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AMERICAN
ENVIRONMENTAL MANAGEMENT CORP.

Please Refer To:
AEMC Job No. 82580

13 August 1991

Mr. Paul Smith
Alameda County Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

RE: EXTENSION FOR SUBMITTAL OF CONTAMINATION ASSESSMENT REPORT SEARS OAKLAND SITE, OAKLAND, CALIFORNIA

Dear Mr. Smith:

This letter confirms Mike Stephens' conversation with Mr. Chris Carpenter of the Alameda County District Attorney's Office on 8 August 1991. The schedule for submittal of the Contamination Assessment Report for the Sears Oakland Site has been extended by the Alameda County District Attorney's Office from 15 August 1991 to 30 August 1991.

Also, on 8 August 1991, we discussed the cone penetrometer/Hydropunch assessment which American Environmental Management Corporation (AEMC) completed at this site in February, 1991. In particular, you verified that you, in conjunction with the California Regional Water Quality Control Board, had given Mr. Phil Walsack of AEMC verbal authorization to proceed with that investigation, as our records indicate.

To make their records complete, Sears requests that you further confirm this in writing at the earliest possible date. Your cooperation in this matter is greatly appreciated.

Sincerely,

Michael Stephens
Senior Engineering Geologist
Engineering Division

Neil H. Zickefoose, R.G., C.E.G. 398
Geological Science Section Manager
Engineering Division

MLS/scg
11src-08(ms-7)

cc: Mr. Chris Carpenter, Alamenda County District Attorneys Office, Department of Environmental Health
Mr. Rob Henderson, AEMC Sales, San Leandro
Ms. Bernadine Palka, Environmental Engineer, Sears Roebuck & Co.

Job No. 82580

SUMMARY OF ACTIVITIES

for

SEARS, ROEBUCK & COMPANY
Oakland, California

August 1991

prepared by the

AMERICAN ENVIRONMENTAL MANAGEMENT CORPORATION
Engineering Division
9719 Lincoln Village Drive, Suite 501
Sacramento, California 95827
(916) 364-8872

INTRODUCTION

Sears, Roebuck & Co. had maintained seven (7) underground storage tanks (USTs) to contain oil products at its automotive service center located at 2633 Telegraph Avenue, Oakland, California (Figure 1). All of the USTs were installed in the early 1960s. American Environmental Management Corporation (AEMC) was retained by Sears to remove all of the USTs.

Two separate excavations were opened during the UST removals. Six motor oil tanks were removed from an excavation to the east of the service bays, and one waste oil tank was removed from an excavation to the west of the service bays (Figure 2). AEMC's letter report dated 12 October 1990 summarizes the tank excavation and removal activities. Due to the presence of hydrocarbon contamination in both excavations, the site characterization and remediation was divided into two separate parts, the motor oil tank area and the waste oil tank area. A Preliminary Report and Contamination Assessment Workplan dated 4 January 1991 addressing the waste oil tank area was submitted to the Alameda County Department of Health. This report addressed the scope of the field investigation to define the lateral and vertical extent of the hydrocarbon contamination at the site. The workplan was approved by ACHD (Alameda County Health Department) with concurrence from the Regional Water Quality Control Board—Bay Region.

The purpose of this document is to report the findings from the contamination assessment conducted from 25 February 1991 to 28 February 1991.

U.S.G.S.
Oakland West
QUADRANGLE LOCATION
7.5 MIN. SERIES

1000' 0' 1000' 2000'

SCALE: 1"=2000-ft.

N

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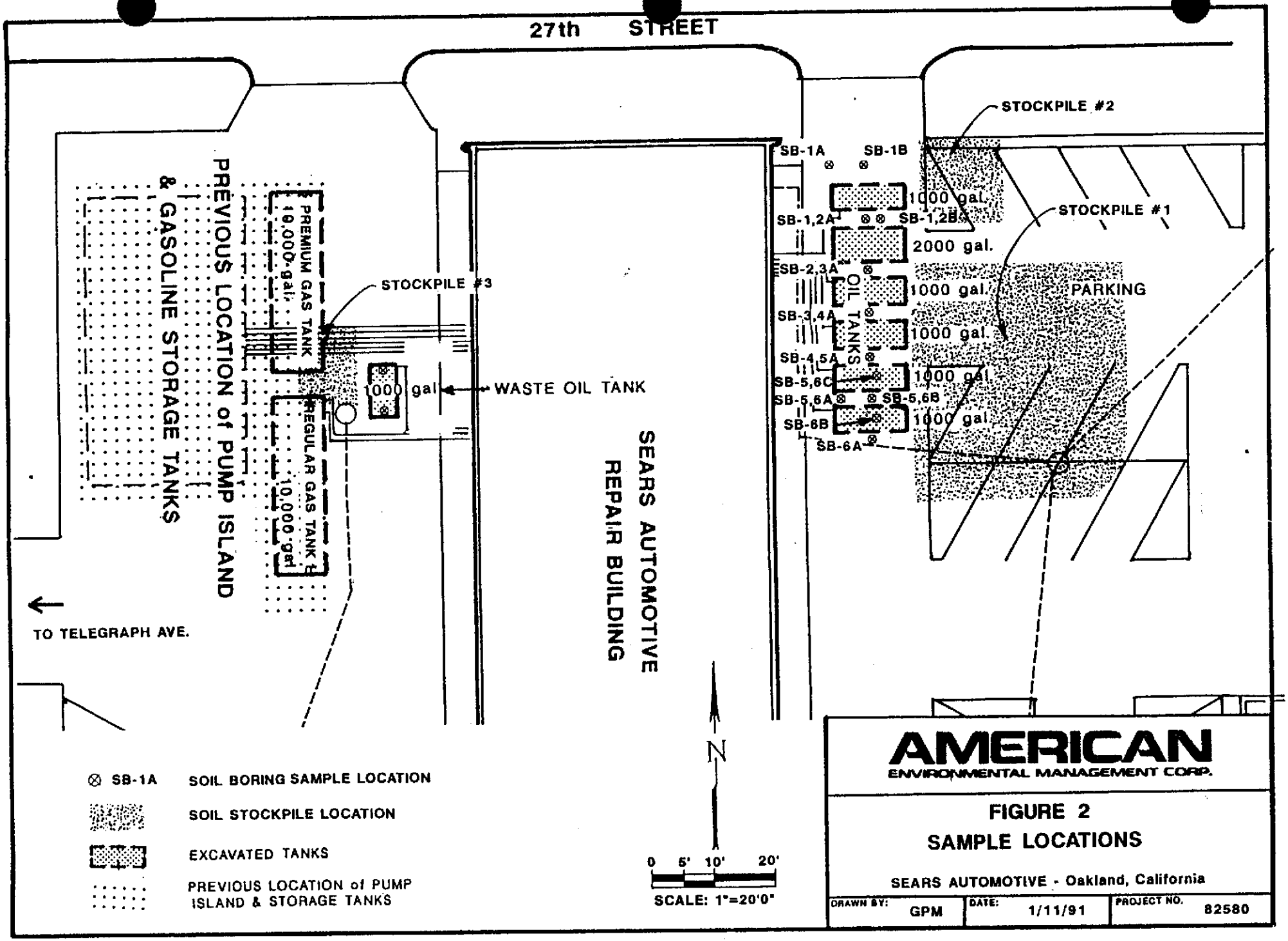
FIGURE 1
SITE LOCATION MAP

SEARS AUTOMOTIVE - Oakland, California

DRAWN BY: GPM	DATE: 1/11/91	PROJECT NO. 50109	82580


27th STREET
STOCKPILE #2
SB-1A
SB-1B
1000 gal.
SB-1,2A
SB-1,2B
2000 gal.
STOCKPILE #1
SB-2,3A
OIL TANKS
1000 gal.
PARKING
SB-3,4A
1000 gal.
SB-4,5A
SB-5,6C
1000 gal.
SB-5,6A
SB-5,6B
SB-6B
1000 gal.
SB-6A
STOCKPILE #3
PREMIUM GAS TANK
10,000 gal.
REGULAR GAS TANK
10,000 gal.
1000 gal
WASTE OIL TANK
PREVIOUS LOCATION of PUMP ISLAND & GASOLINE STORAGE TANKS
SEARS AUTOMOTIVE REPAIR BUILDING
TO TELEGRAPH AVE.
N
0 5' 10' 20'
SCALE: 1"=20'0"
⊗ SB-1A SOIL BORING SAMPLE LOCATION
SOIL STOCKPILE LOCATION
EXCAVATED TANKS
PREVIOUS LOCATION of PUMP ISLAND & STORAGE TANKS
AMERICAN
ENVIRONMENTAL MANAGEMENT CORP.
FIGURE 2
SAMPLE LOCATIONS
SEARS AUTOMOTIVE - Oakland, California
DRAWN BY: GPM
DATE: 1/11/91
PROJECT NO. 82580

ELECTRONIC CONE PENETROMETER SURVEY--SOIL LITHOGRAPHY

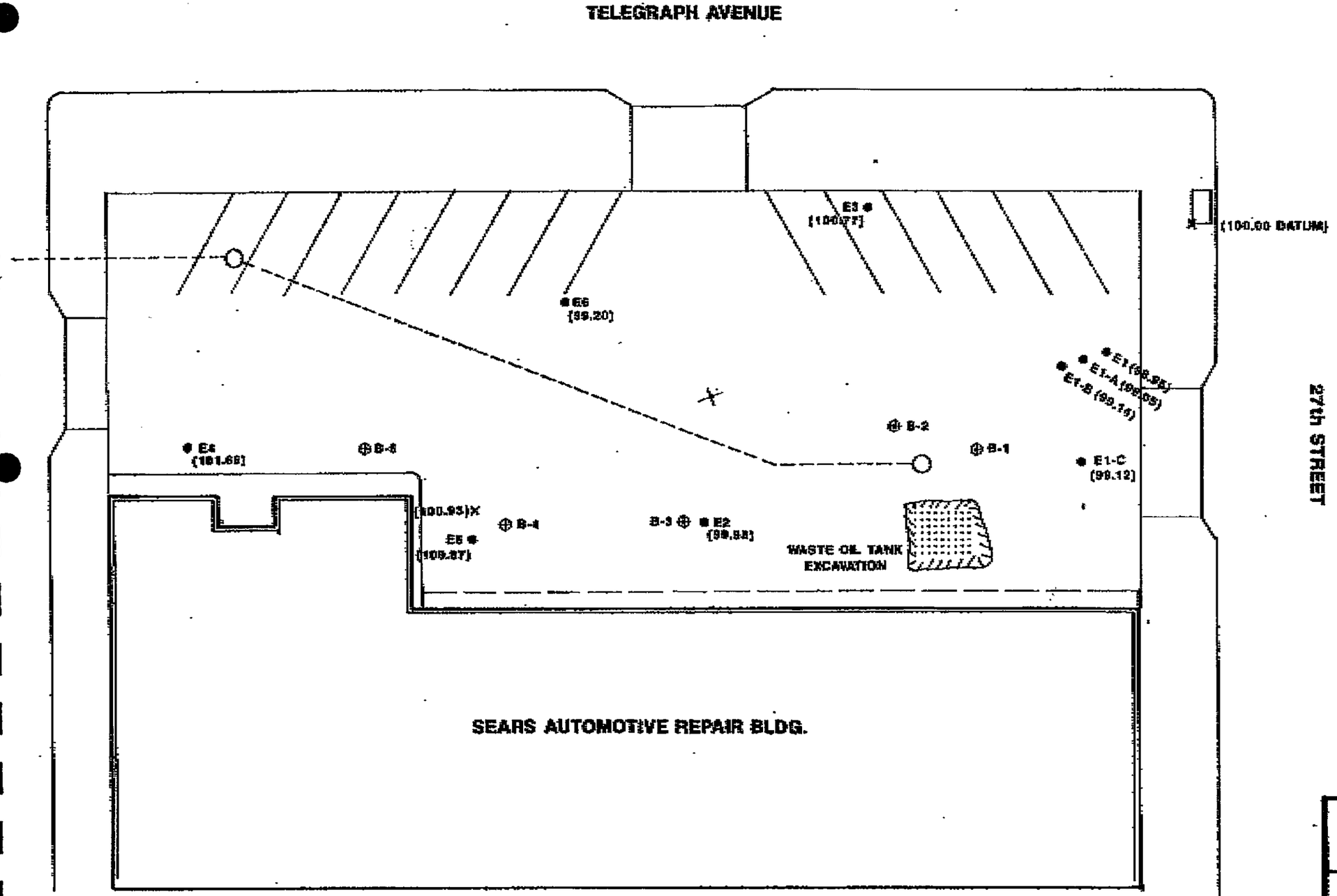
AEMC used the electronic cone penetrometer (ECP) as a tool to characterize the soil stratigraphy above the uppermost groundwater beneath the Sears Oakland site. Resistance to the ECP probe penetration and probe friction was measured electronically with depth. AEMC used this data to determine changes in soil types beneath the site. AEMC completed six (6) ECP soundings, each to the depth of the 36 feet below ground surface. Upon completion, all the sounding locations were surveyed to provide a base of reference. Each ECP sounding borehole was backfilled to grade with injected cement/bentonite grout to grade, in accordance with Alameda County requirements. Figure 3, ECP and Boring Locations, presents the locations for each ECP sounding. Appendix A, Cone Penetrometer Data, contains data with interpretations from site cone penetrometer activities.

SOIL SAMPLING AND ANALYSES

AEMC conducted soil sampling adjacent to the completed ECP soundings. The purpose for the sampling effort was to determine the lateral and vertical extent of petroleum hydrocarbon and metals contamination in the soil profile above the uppermost ground water.

AEMC advanced each borehole with the ECP hydraulic press and collected soil samples with the ECP retractable cone tipped sampler. Each soil sample was collected in a 1.2-inch diameter by 7.0-inch long stainless steel tube. The tubes were sealed with Teflon tape, plastic end caps, and tape. The samples were cooled to 4°C and transported to American Environmental Laboratories Corporation (State Certification No. 1233) for analyses.

The soil samples were analyzed for Total Petroleum Hydrocarbons as Gas and Diesel by EPA Method 8015-m, Oil and Grease by EPA Method 9071, and Lead by EPA Method ICP/AA (Total Threshold Limit Concentration). Due to the volume of soil



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ENVIRONMENTAL MANAGEMENT CORP.

FIGURE 3

E.C.P. & BORING Locations

SEARS AUTOMOTIVE - Oakland, CA.

DRAWN BY:	DATE:	PROJECT NO.
GPM	4/25/91	92580

collected in each stainless steel tube the Purgeable Organic Compounds analysis recommended in the workplan could not be completed.

AEMC advanced a total of six (6) soil sampling boreholes at the locations illustrated on Figure 2. Soil samples were collected at differing depths as noted in Table 1. Because of the resistant sand lense encountered, samples could not be gathered from a depth greater then 12 feet bgs to the capillary fringe of the uppermost groundwater. Table 1 contains a summary of the analytical data for the soil samples. Appendix B, Soil Sampling Results, contains the laboratory results.

TABLE 1

Analytical Results of Soil Samples
Sears, Roebuck and Co.
Oakland, California

Waste Oil Tank Area

Sample ID	Depth (feet bgs)	TPH-G (ppm)	TPH-D (ppm)	Oil &Grease (ppm)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
	5	ND	ND		ND	ND	ND	ND
B-1-2	8	ND	ND	<50	ND	ND	ND	ND
	11.5		ND					
	5		ND	<50				
	8		ND		ND	ND		ND
B-2-3	NO RECOVERY		—	—	—	—	—	—
	5	ND	ND	ND	ND	26	ND	ND
	8	ND	ND	ND	ND	220	ND	ND
	12	2.0	ND	ND	ND	110	ND	ND
	5	ND	ND	ND	ND	50	ND	ND
	8		ND	ND		200		
	12		ND	ND		130		ND
B-9-1	5	ND	ND	ND	ND	39	ND	ND
B-9-2	8	ND	ND	ND	ND	220	ND	ND
B-9-3	12	ND	ND		ND	120	ND	ND
	15	ND	ND	ND	ND	75	ND	ND
	5	ND	ND	ND	ND	67	ND	ND
	8	ND	ND	ND	ND	110	ND	ND
	12		ND	ND	ND	210		ND
	5	ND	ND	ND	ND	100	ND	ND
	8	ND	ND	ND	ND	120	ND	ND
	12		ND		ND	300		ND

bgs	below ground surface
TPH-G	Total Petroleum Hydrocarbons as gasoline
TPH-D	Total Petroleum Hydrocarbons as diesel
B	Benzene
T	Toluene
X	Xylenes
E	Ethylbenzene

ELECTRONIC CONE PENETROMETER SURVEY—SOIL SATURATION CONDITIONS

Using the ECP capabilities, AEMC electronically measured the changes in cone penetration data, friction ratio data, and soil pore water pressures with depth to determine the uppermost zone of saturated soil. Table 2 contains the approximate depth and elevation of soil saturation conditions.

Table 2

Electronic Core Penetration
Sears, Roebuck and Co.
Oakland, California

Waste Oil Tank Area

ECP Location No.	Depth to Saturated Conditions (feet bgs)	Elevation of Saturated Conditions (feet)
CPT-1	13.50	14.19
CPT-2	19.00	19.44
CPT-3	14.25	14.35
CPT-4	15.00	14.60
CPT-5	14.75	14.35
CPT-6	15.00	14.68

UPPERMOST GROUNDWATER QUALITY SAMPLING

AEMC sampled the uppermost groundwater quality using the ECP's Hydropunch II groundwater sampler. AEMC confirmed the depth to groundwater with the ECP sounding, A total of seven (7) groundwater quality samples were obtained.

The groundwater samples were analyzed for Total Petroleum Hydrocarbons as Gas and Diesel by EPA Method 8015-m, and Oil and Grease by EPA 9071. Due to the lack of sample volume the Purgeable Organic Compounds by EPA Method 8240 could not be

performed. Groundwater analyses were performed onsite by Mobile Chem Labs, Inc. Appendix C, Groundwater Sampling Results, presents the analytical results. The following Table 3 summarizes those results.

TABLE 3

Analytical Results of Water Samples
Sears, Roebuck and Co.
Oakland, California

Waste Oil Tank Area

Sample ID	Screened Interval (feet bgs)	TPH-G (ppb)	TPH-D (ppb)	Oil &Grease (ppm)	B (ppb)	T (ppb)	E (ppb)	X (ppb)
E5		18,000	ND	7,000	240	240	74	180
B-1-HP		ND	ND	ND	ND	ND	ND	ND
B-3-HP		ND	ND	200	ND	ND	ND	ND
B-4A-HP		180	ND	ND	2.1	0.6	0.5	2.1
B-6-HP		ND	ND	ND	ND	ND	ND	ND
B7-HP		ND	ND	ND	ND	ND	ND	ND
B-8-HP		ND	ND	ND	ND	ND	ND	ND

bgs	below ground surface
TPH-G	Total Petroleum Hydrocarbons as gasoline
TPH-D	Total Petroleum Hydrocarbons as diesel
B	Benzene
T	Toluene
X	Xylenes
E	Ethylbenzene

APPENDIX A

ELECTRIC CONE PENETROMETER DATA

TONTO
DRILLING SERVICES, INC.

ENVIRONMENTAL & GEOTECHNICAL DIVISION
2120 Blumenfeld Drive, Sacramento, California 95815
Phone: (916) 646-6611, Fax: (916) 646-1145

March 3, 1991

American Environmental
9719 Lincoln Village Drive, Suite 501
Sacramento, California 95827

Attention: Phil Walsak

Subject: CPT Interpretation
Sears Automotive
J.N. 82580
Oakland, California

362-064

Dear Mr. Walsak:

Please find enclosed CPT interpretations for measurements taken at locations CPT01C-06 at the above site on February 26, 1991, per your request.

For interpretation purposes depth to groundwater was assumed to be 4 meters based on a average measurements across the site immediately after soundings. Total unit weight was assumed to be 110 pcf. Undrained shear strength estimates are based on an Nk factor of 15.

Soil parameters are estimates based on averaged values. This data should be used only as a guide -- specific design values should be obtained by a qualified soils engineer using correlation techniques applicable to specific soil conditions and local experience.

Please call if you have questions or if we may be of further service.

Sincerely,

Mark E. Best, P.E.
Director, Insitu Testing Services

Attachments: CPT Interpretation (4-pages)
Cone Penetration Record (2-pages)
5.25" Data Disk--IBM Compatible

Interpretation *

CONE PENETRATION RECORD

Job No: 362-064
Project: OAKLAND
Date: 2-25-91

TAPE NO:

FILE NO.	ENGINEER	CONE I.D.	LOCATION	HOLE NO.	TOTAL DEPTH IN METERS	REMARKS
22	A.E.M.	339		CPT-01	3^{05} 10	PIERCED PIPE
	-137	-1.88	1.37	-23.5		
23	"	"		CPT-01A	3^{6} 11^{81}	PFI - STOPPED DUE TO TIP & ING.
	-136	-1.90	1.39	-23.5		
24	"	"		CPT-01B	3^{7} 12^{14}	QUIT FOR TIP
	-135	-2.23	1.65	-23.5		
25	"	"		CPT-01C	11^{2} 36^{75}	35 10
	-135	-2.19	1.61	-23.6		
26	"	"		CPT-02	11^{15} 36^{58}	11
	-135	-2.15	1.59	-23.5		

CONE PENETRATION RECORD

Job No: 562-004
Project: OAKLAND
Date: 2-21-91

TAPE NO:

FILE NO.	ENGINEER	CONE I.D.	LOCATION	HOLE NO.	TOTAL DEPTH IN METERS	REMARKS
27	A.E.M.	339		CPT-03	11' 36.77	24 B
	-136	-2.13	1.57	-23.6		
28	"	"		CPT-04	11' 36.42	3/6 1/4
	-136	-2.12	1.55	-23.6		
29	"	"		CPT-05	11' 36.42	32' 9'
	-136	-2.12	1.56	-23.6		"
30	"	"		CPT-06	11' 36.42	12"
	-136	-2.14	1.53	-23.6		

RECEIVED
ENGINEERING
MAR 5 1991

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON
On Site Loc:CPT-01C
Job No. :82580
Tot. Unit Wt. (avg) : 110 pcf

CPT Date :02/25/91 11:55
Cone Used :339
Water table (meters) : 4

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	198.10	1.38	0.70	0.02	sand	)90	)48	38	UNDEFINED
0.50	1.64	36.80	1.47	3.98	0.07	clayey silt to silty clay	UNDFND	UNDFD	18	2.4
0.75	2.46	28.34	1.34	4.74	0.11	clay	UNDFND	UNDFD	27	1.8
1.00	3.28	23.66	1.26	5.31	0.16	clay	UNDFND	UNDFD	23	1.5
1.25	4.10	22.12	1.38	6.25	0.20	clay	UNDFND	UNDFD	21	1.4
1.50	4.92	22.64	1.39	6.16	0.25	clay	UNDFND	UNDFD	22	1.4
1.75	5.74	24.54	1.28	5.23	0.29	clay	UNDFND	UNDFD	24	1.6
2.00	6.56	23.88	1.07	4.46	0.34	clay	UNDFND	UNDFD	23	1.5
2.25	7.38	21.24	1.02	4.78	0.38	clay	UNDFND	UNDFD	20	1.3
2.50	8.20	18.50	0.89	4.83	0.43	clay	UNDFND	UNDFD	18	1.2
2.75	9.02	15.16	0.67	4.43	0.47	clay	UNDFND	UNDFD	15	.9
3.00	9.84	14.84	0.49	3.33	0.52	silty clay to clay	UNDFND	UNDFD	9	.9
3.25	10.66	14.02	0.28	2.01	0.56	clayey silt to silty clay	UNDFND	UNDFD	7	.8
3.50	11.48	13.90	0.17	1.20	0.61	sandy silt to clayey silt	UNDFND	UNDFD	5	.8
3.75	12.30	16.88	0.17	1.02	0.65	sandy silt to clayey silt	UNDFND	UNDFD	6	1.0
4.00	13.12	22.18	0.38	1.69	0.70	sandy silt to clayey silt	UNDFND	UNDFD	8	1.4
4.25	13.94	44.28	1.50	3.39	0.73	clayey silt to silty clay	UNDFND	UNDFD	21	2.9
4.50	14.76	150.16	2.72	1.81	0.75	silty sand to sandy silt	80-90	44-46	48	UNDEFINED
4.75	15.58	258.28	5.38	2.08	0.77	sand to silty sand	)90	46-48	)50	UNDEFINED
5.00	16.40	354.00	4.15	1.17	0.79	sand	)90	46-48	)50	UNDEFINED
5.25	17.22	185.76	2.28	1.23	0.81	sand to silty sand	80-90	44-46	44	UNDEFINED
5.50	18.04	228.96	4.09	1.79	0.83	sand to silty sand	)90	44-46	)50	UNDEFINED
5.75	18.86	82.90	2.51	3.03	0.85	sandy silt to clayey silt	UNDFND	UNDFD	32	5.4
6.00	19.69	28.76	1.06	3.68	0.87	clayey silt to silty clay	UNDFND	UNDFD	14	1.8
6.25	20.51	33.02	1.27	3.84	0.89	clayey silt to silty clay	UNDFND	UNDFD	16	2.1
6.50	21.33	81.48	2.36	2.89	0.91	sandy silt to clayey silt	UNDFND	UNDFD	31	5.3
6.75	22.15	165.10	4.15	2.51	0.93	silty sand to sandy silt	80-90	42-44	)50	UNDEFINED
7.00	22.97	252.70	5.13	2.03	0.95	sand to silty sand	)90	44-46	)50	UNDEFINED
7.25	23.79	228.18	3.94	1.73	0.97	sand to silty sand	)90	44-46	)50	UNDEFINED
7.50	24.61	238.20	4.26	1.79	0.98	sand to silty sand	)90	44-46	)50	UNDEFINED
7.75	25.43	140.44	2.52	1.79	1.00	silty sand to sandy silt	70-80	42-44	45	UNDEFINED
8.00	26.25	24.82	0.29	1.18	1.02	sandy silt to clayey silt	UNDFND	UNDFD	10	1.5
8.25	27.07	21.26	0.30	1.40	1.04	sandy silt to clayey silt	UNDFND	UNDFD	8	1.3
8.50	27.89	23.22	0.58	2.49	1.06	clayey silt to silty clay	UNDFND	UNDFD	11	1.4
8.75	28.71	24.16	0.49	2.02	1.08	sandy silt to clayey silt	UNDFND	UNDFD	9	1.5
9.00	29.53	30.30	0.81	2.66	1.10	sandy silt to clayey silt	UNDFND	UNDFD	12	1.9
9.25	30.35	28.62	0.94	3.30	1.12	clayey silt to silty clay	UNDFND	UNDFD	14	1.7
9.50	31.17	28.84	0.67	2.31	1.14	sandy silt to clayey silt	UNDFND	UNDFD	11	1.8

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON On Site Loc:CPT-01C

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	22.48	0.52	2.32	1.16	clayey silt to silty clay	UNDFND	UNDFD	11	1.3
10.00	32.81	27.64	0.96	3.48	1.18	clayey silt to silty clay	UNDFND	UNDFD	13	1.7
10.25	33.63	35.70	0.67	1.89	1.20	sandy silt to clayey silt	UNDFND	UNDFD	14	2.2
10.50	34.45	27.78	0.95	3.42	1.22	clayey silt to silty clay	UNDFND	UNDFD	13	1.7
10.75	35.27	27.66	0.69	2.49	1.24	sandy silt to clayey silt	UNDFND	UNDFD	11	1.7
11.00	36.09	64.30	2.27	3.54	1.26	clayey silt to silty clay	UNDFND	UNDFD	31	4.1

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON
On Site Loc:CPT-02
Job No. :82580
Tot. Unit Wt. (avg) : 110 pcf

CPT Date :02/25/91 12:45
Cone Used :339
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	221.42	1.37	0.62	0.02	sand	)90	)48	42	UNDEFINED
0.50	1.64	24.68	0.97	3.95	0.07	silty clay to clay	UNDFND	UNDFD	16	1.6
0.75	2.46	19.74	0.76	3.85	0.11	silty clay to clay	UNDFND	UNDFD	13	1.3
1.00	3.28	19.86	0.91	4.59	0.16	clay	UNDFND	UNDFD	19	1.3
1.25	4.10	21.38	1.11	5.17	0.20	clay	UNDFND	UNDFD	20	1.4
1.50	4.92	22.00	1.37	6.25	0.25	clay	UNDFND	UNDFD	21	1.4
1.75	5.74	21.26	1.17	5.49	0.29	clay	UNDFND	UNDFD	20	1.3
2.00	6.56	22.72	0.76	3.34	0.34	clayey silt to silty clay	UNDFND	UNDFD	11	1.4
2.25	7.38	14.46	0.54	3.72	0.38	silty clay to clay	UNDFND	UNDFD	9	.9
2.50	8.20	15.50	0.46	2.97	0.43	clayey silt to silty clay	UNDFND	UNDFD	7	1.0
2.75	9.02	8.72	0.38	4.38	0.47	clay	UNDFND	UNDFD	8	.5
3.00	9.84	7.34	0.22	3.05	0.52	clay	UNDFND	UNDFD	7	.4
3.25	10.66	8.52	0.24	2.79	0.56	silty clay to clay	UNDFND	UNDFD	5	.5
3.50	11.48	9.50	0.13	1.41	0.61	clayey silt to silty clay	UNDFND	UNDFD	5	.5
3.75	12.30	8.80	0.21	2.39	0.65	silty clay to clay	UNDFND	UNDFD	6	.5
4.00	13.12	11.06	0.40	3.63	0.70	clay	UNDFND	UNDFD	11	.6
4.25	13.94	12.20	0.36	2.98	0.73	silty clay to clay	UNDFND	UNDFD	8	.7
4.50	14.76	21.40	0.34	1.58	0.75	sandy silt to clayey silt	UNDFND	UNDFD	8	1.3
4.75	15.58	19.34	0.20	1.06	0.77	sandy silt to clayey silt	UNDFND	UNDFD	7	1.2
5.00	16.40	18.46	0.24	1.31	0.79	sandy silt to clayey silt	UNDFND	UNDFD	7	1.1
5.25	17.22	20.72	0.31	1.49	0.81	sandy silt to clayey silt	UNDFND	UNDFD	8	1.3
5.50	18.04	25.60	0.54	2.09	0.83	sandy silt to clayey silt	UNDFND	UNDFD	10	1.6
5.75	18.86	33.32	0.79	2.36	0.85	sandy silt to clayey silt	UNDFND	UNDFD	13	2.1
6.00	19.69	73.18	2.07	2.83	0.87	sandy silt to clayey silt	UNDFND	UNDFD	28	4.8
6.25	20.51	92.76	2.69	2.90	0.89	sandy silt to clayey silt	UNDFND	UNDFD	36	6.1
6.50	21.33	194.54	4.02	2.07	0.91	silty sand to sandy silt	80-90	44-46	)50	UNDEFINED
6.75	22.15	202.50	5.95	2.94	0.93	silty sand to sandy silt	80-90	44-46	)50	UNDEFINED
7.00	22.97	367.56	3.77	1.03	0.95	sand	)90	46-48	)50	UNDEFINED
7.25	23.79	135.56	2.48	1.83	0.97	silty sand to sandy silt	70-80	42-44	43	UNDEFINED
7.50	24.61	52.36	1.05	2.01	0.98	sandy silt to clayey silt	UNDFND	UNDFD	20	3.4
7.75	25.43	14.54	0.15	1.06	1.00	sandy silt to clayey silt	UNDFND	UNDFD	6	.8
8.00	26.25	15.86	0.15	0.96	1.02	sandy silt to clayey silt	UNDFND	UNDFD	6	.9
8.25	27.07	19.46	0.25	1.29	1.04	sandy silt to clayey silt	UNDFND	UNDFD	7	1.1
8.50	27.89	36.32	0.33	0.90	1.06	silty sand to sandy silt	(40	34-36	12	UNDEFINED
8.75	28.71	20.24	0.20	1.00	1.08	sandy silt to clayey silt	UNDFND	UNDFD	8	1.2
9.00	29.53	23.10	0.35	1.53	1.10	sandy silt to clayey silt	UNDFND	UNDFD	9	1.4
9.25	30.35	29.84	0.41	1.37	1.12	sandy silt to clayey silt	UNDFND	UNDFD	11	1.8
9.50	31.17	34.02	0.37	1.08	1.14	silty sand to sandy silt	(40	34-36	11	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON On Site Loc:CPT-02

