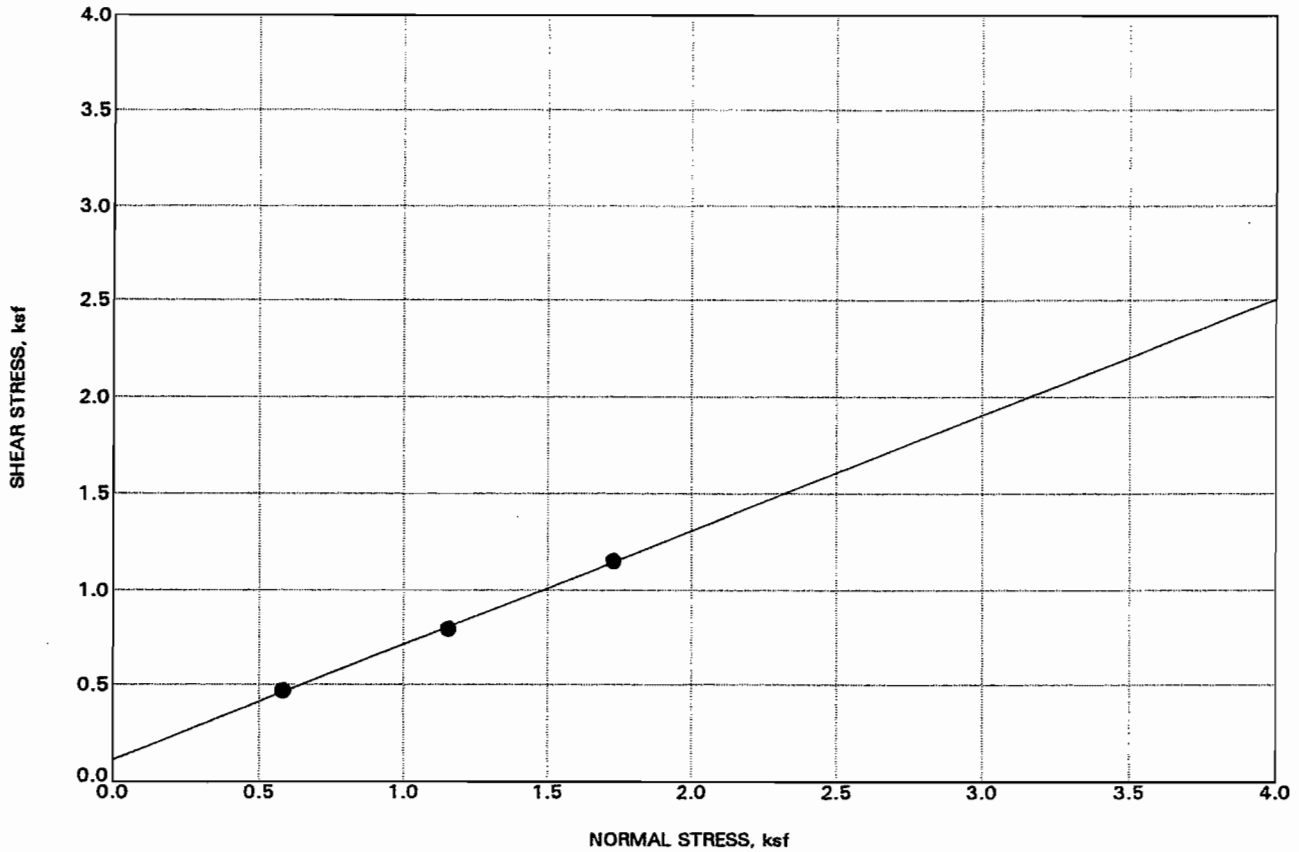


EFFECTIVE COHESION, ksf	0.00
EFFECTIVE ANGLE OF INTERNAL FRICTION, deg	39
LOCATION	DH-115
DEPTH, ft	1.0
MOISTURE CONTENT, %	3
UNIT DRY WEIGHT, pcf	102
MATERIAL DESCRIPTION	Silty SAND (SM)
SAMPLE CONDITION	

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5p

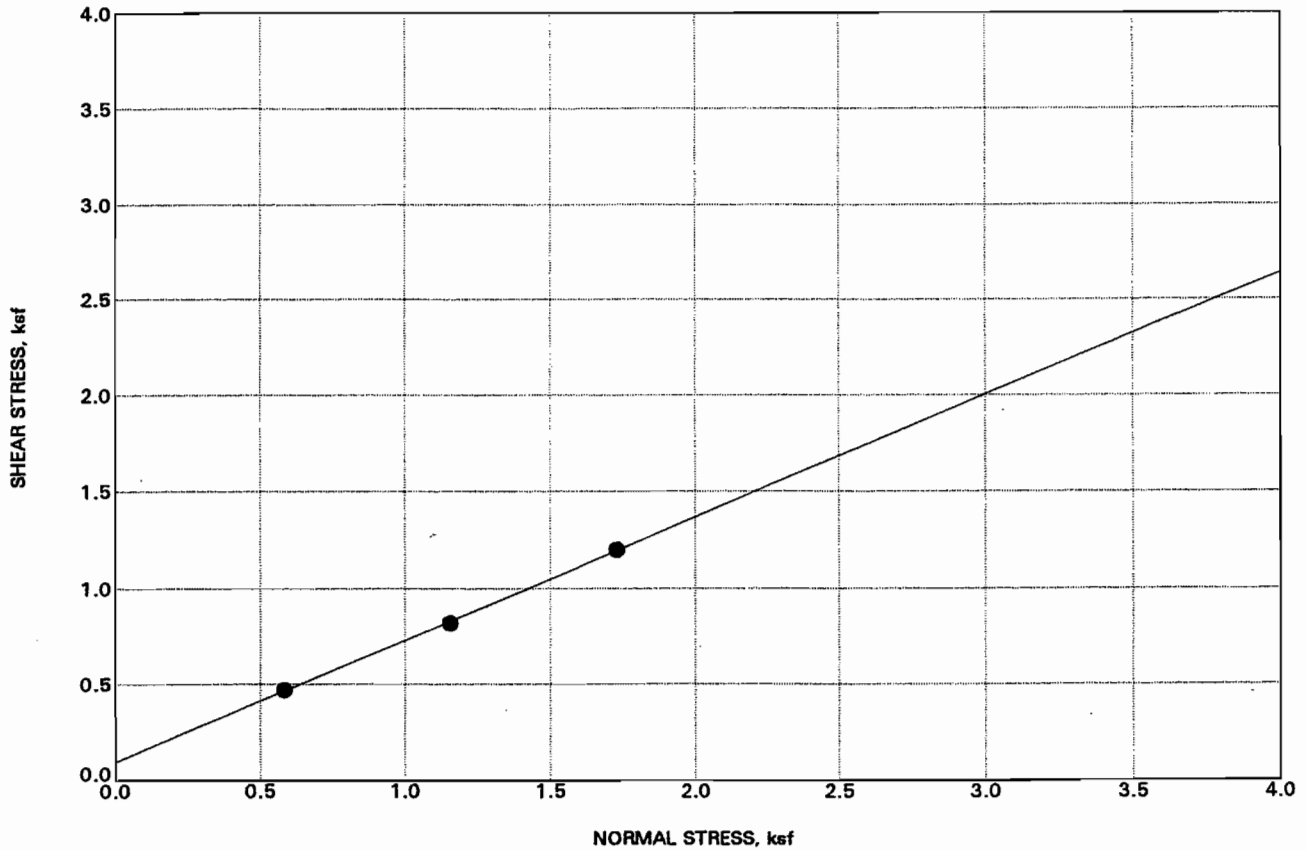




EFFECTIVE COHESION, ksf	0.11
EFFECTIVE ANGLE OF INTERNAL FRICTION, deg	31
LOCATION	DH-116
DEPTH, ft	2.0
MOISTURE CONTENT, %	
UNIT DRY WEIGHT, pcf	
MATERIAL DESCRIPTION	SAND (SP)
SAMPLE CONDITION	

DIRECT SHEAR TEST RESULTS
 Los Osos Wastewater Project



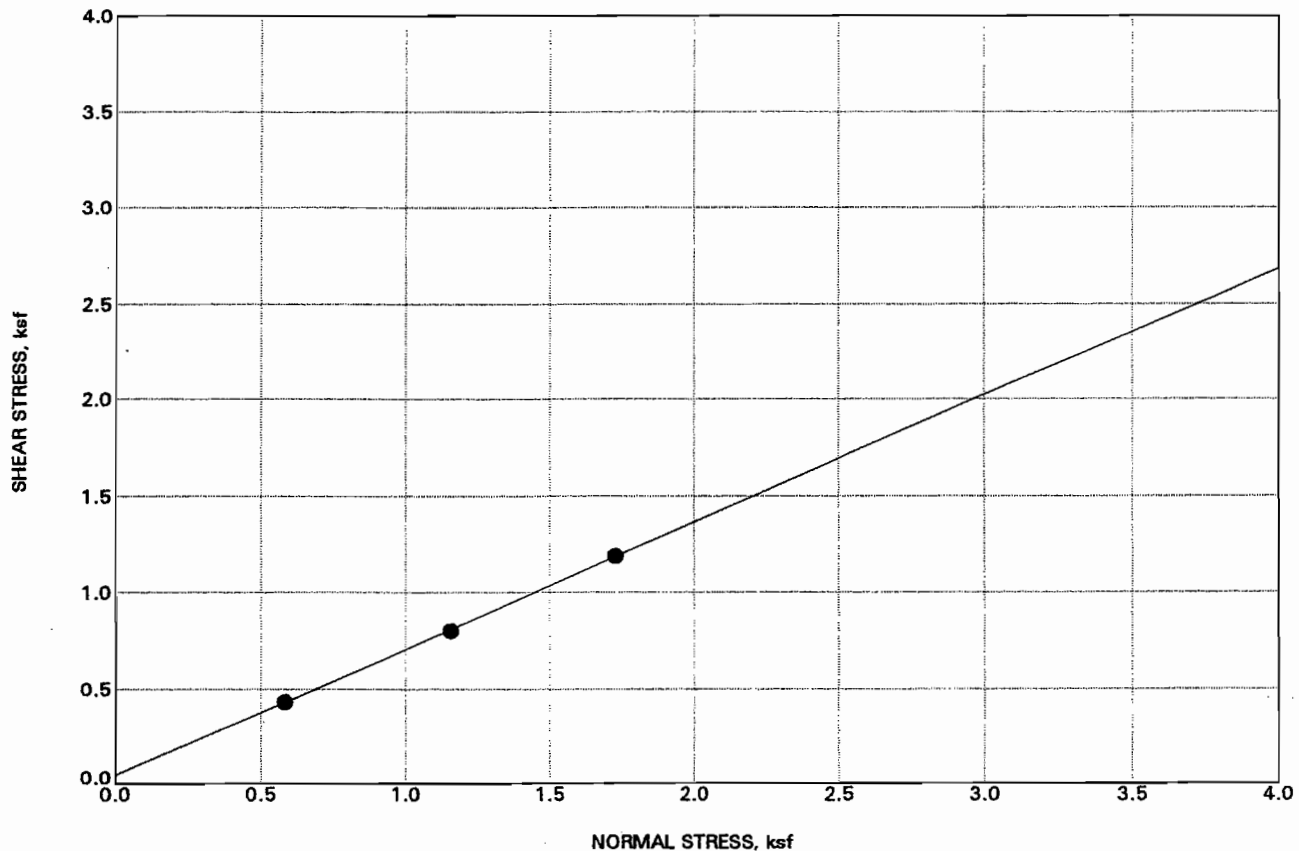


EFFECTIVE COHESION, ksf	0.09
EFFECTIVE ANGLE OF INTERNAL FRICTION, deg	32
LOCATION	DH-117
DEPTH, ft	2.0
MOISTURE CONTENT, %	
UNIT DRY WEIGHT, pcf	
MATERIAL DESCRIPTION	SAND (SP)
SAMPLE CONDITION	

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5r





EFFECTIVE COHESION, ksf 0.04

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 33

LOCATION DH-201

DEPTH, ft 4.0

MOISTURE CONTENT, %

UNIT DRY WEIGHT, pcf

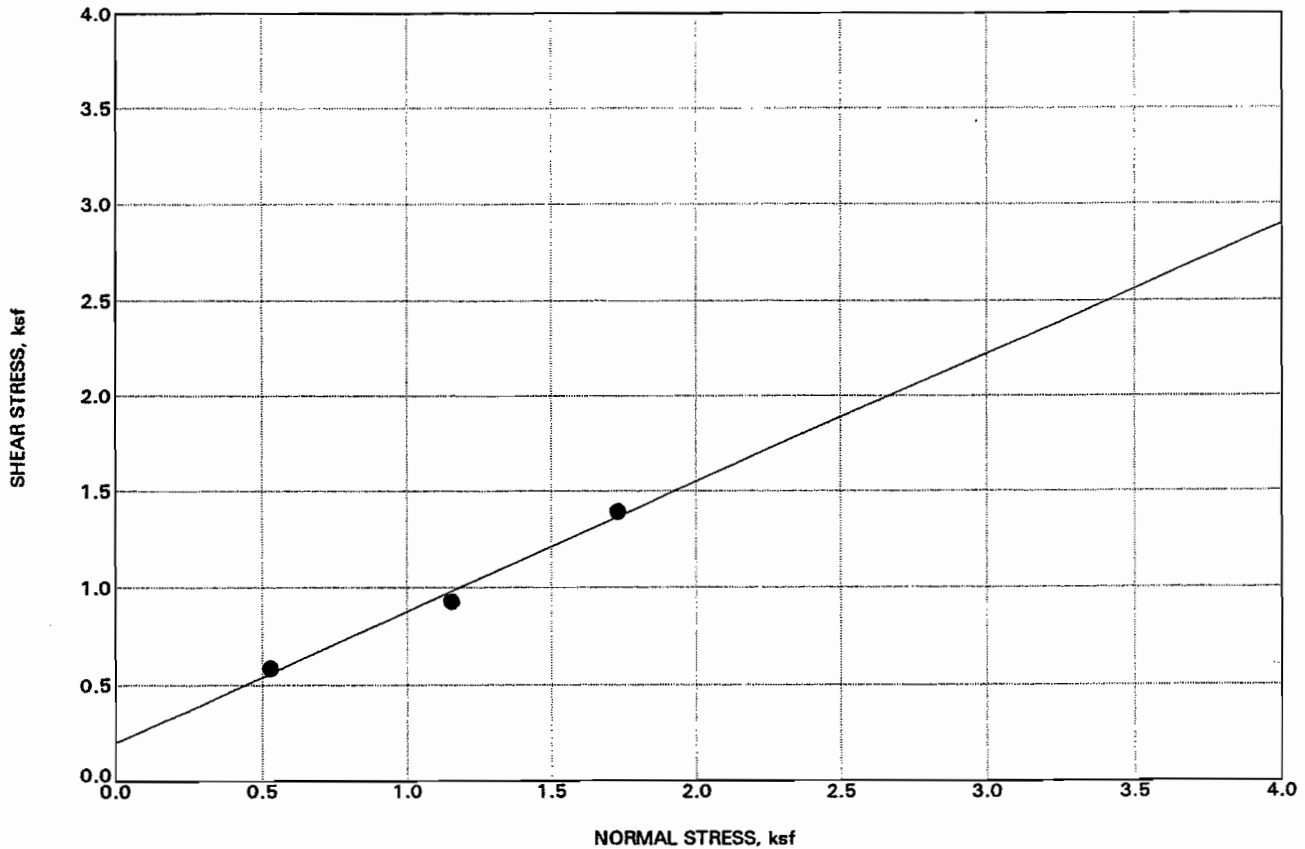
MATERIAL DESCRIPTION Fine SAND with silt (SP-SM)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5s





EFFECTIVE COHESION, ksf 0.20

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 34

LOCATION DH-201

DEPTH, ft 15.0

MOISTURE CONTENT, % 8

UNIT DRY WEIGHT, pcf 105

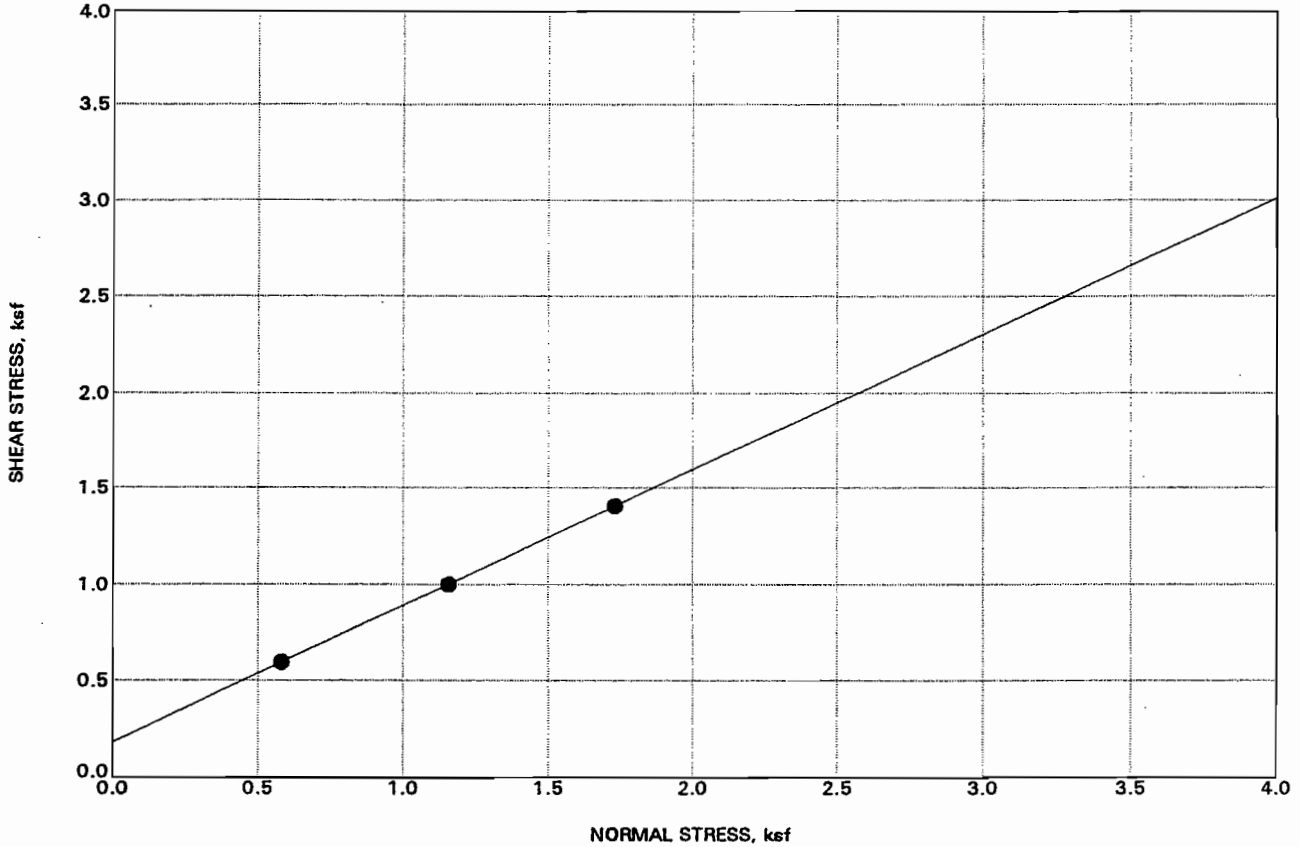
MATERIAL DESCRIPTION Fine SAND with silt (SP-SM)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5t





EFFECTIVE COHESION, ksf 0.18

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 35

LOCATION DH-202

DEPTH, ft 5.0

MOISTURE CONTENT, % 5

UNIT DRY WEIGHT, pcf 104

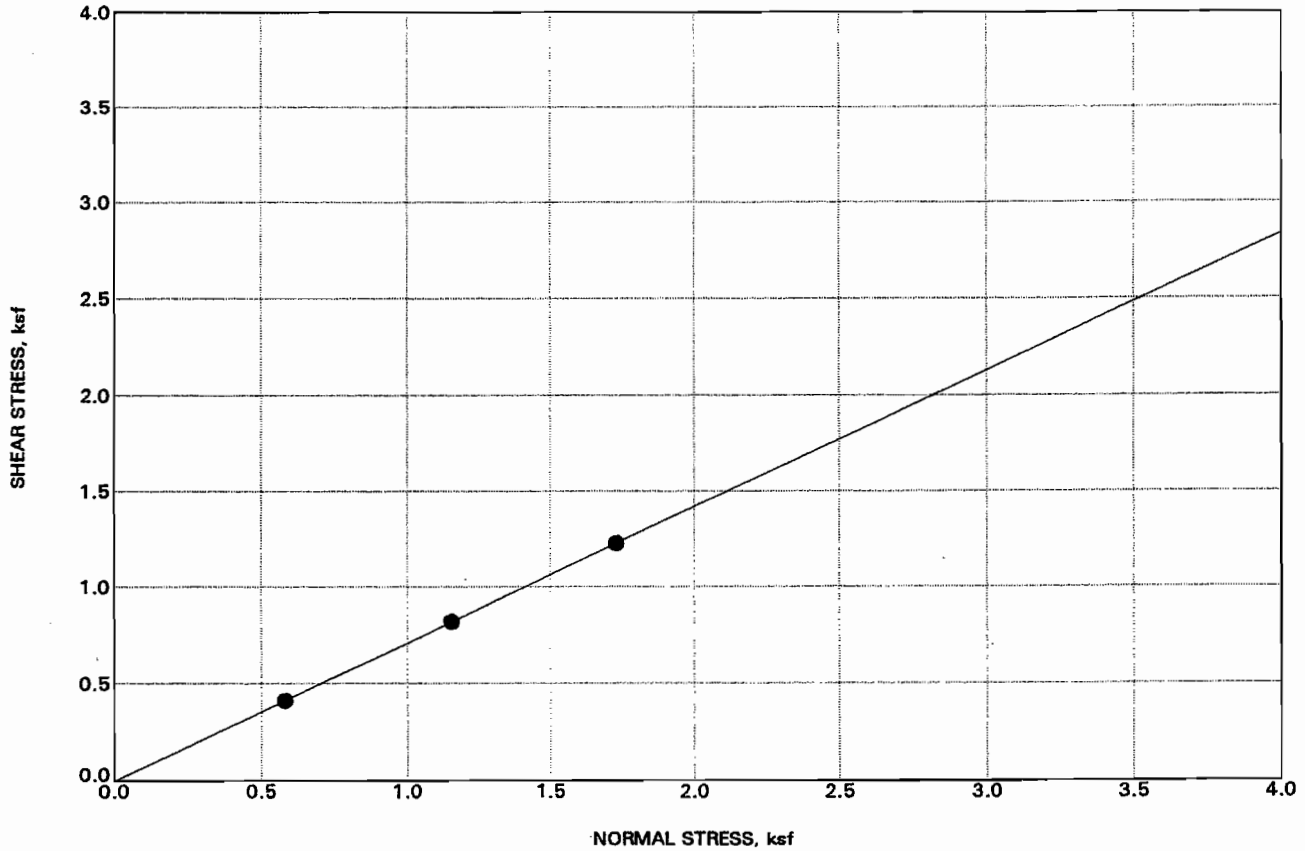
MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5u





