Environmental Resources Management

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September 21, 2005

Mr. Daniel R. Gravatt, P.G.
Environmental Scientist
U.S. EPA Region VII ARTD/RCAP
901 North 5th Street
Kansas City, KS 66101

RE: Former SECO Products Facility
Request for Shut Down of the Soil Vapor Extraction (SVE) System
EPA RCRA ID No. MOD068549492
ERM Project No. 0026307

Dear Dan:

INTRODUCTION

Discussions were held between yourself and Ms. Stephanie Doolan of the United States Environmental Protection Agency (USEPA), and personnel from Environmental Resources Management (ERM) and Hussmann Corporation (Hussmann) at the former SECO Products Site (Site) in Washington, Missouri on April 26, 2005 regarding operation of the SVE system. In response to those discussions, ERM is submitting this request, on behalf of Hussmann, for approval to shut down the SVE system based upon the findings of the December 2003 Site Investigation activities performed at the Site, and supplemental information supplied with this correspondence.

BACKGROUND

As outlined in the USEPA-approved Work Plan dated August 28, 2003 for completion of the site investigation activities performed in December 2003, one of the specific goals of the work plan was to perform soil sampling activities in the SVE area to determine whether or not any contaminants of concern, primarily trichloroethylene (TCE), 1,2-dichloroethylene (1,2-DCE), or vinyl chloride (VC), were present in the

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SVE area at concentrations that would warrant continued operation of the SVE system at the Site.

SOIL SAMPLE COLLECTION ACTIVITIES

During the completion of the December 2003 site investigation activities, as outlined in the December 2003 Site Investigation Summary Report dated October 11, 2004, eight (8) CPT points were installed in the SVE system area, CPT-116 through CPT-123. Six (6) of these points were advanced to a total depth of 15 feet bgs (CPT-118 through CPT-123), while the remaining two (2) (CPT-116 and CPT-117) were advanced to depths of 39 and 50.5 feet bgs, respectively, to intersect the top of the "middle" silty clay layer underlying the Site. The location of these borings in relation to the SVE wells is shown on the inset in Figure 1 of the December 2003 Site Investigation Summary Report. A copy of this figure has been included in Attachment A.

Soil samples for off-site laboratory analysis were collected from the eight (8) borings completed in the SVE system area (CPT-116 through CPT-123), to assess the presence and concentration of VOC (specifically TCE, 1,2-DCE, and VC) impacted soils above the water table in the SVE area, and to determine whether or not the SVE system could be considered for shutdown. One soil sample was collected from each SVE evaluation boring for VOC analysis at the depth exhibiting the highest VOC concentrations based on field screening with the membrane interface probe (MIP). Copies of the CPT logs for these points are included in Attachment B. In the absence of any detectable VOC readings using the MIP associated with the CPT rig, a sample was collected from the interval directly above the observed top of the ground water surface. If no ground water was observed, then the soil sample for off-site laboratory analysis was collected from soil in the last depth interval.

Each soil sample was collected and shipped under chain-of-custody procedures to Severn Trent Laboratories (STL) for VOC analysis by USEPA Method SW8260B under a normal turnaround time of 10 working days. For QA/QC purposes, ERM placed a trip blank in each sample cooler containing samples for VOC analysis prior to shipment to the

analytical laboratory, and collected one duplicate soil sample for analysis on a ten percent basis (1 per 10 or fraction thereof normal environmental samples). ERM utilized standard operating procedures to ensure that samples collected were representative of field conditions. At each location, soil samples were collected using pre-cleaned sampling equipment. For reusable equipment, decontamination included a non-phosphorous detergent wash followed by a potable water wash and a distilled water rinse.

LABORATORY RESULTS

In order to evaluate the historical effectiveness of the SVE system in remediating the shallow soils (<25 feet bgs) in the SVE area, a soil sample for off-site laboratory analysis was collected from each of the CPT boring locations (CPT-116 through CPT-123) installed in the SVE area. The soil sample locations were determined by the response of the MIP associated with the CPT rig. If no response was observed, the soil sample location was selected at the termination point of the CPT boring (CPT-118). If a response was observed, the soil sample location was selected to span the response zone (CPT-116, CPT-117, CPT-119, CPT-120, CPT-121, CPT-122, and CPT-123). Table 1 contains a summary of the analytical results for the soil samples submitted from these CPT borings to the off-site laboratory.

As observed in Table 1, only CPT-117 and its duplicate sample (CPT-117D) had reported concentrations of TCE and cis-1,2-DCE that exceeded the Missouri Department of Natural Resources (MDNR) Cleanup Levels for Missouri (CALM) Tier 1 Leaching to Ground Water Pathway standard of 0.1 and 0.5 mg/kg, respectively. CPT-117 had a TCE concentration of 2.3 mg/kg and a cis-1,2-DCE estimated concentration below the method detection limit of 0.51 mg/kg, while CPT-117D had a TCE concentration of 4.4 mg/kg and a cis-1,2-DCE concentration of 1 mg/kg.

The only other analyte in soil that exceeded the MDNR CALM Tier 1 Leaching to Ground Water Pathway standard of 0.2 mg/kg, was methylene chloride. Methylene chloride was detected in the soil samples

collected from CPT-116, CPT-117, CPT-117D, CPT-119, and CPT-122 at estimated concentrations below the method detection limit ranging from 0.38 to 0.46 mg/kg. However, the detection of methylene chloride in these five samples is considered to be a laboratory artifact.

The results of the soil samples collected from the CPT borings in the SVE area were also compared to the Preliminary Remediation Goals (PRGs) contained in the March 30, 2005 USEPA letter, *"Proposed Soil Cleanup Standards for the SECO Products, Washington Missouri"*. Table 2 summarizes the analytical results compared to the USEPA PRGs for the SECO Site. As observed in the summary table, only the TCE concentration in the soil sample analyzed from the duplicate soil sample from CPT-117 (CPT-117D) exceed the PRGs established by the USEPA.

Copies of the analytical laboratory reports for the soil samples collected during the December 2003 site investigation activities are included in Appendix C of the December 2003 Site Investigation Summary Report.

CONCLUSIONS

Based upon the soil sample results from the SVE area as discussed in the December 2003 Site Investigation Summary Report dated October 11, 2005, ERM believes that the soils data supports the theory that the VOC concentrations observed within the air samples collected from the SVE alignments and the exhaust stack during recent semi-annual sampling events (See Attachment C) are due to the fact that the SVE well screens have historically been submerged as little as a few inches to as much as 16.5 feet below the ground water table. The partially submerged SVE well screens result in the volatilization and accumulation of VOCs in the wells from the ground water versus from within the soil pore spaces above the ground water table. This is supported by the fact that the SVE wells are installed to a depth ranging from 22 to 26 feet below ground surface (See SVE well logs in Attachment D), while the ground water elevation from MW-2 (the closest well to the SVE treatment area) was measured between 13 to 14 feet bgs during the most recent semi-annual sampling event performed in November/December 2004 (See the most

current depth to ground water tracking table in Attachment E). Continued operation of the SVE system may have some ability to remove contaminants from the upper portion of the ground water table; however, the system was not installed for that purpose, and is not considered efficient to do so. Based upon the analytical results from the soil samples collected in the SVE area and the physical data that supports the fact that the SVE well screens are submerged, ERM considers the SVE system to be no longer of effective use for remediating impacted soil in this area, and should be approved for shut down by the USEPA. Although we are requesting to shut the SVE system off at this time, the infrastructure associated with the SVE system will be left in place in case future data support that there would be a benefit in turning the system back on, or for potential alternative use in the future (i.e.; injection well points for in situ chemical oxidation (ISCO) pilot scale testing).

Hussmann and ERM appreciate your consideration of this request. If you have any questions or comments, please contact us at 636/928-0300 extension 323 (C. George Lynn) or extension 326 (Alan J. Cork).

Sincerely,

C. George Lynn, C.P.G.
Partner

Alan J. Cork, P.E.
Senior Project Manager

cc: Stephanie Doolan - USEPA/Region VII
Kathy Perry - Hussmann Corporation
Dave Sordi - Ingersoll-Rand Company

TABLES

Table 1

Former SECO Products Facility
Washington, Missouri
Site Investigation
Soil Sample Analytical Results - SVE Area
December 2003

All Results in mg/kg

	CALM Tier 1 Ingestion/ Dermal Contact/Inhalation Target Concentrations (mg/kg)			CALM Tier 1 Leaching to Ground Water Pathway (mg/kg)	*Soil Sample Point Number*								
ANALYTE	Scenario			All	CPT-116 (CPT-17) *15-16 feet bgs*	CPT-117 (CPT-18) *19-22 feet bgs*	CPT-117D (CPT-18D) *19-22 feet bgs*	CPT-118 (CPT-19) *19-20 feet bgs*	CPT-119 (CPT-20) *13-14 feet bgs*	CPT-120 (CPT-21) *4-7 feet bgs*	CPT-121 (CPT-22) *10.5-11.5 feet bgs*	CPT-122 (CPT-23) *15-18 feet bgs*	CPT-123 (CPT-24) *13-16 feet bgs*
Volatile Organic Compounds	A	B	C	Scenarios									
Benzene	6	8	13	0.05	<0.68	<0.66	<0.67	0.0016 J	<0.63	0.0018 J	0.002 J	<0.49	<0.67
n-Butylbenzene	No Value	No Value	No Value	No Value	<0.68	<0.66	<0.67	<0.0053	<0.63	<0.0053	<0.0054	<0.49	<0.67
cis-1,2 - Dichloroethene	1200	1200	1200	0.5	<0.68	0.51 J	1	0.052	<0.63	<0.0053	0.0006 J	<0.49	<0.67
Ethylbenzene	400	400	400	32	<0.68	<0.66	<0.67	0.0013 J	<0.63	0.0010 J	0.0012 J	<0.49	<0.67
p-Isopropyltoluene	No Value	No Value	No Value	No Value	<0.68	<0.66	<0.67	<0.0053	<0.63	<0.0053	<0.0054	0.34 J	<0.67
Methylene Chloride	51	71	150	0.02	0.45 J	0.41 J	0.43 J	<0.0053	0.38 J	<0.0053	<0.0054	0.46 J	<0.67
n-Propylbenzene	28	40	91	No Value	<0.68	<0.66	<0.67	<0.0053	<0.63	<0.0053	<0.0054	0.21 J	<0.67
Tetrachloroethene	40	55	120	0.1	<0.68	<0.66	<0.67	0.0008 J	<0.63	0.00031 J	0.00025 J	<0.49	<0.67
Toluene	650	650	650	3.7	<0.68	<0.66	<0.67	0.0039 J B	<0.63	<0.0038 J B	0.004 J B	<0.49	<0.67
Trichloroethene	40	56	89	0.1	<0.68	2.3	4.4	0.04	<0.63	0.0069	0.0039 J	<0.49	<0.67
1,2,4-Trimethylbenzene	100	140	180	No Value	<0.68	<0.66	<0.67	0.0016 J	<0.63	0.0011 J	0.0013 J	0.55	<0.67
1,3,5-Trimethylbenzene	42	59	76	No Value	<0.68	<0.66	<0.67	<0.0053	<0.63	<0.0053	<0.0054	0.78	<0.67
o-Xylene	418	418	418	16	<0.68	<0.66	<0.67	0.00086 J	<0.63	0.00062 J	0.00076 J	<0.49	<0.67
m- & p-Xylene	418	418	418	16	<0.68	<0.66	<0.67	0.0028 J	<0.63	0.0024 J	0.0027 J	<0.49	<0.67

Notes:
CALM = Cleanup Levels For Missouri
mg/kg = parts per million (ppm)
bgs = below ground surface
< = not detected above the analyte reporting limit listed.
Over CALM Leaching to Ground Water Pathway Standard.
J = Estimated value, result less than reporting limit.
B = Method blank contamination. The associated method blank conatins the target analyte at a reportable level.
Scenario "A" = "unrestricted" use. A property being used for residential use, zoned for residential use, or a property having unrestricted public access and children under 18 years of age are present on the site more than 250 day/year
Scenario "B" = No residential use of property, the property is publically accessible but public access is limited to non-routine visits, and visitors are not supervised while on the property.
Scenario "C" = No residential use of property and there is no public access to the site or public access is limited to non-routine visits during which the visitors are supervised the entire period they are on the property.

Table 2

Former SECO Products Facility
Washington, Missouri
Site Investigation
Soil Sample Analytical Results - SVE Area
December 2003

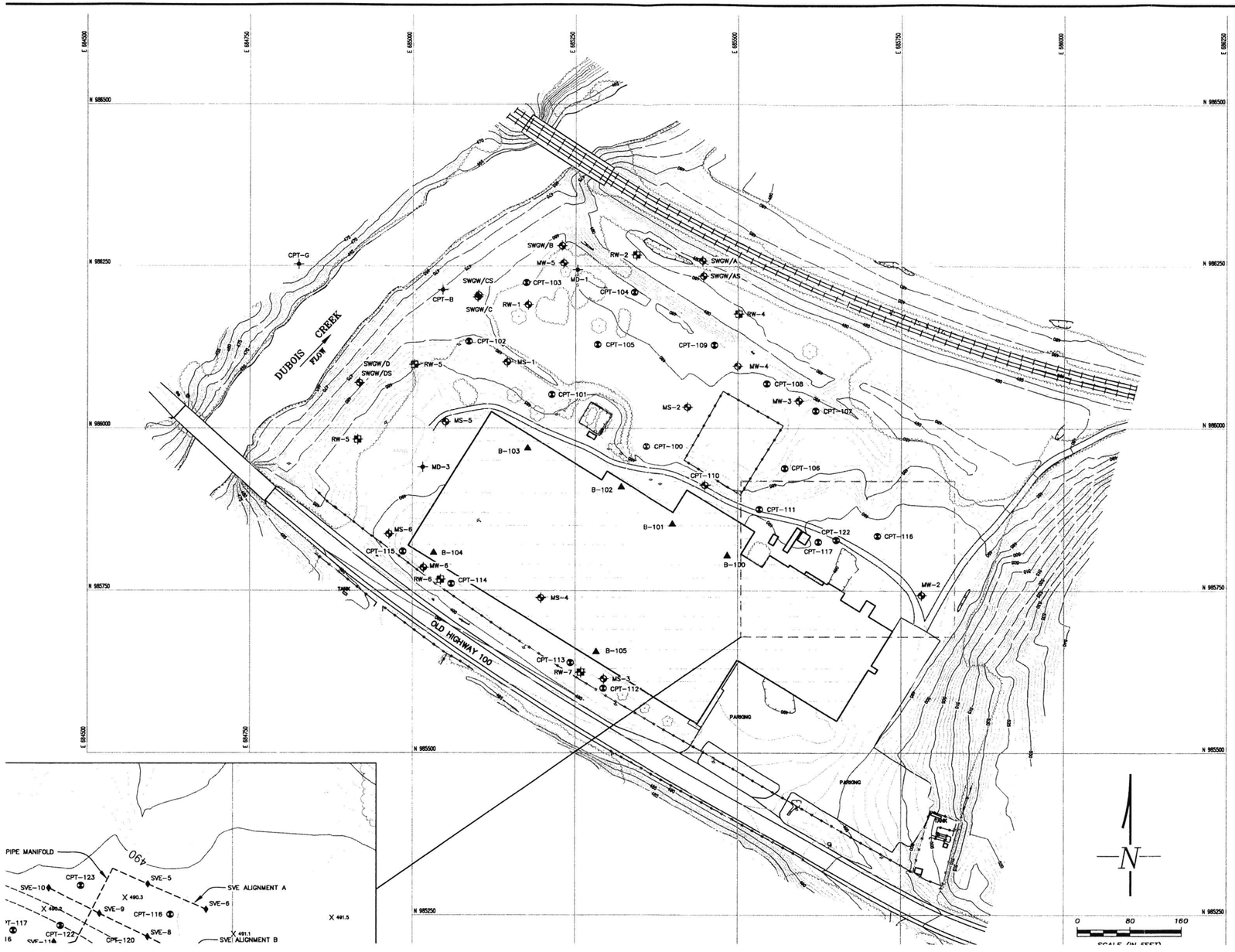
All Results in mg/kg

	USEPA Preliminary Remediation Goals for Soil (PRG) (mg/kg)				*Soil Sample Point Number*								
ANALYTE	Maintenance Worker	Construction Worker	Industrial Worker	Residential	CPT-116 (CPT-17) *15-16 feet bgs*	CPT-117 (CPT-18) *19-22 feet bgs*	CPT-117D (CPT-18D) *19-22 feet bgs*	CPT-118 (CPT-19) *19-20 feet bgs*	CPT-119 (CPT-20) *13-14 feet bgs*	CPT-120 (CPT-21) *4-7 feet bgs*	CPT-121 (CPT-22) *10.5-11.5 feet bgs*	CPT-122 (CPT-23) *15-18 feet bgs*	CPT-123 (CPT-24) *13-16 feet bgs*
Volatile Organic Compounds													
cis-1,2 - Dichloroethene	347.853	139.512	150	43	<0.68	0.51 J	1	0.052	<0.63	<0.0053	0.0006 J	<0.49	<0.67
Trichloroethene	0.276	2.756	0.11	0.053	<0.68	2.3	4.4	0.04	<0.63	0.0069	0.0039 J	<0.49	<0.67

Notes:
mg/kg = parts per million (ppm)
bgs = below ground surface
< = not detected above the analyte reporting limit listed.
Value Exceeds USEPA PRG Construction Worker Standard.
J = Estimated value, result less than reporting limit.
B = Method blank contamination. The associated method blank conatins the target analyte at a reportable level.

ATTACHMENT A

FIGURE 1 FROM THE DECEMBER 2003 SITE INVESTIGATION SUMMARY REPORT



COORDINATES

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
14	985742.987	685781.152	492.57	MW-2 GRD
15	985742.716	685781.549	492.19	MW-2 TC
16	985808.259	685727.168	491.00	SVE-7
17	985837.045	685734.648	490.50	SVE-6
18	985851.760	685701.120	490.09	SVE-5
19	985821.247	685700.881	490.31	SVE-8
20	985834.640	685673.028	490.18	SVE-9
21	985849.460	685644.052	489.85	SVE-10
22	985818.204	685647.004	490.00	SVE-11
23	985803.046	685673.144	490.10	SVE-12
24	985787.192	685703.591	490.77	SVE-13
25	985806.056	685628.441	490.13	SVE-15
26	985819.691	685606.316	489.91	SVE-16
27	985781.919	685612.006	490.61	SVE-20
28	985794.519	685589.231	490.29	SVE-19
29	985741.024	685674.507	493.44	SVE-21
30	985847.537	685560.886	489.41	SVE-17
31	985875.376	685533.402	489.62	CPT-111
32	985938.277	685571.447	482.73	CPT-106
33	986028.971	685618.971	481.46	CPT-107
34	985799.889	685584.785	489.97	CPT-118
35	985824.871	685623.634	489.98	CPT-117
36	985803.137	685647.009	490.11	CPT-119
37	985827.712	685650.640	490.04	CPT-122
38	985850.885	685662.171	489.59	CPT-123
39	985834.142	685713.928	490.32	CPT-116
40	985799.170	685709.947	490.76	CPT-121
41	985815.046	685685.316	490.24	CPT-120
42	985912.322	685450.011	487.00	CPT-110
43	985972.315	685360.049	481.38	CPT-100
44	986128.491	685464.007	479.09	CPT-109
45	986210.325	685340.581	479.55	CPT-104
46	986068.896	685544.003	479.76	CPT-108
47	986129.180	685283.718	479.51	CPT-105
48	986051.718	685213.233	480.76	CPT-101
49	986224.310	685173.464	480.66	CPT-103
50	986152.884	685057.743	480.39	CPT-102 STICK RIBBO
51	986133.893	685085.913	479.53	CPT-102 STAKE
52	985809.990	684885.157	491.77	CPT-115
53	985760.478	685059.653	492.00	CPT-114
54	985638.928	685242.645	492.07	CPT-113
55	985599.566	685293.321	491.82	CPT-112
56	985837.249	684963.626	490.63	MS-6 GRD
57	985837.065	684964.070	491.72	MS-6 TC
58	985785.307	685016.991	491.65	MW-6 GRD
59	985785.502	685016.723	493.05	MW-6 TC
60	985764.656	685044.520	491.92	RW-6 GRD
61	985767.011	685043.108	490.09	RW-6 TC
62	985623.260	685259.852	491.96	RW-7 GRD
63	985624.185	685258.722	490.14	RW-7 TC
64	985613.943	685294.180	492.68	MS-3 GRD
65	985614.090	685293.869	492.25	MS-3 TC
69	986042.386	685593.008	480.20	MW-3 GRD
70	986042.307	685593.159	482.57	MW-3 TC
71	986095.830	685499.281	479.11	MW-4 GRD
72	986095.963	685499.438	481.51	MW-4 TC
73	986176.103	685502.223	480.15	RW-3 GRD
74	986176.754	685501.189	478.63	RW-3 TC
75	986235.079	685447.409	479.38	SWGW/AS GRD
76	986234.906	685447.659	481.33	SWGW/AS TC
77	986236.494	685445.026	479.46	SWGW/A GRD
78	986236.570	685444.854	480.85	SWGW/A TC
79	986268.666	685344.724	480.23	RW-2 GRD
80	986268.105	685343.646	478.59	RW-2 TC
81	986033.060	685423.173	480.70	MS-2 GRD
82	986032.674	685423.232	482.35	MS-2 TC
83	985954.332	684899.021	489.79	CL BRIDGE DECK UPSTR
84	986009.513	685050.440	491.56	MS-5 GRN=489.57
85	986097.868	685002.584	483.49	RW-4 GRN=484.39
86	986101.722	685144.524	482.07	MS-1 GRN=480.28
87	986202.342	685099.551	482.77	SWGW/C GRN=481.07
88	986205.423	685100.638	482.67	SWGW/CS GRN=481.02
89	986190.372	685176.465	479.38	RW-1 GRN=480.75
90	986254.822	685231.557	483.90	MW-5 GRN=481.01
91	986281.453	685229.176	483.54	SWGW/B GRN=481.75
92	985982.667	684915.549	486.46	RW-5 GRN=487.86
93	986069.830	684918.077	478.87	SWGW/DS GRN=477.36
94	986067.553	684920.615	478.86	SWGW/D GRN=477.39
96	985807.692	685032.430	493.63	B-104
98	985655.251	685282.392	493.63	B-105
99	985878.756	685282.446	493.65	BOLT
100	985968.560	685175.901	493.70	B-103
101	985909.081	685321.049	493.61	B-102
102	985852.245	685400.600	493.53	B-101
104	985803.460	685484.308	493.67	B-100

LEGEND

- MONITORING WELL
- RECOVERY WELL
- DPT BORING
- CPT BORING
- HISTORICAL BORING (ESTIMATED LOCATION)
- SVE WELLS

ATTACHMENT B

CPT LOGS FOR BORINGS IN THE SVE AREA

FUGRO GEOSCIENCES, INC.