DEPTH (meters)	(feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	37.14	0.83	2.24	1.16	sandy silt to clayey silt	UNDFND	UNDFD	14	2.3
10.00	32.81	38.76	0.95	2.46	1.18	sandy silt to clayey silt	UNDFND	UNDFD	15	2.4
10.25	33.63	37.92	1.12	2.96	1.20	sandy silt to clayey silt	UNDFND	UNDFD	15	2.4
10.50	34.45	43.00	0.78	1.80	1.22	sandy silt to clayey silt	UNDFND	UNDFD	16	2.7
10.75	35.27	37.70	0.83	2.21	1.24	sandy silt to clayey silt	UNDFND	UNDFD	14	2.3
11.00	36.09	35.96	0.93	2.59	1.26	sandy silt to clayey silt	UNDFND	UNDFD	14	2.2

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON
On Site Loc:CPT-03
Job No. :82580
Tot. Unit Wt. (avg) : 110 pcf

CPT Date :02/26/91 8:05
Cone Used :339
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	215.08	1.44	0.67	0.02	sand	)90	)48	41	UNDEFINED
0.50	1.64	45.06	1.49	3.31	0.07	clayey silt to silty clay	UNDFND	UNDFD	22	2.9
0.75	2.46	39.22	1.39	3.56	0.11	clayey silt to silty clay	UNDFND	UNDFD	19	2.6
1.00	3.28	24.24	1.02	4.21	0.16	silty clay to clay	UNDFND	UNDFD	15	1.6
1.25	4.10	20.38	1.06	5.19	0.20	clay	UNDFND	UNDFD	20	1.3
1.50	4.92	20.64	1.18	5.73	0.25	clay	UNDFND	UNDFD	20	1.3
1.75	5.74	16.70	0.78	4.68	0.29	clay	UNDFND	UNDFD	16	1.0
2.00	6.56	16.48	0.62	3.77	0.34	silty clay to clay	UNDFND	UNDFD	11	1.0
2.25	7.38	14.84	0.50	3.37	0.38	silty clay to clay	UNDFND	UNDFD	9	.9
2.50	8.20	11.60	0.58	5.01	0.43	clay	UNDFND	UNDFD	11	.7
2.75	9.02	10.62	0.43	4.06	0.47	clay	UNDFND	UNDFD	10	.6
3.00	9.84	13.28	0.33	2.46	0.52	clayey silt to silty clay	UNDFND	UNDFD	6	.8
3.25	10.66	8.84	0.34	3.83	0.56	clay	UNDFND	UNDFD	8	.5
3.50	11.48	10.94	0.37	3.43	0.61	silty clay to clay	UNDFND	UNDFD	7	.6
3.75	12.30	11.52	0.41	3.55	0.65	silty clay to clay	UNDFND	UNDFD	7	.7
4.00	13.12	11.42	0.33	2.92	0.70	silty clay to clay	UNDFND	UNDFD	7	.7
4.25	13.94	9.60	0.32	3.36	0.73	clay	UNDFND	UNDFD	9	.5
4.50	14.76	21.58	0.65	3.02	0.75	clayey silt to silty clay	UNDFND	UNDFD	10	1.3
4.75	15.58	21.28	0.39	1.81	0.77	sandy silt to clayey silt	UNDFND	UNDFD	8	1.3
5.00	16.40	12.40	0.22	1.77	0.79	clayey silt to silty clay	UNDFND	UNDFD	6	.7
5.25	17.22	11.02	0.25	2.26	0.81	clayey silt to silty clay	UNDFND	UNDFD	5	.6
5.50	18.04	12.00	0.22	1.85	0.83	clayey silt to silty clay	UNDFND	UNDFD	6	.7
5.75	18.86	37.80	0.48	1.26	0.85	silty sand to sandy silt	40-50	36-38	12	UNDEFINED
6.00	19.69	84.52	1.39	1.65	0.87	silty sand to sandy silt	60-70	40-42	27	UNDEFINED
6.25	20.51	43.22	0.47	1.10	0.89	silty sand to sandy silt	40-50	36-38	14	UNDEFINED
6.50	21.33	18.44	0.49	2.65	0.91	clayey silt to silty clay	UNDFND	UNDFD	9	1.1
6.75	22.15	85.86	2.08	2.42	0.93	sandy silt to clayey silt	UNDFND	UNDFD	33	5.6
7.00	22.97	114.96	2.94	2.56	0.95	silty sand to sandy silt	70-80	40-42	37	UNDEFINED
7.25	23.79	101.12	2.37	2.34	0.97	silty sand to sandy silt	60-70	40-42	32	UNDEFINED
7.50	24.61	36.92	0.97	2.64	0.98	sandy silt to clayey silt	UNDFND	UNDFD	14	2.3
7.75	25.43	19.88	0.17	0.86	1.00	sandy silt to clayey silt	UNDFND	UNDFD	8	1.2
8.00	26.25	18.24	0.18	1.00	1.02	sandy silt to clayey silt	UNDFND	UNDFD	7	1.1
8.25	27.07	26.62	0.36	1.34	1.04	sandy silt to clayey silt	UNDFND	UNDFD	10	1.6
8.50	27.89	31.66	0.55	1.74	1.06	sandy silt to clayey silt	UNDFND	UNDFD	12	2.0
8.75	28.71	38.74	1.15	2.97	1.08	sandy silt to clayey silt	UNDFND	UNDFD	15	2.4
9.00	29.53	41.66	1.39	3.33	1.10	clayey silt to silty clay	UNDFND	UNDFD	20	2.6
9.25	30.35	38.06	1.35	3.55	1.12	clayey silt to silty clay	UNDFND	UNDFD	18	2.4
9.50	31.17	27.04	0.51	1.88	1.14	sandy silt to clayey silt	UNDFND	UNDFD	10	1.6

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON On Site Loc:CPT-03

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	26.36	0.38	1.45	1.16	sandy silt to clayey silt	UNDFND	UNDFD	10	1.6
10.00	32.81	27.10	0.78	2.88	1.18	clayey silt to silty clay	UNDFND	UNDFD	13	1.6
10.25	33.63	22.10	0.62	2.80	1.20	clayey silt to silty clay	UNDFND	UNDFD	11	1.3
10.50	34.45	19.98	0.57	2.83	1.22	clayey silt to silty clay	UNDFND	UNDFD	10	1.2
10.75	35.27	18.24	0.27	1.46	1.24	sandy silt to clayey silt	UNDFND	UNDFD	7	1.0
11.00	36.09	28.44	0.52	1.84	1.26	sandy silt to clayey silt	UNDFND	UNDFD	11	1.7

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON
On Site Loc:CPT-04
Job No. :82580
Tot. Unit Wt. (avg) : 110 pcf

CPT Date :02/26/91 8:50
Cone Used :339
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	215.34	1.50	0.70	0.02	sand	)90	)48	41	UNDEFINED
0.50	1.64	22.46	0.90	4.01	0.07	silty clay to clay	UNDFND	UNDFD	14	1.4
0.75	2.46	14.74	0.56	3.79	0.11	silty clay to clay	UNDFND	UNDFD	9	.9
1.00	3.28	13.12	0.33	2.49	0.16	clayey silt to silty clay	UNDFND	UNDFD	6	.8
1.25	4.10	10.50	0.21	1.95	0.20	clayey silt to silty clay	UNDFND	UNDFD	5	.6
1.50	4.92	13.58	0.64	4.70	0.25	clay	UNDFND	UNDFD	13	.8
1.75	5.74	18.50	0.88	4.75	0.29	clay	UNDFND	UNDFD	18	1.2
2.00	6.56	22.90	0.66	2.86	0.34	clayey silt to silty clay	UNDFND	UNDFD	11	1.5
2.25	7.38	22.72	0.54	2.40	0.38	clayey silt to silty clay	UNDFND	UNDFD	11	1.4
2.50	8.20	15.64	0.47	2.98	0.43	clayey silt to silty clay	UNDFND	UNDFD	7	1.0
2.75	9.02	10.84	0.39	3.62	0.47	clay	UNDFND	UNDFD	10	.6
3.00	9.84	11.30	0.33	2.92	0.52	silty clay to clay	UNDFND	UNDFD	7	.7
3.25	10.66	10.18	0.25	2.46	0.56	silty clay to clay	UNDFND	UNDFD	7	.6
3.50	11.48	11.26	0.36	3.21	0.61	silty clay to clay	UNDFND	UNDFD	7	.7
3.75	12.30	12.14	0.39	3.17	0.65	silty clay to clay	UNDFND	UNDFD	8	.7
4.00	13.12	12.48	0.41	3.31	0.70	silty clay to clay	UNDFND	UNDFD	8	.7
4.25	13.94	12.62	0.41	3.26	0.73	silty clay to clay	UNDFND	UNDFD	8	.7
4.50	14.76	23.56	0.77	3.25	0.75	clayey silt to silty clay	UNDFND	UNDFD	11	1.5
4.75	15.58	18.48	0.45	2.41	0.77	clayey silt to silty clay	UNDFND	UNDFD	9	1.1
5.00	16.40	10.04	0.11	1.13	0.79	clayey silt to silty clay	UNDFND	UNDFD	5	.6
5.25	17.22	9.30	0.11	1.22	0.81	clayey silt to silty clay	UNDFND	UNDFD	4	.5
5.50	18.04	8.12	0.12	1.43	0.83	clayey silt to silty clay	UNDFND	UNDFD	4	.4
5.75	18.86	13.94	0.19	1.33	0.85	sandy silt to clayey silt	UNDFND	UNDFD	5	.8
6.00	19.69	12.48	0.08	0.66	0.87	sandy silt to clayey silt	UNDFND	UNDFD	5	.7
6.25	20.51	18.62	0.05	0.28	0.89	silty sand to sandy silt	(40	32-34	6	UNDEFINED
6.50	21.33	40.60	0.63	1.55	0.91	silty sand to sandy silt	40-50	36-38	13	UNDEFINED
6.75	22.15	64.20	1.64	2.56	0.93	sandy silt to clayey silt	UNDFND	UNDFD	25	4.2
7.00	22.97	95.70	1.27	1.33	0.95	sand to silty sand	60-70	40-42	23	UNDEFINED
7.25	23.79	80.44	1.71	2.13	0.97	silty sand to sandy silt	60-70	40-42	26	UNDEFINED
7.50	24.61	47.70	0.90	1.88	0.98	sandy silt to clayey silt	UNDFND	UNDFD	18	3.0
7.75	25.43	35.42	0.66	1.87	1.00	sandy silt to clayey silt	UNDFND	UNDFD	14	2.2
8.00	26.25	93.26	2.11	2.27	1.02	silty sand to sandy silt	60-70	40-42	30	UNDEFINED
8.25	27.07	50.24	1.04	2.07	1.04	sandy silt to clayey silt	UNDFND	UNDFD	19	3.2
8.50	27.89	49.34	0.78	1.59	1.06	silty sand to sandy silt	40-50	36-38	16	UNDEFINED
8.75	28.71	127.22	1.80	1.41	1.08	sand to silty sand	70-80	40-42	30	UNDEFINED
9.00	29.53	102.30	2.45	2.40	1.10	silty sand to sandy silt	60-70	40-42	33	UNDEFINED
9.25	30.35	38.94	0.47	1.20	1.12	silty sand to sandy silt	(40	34-36	12	UNDEFINED
9.50	31.17	29.24	0.43	1.46	1.14	sandy silt to clayey silt	UNDFND	UNDFD	11	1.8

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON On Site Loc:CPT-04

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	28.36	0.61	2.15	1.16	sandy silt to clayey silt	UNDFND	UNDFD	11	1.7
10.00	32.81	22.70	0.37	1.63	1.18	sandy silt to clayey silt	UNDFND	UNDFD	9	1.3
10.25	33.63	93.02	1.87	2.01	1.20	silty sand to sandy silt	60-70	38-40	30	UNDEFINED
10.50	34.45	239.68	2.58	1.08	1.22	sand	80-90	42-44	46	UNDEFINED
10.75	35.27	278.54	2.07	0.74	1.24	sand	)90	44-46	)50	UNDEFINED
11.00	36.09	42.38	0.66	1.55	1.26	silty sand to sandy silt	(40	34-36	14	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON
On Site Loc:CPT-05
Job No. :82580
Tot. Unit Wt. (avg) : 110 pcf

CPT Date :02/26/91 9:45
Cone Used :339
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	138.96	0.96	0.69	0.02	sand	)90	)48	27	UNDEFINED
0.50	1.64	47.48	1.51	3.19	0.07	clayey silt to silty clay	UNDFND	UNDFD	23	3.1
0.75	2.46	26.74	1.17	4.37	0.11	silty clay to clay	UNDFND	UNDFD	17	1.7
1.00	3.28	21.26	0.96	4.49	0.16	clay	UNDFND	UNDFD	20	1.4
1.25	4.10	21.18	1.08	5.08	0.20	clay	UNDFND	UNDFD	20	1.3
1.50	4.92	21.28	1.36	6.38	0.25	clay	UNDFND	UNDFD	20	1.4
1.75	5.74	20.04	1.21	6.02	0.29	clay	UNDFND	UNDFD	19	1.3
2.00	6.56	17.26	0.88	5.10	0.34	clay	UNDFND	UNDFD	17	1.1
2.25	7.38	12.64	0.54	4.23	0.38	clay	UNDFND	UNDFD	12	.8
2.50	8.20	9.32	0.38	4.13	0.43	clay	UNDFND	UNDFD	9	.5
2.75	9.02	8.96	0.41	4.56	0.47	clay	UNDFND	UNDFD	9	.5
3.00	9.84	7.60	0.26	3.37	0.52	clay	UNDFND	UNDFD	7	.4
3.25	10.66	6.26	0.19	3.04	0.56	clay	UNDFND	UNDFD	6	.3
3.50	11.48	7.92	0.26	3.32	0.61	clay	UNDFND	UNDFD	8	.4
3.75	12.30	9.96	0.34	3.41	0.65	clay	UNDFND	UNDFD	10	.6
4.00	13.12	11.58	0.42	3.62	0.70	undefined	UNDFND	UNDFD	UDF	UNDEFINED
4.25	13.94	13.60	0.62	4.58	0.73	clay	UNDFND	UNDFD	13	.8
4.50	14.76	59.56	0.98	1.65	0.75	silty sand to sandy silt	50-60	40-42	19	UNDEFINED
4.75	15.58	25.80	0.42	1.62	0.77	sandy silt to clayey silt	UNDFND	UNDFD	10	1.6
5.00	16.40	35.74	0.69	1.92	0.79	sandy silt to clayey silt	UNDFND	UNDFD	14	2.3
5.25	17.22	50.78	0.95	1.87	0.81	silty sand to sandy silt	50-60	38-40	16	UNDEFINED
5.50	18.04	15.64	0.41	2.65	0.83	clayey silt to silty clay	UNDFND	UNDFD	7	.9
5.75	18.86	20.98	0.93	4.45	0.85	clay	UNDFND	UNDFD	20	1.3
6.00	19.69	24.84	0.74	2.96	0.87	clayey silt to silty clay	UNDFND	UNDFD	12	1.5
6.25	20.51	29.62	0.76	2.58	0.89	sandy silt to clayey silt	UNDFND	UNDFD	11	1.9
6.50	21.33	28.06	0.85	3.03	0.91	clayey silt to silty clay	UNDFND	UNDFD	13	1.7
6.75	22.15	40.36	0.63	1.57	0.93	silty sand to sandy silt	40-50	36-38	13	UNDEFINED
7.00	22.97	94.92	2.37	2.49	0.95	silty sand to sandy silt	60-70	40-42	30	UNDEFINED
7.25	23.79	126.12	2.97	2.36	0.97	silty sand to sandy silt	70-80	42-44	40	UNDEFINED
7.50	24.61	119.28	2.83	2.37	0.98	silty sand to sandy silt	70-80	40-42	38	UNDEFINED
7.75	25.43	109.60	3.27	2.98	1.00	sandy silt to clayey silt	UNDFND	UNDFD	42	7.2
8.00	26.25	27.32	0.62	2.27	1.02	sandy silt to clayey silt	UNDFND	UNDFD	10	1.7
8.25	27.07	26.06	0.69	2.63	1.04	clayey silt to silty clay	UNDFND	UNDFD	12	1.6
8.50	27.89	38.32	0.93	2.43	1.06	sandy silt to clayey silt	UNDFND	UNDFD	15	2.4
8.75	28.71	40.68	1.33	3.27	1.08	clayey silt to silty clay	UNDFND	UNDFD	19	2.6
9.00	29.53	45.40	1.86	4.09	1.10	clayey silt to silty clay	UNDFND	UNDFD	22	2.9
9.25	30.35	51.08	1.93	3.77	1.12	clayey silt to silty clay	UNDFND	UNDFD	24	3.2
9.50	31.17	34.92	0.55	1.57	1.14	sandy silt to clayey silt	UNDFND	UNDFD	13	2.2

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON On Site Loc:CPT-05

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	29.38	0.58	1.98	1.16	sandy silt to clayey silt	UNDFND	UNDFD	11	1.8
10.00	32.81	27.94	0.48	1.72	1.18	sandy silt to clayey silt	UNDFND	UNDFD	11	1.7
10.25	33.63	27.36	0.68	2.48	1.20	sandy silt to clayey silt	UNDFND	UNDFD	10	1.7
10.50	34.45	26.42	0.76	2.87	1.22	clayey silt to silty clay	UNDFND	UNDFD	13	1.6
10.75	35.27	68.52	1.27	1.86	1.24	silty sand to sandy silt	50-60	38-40	22	UNDEFINED
11.00	36.09	112.58	2.08	1.84	1.26	silty sand to sandy silt	60-70	40-42	36	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON
On Site Loc:CPT-06
Job No. :82580
Tot. Unit Wt. (avg) : 110 pcf

CPT Date :02/26/91 10:20
Cone Used :339
Water table (meters) : 4

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
0.25	0.82	225.24	0.98	0.43	0.02	sand	)90	)48	43	UNDEFINED
0.50	1.64	30.34	1.03	3.41	0.07	clayey silt to silty clay	UNDFND	UNDFD	15	2.0
0.75	2.46	26.56	1.00	3.76	0.11	silty clay to clay	UNDFND	UNDFD	17	1.7
1.00	3.28	22.00	1.05	4.77	0.16	clay	UNDFND	UNDFD	21	1.4
1.25	4.10	19.36	1.08	5.57	0.20	clay	UNDFND	UNDFD	19	1.2
1.50	4.92	20.46	1.28	6.27	0.25	clay	UNDFND	UNDFD	20	1.3
1.75	5.74	19.34	1.05	5.41	0.29	clay	UNDFND	UNDFD	19	1.2
2.00	6.56	19.82	0.88	4.47	0.34	clay	UNDFND	UNDFD	19	1.2
2.25	7.38	16.78	0.69	4.11	0.38	clay	UNDFND	UNDFD	16	1.0
2.50	8.20	12.92	0.62	4.77	0.43	clay	UNDFND	UNDFD	12	.8
2.75	9.02	23.18	0.54	2.35	0.47	clayey silt to silty clay	UNDFND	UNDFD	11	1.5
3.00	9.84	14.68	0.37	2.53	0.52	clayey silt to silty clay	UNDFND	UNDFD	7	.9
3.25	10.66	9.34	0.35	3.75	0.56	clay	UNDFND	UNDFD	9	.5
3.50	11.48	9.58	0.39	4.09	0.61	clay	UNDFND	UNDFD	9	.5
3.75	12.30	10.32	0.45	4.39	0.65	clay	UNDFND	UNDFD	10	.6
4.00	13.12	10.68	0.44	4.13	0.70	clay	UNDFND	UNDFD	10	.6
4.25	13.94	10.66	0.29	2.74	0.73	silty clay to clay	UNDFND	UNDFD	7	.6
4.50	14.76	21.32	0.60	2.82	0.75	clayey silt to silty clay	UNDFND	UNDFD	10	1.3
4.75	15.58	35.58	1.00	2.82	0.77	sandy silt to clayey silt	UNDFND	UNDFD	14	2.3
5.00	16.40	13.52	0.30	2.23	0.79	clayey silt to silty clay	UNDFND	UNDFD	6	.8
5.25	17.22	60.20	1.07	1.78	0.81	silty sand to sandy silt	50-60	38-40	19	UNDEFINED
5.50	18.04	23.30	0.16	0.68	0.83	silty sand to sandy silt	(40	34-36	7	UNDEFINED
5.75	18.86	44.14	1.36	3.08	0.85	clayey silt to silty clay	UNDFND	UNDFD	21	2.8
6.00	19.69	102.16	2.92	2.86	0.87	sandy silt to clayey silt	UNDFND	UNDFD	39	6.7
6.25	20.51	134.16	3.61	2.69	0.89	silty sand to sandy silt	70-80	42-44	43	UNDEFINED
6.50	21.33	177.44	4.45	2.51	0.91	silty sand to sandy silt	80-90	42-44	)50	UNDEFINED
6.75	22.15	182.98	6.33	3.46	0.93	sand to clayey sand (*)	UNDFND	UNDFD	)50	UNDEFINED
7.00	22.97	144.48	5.66	3.92	0.95	sand to clayey sand (*)	UNDFND	UNDFD	)50	UNDEFINED
7.25	23.79	155.88	3.23	2.07	0.97	silty sand to sandy silt	70-80	42-44	50	UNDEFINED
7.50	24.61	56.40	1.42	2.51	0.98	sandy silt to clayey silt	UNDFND	UNDFD	22	3.6
7.75	25.43	34.38	1.08	3.13	1.00	clayey silt to silty clay	UNDFND	UNDFD	16	2.2
8.00	26.25	84.74	1.77	2.09	1.02	silty sand to sandy silt	60-70	40-42	27	UNDEFINED
8.25	27.07	47.06	1.51	3.22	1.04	clayey silt to silty clay	UNDFND	UNDFD	23	3.0
8.50	27.89	20.64	0.64	3.09	1.06	clayey silt to silty clay	UNDFND	UNDFD	10	1.2
8.75	28.71	24.88	0.68	2.73	1.08	clayey silt to silty clay	UNDFND	UNDFD	12	1.5
9.00	29.53	27.60	0.71	2.57	1.10	sandy silt to clayey silt	UNDFND	UNDFD	11	1.7
9.25	30.35	28.88	0.83	2.88	1.12	clayey silt to silty clay	UNDFND	UNDFD	14	1.8
9.50	31.17	28.46	0.68	2.41	1.14	sandy silt to clayey silt	UNDFND	UNDFD	11	1.7

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

(*) overconsolidated or cemented

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

TONTO DRILLING SERVICES

Engineer AMERICAN ENVIRON On Site Loc:CPT-06

DEPTH (meters)	DEPTH (feet)	Qc (avg) (tsf)	Fs (avg) (tsf)	Rf (avg) (%)	SIGV' (tsf)	SOIL BEHAVIOUR TYPE	Eq - Dr (%)	PHI deg.	SPT N	Su tsf
9.75	31.99	29.62	0.58	1.95	1.16	sandy silt to clayey silt	UNDFND	UNDFD	11	1.8
10.00	32.81	60.02	1.87	3.12	1.18	sandy silt to clayey silt	UNDFND	UNDFD	23	3.8
10.25	33.63	35.12	1.63	4.64	1.20	silty clay to clay	UNDFND	UNDFD	22	2.2
10.50	34.45	27.62	1.03	3.74	1.22	clayey silt to silty clay	UNDFND	UNDFD	13	1.7
10.75	35.27	30.46	1.19	3.91	1.24	silty clay to clay	UNDFND	UNDFD	19	1.9
11.00	36.09	80.64	1.19	1.47	1.26	silty sand to sandy silt	50-60	38-40	26	UNDEFINED

Dr - All sands (Jamiolkowski et al. 1985) PHI - Robertson and Campanella 1983 Su: Nk= 15

**** Note: For interpretation purposes the PLOTTED CPT PROFILE should be used with the TABULATED OUTPUT from CPTINTR1 (v 3.04) ****

SOUNDING DATA IN FILE 22 02/25/91 10:22

ENGINEER : AMERICAN ENVIRON LOCATION : CPT-01

CONE ID : 339 JOB # : 82580

Tonto Drilling Services Inc.

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.05	4	0.05	1.00	0.0	0.0	0.0	-451.8
0.10	7	0.08	1.12	0.1	0.02	-0.0	-451.8
0.15	9	0.06	0.71	-0.1	-0.02	-0.0	-451.5
0.20	10	0.14	1.40	0.1	0.03	-0.0	-452.0
0.25	17	0.28	1.63	-0.0	-0.00	-0.0	-451.7
0.30	27	0.62	2.28	0.0	0.0	0.0	-451.5
0.35	45	1.51	3.32	0.1	0.01	-0.0	-451.7
0.40	135	1.96	1.45	0.4	0.02	-0.0	-451.7
0.45	135	1.95	1.44	-0.4	-0.02	0.0	-451.7
0.50	77	1.58	2.04	-0.1	-0.00	0.0	-451.5
0.55	34	1.13	3.30	-0.1	-0.02	0.0	-451.8
0.60	22	1.32	6.09	0.1	0.01	-0.0	-451.7
0.65	39	1.27	3.27	-7.5	-1.39	0.0	-451.5
0.70	19	1.42	7.38	-5.1	-1.90	-0.0	-451.7
0.75	22	0.84	3.89	-4.6	-1.51	0.0	-451.7
0.80	16	0.56	3.53	-1.4	-0.62	-0.0	-451.8
0.85	17	0.79	4.71	0.1	0.02	0.0	-451.8
0.90	27	0.89	3.26	-8.3	-2.19	0.0	-452.0
0.95	10	0.76	7.60	-9.7	-6.98	-0.0	-451.8
1.00	11	0.36	3.35	-9.0	-6.05	-0.0	-451.7
1.05	9	0.42	4.48	-8.5	-6.51	0.0	-451.8
1.10	13	0.46	3.47	-8.4	-4.54	-0.0	-451.8
1.15	12	0.51	4.33	0.5	0.28	-0.0	-451.5
1.20	11	0.43	3.92	-1.1	-0.74	0.0	-451.8
1.25	12	0.36	3.13	-1.4	-0.84	-0.0	-451.5
1.30	10	0.39	3.97	-1.3	-0.90	0.0	-451.7
1.35	11	0.35	3.30	-1.1	-0.70	-0.0	-452.0
1.40	15	0.40	2.60	-1.6	-0.76	-0.0	-451.8
1.45	37	0.75	2.01	-2.9	-0.57	0.0	-451.5
1.50	28	0.90	3.22	-0.1	-0.01	-0.0	-451.8
1.55	26	0.98	3.80	-0.1	-0.02	0.0	-452.0
1.60	16	0.88	5.42	0.0	0.00	-0.0	-452.0
1.65	20	0.88	4.42	1.6	0.57	-0.0	-451.7
1.70	19	1.08	5.79	-0.4	-0.16	-0.0	-451.7
1.75	18	0.98	5.39	-3.3	-1.28	-0.0	-451.3
1.80	18	0.89	5.00	-2.1	-0.82	-0.0	-451.7
1.85	17	0.86	5.15	4.8	2.08	-0.0	-451.8
1.90	13	0.71	5.29	-3.2	-1.68	-0.0	-452.0
1.95	15	0.52	3.55	-2.3	-1.14	-0.0	-451.8
2.00	13	0.57	4.37	-2.3	-1.24	-0.0	-451.7

22 : CPT-01 : 02/25/91 10:22

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	15	0.62	4.05	-1.8	-0.85	-0.0	-451.7
2.10	17	0.66	3.89	-1.7	-0.70	-0.0	-451.7
2.15	19	1.35	7.19	-0.9	-0.33	-0.0	-451.8
2.20	128	2.42	1.89	-0.0	-0.00	0.0	-452.0
2.25	71	1.34	1.87	-0.1	-0.01	0.2	-451.7
2.30	63	2.48	3.90	0.7	0.08	0.2	-451.7
2.35	150	1.99	1.33	0.0	0.0	0.5	-451.5
2.40	91	1.35	1.48	-0.1	-0.00	0.6	-451.7
2.45	50	0.74	1.47	0.0	0.0	0.6	-451.7
2.50	29	0.47	1.63	-0.3	-0.06	0.7	-451.5
2.55	12	0.42	3.61	-0.1	-0.02	0.7	-451.8
2.60	7	0.35	4.85	-0.1	-0.09	0.7	-451.7
2.65	9	0.31	3.51	0.7	0.53	0.7	-451.3
2.70	10	0.31	3.09	-0.3	-0.17	0.7	-451.7
2.75	12	0.41	3.49	-1.6	-0.97	0.7	-451.5
2.80	12	0.06	0.50	-0.6	-0.35	0.7	-451.3
2.85	28	-0.09	0.31	0.9	0.24	0.7	-451.5
2.90	146	2.05	1.40	-0.1	-0.00	1.0	-451.5
2.95	135	2.49	1.84	-0.2	-0.00	1.9	-451.7

PORE PRESSURE DECAY (5 SEC) -0.1 -0.0 -0.1 -0.2 -0.1 -0.1 -0.2 -0.1 -0.1 -0.1 -0.1 -0.1 -0.1

-0.1 -0.1 -0.2 -0.1 -0.1 -0.1 -0.1 -0.1 -0.2 -0.2 -0.2 -0.2 -0.2 -0.2 -0.2 -0.2 -0.1 -0.2

-0.2 -0.1 -0.1 -0.2 -0.2 -0.2 -0.3 -0.2 -0.3 -0.1 -0.2 -0.3 -0.2 -0.2 -0.2 -0.2 -0.2 -0.2

-0.2 -0.2 -0.3 -0.2 -0.2 -0.2 -0.2 -0.2 -0.2 -0.2 -0.3 -0.2 -0.3 -0.2 -0.2 -0.2 -0.2 -0.3

-0.2 -0.3 -0.2 -0.2 -0.3 -0.3 -0.3 -0.2 -0.3 -0.3 -0.3 -0.4 -0.3 -0.3 -0.3 -0.3 -0.3 -0.3

-0.2 -0.3 -0.2 -0.3 -0.3 -0.3 -0.2 -0.3 -0.3 -0.2 -0.3 -0.3 -0.3 -0.4 -0.3 -0.3 -0.3 -0.2

-0.3 -0.3 -0.3 -0.2 -0.4 -0.3 -0.3 -0.3 -0.3

3.00	15	?0000000000000000??0000000000000000?	0.0	0.00	2.5	-451.5
3.05	9	?0000000000000000??0000000000000000?	0.2	0.14	2.6	-451.3

WRITE # RODS USED ___

SOUNDING DATA IN FILE 23 02/25/91 10:45

ENGINEER : AMERICAN ENVIRON LOCATION : CPT-01A

CONE ID : 339 JOB # : 82580

Tonto Drilling Services Inc.