EFFECTIVE COHESION, ksf 0.40

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 34

LOCATION DH-203

DEPTH, ft 3.0

MOISTURE CONTENT, %

UNIT DRY WEIGHT, pcf

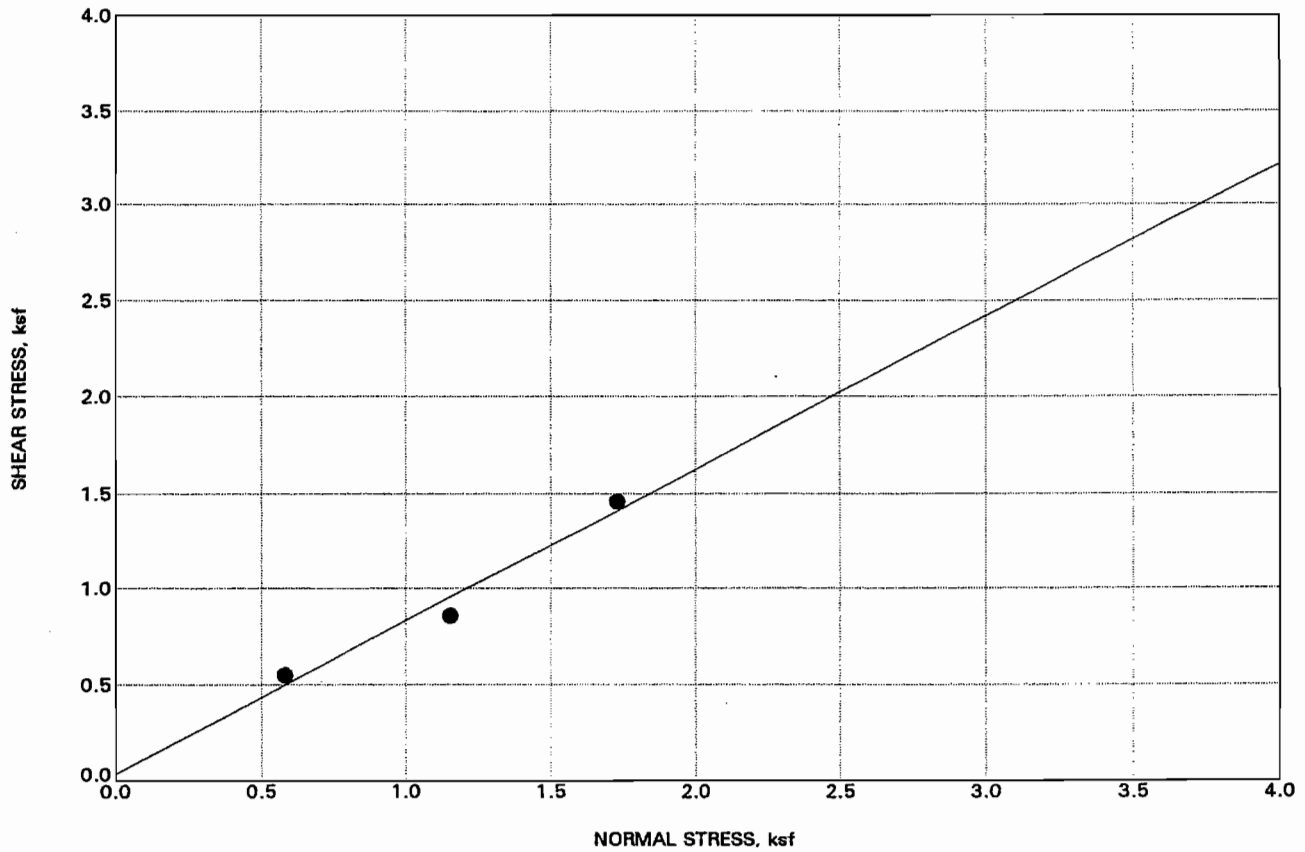
MATERIAL DESCRIPTION Silty SAND (SM)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5v





EFFECTIVE COHESION, ksf 0.04

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 38

LOCATION DH-301

DEPTH, ft 1.5

MOISTURE CONTENT, % 6

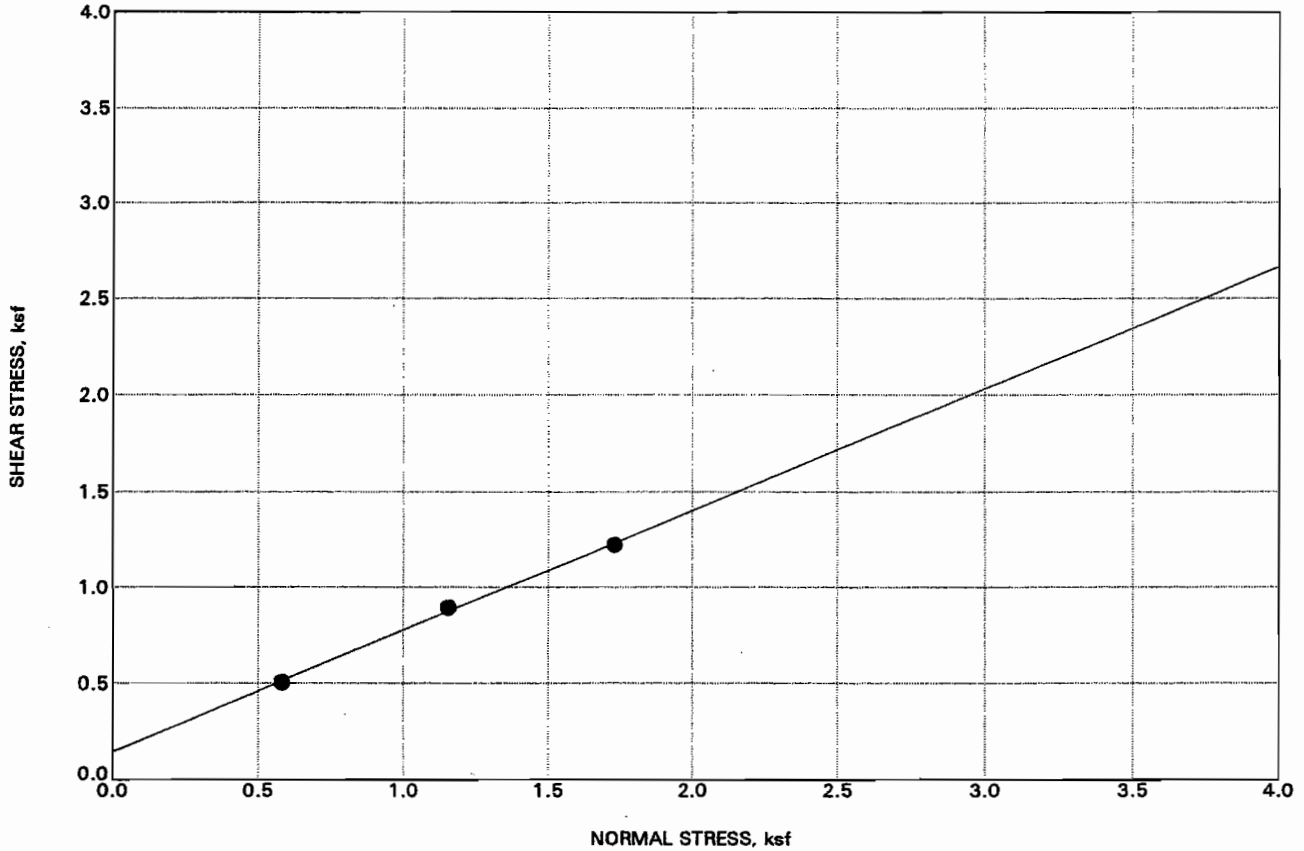
UNIT DRY WEIGHT, pcf 102

MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project





EFFECTIVE COHESION, ksf 0.15

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 32

LOCATION DH-301

DEPTH, ft 3.0

MOISTURE CONTENT, %

UNIT DRY WEIGHT, pcf

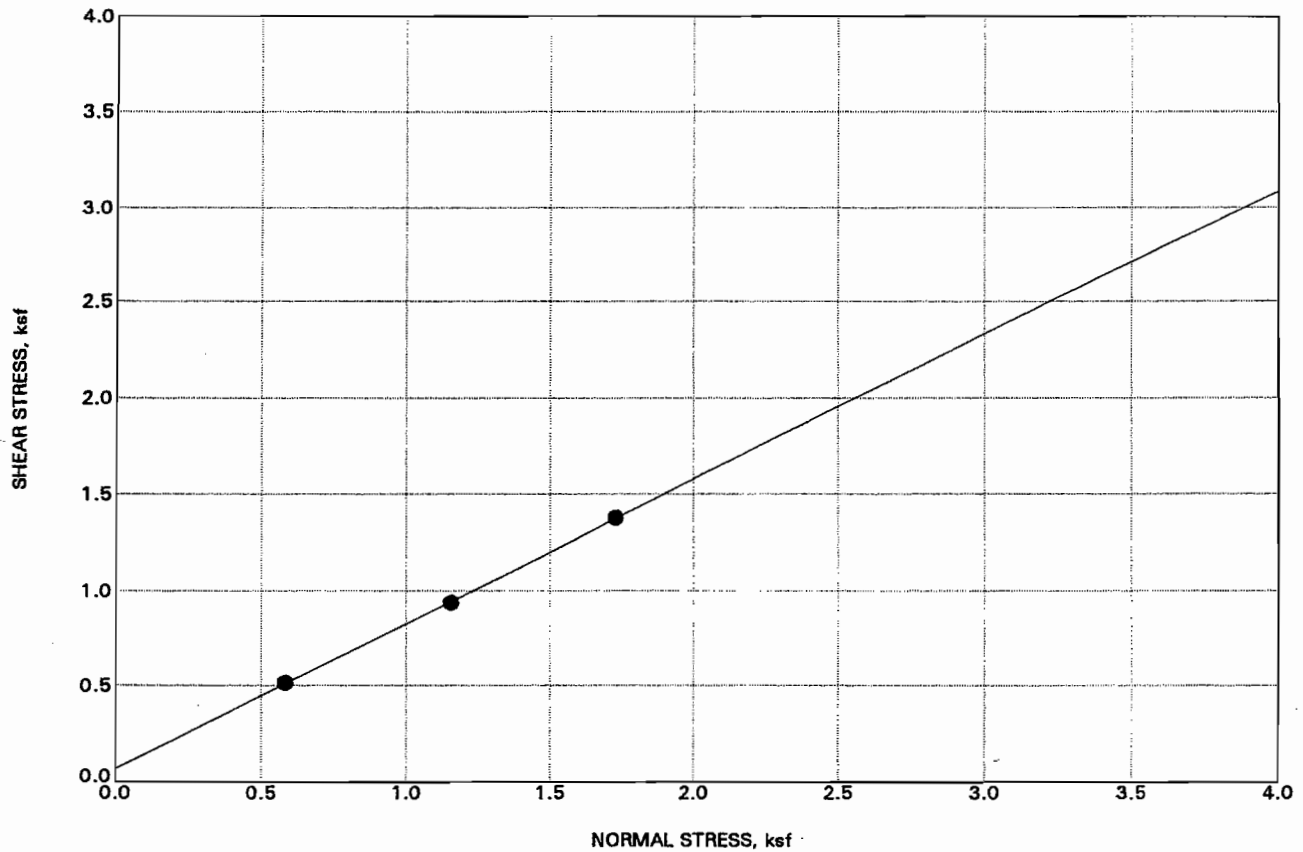
MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
Los Osos Wastewater Project

PLATE B-5x





EFFECTIVE COHESION, ksf 0.07

EFFECTIVE ANGLE OF INTERNAL FRICTION, deg 37

LOCATION DH-301

DEPTH, ft 35.0

MOISTURE CONTENT, % 22

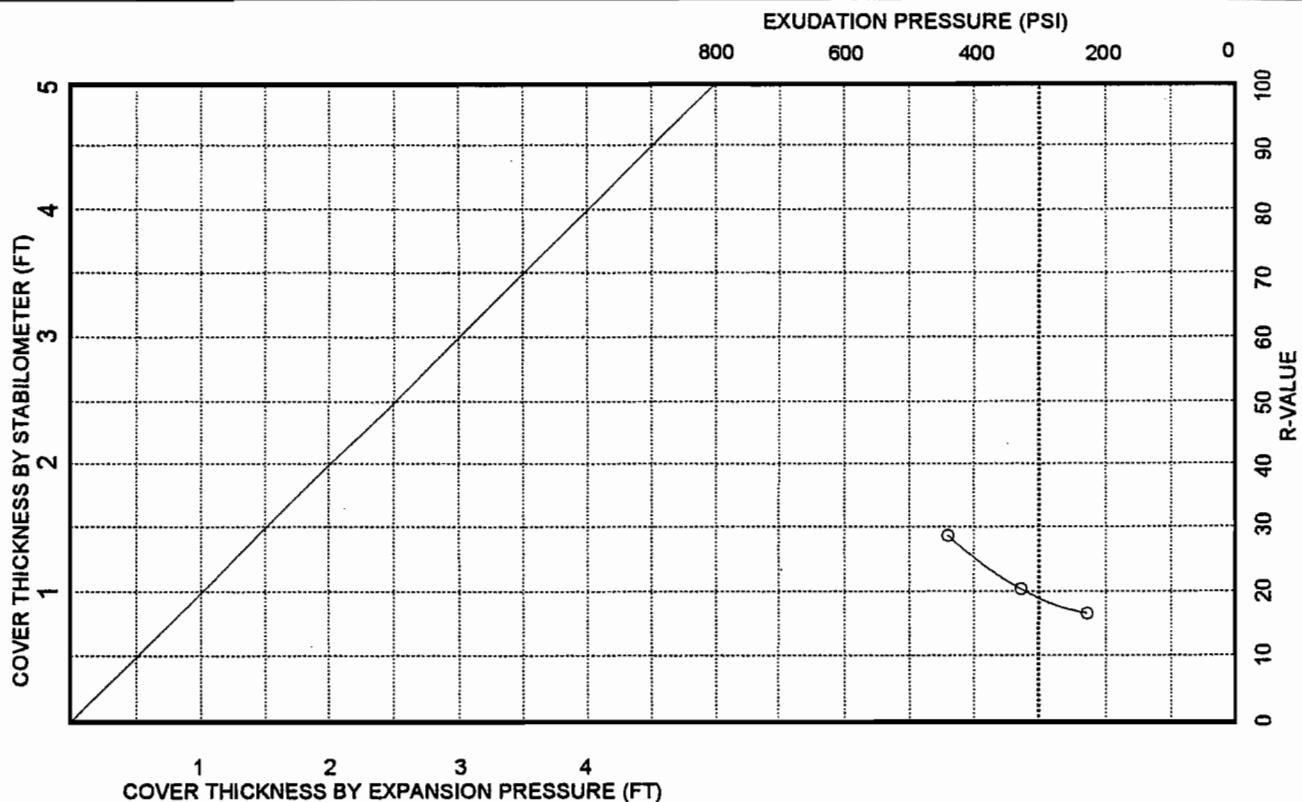
UNIT DRY WEIGHT, pcf 105

MATERIAL DESCRIPTION SAND (SP)

SAMPLE CONDITION

DIRECT SHEAR TEST RESULTS
 Los Osos Wastewater Project





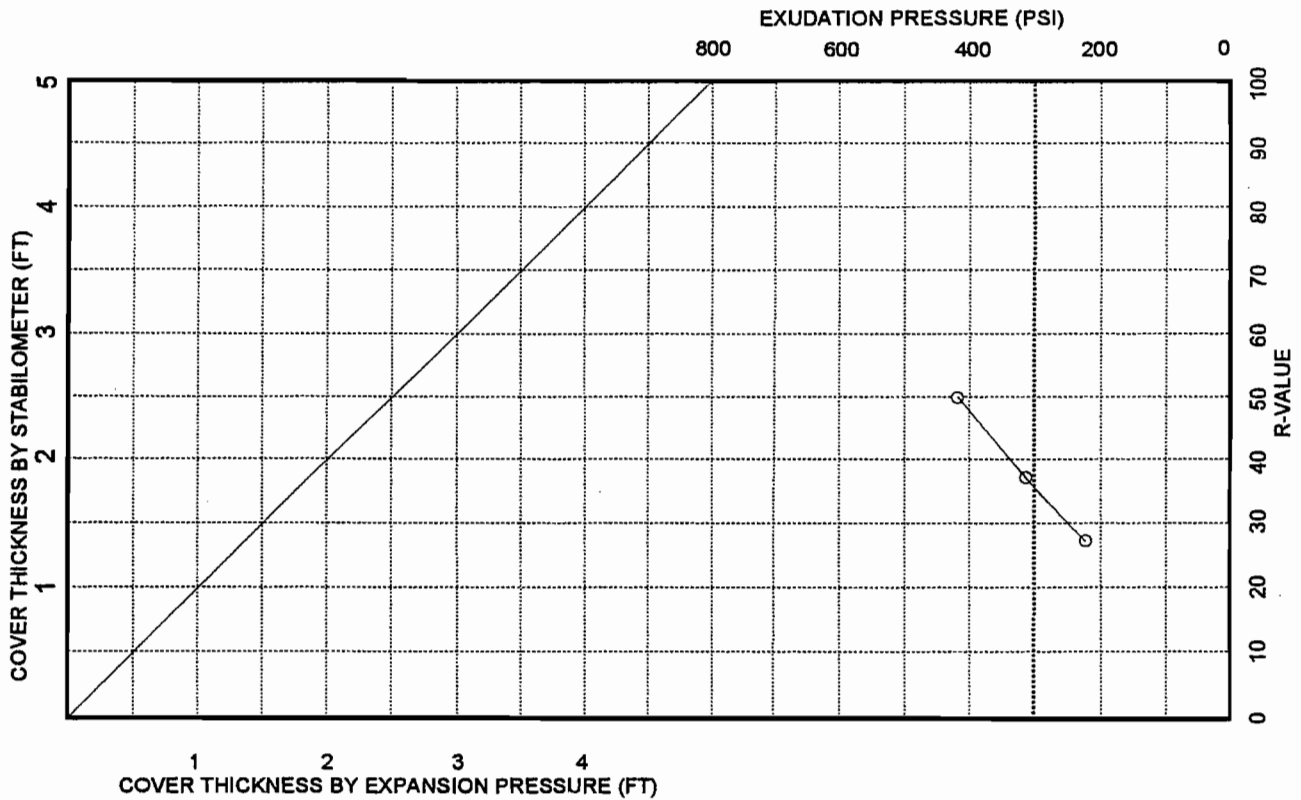
SAMPLE NO. DH-106 at 2 to 5 feet
 DESCRIPTION: Clayey SAND with gravel (SC)
 TESTED BY: Fugro West, Inc.

SPECIMEN	A	B	C
EXUDATION PRESSURE (PSI)	229	336	436
EXPANSION DIAL (0.0001")	0	9	15
EXPANSION PRESSURE (PSF)	0	39	65
RESISTANCE VALUE, "R"	17	21	28
% MOISTURE AT TEST	11.2	10.5	9.8
DRY DENSITY AT TEST (PCF)	131.2	133.5	135.7
R-VALUE AT 300 PSI EXUDATION PRESSURE			19

R-VALUE TEST RESULTS
 Los Osos Wastewater Project

PLATE B-6a



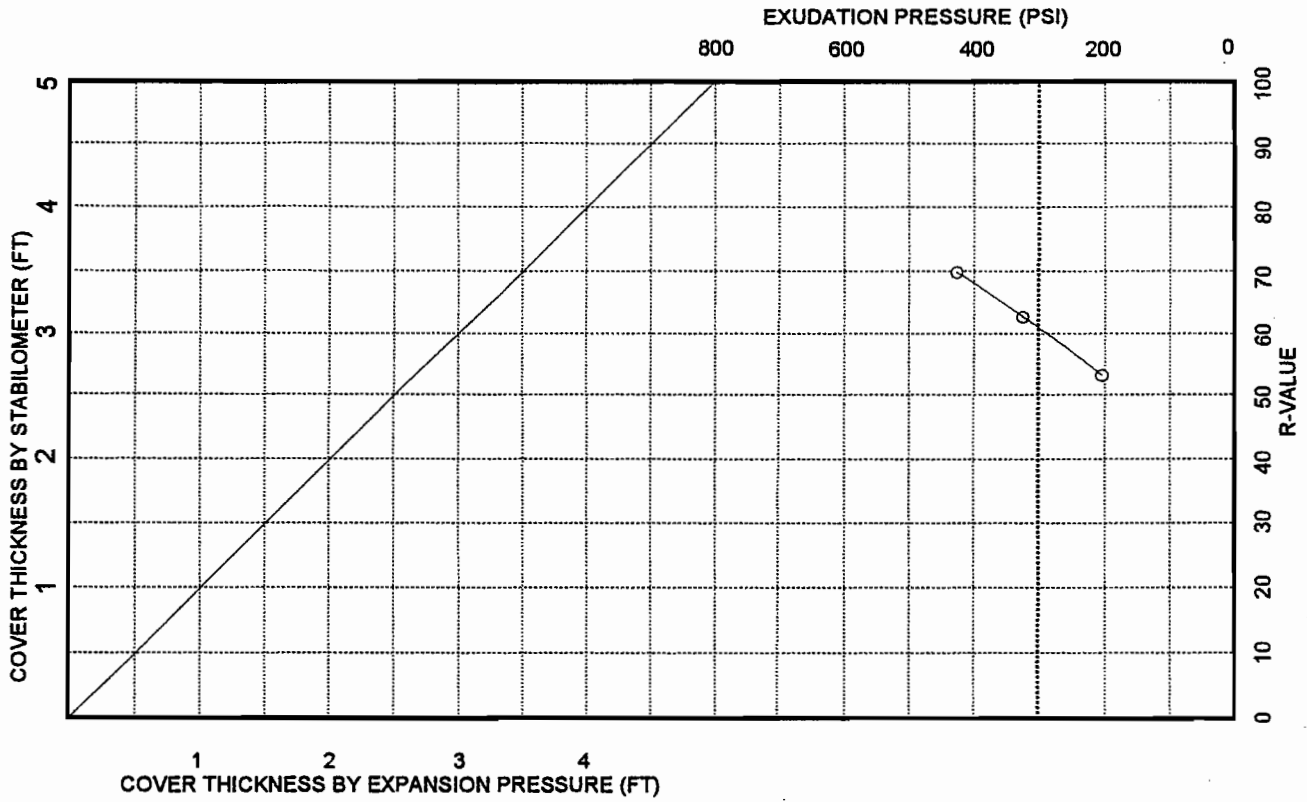


SAMPLE NO. DH-112 at 2 to 5 feet
 DESCRIPTION: Sandy SILT with gravel (ML)
 TESTED BY: Fugro West, Inc.