6105 Rookin
Houston, Texas 77074
Phone : 713-346-4000
Fax : 713-346-4002

December 23, 2003
Report Number 0305-1226

ERM
1630 Heritage Landing
Suite 100
St. Charles, MO 63303

Attn: Mr. George Lynn

Report for
Cone Penetration Testing,
Membrane Interface Probe Screening
and Related Services
Seco Facility
Washington, Missouri

Dear Mr. Lynn:

Please find herewith the results of the cone penetration testing / membrane interface probe (CPT/MIP) screening conducted at the above referenced site. CPT/MIP provided continuous characterization of stratigraphy and continuous screening for volatile organic compounds (VOCs) at each location. CPT and MIP logs, and electronic data (diskettes) are included as attachments. A description of the CPT and MIP technologies follows.

Cone Penetration Testing

CPT is a proven method for rapidly evaluating the physical characteristics of unconsolidated soils. All CPT soundings completed at this site were performed in accordance with ASTM Standard D-5778-95 "*Standard Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils*".

A piezocone penetrometer was used to complete the CPT soundings. The "tip" on the piezocone had an apex angle of 60 degrees with a base area of 15 square centimeters (cm^2), and the friction sleeve had a surface area of 200 cm^2. The pore pressure element was located immediately behind the tip in the U_2 position. Tip resistance and friction ratio data points are used to determine soil behavioral characteristics. Soil classifications are based on Campanella and Robertson's Simplified Soil Behavior Chart (attached). Due to the empirical nature of the soil behavior chart, the soil classification should be verified locally.

MIP Testing

For this investigation, the MIP was combined with CPT to screen soils for VOCs. The MIP system consists of a hydrophobic membrane that is surrounded by a heater block, Teflon tubing, and a series of detectors. By heating the area around the membrane, a pressure gradient is created. This pressure gradient pushes volatilized VOCs through the membrane where they are "swept" to the surface using an inert carrier gas. Once at the surface, the carrier gas and any VOCs that are present are fed directly into a series of detectors. This series of detectors includes

a PID, FID, and DELCD. The responses from each of the detectors are then recorded. A brief description of each of the detectors follows.

The Photo Ionized Detector (PID) responds to all aromatics and molecules with carbon double bonds. The PID uses a 10.6eV lamp with a high voltage power supply. Sample laden carrier gas flows into the inlet and through a flow-through cell. When the sample molecules flow into the cell they are bombarded with UV light. Molecules with an ion potential lower than 10.6eV release an ion when struck by the photons. The ions are attracted to a collector electrode, and then sent to the amplifier to produce and analog signal. The PID is nondestructive, so the sample is routed through the PID to subsequent detectors.

The Flame Ionized Detector (FID) responds to any molecule with a carbon-hydrogen bond. In the FID, the carrier gas effluent is mixed with hydrogen then routed through a stainless steel jet. The hydrogen mix supports a diffusion flame at the jet's tip, which ionizes the analyte molecules. Positive and negative ions are produced as each sample component is eluted into the flame. A collector electrode attracts the negative ions to the electrometer amplifier, producing an analog signal for the data system input. Because it uses a hydrogen diffusion flame to ionize compounds for analysis it destroys the sample in the process.

The Dry Electrolytic Conductivity Detector (DELCD) is selective to chlorinated and brominated molecules. The DELCD consists of a small ceramic tube, the DELCD reactor, heated to 1000° C. Inside the reactor, a platinum thermocouple measures the detector temperature, and a nichrome collector electrode measures the conductivity of the gases flowing through the DELCD. The detector response is dependant upon temperature. Therefore, the control circuit must maintain the temperature, within a fraction of a degree, at 1000° C.

Please note that the collected data is presented on multiple plots with various scales. The range of scales allows viewing both the high and low peaks generated during screening. In addition to the plots, a disk containing the digital output from each of the detectors and from the CPT is provided.

Limitations of Environmental Subsurface Work

Fugro Geosciences' report is based upon data collected during field operations. Given the inherent limitation of environmental subsurface work, Fugro cannot guarantee that the site is free of hazardous or potentially hazardous materials or conditions or that latent or undiscovered conditions will not become evident in the future. Fugro's report was prepared in accordance with our proposal and the General Conditions agreed upon between Fugro and Client and no warranties, representations, or certifications are made.

Fugro Geosciences, Inc. appreciates the opportunity to be of service to your organization. Please do not hesitate to contact us if we can be of further assistance. We look forward to working with you in the future.

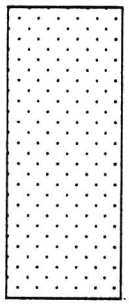
Sincerely,

FUGRO GEOSCIENCES, INC.

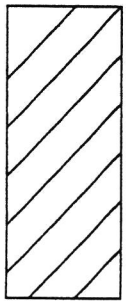
Recep Yilmaz
President

RY/jm

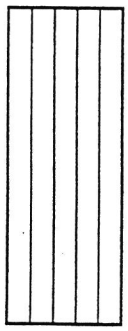
KEY TO SOIL BEHAVIOR TYPE



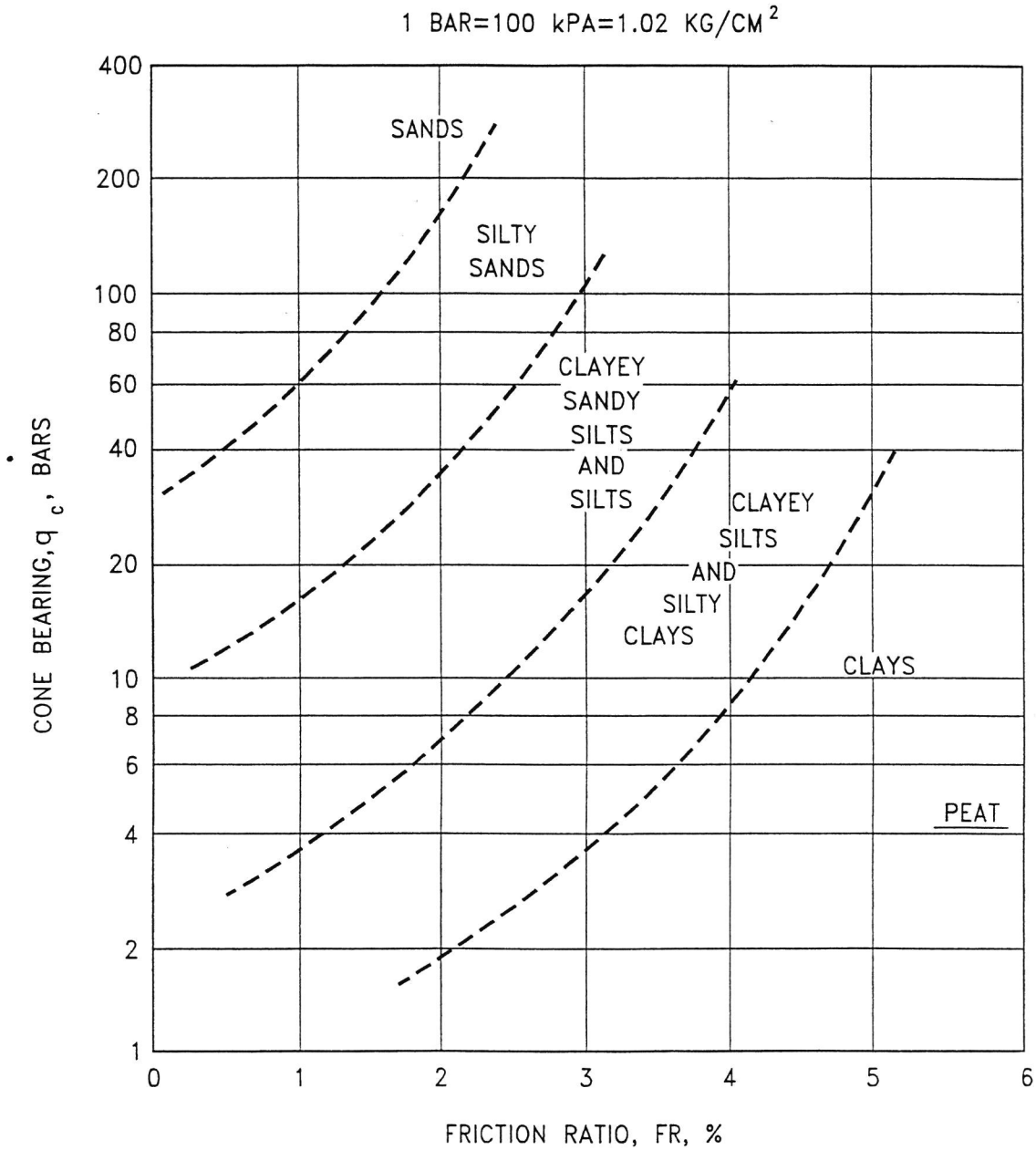
SAND AND SANDY SOIL



CLAY AND CLAYEY SOIL

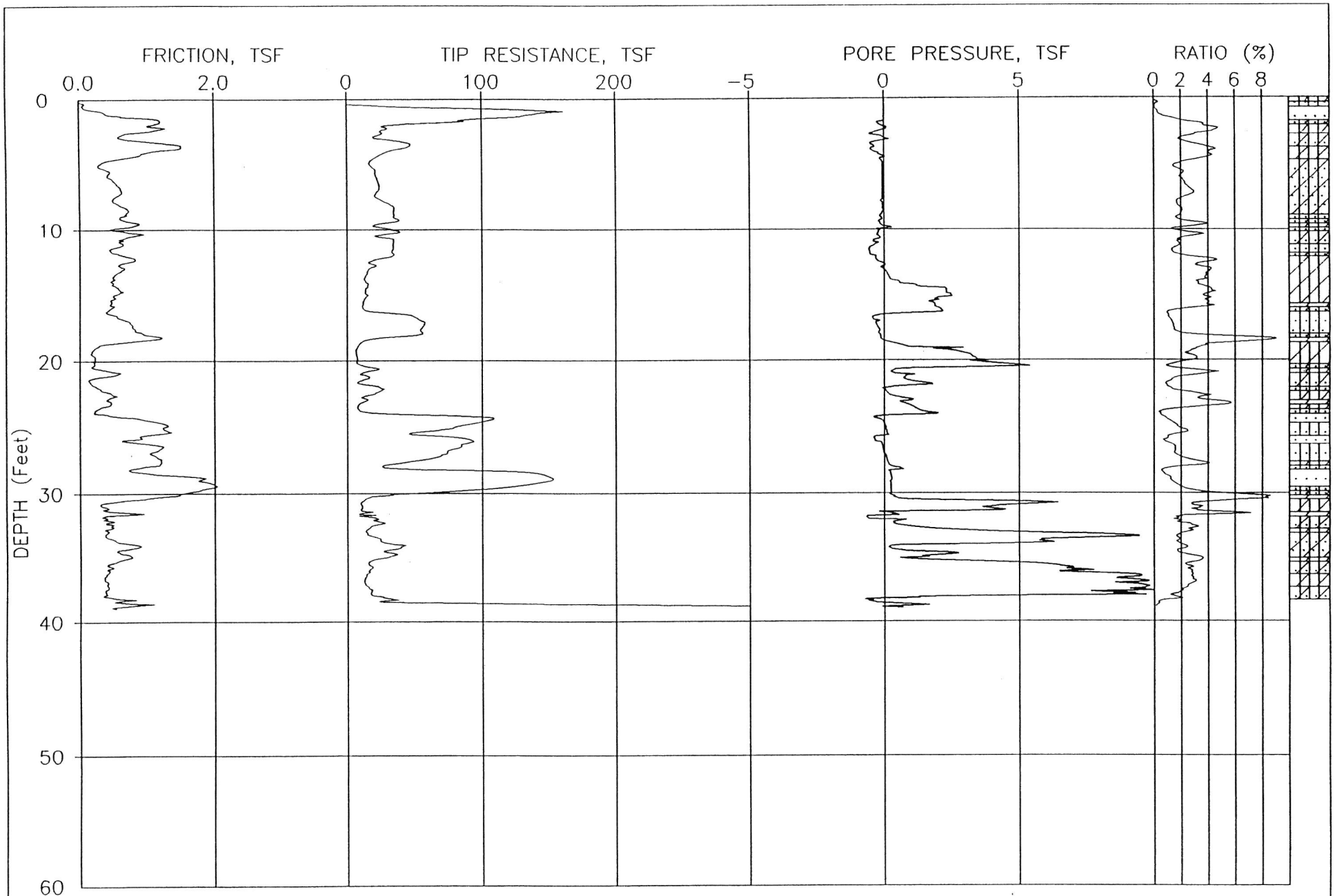


SILT AND SILTY SOIL



MODIFIED CAMPANELLA AND ROBERTSON SOIL BEHAVIOR CHART (1983)

CPT LOGS



JOB NUMBER: 0305−1226

CPT NUMBER: 17 (ERM Number: CPT-116)