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.05	86	0.29	0.33	0.1	0.00	0.0	-452.0
0.10	570	0.61	0.10	0.1	0.00	0.0	-451.7
0.15	320	1.50	0.47	0.8	0.01	0.0	-451.8
0.20	172	2.01	1.16	-0.4	-0.01	0.0	-451.7
0.25	118	2.67	2.25	2.2	0.13	0.0	-451.7
0.30	121	3.27	2.70	0.2	0.01	0.0	-452.0
0.35	137	3.22	2.35	1.0	0.05	0.0	-452.1
0.40	139	3.01	2.16	3.4	0.17	-0.0	-451.8
0.45	139	1.86	1.33	1.7	0.08	0.0	-451.8
0.50	100	1.57	1.55	-0.6	-0.04	0.0	-451.5
0.55	48	1.57	3.27	-2.3	-0.34	-0.0	-452.0
0.60	29	1.06	3.71	-0.9	-0.23	0.0	-452.0
0.65	27	1.77	6.45	-0.1	-0.03	-0.0	-451.5
0.70	135	5.66	4.17	1.2	0.06	0.0	-451.8
0.75	97	3.40	3.52	0.3	0.01	-0.0	-452.0
0.80	363	2.56	0.70	-2.0	-0.03	-0.0	-452.0
0.85	255	5.47	2.14	-5.5	-0.15	0.4	-451.8
0.90	150	3.89	2.59	-3.3	-0.15	0.8	-451.3
0.95	101	2.26	2.23	-1.9	-0.13	1.1	-451.8
1.00	54	1.40	2.58	-4.2	-0.54	1.3	-451.7
1.05	20	1.18	5.82	-3.2	-1.14	1.3	-451.8
1.10	22	0.35	1.59	-3.1	-0.98	1.3	-451.3
1.15	20	0.34	1.67	-2.9	-1.01	1.3	-451.7
1.20	19	0.46	2.38	-3.2	-1.18	1.2	-451.5
1.25	18	0.51	2.81	-3.4	-1.34	1.2	-451.7
1.30	17	0.43	2.48	-3.5	-1.45	1.2	-451.8
1.35	15	0.31	2.11	-3.7	-1.79	1.2	-451.8
1.40	15	0.15	0.98	-3.5	-1.66	1.2	-451.7
1.45	15	0.18	1.21	-3.1	-1.45	1.2	-451.8
1.50	17	0.28	1.64	-2.8	-1.16	1.0	-451.7
1.55	18	0.41	2.28	-2.9	-1.16	1.0	-451.8
1.60	19	0.36	1.96	-3.2	-1.25	1.0	-451.3
1.65	16	0.07	0.44	-3.7	-1.72	1.0	-451.8
1.70	18	0.43	2.43	-3.0	-1.21	1.0	-451.8
1.75	33	1.38	4.13	-6.6	-1.40	1.0	-451.5
1.80	30	2.15	7.18	-6.7	-1.61	1.0	-451.8
1.85	142	3.53	2.48	-7.3	-0.36	1.8	-451.7
1.90	33	2.67	8.19	-7.6	-1.68	2.4	-451.7
1.95	12	0.50	4.21	-7.6	-4.58	2.6	-451.7
2.00	15	0.33	2.26	2.6	1.26	2.7	-451.3

23 : CPT-01A : 02/25/91 10:45

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	15	0.29	1.88	2.7	1.25	2.8	-451.3
2.10	19	0.36	1.92	2.1	0.80	2.8	-451.3
2.15	24	1.86	7.81	1.5	0.44	2.8	-451.3
2.20	53	1.88	3.54	-4.6	-0.62	2.9	-451.7
2.25	36	1.29	3.53	-0.6	-0.11	3.0	-451.3
2.30	36	1.01	2.82	-1.7	-0.34	3.0	-451.5
2.35	27	1.13	4.17	-2.7	-0.72	3.0	-451.5
2.40	27	0.43	1.63	-1.9	-0.50	3.0	-451.0
2.45	36	0.31	0.86	-2.3	-0.46	3.0	-451.3
2.50	48	0.85	1.77	-0.4	-0.06	3.0	-451.0
2.55	38	1.03	2.74	-0.3	-0.04	2.9	-451.5
2.60	19	0.31	1.67	-0.5	-0.19	2.8	-451.7
2.65	9	0.17	1.81	0.3	0.24	2.8	-451.3
2.70	9	0.04	0.39	0.9	0.63	2.7	-451.3
2.75	15	0.99	6.50	1.3	0.63	2.7	-451.3
2.80	149	0.67	0.44	-1.1	-0.05	2.7	-451.3
2.85	69	0.09	0.13	0.1	0.00	2.8	-451.2
2.90	12	0.12	0.95	-0.0	-0.00	2.8	-451.5
2.95	14	0.07	0.52	-0.0	-0.01	2.9	-451.5
3.00	12	-0.19	1.61	0.4	0.22	3.0	-451.5
QUIT FOR	INCLINATION						
?000000?	35	0.12	0.34	-0.3	-6.73	3.3	-468.6
3.05	32	0.21	0.65	0.3	0.07	3.0	-451.7
3.10	60	0.29	0.48	-0.3	-0.03	3.2	-451.3
3.15	36	0.85	2.37	0.3	0.07	3.4	-451.3
3.20	43	1.61	3.71	1.1	0.17	3.5	-451.3
3.25	137	1.31	0.95	0.0	0.0	6.4	-451.0
3.30	24	1.38	5.62	-0.1	-0.03	9.0	-450.9
3.35	14	0.12	0.85	-0.1	-0.02	8.8	-450.4
3.40	4	-0.32	8.80	0.0	0.04	8.9	-450.6
3.45	6	-0.27	4.59	-0.1	-0.04	8.9	-450.3
3.50	23	-0.24	1.04	-0.7	-0.21	8.8	-450.4
3.55	42	?0000000000000000??0000000000000000?		-1.2	-0.20	8.7	-450.4
3.60	419	?0000000000000000??0000000000000000?		0.1	0.00	8.7	-450.7

WRITE # RODS USED __

24 : CPT-01B : 02/25/91 11:05

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	21	0.92	4.44	0.1	0.02	0.2	-452.0
2.10	33	1.00	3.01	-1.0	-0.21	0.2	-451.8
2.15	28	1.30	4.59	-0.0	-0.0	0.2	-451.7
2.20	28	1.05	3.70	-0.8	-0.19	0.2	-451.8
2.25	17	0.96	5.59	0.1	0.05	0.2	-451.7
2.30	15	0.73	4.93	-0.1	-0.02	0.2	-451.3
2.35	12	0.42	3.39	0.2	0.09	0.2	-451.8
2.40	16	1.27	7.88	0.3	0.15	0.2	-452.0
2.45	47	1.25	2.66	-1.3	-0.19	0.2	-451.8
2.50	16	1.45	9.08	0.1	0.02	0.2	-451.3
2.55	27	1.33	5.00	-0.3	-0.08	0.2	-451.5
2.60	19	1.06	5.47	0.2	0.08	0.2	-451.8
2.65	29	1.19	4.08	-0.3	-0.08	0.2	-451.8
2.70	22	1.37	6.24	0.2	0.05	0.2	-451.7
2.75	10	1.22	12.62	-0.3	-0.17	0.1	-451.8
2.80	14	0.35	2.44	-0.6	-0.29	0.1	-451.5
2.85	9	0.41	4.54	-0.1	-0.02	0.1	-452.0
2.90	18	0.42	2.36	-0.3	-0.11	0.1	-451.8
2.95	6	0.39	6.71	-0.1	-0.04	0.1	-451.8
3.00	5	0.30	5.55	-0.8	-1.02	0.1	-451.8
3.05	5	0.08	1.61	-0.9	-1.26	0.1	-452.0
3.10	11	0.95	8.69	-0.5	-0.32	0.1	-451.5
3.15	122	0.51	0.41	-1.7	-0.09	0.3	-451.5
3.20	103	1.75	1.69	-0.0	-0.00	0.6	-451.8
3.25	54	1.23	2.27	-0.3	-0.03	0.6	-451.8
3.30	18	1.30	7.12	-0.1	-0.03	0.3	-452.0
3.35	112	1.03	0.91	-0.1	-0.00	0.3	-451.5
3.40	138	2.70	1.95	0.1	0.00	0.2	-452.0
3.45	16	2.71	17.25	0.1	0.04	0.2	-451.8
3.50	48	0.60	1.26	-0.0	-0.0	0.2	-451.7
3.55	11	0.59	5.54	-2.5	-1.72	0.1	-452.0
3.60	5	0.69	14.83	-3.7	-5.66	0.1	-452.0
QUIT FOR ?000000?	TIP RESISTANCE 1155	1.16	0.10	2.0	-0.19	1.0	-468.6
3.65	4 ?000000000000000??000000000000000?			-1.7	-2.83	0.1	-452.0
3.70	109 ?000000000000000??000000000000000?			-0.7	-0.04	0.3	-451.3

WRITE # RODS USED ___

SOUNDING DATA IN FILE 25 02/25/91 11:55

ENGINEER : AMERICAN ENVIRON LOCATION : CPT-01C

CONE ID : 339 JOB # : 82580

Tonto Drilling Services Inc.

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.05	139	0.32	0.23	0.2	0.01	0.0	-451.3
0.10	423	0.82	0.19	-0.1	-0.00	-0.0	-451.7
0.15	242	1.42	0.58	0.1	0.00	0.0	-451.5
0.20	124	2.24	1.80	-0.0	-0.00	0.0	-451.3
0.25	63	2.09	3.33	0.2	0.02	0.0	-451.3
0.30	40	1.85	4.63	1.1	0.20	0.0	-451.3
0.35	44	1.45	3.28	24.7	4.01	0.0	-451.7
0.40	38	1.40	3.66	-2.7	-0.51	0.0	-451.8
0.45	32	1.37	4.32	-7.1	-1.61	0.0	-451.8
0.50	30	1.27	4.19	-8.4	-1.99	0.0	-451.3
0.55	29	1.26	4.37	-8.7	-2.18	0.0	-451.8
0.60	29	1.30	4.42	-8.5	-2.09	0.0	-451.7
0.65	29	1.36	4.66	-9.1	-2.24	0.0	-451.7
0.70	28	1.40	5.02	-8.3	-2.12	0.0	-451.8
0.75	27	1.41	5.27	-8.4	-2.27	0.0	-451.7
0.80	26	1.32	5.01	-7.9	-2.15	0.0	-451.3
0.85	23	1.27	5.50	-7.6	-2.37	0.0	-451.5
0.90	24	1.24	5.07	-7.5	-2.22	0.0	-451.3
0.95	22	1.25	5.59	-7.4	-2.39	0.0	-451.7
1.00	22	1.21	5.42	-7.8	-2.50	0.0	-452.0
1.05	23	1.13	4.93	-7.1	-2.22	0.0	-451.3
1.10	21	1.30	6.06	-6.7	-2.25	0.0	-452.0
1.15	23	1.44	6.28	-7.0	-2.19	0.0	-451.7
1.20	21	1.49	6.97	-5.9	-2.00	0.0	-452.0
1.25	22	1.54	7.09	-5.5	-1.81	0.0	-451.3
1.30	21	1.50	7.11	-5.2	-1.76	0.0	-451.7
1.35	21	1.46	6.83	-5.0	-1.67	0.0	-451.7
1.40	23	1.40	6.07	-5.0	-1.57	0.0	-451.3
1.45	24	1.35	5.61	-4.8	-1.43	0.0	-451.3
1.50	24	1.26	5.31	-4.8	-1.46	0.0	-451.5
1.55	23	1.30	5.61	-4.1	-1.27	-0.0	-452.0
1.60	25	1.31	5.17	-4.2	-1.18	0.0	-451.8
1.65	25	1.31	5.19	-3.5	-1.00	0.0	-451.7
1.70	24	1.27	5.27	-3.2	-0.94	0.0	-451.3
1.75	25	1.23	4.94	-3.0	-0.86	0.0	-451.8
1.80	25	1.19	4.70	-2.8	-0.78	0.0	-452.0
1.85	26	1.11	4.32	-2.9	-0.82	0.0	-451.7
1.90	23	1.03	4.37	-2.6	-0.79	0.0	-451.7
1.95	23	1.00	4.29	-2.4	-0.73	0.0	-451.5
2.00	22	1.01	4.61	-2.2	-0.71	0.0	-451.7

25 : CPT-01C : 02/25/91 11:55

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	21	1.05	4.88	-1.9	-0.63	0.0	-451.7
2.10	22	1.06	4.87	-1.9	-0.62	0.0	-451.5
2.15	21	1.04	4.93	-1.9	-0.64	0.0	-451.2
2.20	21	0.98	4.63	-1.8	-0.62	0.0	-451.3
2.25	21	0.94	4.56	-1.9	-0.64	0.0	-451.3
2.30	21	0.91	4.40	-1.6	-0.57	0.0	-451.7
2.35	18	0.92	5.10	-1.3	-0.53	0.0	-451.8
2.40	19	0.92	4.87	-1.5	-0.58	0.0	-451.3
2.45	19	0.90	4.78	-1.9	-0.71	0.0	-451.5
2.50	16	0.82	5.08	-1.8	-0.77	0.0	-451.7
2.55	15	0.74	4.82	-1.5	-0.68	0.0	-452.0
2.60	15	0.66	4.48	-1.3	-0.63	0.0	-451.7
2.65	15	0.62	4.18	-1.1	-0.50	0.0	-451.5
2.70	15	0.65	4.47	-0.7	-0.35	0.0	-451.7
2.75	16	0.69	4.17	-0.8	-0.32	0.0	-451.7
2.80	16	0.63	3.92	-0.6	-0.28	0.0	-451.2
2.85	15	0.52	3.37	-0.3	-0.16	0.0	-451.3
2.90	14	0.48	3.42	-0.1	-0.02	0.0	-451.8
2.95	15	0.46	3.07	0.1	0.02	0.0	-451.2
3.00	14	0.38	2.80	0.4	0.19	0.0	-451.8
3.05	15	0.34	2.26	0.7	0.34	0.0	-451.5
3.10	13	0.30	2.33	1.3	0.70	0.0	-451.8
3.15	14	0.27	1.95	1.9	0.96	0.0	-451.8
3.20	16	0.25	1.61	4.7	2.16	0.0	-451.5
3.25	13	0.25	1.93	5.8	3.20	0.0	-451.7
3.30	16	0.20	1.23	6.3	2.84	0.0	-451.2
3.35	14	0.18	1.28	7.3	3.63	0.0	-451.7
3.40	14	0.15	1.09	8.1	4.11	0.0	-451.5
3.45	11	0.16	1.40	9.9	6.27	0.0	-451.7
3.50	14	0.13	0.98	11.0	5.81	0.0	-451.5
3.55	13	0.12	0.89	12.8	6.86	0.0	-451.3
3.60	14	0.15	1.07	15.2	7.71	0.0	-451.5
3.65	16	0.22	1.38	18.0	8.31	0.0	-451.5
3.70	20	0.19	0.94	20.6	7.54	0.0	-451.7
3.75	22	0.19	0.88	20.4	6.82	0.0	-451.5
3.80	20	0.21	1.05	26.8	9.66	0.0	-451.7
3.85	21	0.32	1.52	34.4	11.88	0.0	-451.8
3.90	23	0.32	1.40	39.9	12.60	0.0	-451.7
3.95	23	0.44	1.89	41.4	12.93	0.0	-451.5
4.00	24	0.59	2.45	41.3	12.26	0.0	-451.7
4.05	27	0.76	2.85	41.7	11.30	0.0	-451.7
4.10	30	1.14	3.78	42.9	10.23	0.0	-451.8
4.15	38	1.44	3.83	3.5	0.67	0.0	-451.8
4.20	55	1.64	3.00	7.0	0.92	0.0	-451.8
4.25	72	2.53	3.48	1.3	0.12	0.0	-451.7
4.30	106	2.28	2.14	-5.3	-0.35	0.0	-452.0
4.35	145	2.09	1.44	-9.2	-0.45	0.0	-451.8
4.40	161	1.56	0.97	-10.5	-0.47	0.1	-451.7
4.45	127	3.99	3.14	-11.5	-0.65	0.1	-451.8

PORE PRESSURE DECAY (5 SEC)	-11.5	-11.3	-11.0	-10.5	-9.7	-8.9	-7.6	-6.2	-4.6	-3.2	-1.9	-0.8	-0.1	0.3

25 : CPT-01C : 02/25/91 11:55

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.6 0.7 0.7 0.8	0.8 0.8	0.9 1.0 1.0	1.1 1.1	1.2 1.2	1.2 1.2	1.3 1.2 1.4	
1.3 1.3 1.4 1.4	1.3 1.3	1.3 1.4 1.3	1.3				
4.50	212	3.68	1.73	-11.7	-0.39	0.1	-451.3
4.55	195	3.67	1.88	-10.0	-0.36	0.1	-451.3
4.60	261	4.75	1.82	-12.0	-0.33	0.1	-451.3
4.65	226	4.68	2.07	-12.7	-0.40	0.1	-451.3
4.70	270	5.87	2.17	-12.7	-0.33	0.1	-451.7
4.75	341	7.91	2.31	-12.6	-0.26	0.1	-451.5
4.80	392	6.12	1.56	-12.6	-0.23	0.1	-451.7
4.85	417	4.69	1.12	-12.5	-0.21	0.1	-451.3
4.90	332	3.66	1.10	-11.7	-0.25	0.1	-451.7
4.95	335	3.65	1.08	-12.3	-0.26	0.1	-451.2
5.00	294	2.63	0.89	-12.4	-0.30	0.1	-451.7
5.05	231	3.18	1.37	-12.7	-0.39	0.1	-451.2
5.10	207	1.70	0.82	-12.7	-0.44	0.1	-451.3
5.15	147	1.22	0.82	-12.7	-0.62	0.1	-451.7
5.20	137	1.28	0.93	-12.3	-0.64	0.1	-451.3
5.25	206	4.01	1.94	-12.4	-0.43	0.1	-451.3
5.30	285	3.20	1.12	-12.1	-0.30	0.1	-451.7
5.35	337	4.81	1.42	-12.1	-0.25	0.2	-451.2
5.40	239	4.42	1.84	-12.0	-0.36	0.2	-451.7
5.45	166	4.20	2.53	-11.7	-0.50	0.2	-451.7
5.50	118	3.84	3.25	-11.4	-0.69	0.2	-451.5
5.55	141	4.25	3.00	-11.3	-0.57	0.2	-451.7
5.60	137	3.86	2.81	-11.6	-0.60	0.2	-451.5
5.65	69	2.47	3.59	-11.7	-1.22	0.2	-451.5
5.70	37	1.11	3.00	-11.8	-2.30	0.2	-451.7
5.75	30	0.88	2.89	-11.7	-2.78	0.2	-451.7
5.80	31	1.03	3.31	-11.8	-2.73	0.2	-451.7
5.85	28	1.13	4.04	-11.7	-3.00	0.2	-451.8
5.90	28	1.06	3.79	-11.8	-3.03	0.2	-451.5
5.95	27	0.98	3.59	-11.8	-3.09	0.3	-451.3
6.00	30	1.09	3.68	-11.9	-2.89	0.3	-451.3
6.05	31	1.53	4.91	-11.8	-2.73	0.2	-451.8
6.10	42	1.28	3.02	-11.9	-2.01	0.2	-451.7
6.15	30	1.24	4.09	-11.8	-2.78	0.3	-451.5
6.20	35	1.04	2.99	-11.8	-2.42	0.3	-451.5
6.25	26	1.25	4.72	-11.6	-3.14	0.3	-451.7
6.30	41	1.18	2.87	-11.6	-2.85	0.3	-451.3
6.35	28	1.23	4.40	-11.7	-3.00	0.3	-451.7
6.40	64	1.76	2.73	-11.6	-1.29	0.3	-451.3
6.45	143	3.44	2.40	-12.0	-0.60	0.3	-451.5
6.50	132	4.19	3.18	-12.1	-0.66	0.3	-451.2
6.55	104	4.35	4.17	-12.0	-0.82	0.3	-451.3
6.60	127	4.60	3.62	-11.8	-0.67	0.3	-451.5
6.65	168	3.94	2.34	-11.9	-0.51	0.4	-451.7
6.70	210	4.04	1.91	-12.0	-0.41	0.4	-451.3
6.75	216	3.82	1.76	-12.0	-0.39	0.4	-451.5
6.80	213	4.02	1.88	-12.2	-0.41	0.4	-451.3
6.85	248	4.74	1.91	-12.1	-0.35	0.4	-451.5

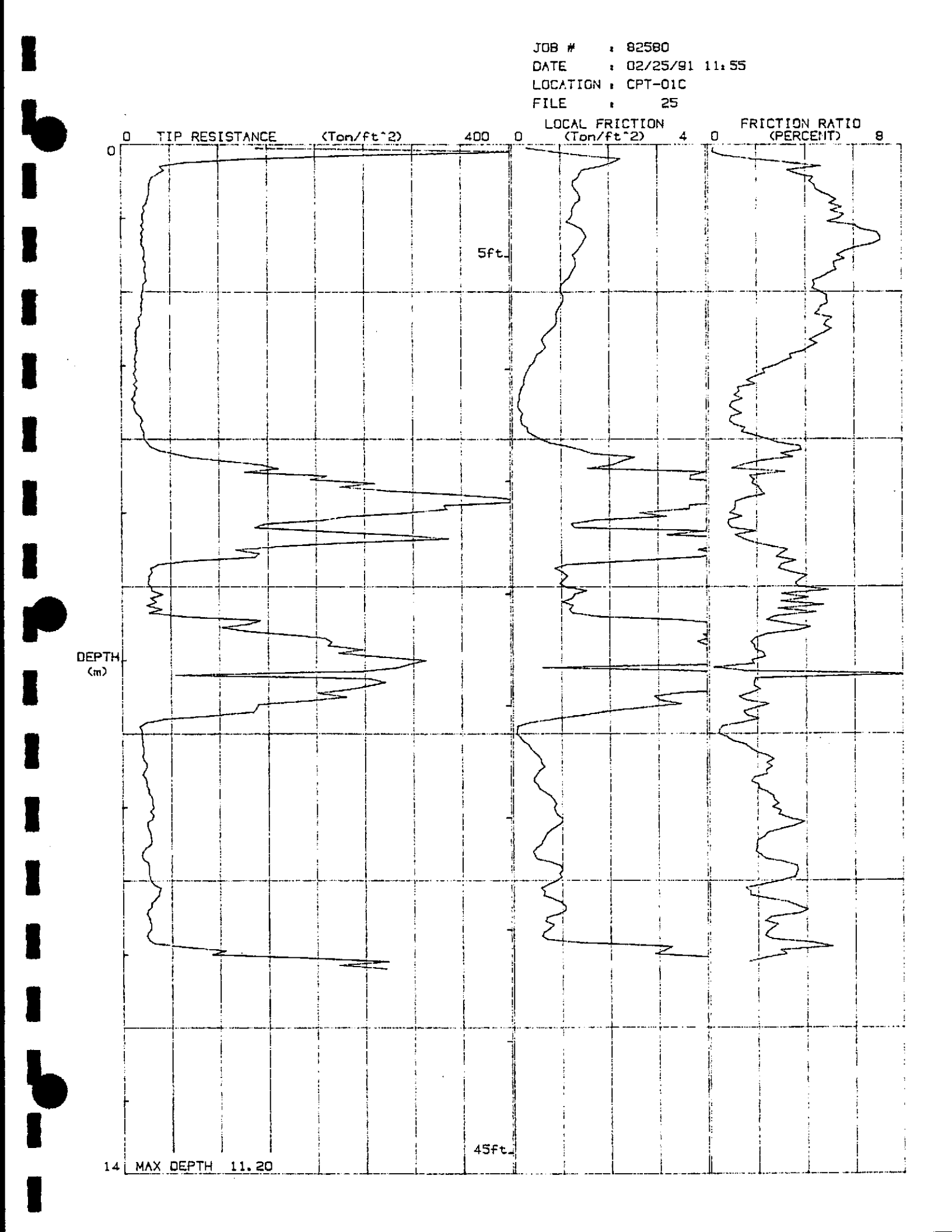
25 : CPT-01C : 02/25/91 11:55

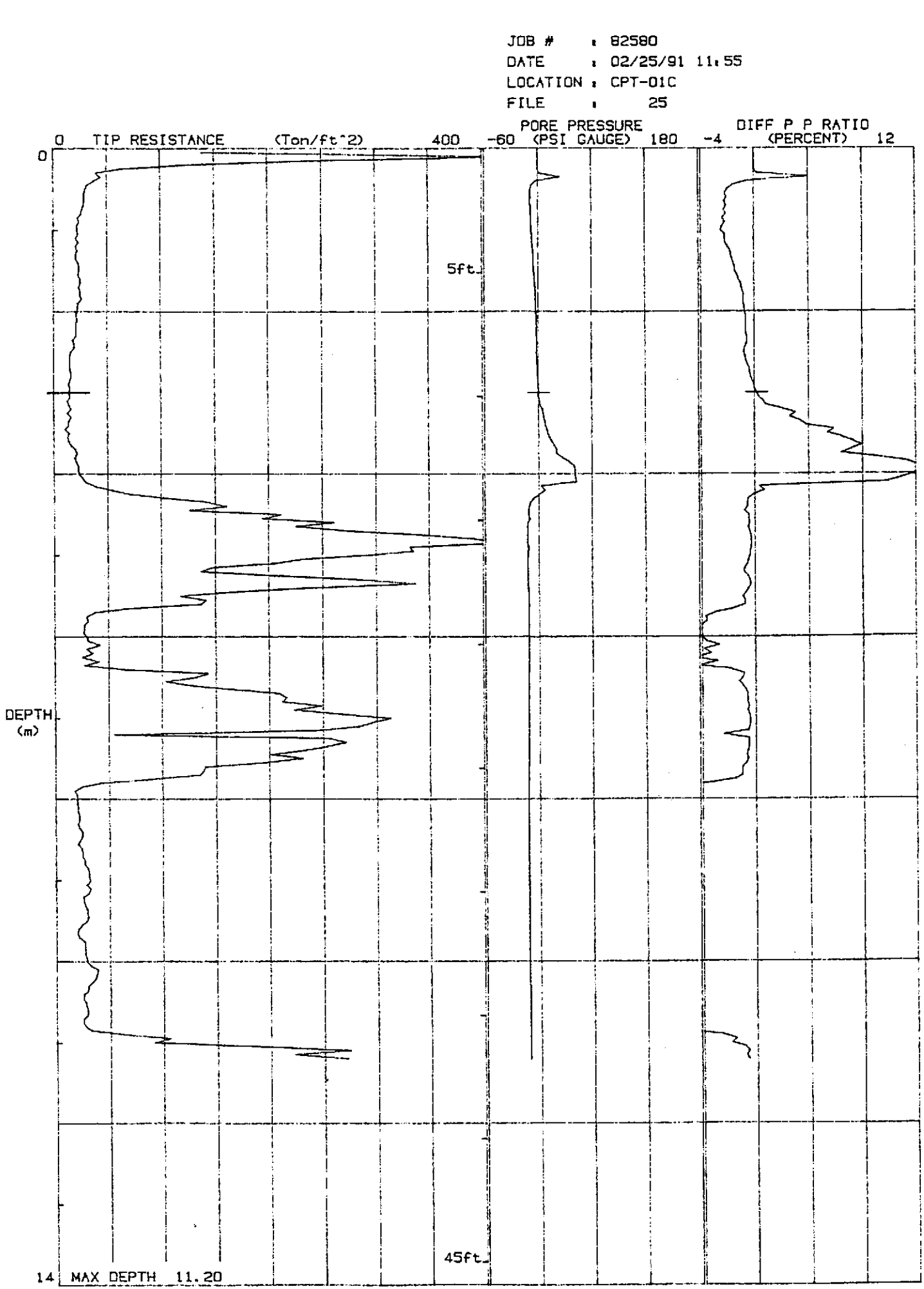
DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
6.90	224	5.03	2.25	-12.0	-0.38	0.4	-451.5
6.95	266	6.21	2.33	-12.1	-0.32	0.4	-451.0
7.00	313	5.63	1.79	-12.1	-0.27	0.4	-451.5
7.05	296	5.55	1.87	-11.9	-0.28	0.4	-451.3
7.10	284	0.62	0.21	-12.0	-0.30	0.4	-451.2
7.15	249	3.69	1.48	-12.0	-0.34	0.4	-451.3
7.20	55	4.94	8.93	-12.3	-1.60	0.4	-451.8
7.25	256	4.92	1.92	-12.2	-0.34	0.4	-451.0
7.30	271	5.13	1.89	-12.1	-0.32	0.4	-451.3
7.35	254	4.78	1.87	-12.0	-0.34	0.4	-451.5
7.40	233	4.95	2.12	-12.2	-0.37	0.4	-451.3
7.45	202	3.51	1.73	-12.3	-0.43	0.4	-451.5
7.50	231	2.93	1.26	-12.2	-0.38	0.4	-451.5
7.55	196	3.03	1.55	-12.3	-0.45	0.4	-451.5
7.60	140	3.47	2.47	-12.7	-0.65	0.4	-451.2
7.65	138	2.68	1.94	-12.8	-0.66	0.4	-451.2
7.70	135	1.94	1.44	-12.6	-0.67	0.4	-451.8
7.75	94	1.47	1.57	-12.8	-0.97	0.3	-451.7
7.80	42	0.85	2.05	-12.9	-2.23	0.3	-451.2
7.85	24	0.34	1.41	-12.9	-3.89	0.3	-451.5
7.90	18	0.10	0.55	-12.9	-5.04	0.3	-451.8
7.95	20	0.09	0.43	-13.0	-4.60	0.3	-451.5
8.00	20	0.08	0.40	-12.9	-4.63	0.3	-451.2
8.05	20	0.15	0.74	-12.9	-4.69	0.3	-451.8
8.10	21	0.21	0.96	-12.9	-4.34	0.3	-451.2
8.15	21	0.32	1.51	-12.9	-4.41	0.3	-451.8
8.20	22	0.37	1.71	-12.8	-4.20	0.3	-451.7
8.25	22	0.43	1.94	-12.9	-4.15	0.3	-451.2
8.30	21	0.52	2.41	-12.8	-4.31	0.4	-451.7
8.35	22	0.58	2.66	-12.8	-4.21	0.4	-451.8
8.40	25	0.59	2.39	-12.9	-3.77	0.4	-451.3
8.45	25	0.65	2.59	-12.9	-3.73	0.4	-451.3
8.50	23	0.55	2.36	-12.8	-3.93	0.4	-451.7
8.55	21	0.50	2.40	-12.8	-4.38	0.4	-451.7
8.60	24	0.44	1.85	-12.8	-3.91	0.4	-451.7
8.65	25	0.44	1.76	-12.9	-3.71	0.4	-451.8
8.70	25	0.51	2.06	-12.9	-3.77	0.4	-451.7
8.75	27	0.55	2.08	-13.0	-3.53	0.4	-451.7
8.80	27	0.66	2.41	-12.8	-3.37	0.4	-451.3
8.85	30	0.78	2.64	-12.9	-3.14	0.4	-451.8
8.90	31	0.84	2.69	-13.0	-2.98	0.4	-451.5
8.95	31	0.89	2.86	-12.9	-2.97	0.4	-451.7
9.00	32	0.85	2.62	-13.0	-2.89	0.4	-452.0
9.05	29	0.87	2.96	-12.8	-3.13	0.4	-451.8
9.10	32	0.91	2.89	-12.8	-2.92	0.4	-451.7
9.15	31	1.01	3.29	-12.9	-3.02	0.4	-451.8
9.20	26	1.01	3.90	-12.8	-3.54	0.4	-451.8
9.25	26	0.91	3.54	-12.9	-3.64	0.4	-451.3
9.30	27	0.79	2.95	-12.8	-3.45	0.4	-451.3
9.35	29	0.70	2.39	-12.8	-3.16	0.4	-451.2

25 : CPT-01C : 02/25/91 11:55

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
9.40	29	0.66	2.27	-12.8	-3.18	0.4	-451.5
9.45	30	0.61	2.01	-13.1	-3.10	0.4	-451.7
9.50	29	0.58	1.96	-12.9	-3.16	0.4	-451.3
9.55	24	0.48	1.97	-12.9	-3.78	0.4	-451.5
9.60	21	0.41	1.92	-12.7	-4.33	0.4	-451.3
9.65	20	0.44	2.14	-12.9	-4.54	0.4	-451.8
9.70	21	0.48	2.30	-12.9	-4.42	0.4	-451.7
9.75	26	0.79	3.10	-12.9	-3.63	0.4	-451.3
9.80	27	0.97	3.60	-12.8	-3.43	0.4	-451.7
9.85	27	1.01	3.65	-12.9	-3.36	0.4	-451.0
9.90	27	0.96	3.59	-12.6	-3.40	0.4	-451.7
9.95	28	0.99	3.54	-12.8	-3.30	0.5	-451.7
10.00	29	0.89	3.02	-12.6	-3.07	0.5	-451.3
10.05	32	0.73	2.29	-12.7	-2.86	0.5	-451.2
10.10	39	0.58	1.50	-12.7	-2.36	0.5	-451.7
10.15	38	0.64	1.69	-12.5	-2.38	0.5	-451.5
10.20	37	0.62	1.68	-12.6	-2.46	0.5	-451.5
10.25	34	0.81	2.39	-12.5	-2.67	0.6	-451.5
10.30	30	0.98	3.25	-12.3	-2.91	0.6	-451.3
10.35	30	1.07	3.62	-12.5	-3.04	0.6	-451.5
10.40	26	1.07	4.03	-12.4	-3.38	0.6	-451.8
10.45	25	0.95	3.72	-12.4	-3.51	0.6	-451.7
10.50	27	0.69	2.53	-12.4	-3.28	0.6	-451.8
10.55	28	0.66	2.31	-12.4	-3.15	0.6	-451.2
10.60	29	0.82	2.81	-12.4	-3.06	0.6	-451.5
10.65	29	0.75	2.59	-12.3	-3.04	0.6	-451.7
10.70	26	0.63	2.40	-12.3	-3.37	0.6	-451.5
10.75	25	0.59	2.30	-12.3	-3.49	0.6	-451.2
10.80	27	0.69	2.58	-12.3	-3.33	0.6	-451.2
10.85	32	1.38	4.30	-12.3	-2.74	0.6	-451.2
10.90	64	3.27	5.06	-12.2	-1.35	0.6	-451.7
10.95	106	3.13	2.94	-12.3	-0.83	0.7	-451.2
11.00	92	2.92	3.16	-12.3	-0.95	0.7	-451.5
11.05	189	4.38	2.31	-12.0	-0.45	0.7	-451.5
11.10	274	4.58	1.67	-12.4	-0.32	0.7	-451.0
11.15	223	?0000000000000000??	0000000000000000?	-12.2	-0.39	0.7	-451.0
11.20	271	?0000000000000000??	0000000000000000?	-12.0	-0.32	0.7	-451.3

WRITE # RODS USED ___


JOB # : 82580
DATE : 02/25/91 11:55
LOCATION : CPT-01C
FILE : 25
0 TIP RESISTANCE (Ton/ft^2) 400
0 LOCAL FRICTION (Ton/ft^2) 4
0 FRICTION RATIO (PERCENT) 8
0
5ft
DEPTH (m)
45ft
14 MAX DEPTH 11.20


JOB # : 82580
DATE : 02/25/91 11:55
LOCATION : CPT-01C
FILE : 25
0 TIP RESISTANCE (Ton/ft^2) 400
PORE PRESSURE -60 (PSI GAUGE) 180
DIFF P P RATIO -4 (PERCENT) 12
0
5ft
DEPTH (m)
45ft
14 MAX DEPTH 11.20

SOUNDING DATA IN FILE 26 02/25/91 12:45

ENGINEER : AMERICAN ENVIRON LOCATION : CPT-02

CONE ID : 339 JOB # : 82580

Tonto Drilling Services Inc.