SPECIMEN	A	B	C
EXUDATION PRESSURE (PSI)	231	318	415
EXPANSION DIAL (0.0001")	0	7	16
EXPANSION PRESSURE (PSF)	0	30	69
RESISTANCE VALUE, "R"	27	37	50
% MOISTURE AT TEST	11.8	11.0	10.3
DRY DENSITY AT TEST (PCF)	127.3	128.5	129.6
R-VALUE AT 300 PSI EXUDATION PRESSURE			35

R-VALUE TEST RESULTS
 Los Osos Wastewater Project



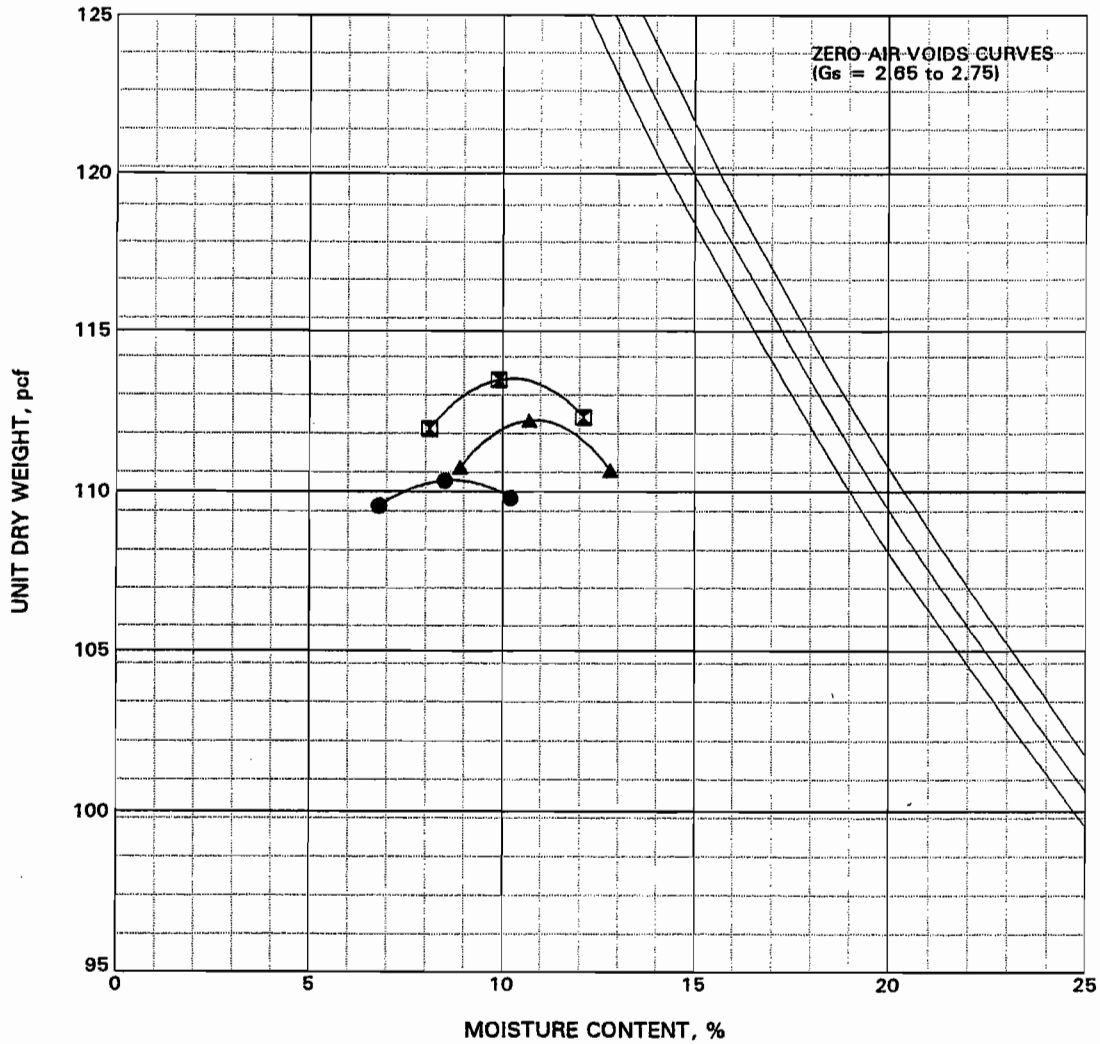


SAMPLE NO. DH-114 at 2 to 5 feet
 DESCRIPTION: SAND (SP)
 TESTED BY: Fugro West, Inc.

SPECIMEN	A	B	C
EXUDATION PRESSURE (PSI)	208	321	425
EXPANSION DIAL (0.0001")	0	0	5
EXPANSION PRESSURE (PSF)	0	0	22
RESISTANCE VALUE, "R"	53	63	69
% MOISTURE AT TEST	11.5	11.0	10.5
DRY DENSITY AT TEST (PCF)	109.0	109.7	110.6
R-VALUE AT 300 PSI EXUDATION PRESSURE			61

R-VALUE TEST RESULTS
 Los Osos Wastewater Project





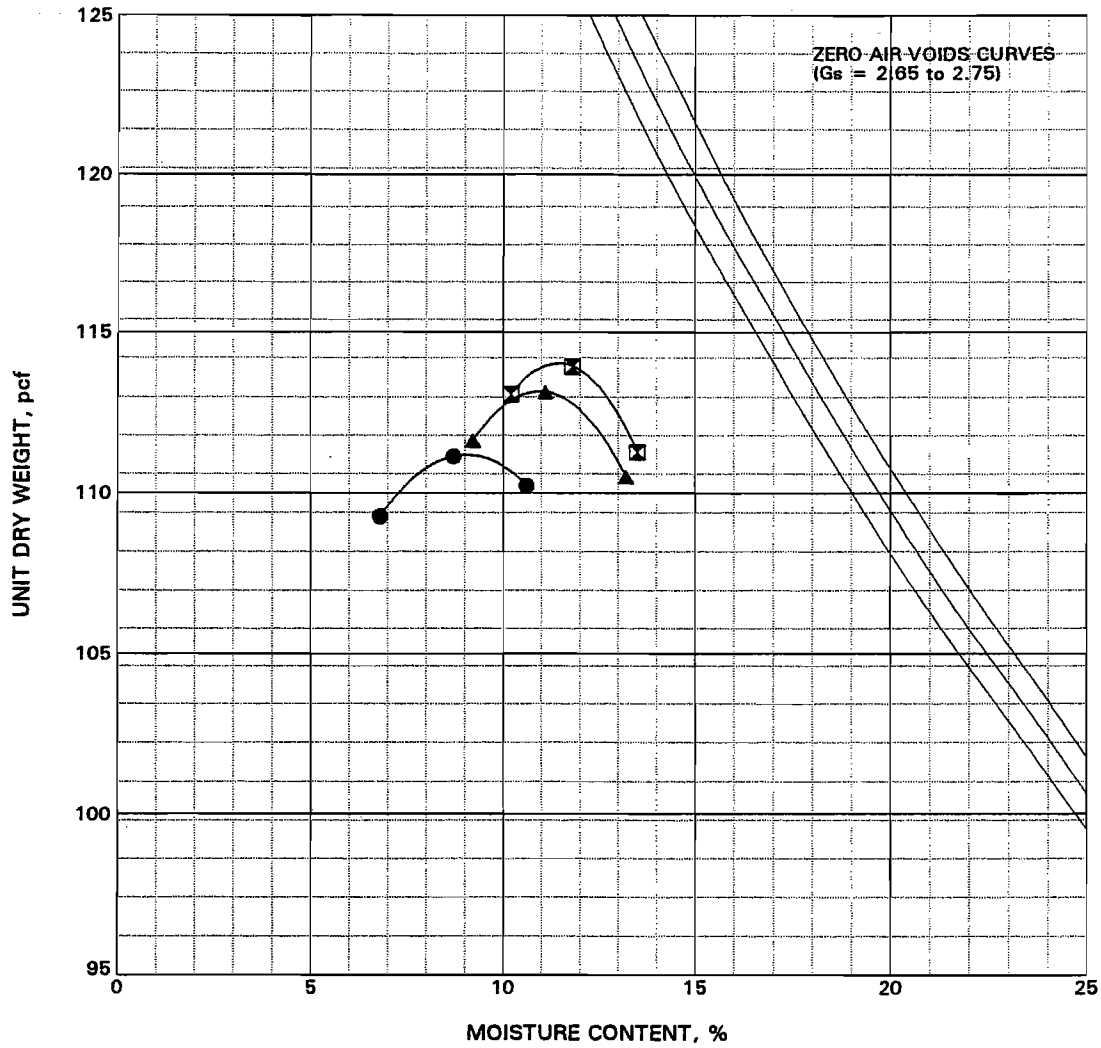
LEGEND		CLASSIFICATION	MAXIMUM UNIT DRY WEIGHT, pcf	OPTIMUM WATER CONTENT, %
(location)	(depth, ft)			
●	DH-101	SAND (SP)	110.3	8.5
☒	DH-102	SAND (SP)	113.5	10.2
▲	DH-103	SAND (SP)	112.3	10.7

Test Method: ASTM D1557

COMPACTION TEST RESULTS
 Los Osos Wastewater Project

PLATE B-7a





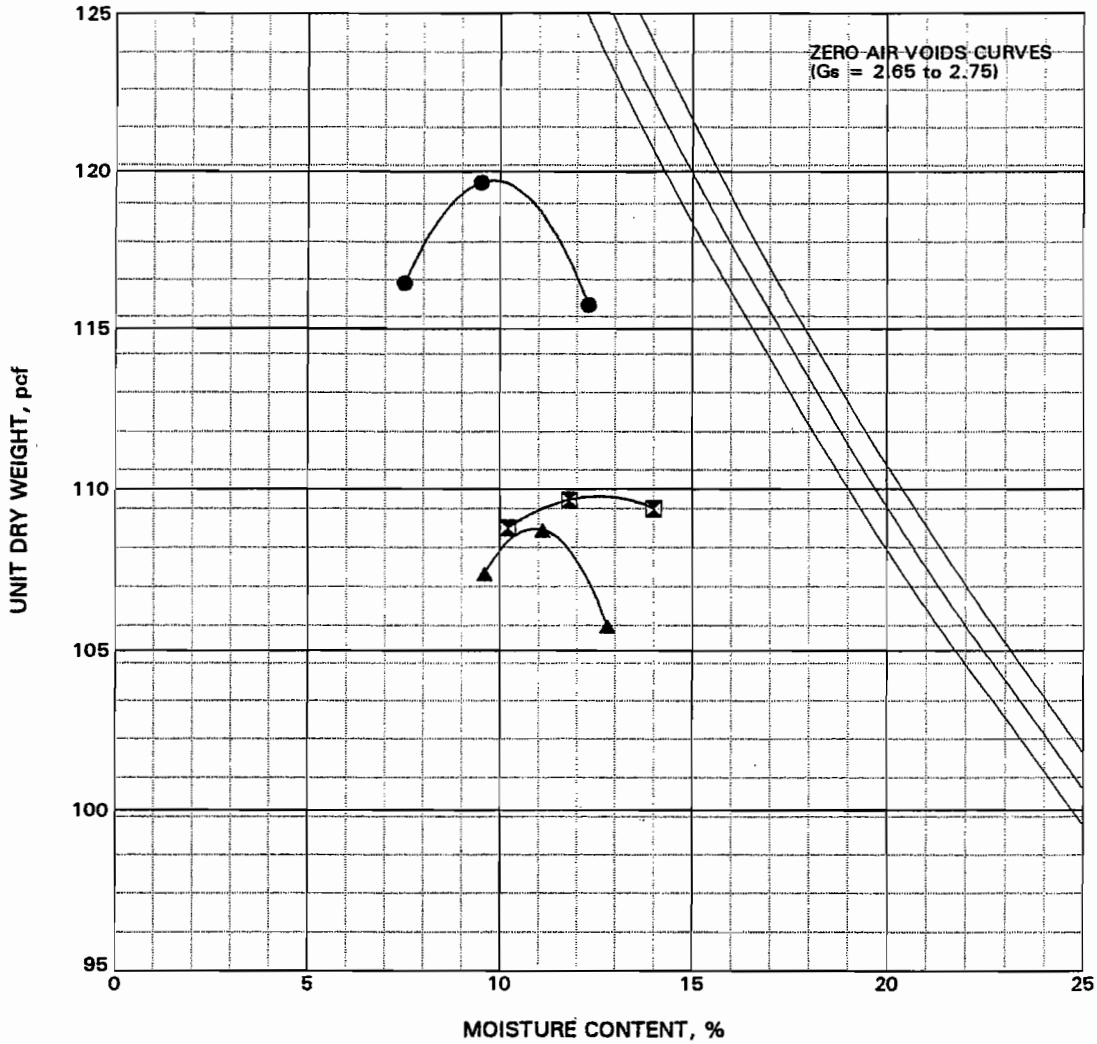
LEGEND		CLASSIFICATION	MAXIMUM UNIT DRY WEIGHT, pcf	OPTIMUM WATER CONTENT, %	
(location)	(depth, ft)				
●	DH-104	2.0	SAND (SP)	111.2	9.0
⊠	DH-105	2.0	SAND (SP)	114.0	11.2
▲	DH-109	2.0	SAND (SP)	113.2	10.8

Test Method: ASTM D1557

COMPACTION TEST RESULTS
 Los Osos Wastewater Project

PLATE B-7b



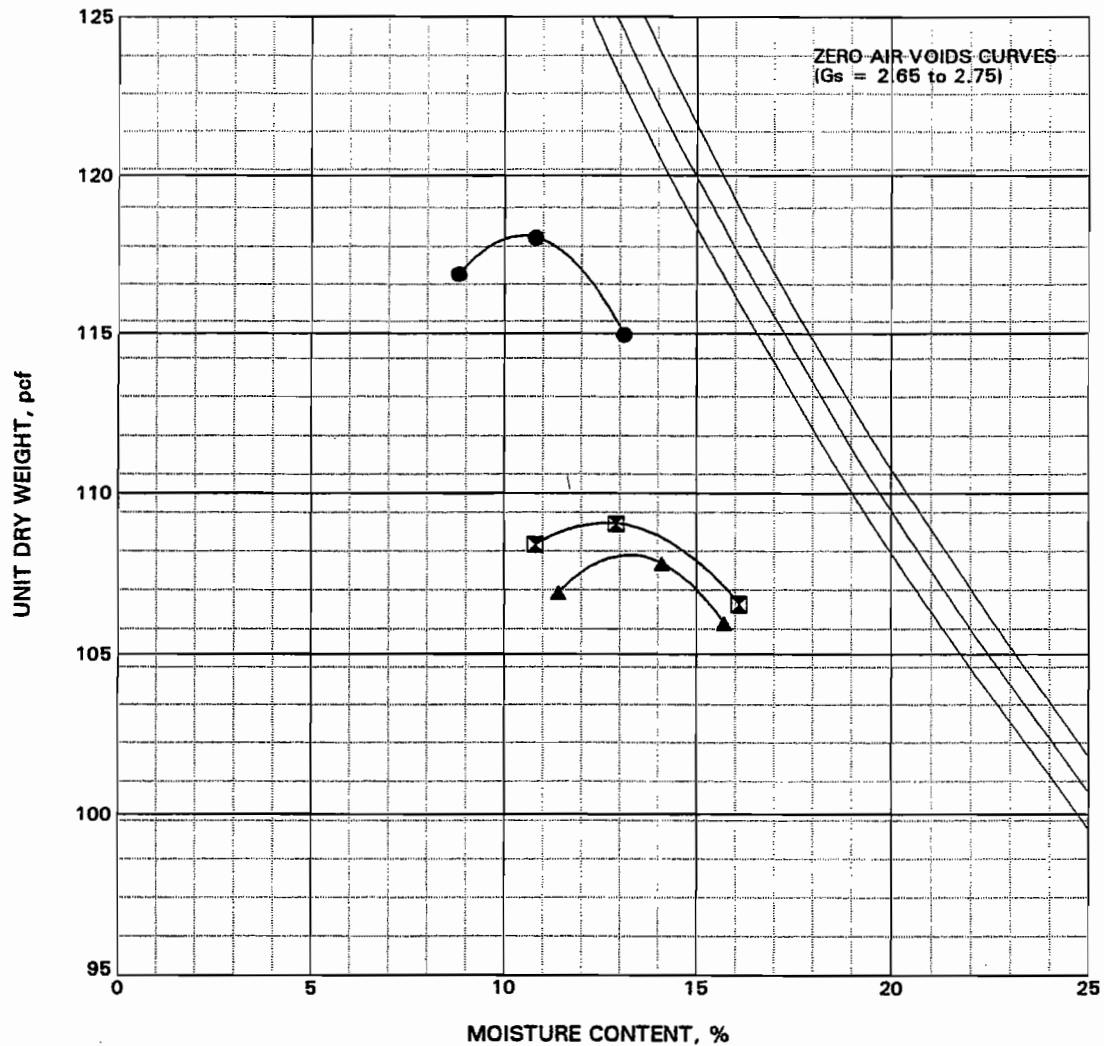


LEGEND		CLASSIFICATION	MAXIMUM UNIT DRY WEIGHT, pcf	OPTIMUM WATER CONTENT, %	
(location)	(depth, ft)				
●	DH-110	2.0	SAND with gravel (SP)	119.7	9.5
⊠	DH-111	2.0	SAND (SP)	109.7	12.2
▲	DH-113	2.0	SAND (SP)	108.8	10.8

Test Method: ASTM D1557

COMPACTION TEST RESULTS
 Los Osos Wastewater Project



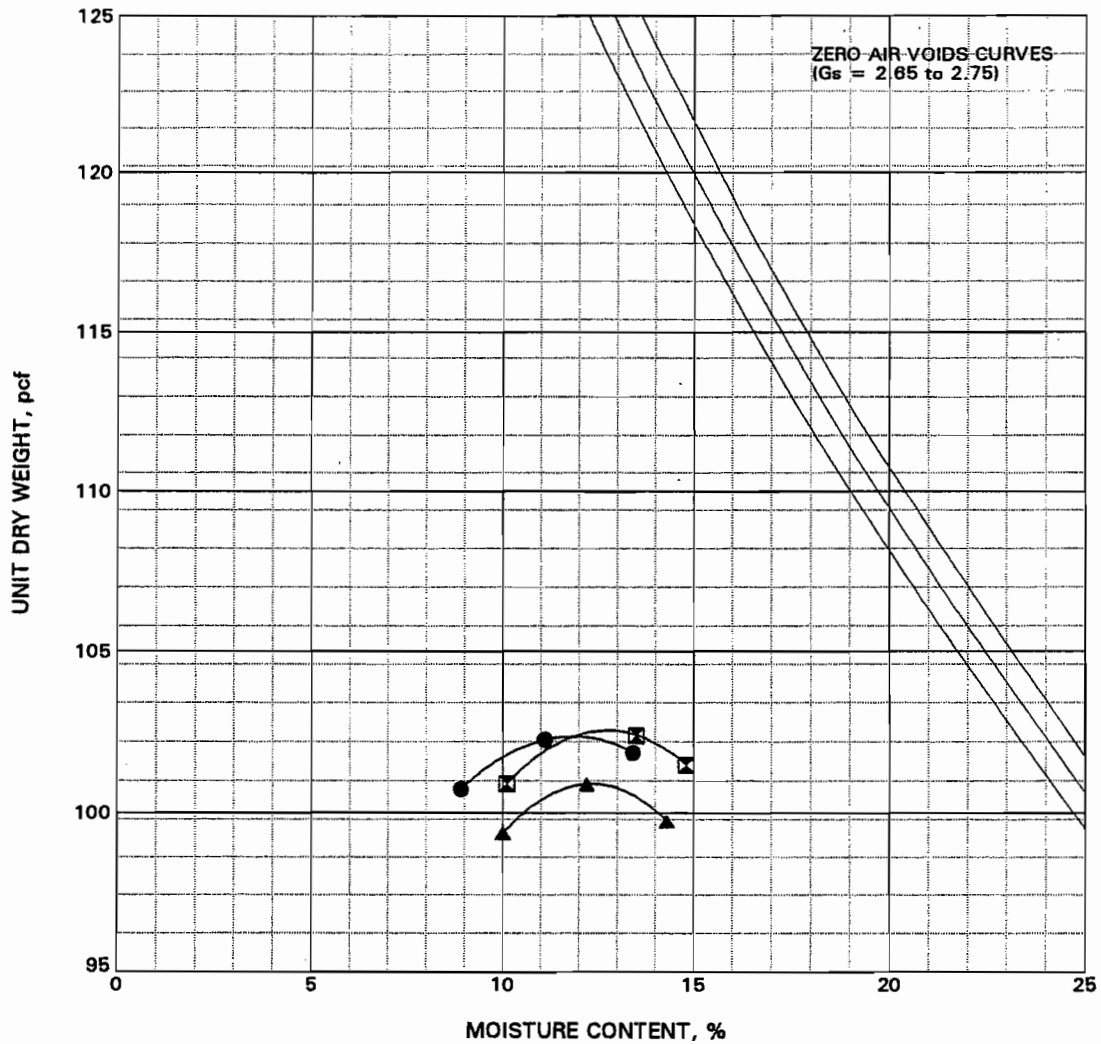


LEGEND		CLASSIFICATION	MAXIMUM UNIT DRY WEIGHT, pcf	OPTIMUM WATER CONTENT, %
(location)	(depth, ft)			
●	DH-115	Silty SAND (SM)	118.2	10.4
⊠	DH-116	SAND (SP)	109.1	12.2
▲	DH-117	SAND (SP)	108.2	13.0