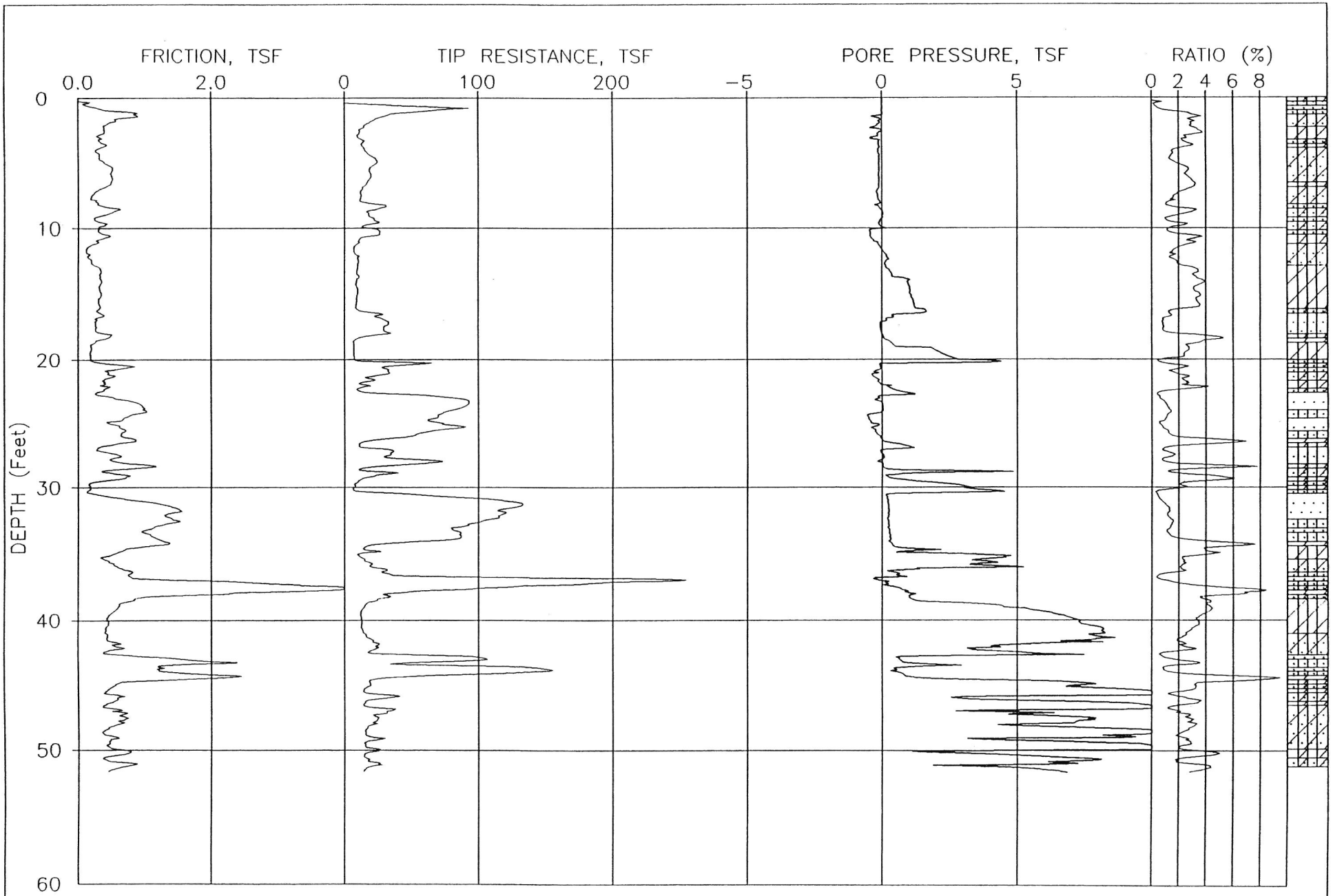
DATE: 12−08−2003

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW892

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1226

CPT NUMBER: 18 **(ERM Number: CPT-117)**

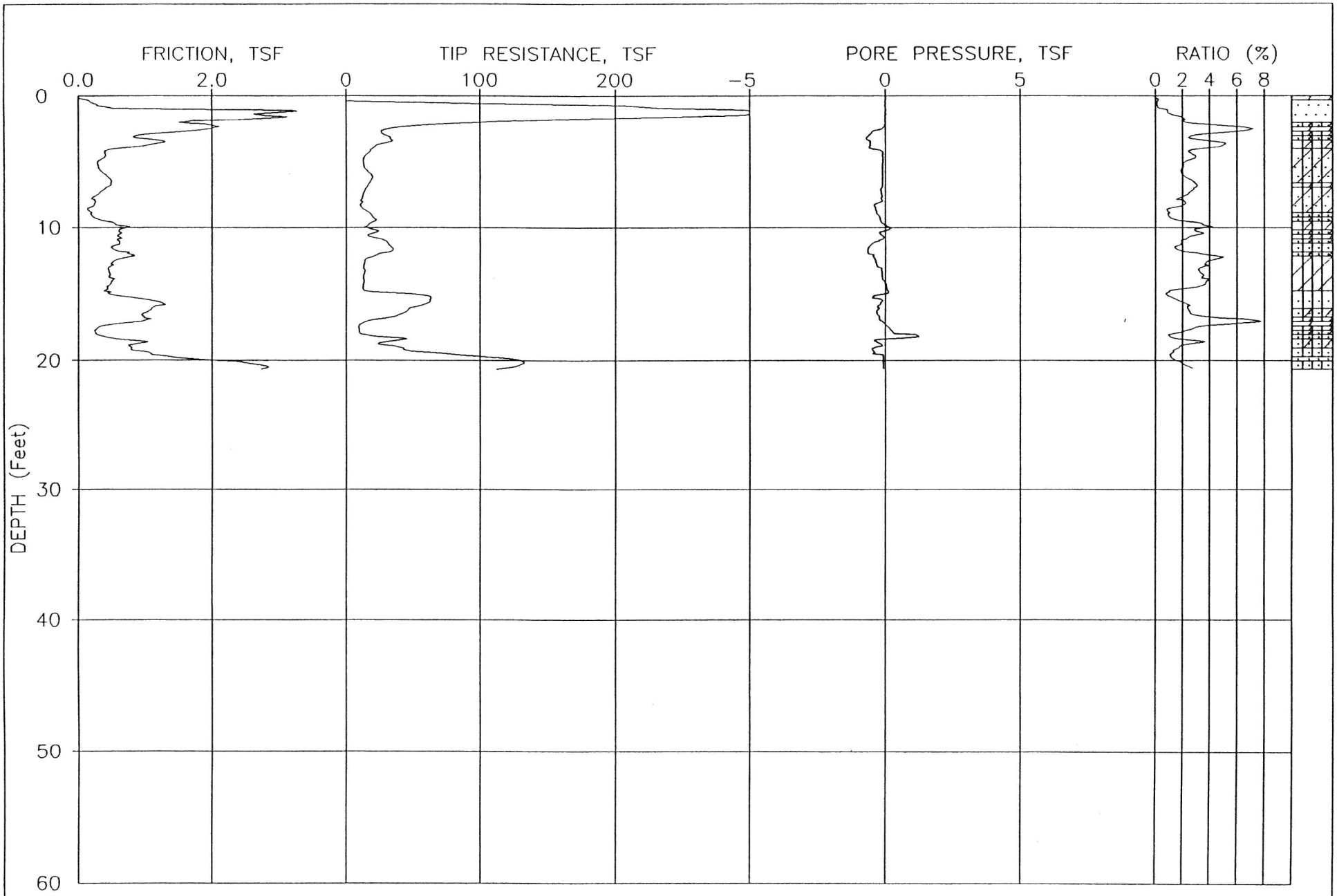
DATE: 12−08−2003

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW892

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1226

CPT NUMBER: 22 **(ERM Number: CPT-121)**

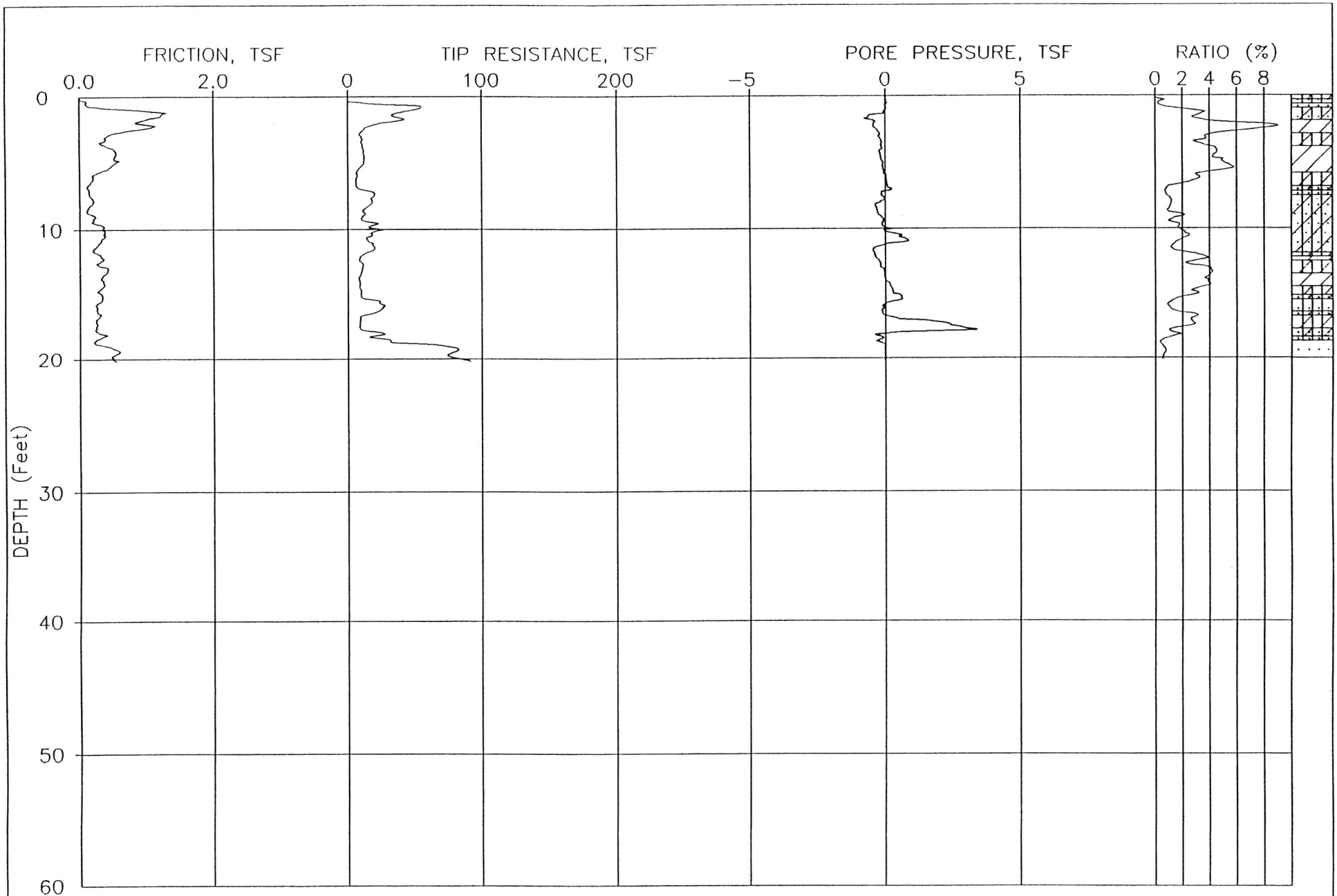
DATE: 12−09−2003

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW892

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305−1226

CPT NUMBER: 19 **(ERM Number: CPT-118)**

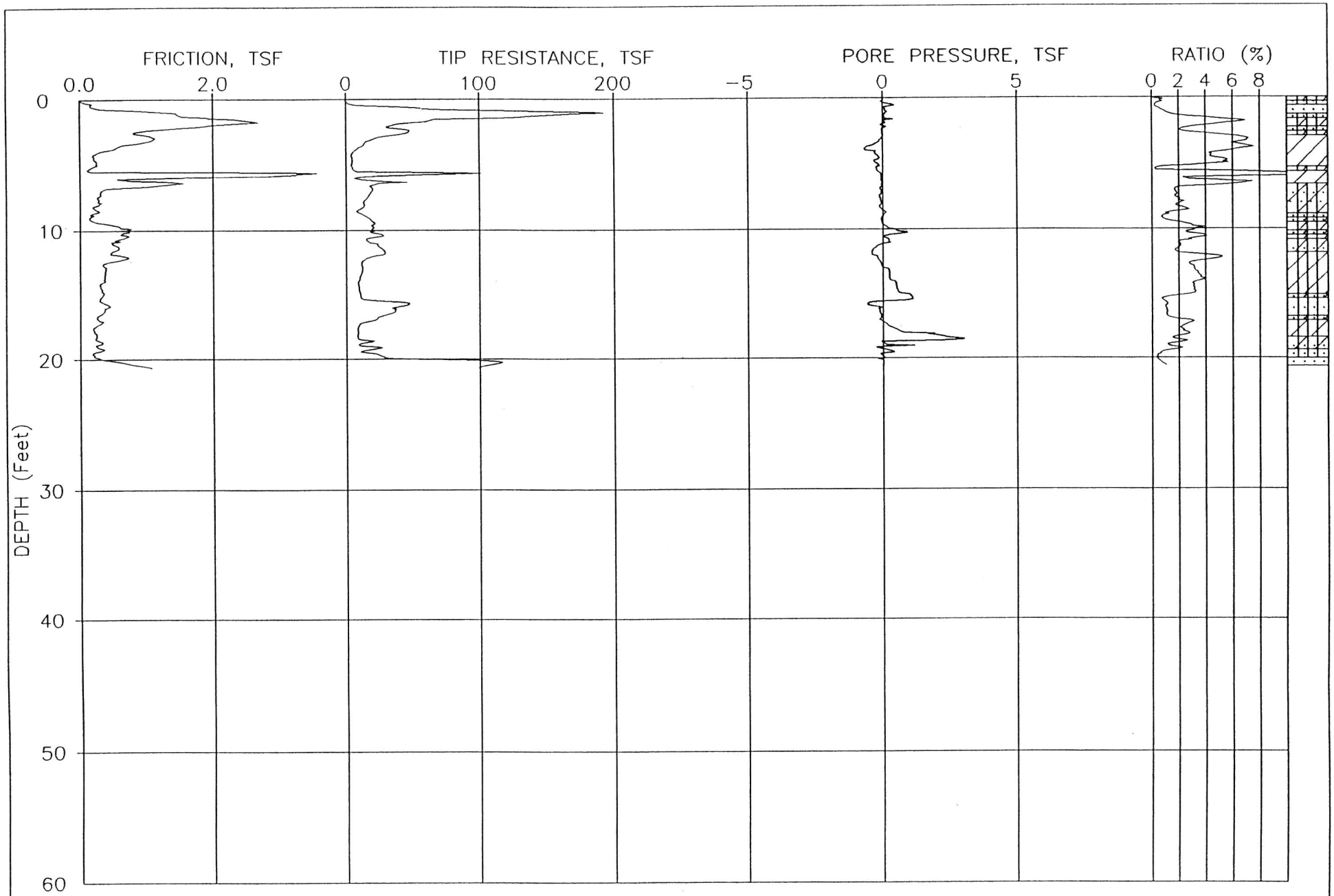
DATE: 12−08−2003

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW892

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1226

CPT NUMBER: 20 **(ERM Number: CPT-119)**

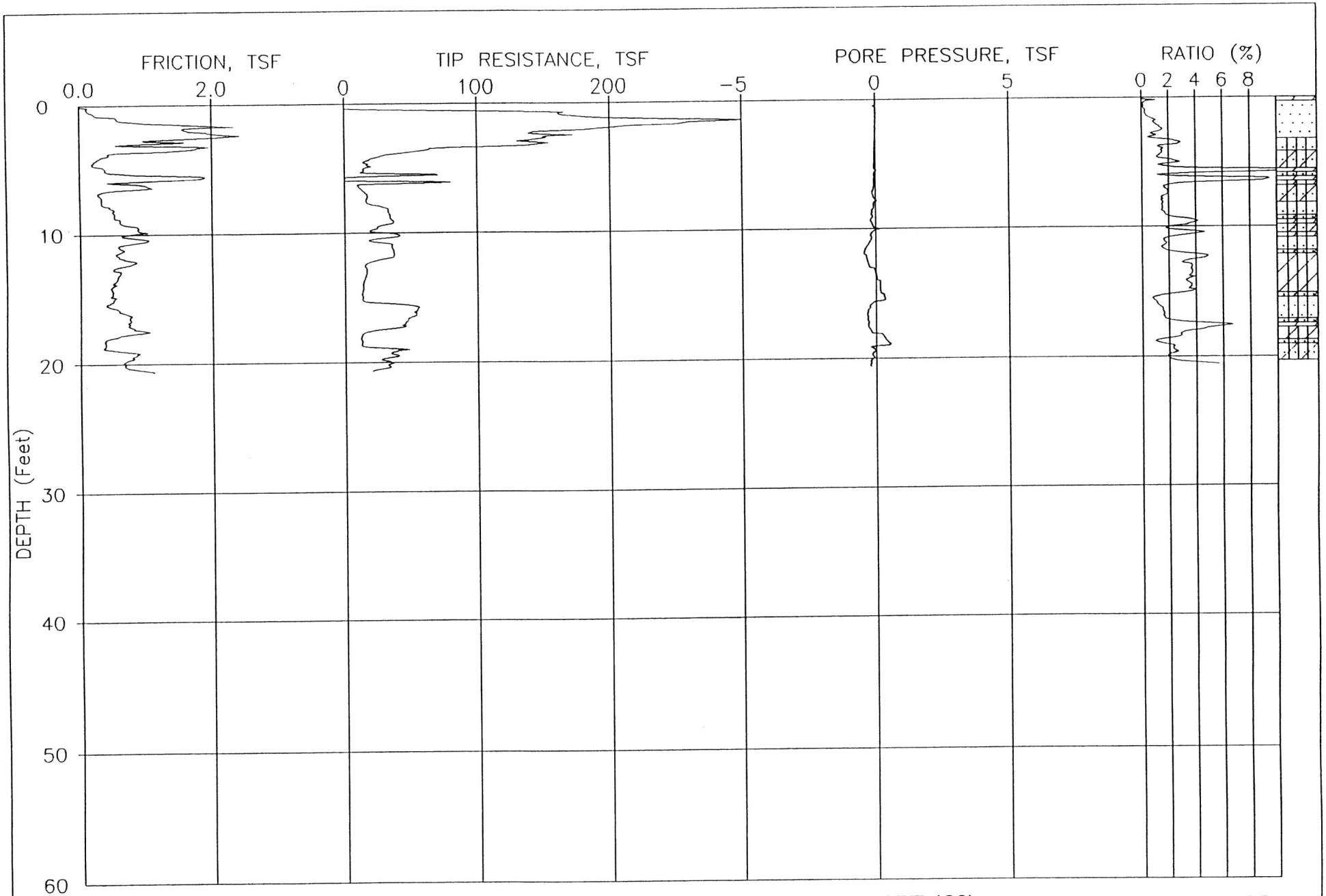
DATE: 12-08-2003

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW892

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1226

CPT NUMBER: 21 **(ERM Number: CPT-120)**

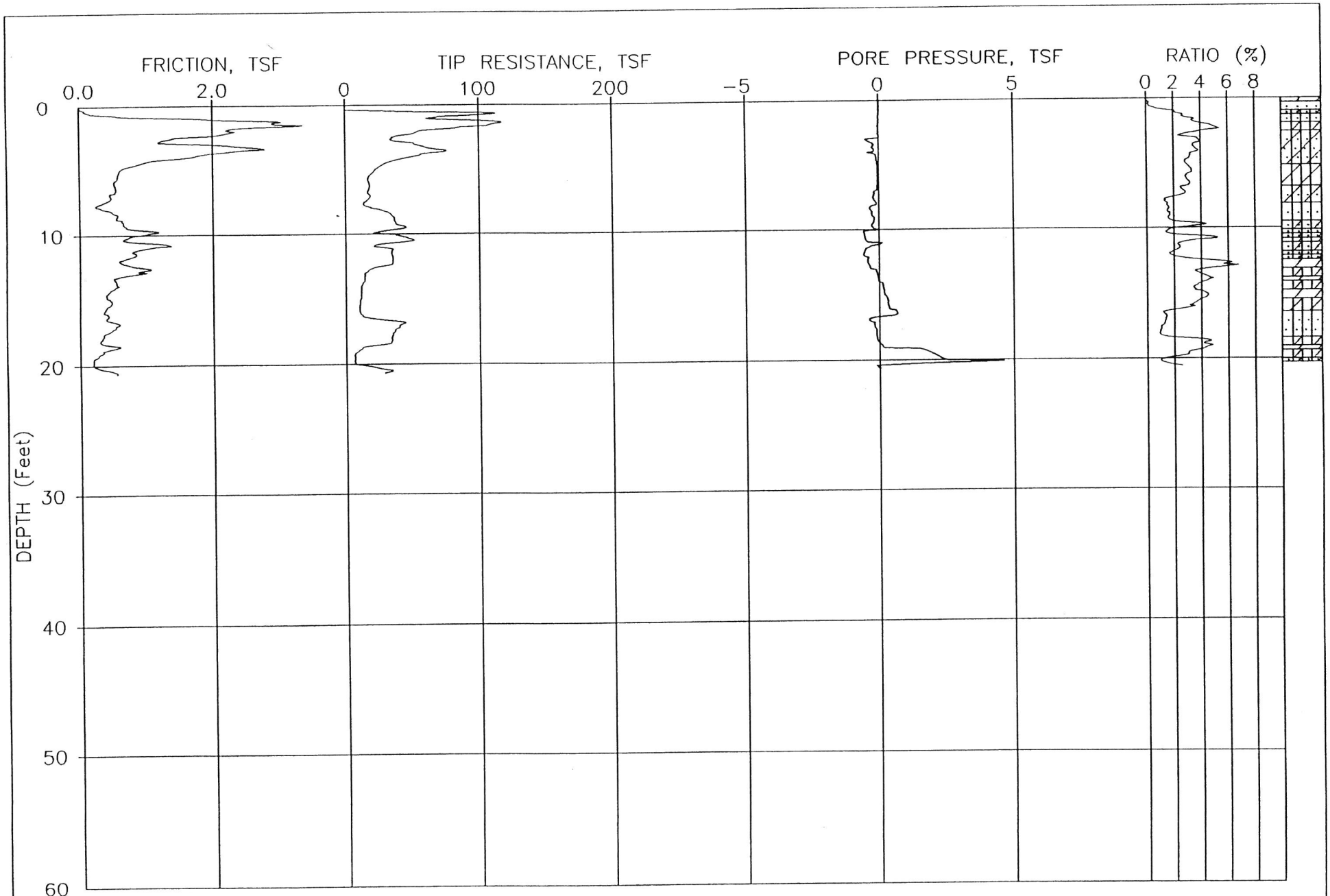
DATE: 12-09-2003

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW892

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1226