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.05	408	0.36	0.08	0.1	0.00	0.0	-451.7
0.10	338	1.36	0.40	0.0	0.00	0.0	-451.7
0.15	197	1.68	0.85	0.1	0.00	0.0	-451.7
0.20	107	1.81	1.69	0.0	0.00	-0.0	-451.3
0.25	57	1.66	2.90	0.0	0.0	0.0	-451.5
0.30	34	1.48	4.34	0.0	0.0	0.0	-451.5
0.35	32	1.16	3.62	-2.1	-0.46	0.0	-451.2
0.40	22	0.94	4.34	-2.3	-0.75	0.0	-451.2
0.45	17	0.62	3.66	-1.6	-0.65	0.0	-451.7
0.50	18	0.66	3.56	-1.5	-0.57	0.0	-451.5
0.55	23	0.76	3.33	-3.4	-1.07	0.0	-451.5
0.60	25	0.79	3.19	-6.8	-1.99	0.0	-451.2
0.65	20	0.78	3.98	-6.9	-2.53	0.0	-451.5
0.70	17	0.74	4.39	-6.6	-2.81	0.0	-451.8
0.75	15	0.73	4.93	-6.3	-3.03	0.0	-451.2
0.80	16	0.76	4.77	-6.1	-2.75	0.0	-451.7
0.85	21	0.88	4.18	-5.8	-1.99	-0.0	-451.0
0.90	22	0.98	4.44	-5.7	-1.85	0.0	-451.8
0.95	21	1.00	4.81	-5.4	-1.88	0.0	-451.5
1.00	20	0.94	4.77	-5.1	-1.86	0.0	-451.7
1.05	20	0.95	4.71	-5.1	-1.83	-0.0	-451.8
1.10	21	1.03	4.84	-5.1	-1.71	0.0	-451.2
1.15	20	1.09	5.29	-5.1	-1.79	0.0	-451.7
1.20	22	1.19	5.40	-4.3	-1.41	0.0	-451.2
1.25	23	1.28	5.54	-4.2	-1.32	0.0	-451.7
1.30	23	1.37	6.00	-4.2	-1.30	0.0	-451.7
1.35	23	1.38	6.11	-4.0	-1.28	0.0	-451.5
1.40	21	1.40	6.52	-3.9	-1.30	0.0	-451.7
1.45	22	1.39	6.32	-3.9	-1.29	0.0	-452.0
1.50	21	1.34	6.29	-3.9	-1.30	0.0	-452.1
1.55	22	1.30	6.06	-3.8	-1.27	0.0	-451.7
1.60	21	1.26	5.88	-3.8	-1.27	0.0	-451.7
1.65	23	1.21	5.35	-4.0	-1.28	0.0	-451.7
1.70	20	1.09	5.52	-3.8	-1.39	0.0	-451.7
1.75	21	0.97	4.61	-3.8	-1.30	0.0	-451.0
1.80	23	0.77	3.31	-3.9	-1.19	0.0	-451.2
1.85	27	0.82	3.00	-3.8	-0.99	0.0	-451.8
1.90	24	0.89	3.68	-1.4	-0.40	0.0	-451.7
1.95	20	0.75	3.73	-1.0	-0.36	0.0	-451.7
2.00	19	0.55	2.95	-1.1	-0.40	0.0	-451.5

26 : CPT-02 : 02/25/91 12:45

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	15	0.41	2.72	-1.1	-0.51	0.0	-451.3
2.10	13	0.46	3.48	-1.2	-0.64	0.0	-451.8
2.15	14	0.57	4.04	-1.4	-0.72	0.0	-451.3
2.20	14	0.64	4.53	-1.7	-0.85	0.0	-451.5
2.25	16	0.60	3.86	-1.7	-0.76	0.0	-451.2
2.30	17	0.59	3.43	-1.5	-0.61	0.0	-451.3
2.35	22	0.60	2.74	-1.5	-0.50	0.0	-451.0
2.40	18	0.44	2.48	-1.5	-0.60	0.0	-451.3
2.45	11	0.33	3.07	-1.2	-0.82	0.0	-451.7
2.50	10	0.34	3.37	-1.1	-0.79	0.0	-451.3
2.55	10	0.35	3.62	-1.1	-0.78	0.0	-451.3
2.60	9	0.38	4.41	-0.9	-0.75	0.0	-451.3
2.65	9	0.42	4.77	-1.0	-0.75	0.0	-451.3
2.70	9	0.42	4.94	-0.9	-0.73	0.0	-451.3
2.75	8	0.33	4.19	-0.6	-0.51	0.0	-451.3
2.80	7	0.28	3.82	-0.6	-0.61	0.0	-451.7
2.85	8	0.23	2.79	-0.6	-0.48	0.0	-451.3
2.90	7	0.21	2.89	-0.3	-0.29	0.0	-451.7
2.95	7	0.19	2.69	-0.3	-0.34	0.0	-451.7
3.00	7	0.22	3.01	-0.2	-0.14	0.0	-451.2
3.05	9	0.27	2.95	-0.2	-0.14	0.0	-451.2
3.10	9	0.27	3.05	-0.2	-0.12	0.0	-451.2
3.15	8	0.23	3.12	0.0	0.0	0.0	-451.3
3.20	8	0.20	2.56	-0.2	-0.12	0.0	-451.7
3.25	9	0.21	2.27	-0.3	-0.24	0.0	-451.7
3.30	10	0.20	1.90	-0.2	-0.13	0.0	-451.3
3.35	10	0.17	1.65	-0.1	-0.06	0.0	-450.9
3.40	10	0.12	1.28	-0.1	-0.02	0.0	-451.2
3.45	9	0.10	1.02	0.1	0.02	0.0	-451.0
3.50	8	0.08	1.05	0.1	0.09	0.0	-451.3
3.55	7	0.12	1.65	0.3	0.24	0.0	-451.5
3.60	10	0.16	1.56	0.3	0.17	0.0	-451.2
3.65	9	0.19	2.10	0.4	0.34	0.0	-451.2
3.70	9	0.26	2.99	0.5	0.39	0.0	-451.2
3.75	9	0.33	3.64	0.5	0.39	0.0	-451.7
3.80	10	0.39	3.74	0.6	0.42	0.0	-451.2
3.85	11	0.42	3.62	0.7	0.42	0.0	-451.2
3.90	11	0.40	3.52	0.7	0.45	0.0	-451.0
3.95	11	0.41	3.75	0.9	0.57	0.0	-451.3
4.00	11	0.38	3.50	1.1	0.74	0.0	-451.5
4.05	11	0.38	3.37	1.2	0.73	0.0	-451.2
4.10	12	0.37	3.01	1.2	0.71	0.0	-451.2
4.15	11	0.35	3.17	1.4	0.89	0.0	-451.5
4.20	13	0.36	2.84	1.7	0.95	0.0	-451.2
4.25	14	0.35	2.58	1.8	0.95	-0.0	-451.7
4.30	16	0.27	1.69	2.1	0.93	0.0	-451.8
4.35	17	0.26	1.55	2.0	0.86	0.0	-451.5
4.40	23	0.27	1.18	2.3	0.73	0.0	-451.3
4.45	26	0.46	1.77	2.6	0.71	0.0	-451.7
4.50	26	0.43	1.66	2.5	0.70	0.0	-451.3

26 : CPT-02 : 02/25/91 12:45

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEG F)
4.55	25	0.35	1.40	2.4	0.69	0.0	-451.7
4.60	22	0.26	1.19	2.1	0.68	0.0	-451.8
4.65	20	0.17	0.82	2.1	0.74	0.0	-451.3
4.70	15	0.11	0.70	2.7	1.25	0.0	-451.7
4.75	14	0.14	0.96	2.8	1.39	0.0	-451.5
4.80	16	0.17	1.02	2.9	1.28	0.0	-451.5
4.85	17	0.19	1.11	3.2	1.32	0.0	-451.3
4.90	19	0.25	1.32	3.5	1.34	0.0	-451.8
4.95	19	0.31	1.62	3.4	1.27	0.0	-451.8
5.00	21	0.29	1.39	3.7	1.28	0.0	-451.2
5.05	20	0.30	1.50	3.9	1.38	0.0	-451.5
5.10	20	0.27	1.33	3.9	1.35	0.0	-451.5
5.15	19	0.27	1.42	4.1	1.54	0.0	-451.7
5.20	23	0.31	1.37	5.5	1.75	0.0	-451.0
5.25	21	0.39	1.82	5.8	1.96	0.0	-451.7
5.30	23	0.52	2.20	6.1	1.86	0.0	-451.2
5.35	26	0.50	1.95	6.2	1.73	0.0	-451.0
5.40	27	0.52	1.91	6.4	1.71	0.0	-451.3
5.45	24	0.54	2.21	6.8	2.00	0.0	-451.7
5.50	28	0.60	2.17	6.6	1.69	0.0	-451.0
5.55	35	0.71	2.05	6.5	1.34	0.0	-451.2
5.60	32	0.74	2.27	6.6	1.45	0.0	-451.3
5.65	36	0.71	1.94	6.7	1.32	0.0	-451.7
5.70	29	0.82	2.85	2.5	0.63	0.0	-451.3
5.75	34	0.96	2.80	2.9	0.61	0.0	-451.5
5.80	50	1.34	2.66	3.4	0.48	0.0	-451.5
5.85	80	1.95	2.43	4.1	0.36	0.0	-451.2
5.90	101	2.53	2.50	2.4	0.16	0.0	-451.0
5.95	72	2.43	3.37	-7.8	-0.77	0.0	-451.7
6.00	63	2.11	3.35	-7.6	-0.86	0.0	-451.0
6.05	76	2.24	2.95	-7.1	-0.67	0.0	-451.7
6.10	102	2.22	2.18	-7.1	-0.50	0.0	-451.5
6.15	86	2.78	3.22	-7.8	-0.64	0.0	-451.7
6.20	100	2.75	2.76	-7.2	-0.51	0.0	-451.3
6.25	101	3.47	3.44	-7.8	-0.55	0.0	-451.5
6.30	119	2.36	1.98	-9.1	-0.55	0.0	-451.8
6.35	144	5.35	3.69	-8.9	-0.44	0.0	-451.5
6.40	304	3.60	1.18	-9.1	-0.21	0.0	-451.3
6.45	227	4.88	2.15	-9.4	-0.29	0.0	-451.2
PORE PRESSURE DECAY (5 SEC)	-9.9	-9.8	-9.7	-9.7	-9.6	-9.6	-9.6	-9.6	-9.6	-9.5	-9.4	-9.4	-9.4	-9.5
-9.4	-9.4	-9.4	-9.3	-9.4	-9.3	-9.4								
6.50	178	3.93	2.20	-9.9	-0.39	0.0	-451.5							
6.55	157	5.37	3.42	-10.1	-0.46	0.0	-451.2							
6.60	197	5.36	2.71	-9.3	-0.33	0.0	-451.5							
6.65	204	6.23	3.04	-9.1	-0.32	0.0	-451.2							
6.70	190	5.81	3.05	-9.0	-0.34	0.0	-451.7							
6.75	263	6.95	2.63	-8.4	-0.22	0.0	-451.5							
6.80	356	6.20	1.74	-8.7	-0.17	0.0	-451.0							
6.85	378	6.50	1.72	-8.9	-0.16	0.1	-451.5							
PORE PRESSURE DECAY (5 SEC)	-9.2	-9.3	-9.4	-9.4	-9.5	-9.6	-9.7	-9.7	-9.7	-9.7	-9.7	-9.5	-9.2	-9.0

26 : CPT-02 : 02/25/91 12:45

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
-8.8 -8.4 -8.3 -8.0	-7.6 -7.2	-6.8 -6.3 -5.8	-5.4 -4.6	-4.1 -3.5	-2.8 -2.1	-1.4 -0.9 -0.5	
0.0 0.2 0.5 0.7	0.8 0.9	1.0 1.2 1.3	1.5 1.6	1.8 1.9	2.0 2.1	2.2 2.4 2.5	
2.6 2.7 2.7 2.8	2.9 2.9	3.1 3.2 3.3	3.3 3.3	3.4 3.4	3.5 3.5	3.6 3.6 3.7	
3.7 3.8 3.8 3.9	3.9 4.0	4.0 4.0 4.0	4.0 4.1	4.0 4.0	4.0 4.0	4.1 4.1 4.1	
4.1							
6.90	392	2.17	0.55	-9.1	-0.16	0.1	-451.3
6.95	391	2.37	0.60	-9.1	-0.16	0.1	-451.7
7.00	321	1.63	0.50	-9.6	-0.21	0.1	-451.5
7.05	237	3.41	1.43	-11.2	-0.33	0.1	-451.2
7.10	103	2.68	2.59	-12.5	-0.87	0.1	-451.3
7.15	99	2.52	2.54	-12.1	-0.87	0.1	-451.7
7.20	128	2.36	1.84	-11.8	-0.66	0.1	-451.5
7.25	110	1.41	1.27	-11.8	-0.77	0.1	-451.2
7.30	61	1.19	1.94	-12.1	-1.42	0.1	-451.3
7.35	58	1.49	2.55	-11.8	-1.45	0.1	-451.2
7.40	76	1.11	1.45	-12.0	-1.13	0.1	-451.3
7.45	43	0.99	2.31	-11.9	-1.98	0.1	-451.3
7.50	24	0.49	2.06	-11.8	-3.59	0.1	-451.5
7.55	15	0.19	1.28	-11.8	-5.64	0.1	-451.7
7.60	13	0.12	0.92	-11.7	-6.34	0.1	-451.3
7.65	14	0.13	0.92	-11.6	-6.08	0.1	-451.3
7.70	16	0.15	0.92	-11.8	-5.13	0.1	-451.2
7.75	14	0.17	1.23	-11.6	-5.90	0.1	-451.5
7.80	15	0.14	0.89	-11.7	-5.58	0.1	-451.2
7.85	16	0.15	0.91	-11.7	-5.18	0.1	-451.0
7.90	15	0.15	1.00	-11.6	-5.66	0.1	-451.7
7.95	16	0.14	0.89	-11.7	-5.28	0.1	-451.2
8.00	17	0.18	1.06	-11.7	-4.85	0.1	-451.3
8.05	19	0.17	0.89	-11.6	-4.37	0.1	-451.5
8.10	18	0.19	1.05	-11.7	-4.73	0.1	-451.3
8.15	18	0.16	0.84	-11.6	-4.51	0.1	-451.2
8.20	19	0.26	1.36	-11.4	-4.31	0.1	-451.3
8.25	23	0.49	2.10	-11.3	-3.52	0.1	-451.3
8.30	37	0.49	1.34	-11.4	-2.23	0.1	-451.5
8.35	39	0.42	1.07	-11.3	-2.06	0.1	-451.3
8.40	42	0.33	0.77	-11.2	-1.90	0.1	-451.3
8.45	34	0.23	0.68	-11.2	-2.38	0.1	-451.3
8.50	30	0.16	0.54	-11.3	-2.73	0.1	-451.3
8.55	23	0.10	0.43	-11.3	-3.44	0.1	-451.3
8.60	18	0.11	0.61	-11.1	-4.33	0.1	-451.5
8.65	18	0.19	1.06	-11.2	-4.43	0.1	-451.8
8.70	21	0.29	1.39	-11.0	-3.83	0.1	-451.7
8.75	20	0.31	1.51	-11.0	-3.87	0.1	-451.8
8.80	21	0.32	1.54	-11.0	-3.80	0.1	-451.8
8.85	23	0.36	1.59	-11.1	-3.51	0.1	-451.3
8.90	20	0.35	1.71	-10.8	-3.80	0.1	-451.7
8.95	24	0.34	1.45	-10.9	-3.34	0.1	-451.8
9.00	28	0.39	1.39	-10.7	-2.74	0.1	-451.5
9.05	29	0.49	1.72	-10.8	-2.71	0.1	-451.8
9.10	29	0.48	1.67	-10.7	-2.67	0.1	-451.8

26 : CPT-02 : 02/25/91 12:45

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEG F)
9.15	27	0.35	1.28	-10.5	-2.78	0.1	-451.2
9.20	27	0.43	1.62	-10.4	-2.80	0.1	-451.2
9.25	38	0.29	0.76	-10.4	-1.95	0.1	-451.0
9.30	36	0.42	1.16	-10.3	-2.02	0.1	-451.5
9.35	38	0.43	1.13	-10.2	-1.93	0.1	-451.0
9.40	37	0.41	1.10	-10.2	-1.97	0.1	-451.5
9.45	30	0.31	1.00	-10.2	-2.40	0.1	-451.3
9.50	28	0.26	0.93	-10.2	-2.60	0.1	-451.3
9.55	30	0.28	0.91	-10.2	-2.43	0.1	-451.3
9.60	39	0.66	1.69	-10.1	-1.84	0.1	-451.3
9.65	40	1.02	2.55	-10.1	-1.80	0.1	-451.3
9.70	37	1.11	3.01	-9.8	-1.92	0.1	-451.7
9.75	40	1.09	2.73	-9.9	-1.78	0.1	-451.3
9.80	42	0.96	2.31	-9.9	-1.71	0.1	-451.5
9.85	41	0.90	2.17	-9.9	-1.72	0.1	-451.2
9.90	37	0.87	2.34	-9.8	-1.88	0.1	-451.3
9.95	37	0.96	2.55	-9.7	-1.86	0.1	-451.3
10.00	36	1.07	2.97	-9.8	-1.95	0.1	-451.2
10.05	35	1.11	3.14	-9.7	-1.98	0.1	-451.3
10.10	36	1.18	3.32	-9.6	-1.95	0.1	-451.5
10.15	39	1.16	2.93	-9.8	-1.78	0.1	-451.2
10.20	39	1.09	2.79	-9.7	-1.77	0.2	-451.2
10.25	40	1.06	2.64	-9.4	-1.68	0.2	-451.7
10.30	42	1.02	2.39	-9.4	-1.59	0.2	-451.3
10.35	46	0.84	1.83	-9.5	-1.48	0.2	-451.2
10.40	43	0.70	1.63	-9.5	-1.60	0.2	-451.3
10.45	41	0.64	1.57	-9.3	-1.64	0.2	-451.5
10.50	43	0.68	1.57	-9.4	-1.57	0.2	-451.2
10.55	41	0.59	1.43	-9.3	-1.62	0.2	-451.3
10.60	39	0.75	1.91	-9.4	-1.72	0.2	-451.2
10.65	37	0.84	2.28	-9.3	-1.81	0.2	-451.3
10.70	36	0.99	2.74	-9.3	-1.85	0.2	-451.3
10.75	35	0.99	2.79	-9.2	-1.86	0.2	-451.3
10.80	35	1.08	3.08	-9.2	-1.88	0.2	-451.3
10.85	38	1.07	2.80	-9.1	-1.71	0.2	-451.2
10.90	37	0.97	2.62	-9.2	-1.77	0.2	-451.2
10.95	35	0.84	2.36	-9.2	-1.86	0.2	-451.2
11.00	34	0.70	2.05	-9.2	-1.92	0.2	-451.2
11.05	32	0.66	2.03	-9.0	-2.00	0.2	-451.2
11.10	34	??????????????????	??????????????????	-9.1	-1.95	0.2	-451.2
11.15	34	??????????????????	??????????????????	-9.1	-1.95	0.2	-451.3

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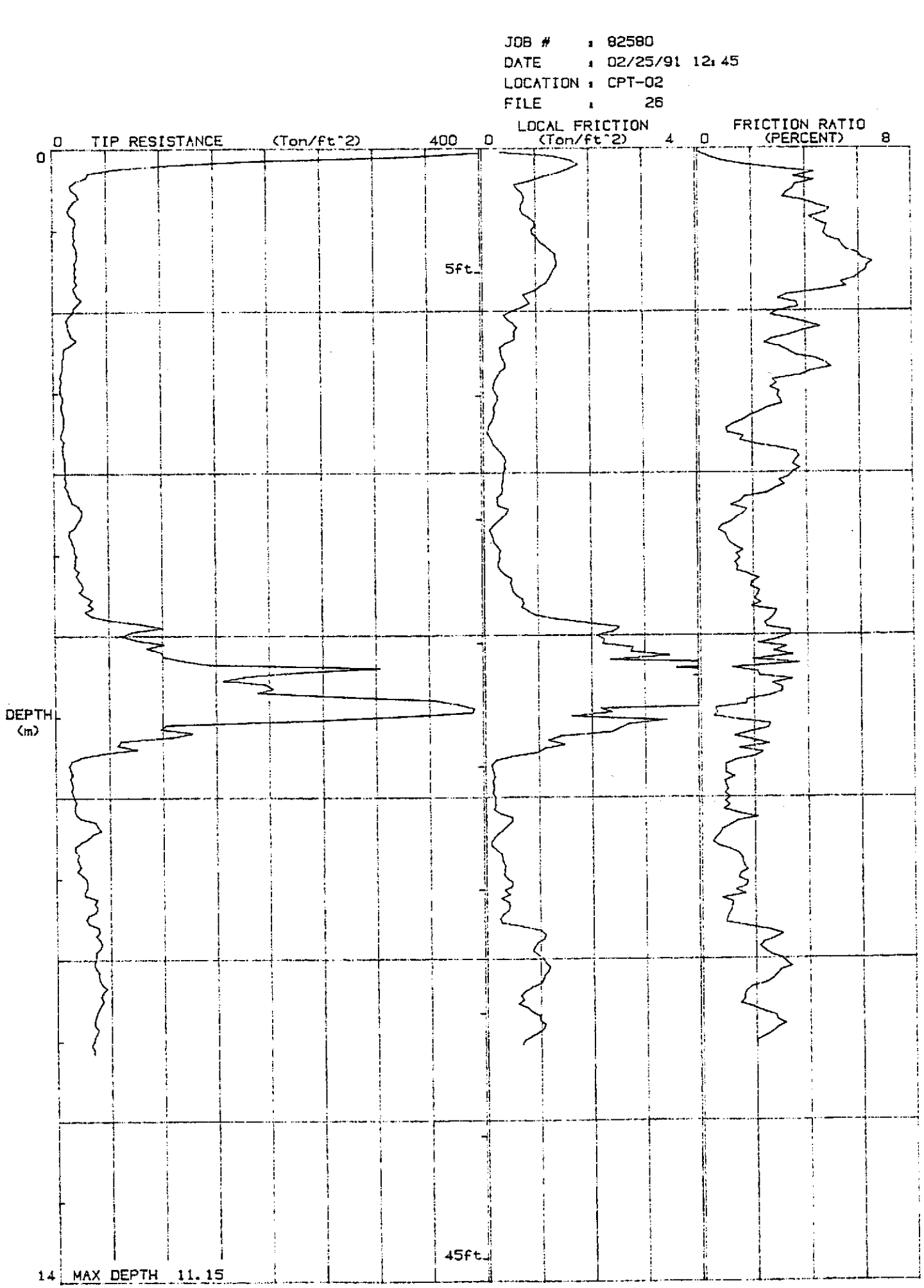
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DATE : 02/25/91 12:45
LOCATION : CPT-02
FILE : 26
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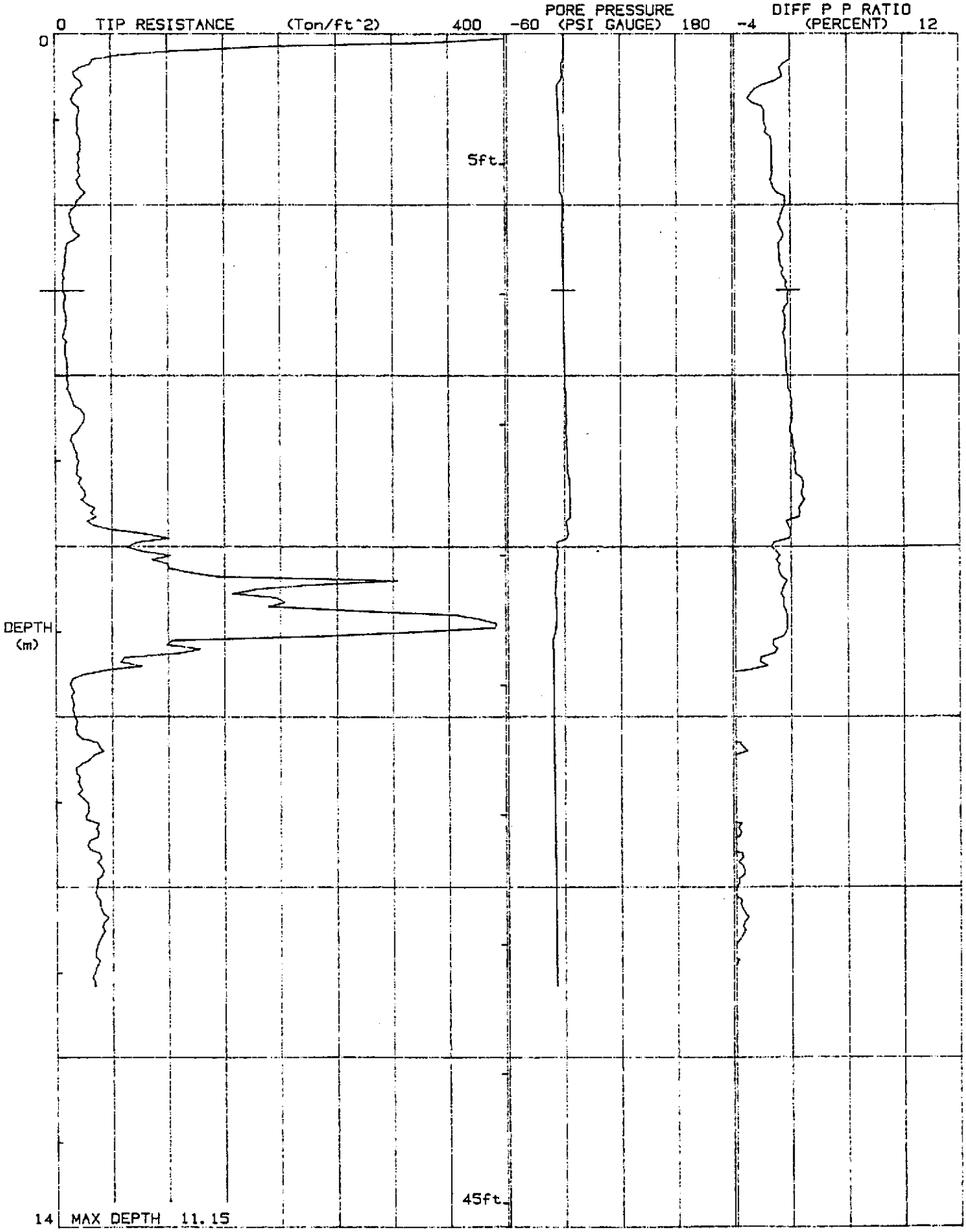
0 LOCAL FRICTION (Ton/ft^2) 4
0 FRICTION RATIO (PERCENT) 8
0
5ft
DEPTH (m)
45ft
14 MAX DEPTH 11.15

JOB # : 82580
DATE : 02/25/91 12:45
LOCATION : CPT-02
FILE : 26



SOUNDING DATA IN FILE 27 02/26/91 8:05

ENGINEER : AMERICAN ENVIRON LOCATION : CPT-03

CONE ID : 339 JOB # : 82580

Tonto Drilling Services Inc.