Test Method: ASTM D1557

COMPACTION TEST RESULTS
 Los Osos Wastewater Project





LEGEND		CLASSIFICATION	MAXIMUM UNIT DRY WEIGHT, pcf	OPTIMUM WATER CONTENT, %	
(location)	(depth, ft)				
●	DH-201	4.0	SAND with silt (SP-SM)	102.4	11.8
⊠	DH-203	3.0	Silty SAND (SM)	102.6	12.6
▲	DH-301	3.0	SAND (SP)	100.9	12.2

Test Method: ASTM D1557

COMPACTION TEST RESULTS
 Los Osos Wastewater Project



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**ATTACHMENT D1
BORING LOGS
FUGRO WEST, INC. (1996)**



EXPLORATORY BORING LOG

PROJECT No. 018505 DATE 10/30/95 BORING NO. 1
 CLIENT SAN LUIS OBISPO COUNTY Sheet 2
 LOCATION LOS OSOS, CALIFORNIA of 3
 LOGGED BY TMR DRILLER S&G

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA MODIFIED SPLIT SPOON

AUTOHAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~195' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING				DESCRIPTION
									START	FINISH	TIME	DATE	
						21		SP					
						22							
						23							
						24							
						25							
						26							
						27							
						28							
						29							
CAL	18	14	1625	29 - 30.5	14 21 37	30							ORANGE BROWN MEDIUM SAND, SOME FINE SAND, MOIST TO DRY, VERY DENSE
						31							
						32							
						33							
						34		SC					REDDISH BROWN FINE TO MEDIUM SAND WITH SOME CLAY, MOIST, VERY DENSE
CAL	18	18	1637	34 - 35.5	14 22 29	35		SP					GRADES TO REDDISH BROWN FINE TO MEDIUM SAND WITH TRACE TO LITTLE CLAY, SLIGHTLY MOIST TO DRY, VERY DENSE
						36							PERFORM FALLING HEAD TEST AT 35.5' BGS
						37							
						38							
						39							
						40							
						41							
						42							



Metcalf & Eddy

EXPLORATORY BORING LOG

PROJECT No. 018000 DATE 10/30/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING NO. 1
 Sheet 3
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA MODIFIED SPLIT SPOON

AUTOHAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~195' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	DESCRIPTION	
									TIME	1450	1745		
									DATE	10/30/95	10/30/95		
						41		SP					
						42							
						43							
						44							
						45							
						46							
						47							
						48							
						49							
CAL	17	17	1741	49 - 50.4	35 47	50						LIGHT YELLOW BROWN FINE TO MEDIUM SAND, DRY, VERY DENSE	
					50/5"								
						51						BORING COMPLETED AT A DEPTH OF 50.5 FEET BGS ON 10/30/95 NO GROUNDWATER ENCOUNTERED ON 10/30/95	
						52							
						53							
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						61							
						62							



Metcalf & Eddy

EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/31/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 4
 Sheet 2
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA MODIFIED SPLIT SPOON

AUTOHAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~235' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	DESCRIPTION
									TIME	1035	1255	
									DATE	10/31/95	10/31/95	
						21						
						22						
						23						
						24						
						25						
						26						
						27						
						28						
						29						
						30						
						31						
						32						
						33						
						34						
					10							
CAL	18	18	1215	34 - 35.5	19							AS ABOVE, VERY DENSE
					44							
						35						
						36						
						37						
						38						
						39						
						40						
						41						
						42						



EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/31/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 4
 Sheet 3
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA MODIFIED SPLIT SPOON

AUTOHAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~235' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	DESCRIPTION	
									TIME	DATE	DATE		
						41		98					
						42							
						43							
						44							
						45							
						46							
						47							
						48							
					25	49							
CAL	18	18	1249	49 - 50.5	33	50							AS ABOVE, EXCEPT MOTTLED ORANGE BROWN/YELLOW BROWN
					44								
						51						PERFORM FALLING HEAD TEST AT 50.5' BGS	
						52						BORING COMPLETED AT A DEPTH OF 50.5 FEET BGS ON 10/31/95	
						53						NO GROUNDWATER ENCOUNTERED ON 10/31/95	
						54							
						55							
						56							
						57							
						58							
						59							
						60							
						61							
						62							



Metcalf & Eddy

EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/26/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 5
 Sheet 1
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA MODIFIED SPLIT SPOON

AUTO HAMMER: 140 # HAMMER, 30" DROP

SURFACE ELEVATION: ~185' ABOVE MSL

DRILLING TIME	START	FINISH		
DATE	10/26/95	10/26/95		

DESCRIPTION

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)
						1		SP
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		
						13		
						14		
						15		
						16		
						17		
						18		
						19		
					10	20		
CAL	18	18	1400	20 - 21.5	14	21		
					16			
						22		

BROWN FINE TO MEDIUM SAND, DRY

AS ABOVE

YELLOW BROWN FINE TO MEDIUM SAND, MOIST, MEDIUM DENSE

PERFORM FALLING HEAD TEST AT 21.5' BGS



Metcalf & Eddy

EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/26/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 5
 Sheet 2
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA MODIFIED SPLIT SPOON
AUTO HAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~185' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	DESCRIPTION
									TIME	1330	1630	
									DATE	10/26/95	10/26/95	
						21						
						22						
						23						
						24						
						25						
						26						
						27						
						28						
						29						
						30						
						31						
						32						
					11							
CAL	18	18	1507	32- 33.5	22							LIGHT YELLOW BROWN FINE TO MEDIUM SAND, DRY, VERY DENSE
					30							
						33						
						34						
						35						
						36						
						37						
						38						
						39						
						40						
						41						
						42						



EXPLORATORY
BORING LOG

PROJECT No. U16500 DATE 10/20/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 5
 Sheet 3
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA MODIFIED SPLIT SPOON

AUTO HAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~185' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	DESCRIPTION
									TIME	1330	1630	
									DATE	10/26/95	10/26/95	
					4							
CAL	18	18	1531	40 - 41.5	21	41						AS ABOVE
					38	42						
						43						
						44						
					20	45						MOTTLED ORANGE/REDDISH BROWN FINE TO MEDIUM SAND, DAMP
CAL	18	0	1545		29	46	X					TO WET, VERY DENSE, NO SAMPLE RECOVERY,
CAL	18	18	1600	45 - 46.5	36	46	X					RESAMPLE WITH SAND CATCHER
						47						
						48						
					4	49						AS ABOVE
CAL	18	18	1624	49 - 50.5	29	50						NO FREE WATER AFTER OVERNIGHT SETTLING
					44	50		SC				ORANGE BROWN CLAYEY SAND, MOIST, VERY DENSE
						51						PERFORM FALLING HEAD TEST AT 50.5' BGS
						52						
						53						BORING COMPLETED AT A DEPTH OF 50.5 FEET BGS ON 10/26/95
						54						NO GROUNDWATER ENCOUNTERED ON 10/26/95
						55						
						56						
						57						
						58						
						59						
						60						
						61						
						62						



EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/25/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 8
 Sheet 2
 of 4

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA SPLIT SPOON SAMPLER

18" STANDARD PENETRATION TEST AT 100' AND DEEPER

AUTO HAMMER: 140# HAMMER, 30" DROP, DOWNHOLE HAMMER

AT 110' AND DEEPER

SURFACE ELEVATION: ~185' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	START	FINISH	
									TIME	950	1720	830	1140	
									DATE	10/25/95	10/25/95	10/27/95	10/27/95	
DESCRIPTION														
						21		SP						
						22								
						23								
						24								
						25								
						26								
						27								
						28								
						29								
						30								
						31								
						32								
						33								
						34								
CAL	16	16	1107	34 - 35.3	50									
					50/4"									
						35							ORANGE BROWN FINE TO MEDIUM SAND, DRY, VERY DENSE	
						36							PERFORM FALLING HEAD TEST AT 35.5' BGS	
						37								
						38								
						39								
						40								
						41								
						42								



EXPLORATORY BORING LOG

PROJECT NO. <u>010000</u>	DATE <u>10/27/95</u>	BORING NO. <u>8</u>
CLIENT <u>SAN LUIS OBISPO COUNTY</u>		Sheet <u>3</u>
LOCATION <u>LOS OSOS, CALIFORNIA</u>		of <u>4</u>
LOGGED BY <u>TMR</u>	DRILLER <u>S&G</u>	

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA SPLIT SPOON SAMPLER
18" STANDARD PENETRATION TEST AT 100' AND DEEPER
AUTO HAMMER: 140# HAMMER, 30" DROP, DOWNHOLE HAMMER
AT 110' AND DEEPER

SURFACE ELEVATION: ~185' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING					DESCRIPTION
									TIME	START	FINISH	START	FINISH	
									DATE	10/25/95	10/25/95	10/27/95	10/27/95	
						41		SP	EASIER DRILLING					
						42								
						43								
						44								
						45								
						46								
						47								
						48								
CAL	16	16	1240	48 - 49.3	24 43	49			ORANGE BROWN FINE TO MEDIUM SAND, PREDOMINANTLY MEDIUM SAND, MOIST TO DAMP, VERY DENSE					
					50/4"	50								
						51								
						52								
						53								
						54								
						55								
						56								
						57								
						58								
						59								
CAL	16	16	1313	59 - 60.3	24 50	60		ORANGE BROWN FINE TO MEDIUM SAND, DRY, VERY DENSE						
					50/4"	61								
						62								



EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/25/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 8
 Sheet 4
 of 4

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" CALIFORNIA SPLIT SPOON SAMPLER

18" STANDARD PENETRATION TEST AT 100' AND DEEPER

AUTO HAMMER: 140# HAMMER, 30" DROP, DOWNHOLE HAMMER

AT 110' AND DEEPER

SURFACE ELEVATION: ~185' ABOVE MSL

DRILLING TIME	START	FINISH	START	FINISH
	950	1720	830	1140
DATE	10/25/95	10/25/95	10/27/95	10/27/95

DESCRIPTION

AS ABOVE

AS ABOVE

AS ABOVE, TRACE TO LITTLE LOCAL CLAY

LIGHT BROWN FINE SAND, DRY, WELL INDURATED

ORANGE BROWN FINE TO MEDIUM SAND, DRY, VERY DENSE

AS ABOVE, REDDISH BROWN, TRACE SILT AND CLAY, SLIGHTLY MOIST

ORANGE BROWN FINE TO MEDIUM SAND, SLIGHTLY MOIST

AS ABOVE, LIGHT ORANGE BROWN, MOIST

AS ABOVE

GROUNDWATER AT 158.5 FEET BGS

BROWN FINE TO MEDIUM SAND, WET, MEDIUM DENSE

BORING COMPLETED AT A DEPTH OF 165' BGS ON 10/27/95
 GROUNDWATER ENCOUNTERED AT A DEPTH OF 158.5' BGS ON 10/27/95
 GROUNDWATER MEASURED AT 158' BGS ON 11/4/95

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)
					14	70	■	SP
CAL	11	11	1348	69 - 69.9	50/5"			
					29			
CAL	17	17	1410	79 - 80.4	47	80	■	
					50/5"			
					22			
CAL	17	17	1452	89 - 90.4	49	90	■	
					50/5"			
SPT	6	6	1530	99 - 99.5	115/6"	100	■	
					18			
SPT	17	17	1630	109 - 110.4	44	110	■	
					50/5"			
					19			
SPT	18	18	1704	119 - 120.5	45	120	■	
					49			
			10/27/95		23			
SPT	16	16	840	129 - 130.3	36	130	■	
					50/4"			
					30			
SPT	11	11	920	139 - 139.9	50/5"	140	■	
					18			
SPT	17	17	1027	149 - 150.4	43	150	■	
					50/5"			
					6			
SPT	18	18	1130	159 - 160.5	10	160	■	
					8			
						170		



EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 11/1/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 9
 Sheet 1
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" STANDARD PENETRATION TEST

AUTO HAMMER: 140 # HAMMER, 30" DROP

SURFACE ELEVATION: ~55' ABOVE MSL

DRILLING TIME	START	FINISH		
	750	950		
DATE	11/1/95	11/1/95		

DESCRIPTION

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)
								AF
						1		
						2		SP
						3		
					5	4		
SPT	18	18	805	4 - 5.5	8	5		
					15	6		
						7		
						8		
						9		
						10		
						11		
						12		
						13		
					7	14		
					12	15		
SPT	18	18	823	14 - 15.5	12	16		
						17		
						18		
						19		
						20		
						21		
						22		

BROWN FINE TO COARSE SAND AND 3/4" GRAVEL, DRY (ROAD BASE)

BROWN FINE SAND, DRY

ORANGE BROWN FINE TO MEDIUM SAND, DRY, MEDIUM DENSE, PREDOMINANTLY FINE SAND

AS ABOVE, TRACE TO LITTLE SILT



Metcalf & Eddy

EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 11/1/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 9
 Sheet 2
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" STANDARD PENETRATION TEST

AUTO HAMMER: 140 # HAMMER, 30" DROP

SURFACE ELEVATION: ~55' ABOVE MSL

DRILLING TIME	START	FINISH		
DATE	11/1/95	11/1/95		

DESCRIPTION

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)
					8	24		SP
					15	25		
SPT	18	18	840	24 - 25.5	25	25		
						26		
						27		
						28		
						29		
						30		
						31		
						32		
						33		
					10	34		SP
					42	35		
SPT	18	18	859	34 - 35.5	22	35		
						36		
						37		
						38		
						39		
						40		
						41		
						42		

AS ABOVE

AS ABOVE, LIGHT ORANGE BROWN



EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 11/1/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 9
 Sheet 3
 of 3

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" STANDARD PENETRATION TEST
 AUTO HAMMER: 140 # HAMMER, 30" DROP

SURFACE ELEVATION: ~55' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	DESCRIPTION
									TIME	DATE	DATE	
						41						
						42						
						43						EASY DRILLING AT 43' BGS - PROBABLE GROUNDWATER CONTACT
					6	44						
					15	45						
SPT	17.5	17.5	930	44 - 45.5	50/5.5'	45						MEDIUM ORANGE BROWN FINE TO MEDIUM SAND, WET, VERY DENSE
						46						
						47						
						48						
						49						
						50						
						51						
						52						UNABLE TO SAMPLE DUE TO FLOWING SANDS
						53	SC					PILOT BIT HAD LIGHT BROWN CLAYEY FINE TO MEDIUM SAND, WET
						54						BORING COMPLETED AT A DEPTH OF 54.5' BGS ON 11/1/95.
						55						GROUNDWATER ENCOUNTERED AT A DEPTH OF 43' BGS ON 11/1/95
						56						GROUNDWATER LEVEL MEASURED AT A DEPTH OF 42' BGS ON 11/1/95
						57						
						58						
						59						
						60						
						61						
						62						



Metcalf & Eddy

EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/31/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSCOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 12
 Sheet 1
 of 4

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" STANDARD PENETRATION TEST

DOWNHOLE HAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: -70' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING				DESCRIPTION
									TIME	START	FINISH		
										910	1120		ASPHALT
						1		AF					YELLOW BROWN FINE TO MEDIUM SAND, DRY
						2							
						3							
						4							
						5							
						6							
						7							
						8							
						9							
					13								
					21								
SPT	18	18	923	9 - 10.5	27	10							AS ABOVE, DENSE
						11							
						12							
						13							
						14							
						15							
						16							
						17							TRACE TO LITTLE FINE GRAVEL AT 17' BGS, TRACE CLAY
						18							
						19							
						20							
						21							
					18								
					25								
SPT	18	18	938	21 - 22.5	42	22		SM					LIGHT BROWN WITH SOME ORANGE BROWN STAINING, SILTY FINE TO MEDIUM SAND, DRY, VERY DENSE



EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/31/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 12
 Sheet 2
 of 4

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" STANDARD PENETRATION TEST

DOWNHOLE HAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~70' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	DESCRIPTION
									TIME	DATE	DATE	
						21		SP				
						22		SM		910	1120	LIGHT BROWN WITH SOME ORANGE BROWN STAINING, SILTY FINE TO MEDIUM SAND, DRY, VERY DENSE
						23						
						24		SP		10/31/95	10/31/95	
						25						
						26						
						27						
						28						
						29						
SPT	18	18	951	29 - 30.5	22	30						ORANGE BROWN FINE TO MEDIUM SAND, DRY, VERY DENSE
					33	31						
						32						
						33						
						34						
						35						
						36						
						37						
						38						
						39						
					28	40						AS ABOVE
SPT	18	18	1005	39 - 40.5	35	41						
					33	42						



EXPLORATORY
BORING LOG

PROJECT No. 018508 DATE 10/31/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 12
 Sheet 4
 of 4

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" STANDARD PENETRATION TEST

DOWNHOLE HAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~70' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING	START	FINISH	DESCRIPTION	
									TIME	910	1120		
									DATE	10/31/95	10/31/95		
						61		Ⓔ				DRY ZONE FROM ~57 TO 64 FEET BGS	
						62							
						63							
						64							BECOMES WET AT 64' BGS
SPT	11	11	1049	64 - 64.9	27	64							LIGHT BROWN, FINE TO MEDIUM SAND, LITTLE SILT, WET, VERY DENSE
						65							
						66							
						67							
						68							
						69							
					10	69							
					30	70						AS ABOVE	
SPT	18	18	1113	69 - 70.5	30	70							
						71						BORING COMPLETED AT A DEPTH OF 70.5' BGS ON 10/31/95	
						72						GROUNDWATER ENCOUNTERED AT DEPTHS OF 57 AND 64 FEET BGS ON 10/31/95	
						73						GROUNDWATER MEASURED AT A DEPTH OF 59 FEET BGS ON 11/1/95	
						74							
						75							
						76							
						77							
						78							
						79							
						80							
						81							
						82							



EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/31/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 14
 Sheet 1
 of 2

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" STANDARD PENETRATION TEST

DOWNHOLE HAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: -55' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DRILLING				DESCRIPTION
									TIME	START	FINISH		
										1330	1430		
										10/31/95	10/31/95		
									DESCRIPTION				
						1			MEDIUM TO DARK BROWN FINE TO MEDIUM SAND WITH LITTLE SILT, DRY				
						2							
						3							
						4							
						5							
						6							
						7							
						8							
						9							
					5	9							
SPT	18	18	1338	9 - 10.5	9	10			AS ABOVE, LESS SILT (TRACE TO LITTLE), MEDIUM DENSE				
					11								
						11			BECOMES MEDIUM ORANGE BROWN				
						12							
						13							
						14							
						15							
						16							
						17							
						18							
						19							
					4	19							
SPT	18	18	1350	19 - 20.5	7	20			BECOMES LIGHT ORANGE BROWN, DRY TO SLIGHTLY MOIST				
					10								
						21							
						22							



Metcalf & Eddy

EXPLORATORY BORING LOG

PROJECT No. 018508 DATE 10/31/95
 CLIENT SAN LUIS OBISPO COUNTY
 LOCATION LOS OSOS, CALIFORNIA
 LOGGED BY TMR DRILLER S&G

BORING No. 14
 Sheet 2
 of 2

Drilling method: CME 75 HIGH TORQUE, 8" HOLLOW STEM AUGER

Sampling Method 18" STANDARD PENETRATION TEST

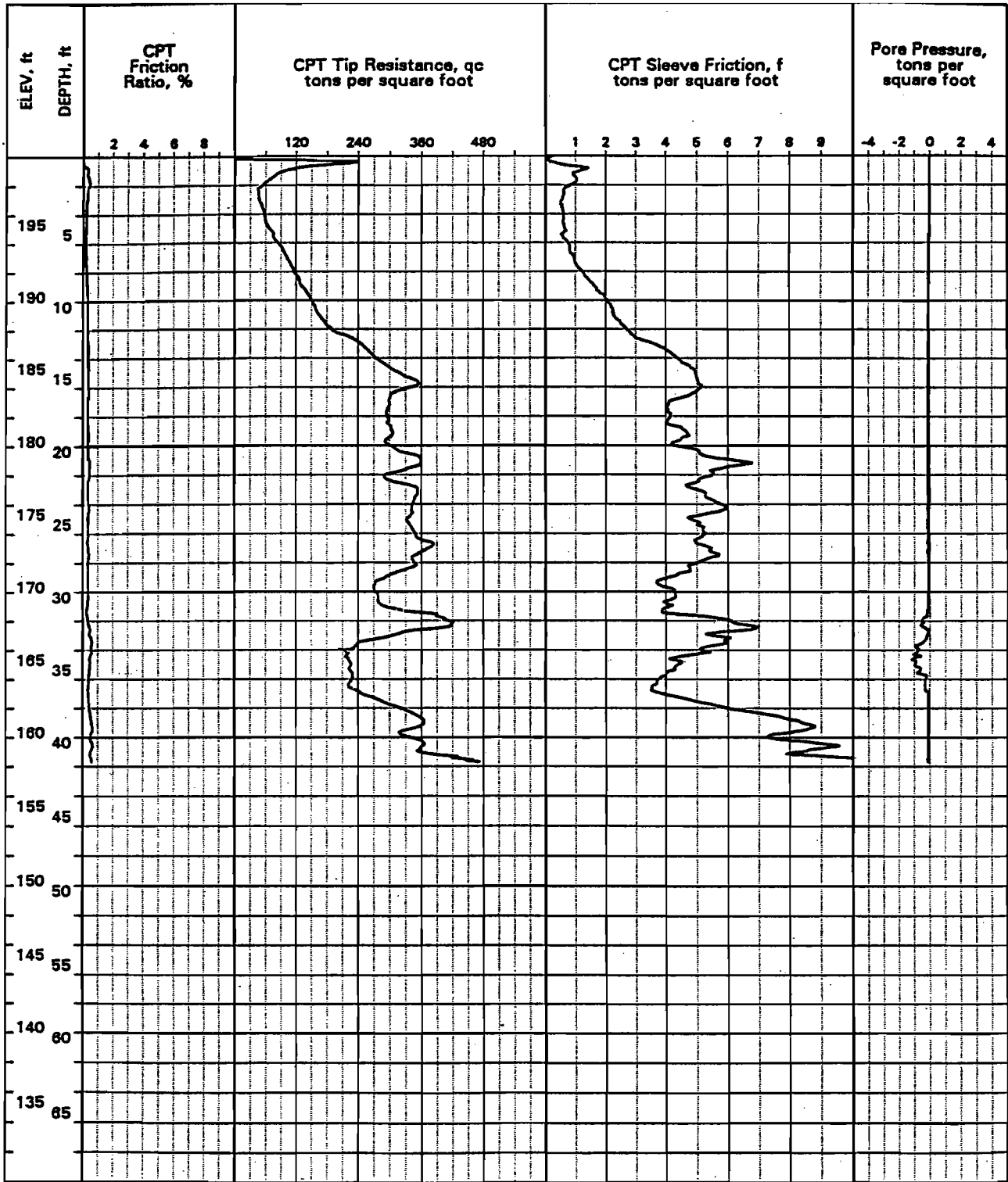
DOWNHOLE HAMMER: 140# HAMMER, 30" DROP

SURFACE ELEVATION: ~55' ABOVE MSL

SAMPLER TYPE	INCHES DRIVEN	INCHES RECOVERED	TIME	SAMPLE DEPTH IN FEET	BLOWS PER 6 INCHES	DEPTH IN FEET	SAMPLE	SOIL GROUP SYMBOL (U.S.C.S.)	DESCRIPTION
						21		SP	
						22			
						23			
						24			BECOMES WET AT 24' BGS
						25			
						26			
						27			
						28			
					18				
					34				
SPT	16	16	1405	28 - 29.3	50/4"	29			AS ABOVE, LIGHT BROWN, VERY DENSE
						30			
						31			
						32			
						33			
						34			
					13				
					19				
SPT	18	18	1420	34 - 35.5	23	35			AS ABOVE, LITTLE SILT, DENSE
						36			
						37			BORING COMPLETED AT A DEPTH OF 35.5' BGS ON 10/31/95
						38			GROUNDWATER ENCOUNTERED AT A DEPTH OF 24' BGS ON 10/31/95
						39			GROUNDWATER MEASURED AT A DEPTH OF 21 FEET BGS ON 11/1/95
						40			
						41			
						42			