CPT NUMBER: 23 **(ERM Number: CPT-122)**

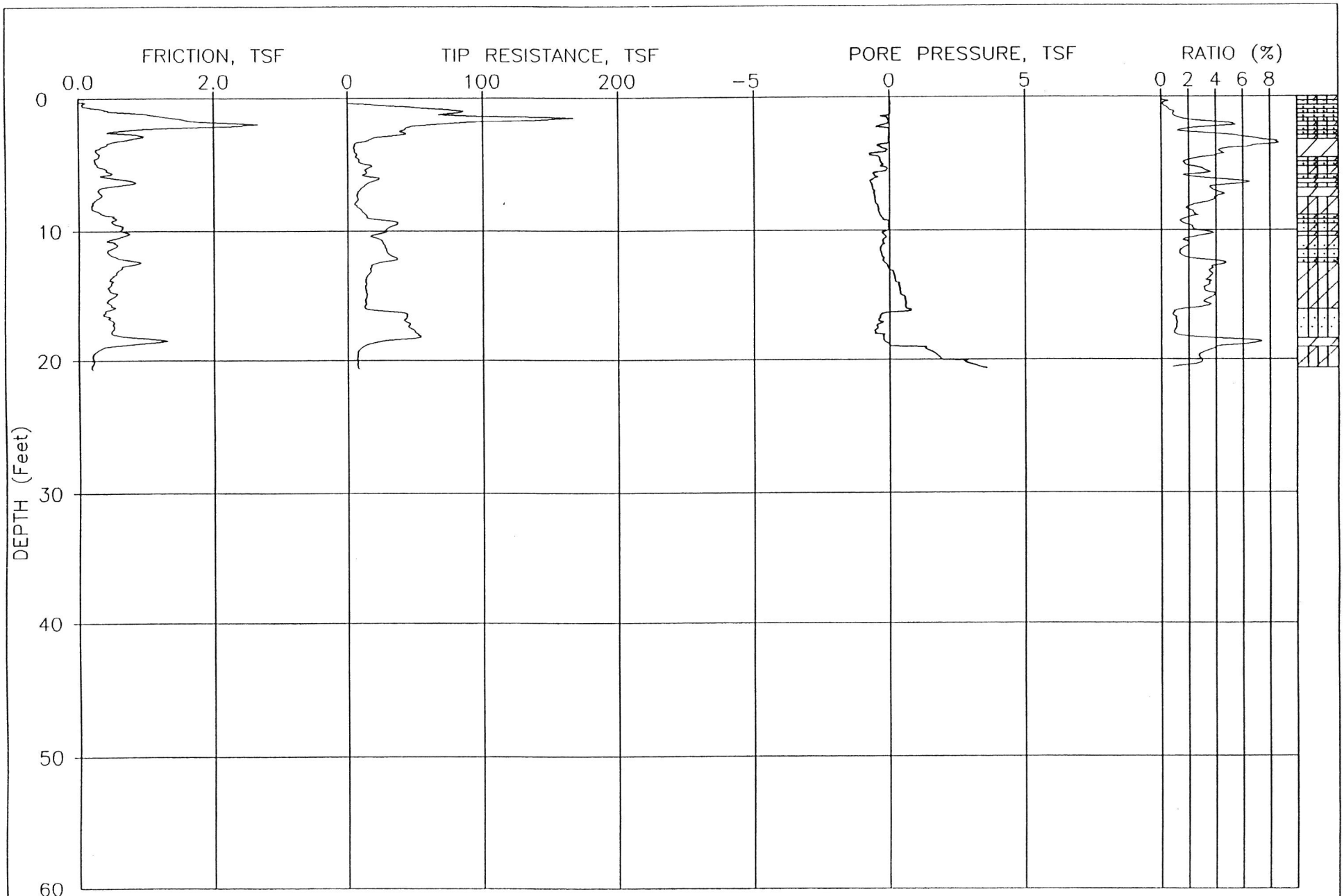
DATE: 12-09-2003

ELEVATION: 0.00

CONE NUMBER: F7.5CKEW892

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC



JOB NUMBER: 0305-1226

CPT NUMBER: 24 **(ERM Number: CPT-123)**

DATE: 12-09-2003

ELEVATION: 0.00

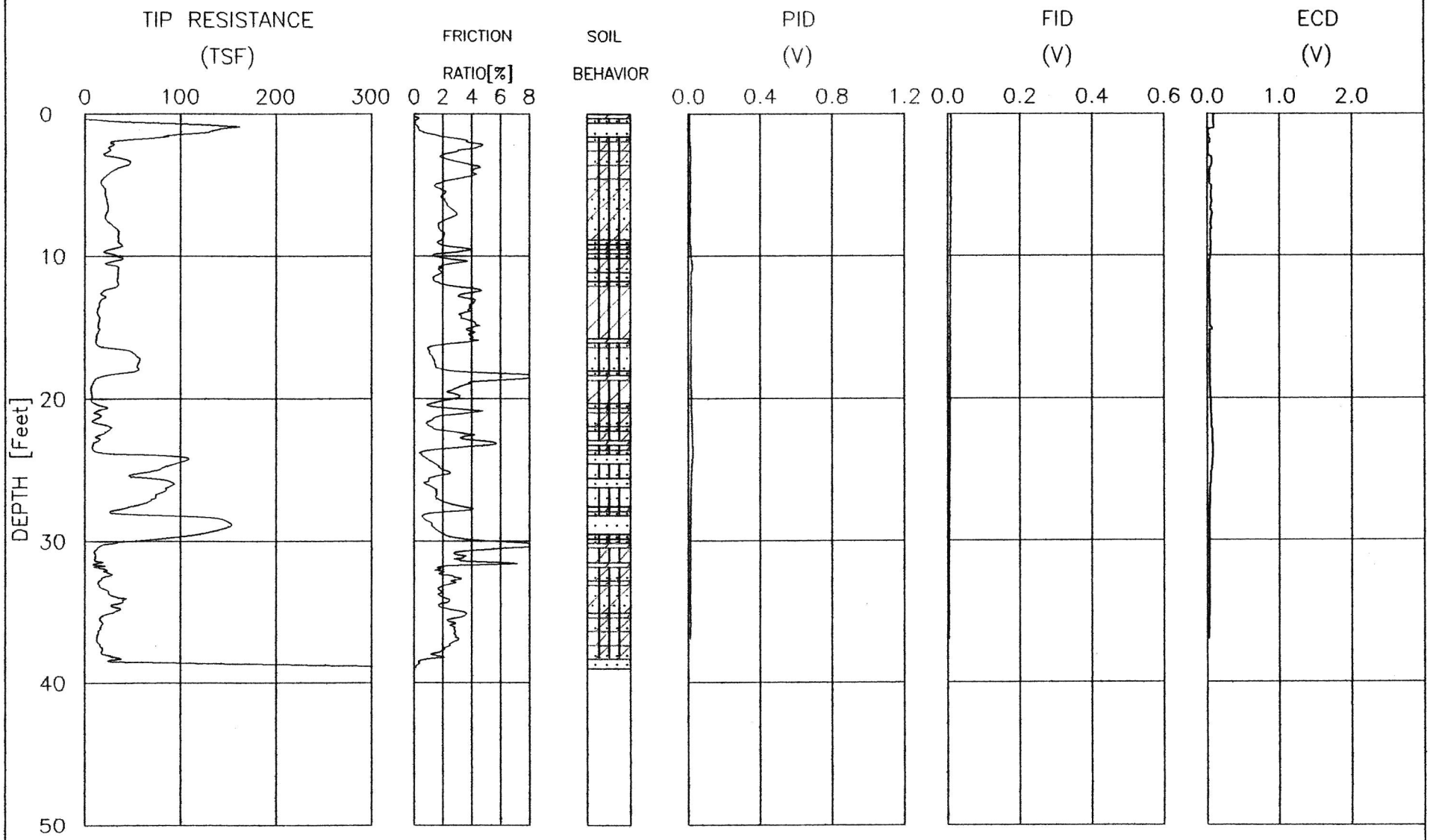
CONE NUMBER: F7.5CKEW892

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

CPT/MIP LOGS

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 17 (ERM Number: CPT-116)

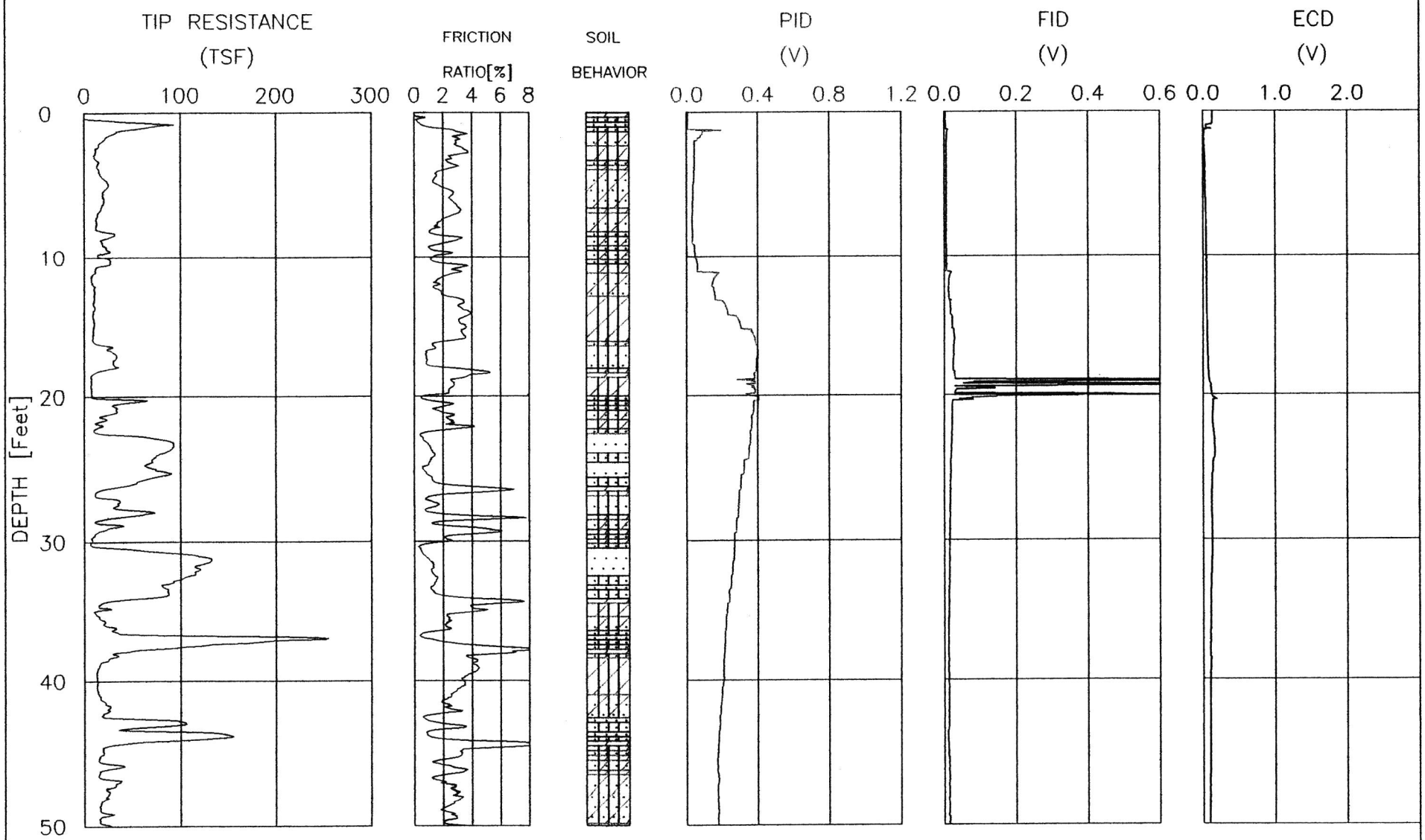
CONE NUMBER: F7.5CKEW892

DATE: 12-08-2003

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 18 **(ERM Number: CPT-117)**

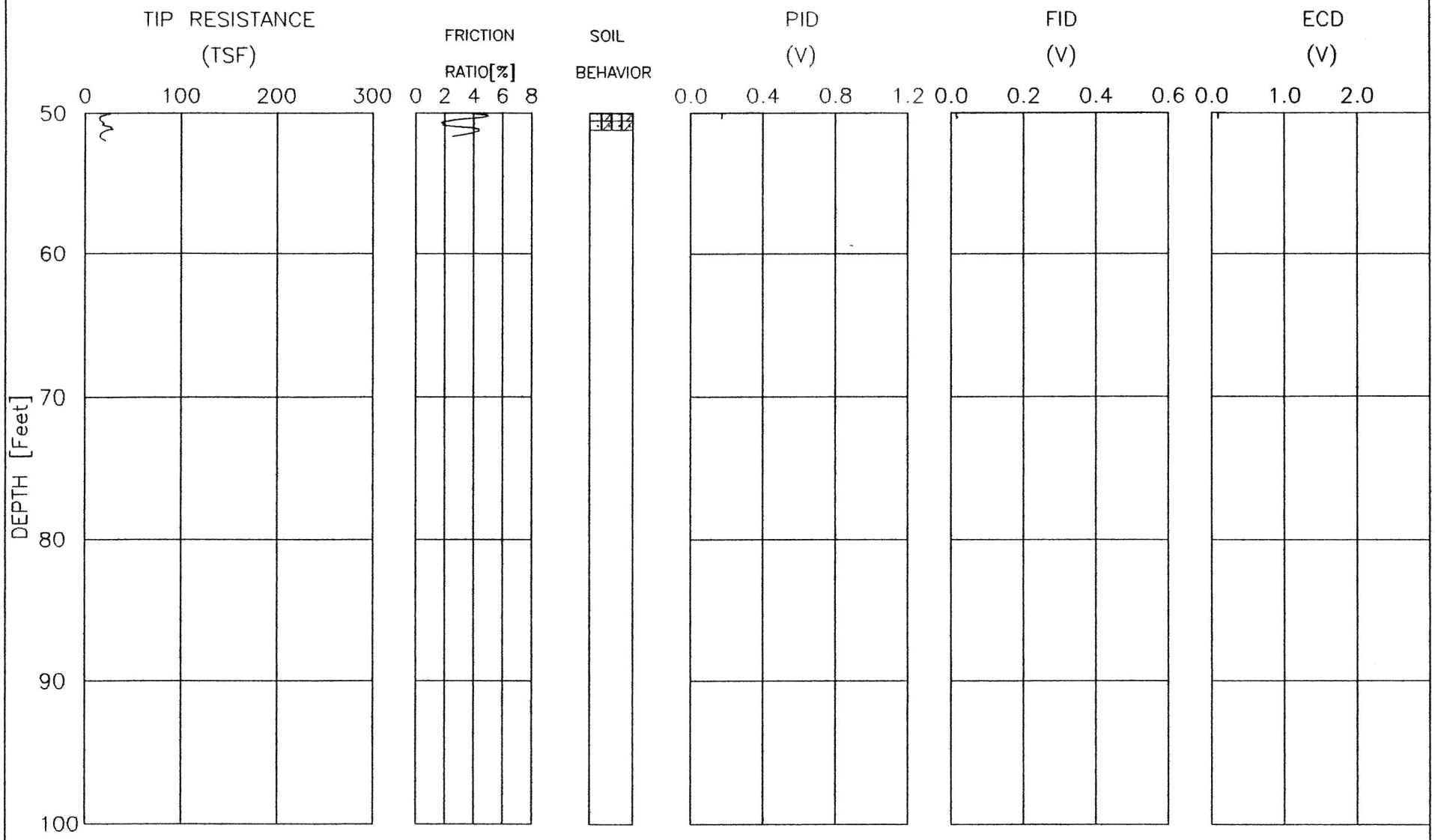
CONE NUMBER: F7.5CKEW892

DATE: 12-08-2003

PLATE: 1 OF 2

FUGRO GEOSCIENCES,INC

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 18 (ERM Number: CPT-117)

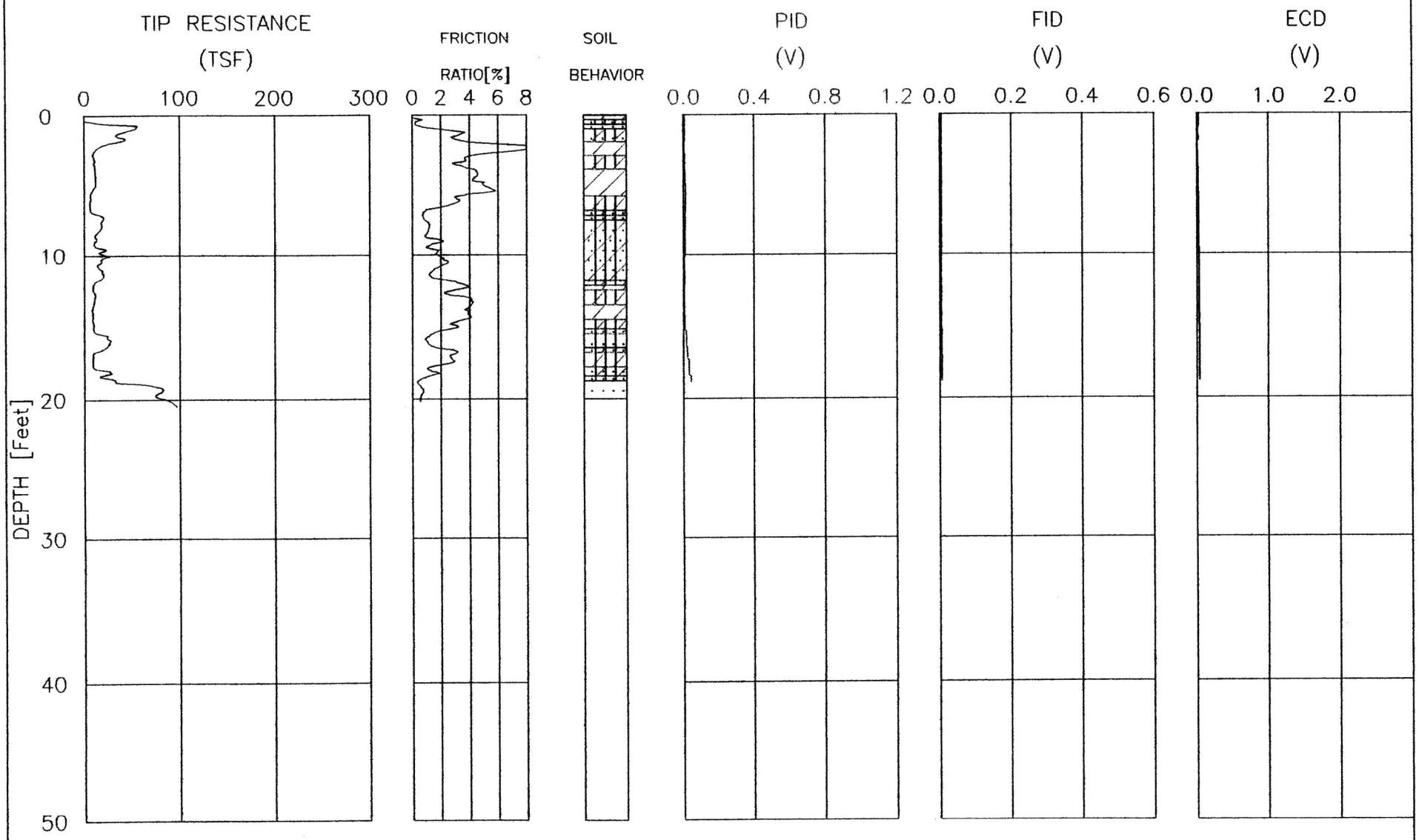
CONE NUMBER: F7.5CKEW892

DATE: 12-08-2003

PLATE: 2 OF 2

FUGRO GEOSCIENCES,INC

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 19 (ERM Number: CPT-118)

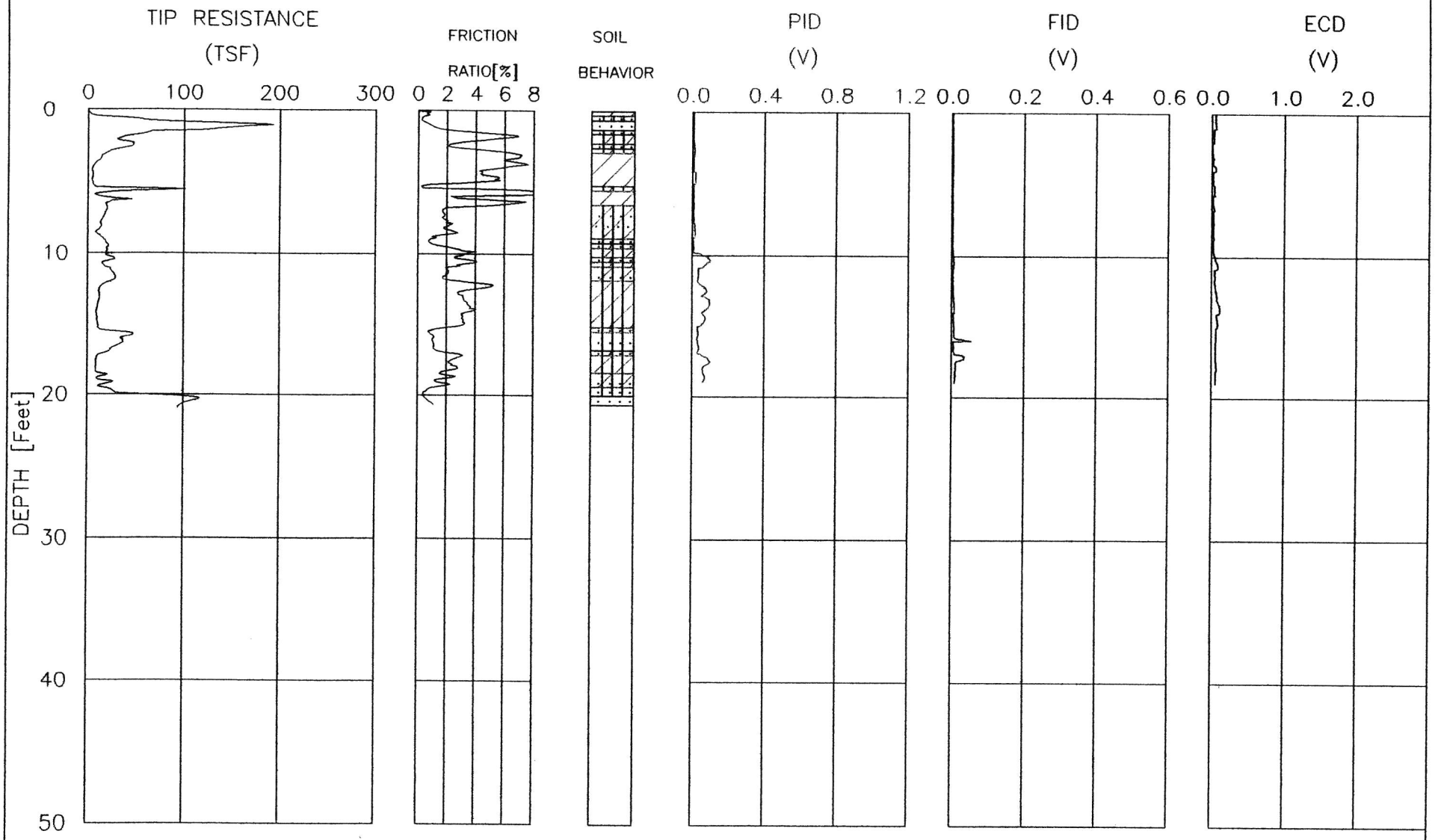
CONE NUMBER: F7.5CKEW892

DATE: 12-08-2003

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 20 (ERM Number: CPT-119)