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.05	557	0.59	0.10	0.2	0.00	0.0	-451.3
0.10	252	0.73	0.28	0.2	0.00	0.0	-451.7
0.15	142	1.63	1.14	-0.2	-0.01	0.0	-451.7
0.20	77	2.30	3.00	0.6	0.05	0.0	-451.8
0.25	48	1.95	4.06	-0.1	-0.00	0.0	-451.7
0.30	38	1.50	3.96	3.4	0.64	0.0	-451.5
0.35	51	1.46	2.85	6.8	0.94	0.0	-451.7
0.40	47	1.69	3.61	-4.2	-0.63	0.0	-451.7
0.45	44	1.49	3.39	-7.5	-1.24	0.0	-451.7
0.50	46	1.33	2.91	-8.3	-1.30	0.0	-451.5
0.55	48	1.39	2.91	-0.2	-0.03	0.0	-451.7
0.60	43	1.53	3.54	-0.1	-0.00	0.0	-452.0
0.65	39	1.47	3.73	-0.9	-0.16	0.0	-451.5
0.70	35	1.37	3.96	-2.1	-0.44	0.0	-452.0
0.75	31	1.22	3.86	-3.4	-0.77	0.0	-451.7
0.80	27	1.12	4.10	-3.8	-0.99	0.0	-451.7
0.85	26	1.04	4.03	-3.9	-1.10	0.0	-451.8
0.90	23	0.97	4.18	-3.8	-1.19	0.0	-451.7
0.95	22	0.98	4.43	-3.6	-1.17	0.0	-452.0
1.00	23	0.99	4.33	-3.5	-1.11	0.0	-451.3
1.05	23	0.98	4.33	-3.5	-1.12	0.0	-452.0
1.10	21	1.02	4.74	-3.3	-1.11	0.0	-451.8
1.15	19	1.07	5.72	-3.2	-1.22	0.0	-452.1
1.20	20	1.07	5.45	-3.0	-1.12	0.0	-451.8
1.25	20	1.16	5.87	-3.0	-1.08	0.0	-452.3
1.30	20	1.24	6.14	-3.0	-1.07	0.0	-452.1
1.35	22	1.25	5.72	-2.9	-0.94	0.0	-451.3
1.40	22	1.21	5.55	-2.9	-0.96	0.0	-452.0
1.45	20	1.15	5.78	-3.0	-1.08	0.0	-452.0
1.50	19	1.06	5.46	-3.1	-1.13	0.0	-452.0
1.55	18	0.95	5.22	-2.9	-1.17	0.0	-452.3
1.60	18	0.89	5.07	-3.1	-1.24	0.0	-452.3
1.65	17	0.82	4.81	-2.9	-1.24	0.0	-452.3
1.70	15	0.67	4.39	-2.8	-1.31	0.0	-452.4
1.75	16	0.59	3.77	-2.4	-1.08	0.0	-451.7
1.80	17	0.61	3.70	-2.2	-0.95	0.0	-452.0
1.85	17	0.72	4.22	-2.0	-0.85	0.0	-451.7
1.90	18	0.68	3.87	-1.9	-0.76	0.0	-451.7
1.95	16	0.59	3.70	-1.7	-0.78	0.0	-451.7
2.00	15	0.50	3.25	-1.6	-0.74	0.0	-451.8

27 : CPT-03 : 02/26/91 8:05

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	17	0.52	3.08	-1.4	-0.61	0.0	-451.8
2.10	15	0.55	3.53	-1.5	-0.70	0.0	-451.7
2.15	15	0.53	3.50	-0.3	-0.14	0.0	-452.1
2.20	15	0.42	2.85	-0.4	-0.22	0.0	-452.0
2.25	13	0.50	3.97	-0.1	-0.02	0.0	-451.8
2.30	12	0.60	4.99	-0.2	-0.09	0.0	-452.3
2.35	11	0.62	5.38	-0.2	-0.12	0.0	-452.1
2.40	12	0.56	4.63	-0.1	-0.06	0.0	-451.8
2.45	12	0.56	4.87	-0.2	-0.13	0.0	-451.7
2.50	11	0.56	5.24	-0.4	-0.29	0.0	-451.8
2.55	12	0.53	4.32	-0.3	-0.19	0.0	-452.3
2.60	11	0.50	4.32	-0.2	-0.13	0.0	-451.8
2.65	11	0.44	4.20	-0.3	-0.18	0.0	-451.8
2.70	10	0.36	3.63	-0.7	-0.47	0.0	-452.3
2.75	9	0.32	3.64	-0.3	-0.24	0.0	-451.7
2.80	10	0.33	3.46	-0.5	-0.34	0.0	-452.0
2.85	10	0.33	3.21	-0.3	-0.21	0.0	-452.3
2.90	20	0.37	1.89	-0.1	-0.01	0.0	-452.4
2.95	18	0.34	1.91	-0.4	-0.14	0.0	-451.8
3.00	9	0.26	2.79	-0.4	-0.29	0.0	-452.0
3.05	8	0.28	3.49	0.2	0.14	0.0	-452.0
3.10	8	0.34	4.06	0.3	0.26	0.0	-451.8
3.15	8	0.36	4.45	1.1	1.00	0.0	-452.0
3.20	10	0.36	3.49	1.0	0.68	0.0	-451.8
3.25	10	0.36	3.73	1.0	0.75	0.0	-451.5
3.30	11	0.36	3.38	1.2	0.79	0.0	-451.8
3.35	11	0.38	3.41	1.3	0.86	0.0	-451.8
3.40	11	0.37	3.34	1.4	0.93	0.0	-451.7
3.45	10	0.39	3.87	1.6	1.16	0.0	-451.8
3.50	12	0.37	3.18	1.8	1.08	0.0	-451.7
3.55	10	0.39	3.74	2.3	1.57	0.0	-451.8
3.60	12	0.42	3.43	2.3	1.35	0.0	-451.7
3.65	12	0.41	3.38	2.2	1.29	0.0	-451.2
3.70	12	0.42	3.45	2.2	1.29	0.0	-451.7
3.75	11	0.41	3.79	2.4	1.61	0.0	-451.8
3.80	12	0.40	3.25	2.3	1.38	0.0	-451.7
3.85	12	0.34	2.91	2.5	1.54	0.0	-451.8
3.90	10	0.28	2.91	2.7	2.00	0.0	-452.0
3.95	12	0.31	2.52	2.8	1.68	0.0	-451.8
4.00	12	0.35	3.00	3.0	1.87	0.0	-452.0
4.05	12	0.39	3.32	2.9	1.80	0.0	-451.8
4.10	10	0.34	3.34	2.8	1.98	0.0	-452.0
4.15	9	0.27	3.11	3.4	2.83	0.0	-451.8
4.20	9	0.29	3.16	3.3	2.58	0.0	-451.8
4.25	8	0.33	3.90	3.7	3.17	0.0	-452.1
4.30	11	0.36	3.31	3.9	2.57	0.0	-452.0
4.35	16	0.67	4.27	4.3	1.96	0.0	-452.0
4.40	30	0.62	2.07	-5.5	-1.32	0.0	-451.8
4.45	20	0.70	3.56	-9.5	-3.46	0.0	-451.7
4.50	32	0.91	2.86	-9.4	-2.12	0.0	-451.8

27 : CPT-03 : 02/26/91 8:05

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
4.55	41	0.75	1.83	-10.0	-1.77	0.0	-451.3
4.60	21	0.34	1.56	-11.2	-3.75	0.0	-451.8
4.65	14	0.32	2.29	-11.4	-5.93	0.0	-452.1
4.70	17	0.28	1.60	-11.1	-4.64	0.0	-451.3
4.75	13	0.26	1.93	-11.0	-5.95	0.0	-451.8
4.80	13	0.22	1.66	-10.9	-5.99	0.0	-451.8
4.85	13	0.18	1.35	-10.8	-5.81	0.0	-452.3
4.90	14	0.16	1.19	-10.6	-5.56	0.0	-451.5
4.95	11	0.28	2.46	-10.7	-6.82	0.0	-452.3
5.00	10	0.26	2.48	-10.4	-7.18	0.0	-451.7
5.05	13	0.28	2.14	-9.5	-5.27	0.0	-452.1
5.10	11	0.27	2.46	-9.2	-6.07	0.0	-452.3
5.15	11	0.23	2.14	-8.7	-5.78	0.0	-452.6
5.20	9	0.21	2.29	-8.5	-6.51	0.0	-452.0
5.25	11	0.25	2.25	-8.5	-5.57	0.0	-452.0
5.30	12	0.24	2.02	-8.4	-5.12	0.0	-451.7
5.35	11	0.22	2.02	-8.1	-5.44	0.0	-451.8
5.40	13	0.22	1.73	-7.9	-4.48	0.0	-451.8
5.45	12	0.20	1.64	-7.8	-4.68	0.0	-451.7
5.50	13	0.23	1.82	-7.7	-4.37	0.0	-452.0
5.55	19	0.37	1.91	-7.4	-2.79	0.0	-452.0
5.60	31	0.42	1.36	-7.2	-1.66	0.0	-452.0
5.65	42	0.45	1.08	-7.2	-1.25	0.0	-451.8
5.70	44	0.56	1.27	-7.2	-1.19	0.0	-451.7
5.75	54	0.59	1.09	-7.2	-0.96	0.0	-451.7
5.80	70	1.01	1.44	-7.3	-0.75	0.0	-451.5
5.85	80	1.13	1.41	-8.9	-0.79	0.0	-451.8
5.90	93	1.46	1.57	-9.4	-0.72	0.0	-451.7
5.95	96	1.80	1.87	-10.5	-0.78	0.0	-452.1
6.00	84	1.58	1.86	-11.0	-0.93	0.0	-452.1
6.05	60	0.70	1.16	-11.5	-1.36	0.0	-451.8
6.10	50	0.81	1.61	-11.4	-1.63	0.0	-452.1
6.15	54	0.61	1.12	-10.7	-1.41	0.1	-451.8
6.20	31	0.20	0.64	-11.1	-2.58	0.1	-451.5
6.25	20	0.05	0.23	-11.1	-3.90	0.1	-451.7
6.30	16	0.12	0.77	-11.0	-5.08	0.1	-451.3
6.35	18	0.27	1.49	-10.9	-4.28	0.1	-452.0
6.40	18	0.40	2.26	-10.9	-4.46	0.1	-451.7
6.45	17	0.71	4.16	-10.7	-4.50	0.1	-451.2
6.50	24	0.94	3.97	-10.7	-3.25	0.1	-451.7
6.55	42	1.00	2.37	-10.8	-1.84	0.1	-451.2
6.60	68	1.62	2.39	-10.9	-1.15	0.1	-451.7
6.65	104	2.22	2.13	-11.1	-0.77	0.1	-451.8
6.70	120	2.69	2.23	-12.0	-0.71	0.1	-451.3
6.75	95	2.86	2.99	-12.1	-0.91	0.2	-451.7
6.80	98	2.62	2.66	-12.3	-0.89	0.2	-451.7
6.85	98	2.27	2.32	-12.3	-0.90	0.2	-451.5
6.90	119	2.78	2.34	-12.3	-0.74	0.2	-451.2
6.95	118	3.37	2.84	-12.5	-0.75	0.2	-451.5
7.00	142	3.64	2.57	-12.4	-0.62	0.2	-451.5

27 : CPT-03 : 02/26/91 8:05

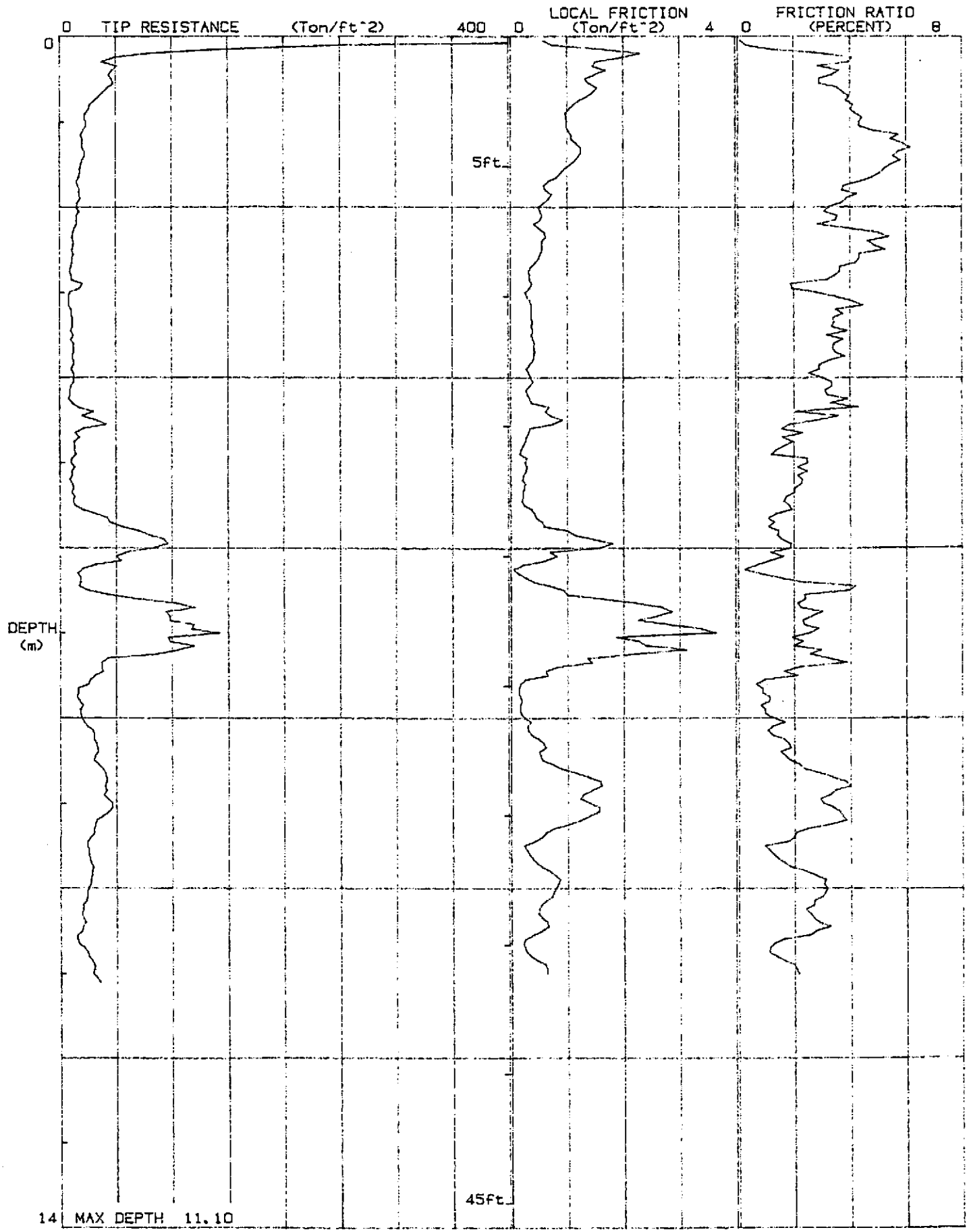
DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
7.05	97	1.87	1.93	-12.3	-0.91	0.2	-451.7
7.10	98	2.27	2.30	-12.2	-0.89	0.2	-451.8
7.15	119	2.38	1.99	-12.2	-0.73	0.2	-451.7
7.20	105	3.11	2.95	-12.3	-0.84	0.2	-451.5
7.25	86	2.21	2.57	-12.3	-1.03	0.2	-451.5
7.30	42	1.36	3.23	-12.2	-2.08	0.2	-451.7
7.35	37	1.43	3.88	-12.4	-2.42	0.2	-451.5
7.40	37	0.82	2.19	-12.3	-2.36	0.2	-451.5
7.45	38	0.62	1.63	-12.2	-2.31	0.2	-452.0
PORE PRESSURE DECAY (5 SEC)		-12.3 -12.2 -12.2 -12.1 -12.1		-12.1 -12.1 -12.1 -12.1 -12.0		-11.9 -11.8 -11.8 -11.9	
-11.9 -11.8 -11.7 -11.6 -11.6 -11.5 -11.6 -11.6 -11.5 -11.5 -11.5 -11.4 -11.4 -11.4 -11.3 -11.4 -11.2 -11.1 -11.1 -11.1							
7.50	31	0.64	2.09	-12.4	-2.90	0.2	-451.3
7.55	27	0.25	0.93	-12.4	-3.28	0.2	-451.8
7.60	25	0.16	0.64	-11.1	-3.17	0.2	-451.8
7.65	16	0.14	0.84	-11.0	-4.86	0.2	-451.7
7.70	16	0.14	0.85	-11.0	-4.91	0.2	-451.5
7.75	15	0.16	1.10	-10.8	-5.28	0.2	-451.7
7.80	17	0.18	1.09	-10.9	-4.69	0.2	-451.8
7.85	20	0.16	0.80	-10.8	-3.94	0.2	-451.7
7.90	18	0.16	0.93	-10.8	-4.41	0.2	-451.5
7.95	18	0.17	0.95	-10.7	-4.28	0.2	-451.8
8.00	19	0.24	1.23	-10.6	-3.98	0.2	-451.7
8.05	21	0.34	1.64	-10.6	-3.71	0.3	-451.8
8.10	24	0.29	1.22	-10.5	-3.14	0.3	-451.8
8.15	29	0.30	1.05	-10.3	-2.58	0.3	-452.0
8.20	30	0.36	1.19	-10.2	-2.44	0.3	-451.7
8.25	30	0.48	1.62	-10.2	-2.45	0.3	-451.8
8.30	32	0.57	1.79	-10.2	-2.29	0.3	-451.7
8.35	33	0.61	1.86	-10.2	-2.24	0.3	-451.7
8.40	33	0.50	1.51	-10.1	-2.22	0.3	-451.7
8.45	31	0.52	1.68	-10.1	-2.33	0.3	-451.5
8.50	30	0.55	1.84	-10.0	-2.41	0.3	-451.5
8.55	34	0.74	2.18	-9.9	-2.09	0.3	-451.5
8.60	38	0.89	2.35	-10.0	-1.90	0.3	-451.8
8.65	40	1.16	2.92	-9.8	-1.77	0.3	-451.3
8.70	41	1.38	3.35	-9.8	-1.70	0.3	-451.7
8.75	41	1.58	3.83	-9.7	-1.68	0.3	-451.7
8.80	40	1.60	3.99	-9.6	-1.71	0.3	-451.8
8.85	41	1.44	3.47	-9.6	-1.67	0.3	-451.5
8.90	39	1.28	3.29	-9.6	-1.78	0.3	-451.8
8.95	42	1.23	2.93	-9.6	-1.66	0.3	-451.3
9.00	46	1.39	3.02	-9.6	-1.49	0.3	-451.5
9.05	46	1.56	3.36	-9.6	-1.48	0.3	-451.3
9.10	43	1.55	3.60	-9.6	-1.60	0.3	-451.8
9.15	38	1.39	3.70	-9.3	-1.77	0.3	-452.0
9.20	32	1.23	3.83	-9.4	-2.10	0.3	-451.7
9.25	31	1.02	3.28	-9.5	-2.20	0.3	-451.2
9.30	30	0.74	2.45	-9.6	-2.29	0.3	-451.5
9.35	30	0.61	2.05	-9.4	-2.27	0.3	-451.2

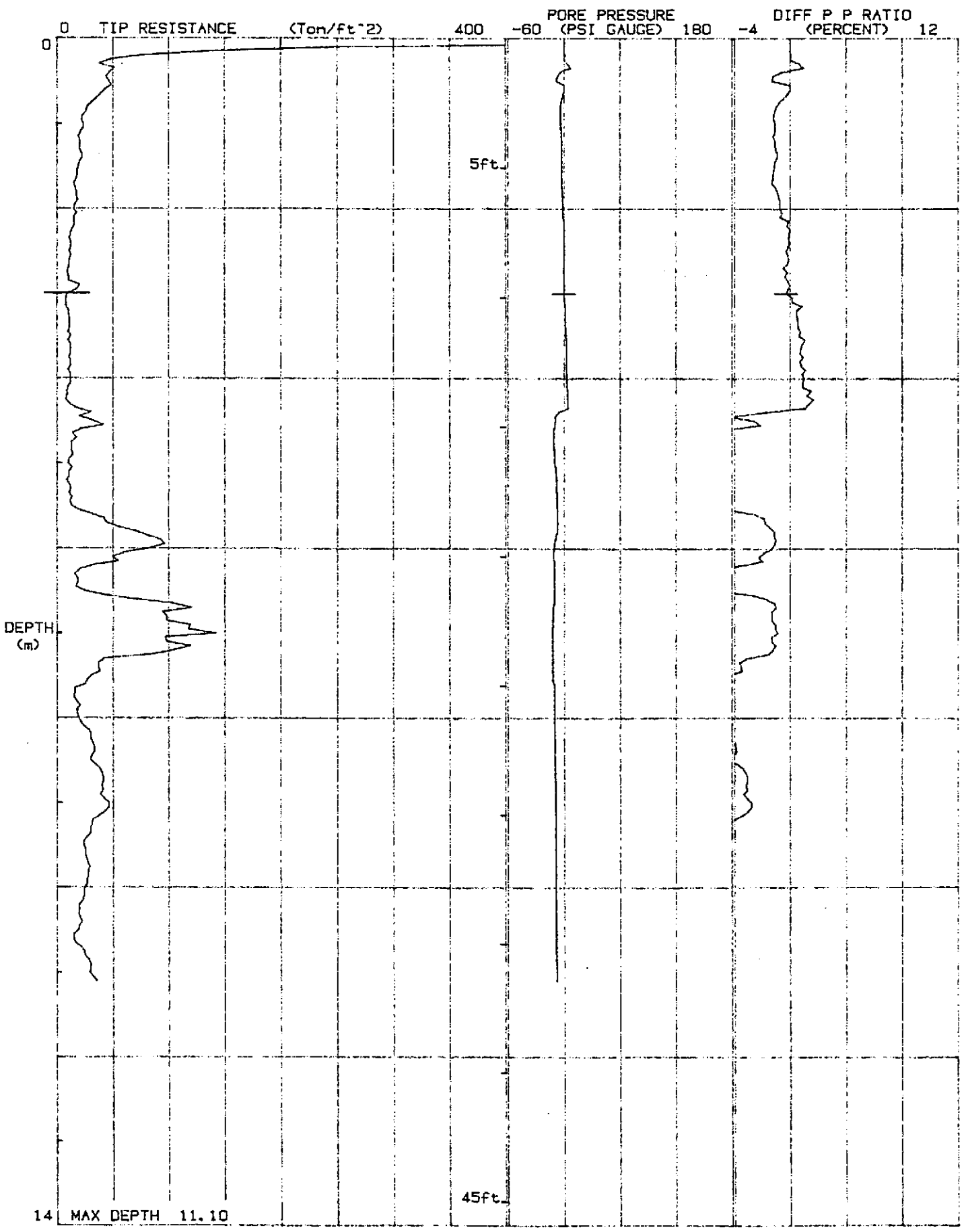
27 : CPT-03 : 02/26/91 8:05

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
9.40	27	0.54	1.97	-9.6	-2.51	0.3	-451.5
9.45	24	0.42	1.77	-9.5	-2.84	0.3	-451.5
9.50	24	0.23	0.94	-9.5	-2.82	0.3	-451.5
9.55	25	0.27	1.08	-9.5	-2.76	0.3	-451.7
9.60	25	0.31	1.23	-9.3	-2.66	0.3	-451.8
9.65	26	0.37	1.40	-9.3	-2.55	0.3	-451.3
9.70	27	0.44	1.63	-9.3	-2.46	0.4	-452.0
9.75	29	0.53	1.85	-9.3	-2.34	0.4	-451.7
9.80	28	0.67	2.39	-9.2	-2.34	0.4	-451.7
9.85	28	0.77	2.74	-9.1	-2.34	0.4	-451.8
9.90	27	0.85	3.09	-9.2	-2.39	0.4	-451.8
9.95	27	0.83	3.06	-9.3	-2.47	0.4	-451.7
10.00	25	0.79	3.15	-9.1	-2.60	0.4	-452.0
10.05	24	0.75	3.10	-9.1	-2.71	0.4	-452.0
10.10	24	0.72	3.00	-9.1	-2.73	0.4	-451.5
10.15	23	0.61	2.71	-9.0	-2.87	0.4	-451.8
10.20	20	0.53	2.68	-9.0	-3.25	0.4	-451.8
10.25	20	0.49	2.41	-9.0	-3.22	0.4	-451.3
10.30	19	0.48	2.55	-9.0	-3.46	0.4	-451.7
10.35	20	0.53	2.68	-8.8	-3.21	0.4	-451.8
10.40	22	0.63	2.86	-9.0	-2.95	0.4	-451.5
10.45	20	0.65	3.25	-8.9	-3.19	0.4	-451.8
10.50	19	0.54	2.77	-8.9	-3.30	0.5	-451.8
10.55	15	0.39	2.56	-8.9	-4.23	0.5	-451.8
10.60	15	0.24	1.59	-8.9	-4.19	0.5	-451.8
10.65	16	0.21	1.27	-8.9	-3.88	0.5	-451.7
10.70	21	0.23	1.11	-8.7	-3.03	0.5	-451.3
10.75	24	0.26	1.08	-8.7	-2.64	0.5	-451.8
10.80	25	0.33	1.31	-8.6	-2.47	0.5	-451.8
10.85	28	0.44	1.60	-8.5	-2.21	0.5	-452.0
10.90	30	0.59	1.97	-8.5	-2.03	0.5	-451.5
10.95	30	0.62	2.06	-8.3	-1.99	0.5	-451.5
11.00	29	0.63	2.13	-8.2	-2.00	0.5	-451.8
11.05	32	?0000000000000000??	0000000000000000?	-8.3	-1.83	0.5	-451.0
11.10	35	?0000000000000000??	0000000000000000?	-8.1	-1.67	0.5	-451.7

WRITE # RODS USED ___

JOB # : 82580
DATE : 02/26/91 8:05
LOCATION : CPT-03
FILE : 27




JOB # : 82580
DATE : 02/26/91 8:05
LOCATION : CPT-03
FILE : 27
0 TIP RESISTANCE (Ton/ft^2) 400
PORE PRESSURE -60 (PSI GAUGE) 180
DIFF P P RATIO -4 (PERCENT) 12
0
5ft
DEPTH (m)
45ft
14 MAX DEPTH 11.10

SOUNDING DATA IN FILE 28 02/26/91 8:50

ENGINEER : AMERICAN ENVIRON LOCATION : CPT-04

CONE ID : 339 JOB # : 82580

Tonto Drilling Services Inc.

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.05	435	0.63	0.14	0.1	0.00	0.0	-451.7
0.10	403	1.38	0.34	0.1	0.00	0.0	-452.0
0.15	141	2.03	1.43	0.0	0.00	-0.0	-451.8
0.20	63	1.77	2.81	-0.0	-0.00	0.0	-451.7
0.25	35	1.69	4.89	0.2	0.03	0.0	-451.7
0.30	29	1.19	4.15	0.7	0.17	0.0	-451.8
0.35	25	0.99	3.88	0.0	0.0	0.0	-451.8
0.40	21	0.80	3.82	-1.1	-0.36	0.0	-452.0
0.45	20	0.77	3.87	-1.0	-0.35	0.0	-452.0
0.50	18	0.76	4.34	-1.0	-0.41	0.0	-452.0
0.55	14	0.69	4.80	-1.0	-0.50	0.0	-451.7
0.60	15	0.59	3.97	-1.2	-0.55	0.0	-451.5
0.65	15	0.56	3.64	-1.4	-0.67	-0.0	-451.8
0.70	14	0.53	3.78	-2.3	-1.14	0.0	-452.0
0.75	15	0.42	2.79	-2.9	-1.40	0.0	-451.5
0.80	18	0.36	2.04	-1.6	-0.66	0.0	-451.5
0.85	13	0.36	2.75	0.2	0.12	0.0	-451.8
0.90	11	0.36	3.27	-0.1	-0.04	0.0	-452.0
0.95	11	0.31	2.81	-0.8	-0.51	0.0	-451.8
1.00	13	0.25	1.88	-0.6	-0.33	-0.0	-451.8
1.05	12	0.18	1.50	0.1	0.07	0.0	-451.8
1.10	12	0.17	1.40	0.0	0.00	0.0	-451.8
1.15	11	0.16	1.53	0.1	0.03	0.0	-451.7
1.20	9	0.21	2.21	0.0	0.0	0.0	-451.8
1.25	9	0.31	3.56	0.2	0.12	0.0	-451.7
1.30	10	0.44	4.27	0.1	0.06	0.0	-451.5
1.35	13	0.57	4.51	0.4	0.20	0.0	-451.8
1.40	14	0.65	4.58	0.4	0.20	0.0	-451.7
1.45	15	0.72	4.85	0.5	0.23	0.0	-451.8
1.50	16	0.81	5.01	0.5	0.20	0.0	-451.7
1.55	19	0.89	4.62	0.4	0.13	0.0	-451.7
1.60	18	0.91	5.10	0.5	0.19	0.0	-451.8
1.65	18	0.92	5.03	0.4	0.17	0.0	-451.7
1.70	18	0.86	4.79	0.4	0.15	0.0	-451.8
1.75	19	0.83	4.25	0.4	0.14	0.0	-451.8
1.80	20	0.82	4.01	0.4	0.15	0.0	-451.5
1.85	20	0.87	4.42	0.6	0.20	0.0	-451.8
1.90	21	0.79	3.72	0.4	0.14	0.0	-451.5
1.95	23	0.48	2.09	0.5	0.16	0.0	-451.7
2.00	31	0.32	1.05	0.7	0.14	0.0	-451.8

28 : CPT-04 : 02/26/91 8:50

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	35	0.55	1.56	0.2	0.03	0.0	-451.8
2.10	29	0.58	2.03	0.0	0.0	0.0	-452.0
2.15	19	0.53	2.81	0.1	0.02	0.0	-451.7
2.20	15	0.53	3.56	0.2	0.09	0.0	-451.8
2.25	17	0.54	3.26	0.2	0.09	0.0	-451.8
2.30	19	0.53	2.80	0.2	0.09	0.0	-451.7
2.35	19	0.36	1.95	0.2	0.09	0.0	-451.5
2.40	14	0.40	2.90	0.3	0.17	0.0	-451.8
2.45	13	0.50	3.82	0.4	0.22	0.0	-451.7
2.50	14	0.53	3.91	0.4	0.22	0.0	-451.7
2.55	12	0.46	3.79	0.6	0.33	0.0	-452.0
2.60	11	0.43	3.85	1.1	0.72	0.0	-451.8
2.65	11	0.39	3.74	1.2	0.81	0.0	-452.1
2.70	11	0.36	3.39	1.2	0.79	0.0	-452.0
2.75	10	0.32	3.24	1.3	0.97	0.0	-452.0
2.80	12	0.32	2.67	1.2	0.73	0.0	-451.5
2.85	12	0.37	2.98	1.3	0.74	-0.0	-451.7
2.90	11	0.36	3.13	1.4	0.88	0.0	-451.5
2.95	10	0.32	3.09	1.4	0.93	0.0	-451.7
3.00	10	0.28	2.71	1.4	1.00	0.0	-451.5
3.05	10	0.26	2.65	1.7	1.22	0.0	-451.5
3.10	10	0.26	2.50	1.9	1.32	0.0	-451.7
3.15	10	0.26	2.57	2.1	1.48	0.0	-452.0
3.20	11	0.22	2.01	2.0	1.28	0.0	-451.8
3.25	10	0.25	2.61	2.2	1.61	0.0	-451.8
3.30	11	0.29	2.48	2.1	1.30	-0.0	-452.1
3.35	11	0.33	2.86	2.2	1.37	0.0	-451.8
3.40	10	0.38	3.67	2.5	1.72	0.0	-452.0
3.45	11	0.42	3.64	2.3	1.44	-0.0	-452.0
3.50	12	0.40	3.44	2.4	1.49	0.0	-452.0
3.55	12	0.39	3.22	2.6	1.50	0.0	-451.7
3.60	12	0.40	3.26	2.6	1.47	0.0	-451.8
3.65	11	0.38	3.40	2.6	1.67	0.0	-451.8
3.70	13	0.39	3.05	2.6	1.49	0.0	-451.5
3.75	12	0.36	2.93	2.7	1.56	0.0	-451.7
3.80	11	0.37	3.36	2.7	1.77	0.0	-452.1
3.85	12	0.41	3.47	2.8	1.67	0.0	-452.0
3.90	14	0.46	3.37	2.7	1.45	0.0	-451.7
3.95	13	0.44	3.26	2.6	1.42	0.0	-451.8
4.00	12	0.38	3.06	2.8	1.60	0.0	-451.7
4.05	13	0.38	2.90	2.8	1.54	0.0	-452.0
4.10	13	0.39	3.05	2.8	1.58	0.0	-452.1
4.15	14	0.43	3.16	3.2	1.67	0.0	-451.7
4.20	12	0.44	3.57	3.2	1.89	0.0	-452.0
4.25	11	0.41	3.68	3.4	2.17	0.0	-451.8
4.30	12	0.36	2.99	3.3	1.96	0.0	-451.8
4.35	12	0.43	3.53	3.4	2.04	-0.0	-452.1
4.40	16	0.71	4.34	3.4	1.52	0.0	-451.5
4.45	35	1.13	3.23	3.5	0.73	0.0	-451.8
4.50	43	1.21	2.84	-3.1	-0.52	0.0	-451.5

28 : CPT-04 : 02/26/91 8:50

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
4.55	39	1.19	3.07	-8.6	-1.59	0.0	-452.0
4.60	23	0.65	2.86	-11.9	-3.78	0.0	-451.8
4.65	11	0.16	1.44	-12.1	-7.76	0.0	-451.8
4.70	10	0.11	1.08	-12.0	-8.76	0.0	-452.0
4.75	10	0.11	1.18	-11.9	-8.93	0.0	-451.5
4.80	11	0.12	1.04	-11.9	-7.75	0.0	-451.7
4.85	11	0.14	1.22	-11.9	-7.49	0.0	-451.8
4.90	10	0.12	1.20	-11.9	-8.66	0.0	-451.8
4.95	8	0.10	1.13	-11.7	-9.93	0.0	-451.8
5.00	9	0.10	1.05	-11.8	-9.20	0.0	-451.8
5.05	9	0.09	0.97	-11.8	-9.05	0.0	-451.3
5.10	8	0.12	1.49	-11.7	-10.37	0.0	-451.8
5.15	10	0.10	0.96	-11.5	-8.23	0.0	-451.8
5.20	9	0.11	1.24	-11.4	-9.32	0.0	-451.7
5.25	10	0.15	1.45	-11.5	-8.02	0.0	-451.5
5.30	9	0.16	1.80	-11.3	-9.20	0.0	-451.7
5.35	9	0.14	1.58	-11.4	-9.57	0.0	-451.7
5.40	7	0.12	1.62	-11.3	-10.98	0.0	-452.0
5.45	7	0.10	1.35	-11.3	-10.86	0.0	-451.8
5.50	8	0.06	0.76	-11.2	-9.57	0.0	-452.0
5.55	12	0.24	2.06	-11.3	-6.89	0.0	-451.7
5.60	20	0.18	0.90	-11.2	-4.05	0.0	-452.0
5.65	15	0.09	0.60	-11.1	-5.27	0.0	-451.7
5.70	9	0.22	2.39	-11.1	-8.54	0.0	-451.8
5.75	14	0.19	1.41	-11.0	-5.84	0.0	-451.8
5.80	13	0.07	0.56	-11.0	-6.02	0.0	-452.0
5.85	10	0.07	0.70	-11.0	-8.27	0.0	-451.5
5.90	9	0.09	0.94	-10.9	-8.47	0.0	-451.7
5.95	12	0.12	1.05	-10.9	-6.72	0.0	-451.8
6.00	19	0.06	0.32	-10.9	-4.17	0.0	-451.8
6.05	16	0.05	0.30	-10.8	-4.97	0.0	-451.8
6.10	21	0.00	0.00	-10.7	-3.72	0.0	-451.7
6.15	17	0.04	0.22	-10.6	-4.45	0.0	-451.3
6.20	17	0.06	0.32	-10.5	-4.33	0.0	-451.8
6.25	22	0.11	0.51	-10.4	-3.37	0.0	-451.3
6.30	25	0.13	0.50	-10.3	-2.92	0.0	-452.0
6.35	24	0.31	1.25	-10.2	-3.00	0.0	-451.8
6.40	36	0.73	2.03	-10.3	-2.07	0.0	-451.5
6.45	49	0.77	1.56	-10.3	-1.50	0.0	-451.7
6.50	69	1.23	1.78	-10.2	-1.07	0.0	-451.7
6.55	75	1.67	2.23	-10.4	-1.00	0.0	-451.8
6.60	55	1.51	2.75	-10.6	-1.38	0.1	-451.7
6.65	62	1.62	2.59	-10.5	-1.21	0.1	-451.7
6.70	65	1.75	2.70	-10.5	-1.16	0.1	-452.0
6.75	65	1.68	2.59	-10.6	-1.17	0.1	-452.0
6.80	81	1.57	1.94	-10.8	-0.95	0.1	-451.7
6.85	91	1.38	1.51	-11.0	-0.86	0.1	-451.7