**ATTACHMENT D2
CPT/CPTU LOGS
FUGRO WEST, INC. (1996)**

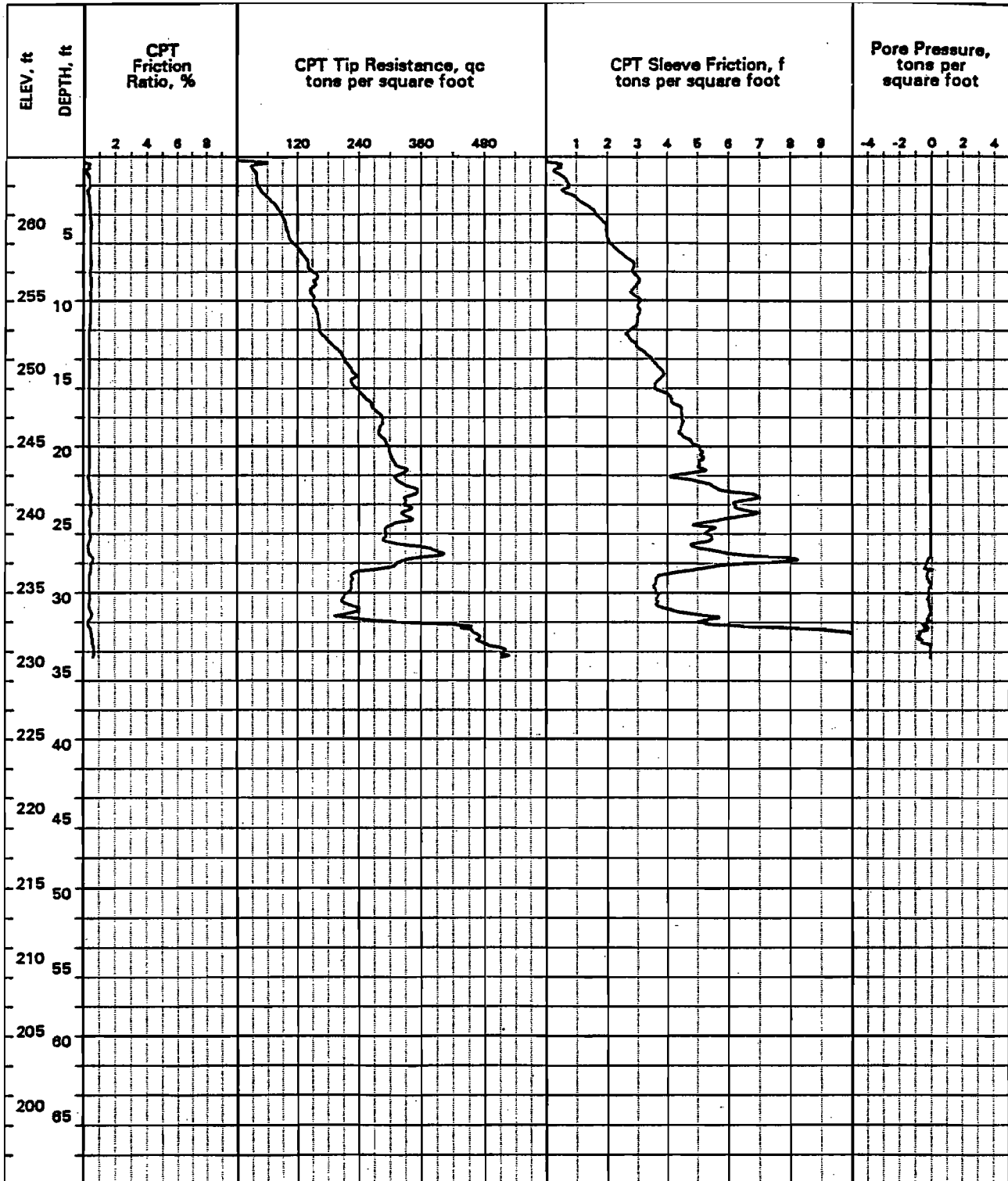
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



LOCATION: N 669,961, E 1,152,088
 SURFACE EL: 200 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 42.4 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

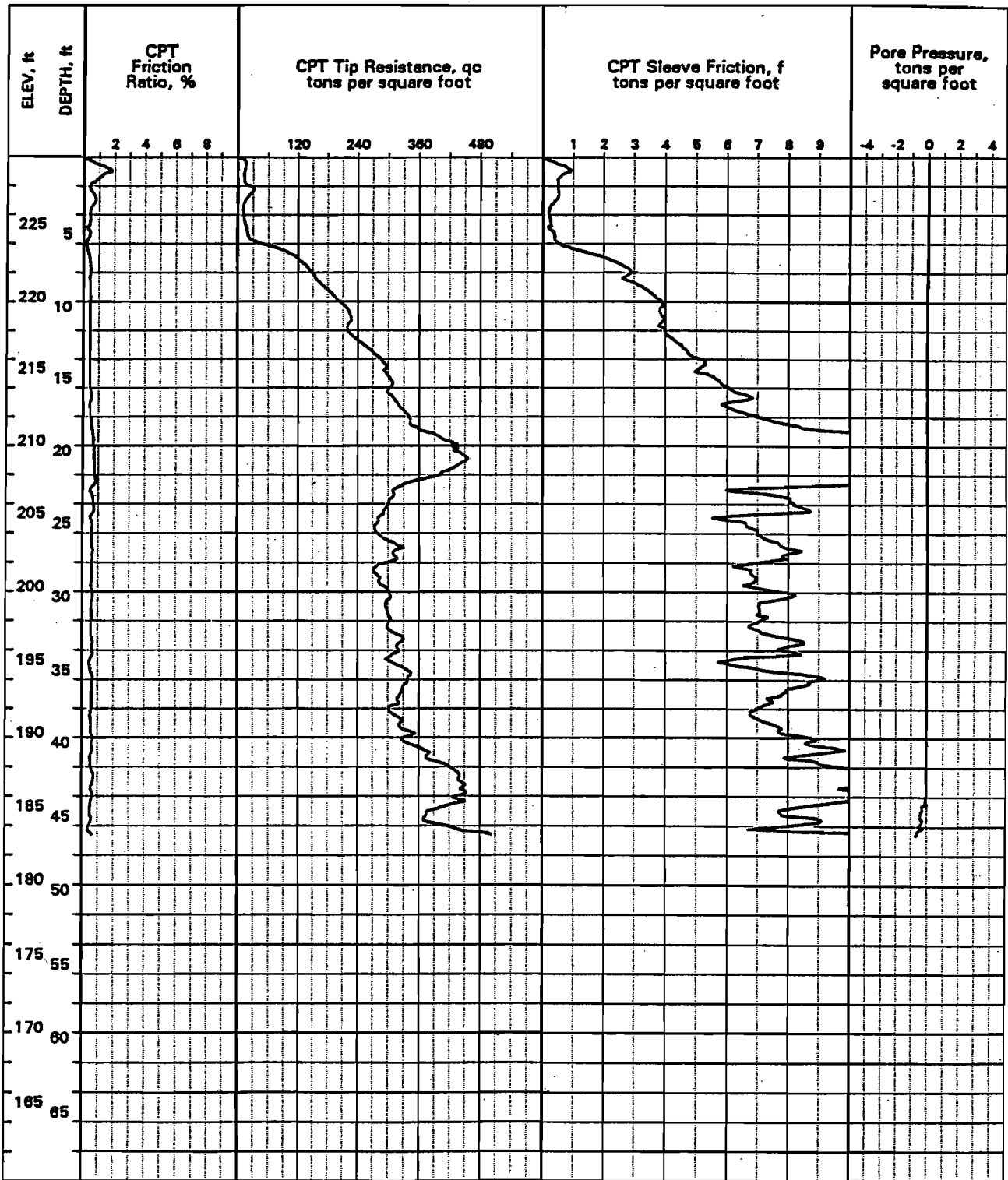
LOG OF CPT NO. CPT-01
 Los Osos Sewer



LOCATION: N 869,175, E 1,152,031
 SURFACE EL: 265 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 34.8 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

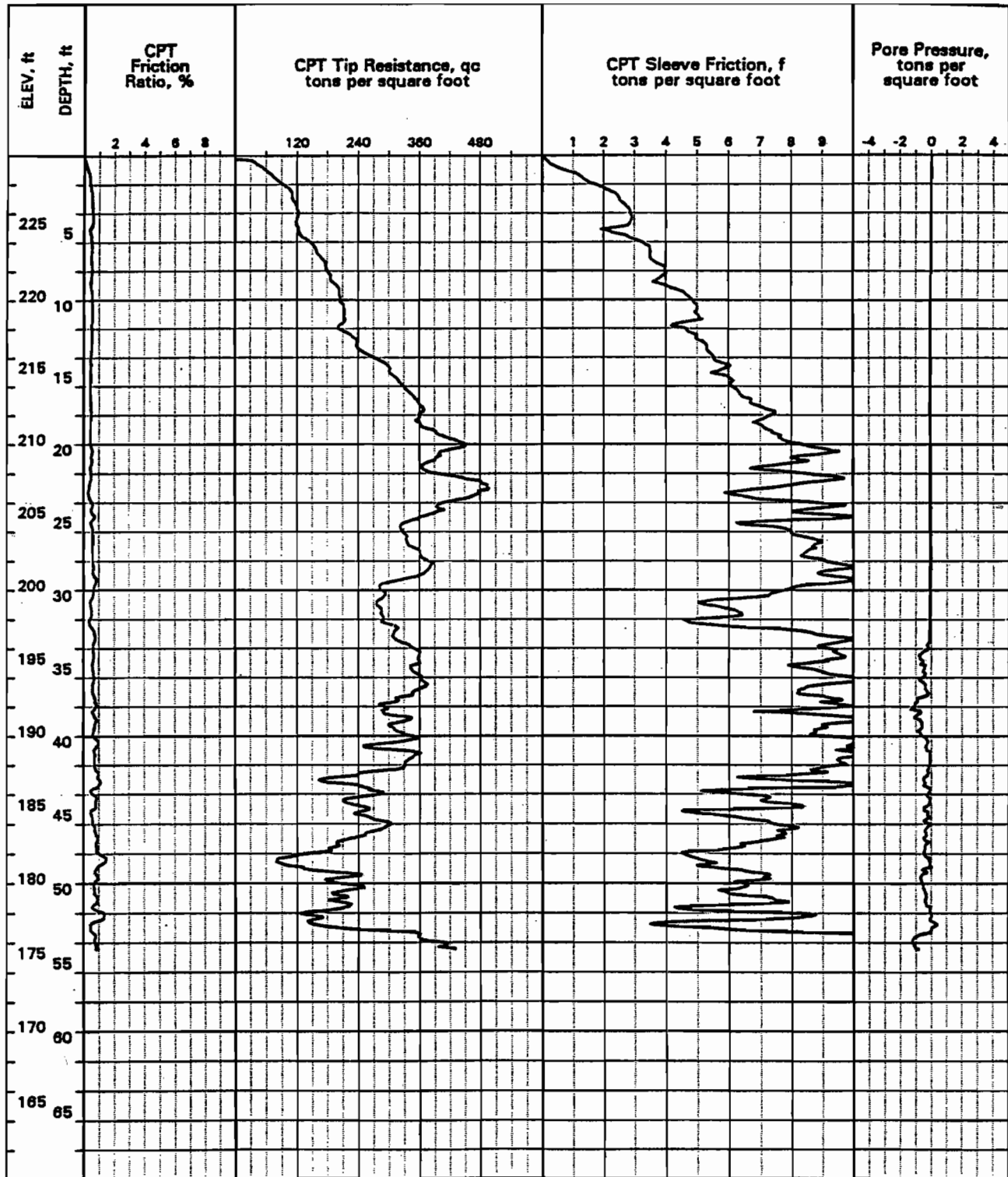
LOG OF CPT NO. CPT-02
Los Osos Sewer



LOCATION: N 669,585, E 1,151,644
 SURFACE EL: 230 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 47.1 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

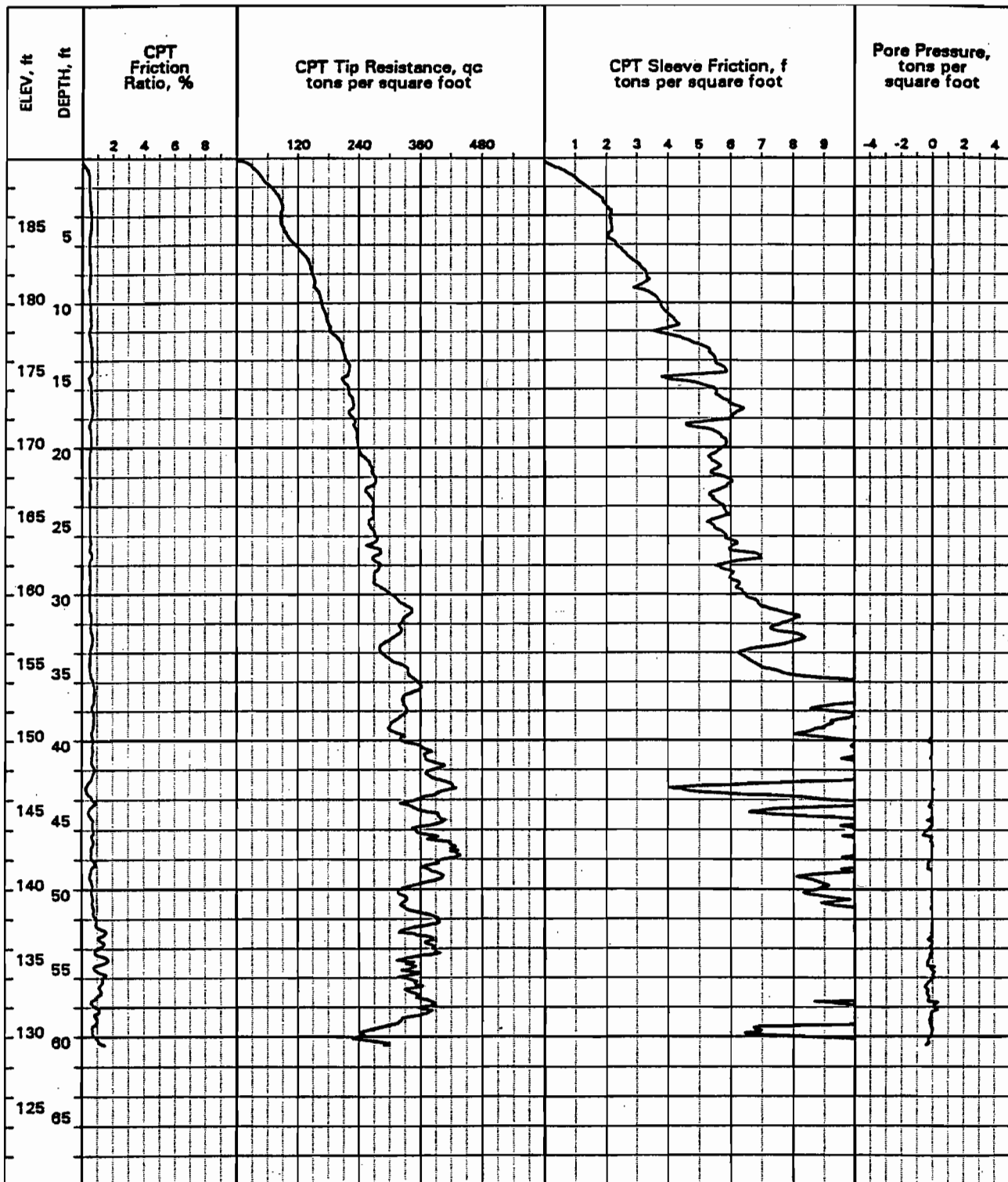
LOG OF CPT NO. CPT-03
 Los Osos Sewer



LOCATION: N 669,608, E 1,151,212
 SURFACE EL: 230 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 54.8 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

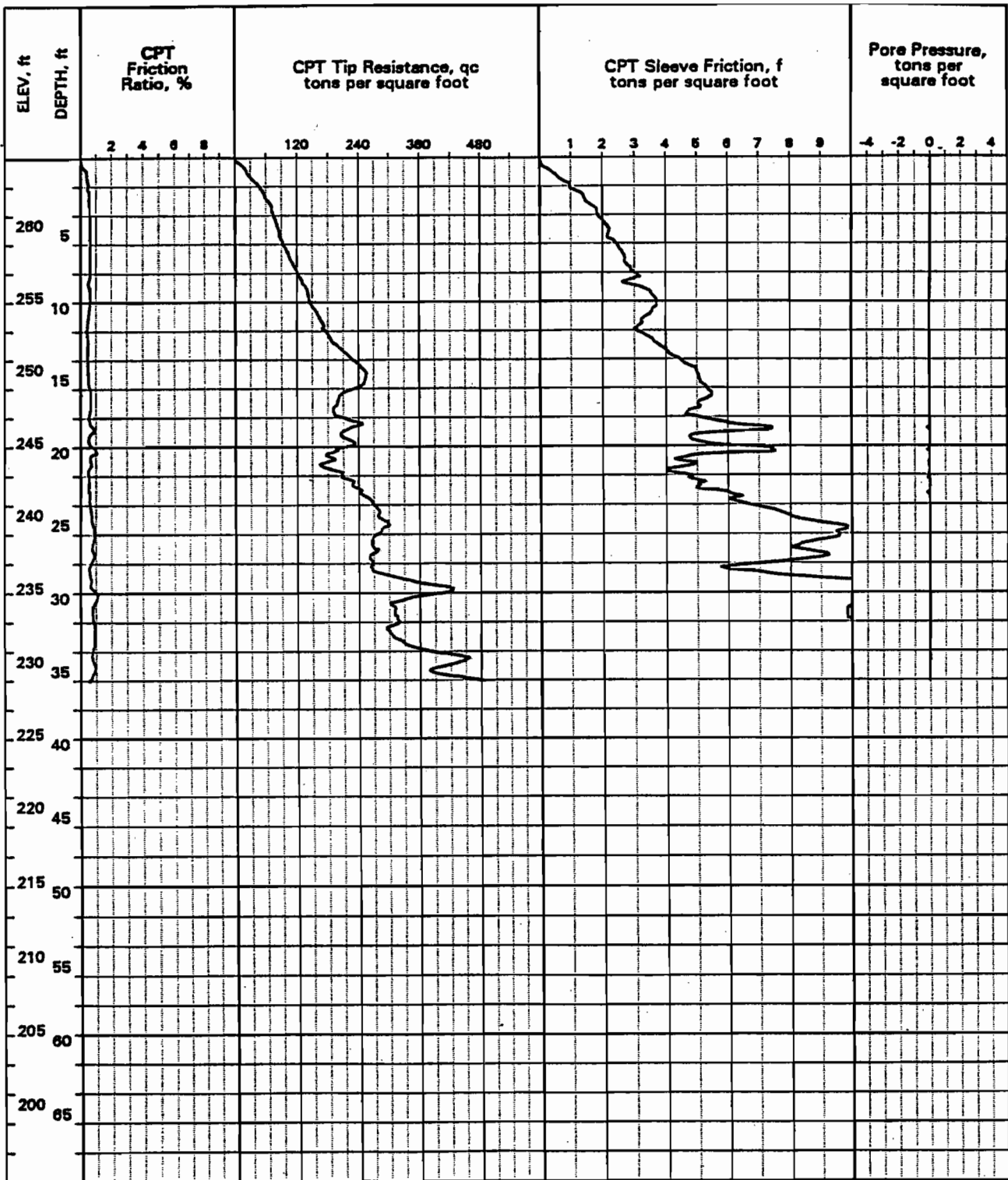
LOG OF CPT NO. CPT-04
Los Osos Sewer



LOCATION: N 669,972, E 1,150,677
 SURFACE EL: 190 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 61.6 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