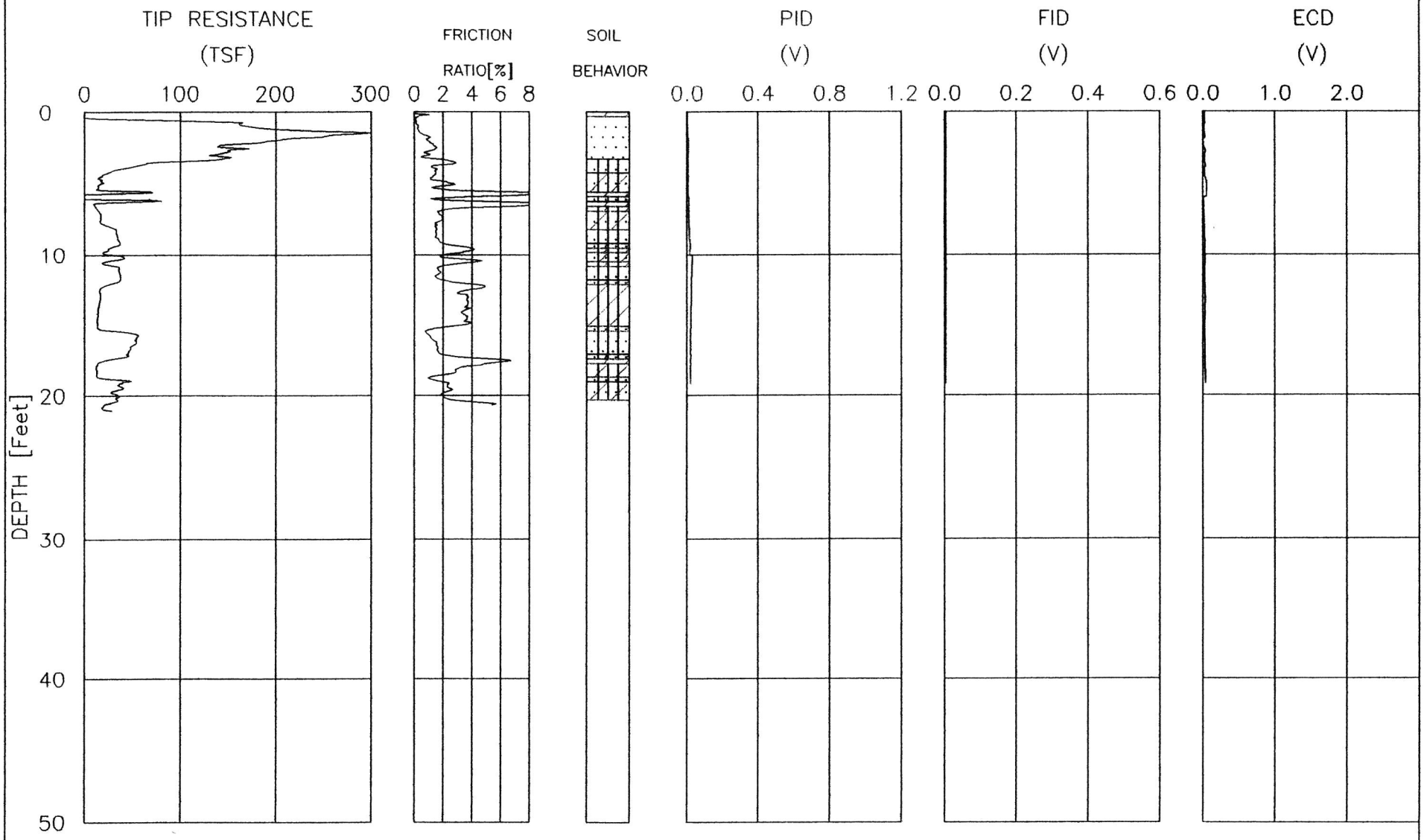
CONE NUMBER: F7.5CKEW892

DATE: 12-08-2003

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 21 (ERM Number: CPT-120)

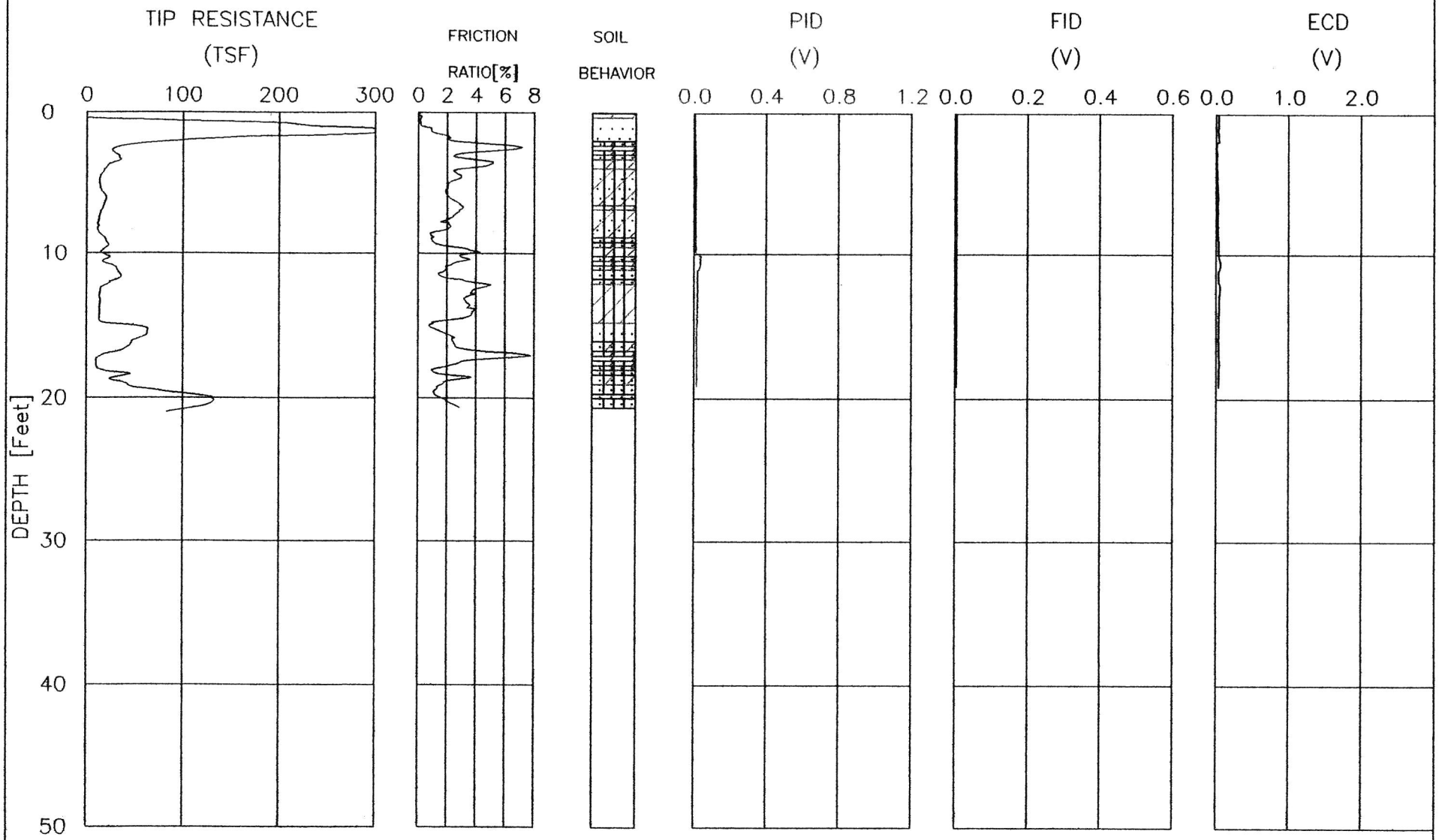
CONE NUMBER: F7.5CKEW892

DATE: 12-09-2003

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 22 (ERM Number: CPT-121)

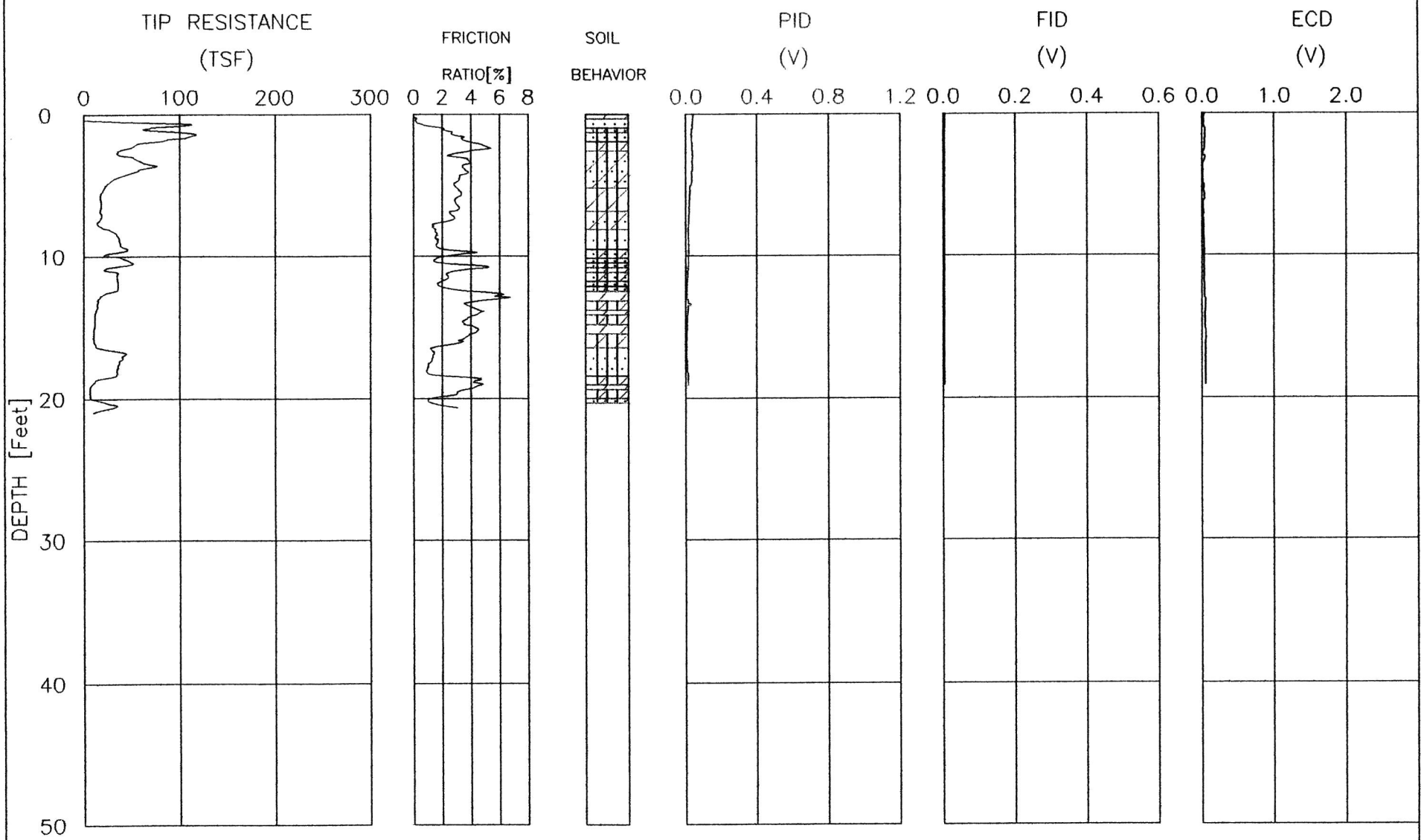
CONE NUMBER: F7.5CKEW892

DATE: 12-09-2003

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 23 (ERM Number: CPT-122)

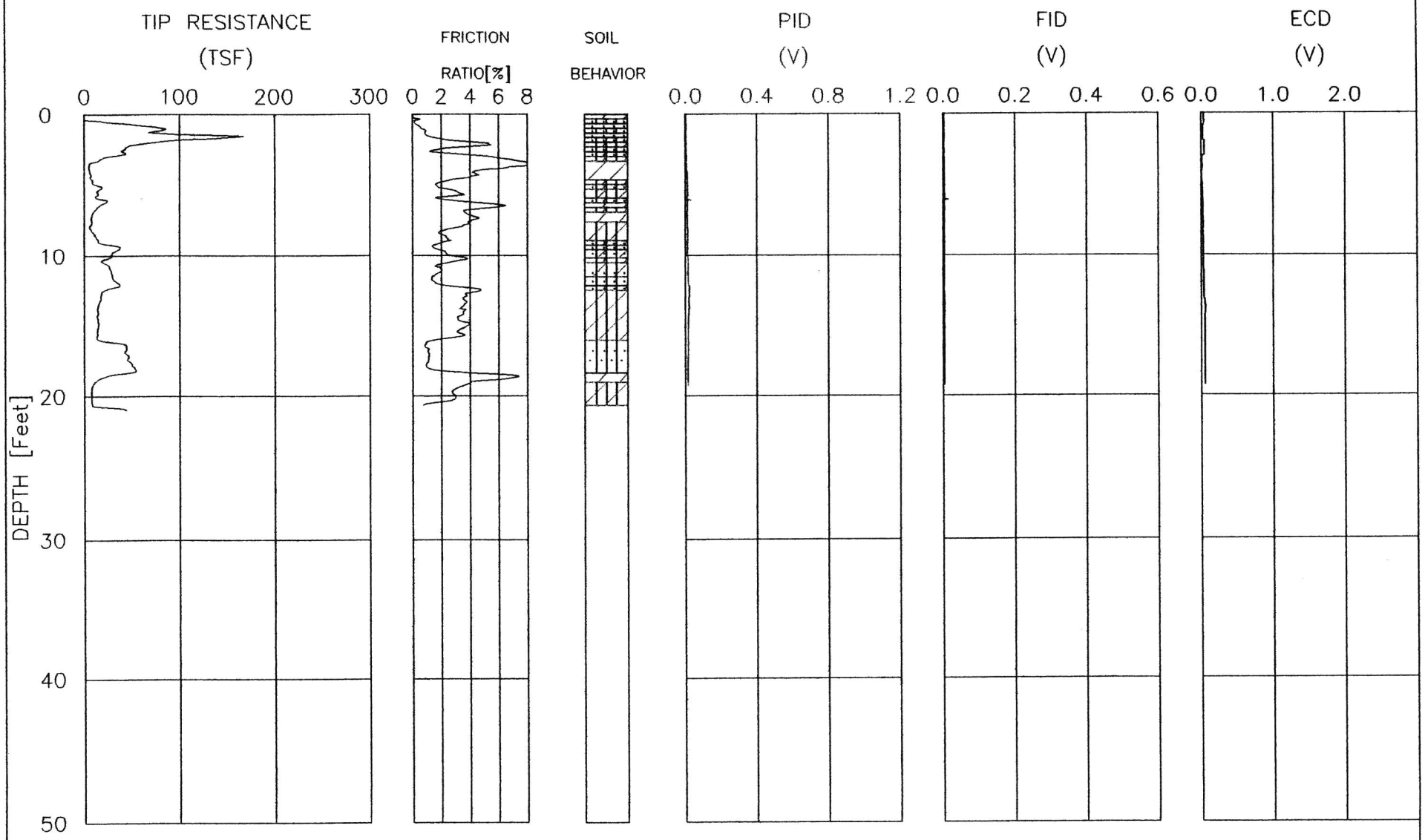
CONE NUMBER: F7.5CKEW892

DATE: 12-09-2003

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

CPT/MIP TEST RESULTS



JOB NUMBER: 0305-1226

ELEVATION: 0.00

CPT NUMBER: 24 **(ERM Number: CPT-123)**

CONE NUMBER: F7.5CKEW892

DATE: 12-09-2003

PLATE: 1 OF 1

FUGRO GEOSCIENCES,INC

ATTACHMENT C

HISTORICAL SVE ALIGNMENT & EXHAUST STACK SAMPLING RESULTS

TABLE 7

Summarized SVE System Air Sampling Results
(Results expressed in mg/l of air)

		Jan '90	Apr '90	Jul '90	Oct '90	Jan '91	Jul '91	Aug '92	Nov '92	May '93
Alignment A	Toluene	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005
	TCE	0.027	0.0253	<0.005	0.0382	<0.005	0.028	0.025	-	<0.005
	Methane	23.000	< 5.0	<0.010	<0.005	<0.005	0.013	<10.0	-	<0.005
	Cis-1,2 DCE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005
Alignment B	Toluene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
	TCE	0.021	0.0172	0.0382	0.0548	0.005	0.035	0.031	0.0072	0.013
	Methane	14.000	20.000	<0.010	<0.005	<0.005	0.012	<10.0	5.300	0.105
	Cis-1,2 DCE	0.019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Alignment C	Toluene	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	TCE	0.150	0.007	0.0253	<0.005	<0.005	0.011	0.021	<0.005	0.0074
	Methane	37.000	39.000	0.130	<0.005	0.089	0.089	<10.0	4.400	0.16
	Cis-1,2 DCE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Alignment D	Toluene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
	TCE	1.100	0.510	0.0064	0.1198	<0.005	0.260	0.740	0.210	0.016
	Methane	46.000	69.000	<0.010	<0.005	<0.005	0.009	<10.0	14.000	0.210
	Cis-1,2 DCE	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005
Alignment E	Toluene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	-
	TCE	0.7002	0.66	0.0312	0.4202	0.033	0.190	0.270	0.180	-
	Methane	200.0	140.0	0.94	0.094	0.14	0.098	<10.0	24.0	-
	Cis-1,2 DCE	0.15	0.027	<0.005	<0.005	<0.005	0.0071	0.095	0.033	-
Exhaust Stack	Toluene	0.0065	<0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	-
	TCE	0.41	0.2698	0.3101	0.250	0.016	0.090	0.320	0.035	-
	Methane	73.0	39.0	0.790	0.049	0.014	0.061	<10.0	2.900	-
	Cis-1,2 DCE	0.013	0.005	<0.005	<0.005	<0.005	<0.005	<0.025	<0.005	-

D = Result was obtained from the analysis of a dilution.
J = Estimate value; result less than reporting limit.