PORE PRESSURE DECAY (5 SEC) -11.8 -11.8 -11.7 -11.6 -11.4 -11.3 -11.2 -11.1 -11.0 -10.9 -10.9 -10.6 -10.5 -10.4
-10.2 -10.2 -10.1 -9.9 -9.9 -9.8 -9.7 -9.7 -9.6 -9.4 -9.3 -9.1 -9.0 -8.8 -8.7 -8.7 -8.5 -8.4
-8.3 -8.2 -8.0 -7.7 -7.5 -7.4 -7.3 -7.2 -7.0 -6.9 -6.6 -6.3 -6.2 -6.1 -5.9 -5.7 -5.4 -5.2

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DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
-5.0 -4.7 -4.5 -4.3	-4.0 -3.7 -3.6 -3.3 -3.2	-2.9 -2.6 -2.3 -2.1 -1.9	-1.5 -1.3 -1.0 -0.8				
-0.7 -0.5 -0.2 0.2	0.3 0.5 0.7 0.9 1.1	1.2 1.5 1.6 1.7 1.9	1.9 2.0 2.2 2.5				
2.7 2.8 2.9 2.9	2.9 2.9 3.0 3.0 3.1	3.2 3.1 3.2 3.3 3.3					
6.90	103	0.81	0.79	-11.2	-0.78	0.1	-452.0
6.95	105	1.09	1.03	-11.8	-0.80	0.1	-452.0
7.00	99	1.49	1.51	-9.0	-0.64	0.1	-452.0
7.05	90	1.09	1.21	-10.1	-0.80	0.1	-451.8
7.10	79	1.40	1.75	-10.6	-0.96	0.1	-451.8
7.15	73	1.88	2.56	-11.0	-1.08	0.1	-451.8
7.20	80	2.16	2.70	-12.1	-1.09	0.1	-452.0
7.25	80	2.03	2.54	-12.2	-1.09	0.1	-451.7
7.30	58	0.77	1.32	-12.1	-1.48	0.1	-451.8
7.35	28	0.69	2.43	-12.0	-3.05	0.1	-451.8
7.40	34	0.80	2.34	-12.1	-2.56	0.1	-451.8
7.45	53	0.92	1.73	-12.0	-1.64	0.1	-451.5
7.50	65	1.31	2.02	-11.9	-1.32	0.1	-451.8
7.55	45	0.83	1.84	-11.9	-1.90	0.1	-451.8
7.60	28	0.51	1.81	-12.0	-3.07	0.1	-451.3
7.65	25	0.73	2.90	-12.0	-3.44	0.1	-451.8
7.70	39	0.60	1.55	-11.9	-2.19	0.1	-451.5
7.75	40	0.64	1.59	-12.0	-2.12	0.1	-451.8
7.80	39	1.01	2.61	-11.8	-2.20	0.1	-451.5
7.85	76	1.71	2.23	-11.6	-1.09	0.1	-452.0
7.90	101	2.71	2.69	-11.9	-0.85	0.1	-451.7
7.95	97	2.70	2.79	-11.8	-0.88	0.1	-451.8
8.00	154	2.44	1.58	-11.9	-0.55	0.1	-451.5
8.05	124	2.17	1.74	-12.3	-0.71	0.1	-451.7
8.10	49	1.46	2.96	-12.8	-1.85	0.1	-451.8
8.15	25	0.60	2.36	-12.3	-3.47	0.1	-451.7
8.20	27	0.48	1.77	-12.4	-3.34	0.1	-451.7
8.25	25	0.48	1.89	-12.3	-3.50	0.1	-452.0
8.30	30	0.61	2.06	-12.4	-3.01	0.1	-451.8
8.35	46	0.87	1.86	-12.5	-1.93	0.1	-451.7
8.40	60	0.71	1.18	-12.4	-1.49	0.1	-451.7
8.45	55	0.76	1.36	-12.4	-1.60	0.1	-452.0
8.50	56	0.98	1.76	-12.2	-1.57	0.1	-451.8
8.55	93	1.45	1.56	-12.2	-0.94	0.1	-452.0
8.60	133	1.55	1.16	-12.2	-0.66	0.1	-451.8
8.65	144	1.48	1.02	-12.3	-0.61	0.1	-451.7
8.70	142	2.01	1.41	-12.4	-0.62	0.1	-451.7
8.75	124	2.49	2.01	-12.3	-0.71	0.1	-451.8
8.80	103	2.54	2.45	-12.2	-0.84	0.1	-451.8
8.85	103	2.75	2.66	-12.2	-0.84	0.1	-452.0
8.90	99	2.52	2.54	-12.3	-0.89	0.1	-451.7
8.95	110	2.21	2.01	-12.2	-0.79	0.1	-451.8
9.00	96	2.24	2.33	-12.2	-0.91	0.1	-451.8
9.05	66	0.96	1.46	-12.3	-1.34	0.1	-451.7
9.10	39	0.70	1.79	-12.3	-2.27	0.1	-451.7
9.15	32	0.29	0.88	-12.2	-2.70	0.1	-451.8
9.20	28	0.27	0.96	-12.3	-3.12	0.1	-451.3

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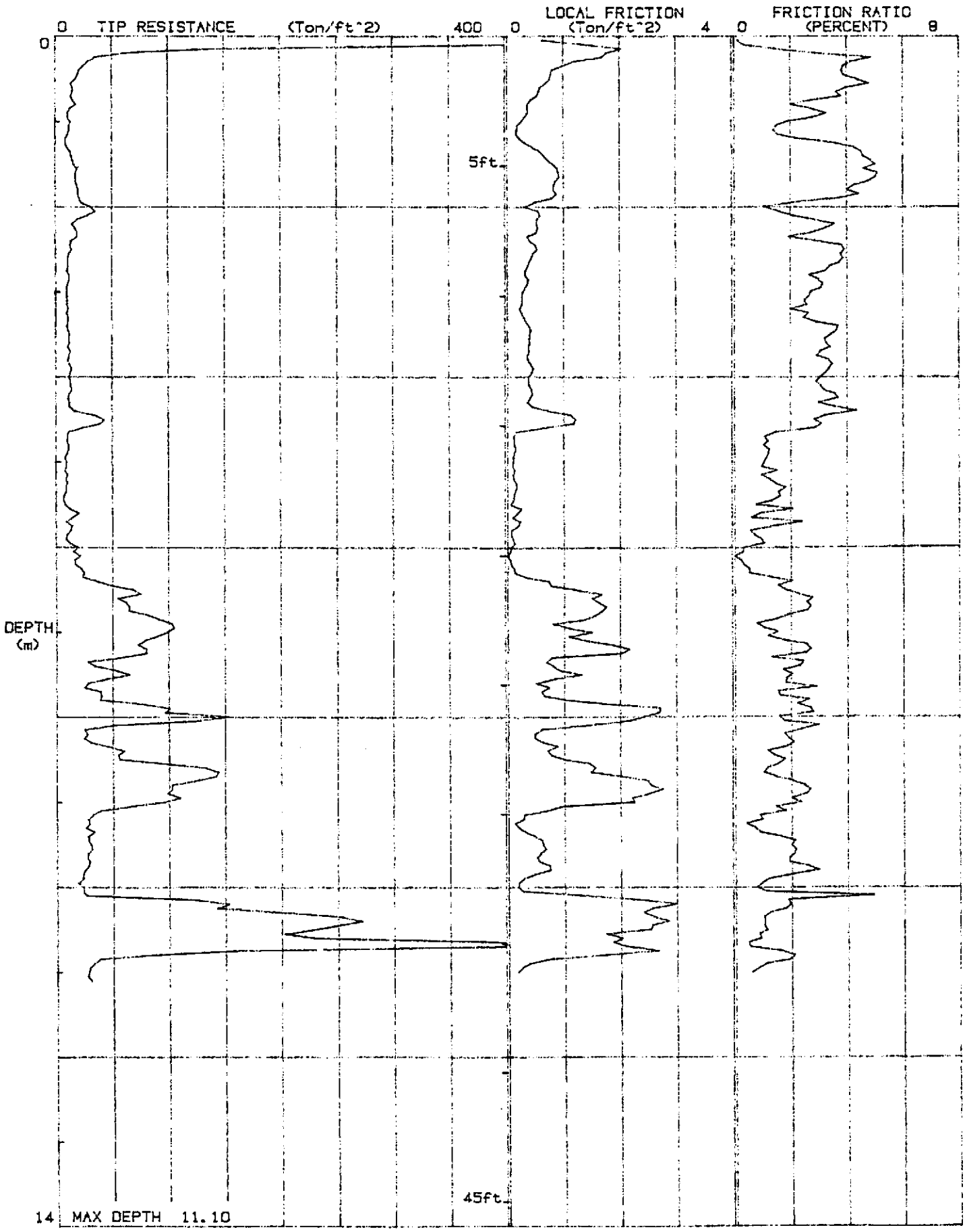
DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
9.25	29	0.12	0.39	-12.1	-2.96	0.1	-451.7
9.30	26	0.18	0.70	-12.3	-3.41	0.1	-451.7
9.35	33	0.29	0.86	-12.1	-2.61	0.1	-451.7
9.40	28	0.46	1.61	-12.2	-3.10	0.1	-451.8
9.45	28	0.60	2.12	-12.1	-3.09	0.1	-451.8
9.50	30	0.61	2.01	-12.1	-2.89	0.1	-452.0
9.55	31	0.66	2.14	-12.3	-2.84	0.1	-451.8
9.60	28	0.58	2.11	-12.2	-3.18	0.1	-452.0
9.65	27	0.51	1.93	-12.1	-3.29	0.1	-451.7
9.70	29	0.55	1.93	-12.3	-3.09	0.1	-451.5
9.75	28	0.73	2.58	-12.1	-3.07	0.1	-452.0
9.80	25	0.74	2.96	-12.2	-3.51	0.1	-451.8
9.85	23	0.47	2.00	-12.2	-3.76	0.1	-451.8
9.90	23	0.28	1.20	-12.3	-3.79	0.1	-451.5
9.95	19	0.18	0.95	-12.2	-4.62	0.1	-451.8
10.00	23	0.18	0.76	-12.3	-3.83	0.2	-451.5
10.05	23	0.25	1.08	-12.2	-3.89	0.2	-451.8
10.10	26	1.27	4.94	-12.2	-3.42	0.2	-451.8
10.15	121	2.28	1.88	-12.1	-0.72	0.2	-451.8
10.20	153	2.99	1.95	-12.5	-0.58	0.2	-451.8
10.25	143	2.57	1.80	-13.0	-0.65	0.2	-451.7
10.30	197	2.41	1.22	-13.0	-0.47	0.2	-451.7
10.35	252	2.58	1.02	-12.9	-0.36	0.2	-451.8
10.40	272	2.84	1.04	-12.8	-0.33	0.2	-452.0
10.45	250	2.56	1.02	-12.9	-0.37	0.2	-451.7
10.50	228	2.53	1.11	-13.0	-0.41	0.2	-451.3
10.55	203	1.74	0.85	-13.0	-0.46	0.2	-451.7
10.60	229	2.02	0.88	-13.1	-0.41	0.2	-451.8
10.65	399	1.87	0.46	-13.0	-0.23	0.2	-451.7
10.70	399	2.08	0.51	-13.1	-0.23	0.2	-451.8
10.75	162	2.66	1.64	-13.0	-0.57	0.2	-451.8
10.80	84	1.76	2.09	-12.8	-1.10	0.1	-451.7
10.85	38	0.74	1.94	-12.7	-2.39	0.1	-452.0
10.90	33	0.37	1.11	-12.7	-2.79	0.1	-451.7
10.95	29	0.24	0.83	-12.7	-3.16	0.1	-451.7
11.00	28	0.17	0.59	-12.7	-3.22	0.1	-451.5
11.05	27	?0000000000000000??0000000000000000?		-12.8	-3.47	0.1	-451.8
11.10	30	?0000000000000000??0000000000000000?		-12.7	-3.02	0.1	-451.8

WRITE # RODS USED ___

JOB # : 82580
DATE : 02/26/91 8:50
LOCATION : CPT-04
FILE : 28



JOB # : 82580
DATE : 02/26/91 8:50
LOCATION : CPT-04
FILE : 28

SOUNDING DATA IN FILE 29 02/26/91 9:45

ENGINEER : AMERICAN ENVIRON LOCATION : CPT-05

CONE ID : 339 JOB # : 82580

Tonto Drilling Services Inc.

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.05	309	0.38	0.12	0.0	0.0	0.0	-451.7
0.10	193	0.61	0.31	-0.0	-0.00	0.0	-451.7
0.15	113	1.30	1.14	-0.1	-0.00	0.0	-451.8
0.20	52	1.20	2.32	0.0	0.0	0.0	-451.7
0.25	28	1.30	4.66	0.0	0.0	0.0	-452.0
0.30	31	1.10	3.52	0.3	0.06	0.0	-451.5
0.35	36	1.03	2.88	-8.0	-1.60	0.0	-451.7
0.40	42	1.68	3.96	-8.0	-1.35	0.0	-451.8
0.45	85	1.84	2.16	-9.2	-0.77	0.0	-451.7
0.50	43	1.92	4.44	-9.8	-1.63	0.0	-451.8
0.55	34	1.50	4.45	-9.6	-2.05	0.0	-451.7
0.60	27	1.27	4.77	-10.6	-2.85	0.0	-451.8
0.65	25	1.09	4.32	-10.9	-3.12	0.0	-451.5
0.70	25	1.01	4.01	-10.9	-3.12	0.0	-451.5
0.75	23	0.98	4.21	-10.9	-3.38	0.0	-451.8
0.80	23	0.96	4.16	-10.8	-3.35	0.0	-451.7
0.85	24	0.98	4.13	-10.8	-3.28	0.0	-451.8
0.90	21	0.98	4.76	-10.8	-3.78	0.0	-451.5
0.95	19	0.92	4.82	-10.7	-4.03	0.0	-451.3
1.00	20	0.94	4.69	-10.8	-3.90	0.0	-451.8
1.05	21	0.98	4.68	-10.7	-3.70	0.0	-451.8
1.10	21	1.04	4.98	-10.7	-3.70	0.0	-451.8
1.15	20	1.06	5.24	-10.6	-3.76	0.0	-452.0
1.20	22	1.13	5.16	-10.5	-3.44	0.0	-451.7
1.25	22	1.18	5.33	-10.4	-3.39	0.0	-451.7
1.30	21	1.28	6.17	-10.3	-3.56	0.0	-452.0
1.35	21	1.35	6.47	-10.2	-3.52	0.0	-451.8
1.40	22	1.40	6.39	-10.3	-3.39	0.0	-451.3
1.45	22	1.39	6.34	-10.4	-3.41	0.0	-451.7
1.50	21	1.37	6.48	-10.3	-3.49	0.0	-451.7
1.55	22	1.33	6.03	-10.3	-3.34	0.0	-451.7
1.60	20	1.28	6.33	-10.2	-3.61	0.0	-451.7
1.65	20	1.20	6.10	-10.1	-3.68	0.0	-451.8
1.70	19	1.15	6.06	-10.2	-3.85	0.0	-451.7
1.75	19	1.07	5.54	-10.2	-3.81	0.0	-451.8
1.80	19	1.00	5.33	-10.1	-3.85	0.0	-451.3
1.85	18	0.91	4.89	-10.0	-3.90	0.0	-451.8
1.90	17	0.85	4.93	-10.0	-4.16	0.0	-452.0
1.95	17	0.86	5.08	-10.1	-4.26	0.0	-451.5
2.00	15	0.77	5.25	-9.9	-4.84	0.0	-451.5

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DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	13	0.64	4.75	-10.0	-5.36	0.0	-452.0
2.10	13	0.67	5.12	-9.9	-5.46	0.0	-452.0
2.15	17	0.58	3.41	-9.8	-4.18	0.0	-451.8
2.20	11	0.46	4.12	-9.4	-6.12	0.0	-451.8
2.25	9	0.33	3.78	-9.3	-7.59	0.0	-451.8
2.30	8	0.33	4.02	-9.3	-8.05	0.0	-452.0
2.35	9	0.38	4.27	-9.3	-7.42	0.0	-451.7
2.40	10	0.41	4.17	-9.4	-6.76	0.0	-451.5
2.45	10	0.42	4.28	-9.3	-6.88	0.0	-451.3
2.50	10	0.38	3.90	-9.3	-6.86	0.0	-451.5
2.55	8	0.38	4.63	-9.4	-8.22	0.0	-451.8
2.60	8	0.37	4.59	-9.3	-8.32	0.0	-452.0
2.65	10	0.40	3.88	-9.3	-6.53	0.0	-451.7
2.70	9	0.45	5.15	-9.2	-7.56	0.0	-452.0
2.75	10	0.45	4.64	-9.3	-6.83	0.0	-451.7
2.80	8	0.36	4.54	-9.2	-8.27	0.0	-451.7
2.85	8	0.26	3.28	-9.3	-8.52	0.0	-451.8
2.90	8	0.22	2.78	-9.3	-8.22	0.0	-451.7
2.95	8	0.23	3.00	-9.2	-8.66	0.0	-451.7
3.00	6	0.21	3.18	-9.1	-10.18	0.0	-452.0
3.05	6	0.21	3.38	-8.6	-10.22	0.0	-451.8
3.10	8	0.02	0.21	-8.8	-7.69	0.0	-451.8
3.15	7	0.23	3.50	-8.6	-9.30	0.0	-452.0
3.20	2	0.24	10.75	-8.5	-27.24	0.0	-452.0
3.25	8	0.25	3.13	-8.6	-7.71	0.0	-451.3
3.30	7	0.27	3.93	-8.5	-8.91	0.0	-452.0
3.35	8	0.25	3.11	-8.5	-7.54	0.0	-451.7
3.40	7	0.24	3.39	-8.6	-8.59	0.0	-451.8
3.45	8	0.26	3.26	-8.6	-7.71	0.0	-452.0
3.50	9	0.29	3.03	-8.6	-6.59	0.0	-451.2
3.55	9	0.34	3.53	-8.6	-6.49	0.0	-451.8
3.60	11	0.33	3.01	-8.5	-5.60	0.0	-451.8
3.65	9	0.32	3.52	-8.4	-6.51	0.0	-452.4
3.70	10	0.34	3.40	-8.5	-6.12	0.0	-451.7
3.75	10	0.37	3.65	-8.4	-5.96	0.0	-451.7
3.80	12	0.41	3.50	-8.4	-5.26	0.0	-451.7
3.85	11	0.41	3.76	-8.4	-5.51	0.0	-451.8
3.90	12	0.42	3.50	-8.4	-5.11	0.0	-451.8
3.95	12	0.43	3.61	-8.3	-4.99	0.0	-451.5
4.00	12	0.44	3.75	-8.3	-5.16	0.0	-451.7
4.05	12	0.43	3.46	-8.3	-4.82	0.0	-451.8
4.10	11	0.44	3.85	-8.2	-5.12	0.0	-452.3
4.15	13	0.59	4.50	-8.2	-4.49	0.0	-451.7
4.20	13	0.71	5.26	-8.1	-4.34	0.0	-451.5
4.25	17	0.94	5.39	-8.1	-3.34	0.0	-452.0
4.30	42	1.26	2.99	-8.1	-1.38	0.0	-452.0
4.35	50	1.12	2.23	-10.8	-1.55	0.0	-451.8
4.40	68	0.63	0.92	-11.0	-1.16	0.0	-451.8
4.45	69	0.82	1.19	-9.4	-0.98	0.0	-452.0
4.50	69	1.08	1.56	-3.1	-0.31	0.0	-451.3

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DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
4.55	55	0.95	1.73	-6.6	-0.86	0.0	-452.3
4.60	31	0.53	1.69	-7.7	-1.77	0.0	-451.7
4.65	16	0.21	1.28	-6.8	-2.97	0.0	-452.0
4.70	13	0.18	1.41	-6.6	-3.65	0.0	-451.8
4.75	14	0.21	1.53	-6.6	-3.43	0.0	-451.7
4.80	13	0.24	1.84	-6.7	-3.75	0.0	-451.8
4.85	14	0.39	2.71	-6.5	-3.28	0.0	-452.0
4.90	22	0.62	2.84	-6.4	-2.09	0.0	-451.8
4.95	50	0.82	1.64	-6.3	-0.90	0.0	-452.0
5.00	80	1.36	1.70	-6.2	-0.55	0.0	-451.7
5.05	88	1.74	1.97	-6.3	-0.51	0.0	-452.0
5.10	79	1.48	1.88	-6.3	-0.57	0.0	-451.7
5.15	48	1.01	2.10	-6.5	-0.97	0.0	-451.3
5.20	25	0.38	1.54	-6.8	-1.99	0.0	-451.7
5.25	15	0.14	0.94	-6.5	-3.19	0.0	-451.7
5.30	12	0.10	0.83	-6.5	-3.94	0.0	-451.7
5.35	11	0.11	0.94	-6.5	-4.13	0.0	-451.5
5.40	14	0.31	2.16	-6.5	-3.27	0.0	-451.7
5.45	20	0.62	3.14	-6.5	-2.38	0.0	-451.7
5.50	21	0.94	4.44	-6.4	-2.16	0.0	-451.5
5.55	18	1.04	5.88	-6.3	-2.54	0.0	-451.8
5.60	19	0.95	5.00	-6.3	-2.37	0.0	-451.7
5.65	21	0.90	4.25	-6.1	-2.06	0.0	-451.7
5.70	25	0.91	3.69	-6.3	-1.83	0.0	-452.0
5.75	22	0.86	3.85	-6.2	-2.00	0.0	-451.8
5.80	23	0.79	3.40	-6.3	-1.94	0.0	-451.5
5.85	22	0.73	3.25	-6.2	-1.98	0.0	-451.8
5.90	24	0.71	2.97	-6.2	-1.86	0.0	-451.7
5.95	26	0.71	2.74	-6.2	-1.70	0.0	-451.5
6.00	28	0.73	2.55	-6.2	-1.56	0.0	-451.5
6.05	31	0.77	2.50	-6.1	-1.42	0.0	-451.7
6.10	31	0.76	2.48	-6.0	-1.42	0.0	-451.8
6.15	30	0.78	2.62	-6.0	-1.45	0.0	-452.0
6.20	30	0.74	2.46	-6.0	-1.44	0.0	-451.5
6.25	27	0.77	2.83	-5.9	-1.54	0.0	-452.1
6.30	30	0.94	3.09	-5.9	-1.39	0.0	-451.7
6.35	28	1.03	3.65	-5.7	-1.45	0.0	-451.8
6.40	28	0.86	3.11	-5.9	-1.52	0.0	-451.7
6.45	26	0.80	3.10	-5.8	-1.61	0.0	-452.0
6.50	28	0.61	2.18	-5.8	-1.49	0.0	-451.3
6.55	25	0.79	3.14	-5.7	-1.63	0.0	-451.8
6.60	51	0.65	1.27	-5.8	-0.82	0.0	-451.5
6.65	54	0.43	0.79	-6.0	-0.79	0.0	-451.7
6.70	36	0.62	1.71	-5.7	-1.13	0.0	-451.7
6.75	36	0.68	1.91	-5.7	-1.14	0.0	-451.7
6.80	34	1.26	3.76	-5.6	-1.19	0.0	-451.7
6.85	94	1.99	2.11	-5.5	-0.41	0.0	-451.7
6.90	123	3.11	2.52	-6.1	-0.35	0.0	-451.7
6.95	143	3.00	2.10	-6.0	-0.30	0.0	-452.0
7.00	81	2.49	3.05	-5.9	-0.52	0.0	-452.0

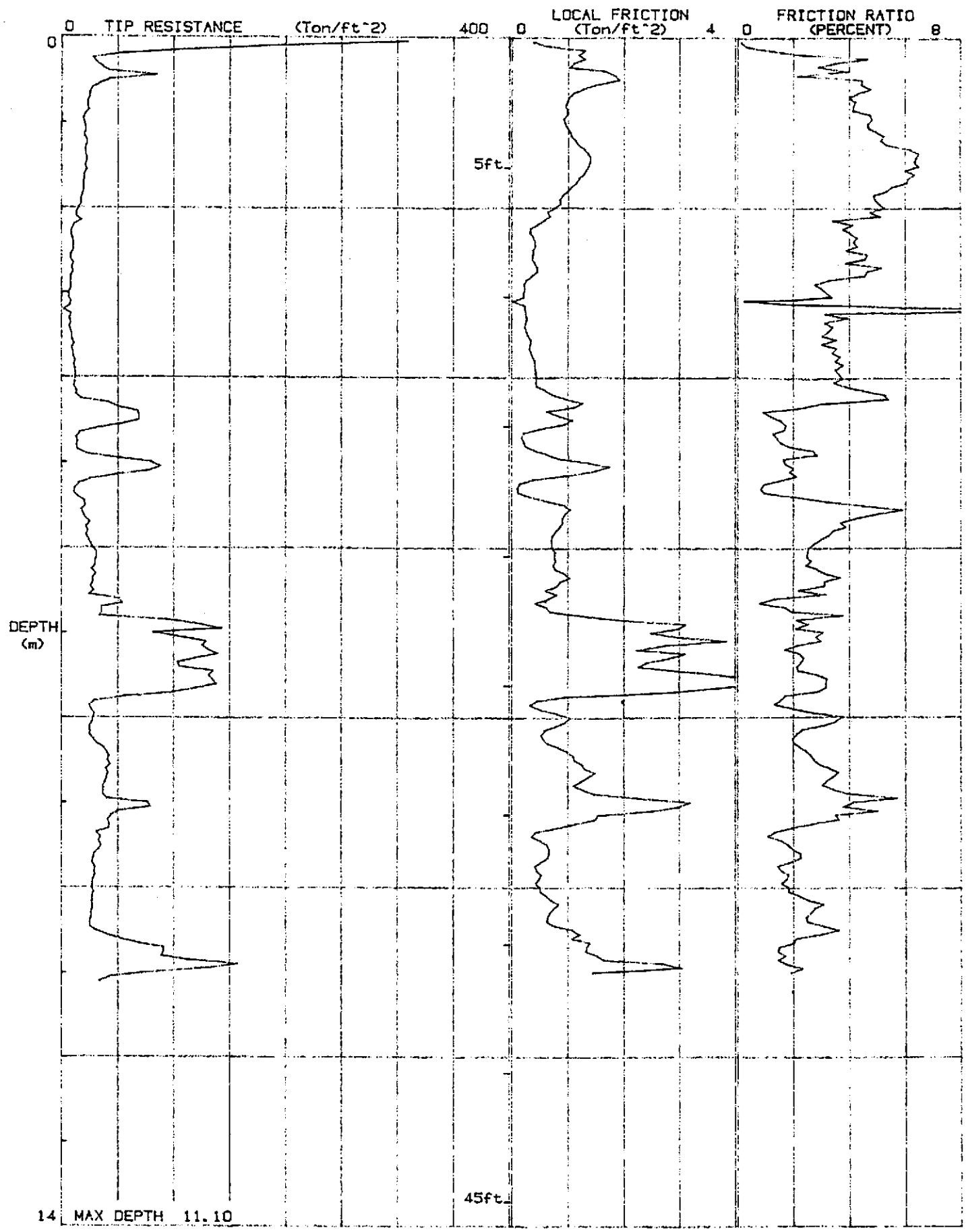
29 : CPT-05 : 02/26/91 9:45

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
7.05	105	2.96	2.81	-5.4	-0.36	0.0	-451.8
7.10	129	3.84	2.97	-6.4	-0.35	0.0	-451.7
7.15	126	2.73	2.16	-6.5	-0.37	0.0	-451.5
7.20	131	2.23	1.70	-6.3	-0.34	0.0	-451.5
7.25	139	3.10	2.22	-7.0	-0.36	0.0	-451.7
7.30	120	2.82	2.35	-10.0	-0.59	0.0	-451.5
7.35	104	2.40	2.29	-10.5	-0.72	0.0	-451.5
7.40	105	2.26	2.14	-10.3	-0.70	0.0	-452.0
7.45	135	2.92	2.16	-10.3	-0.55	0.0	-451.8
7.50	132	3.73	2.83	-10.3	-0.56	0.0	-451.8
7.55	135	4.30	3.18	-10.4	-0.55	0.0	-451.8
7.60	138	4.38	3.16	-10.6	-0.55	0.0	-451.3
7.65	120	3.79	3.16	-10.6	-0.63	0.0	-451.5
7.70	100	2.93	2.91	-10.6	-0.75	0.0	-451.7
7.75	55	0.94	1.71	-10.7	-1.40	0.0	-451.3
7.80	29	0.44	1.55	-10.6	-2.67	0.0	-451.8
7.85	25	0.33	1.33	-10.8	-3.12	0.0	-451.8
7.90	26	0.50	1.94	-10.7	-2.95	0.0	-452.0
7.95	29	0.79	2.66	-10.8	-2.63	0.0	-451.7
8.00	28	1.03	3.72	-10.6	-2.76	0.0	-452.0
8.05	27	0.96	3.54	-10.7	-2.82	0.0	-451.7
8.10	25	0.79	3.16	-10.7	-3.05	0.0	-452.0
8.15	25	0.59	2.33	-10.7	-3.04	0.0	-451.5
8.20	25	0.53	2.13	-10.7	-3.13	0.0	-452.0
8.25	28	0.56	1.98	-10.7	-2.74	0.0	-451.7
8.30	31	0.63	2.01	-10.7	-2.45	0.0	-451.7
8.35	37	0.82	2.21	-10.8	-2.08	0.0	-451.5
8.40	40	0.99	2.45	-10.6	-1.89	0.0	-451.8
8.45	42	1.09	2.61	-10.6	-1.82	0.0	-452.0
8.50	41	1.12	2.72	-10.6	-1.86	0.0	-452.0
8.55	43	1.25	2.88	-10.7	-1.77	0.0	-451.3
8.60	40	1.30	3.27	-10.5	-1.90	0.0	-452.0
8.65	41	1.48	3.59	-10.7	-1.86	0.0	-451.7
8.70	40	1.37	3.42	-10.5	-1.88	0.0	-452.0
8.75	39	1.24	3.19	-10.6	-1.96	0.0	-451.8
8.80	37	1.11	3.04	-10.6	-2.08	0.0	-451.8
8.85	37	1.27	3.42	-10.6	-2.06	0.0	-451.3
8.90	37	1.46	3.97	-10.6	-2.07	0.0	-452.0
8.95	40	2.26	5.70	-10.7	-1.93	0.0	-451.7
9.00	77	3.19	4.13	-10.6	-0.99	0.0	-451.7
9.05	79	2.99	3.78	-10.8	-0.98	0.0	-452.0
9.10	50	2.50	5.00	-10.5	-1.50	0.0	-451.7
9.15	44	1.53	3.50	-10.5	-1.73	0.0	-452.0
9.20	41	1.48	3.60	-10.7	-1.87	0.0	-451.8
9.25	42	1.14	2.72	-10.5	-1.80	0.0	-451.7
9.30	42	0.81	1.94	-10.5	-1.80	0.0	-452.1
9.35	31	0.42	1.33	-10.6	-2.45	0.0	-451.5
9.40	34	0.36	1.07	-10.6	-2.24	0.0	-451.5
9.45	33	0.51	1.56	-10.5	-2.31	0.0	-452.1
9.50	35	0.63	1.80	-10.5	-2.15	0.0	-451.7

29 : CPT-05 : 02/26/91 9:45

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
9.55	33	0.66	1.98	-10.6	-2.30	0.0	-451.3
9.60	29	0.66	2.25	-10.5	-2.58	0.0	-451.8
9.65	28	0.64	2.27	-10.5	-2.69	0.0	-452.0
9.70	27	0.53	1.92	-10.5	-2.78	0.0	-452.1
9.75	29	0.42	1.44	-10.5	-2.61	0.0	-451.5
9.80	29	0.44	1.55	-10.4	-2.60	0.0	-451.8
9.85	29	0.52	1.81	-10.3	-2.58	0.0	-451.8
9.90	28	0.49	1.77	-10.4	-2.68	0.0	-452.0
9.95	27	0.43	1.58	-10.3	-2.71	0.0	-451.8
10.00	27	0.50	1.83	-10.4	-2.71	0.0	-451.8
10.05	28	0.51	1.82	-10.4	-2.68	0.0	-451.7
10.10	27	0.61	2.21	-10.5	-2.73	0.0	-451.3
10.15	27	0.70	2.54	-10.4	-2.74	0.0	-451.8
10.20	27	0.83	3.07	-10.3	-2.75	0.0	-451.8
10.25	27	0.75	2.76	-10.5	-2.77	0.0	-451.7
10.30	26	0.68	2.62	-10.5	-2.92	0.0	-451.5
10.35	26	0.64	2.46	-10.4	-2.88	0.0	-451.5
10.40	25	0.63	2.49	-10.4	-2.95	0.0	-452.0
10.45	25	0.75	3.05	-10.4	-3.01	0.0	-451.8
10.50	30	1.09	3.60	-10.3	-2.43	0.0	-451.5
10.55	40	1.21	3.00	-10.1	-1.81	0.0	-451.7
10.60	52	1.08	2.09	-10.2	-1.41	0.0	-451.7
10.65	69	1.39	2.01	-10.1	-1.04	0.0	-452.1
10.70	91	1.34	1.48	-10.0	-0.79	0.0	-451.8
10.75	91	1.33	1.46	-10.1	-0.79	0.0	-451.8
10.80	89	1.52	1.70	-9.9	-0.80	0.0	-452.0
10.85	112	1.64	1.46	-9.9	-0.63	0.0	-452.0
10.90	157	2.73	1.74	-9.9	-0.45	0.0	-451.5
10.95	130	3.04	2.33	-10.1	-0.55	0.0	-451.3
11.00	75	1.44	1.93	-10.0	-0.96	0.0	-451.5
11.05	43	?0000000000000000??	0000000000000000?	-9.9	-1.67	0.0	-451.8
11.10	34	?0000000000000000??	0000000000000000?	-9.9	-2.07	0.0	-451.8

WRITE # RODS USED ___


JOB # : 82580
DATE : 02/26/91 9:45
LOCATION : CPT-05
FILE : 29
0 TIP RESISTANCE (Ton/ft^2) 400
LOCAL FRICTION (Ton/ft^2) 0 4
FRICTION RATIO (PERCENT) 0 8
0
5ft
DEPTH (m)
45ft
14 MAX DEPTH 11.10


JOB # : 82580
DATE : 02/26/91 9:45
LOCATION : CPT-05
FILE : 29
0 TIP RESISTANCE (Ton/ft^2) 400
PORE PRESSURE (PSI GAUGE)
-80 180
DIFF P P RATIO (PERCENT)
-4 12
0
5ft
DEPTH (m)
45ft
14 MAX DEPTH 11.10

SOUNDING DATA IN FILE 30 02/26/91 10:20

ENGINEER : AMERICAN ENVIRON LOCATION : CPT-06

CONE ID : 339 JOB # : 82580

Tonto Drilling Services Inc.