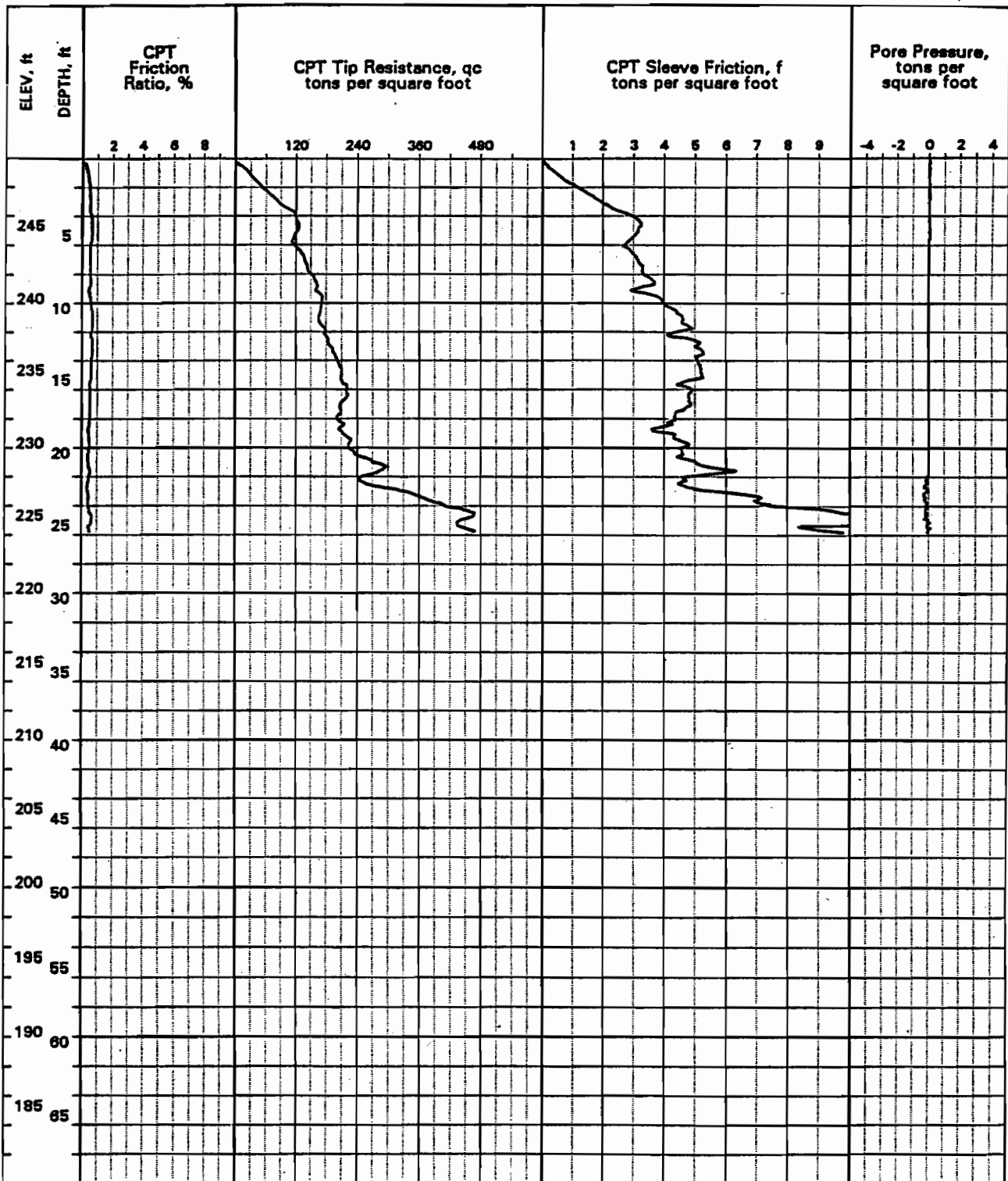
LOG OF CPT NO. CPT-05
Los Osos Sewer



LOCATION: N 669,301, E 1,151,508
 SURFACE EL: 285 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 36.4 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

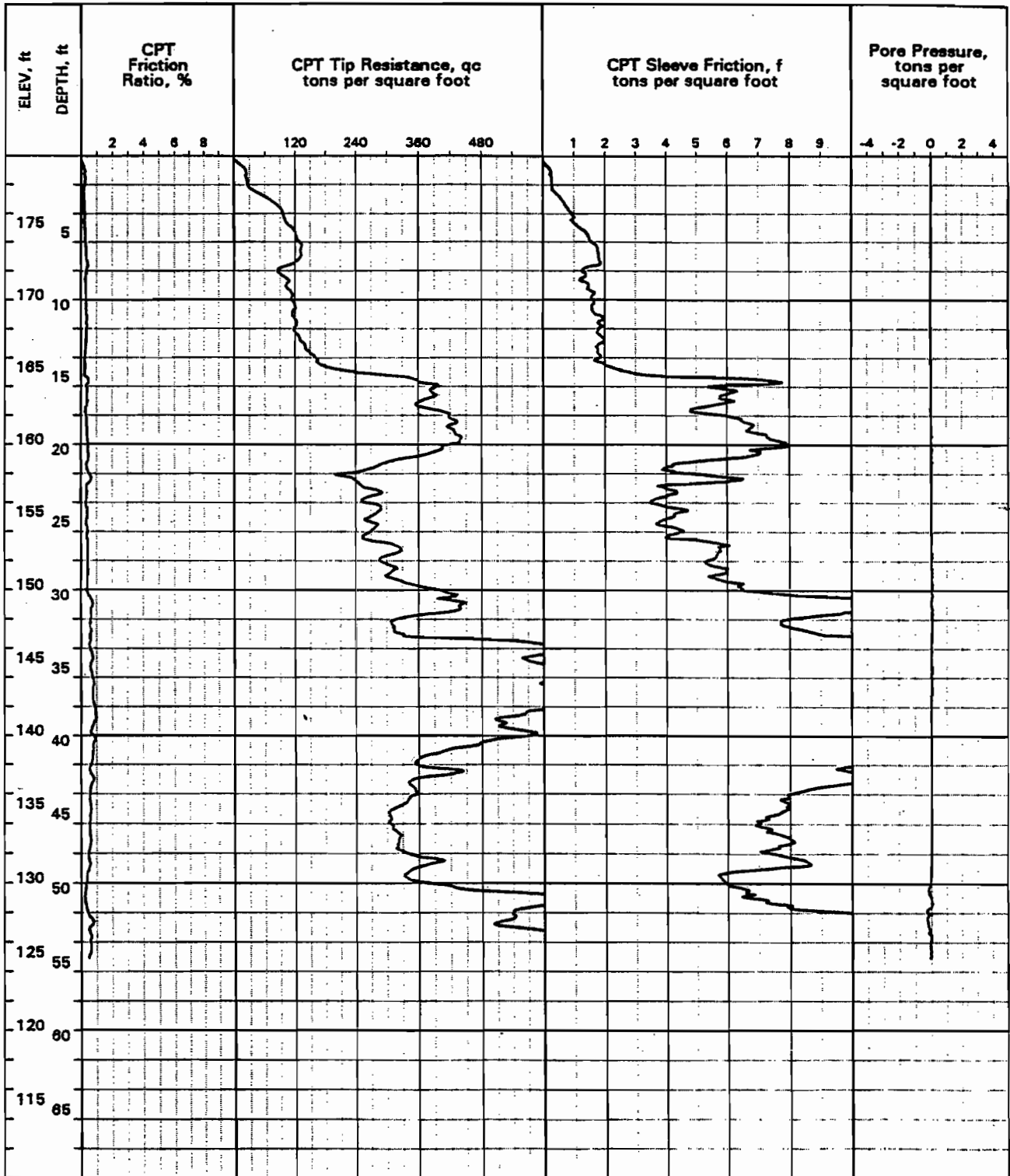
LOG OF CPT NO. CPT-06
 Los Osos Sewer



LOCATION: N 669,414, E 1,150,563
 SURFACE EL: 250 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 26.2 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

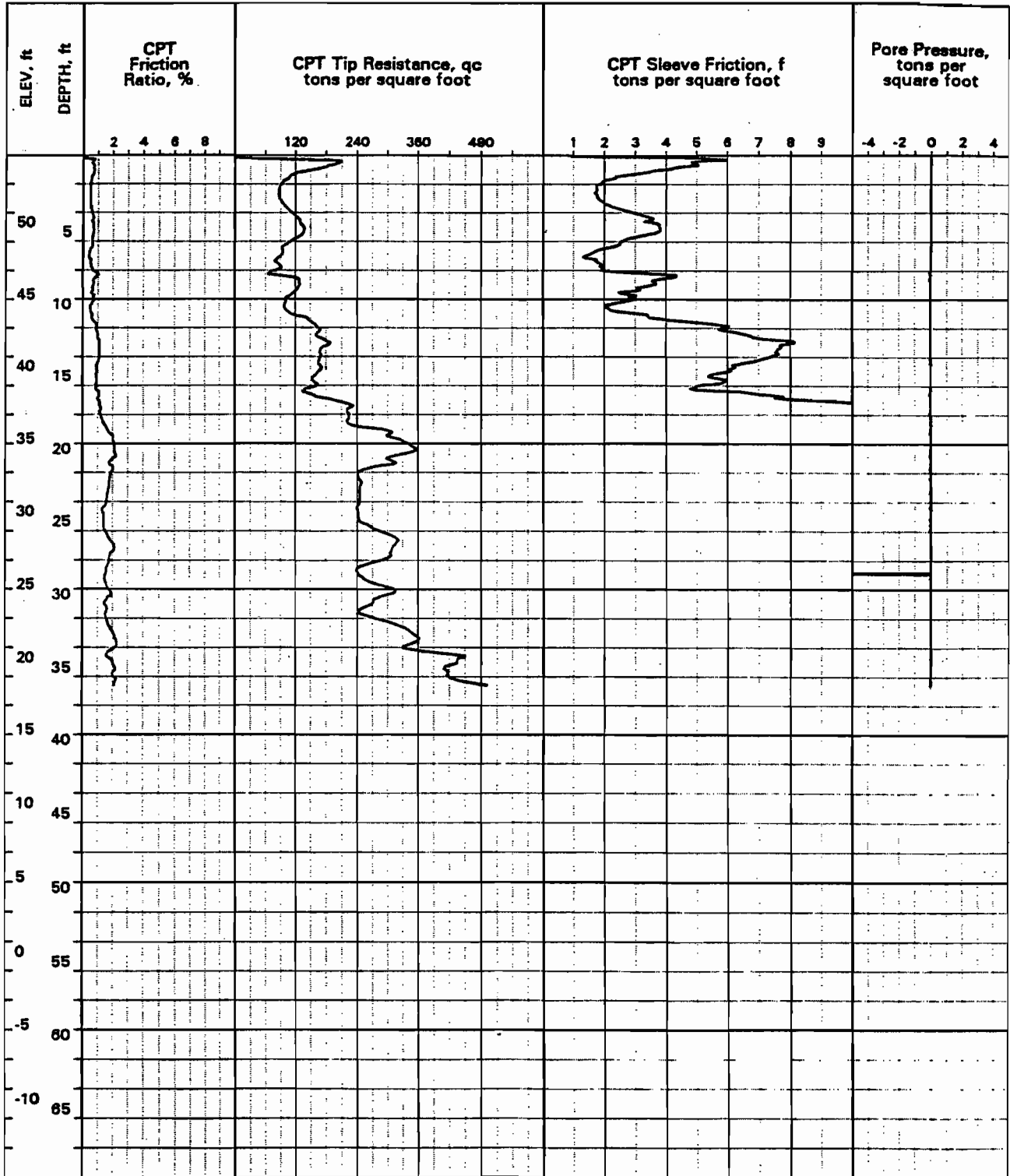
LOG OF CPT NO. CPT-07
 Los Osos Sewer



LOCATION: N 670,291, E 1,151,405
 SURFACE EL: 180 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 55.4 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

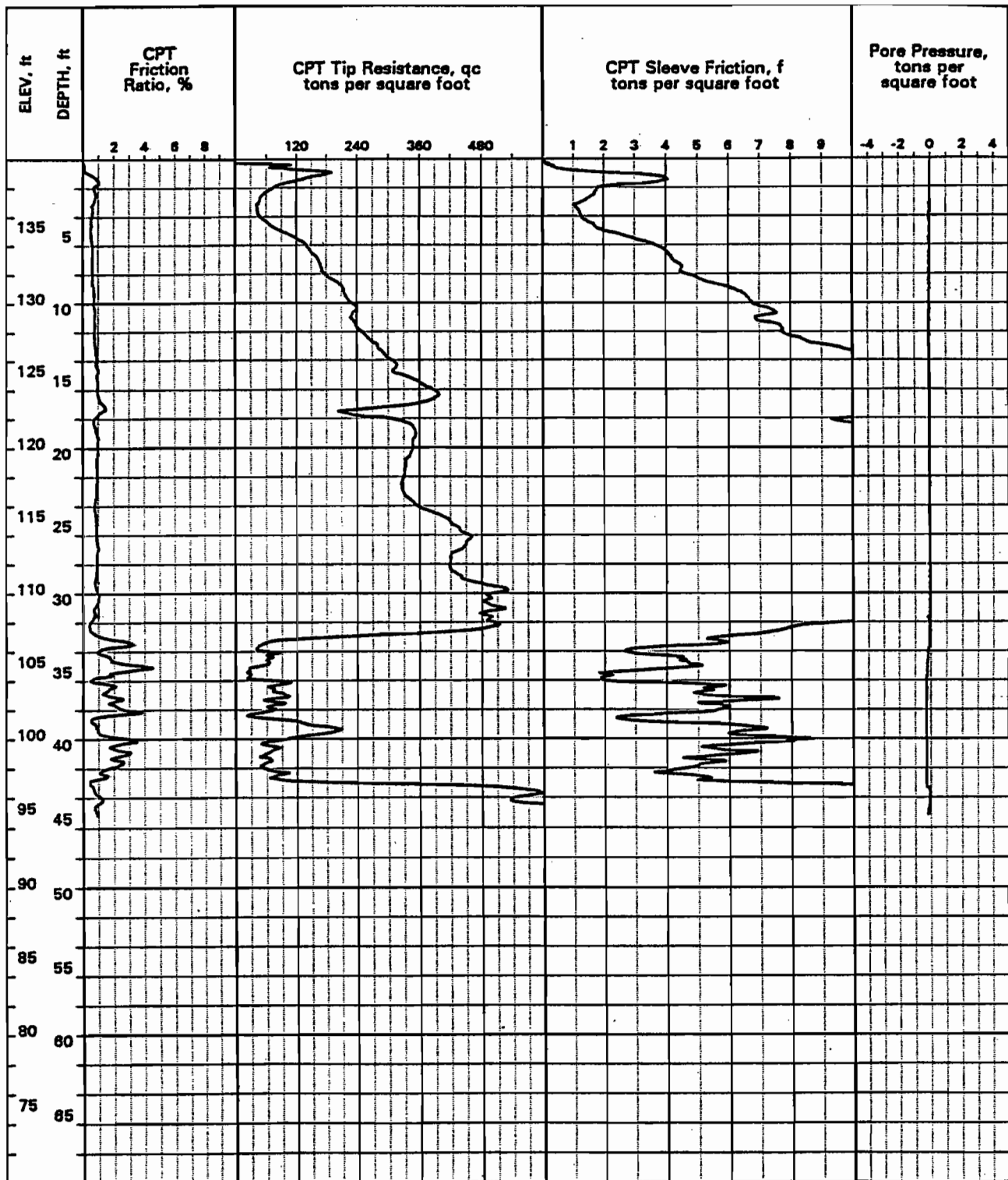
LOG OF CPT NO. CPT-08
 Los Osos Sewer



LOCATION: N 672,989, E 1,150,415
 SURFACE EL: 55 ft +/- (ref. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 37.1 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 20, 1995

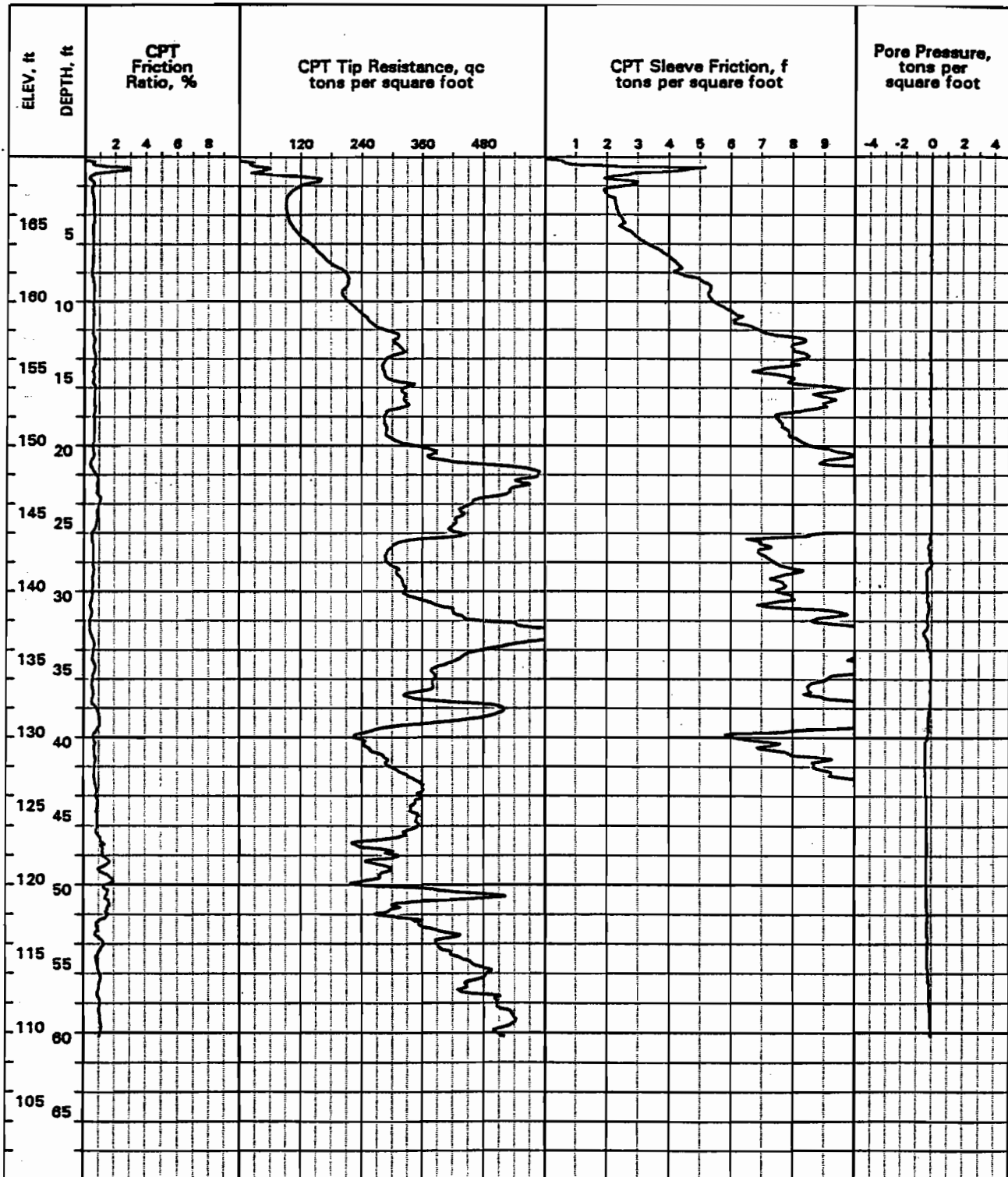
LOG OF CPT NO. CPT-09
 Los Osos Sewer



LOCATION: N 670,359, E 1,149,959
 SURFACE EL: 140 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 45.6 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

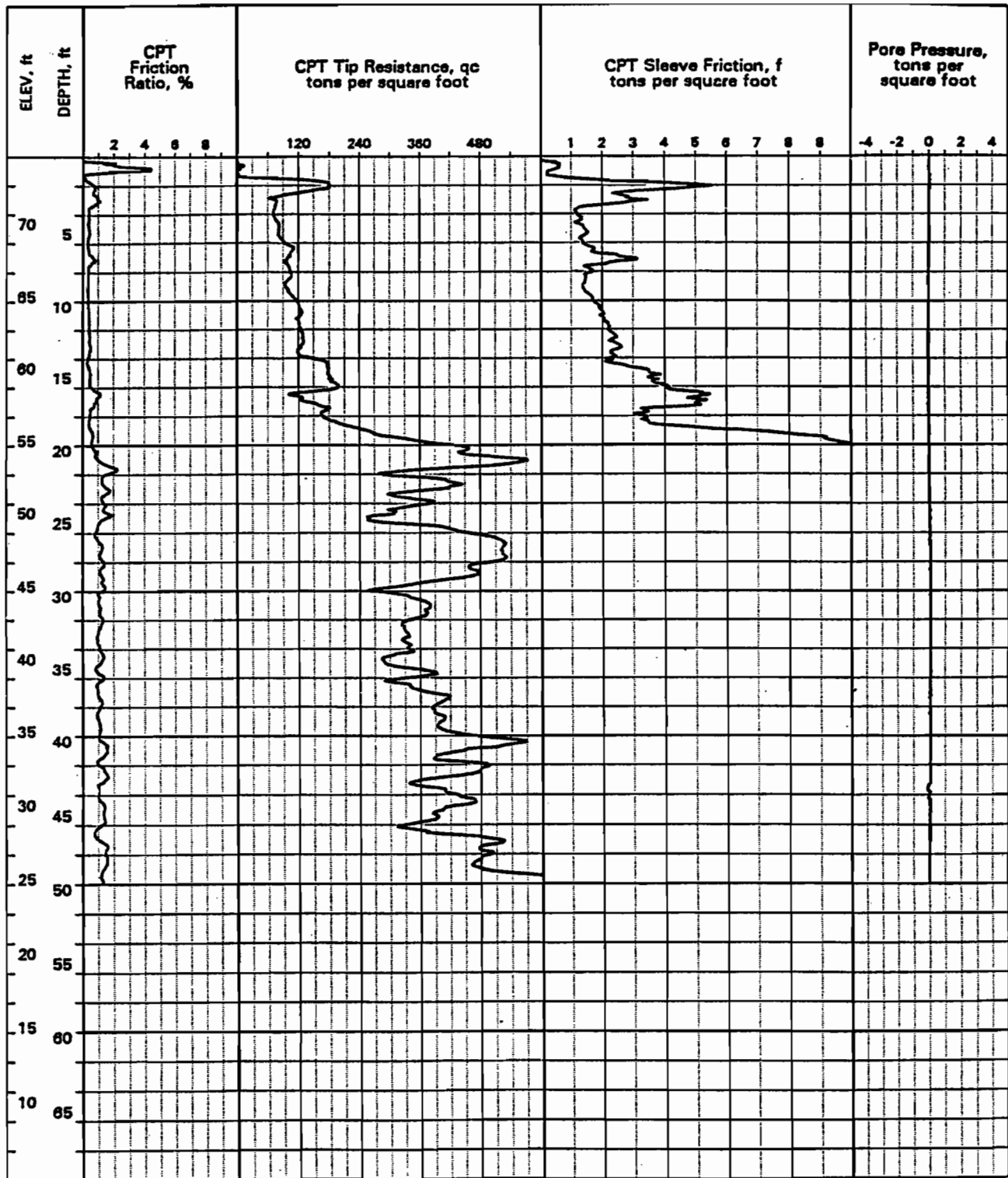
LOG OF CPT NO. CPT-10
 Los Osos Sewer



LOCATION: N 670,160, E 1,153,067
 SURFACE EL: 170 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 60.7 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 19, 1995