TABLE 7

Summarized SVE System Air Sampling Results
(Results expressed in mg/l of air)

		Dec '93	7/16/94	10/28/94	2/7/95	5/5/95	8/1/95	11/6/95	4/29/96	10/30/96
Alignment A	Toluene	0.0048	0.0046	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	TCE	0.032	0.012	0.0092	0.016	0.0027	0.0068	0.0082	0.0019	0.0066
	Methane	<10.0	0.054	< 0.007	< 0.007	< 0.007	< 0.010	< 0.010	< 0.010	0.0038
	Cis-1,2 DCE	<0.001	< 0.001	0.0023	< 0.001	< 0.001	0.0013	0.0016	< 0.001	0.0015
Alignment B	Toluene	0.0021	0.0013	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	TCE	0.029	0.008	0.0120	0.002	0.0031	0.0090	0.011	0.0016	0.0088
	Methane	0.031	< 0.007	< 0.007	< 0.007	< 0.007	0.0590	< 0.010	0.017	0.010
	Cis-1,2 DCE	<0.001	< 0.001	0.0025	< 0.001	0.0012	0.0036	0.0054	0.0012	0.0043
Alignment C	Toluene	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	TCE	0.031	0.019	0.0014	0.003	< 0.001	0.0076	0.0013	0.024	0.0055
	Methane	<0.0065	0.590	0.0120	< 0.007	< 0.007	0.0930	< 0.010	< 0.010	0.029
	Cis-1,2 DCE	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Alignment D	Toluene	0.006	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	TCE	0.031	0.074	0.0740	0.320	0.0340	0.1800	0.170	0.008	0.240
	Methane	0.0085	0.430	0.1200	0.0360	< 0.007	< 0.010	0.180	< 0.010	0.080
	Cis-1,2 DCE	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0039	< 0.001	< 0.001	< 0.001
Alignment E	Toluene	<0.001	0.0016	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	TCE	0.030	0.008	0.0600	< 0.001	0.0780	0.1400	0.140	0.150	0.190
	Methane	<0.0065	0.220	0.0660	< 0.007	< 0.007	0.0510	0.087	< 0.010	0.020
	Cis-1,2 DCE	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.038	< 0.001
Exhaust Stack	Toluene	0.0014	0.0017	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	TCE	0.0059	0.052	0.0110	0.013	0.0350	0.0088	0.0074	0.0018	0.020
	Methane	0.016	0.150	< 0.007	< 0.007	< 0.007	< 0.010	< 0.010	< 0.010	0.0073
	Cis-1,2 DCE	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

D = Result was obtained from the analysis of a dilution.
J = Estimate value; result less than reporting limit.

TABLE 7

Summarized SVE System Air Sampling Results
(Results expressed in mg/l of air)

		5/5/97	10/22/97	5/20/98	11/24/98	5/6/99	12/1/99	5/16/00	11/15/00	05/12/01
Alignment A	Toluene	<0.0005	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0005	< 0.001
	TCE	0.0047	0.0041	0.0036	0.0043	0.0016	0.0033	0.0027	0.0038	0.002
	Methane	<0.002	< 0.002	< 0.007	<0.0066	<0.0066	< 0.007	<0.0066	<0.0066	< 0.0066
	Cis-1,2 DCE	0.0006	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	< 0.001
Alignment B	Toluene	0.0005	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0005	< 0.001
	TCE	0.0034	0.0532	0.0022	0.0038	0.0024	0.0054	0.0015	0.0045	0.0015
	Methane	<0.002	< 0.002	< 0.007	<0.0066	<0.0066	< 0.007	<0.0066	<0.0066	< 0.0066
	Cis-1,2 DCE	0.001	0.044	<0.001	<0.001	<0.001	0.0018	<0.001	<0.0005	< 0.001
Alignment C	Toluene	<0.0005	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0005	< 0.001
	TCE	0.0012	0.0011	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0005	< 0.001
	Methane	<0.002	< 0.002	0.014	0.0115	0.0085	0.0110	0.0073	<0.0066	0.0144
	Cis-1,2 DCE	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	< 0.001
Alignment D	Toluene	<0.0005	< 0.0005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.001	< 0.001
	TCE	0.371	0.016	0.147	0.105	0.111	0.0530	0.0604	0.120	0.0825
	Methane	0.004	0.015	0.100	0.092	0.010	0.1400	0.0104	0.380	0.0179
	Cis-1,2 DCE	<0.0005	<0.0005	<0.001	<0.005	<0.005	<0.005	<0.005	<0.001	< 0.001
Alignment E	Toluene	<0.0005	< 0.0005	< 0.001	< 0.005	< 0.005	< 0.005	< 0.005	< 0.0025	< 0.001
	TCE	0.349	0.120	0.253	0.1370	0.0890	0.0480	0.1050	0.085	0.0759
	Methane	0.0052	0.012	0.014	0.0153	0.0165	0.0100	<0.0066	<0.0066	< 0.0066
	Cis-1,2 DCE	<0.0005	<0.0005	<0.001	<0.005	<0.005	<0.005	0.014	<0.0025	< 0.001
Exhaust Stack	Toluene	<0.0005	< 0.0005	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0005	< 0.001
	TCE	0.0027	0.0199	0.0443	0.0252	0.0210	0.0195	0.0189	0.0016	0.0013
	Methane	<0.002	< 0.002	0.014	0.0150	<0.0066	0.0240	<0.0066	<0.0066	0.0074
	Cis-1,2 DCE	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	0.0016	<0.0005	< 0.001

D = Result was obtained from the analysis of a dilution.
J = Estimate value; result less than reporting limit.

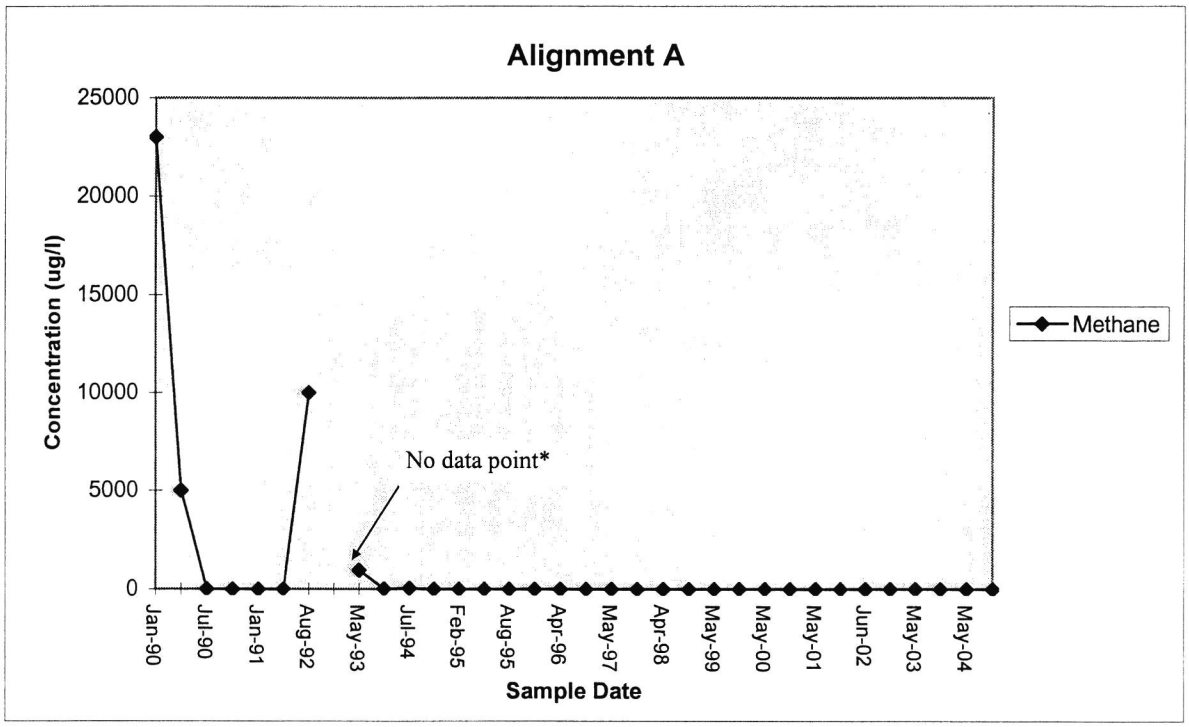
TABLE 7

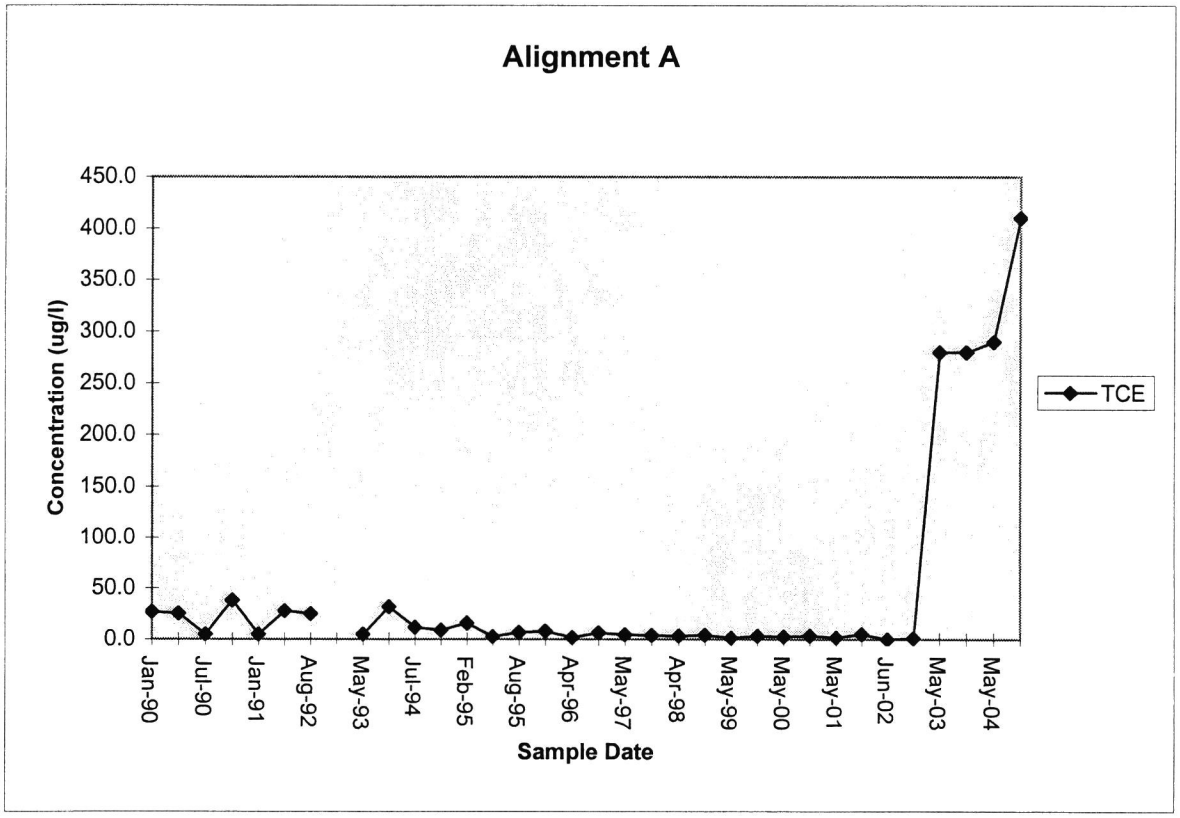
Summarized SVE System Air Sampling Results
(Results expressed in mg/l of air)

		11/09/01	06/12/02	11/21/02	05/13/03	11/13/03	05/18/04	12/02/04
Alignment A	Toluene	< 0.001	< 0.001	< 0.001	0.0011 J	0.00063 J	0.0056	0.00095 J
	TCE	0.0052	< 0.001	0.0014	0.28	0.28	0.290	0.41
	Methane	< 0.0066	< 0.007	< 0.007	< 0.002	0.00000011 J	0.00000011 J	0.00000013 J
	Cis-1,2 DCE	< 0.001	< 0.001	< 0.001	0.0015 J	0.0017	0.0027	0.0034
Alignment B	Toluene	< 0.001	< 0.001	< 0.001	0.0013 J	<0.004	0.0047 J	0.00084 J
	TCE	0.0053	< 0.001	0.0037	0.34	0.51	0.320	0.360
	Methane	< 0.0066	< 0.007	< 0.007	< 0.002	0.00000018 J	0.00000035	0.0000002
	Cis-1,2 DCE	< 0.001	< 0.001	< 0.001	0.0031	0.011	0.0062	0.012
Alignment C	Toluene	< 0.001	< 0.001	< 0.001	0.0017 J	0.00098 J	0.0051	0.00086 J
	TCE	< 0.001	< 0.001	< 0.001	0.13	0.05	0.058	0.035
	Methane	< 0.0066	< 0.007	< 0.007	< 0.002	0.0000046	0.00000086	0.00000027
	Cis-1,2 DCE	< 0.001	< 0.001	< 0.001	0.0046	0.0011 J	<0.002	<0.002
Alignment D	Toluene	< 0.005	< 0.001	< 0.001	< 0.025	<0.017	<0.050	<0.040
	TCE	0.0814	0.0814	0.0278	5.8	2.9	2.000	6.200
	Methane	0.0883	< 0.007	0.056	< 0.002	0.000045	0.0000031	0.00000040
	Cis-1,2 DCE	< 0.005	< 0.001	< 0.001	0.015 J	<0.017	<0.020	<0.040
Alignment E	Toluene	< 0.005	< 0.001	< 0.001	< 0.100	<0.033	0.0044 J	<0.010
	TCE	0.071	0.0069	0.0542	22	4.8	1.200	1.700
	Methane	< 0.0066	< 0.007	< 0.007	< 0.002	0.0000044	0.00000095	<0.00000082
	Cis-1,2 DCE	< 0.005	< 0.001	0.001	6.1	0.5	0.0130	0.0170
Exhaust Stack	Toluene	< 0.001	< 0.001	< 0.001	0.0016 J	0.00064 J	0.0049 J	0.00076 J
	TCE	< 0.001	< 0.001	< 0.001	0.95	0.12	0.150	0.250
	Methane	< 0.0066	< 0.007	< 0.007	< 0.002	0.00000029	0.00000049	0.0000002
	Cis-1,2 DCE	< 0.001	< 0.001	< 0.001	0.12	0.0063	0.00081 J	0.001 J

D = Result was obtained from the analysis of a dilution.
J = Estimate value; result less than reporting limit.

TABLE 8
SVE Alignment Data Plots





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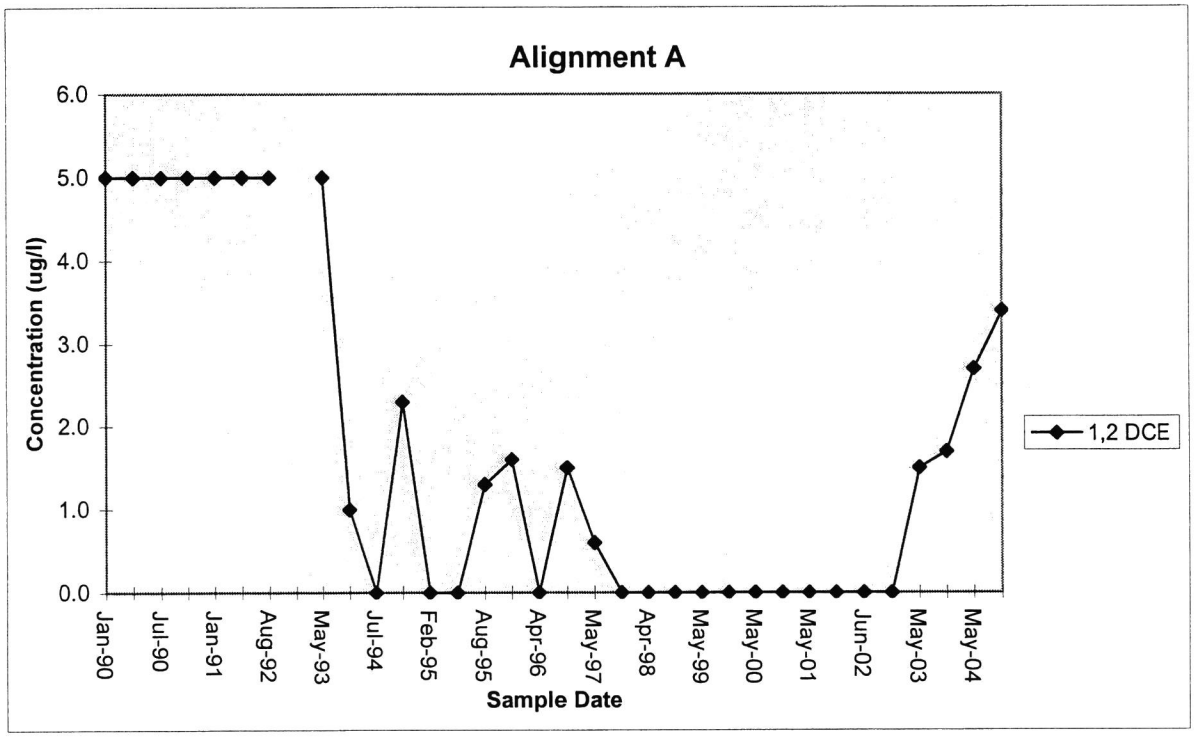
SVE Alignment Data Plots



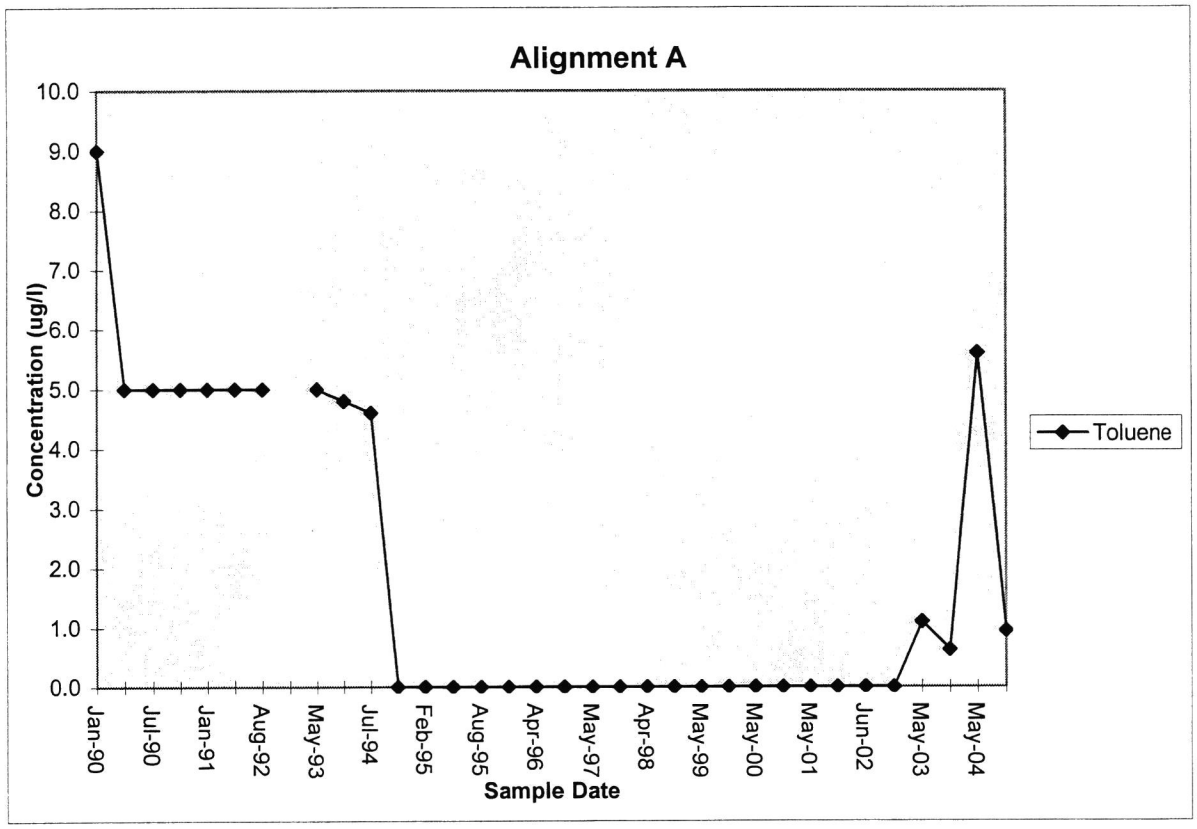
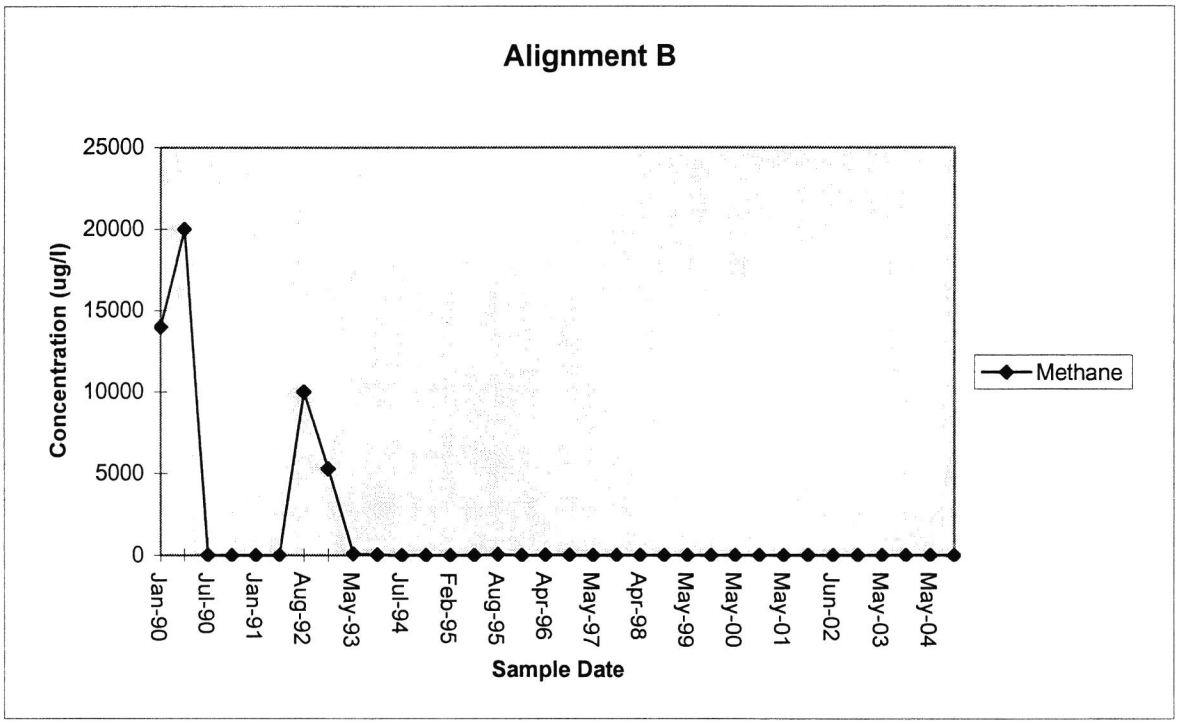