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
0.05	535	0.66	0.12	0.1	0.00	-0.0	-451.3
0.10	227	0.81	0.35	-0.0	-0.00	-0.0	-451.5
0.15	140	0.75	0.53	0.0	0.0	-0.0	-451.8
0.20	112	1.31	1.16	0.0	0.00	-0.0	-451.3
0.25	111	1.35	1.20	0.0	0.00	-0.0	-451.3
0.30	64	1.56	2.45	0.1	0.01	-0.0	-451.3
0.35	34	1.14	3.38	0.1	0.01	-0.0	-451.8
0.40	19	1.01	5.35	0.1	0.05	-0.0	-451.2
0.45	18	0.74	4.10	0.2	0.06	-0.0	-451.3
0.50	17	0.72	4.13	0.2	0.09	-0.0	-451.7
0.55	20	0.81	4.02	0.3	0.10	-0.0	-451.8
0.60	27	0.87	3.24	0.7	0.17	-0.0	-451.7
0.65	29	1.01	3.50	1.0	0.25	-0.0	-451.8
0.70	28	1.12	3.96	1.0	0.25	-0.0	-452.3
0.75	29	1.17	4.11	0.9	0.21	-0.0	-452.1
0.80	26	1.15	4.47	-2.6	-0.72	-0.0	-452.0
0.85	24	1.04	4.37	-2.9	-0.86	-0.0	-452.3
0.90	21	1.01	4.70	-2.9	-0.97	-0.0	-452.1
0.95	20	1.03	5.24	-2.7	-0.98	-0.0	-451.8
1.00	19	1.01	5.22	-2.6	-0.96	-0.0	-451.7
1.05	18	0.92	5.22	-2.5	-1.02	-0.0	-451.7
1.10	19	0.92	4.78	-2.6	-0.98	-0.0	-451.8
1.15	18	1.06	5.75	-2.5	-0.97	-0.0	-451.7
1.20	20	1.19	6.06	-2.3	-0.83	-0.0	-452.0
1.25	22	1.31	5.95	-2.4	-0.79	-0.0	-451.3
1.30	20	1.34	6.72	-2.3	-0.83	-0.0	-451.8
1.35	19	1.26	6.77	-2.2	-0.83	-0.0	-451.7
1.40	21	1.24	5.86	-2.4	-0.81	-0.0	-451.3
1.45	21	1.28	6.11	-2.2	-0.74	-0.0	-451.7
1.50	22	1.29	5.93	-2.4	-0.77	-0.0	-451.7
1.55	23	1.23	5.38	-2.3	-0.72	-0.0	-451.2
1.60	20	1.16	5.70	-2.3	-0.81	-0.0	-451.8
1.65	19	1.09	5.82	-2.3	-0.86	-0.0	-451.8
1.70	19	0.94	5.03	-2.3	-0.87	-0.0	-451.2
1.75	16	0.82	5.06	-1.9	-0.86	-0.0	-451.7
1.80	18	0.77	4.32	-1.8	-0.72	-0.0	-451.5
1.85	19	0.85	4.56	-1.7	-0.65	-0.0	-451.7
1.90	21	0.93	4.50	-1.8	-0.63	-0.0	-451.2
1.95	20	0.99	4.95	-1.7	-0.62	-0.0	-451.7
2.00	22	0.89	3.99	-1.7	-0.54	-0.0	-451.8

30 : CPT-06 : 02/26/91 10:20

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
2.05	20	0.76	3.78	-1.2	-0.43	-0.0	-451.7
2.10	17	0.71	4.07	-1.0	-0.40	-0.0	-451.8
2.15	17	0.74	4.41	-0.9	-0.36	-0.0	-451.2
2.20	16	0.63	4.04	-0.8	-0.38	-0.0	-451.2
2.25	14	0.62	4.34	-0.7	-0.36	-0.0	-451.3
2.30	14	0.67	4.81	-0.9	-0.43	-0.0	-451.8
2.35	14	0.62	4.50	-0.7	-0.38	-0.0	-451.3
2.40	12	0.56	4.58	-0.5	-0.30	-0.0	-451.8
2.45	12	0.61	4.96	-0.5	-0.28	-0.0	-451.3
2.50	12	0.63	5.01	-0.5	-0.28	-0.0	-451.5
2.55	13	0.63	4.74	-0.5	-0.26	-0.0	-451.3
2.60	12	0.56	4.54	-0.3	-0.15	-0.0	-451.8
2.65	24	0.49	1.99	-0.1	-0.02	-0.0	-451.3
2.70	36	0.57	1.60	-0.1	-0.02	-0.0	-451.3
2.75	30	0.47	1.55	0.1	0.01	-0.0	-451.3
2.80	27	0.49	1.81	-0.1	-0.02	-0.0	-451.8
2.85	19	0.44	2.34	-0.0	-0.00	-0.0	-451.3
2.90	11	0.35	3.27	-0.3	-0.20	-0.0	-451.7
2.95	9	0.28	3.31	0.4	0.29	-0.0	-451.8
3.00	9	0.30	3.39	0.4	0.29	-0.0	-451.7
3.05	8	0.32	4.03	0.5	0.41	-0.0	-451.7
3.10	9	0.34	3.92	0.3	0.26	-0.0	-451.5
3.15	10	0.34	3.33	0.4	0.29	-0.0	-451.3
3.20	9	0.38	4.09	0.6	0.41	-0.0	-451.8
3.25	11	0.37	3.52	0.6	0.39	-0.0	-451.3
3.30	10	0.39	3.95	0.9	0.63	-0.0	-451.8
3.35	11	0.41	3.70	0.9	0.58	-0.0	-451.5
3.40	9	0.40	4.42	1.0	0.78	-0.0	-452.0
3.45	9	0.37	4.28	1.0	0.83	-0.0	-451.8
3.50	9	0.39	4.20	0.9	0.73	-0.0	-451.8
3.55	9	0.35	3.68	1.1	0.78	-0.0	-451.5
3.60	9	0.37	4.23	1.2	0.97	-0.0	-451.8
3.65	10	0.48	4.65	1.3	0.94	-0.0	-452.0
3.70	12	0.52	4.38	1.0	0.62	-0.0	-451.5
3.75	11	0.54	4.87	1.1	0.72	-0.0	-452.0
3.80	11	0.50	4.53	1.2	0.78	-0.0	-451.7
3.85	10	0.46	4.65	1.2	0.85	-0.0	-451.8
3.90	10	0.43	4.29	1.3	0.90	-0.0	-451.8
3.95	11	0.41	3.60	1.2	0.78	-0.0	-451.3
4.00	11	0.42	3.68	1.2	0.77	-0.0	-451.2
4.05	11	0.38	3.32	1.3	0.79	-0.0	-451.5
4.10	10	0.33	3.31	1.3	0.95	-0.0	-451.8
4.15	11	0.29	2.65	1.4	0.92	-0.0	-451.8
4.20	10	0.23	2.23	1.8	1.26	-0.0	-451.7
4.25	11	0.23	2.16	1.8	1.22	-0.0	-451.8
4.30	13	0.31	2.42	2.0	1.11	-0.0	-452.0
4.35	17	0.28	1.60	2.2	0.89	-0.0	-451.5
4.40	14	0.23	1.66	2.1	1.08	-0.0	-451.2
4.45	13	0.84	6.36	2.2	1.18	-0.0	-451.5
4.50	50	1.34	2.71	-1.6	-0.23	-0.0	-451.3

30 : CPT-06 : 02/26/91 10:20

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
4.55	52	1.71	3.28	-11.5	-1.58	-0.0	-451.5
4.60	57	1.62	2.84	-12.0	-1.51	-0.0	-451.7
4.65	38	0.94	2.49	-12.3	-2.35	-0.0	-451.7
4.70	17	0.46	2.66	-12.6	-5.20	-0.0	-451.3
4.75	14	0.28	2.04	-12.6	-6.58	-0.0	-451.3
4.80	13	0.30	2.23	-12.4	-6.72	-0.0	-451.3
4.85	14	0.33	2.40	-12.4	-6.52	-0.0	-451.5
4.90	13	0.32	2.37	-12.3	-6.65	-0.0	-451.2
4.95	12	0.32	2.61	-12.2	-7.17	-0.0	-451.8
5.00	15	0.24	1.59	-12.1	-5.77	-0.0	-451.5
5.05	18	0.48	2.57	-12.2	-4.76	-0.0	-451.5
5.10	34	0.50	1.47	-12.0	-2.55	-0.0	-451.7
5.15	88	1.25	1.41	-12.0	-0.97	-0.0	-452.0
5.20	101	2.00	1.97	-12.0	-0.85	-0.0	-451.8
5.25	59	1.14	1.93	-12.0	-1.46	-0.0	-451.5
5.30	33	0.33	1.01	-11.9	-2.61	-0.0	-451.2
5.35	29	0.15	0.50	-11.8	-2.94	-0.0	-451.2
5.40	21	0.12	0.54	-11.9	-3.99	-0.0	-451.7
5.45	18	0.07	0.39	-11.7	-4.78	-0.0	-452.0
5.50	16	0.12	0.78	-11.8	-5.37	-0.0	-451.3
5.55	15	0.25	1.65	-11.7	-5.62	-0.0	-451.8
5.60	20	0.79	3.99	-11.7	-4.25	-0.0	-451.3
5.65	52	1.45	2.77	-11.7	-1.60	-0.0	-451.7
5.70	59	2.13	3.58	-11.9	-1.44	-0.0	-451.5
5.75	74	2.19	2.95	-11.9	-1.15	-0.0	-452.0
5.80	85	1.75	2.06	-12.1	-1.02	-0.0	-451.5
5.85	85	2.08	2.45	-12.1	-1.02	-0.0	-451.7
5.90	131	3.30	2.50	-12.2	-0.66	-0.0	-451.3
5.95	120	3.75	3.13	-12.4	-0.74	-0.0	-451.3
6.00	90	3.71	4.10	-12.3	-0.97	-0.0	-451.2
6.05	104	3.16	3.03	-12.3	-0.84	-0.0	-451.7
6.10	160	1.98	1.23	-12.0	-0.54	-0.0	-451.7
6.15	213	4.23	1.98	-12.2	-0.41	-0.0	-451.5
6.20	135	4.71	3.49	-12.5	-0.66	-0.0	-451.8
6.25	59	3.96	6.75	-12.6	-1.54	-0.0	-451.3
6.30	34	2.57	7.54	-12.8	-2.69	-0.0	-451.5
6.35	26	2.69	10.20	-12.8	-3.50	-0.0	-451.3
6.40	139	3.26	2.34	-12.9	-0.66	0.0	-451.5
6.45	368	6.46	1.75	-12.8	-0.25	0.0	-451.7
6.50	320	7.25	2.26	-12.8	-0.28	0.1	-451.5
6.55	218	7.37	3.38	-12.6	-0.41	0.1	-451.7
6.60	215	7.57	3.51	-12.5	-0.41	0.1	-451.7
6.65	165	6.54	3.96	-12.5	-0.54	0.1	-451.3
6.70	171	5.94	3.46	-12.4	-0.51	0.2	-451.2
6.75	146	4.25	2.91	-12.4	-0.61	0.2	-451.3
6.80	164	4.75	2.90	-12.4	-0.54	0.2	-451.2
6.85	121	4.99	4.12	-12.6	-0.74	0.2	-451.2
6.90	144	6.25	4.34	-12.3	-0.61	0.2	-451.8
6.95	160	6.03	3.77	-12.3	-0.55	0.3	-451.3
7.00	135	6.28	4.66	-12.4	-0.66	0.3	-451.8

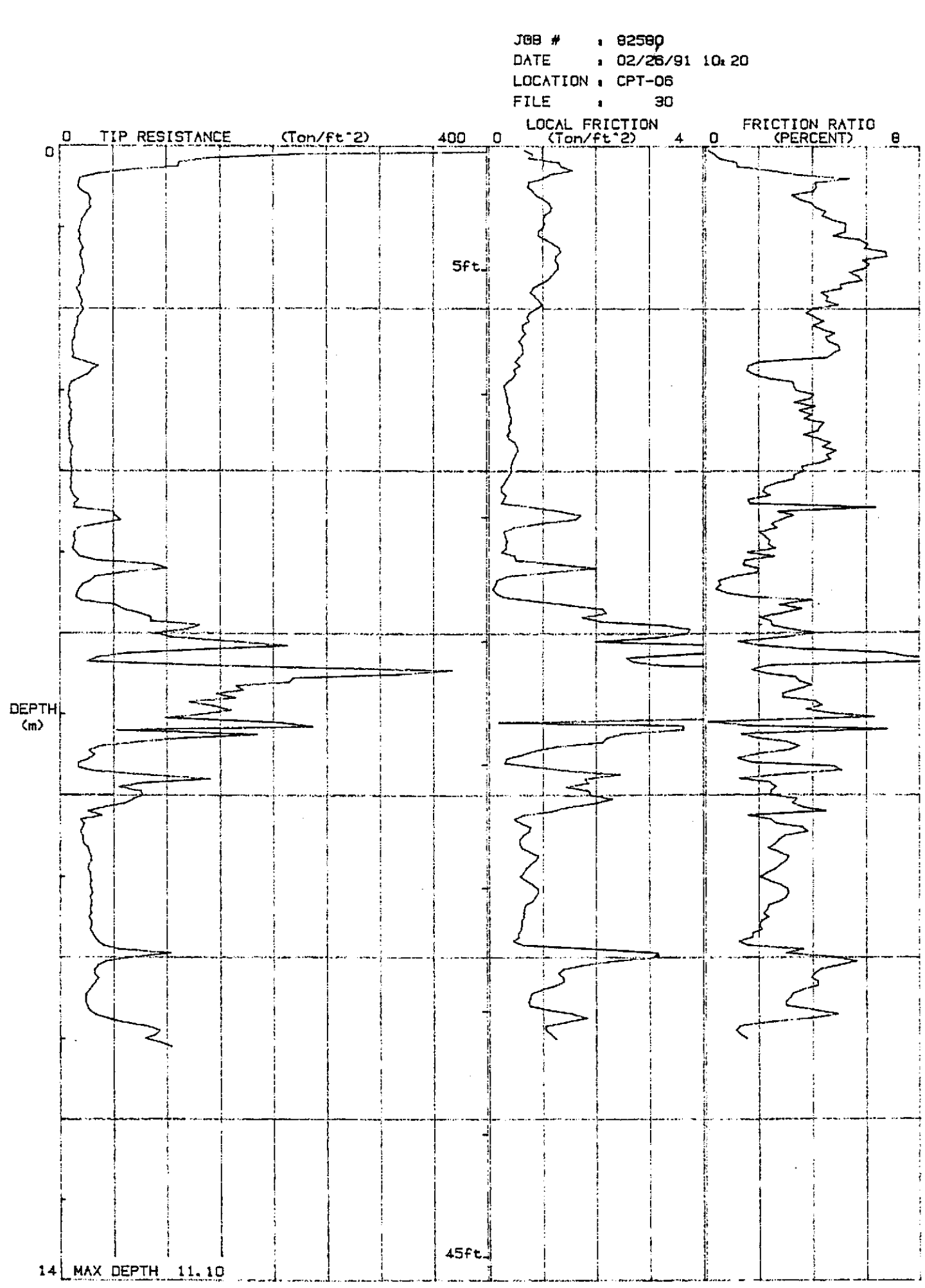
30 : CPT-06 : 02/26/91 10:20

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
7.05	99	6.22	6.28	-12.3	-0.89	0.3	-451.7
7.10	205	0.18	0.08	-12.4	-0.43	0.3	-451.7
7.15	237	3.63	1.53	-12.5	-0.37	0.3	-451.7
7.20	53	3.63	6.79	-12.8	-1.71	0.3	-451.2
7.25	185	2.47	1.33	-12.5	-0.48	0.3	-451.7
7.30	116	2.19	1.88	-12.6	-0.78	0.3	-451.5
7.35	70	2.12	3.03	-12.7	-1.30	0.3	-451.7
7.40	36	1.27	3.50	-12.8	-2.53	0.3	-451.3
7.45	27	0.87	3.16	-12.7	-3.33	0.3	-452.0
7.50	32	0.63	1.94	-12.8	-2.83	0.3	-451.5
7.55	27	0.33	1.20	-12.8	-3.40	0.3	-452.1
7.60	17	0.29	1.72	-12.8	-5.56	0.3	-452.3
7.65	17	0.82	4.82	-12.8	-5.43	0.3	-451.8
7.70	30	1.50	5.06	-13.0	-3.14	0.3	-451.8
7.75	82	2.45	3.00	-13.0	-1.14	0.4	-451.8
7.80	140	1.80	1.28	-12.8	-0.65	0.3	-451.7
7.85	76	1.85	2.43	-12.9	-1.21	0.3	-451.8
7.90	55	1.44	2.62	-12.8	-1.68	0.3	-452.0
7.95	76	1.87	2.46	-12.9	-1.22	0.3	-451.8
8.00	77	1.89	2.43	-12.8	-1.18	0.3	-451.8
8.05	68	2.30	3.40	-12.9	-1.37	0.3	-451.5
8.10	61	2.00	3.26	-12.9	-1.51	0.3	-451.7
8.15	41	1.47	3.59	-12.8	-2.25	0.4	-451.3
8.20	26	1.18	4.48	-12.8	-3.50	0.4	-451.7
8.25	39	0.63	1.58	-13.1	-2.38	0.4	-452.4
8.30	19	0.47	2.44	-12.8	-4.77	0.4	-452.0
8.35	22	0.59	2.64	-13.1	-4.23	0.4	-451.7
8.40	21	0.76	3.63	-13.0	-4.46	0.4	-452.3
8.45	19	0.74	3.80	-12.9	-4.77	0.4	-452.6
8.50	21	0.63	2.96	-13.1	-4.43	0.4	-451.8
8.55	21	0.57	2.75	-13.0	-4.50	0.4	-452.3
8.60	22	0.57	2.60	-12.9	-4.28	0.4	-452.0
8.65	26	0.60	2.35	-13.0	-3.65	0.4	-451.3
8.70	27	0.74	2.74	-13.0	-3.48	0.4	-452.1
8.75	29	0.91	3.09	-13.0	-3.18	0.4	-451.7
8.80	29	0.87	3.03	-13.1	-3.29	0.4	-451.5
8.85	27	0.77	2.81	-13.0	-3.44	0.4	-451.7
8.90	26	0.69	2.63	-13.0	-3.56	0.4	-452.1
8.95	28	0.64	2.31	-13.0	-3.37	0.4	-451.8
9.00	28	0.58	2.05	-13.0	-3.29	0.4	-451.8
9.05	29	0.68	2.37	-13.0	-3.24	0.5	-451.7
9.10	28	0.80	2.81	-12.9	-3.27	0.5	-451.5
9.15	29	0.90	3.06	-13.1	-3.21	0.5	-451.5
9.20	30	0.91	3.09	-13.1	-3.17	0.5	-451.7
9.25	28	0.86	3.01	-12.8	-3.24	0.5	-451.5
9.30	29	0.81	2.80	-13.0	-3.23	0.5	-451.5
9.35	29	0.68	2.36	-12.8	-3.21	0.5	-451.5
9.40	28	0.65	2.31	-12.9	-3.32	0.5	-451.5
9.45	29	0.64	2.18	-13.0	-3.18	0.5	-451.3
9.50	27	0.64	2.34	-12.8	-3.36	0.5	-451.7

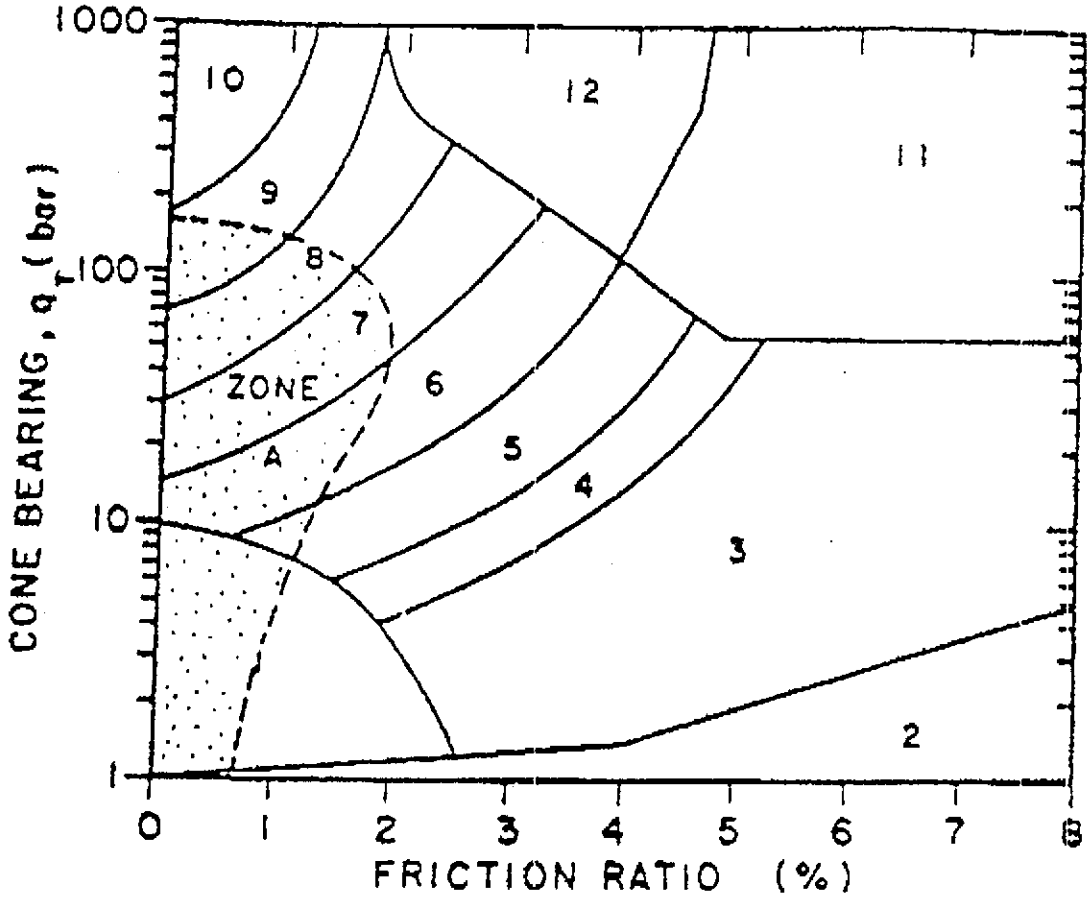
30 : CPT-06 : 02/26/91 10:20

DEPTH (METERS)	TIP RESISTANCE (Ton/ft^2)	LOCAL FRICTION (Ton/ft^2)	FRICTION RATIO (PERCENT)	PORE PRESSURE (PSI GAUGE)	DIFF P P RATIO (PERCENT)	INCLINATION (DEGREES)	TEMPERATURE (DEF F)
9.55	29	0.60	2.09	-13.0	-3.24	0.5	-451.8
9.60	29	0.60	2.03	-12.9	-3.17	0.5	-451.3
9.65	28	0.59	2.10	-12.8	-3.28	0.5	-451.7
9.70	30	0.54	1.76	-12.8	-3.03	0.5	-451.5
9.75	32	0.55	1.74	-12.9	-2.92	0.5	-451.3
9.80	35	0.45	1.25	-12.9	-2.60	0.5	-451.8
9.85	40	0.61	1.54	-12.9	-2.32	0.5	-451.7
9.90	54	1.98	3.64	-12.8	-1.68	0.5	-451.3
9.95	104	3.16	3.02	-12.9	-0.88	0.5	-451.2
10.00	66	3.17	4.80	-12.9	-1.40	0.5	-451.5
10.05	42	2.36	5.63	-12.7	-2.17	0.5	-451.3
10.10	35	1.75	4.98	-12.7	-2.61	0.5	-451.7
10.15	32	1.38	4.28	-12.7	-2.82	0.5	-451.7
10.20	32	1.29	4.07	-12.7	-2.87	0.5	-451.8
10.25	35	1.37	3.95	-12.8	-2.64	0.5	-451.3
10.30	33	1.39	4.18	-12.7	-2.75	0.5	-451.2
10.35	30	1.24	4.18	-12.7	-3.08	0.5	-451.7
10.40	27	0.98	3.63	-12.8	-3.39	0.5	-451.3
10.45	24	0.78	3.24	-12.7	-3.78	0.5	-451.2
10.50	24	0.76	3.16	-12.7	-3.78	0.5	-451.7
10.55	24	0.73	2.99	-12.7	-3.75	0.5	-451.7
10.60	25	0.75	3.03	-12.8	-3.73	0.5	-451.7
10.65	27	1.10	4.00	-12.8	-3.35	0.5	-451.3
10.70	32	1.56	4.94	-12.6	-2.88	0.5	-451.8
10.75	44	1.82	4.09	-12.7	-2.06	0.5	-451.8
10.80	58	1.44	2.48	-12.8	-1.58	0.5	-451.3
10.85	82	1.05	1.28	-12.7	-1.11	0.5	-451.2
10.90	93	1.06	1.13	-12.6	-0.97	0.5	-452.0
10.95	90	1.15	1.27	-12.7	-1.01	0.5	-451.2
11.00	80	1.23	1.52	-12.7	-1.13	0.5	-451.5
11.05	94	?0000000000000000??0000000000000000?		-12.5	-0.95	0.5	-451.3
11.10	104	?0000000000000000??0000000000000000?		-12.5	-0.86	0.5	-451.7

WRITE # RODS USED ___


JOB # : 82580
DATE : 02/26/91 10:20
LOCATION : CPT-06
FILE : 30
0 TIP RESISTANCE (Ton/ft^2) 400
0 LOCAL FRICTION (Ton/ft^2) 4
0 FRICTION RATIO (PERCENT) 8
0
5ft
DEPTH (m)
45ft
14 MAX DEPTH 11.10


JOB # : 82580
DATE : 02/26/91 10:20
LOCATION : CPT-06
FILE : 30
0 TIP RESISTANCE (Ton/ft^2) 400
PORE PRESSURE -60 (PSI GAUGE) 180
DIFF P P RATIO -4 (PERCENT) 12
0
5ft
DEPTH (m)
45ft
14 MAX DEPTH 11.10



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

* overconsolidated or cemented.

Figure 5.8 Soil Classification Chart for Electronic Cone Showing Proposed Zone of Liquefiable Soils (After Robertson, [illegible]

APPENDIX B

SOIL SAMPLING RESULTS

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village Dr., Ste 501
Sacramento, CA 95827
Attn: David Oliver
Project Manager

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Description	Detection Limit ppm	SOIL Total Petroleum Hydrocarbons as Diesel ppm
	Sear Automotive 2633 Telegraph Ave - Oakland Project No.: 82580		
M021004	B-1-1	10	<10
M021005	B-1-2	10	<10
M021006	B-1-3	10	<10
M021007	B-2-1	10	<10
M021008	B-2-2	10	<10

QA/QC: Sample blank is none detected
Duplicate Deviation on M021006 is 4.3%
Spike Recovery on M021004 is 101%

Note: Analysis was performed using EPA method 3550 and TPH LUFT.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village Dr., Ste. 501
Sacramento, CA 95827
Attn: Phillip Walsack
Project Manager

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Description	Detection Limit ppm	SOIL Graivmetric Waste Oil as Petroleum Oil ppm
	Project # 82580 Sears - Oakland 2633 Telegraph Ave.		
M021004	B-1-1	50	100
M021005	B-1-2	50	<50
M021006	B-1-3	50	300
M021007	B-2-1	50	<50
M021008	B-2-2	50	300

QA/QC: Freon Blank is none detected.

Note: Analysis was performed using EPA extraction method 3550 with Trichlorotrifluoroethane as solvent, and gravimetric determination by standard methods 503e

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Lab Director

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82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Sample Description
M021004	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-1-1 SOIL

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	<0.005
Ethylbenzene	0.005	<0.005

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

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82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Sample Description
M021005	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-1-2 SOIL

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	<1.0
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	<0.005
Ethylbenzene	0.005	<0.005

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Sample Description
M021006	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-1-3 SOIL

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	2.1
Benzene	0.005	0.087
Toluene	0.005	0.15
Xylenes	0.005	0.16
Ethylbenzene	0.005	0.038

QA/QC: Sample blank is none detected
Duplicate Deviation is 6.7%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Sample Description
M021007	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-2-1 SOIL

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	2.2
Benzene	0.005	0.10
Toluene	0.005	0.14
Xylenes	0.005	0.12
Ethylbenzene	0.005	0.030

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Sample Description
M021008	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-2-2 SOIL

ANALYSIS

	Detection Limit	Sample Results
	ppm	ppm
Total Petroleum Hydrocarbons as Gasoline	1.0	1.8
Benzene	0.005	<0.005
Toluene	0.005	<0.005
Xylenes	0.005	0.094
Ethylbenzene	0.005	<0.005

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

CHAIN OF CUSTODY

SAMPLER: Phil Wallach (signature)

DATE/TIME OF COLLECTION: _____

TURNAROUND TIME: _____

SAMPLE DESCRIPTION AND PROJECT NUMBER: Sears Oakland 82580

SAMPLE #	ANALYSIS	GRAB OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
E-5	TPH-G BTEX TPH-D O&G; Chem	G	4 VOAs	H2O
B-1-1	O&G TPH-D TPH-G BTEX	G	1" tube	S
B-1-2	O&G TPH-D TPH-G BTEX	G	"	S
B-1-3	O&G TPH-D TPH-G BTEX	G	"	S
B-2-1	TPH-G BTEX TPH-D O&G	G	"	S
B-2-2	O&G TPH-D	G	Glass Jar	S
~~B-2-3~~	No Sample	-o-	-o-	-o-

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. Phil Wallach	0800 2-27-91		08:15 2-27-91
2.			
3.			
4.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: _____

Phone (916) 782 2110
FAX (916) 786-7830

AEGIS Environmental Consultants, Inc.