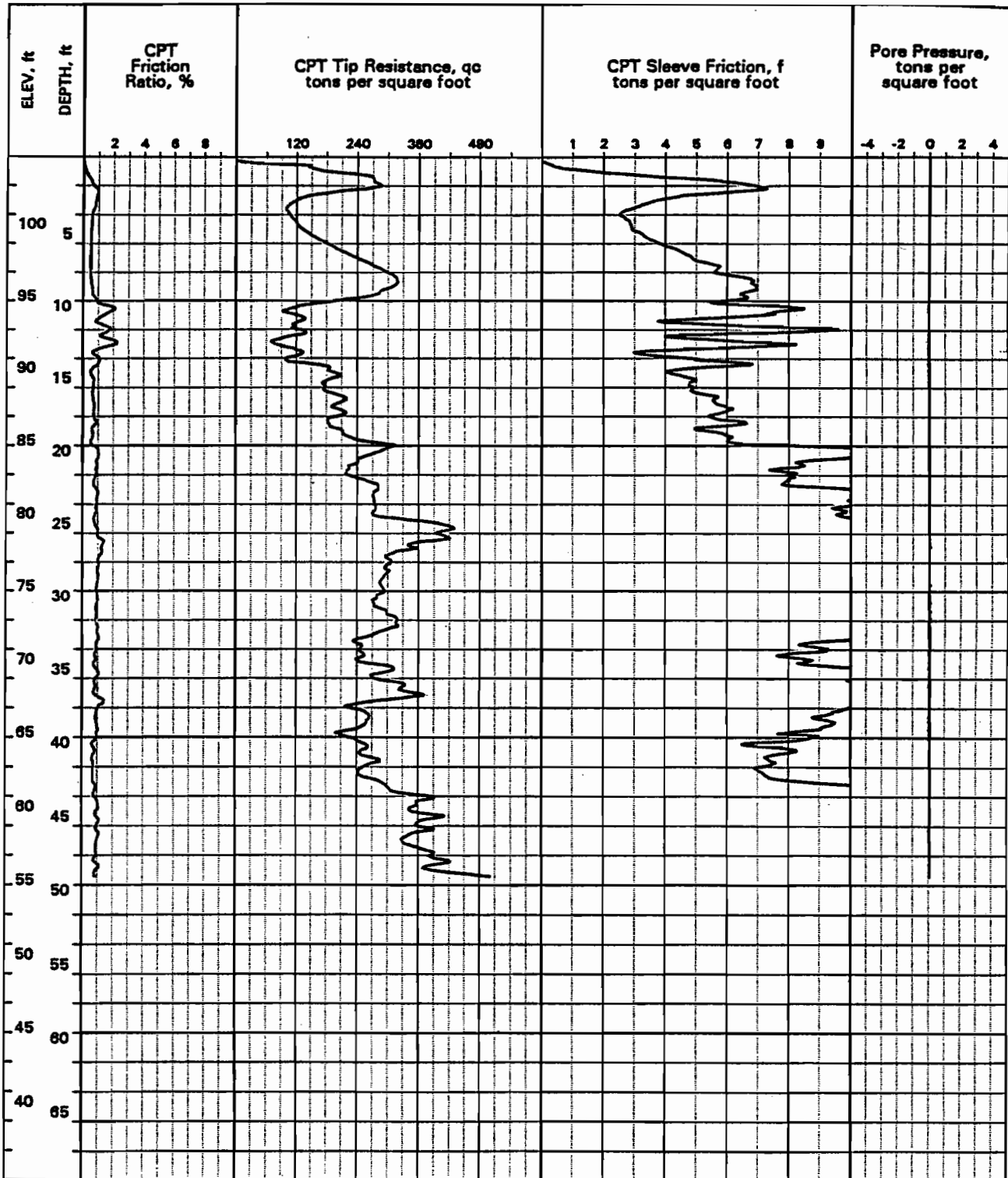
LOG OF CPT NO. CPT-11
Los Osos Sewer



LOCATION: N 671,532, E 1,148,172
 SURFACE EL: 75 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 50.3 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 20, 1995

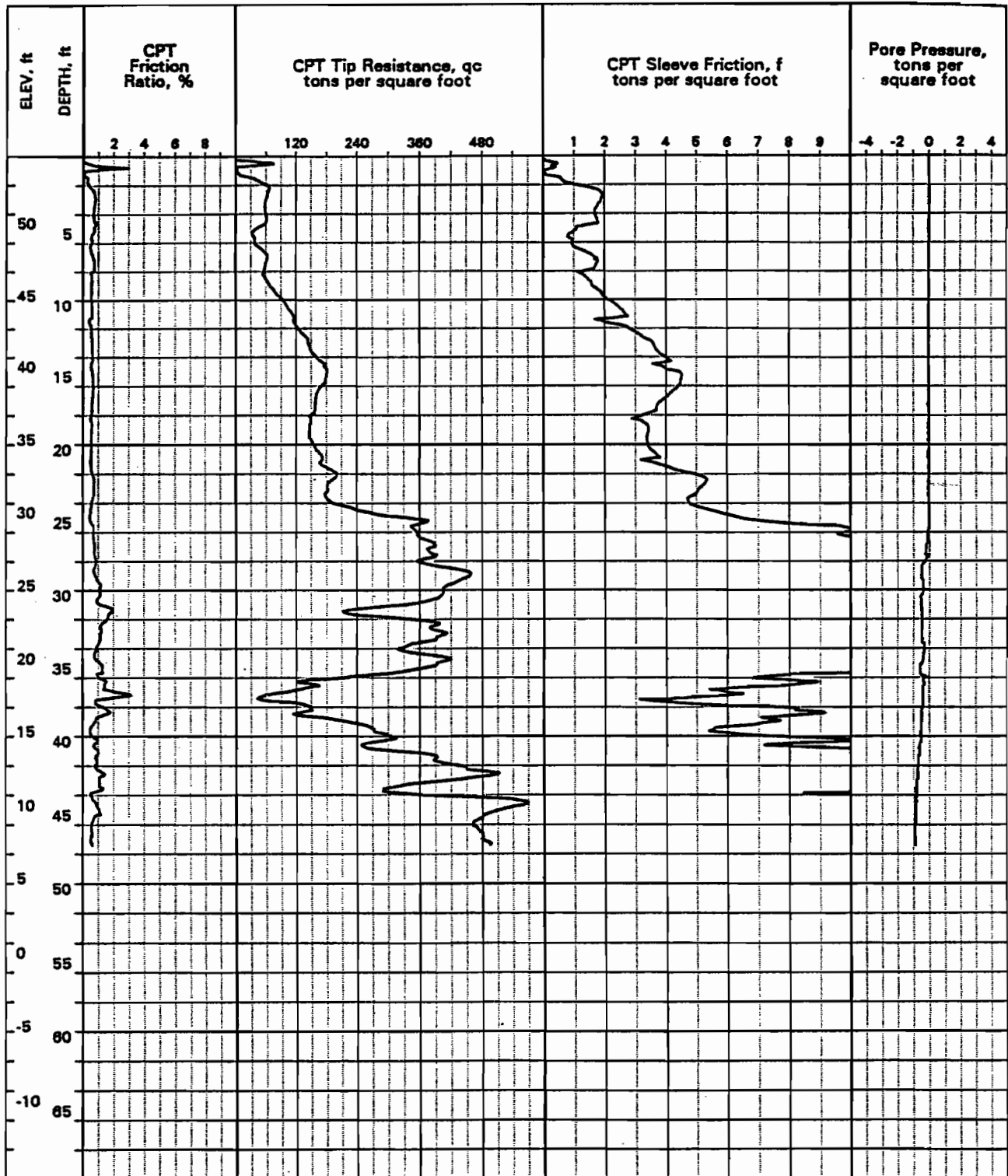
LOG OF CPT NO. CPT-12
 Los Osos Sewer



LOCATION: N 671,703, E 1,150,745
 SURFACE EL: 105 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: Not Encountered
 COMPLETION DEPTH: 50.0 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 20, 1995

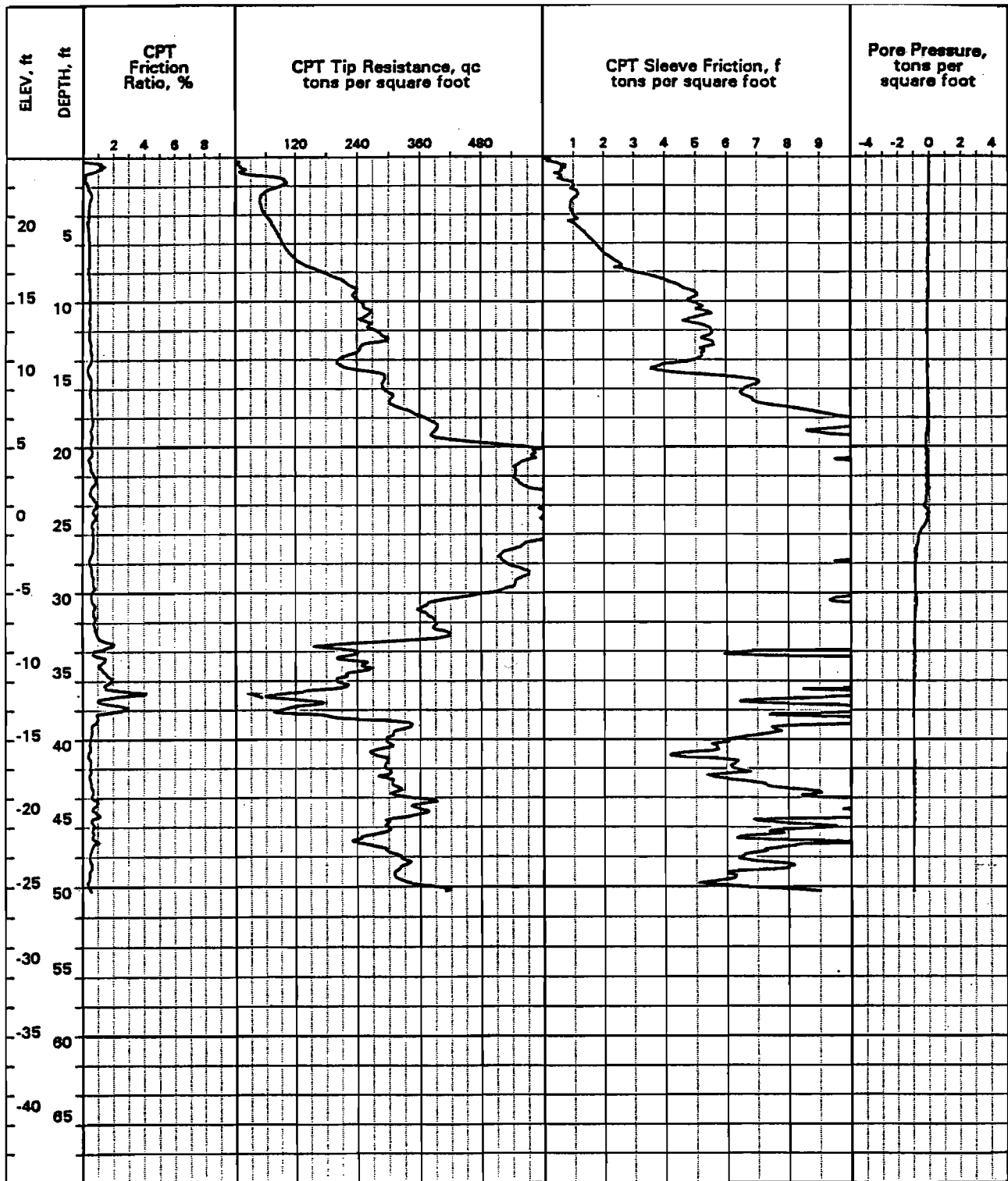
LOG OF CPT NO. CPT-13
Los Osos Sewer



LOCATION: N 672,790, E 1,152,191
 SURFACE EL: 55 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 25 ft
 COMPLETION DEPTH: 47.9 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 20, 1995

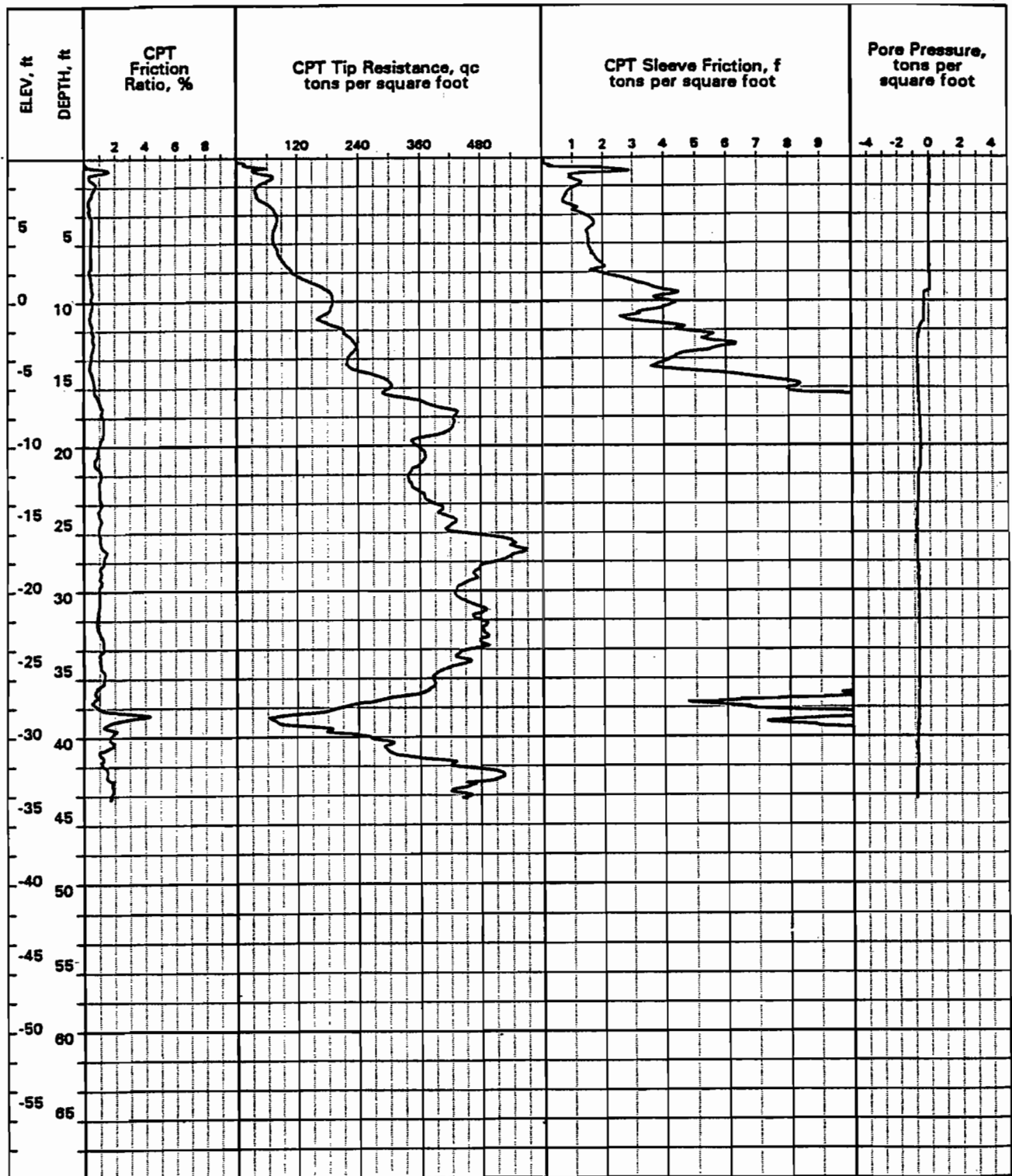
LOG OF CPT NO. CPT-14
 Los Osos Sewer



LOCATION: N 673,325, E 1,151,701
 SURFACE EL: 25 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 18 ft
 COMPLETION DEPTH: 50.8 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 20, 1995

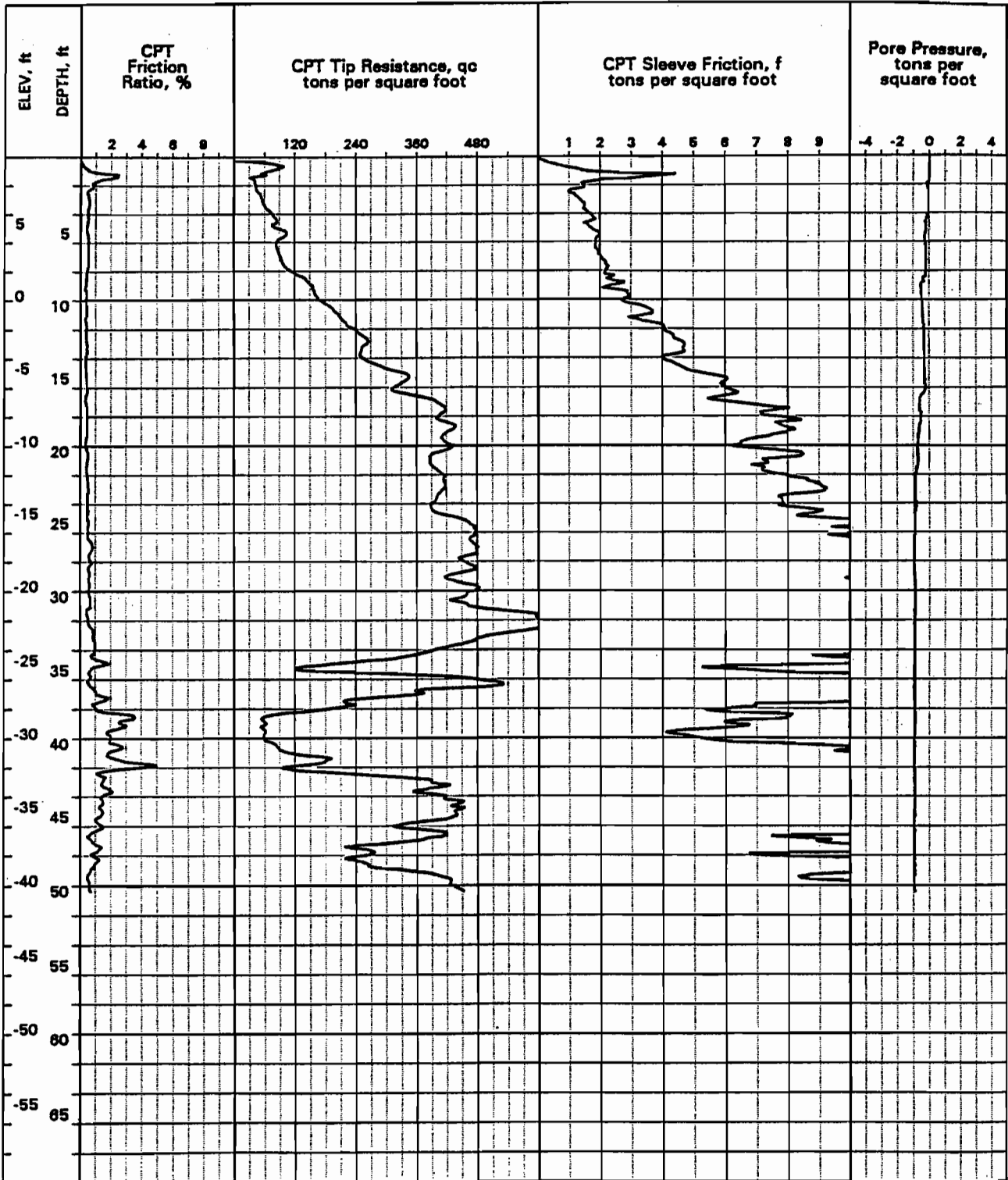
LOG OF CPT NO. CPT-15
Los Osos Sewer



LOCATION: N 673,820, E 1,151,223
 SURFACE EL: 10 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 9 ft
 COMPLETION DEPTH: 44.8 ft

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 20, 1995

LOG OF CPT NO. CPT-16
 Los Osos Sewer



LOCATION: N 673,604, E 1,149,538
 SURFACE EL: 10 ft +/- (rel. MSL datum)
 DEPTH TO GROUND WATER: 5 ft
 COMPLETION DEPTH: 50.8 ft