TABLE 8
SVE Alignment Data Plots



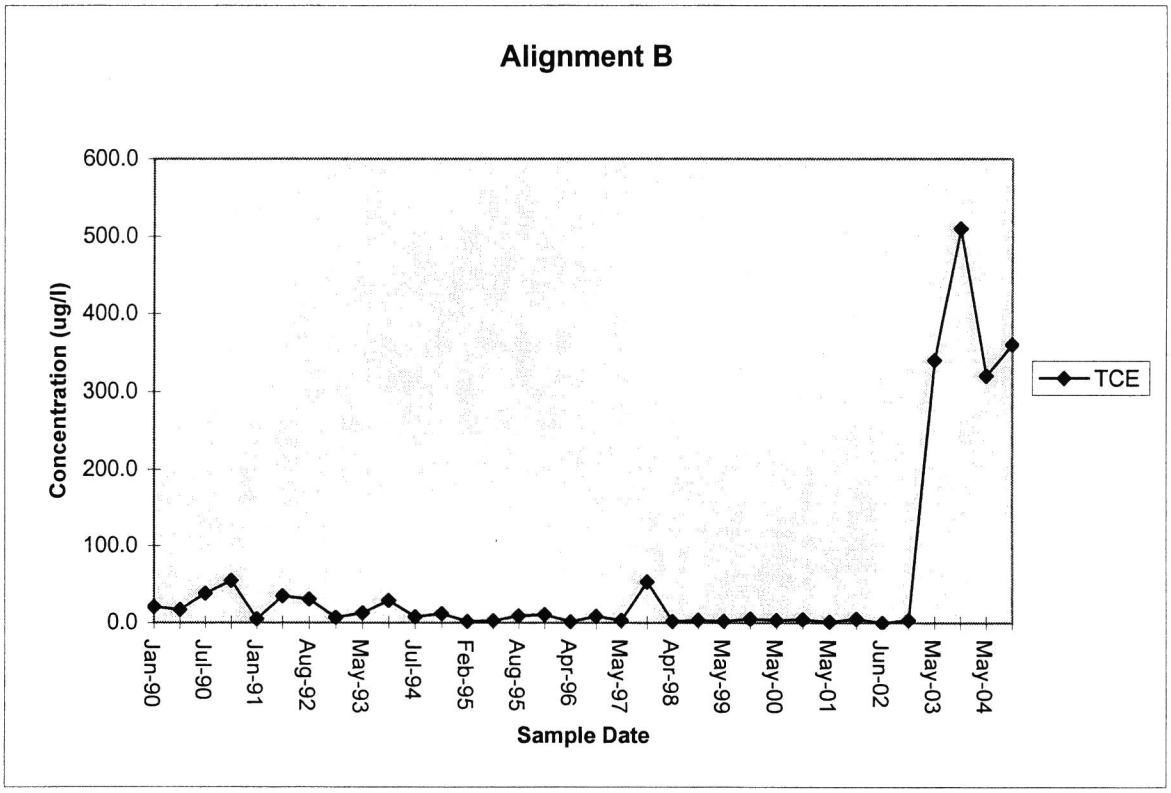
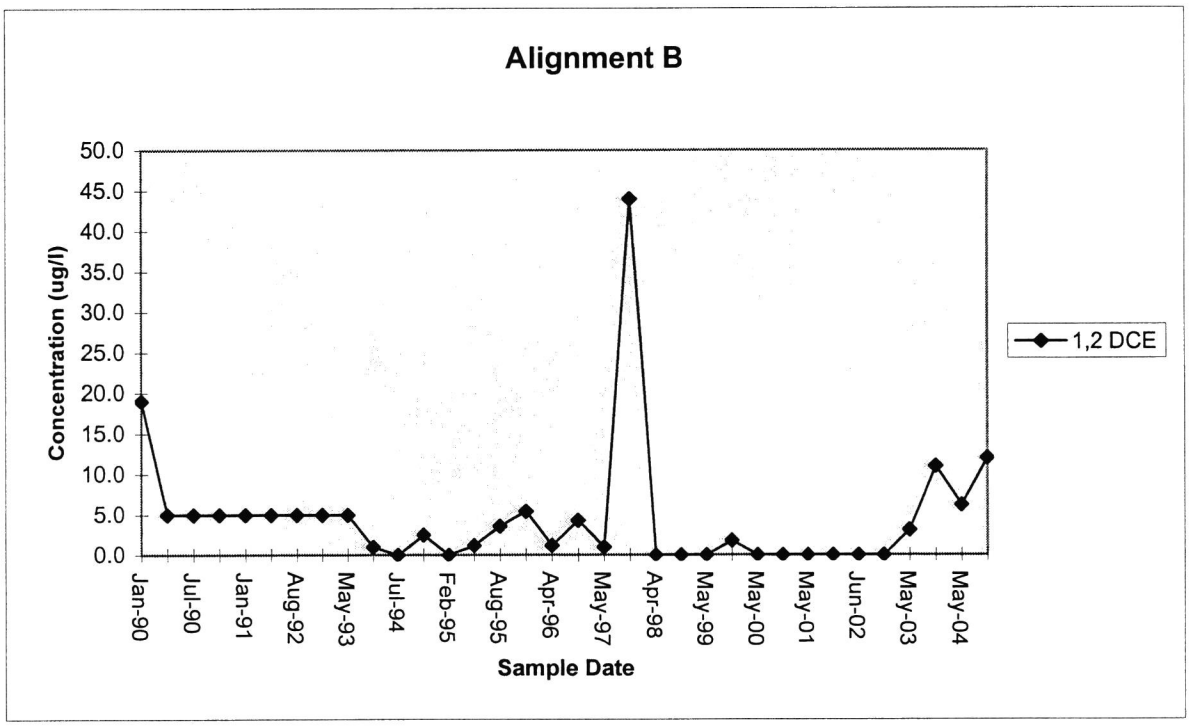
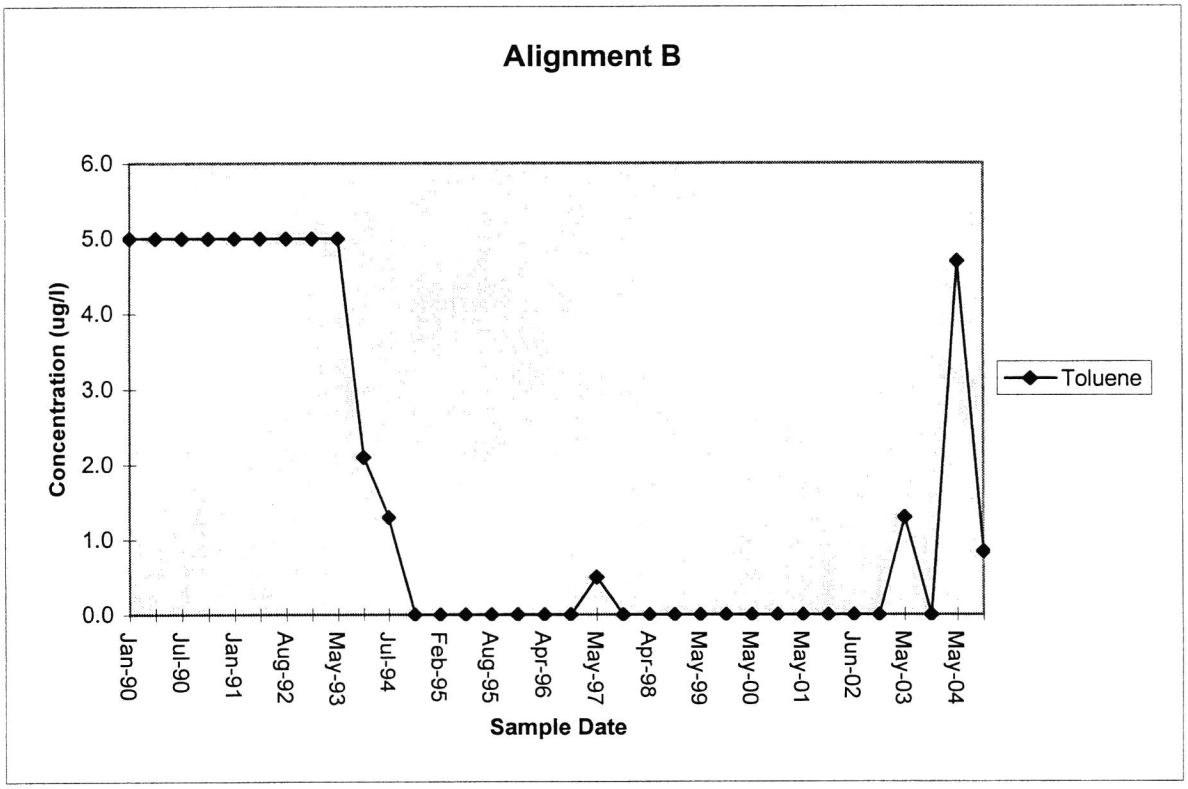


TABLE 8
SVE Alignment Data Plots





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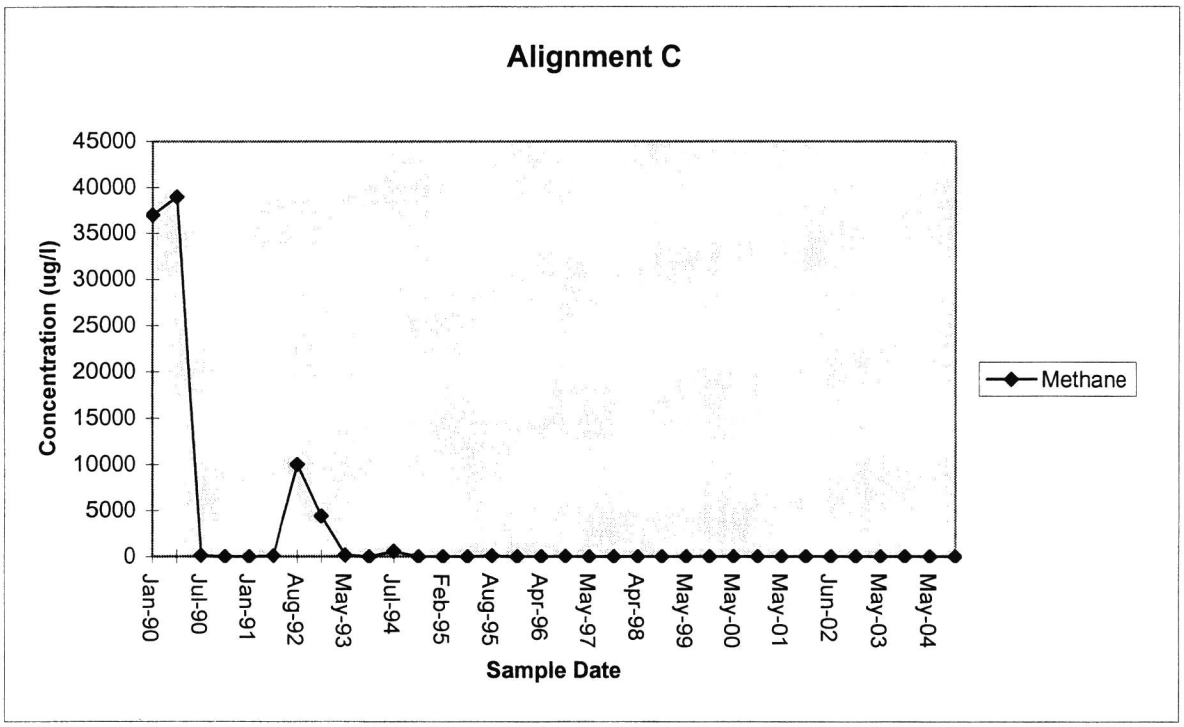
SVE Alignment Data Plots



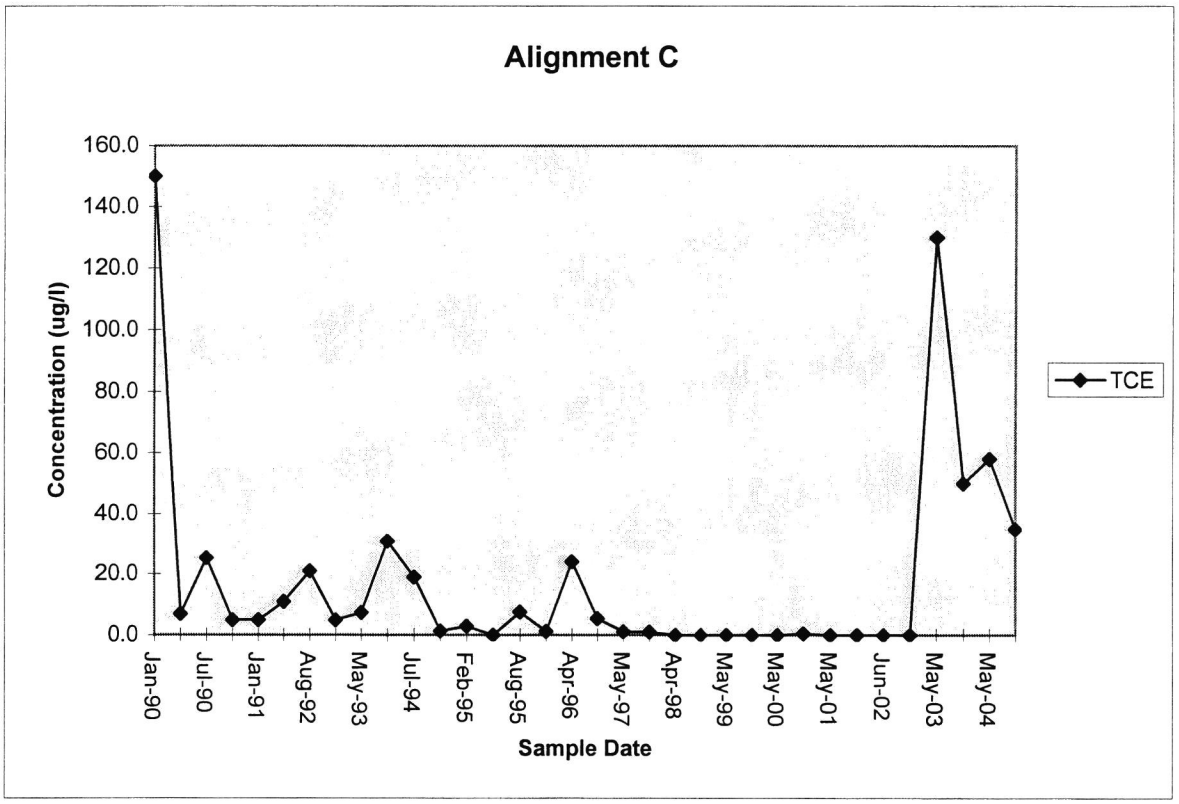
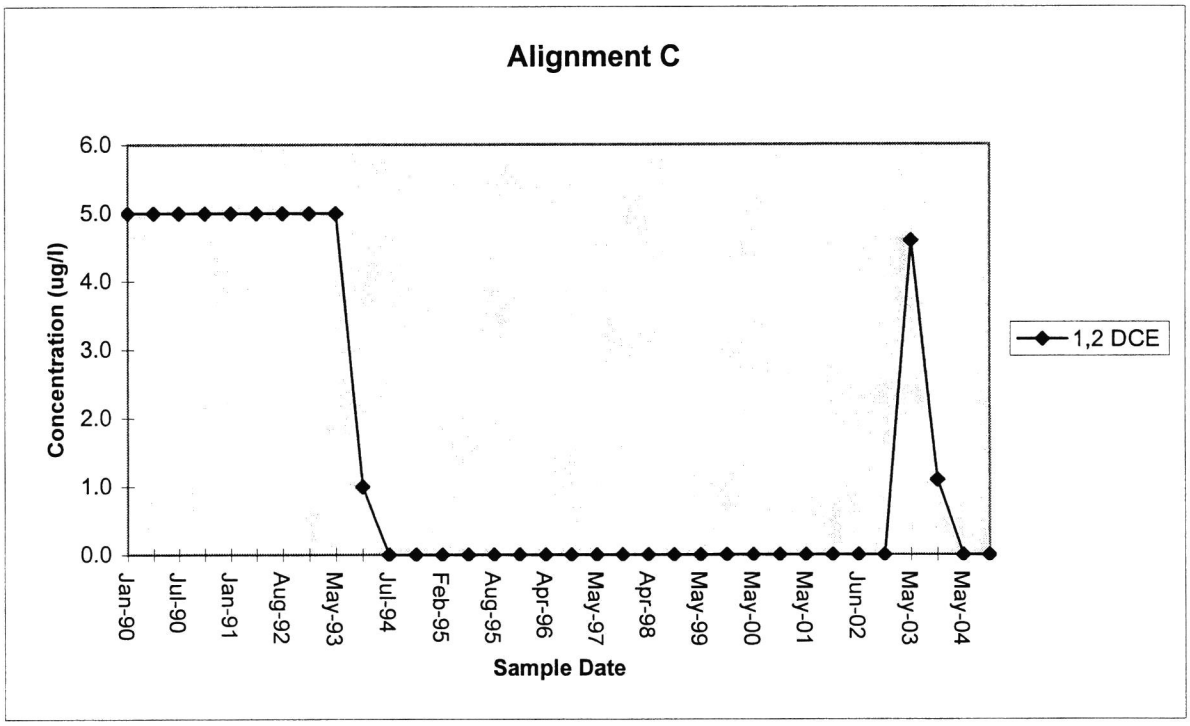