Sample Identification/Field Chain of Custody Record

Send results to:
Aegis Environmental
801 Riverside, Suite C
Roseville, CA 95678

American Environmental

Site Address: Sears Oakland

AEGIS Project #:

Shipped By:

Shipped To:

Project Manager Walsh, Phil

For Shell Projects Only

WIC:

AFE:

CT/DL:

Shell Engineer:

Hazardous Materials Suspected? (yes/no)

Sampling Point	Location	Time Field ID#	Date	Sample Type	No. of Containers	Analysis Required
B-1-HP	- " -	0830	2-27-91	H_2O	2 Ambers 2 VOA	TPH-G BTEX TPH-D O&G
B-3-HP	- " -	1130	2-27-91	H_2O	1 Amber 3 VOAs	O&G TPH-D TPH-G BTEX
B-4A-HP	Rem 2/25/90	1600	2-27-91	H_2O	2 Ambers 2 VOAs	O&G TPH-D TPH-G BTEX

Sampler(s) (signature)

Field ID	Relinquished By (signature)	Received By (signature)	Date/Time		Comments
	Phil Walsh 2-27-91		2-27-91	All Day	

Sealed for shipment by: (signature) Date/Time: Shipment Method:

Received for Lab by: (signature) Joyce Dishroon Date/Time: 2-27-91 16:30 Comments:

Receiving Laboratory: Please return original form after signing for receipt of samples.

White/Original Yellow/Lab Copy Pink/File Copy

Phone (916, [illegible]2110
FAX (916) 786-7830

AEGIS Environmental Consultants, Inc.

Sample Identification/Field Chain of Custody Record

Send results to:
Aegis Environmental
801 Riverside, Suite C
Roseville, CA 95678

Site Address: Sears Oakland
AEGIS Project #:
Shipped By:
Shipped To:
Project Manager

For Shell Projects Only
WIC:
AFE:
CT/DL:
Shell Engineer:
Hazardous Materials Suspected? (yes/no)

	Sampling Point	Location	Time ~~Field ID#~~	Date	Sample Type	No. of Containers	Analysis Required
9102[illegible]							
[illegible]12	B-6-HP		0805	2-28-91	H_2O	2 VOAs 2 Amber	TPH-G O&G TPH-D BTEX
[illegible]13	B-7-HP		1000	2-28-91	H_2O	2 VOA 2 Amber	TPHG O&G TPH-D BTEX
[illegible]14	B-8-HP		1100	2-28-91	H_2O	" " " "	" " " " " "

Sampler(s) (signature)

Field ID	Relinquished By (signature)	Received By (signature)	Date/Time		Comments
	[signature]		2-28-91	1300	

Sealed for shipment by: (signature) Date/Time: Shipment Method:
Received for Lab by: (signature) Joyce Dushzeau Date/Time: 2/28/91 1300 Comments:

Receiving Laboratory: Please return original form after signing for receipt of samples.

White/Original Yellow/Lab Copy Pink/File Copy

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

AEMC Lincoln Village
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

05/02/91

Attn : Phil Walsack

Re: *Project :* Sears, Oakland
Project No. : 82580
*Chain of Custody number :*24665,66
Date Samples Received : 03/01/91 *Job No.:* 82580
No. Samples Received : 16 *AELC Lab No. :* L6096A

These samples were received by American Environmental Laboratories in a chilled, intact state, and accompanied by valid chain of custody documentation.

The following analyses were performed on the above referenced project:

No. of Samples	*Analysis*
16	Lead by EPA Method 6010

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

George Hampton

Laboratory Director

3249 Fitzgerald Road • Rancho Cordova, CA 95742 • Fax (916) 638-4510 • (916) 638-7301

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Lead, TTLC, EPA Method 6010

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Digested: 04/25/91
Date Analyzed: 04/27/91
Date Reported: 05/02/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096A
Batch No.: 52387
Matrix: Soil

Sample I.D. Client	AEMC	Concentration (mg/kg)
B-7-1	L6096A-1	ND
B-7-2	L6096A-2	ND
B-7-3	L6096A-3	ND
B-8-1	L6096A-4	ND
B-8-2	L6096A-5	ND
B-8-3	L6096A-6	ND
B-9-1	L6096A-7	ND
B-9-2	L6096A-8	ND
Method Blank	L6096A-MB	ND
Reporting Limit*		5.0

*Unless otherwise indicated within parentheses.
ND = Not Detected at or above indicated Reporting Limit.

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Lead, TTLC, EPA Method 6010

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Digested: 04/25/91
Date Analyzed: 04/27/91
Date Reported: 05/02/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096A
Batch No.: 52387
Matrix: Soil

Element	Spike Conc. (mg/kg)	MS %Rec	MSD %Rec	Duplicate RPD
Pb (Lead)	25	91%	88%	3%

MS = Matrix Spike
MSD = Matrix Spike Duplicate
% Rec = Percent Recovery
RPD = Relative Percent Difference

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Lead, TTLC, EPA Method 6010

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: NA
Date Received: NA
Date Digested: 04/25/91
Date Analyzed: 04/27/91
Date Reported: 05/02/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096A (1-8)

Element	LCS Conc. (mg/L)	LCS %Rec
Pb (Lead)	0.50	109%

LCS = Laboratory Control Standards
% Rec = Percent Recovery
NA = Not Applicable

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Lead, TTLC, EPA Method 6010

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Digested: 04/25/91
Date Analyzed: 04/27/91
Date Reported: 05/02/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096A
Batch No.: 52388
Matrix: Soil

Sample I.D. Client	AEMC	Concentration (mg/kg)
B-9-3	L6096A-9	ND
B-9-4	L6096A-10	ND
B-10-1	L6096A-11	ND
B-10-2	L6096A-12	ND
B-10-3	L6096A-13	ND
B-11-1	L6096A-14	ND
B-11-2	L6096A-15	ND
B-11-32	L6096A-16	ND
Method Blank	L6096A-MB	ND
Reporting Limit*		5.0

*Unless otherwise indicated within parentheses.
ND = Not Detected at or above indicated Reporting Limit.

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Lead, TTLC, EPA Method 6010

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Digested: 04/25/91
Date Analyzed: 04/27/91
Date Reported: 05/02/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096A
Batch No.: 52388
Matrix: Soil

Element	Spike Conc. (mg/kg)	MS %Rec	MSD %Rec	Duplicate RPD
Pb (Lead)	25	92%	101%	9%

MS = Matrix Spike
MSD = Matrix Spike Duplicate
% Rec = Percent Recovery
RPD = Relative Percent Difference

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Lead, TTLC, EPA Method 6010

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: NA
Date Received: NA
Date Digested: 04/25/91
Date Analyzed: 04/27/91
Date Reported: 05/02/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096A (9-16)

Element	LCS Conc. (mg/L)	LCS %Rec
Pb (Lead)	0.50	104%

LCS = Laboratory Control Standards
% Rec = Percent Recovery
NA = Not Applicable

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

AEMC Lincoln Village
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

03/12/91

Attn : Phil Walsack

Re: *Project :* Sears, Oakland
Project No. : 82580
*Chain of Custody number :*24665,66
Date Samples Received : 03/01/91 *Job No.:* 82580
No. Samples Received : 16 *AELC Lab No. :* L6096

These samples were received by American Environmental Laboratories in a chilled, intact state, and accompanied by valid chain of custody documentation.

The following analyses were performed on the above referenced project:

No. of Samples	*Analysis*
16	TPH Volatiles by LUFT Method
16	TPH Extractables by LUFT Method
16	BTEX by LUFT Method
16	EPA 9071 Oil and Grease

Method 8020 surrogate standard recovery data could not be generated for a number of samples due to the presence of significant concentrations of gasoline in these samples.

Method 8020 matrix spike (Toluene) recovery data could not be generated for batch 7033 due to the presence of a significant concentration of toluene in the sample selected for spiking.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

George Hampton

Laboratory Director

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons, EPA Method 8015
Shaker, DOHS Luft Method

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/08/91
Date Analyzed: 03/08/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096

Matrix: Soil

Sample I.D. Client	AEMC	Batch #	TPH as Diesel (mg/kg)
B-7-1	L6096-1	7012	ND
B-7-2	L6096-2	7012	ND
B-7-3	L6096-3	7012	ND
B-8-1	L6096-4	7012	ND
B-8-2	L6096-5	7012	ND
B-8-3	L6096-6	7012	ND
B-9-1	L6096-7	7012	ND
B-9-2	L6096-8	7012	ND
Method Blank	L6096-MB	7012	ND

REPORTING LIMIT* 10

*Unless otherwise indicated in parentheses

ND = Not Detected at or above indicated Reporting Limit.

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons, EPA Method 8015
Shaker, DOHS Luft Method

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/08/91
Date Analyzed: 03/08/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096

Matrix: Soil

Sample I.D. Client	AEMC	Batch #	TPH as Diesel (mg/kg)
B-9-3	L6096-9	7013	ND
B-9-4	L6096-10	7013	ND
B-10-1	L6096-11	7013	ND
B-10-2	L6096-12	7013	ND
B-10-3	L6096-13	7013	ND
B-11-1	L6096-14	7013	ND
B-11-2	L6096-15	7013	ND
B-11-3	L6096-16	7013	ND
Method Blank	L6096-MB	7013	ND

REPORTING LIMIT* 10

*Unless otherwise indicated in parentheses

ND = Not Detected at or above indicated Reporting Limit.

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons, EPA Method 8015
Shaker, DOHS Luft Method

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/08/91
Date Analyzed: 03/08/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7012
Matrix: Soil

Analyte	Spike Conc. (mg/kg)	MBS %Rec	MBSD %Rec	Duplicate RPD
Diesel	100	91%	101%	10%

MBS = Method Blank Spike
MBSD = Method Blank Spike Duplicate
% Rec = Percent Recovery
RPD = Relative Percent Difference

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons, EPA Method 8015
Shaker, DOHS Luft Method

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/08/91
Date Analyzed: 03/08/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7013
Matrix: Soil

Analyte	Spike Conc. (mg/kg)	MBS %Rec	MBSD %Rec	Duplicate RPD
Diesel	100	98%	99%	1%

MBS = Method Blank Spike
MBSD = Method Blank Spike Duplicate
% Rec = Percent Recovery
RPD = Relative Percent Difference

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons, EPA Method 8015
Shaker, DOHS Luft Method

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/08/91
Date Analyzed: 03/08/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096

Analyte	LCS Conc. (mg/L)	LCS %Rec
Diesel	1,000	95%

LCS = Laboratory Control Standards
% Rec = Percent Recovery

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons/BTXE, EPA Method 8015/8020
Purge and Trap, EPA Method 5030

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/04/91 & 03/05/91
Date Analyzed: 03/04/91 & 03/05/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7031, 7033
Matrix: Soil

Sample I.D. Client	AEMC	Batch #	Benzene (ug/kg)	Toluene (ug/kg)	Ethyl-benzene (ug/kg)	Xylenes, total (ug/kg)	TPH as Gasoline (mg/kg)
B-7-1	L6096-1	7031	ND	26	ND	ND	ND
B-7-2	L6096-2	7031	ND	220	ND	ND	ND
B-7-3	L6096-3	7031	ND	110	ND	ND	2.0
B-8-1	L6096-4	7031	ND	50	ND	ND	ND
B-8-2	L6096-5	7031	41	200	170	280	6.3
B-8-3	L6096-6	7031	5.0	130	30	ND	1.4
Method Blank	L6096-MB	7031	ND	ND	ND	ND	ND
B-9-1	L6096-7	7033	ND	39	ND	ND	ND
B-9-2	L6096-8	7033	ND	220	ND	ND	ND
B-9-3	L6096-9	7033	ND	120	ND	ND	ND
B-9-4	L6096-10	7033	ND	75	ND	ND	ND
B-10-1	L6096-11	7033	ND	67	ND	ND	ND
B-10-2	L6096-12	7033	ND	110	ND	ND	ND
B-10-3	L6096-13	7033	ND	210	6.4	ND	1.8
B-11-1	L6096-14	7033	ND	100	ND	ND	ND
B-11-2	L6096-15	7033	ND	120	ND	ND	ND
B-11-3	L6096-16	7033	ND	300	7.6	ND	3.5
Method Blank	L6096-MB	7033	ND	ND	ND	ND	ND
REPORTING LIMIT*			5.0	5.0	5.0	10	1.0

*Unless otherwise indicated in parentheses

ND = Not Detected at or above indicated Reporting Limit.

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons/BTXE, EPA Method 8015/8020
Purge and Trap, EPA Method 5030

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/04/91 & 03/05/91
Date Analyzed: 03/04/91 & 03/05/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7031, 7033
Matrix: Soil

Sample I.D. Client	AEMC	o-Chlorotoluene Conc. (ug/kg)	Surrogate Recovery % Recovery
B-7-1	L6096-1	100	88%
B-7-2	L6096-2	100	77%
B-7-3	L6096-3	100	NR
B-8-1	L6096-4	100	62%
B-8-2	L6096-5	100	NR
B-8-3	L6096-6	100	NR
Method Blank	L6096-MB	100	82%
B-9-1	L6096-7	100	87%
B-9-2	L6096-8	100	79%
B-9-3	L6096-9	100	81%
B-9-4	L6096-10	100	79%
B-10-1	L6096-11	100	72%
B-10-2	L6096-12	100	75%
B-10-3	L6096-13	100	NR
B-11-1	L6096-14	100	81%
B-11-2	L6096-15	100	73%
B-11-3	L6096-16	100	NR
Method Blank	L6096-MB	100	87%

ND = Not Detected at or above indicated Reporting Limit.
NR = Not Reportable; See report cover letter for explanation.

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons/BTXE, EPA Method 8015/8020
Purge and Trap, EPA Method 5030

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/04/91
Date Analyzed: 03/04/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7031
Matrix: Soil

Analyte	Spike Conc. (mg/kg)	MS %Rec	MSD %Rec	Duplicate RPD
Gasoline	4.0	105%	103%	2%

MS = Matrix Spike
MSD = Matrix Spike Duplicate
% Rec = Percent Recovery
RPD = Relative Percent Difference

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons/BTXE, EPA Method 8015/8020
Purge and Trap, EPA Method 5030

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/04/91
Date Analyzed: 03/04/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096

Analyte	LCS Conc. (mg/L)	LCS %Rec
Gasoline	0.8	107%

LCS = Laboratory Control Standards
% REC = Percent Recovery

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons/BTXE, EPA Method 8015/8020
Purge and Trap, EPA Method 5030

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/05/91
Date Analyzed: 03/05/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7033
Matrix: Soil

Surrogate	Spike Conc. (ug/kg)	MS %Rec	MSD %Rec
o-Chlorotoluene	100	106%	100%

Analyte	Spike Conc. (ug/kg)	MS %Rec	MSD %Rec	Duplicate RPD
Benzene	100	93%	82%	13%
Toluene	100	NR	NR	--
Ethylbenzene	100	96%	84%	13%
Xylenes, Total	300	97%	87%	11%

MS = Matrix Spike
MSD = Matrix Spike Duplicate
% REC = Percent Recovery
RPD = Relative Percent Difference

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Petroleum Hydrocarbons/BTXE, EPA Method 8015/8020
Purge and Trap, EPA Method 5030

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/05/91
Date Analyzed: 03/05/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096

Analyte	LCS Conc. (ug/L)	LCS %Rec
Benzene	20	99%
Toluene	20	108%

LCS = Laboratory Control Standards
% REC = Percent Recovery

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Oil & Grease, EPA Method 9071
Shaker, DOHS Luft Method

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/08/91
Date Analyzed: 03/11/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7053, 7054
Matrix: Soil

Sample I.D. Client	AEMC	Total Oil & Grease (mg/kg)
B-7-1	L6096-1	ND
B-7-2	L6096-2	ND
B-7-3	L6096-3	ND
B-8-1	L6096-4	ND
B-8-2	L6096-5	ND
B-8-3	L6096-6	ND
B-9-1	L6096-7	ND
B-9-2	L6096-8	ND
Method Blank	L6096-MB	ND
B-9-3	L6096-9	400
B-9-4	L6096-10	ND
B-10-1	L6096-11	ND
B-10-2	L6096-12	ND
B-10-3	L6096-13	ND
B-11-1	L6096-14	ND
B-11-2	L6096-15	ND
B-11-3	L6096-16	930
Method Blank	L6096-MB	ND
Reporting Limit*		50

* Unless otherwise indicated within parentheses.
ND = Not Detected at or above indicated Reporting Limit.

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Oil & Grease, EPA Method 9071
Shaker, DOHS Luft Method

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/08/91
Date Analyzed: 03/11/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7054
Matrix: Soil

Analyte	Spike Conc. (mg/kg)	MS %Rec	MSD %Rec	Duplicate RPD
Total Oil & Grease	1,160	92%	95%	3%

MS = Matrix Spike
MSD = Matrix Spike Duplicate
% REC = Percent Recovery
RPD = Relative Percent Difference

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CA DOHS ELAP Accreditation/Registration Number 1233

ANALYSIS REPORT: Total Oil & Grease, EPA Method 9071
Shaker, DOHS Luft Method

CLIENT: AEMC
9719 Lincoln Village Dr. #501
Sacramento, CA 95827

Project No.:
Contact: P. Walsack
Phone:

Project: Sears, Oakland

AEMC Contact: G. Hampton

Date Sampled: 02/28/91
Date Received: 03/01/91
Date Extracted: 03/08/91
Date Analyzed: 03/11/91
Date Reported: 03/11/91

Job No.: 82580
COC Log No.: 24665

AEMC I.D.: L6096
Batch No.: 7053
Matrix: Soil

Analyte	Spike Conc. (mg/kg)	MS %Rec	MSD %Rec	Duplicate RPD
Total Oil & Grease	1,540	93%	93%	0%

MS = Matrix Spike
MSD = Matrix Spike Duplicate
% REC = Percent Recovery
RPD = Relative Percent Difference

AMERICAN ENVIRONMENTAL LABORATORIES CORP.

CHAIN OF CUSTODY

L6096
LOG NO. 24665

CLIENT NAME: Sears
ADDRESS: Telegraph Ave

PROJECT NAME: Sears, Oakland
PROJECT MANAGER: Walstack PHONE #:
SAMPLED BY: Walsack
JOB DESCRIPTION:
SITE LOCATION: Oakland

CLIENT JOB NUMBER: 82580

DESTINATION LABORATORY
- [x] AELC 3249 FITZGERALD RD. RANCHO CORDOVA, CA. 95742
- [ ] OTHER

FIELD CONDITIONS: raining
COMPOSITE:
SPECIAL INSTRUCTIONS: Conserve sample

ANALYSIS REQUESTED: 8021 | TPH-D | TPH-G | BTEX

DATE	TIME	SAMPLE IDENTIFICATION	SAMPLE DEPTH	SAMPLE METHOD	SAMPLE TYPE	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	8021	TPH-D	TPH-G	BTEX				24 HOURS	48 HOURS	1 WEEK	2 WEEKS	NOTE / FIELD READINGS
2-28	1245	B-7-1	5→5.5	CPT	Soil	1	tube	3	X	X	X	X							X	
	1300	B-7-2	8→8.5						X	X	X	X							X	
	1310	B-7-3	12→12.5						X	X	X	X							X	
	1210	B-8-1	5→5.5						X	X	X	X							X	
	1220	B-8-2	8→8.5						X	X	X	X							X	
	1230	B-8-3	12-12.5						X	X	X	X							X	
	1330	B-9-1	8→8.5						X	X	X	X							X	
	1345	B-9-2	8→8.5						X	X	X	X							X	
	1355	B-9-3	12→12.5						X	X	X	X							X	
	1405	B-9-4	15→15.5						X	X	X	X							X	
	1425	B-10-1	5→5.5						X	X	X	X							X	
	1440	B-10-2	8→8.5						X	X	X	X							X	

SUSPECTED CONSTITUENTS:
SAMPLE RETENTION TIME:
PRESERVATIVES: (1) HCL (2) HNO_3 (3) COLD (4)

RELINQUISHED BY (SIGN)	PRINT NAME/COMPANY	DATE/TIME	REC'D BY (SIGN)	PRINT NAME/COMPANY
Phil Walsack	American / Walsack	3-1-91 / 1000	Mike Westdal	MIKE WESTDAL/AELC

REC'D AT LAB BY: Mike Westdal
DATE/TIME: 3/1/91 1000
CONDITIONS/COMMENTS: REC'D cold

SHIP[redacted]IA [redacted] ED X[redacted] [redacted] U[redacted] [redacted] [redacted]HER[redacted] [redacted] [redacted] [redacted]RBIL[redacted] [redacted] [redacted] [redacted] [redacted] [redacted]

LAB

AMERICAN
ENVIRONMENTAL LABORATORIES CORP.

CHAIN OF CUSTODY

L6096
LOG NO. 24666

CLIENT NAME: Sears
ADDRESS: Telegraph Ave
PROJECT NAME: Sears, Oakland
PROJECT MANAGER: Walbach — PHONE #:
SAMPLED BY: Walbach
JOB DESCRIPTION: C. Assessment
SITE LOCATION: Oakland

CLIENT JOB NUMBER: 82580

DESTINATION LABORATORY:
- ☐ AELC, 3249 FITZGERALD RD., RANCHO CORDOVA, CA. 95742
- ☐ OTHER

PRESERVATIVES

ANALYSIS REQUESTED: O&G - 1671; TPH-D; TPH-G; BTEX

FIELD CONDITIONS: Raining

COMPOSITE:

SPECIAL INSTRUCTIONS: Conserve sample

TURN AROUND TIME: 24 HOURS; 48 HOURS; 1 WEEK; 2 WEEKS

NOTE / FIELD READINGS

DATE	TIME	SAMPLE IDENTIFICATION	SAMPLE DEPTH	SAMPLE METHOD	SAMPLE TYPE	CONTAINER NO.	CONTAINER TYPE	PRESERVATIVES	O&G - 1671	TPH-D	TPH-G	BTEX	24 HOURS	48 HOURS	1 WEEK	2 WEEKS	NOTE / FIELD READINGS
2-28	1445	B-10-3	12 → 12.5	CPT	Soil	1	Tube	3	X	X	X	X				X	
"	1510	B-11-1	5 → 5.5	"	"	"	"	"	X	X	X	X				X	
"	1515	B-11-2	8 → 8.5	"	"	"	"	"	X	X	X	X				X	
"	1520	B-11-3	12 → 12.5	"	"	"	"	"	X	X	X	X				X	

SUSPECTED CONSTITUENTS

SAMPLE RETENTION TIME

PRESERVATIVES: (1) HCL; (2) HNO_3; ~~(3)~~ COLD; (4)

RELINQUISHED BY (SIGN)	PRINT NAME/COMPANY	DATE/TIME	REC'D BY (SIGN)	PRINT NAME/COMPANY
Phil Walbach	AEWR	3-1-91 / 1000	Mike Westdal	MIKE WESTDAL/AELC

REC'D AT LAB BY: Mike Westdal — DATE/TIME: 3/1/91 [illegible]

CONDITIONS/COMMENTS: REC'D COOL

SHI[illegible]VIA [illegible] FED [illegible] OTHER [illegible] IRBI[illegible]

APPENDIX C

GROUNDWATER SAMPLING RESULTS

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Sample Description
M021003	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. E-5 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	18,000
Benzene	0.5	240
Toluene	0.5	240
Xylenes	0.5	180
Ethylbenzene	0.5	74

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Sample Description
M021009	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-1-HP WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected
Spike Recovery is 92%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Sample Description
M021010	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-3-HP WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

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Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-28-91
Date Received: 02-28-91
Date Reported: 02-28-91

Sample Number	Sample Description
M021011	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-4A-HP WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	180
Benzene	0.5	2.1
Toluene	0.5	0.6
Xylenes	0.5	2.1
Ethylbenzene	0.5	0.5

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

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82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-28-91
Date Received: 02-28-91
Date Reported: 02-28-91

Sample Number	Sample Description
M021012	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-6-HP WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

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82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-28-91
Date Received: 02-28-91
Date Reported: 02-28-91

Sample Number	Sample Description
M021013	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-7-HP WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village, Suite 501
Sacramento, CA 95827
Attn: Philip Walsack
Project Geologist

Date Sampled: 02-28-91
Date Received: 02-28-91
Date Reported: 02-28-91

Sample Number	Sample Description
M021014	Project # 82580 Sears Automotive-Oakland 2633 Telegraph Ave. B-8-HP WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Sample blank is none detected
Spike Recovery is 103%
Duplicate Deviation is 2.9%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppm) = (mg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village Dr., Ste 501
Sacramento, CA 95827
Attn: David Oliver
Project Manager

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sear Automotive
2633 Telegraph Ave - Oakland
Project No.: 82580

Sample Number	Description	Detection Limit ppb	SOIL Total Petroleum Hydrocarbons as Diesel ppb
M021003	E-5	50	<50
M021009	B-1-HP	50	<50
M021010	B-3-HP	50	<50

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA method 3510 and TPH LUFT.
(ppb) = (µg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village Dr., Ste 501
Sacramento, CA 95827
Attn: David Oliver
Project Manager

Date Sampled: 02-28-91
Date Received: 02-28-91
Date Reported: 02-28-91

Sample Number	Description	Detection Limit ppb	SOIL Total Petroleum Hydrocarbons as Diesel ppb
	Sear Automotive 2633 Telegraph Ave - Oakland Project No.: 82580		
M021011	B-4A-HP	50	<50
M021012	B-6-HP	50	<50
M021013	B-7-HP	50	<50
M021014	B-8-HP	50	<50

QA/QC: Sample blank is none detected

Note: Analysis was performed using EPA method 3510 and TPH LUFT.
(ppb) = (µg/kg)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

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Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village Dr., Ste. 501
Sacramento, CA 95827
Attn: Phillip Walsack
Project Manager

Date Sampled: 02-27-91
Date Received: 02-27-91
Date Reported: 02-27-91

Sample Number	Description	Detection Limit ppm	WATER Graivmetric Waste Oil as Petroleum Oil ppm
	Project # 82580 Sears - Oakland 2633 Telegraph Ave.		
M021003	E-5	500	7,000
M021009	B-1-HP	5.0	<5.0
M021010	B-3-HP	5.0	200

QA/QC: Freon Blank is none detected.

Note: Analysis was performed using EPA extraction method 3550 with Trichlorotrifluoroethane as solvent, and gravimetric determination by standard methods 503e

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5021 Blum Road, Suite 3 • Martinez, CA 94553
Phone (415) 372-3700 • Fax (415) 372-6955

82580/011662

American Environmental
9719 Lincoln Village Dr., Ste. 501
Sacramento, CA 95827
Attn: Phillip Walsack
Project Manager

Date Sampled: 02-28-91
Date Received: 02-28-91
Date Reported: 02-28-91

Sample Number	Description	Detection Limit ppm	WATER Graivmetric Waste Oil as Petroleum Oil ppm
	Project # 82580 Sears - Oakland 2633 Telegraph Ave.		
M021011	B-4A-HP	5.0	<5.0
M021012	B-6-HP	5.0	<5.0
M021013	B-7-HP	5.0	<5.0
M021014	B-8-HP	5.0	<5.0

QA/QC: Freon Blank is none detected.
Spike Recovery on M021013 is 94%
Duplicate Deviation on M021013 is 1.05%

Note: Analysis was performed using EPA extraction method 3550 with Trichlorotrifluoroethane as solvent, and gravimetric determination by standard methods 503e

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

1678 Reliez Valley Road
Lafayette, CA 94549 • (415) 945-1266

CHAIN OF CUSTODY

SAMPLER: ~~Phil Wallach~~ (signature)

DATE/TIME OF COLLECTION: _____

TURNAROUND TIME: _____

SAMPLE DESCRIPTION AND PROJECT NUMBER: Sears Oakland 82580

SAMPLE #	ANALYSIS	~~GRAB~~ OR COMP.	NUMBER OF CONTAINERS	SOIL/ WATER
E-5	TPH-G BTEX TPH-D O&G; Chem	G	4 VOAs	H2O
B-1-1	O&G TPH-D TPH-G BTEX	G	1" tube	S
B-1-2	O&G TPH-D TPH-G BTEX	G	"	S
B-1-3	O&G TPH-D TPH-G BTEX	G	"	S
B-2-1	TPH-G BTEX TPH-D O&G	G	"	S
B-2-2	O&G TPH-D	G	Glass Jar	S
~~B-2-3~~	No Sample	-o-	-o-	-o-

RELINQUISHED BY*	TIME/DATE	RECEIVED BY*	TIME/DATE
1. Phil Wallach	0800 2-27-91		08:15 2-27-91
2.			
3.			
4.			

* STATE AFFILIATION NEXT TO SIGNATURE

REMARKS: _____

Phone (916) 782 2110
FAX (916) 786-7830

AEGIS Environmental Consultants, Inc.

Sample Identification/Field Chain of Custody Record

Send results to:
Aegis Environmental
801 Riverside, Suite C
Roseville, CA 95678

American Environmental

Site Address: Sears Oakland

AEGIS Project #:

Shipped By:

Shipped To:

Project Manager Walsh, Phil

For Shell Projects Only

WIC:

AFE:

CT/DL:

Shell Engineer:

Hazardous Materials Suspected? (yes/no)

	Sampling Point	Location	Time Field ID#	Date	Sample Type	No. of Containers	Analysis Required
MW21 009	B-1-HP	- " -	0830	2-27-91	H_2O	2 Ambers 2 VOA	TPH-G BTEX TPH-D O&G
010	B-3-HP	- " -	1130	2-27-91	H_2O	1 Amber 3 VOAs	O&G TPH-D TPH-G BTEX
011	B-4A-HP	Rem 2/28/90	1600	2-27-91	H_2O	2 Amber 2 VOAs	O&G TPH-D TPH-G BTEX

Sampler(s) (signature)

Field ID	Relinquished By (signature)	Received By (signature)	Date/Time		Comments
	Phil Walsh 2-27-91		2-27-91	All Day	

Sealed for shipment by: (signature) Date/Time: Shipment Method:

Received for Lab by: (signature) Joyce Duchareme Date/Time: 2-27-91 16:30 Comments:

Receiving Laboratory: Please return original form after signing for receipt of samples.

White/Original Yellow/Lab Copy Pink/File Copy

Phone (916) 752 2110
FAX (916) 786-7830

AEGIS Environmental Consultants, Inc.

Sample Identification/Field Chain of Custody Record

Send results to:
Aegis Environmental
801 Riverside, Suite C
Roseville, CA 95678

Site Address: Sears Oakland

AEGIS Project #:

Shipped By:

Shipped To:

Project Manager

For Shell Projects Only

WIC:

AFE:

CT/DL:

Shell Engineer:

Hazardous Materials Suspected? (yes/no)

Sampling Point	Location	Time Field ID#	Date	Sample Type	No. of Containers	Analysis Required
B-6-HP		0805	2-28-91	H_2O	2 VOAs 2 Amber	TPH-G O&G TPH-D BTEX
B-7-HP		1000	2-28-91	H_2O	2 VOA 2 Amber	TPHG O&G TPH-D BTEX
B-8-HP		1105	2-28-91	H_2O	"	" " "

Sampler(s) (signature)

Field ID	Relinquished By (signature)	Received By (signature)	Date/Time		Comments
	[illegible]		2-28-91	1300	

Sealed for shipment by: (signature) Date/Time: Shipment Method:

Received for Lab by: (signature) Joyce Deakozeau Date/Time: 2/28/91 1300 Comments:

Receiving Laboratory: Please return original form after signing for receipt of samples.

White/Original Yellow/Lab Copy Pink/File Copy