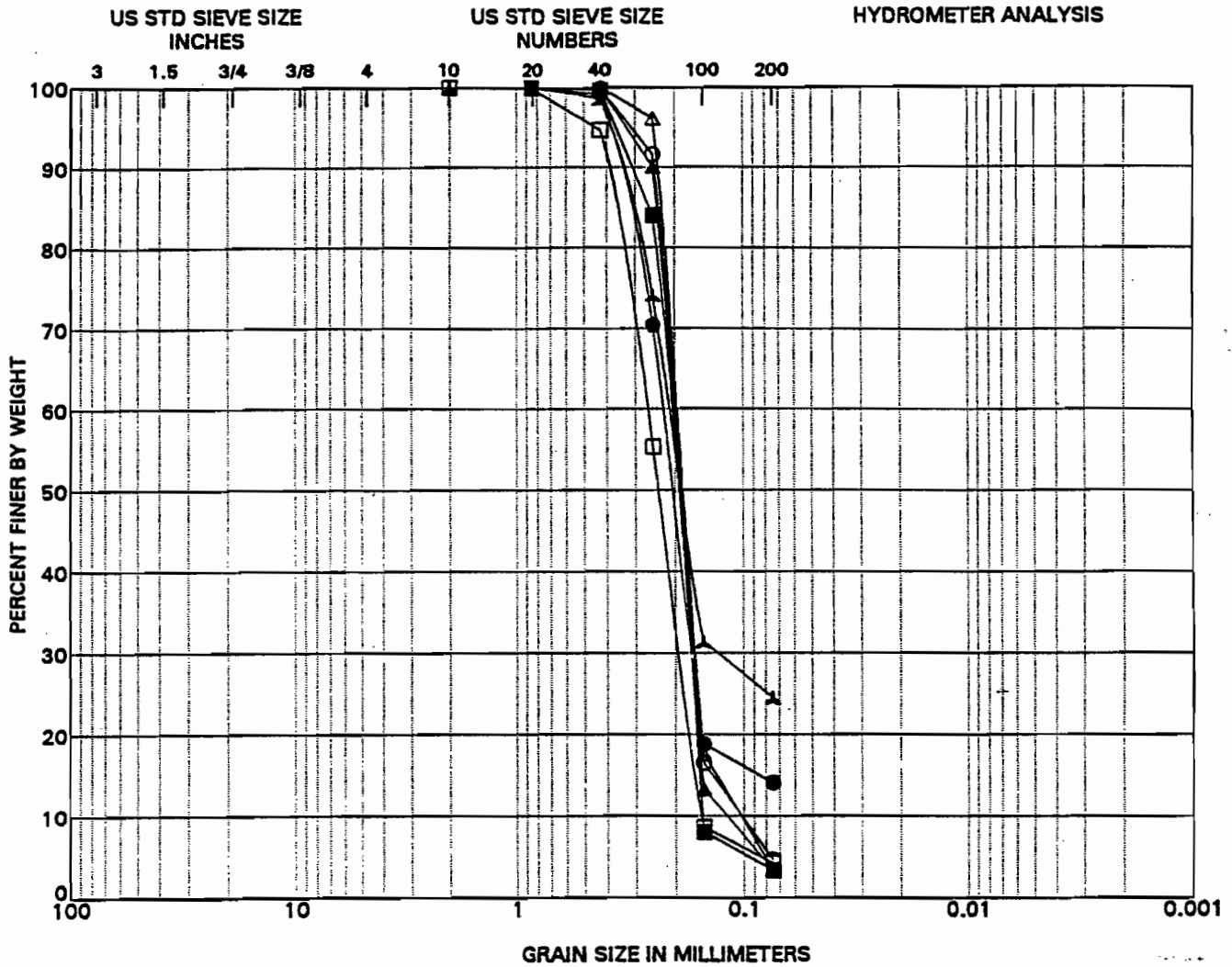
EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 EXPLORATION DATE: October 20, 1995

LOG OF CPT NO. CPT-17
Los Osos Sewer

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**ATTACHMENT D3
LABORATORY DATA
FUGRO WEST, INC. (1996)**

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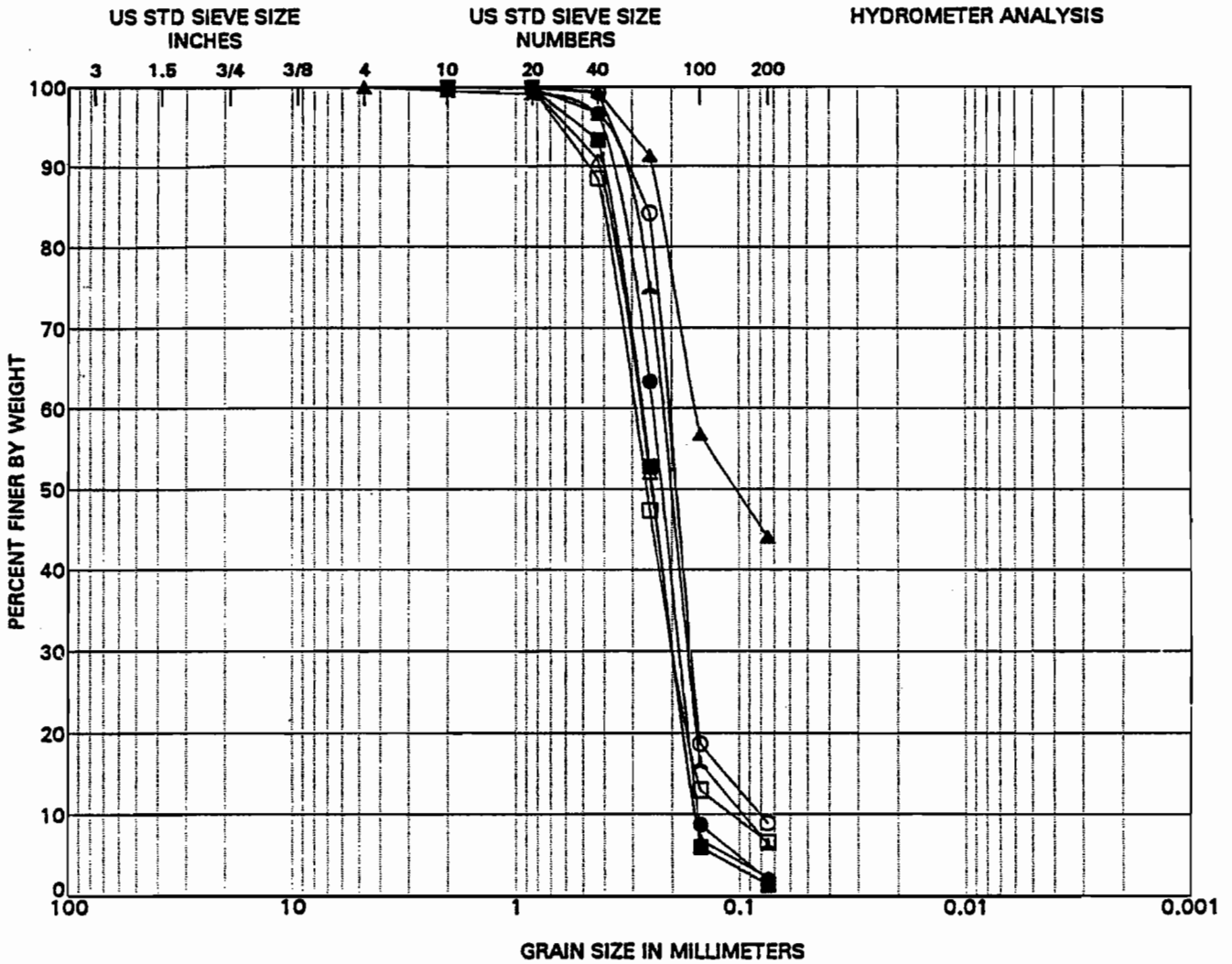


GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND		
	(location)	(depth, ft)
○	01	5.0
●	01	35.0
△	04	5.0
▲	04	20.0
□	04	50.0
■	05	21.0
▲	05	50.0

CLASSIFICATION	Cc	Cu
Fine SAND with silt (SP-SM)	1.3	2.0
Silty fine SAND (SM)		
Fine SAND with silt (SP-SM)	1.3	1.9
Fine SAND (SP)	1.2	1.7
Fine SAND with silt (SP-SM)	0.9	1.7
Fine SAND (SP)	0.9	1.4
Silty fine SAND (SM)		

GRAIN SIZE CURVES
 Los Osos Sewer



GRAVEL		SAND			SILT or CLAY
coarse	fine	coarse	medium	fine	

LEGEND		
(location)	(location)	(depth, ft)
○	08	8.0
●	08	35.0
△	08	49.0
▲	08	100.0
□	08	150.0
■	09	5.5
▲	12	10.0

CLASSIFICATION	C _c	C _u
Fine SAND with silt (SP-SM)	1.6	2.6
Fine SAND (SP)	0.9	1.6
Fine SAND (SP)	0.9	1.8
Silty fine SAND (SP)		
Fine SAND with silt (SP-SM)	1.2	2.7
Fine SAND (SP)	0.9	1.8
Fine SAND with silt (SP-SM)	1.3	2.3

GRAIN SIZE CURVES
Los Osos Sewer



JOB No.: 4280		JOB NAME: LOS OSOS SEWER		Date: 11/08/95							
BORING No.: DH-1		MATERIAL DESCRIPTION: REDDISH BROWN FINE SAND W-SILT		Page of: 1 1							
SAMPLE No.: 35		SAMPLE DEPTH (ft): 35		PERMEAMETER No.: 1							
BURETTE DIAMETER (cm): 1.128		AREA, a (cm ²): 1.00		SPECIFIC GRAVITY: 2.65							
SPECIMEN INFORMATION											
INITIAL MOISTURE CONTENT AND DENSITY			FINAL MOISTURE CONTENT								
REMOLED SAMPLE		UNDISTURBED SAMPLE									
Maximum Dry Unit Weight (pcf):		Wet Weight of Sample (g): 743.6		Final Wet Sample Weight (g):							
Soil Moisture Content (%):		Moisture Sample Tare No.: 129		Moisture Sample Tare No.:							
Desired Relative Compaction (%):		Wet Weight of Moisture Sample & Tare (g): 131.2		Wet Weight of Moisture Sample & Tare (g):							
		Dry Weight of Moisture Sample & Tare (g): 120.8		Dry Weight of Moisture Sample & Tare (g):							
		Tare Weight of Moisture Sample (g): 18.1		Tare Weight of Moisture Sample (g):							
Initial Diameter, D (in)(cm):		Initial Diameter, D (in)(cm): 2.4		Final Diameter, D (in)(cm):							
Initial Samp. Ht., L (in)(cm):		Initial Samp. Ht., L (in)(cm): 5.32		Final Samp. Ht., L (in)(cm):							
Initial Samp. Area, A (in)(cm): 0 0		Initial Samp. Area, A (in)(cm): 4.52389342117 29.186350796		Final Samp. Area, A (in)(cm): 0 0							
Initial Samp. Vol. (cu-in)(cc): 0 0		Initial Samp. Vol. (cu-in)(cc): 24.0671130006 384.389321036		Final Samp. Vol. (cu-in)(cc): 0 0							
Initial Sample Moist Soil Weight (g): 0.000		Initial Sample Moisture Content (%): 10.228		Final Moisture Content (%): ERR							
Initial Sample Saturation (%): 0.00		Initial Sample Saturation (%): 48.40		Final Saturation (%): ERR							
Initial Sample Dry Unit Weight (pcf): 0.00		Initial Sample Dry Unit Weight (pcf): 106.79		Final Sample Dry Unit Weight (pcf): ERR							
B VALUE CHECK											
Initial Pore Pressure (psf): 80		Final Pore Pressure (psf): 89.6		Delta Pore Pressure (psf): 9.60							
Initial Cell Pressure (psf): 83		Final Cell Pressure (psf): 93		Delta Cell Pressure (psf): 10.00							
B-value:		0.980		(should be greater than 0.95)							
PERMEABILITY DATA											
Note: cm H ₂ O = 70.338 * (psf)											
K = $\frac{aL}{2A(t_1-t_0)}$ [Ln (h ₀ / h ₁)]		K = Permeability (cm/sec)		L = Length of Sample (cm)							
		a = Area of Burette (cm ²)		h ₀ = Initial Head (cm)							
		A = Area of Sample (cm ²)		t ₀ = Initial Time (sec)							
				h ₁ = Head at t ₁ (cm)							
				t ₁ = Time at h ₁ (sec)							
Date	Hour	Temp. (C)	Elapsed Time (sec)	Applied Press. Diff. (psf)	Top. Bur. Reading (cm)	Bot. Bur. Reading (cm)	Burette Difference (cm)	Delta T (t ₁ -t ₀) (sec)	h (cm)	K _t (cm/sec)	K ₂₀ (cm/sec)
11/08/95	11:52:30	20	0	0.5	24.000	0.100	23.900	0	59.089		
11/08/95	11:53:00	20	30	0.5	22.300	1.800	20.500	30	55.689	4.57E-04	4.59E-04
11/08/95	11:53:30	20	60	0.5	20.800	3.300	17.500	30	52.689	4.27E-04	4.29E-04
11/08/95	11:54:00	20	90	0.5	19.400	4.700	14.700	30	49.689	4.21E-04	4.23E-04
11/08/95	11:54:30	20	120	0.5	18.100	6.000	12.100	30	47.289	4.13E-04	4.15E-04
11/08/95	11:55:00	20	150	0.5	17.000	7.100	9.900	30	45.089	3.87E-04	3.89E-04
11/08/95	11:55:30	20	180	0.5	15.900	8.200	7.700	30	42.889	3.86E-04	3.88E-04
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
		20	0				0.000	0	0	BLANK	BLANK
Tested by	TOM G	Date	11/08/95	Computed by:	TOM G	Date:	11/08/95	Average Result:			4.05E-04

PERMEABILITY TEST RESULTS
Los Osos Sewer



JOB No.: 4280		JOB NAME: LOS OSOS SEWER		Date: 11/15/96										
BORING No.: DH-5		MATERIAL DESCRIPTION: GRAYISH ORANGE CLAYEY SAND		Page: of 1 1										
SAMPLE No.: 50		SAMPLE DEPTH (ft): 50		PERMEAMETER No.: 1										
BURETTE DIAMETER (cm): 1.128		AREA, a (cm ²): 1.00		SPECIFIC GRAVITY: 2.65										
SPECIMEN INFORMATION														
INITIAL MOISTURE CONTENT AND DENSITY			FINAL MOISTURE CONTENT											
REMOVED SAMPLE			UNDISTURBED SAMPLE											
Maximum Dry Unit Weight (pcf):			Wet Weight of Sample (g): 795.9											
Soil Moisture Content (%):			Moisture Sample Tare No.: 141											
Desired Relative Compaction (%):			Wet Weight of Moisture Sample & Tare (g): 142.8											
			Dry Weight of Moisture Sample & Tare (g): 127.4											
			Tare Weight of Moisture Sample (g): 19.1											
Initial Diameter, D (in)(cm):			Initial Diameter, D (in)(cm): 2.4											
Initial Samp. HL, L (in)(cm):			Initial Samp. HL, L (in)(cm): 5.1											
Initial Samp. Area, A (in)(cm): 0 0			Initial Samp. Area, A (in)(cm): 4.52389342117 23.196350798											
Initial Samp. Vol. (cu-in)(cc): 0 0			Initial Samp. Vol. (cu-in)(cc): 23.071856448 378.07908212											
Initial Sample Moist Soil Weight (g): 0.000			Initial Sample Moisture Content (%): 14.220											
Initial Sample Saturation (%): 0.00			Initial Sample Saturation (%): 98.19											
Initial Sample Dry Unit Weight (pcf): 0.00			Initial Sample Dry Unit Weight (pcf): 115.08											
			Final Wet Sample Weight (g): 803.8											
			Moisture Sample Tare No.: A1											
			Wet Weight of Moisture Sample & Tare (g): 833.4											
			Dry Weight of Moisture Sample & Tare (g): 715.8											
			Tare Weight of Moisture Sample (g): 28.6											
Final Diameter, D (in)(cm): 2.4			Final Diameter, D (in)(cm): 2.4											
Final Samp. HL, L (in)(cm): 5.1			Final Samp. HL, L (in)(cm): 5.1											
Final Samp. Area, A (in)(cm): 4.52389342117 23.196350798			Final Samp. Area, A (in)(cm): 4.52389342117 23.196350798											
Final Samp. Vol. (cu-in)(cc): 23.071856448 378.07908212			Final Samp. Vol. (cu-in)(cc): 23.071856448 378.07908212											
Final Moisture Content (%): 17.138			Final Moisture Content (%): 17.138											
Final Saturation (%): 98.85			Final Saturation (%): 98.85											
Final Sample Dry Unit Weight (pcf): 113.30			Final Sample Dry Unit Weight (pcf): 113.30											
B-VALUE CHECK														
Initial Pore Pressure (psf): 80		Final Pore Pressure (psf): 98.6		Delta Pore Pressure (psf): 9.60										
Initial Cell Pressure (psf): 83		Final Cell Pressure (psf): 93		Delta Cell Pressure (psf): 10.00										
B-value:		0.980		(should be greater than 0.85)										
PERMEABILITY DATA														
Note: cm H ₂ O = 70.338 * (psf)														
Kt = $\frac{aL}{2A(t_1-t_0)}$		K = Permeability (cm/sec)		L = Length of Sample (cm)										
[Ln (h ₀ / h ₁)]		a = Area of Burette (cm ²)		h ₀ = Initial Head (cm)										
		A = Area of Sample (cm ²)		t ₀ = Initial Time (sec)										
				h ₁ = Head at t ₁ (cm)										
				t ₁ = Time at h ₁ (sec)										
Date	Hour	Temp. (C)	Elapsed Time (sec)	Applied Press. (psf)	Top. Bur. Reading (cm)	Bot. Bur. Reading (cm)	Burette Difference (cm)	Delta T (t ₁ -t ₀) (sec)	h (cm)	Kt (cm/sec)	K20 (cm/sec)			
11/15/96	11:30	20	0	1	23.000	0.400	22.600	0	92.978					
11/15/96	11:47	20	480	1	21.600	1.900	19.700	480	90.078	1.48E-05	1.47E-05			
11/15/96	12:03	20	1440	1	18.900	4.600	14.300	960	84.678	1.43E-05	1.43E-05			
11/15/96	12:15	20	2160	1	17.000	6.600	10.400	720	80.778	1.46E-05	1.46E-05			
11/15/96	12:34	20	3300	1	14.400	9.200	5.200	1140	75.578	1.29E-05	1.30E-05			
11/15/96	12:48	20	4140	1	12.300	11.200	1.100	840	71.478	1.47E-05	1.48E-05			
11/15/96	13:03	20	5040	1	10.400	13.200	-2.800	900	67.578	1.38E-05	1.38E-05			
11/15/96	13:21	20	6120	1	8.300	15.600	-7.200	1080	63.178	1.38E-05	1.38E-05			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
Tested by:	TOM G		Date:	11/15/96		Computed by:	TOM G		Date:	11/15/96		Average Result:	1.41E-05	

PERMEABILITY TEST RESULTS
Los Osos Sewer



JOB No.: 4280		JOB NAME: LOS OSOS SEWER		Date: 11/15/96										
BORING No.: OH-4		MATERIAL DESCRIPTION: DARK ORANGE FINE SAND		Page: 1 of 1										
SAMPLE No.: 49		SAMPLE DEPTH (ft): 49		PERMEAMETER No.: 1										
BURETTE DIAMETER (cm): 1.128		AREA, a (cm ²): 1.00		SPECIFIC GRAVITY: 2.65										
PHYSICAL CHARACTERISTICS														
INITIAL MOISTURE CONTENT AND DENSITY			FINAL MOISTURE CONTENT											
REMOLED SAMPLE			UNDISTURBED SAMPLE											
Maximum Dry Unit Weight (pcf):		Wet Weight of Sample (g): 722.2		Final Wet Sample Weight (g): 737										
Soil Moisture Content (%):		Moisture Sample Tare No.: 143		Moisture Sample Tare No.: A2										
Desired Relative Compaction (%):		Wet Weight of Moisture Sample & Tare (g): 194.1		Wet Weight of Moisture Sample & Tare (g): 706.5										
		Dry Weight of Moisture Sample & Tare (g): 173.7		Dry Weight of Moisture Sample & Tare (g): 658.9										
		Tare Weight of Moisture Sample (g): 19.3		Tare Weight of Moisture Sample (g): 29.5										
Initial Diameter, D (in)(cm):		Initial Diameter, D (in)(cm): 2.4		Final Diameter, D (in)(cm): 2.4										
Initial Samp. Ht. L (in)(cm):		Initial Samp. Ht. L (in)(cm): 4.9		Final Samp. Ht. L (in)(cm): 4.9										
Initial Samp. Area, A (in)(cm): 0 0		Initial Samp. Area, A (in)(cm): 4.52398342117 28.186360798		Final Samp. Area, A (in)(cm): 4.52398342117 28.186360798										
Initial Samp. Vol. (cu-in)(cc): 0 0		Initial Samp. Vol. (cu-in)(cc): 22.1670777637 363.253322007		Final Samp. Vol. (cu-in)(cc): 22.1670777637 363.253322007										
Initial Sample Moist Soil Weight (g): 0.000		Initial Sample Moisture Content (%): 13.212		Final Moisture Content (%): 17.088										
Initial Sample Saturation (%): 0.00		Initial Sample Saturation (%): 66.88		Final Saturation (%): 66.88										
Initial Sample Dry Unit Weight (pcf): 0.00		Initial Sample Dry Unit Weight (pcf): 108.63		Final Sample Dry Unit Weight (pcf): 108.17										
FLUID PRESSURE														
Initial Pore Pressure (psf): 80		Final Pore Pressure (psf): 89.6		Delta Pore Pressure (psf): 9.60										
Initial Cell Pressure (psf): 83		Final Cell Pressure (psf): 93		Delta Cell Pressure (psf): 10.00										
S-value:		0.980		(should be greater than 0.95)										
PERMEABILITY DATA														
Note: cm H ₂ O = 70.338 * (psf)														
Kt = $\frac{aL}{2A(t_1-t_0)}$		K = Permeability (cm/sec)		L = Length of Sample (cm)										
[Ln (h ₀ / h ₁)]		a = Area of Burette (cm ²)		t ₀ = Initial Time (sec)										
		A = Area of Sample (cm ²)		t ₁ = Time at h ₁ (sec)										
h ₀ = Initial Head (cm)		h ₁ = Head at t ₁ (cm)												
Date	Hour	Temp. (C)	Elapsed Time (sec)	Applied Press. (psi)	Top. Bur. Reading (cm)	Bot. Bur. Reading (cm)	Burette Difference (cm)	Delta T (t ₁ -t ₀) (sec)	h (cm)	Kt (cm/sec)	K20 (cm/sec)			
11/15/96	13:10:00	20	0	0.5	24.000	0.300	23.700	0	58.888					
11/15/96	13:10:05	20	5	0.5	23.200	1.100	22.100	5	57.288	1.17E-03	1.18E-03			
11/15/96	13:10:10	20	10	0.5	22.400	1.900	20.500	5	56.688	1.21E-03	1.21E-03			
11/15/96	13:10:15	20	15	0.5	21.700	2.600	19.100	5	54.288	1.08E-03	1.08E-03			
11/15/96	13:10:20	20	20	0.5	20.900	3.400	17.500	5	52.688	1.27E-03	1.28E-03			
11/15/96	13:10:25	20	25	0.5	20.100	4.200	15.900	5	51.088	1.31E-03	1.32E-03			
11/15/96	13:10:30	20	30	0.5	19.400	4.900	14.500	5	49.688	1.18E-03	1.19E-03			
11/15/96	13:10:35	20	35	0.5	18.600	5.600	13.000	5	48.288	1.22E-03	1.22E-03			
11/15/96	13:10:40	20	40	0.5	17.900	6.200	11.700	5	46.888	1.25E-03	1.26E-03			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
			20	0			0.000	0	0	BLANK	BLANK			
Tested by:	TOM G		Date:	11/15/96		Computed by:	TOM G		Date:	11/15/96		Average Result:	1.23E-03	

PERMEABILITY TEST RESULTS
Los Osos Sewer