TABLE 8
SVE Alignment Data Plots



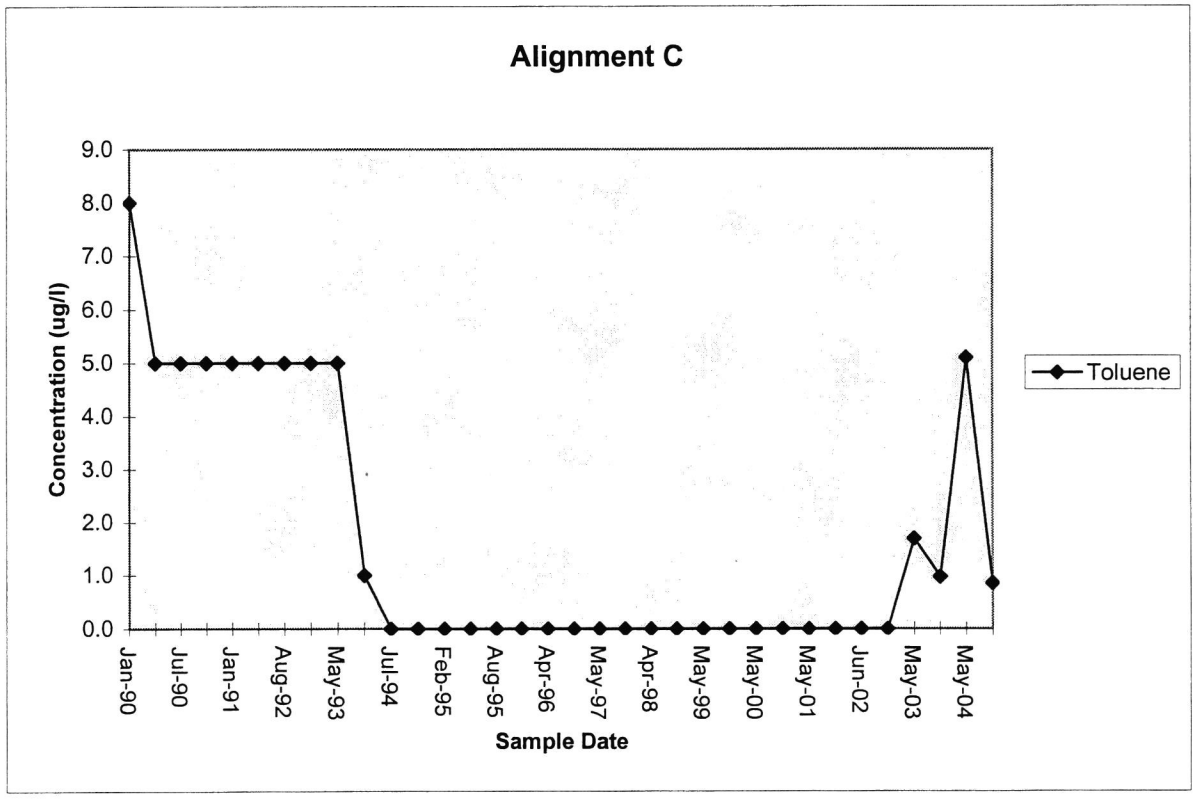
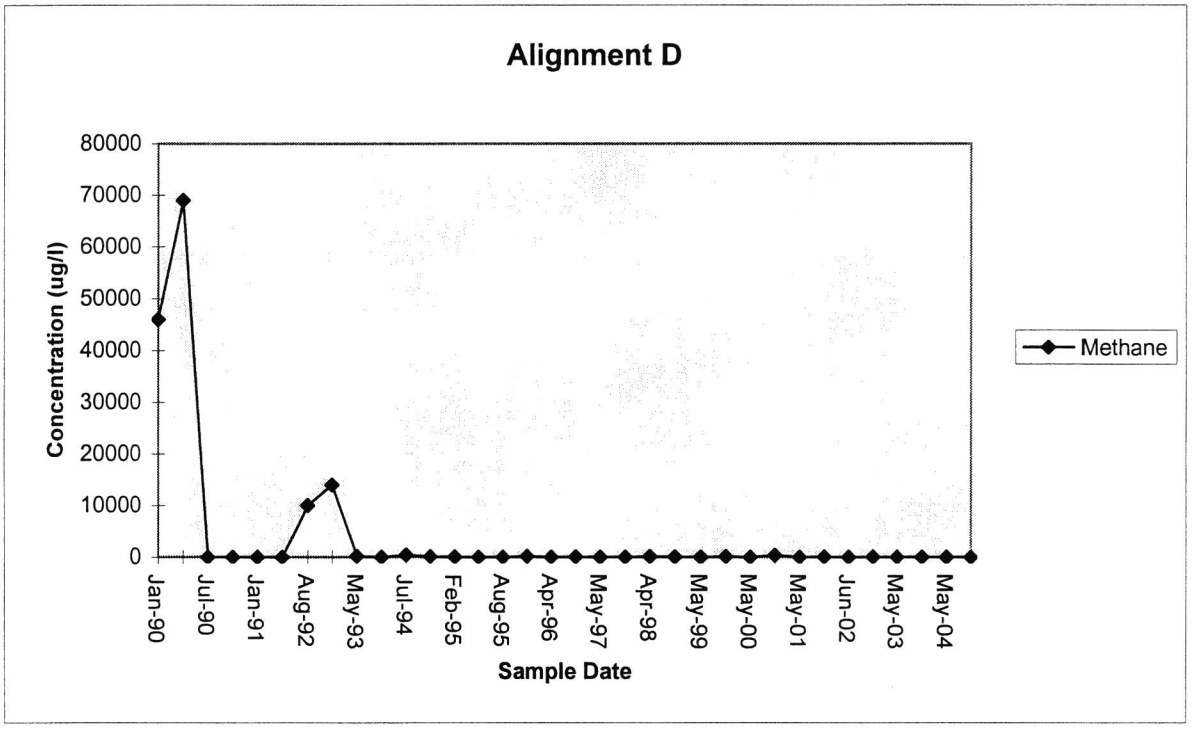
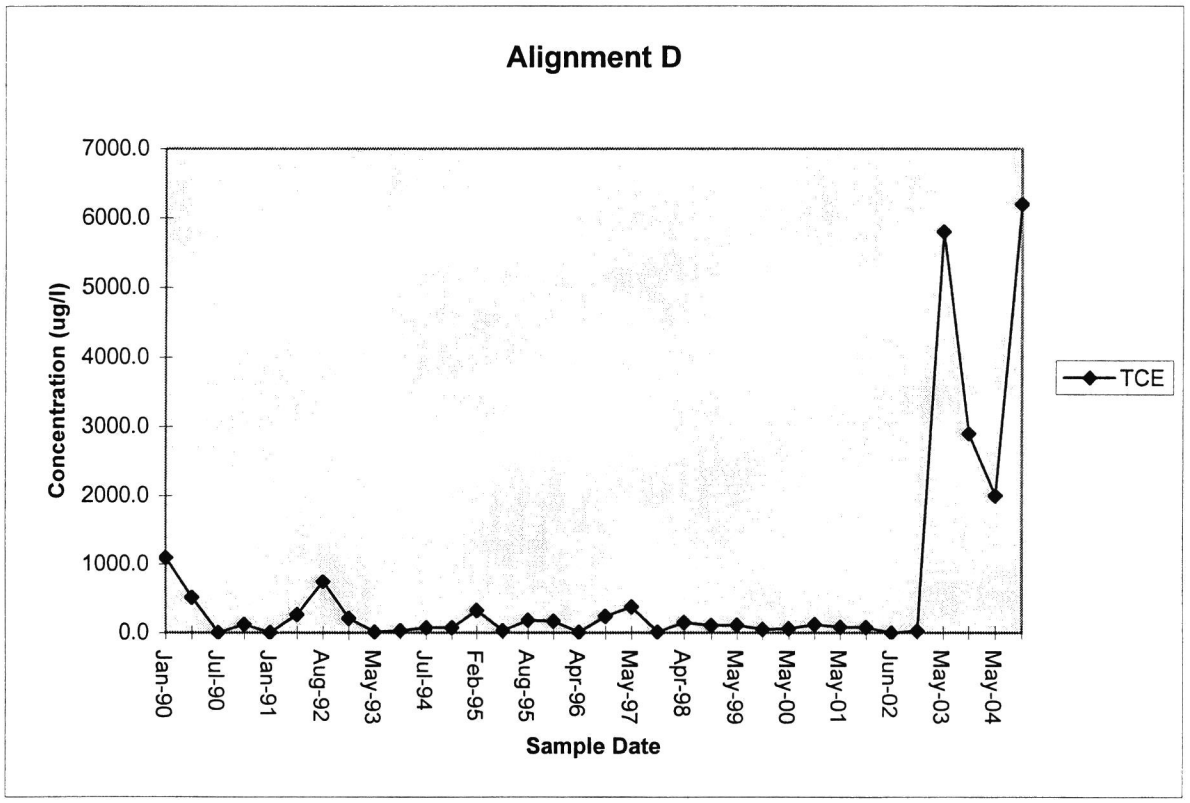


TABLE 8
SVE Alignment Data Plots





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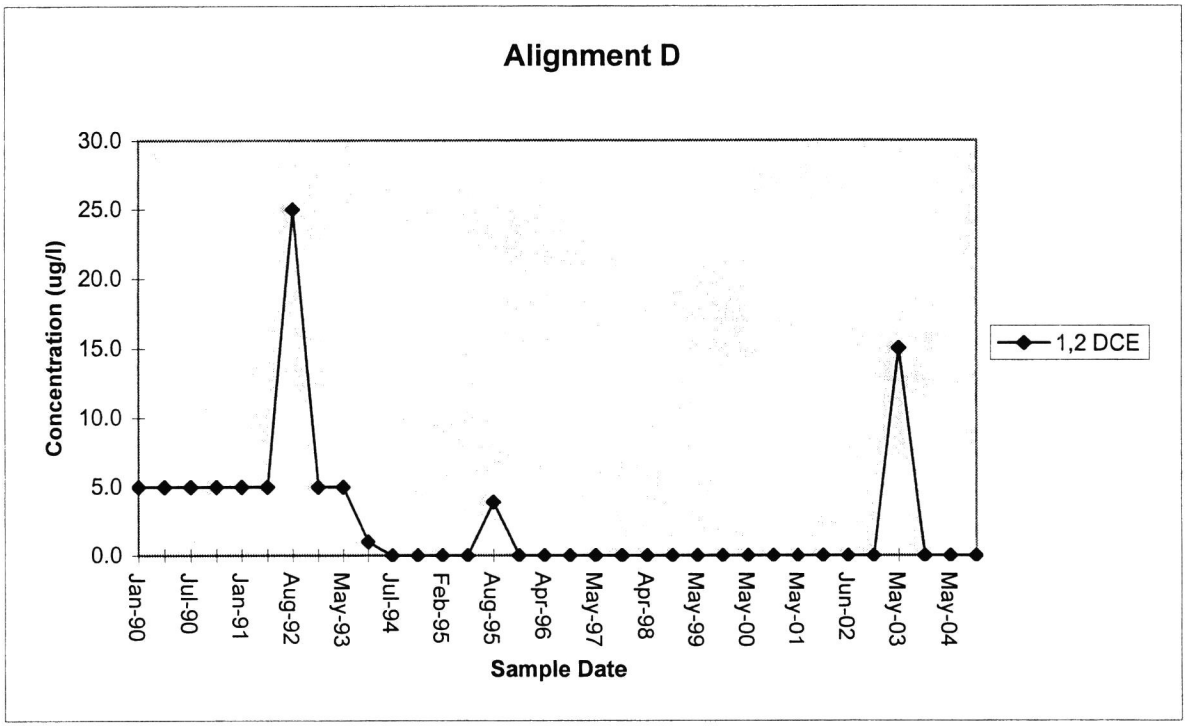
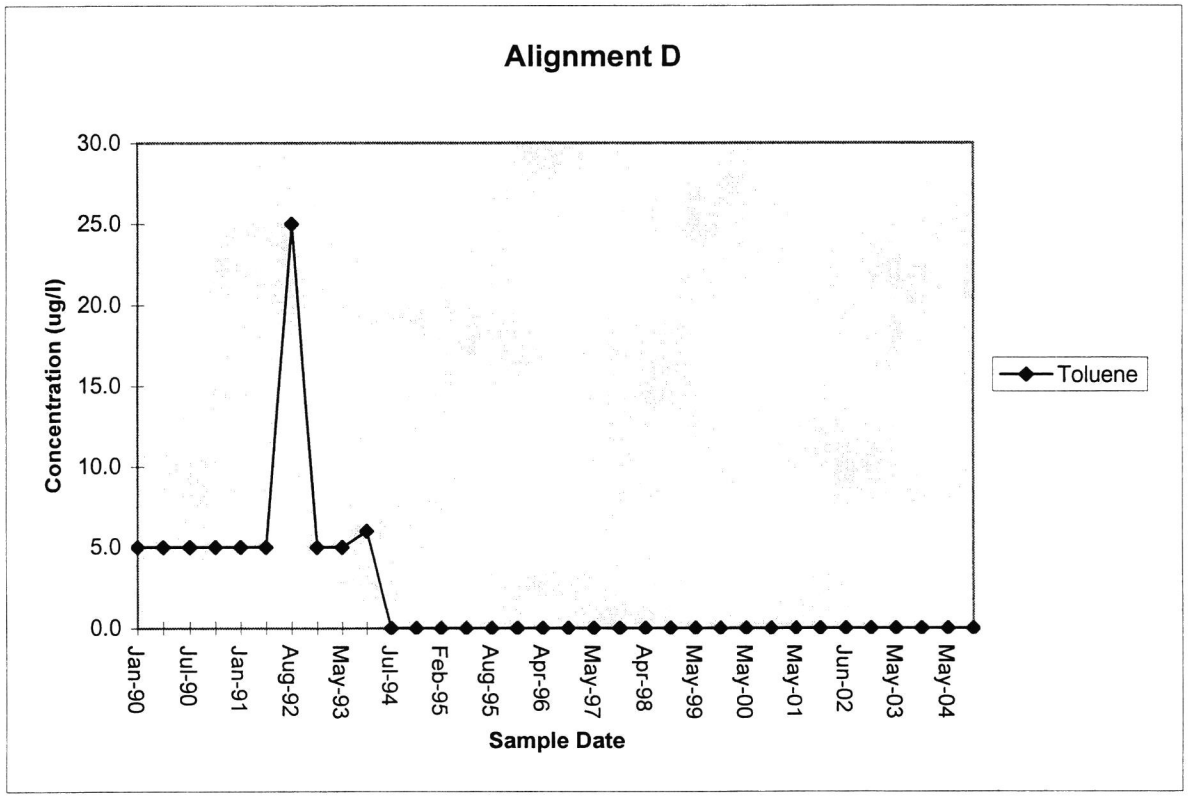
SVE Alignment Data Plots





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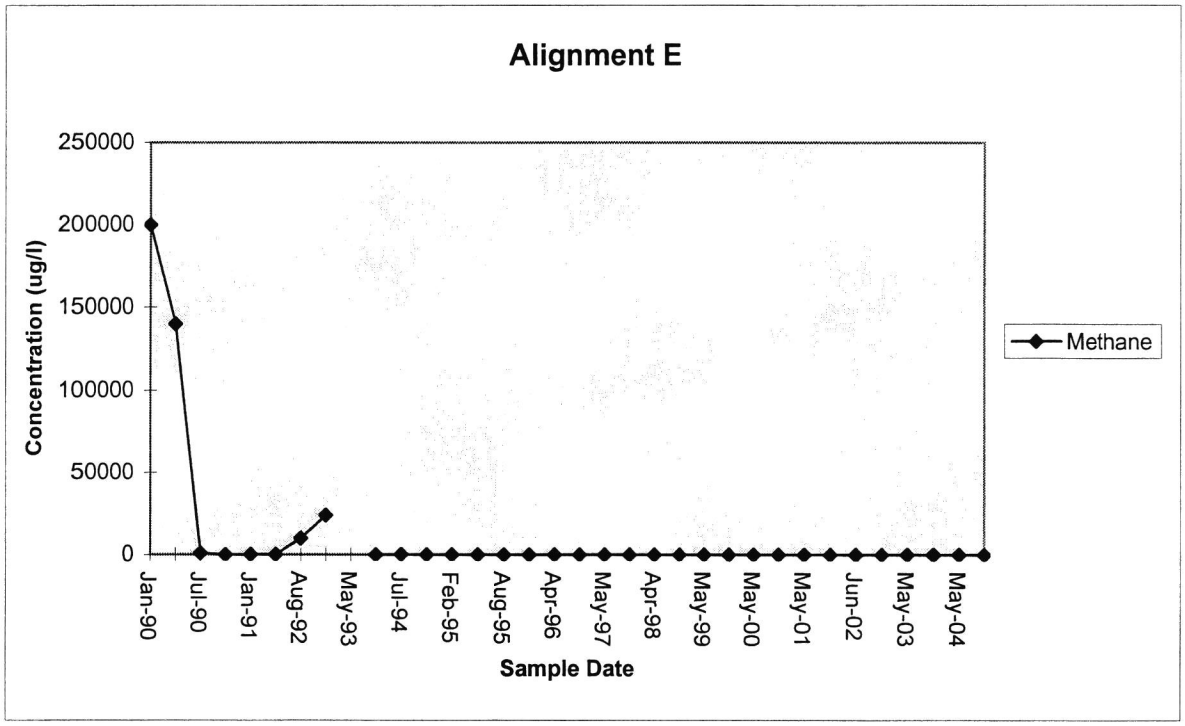
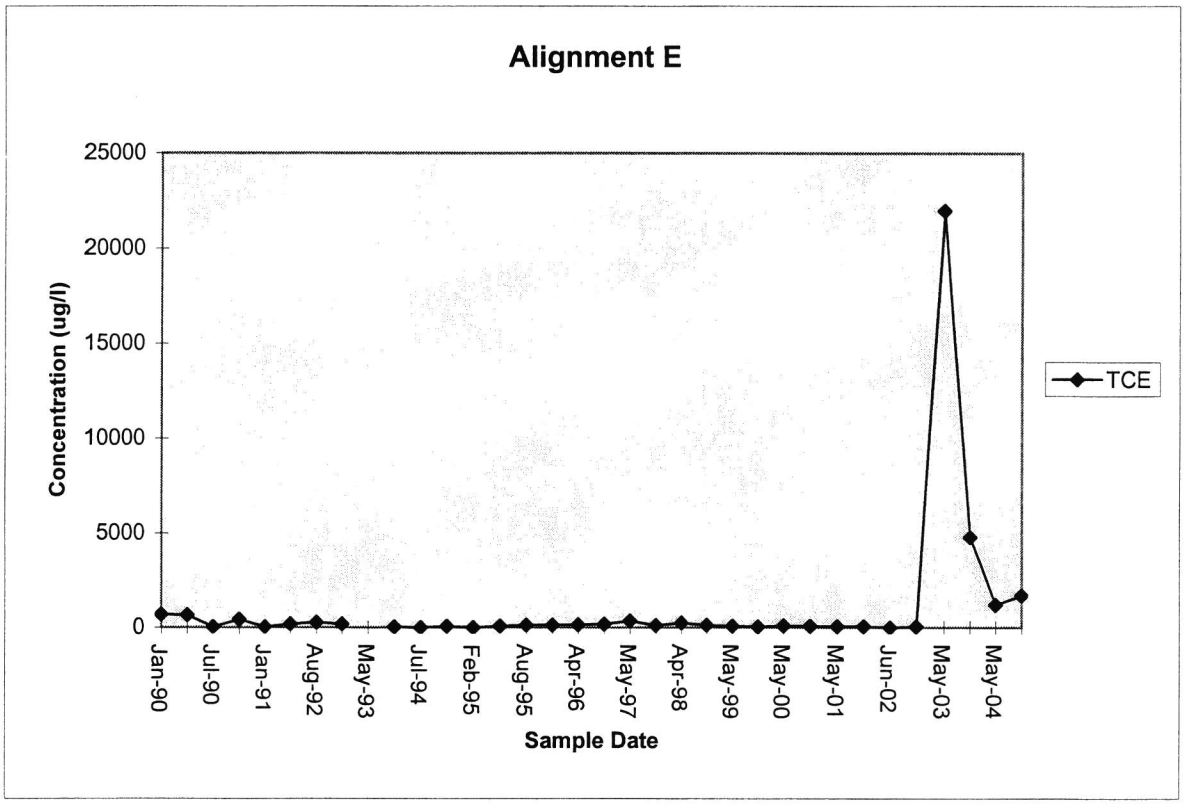
SVE Alignment Data Plots





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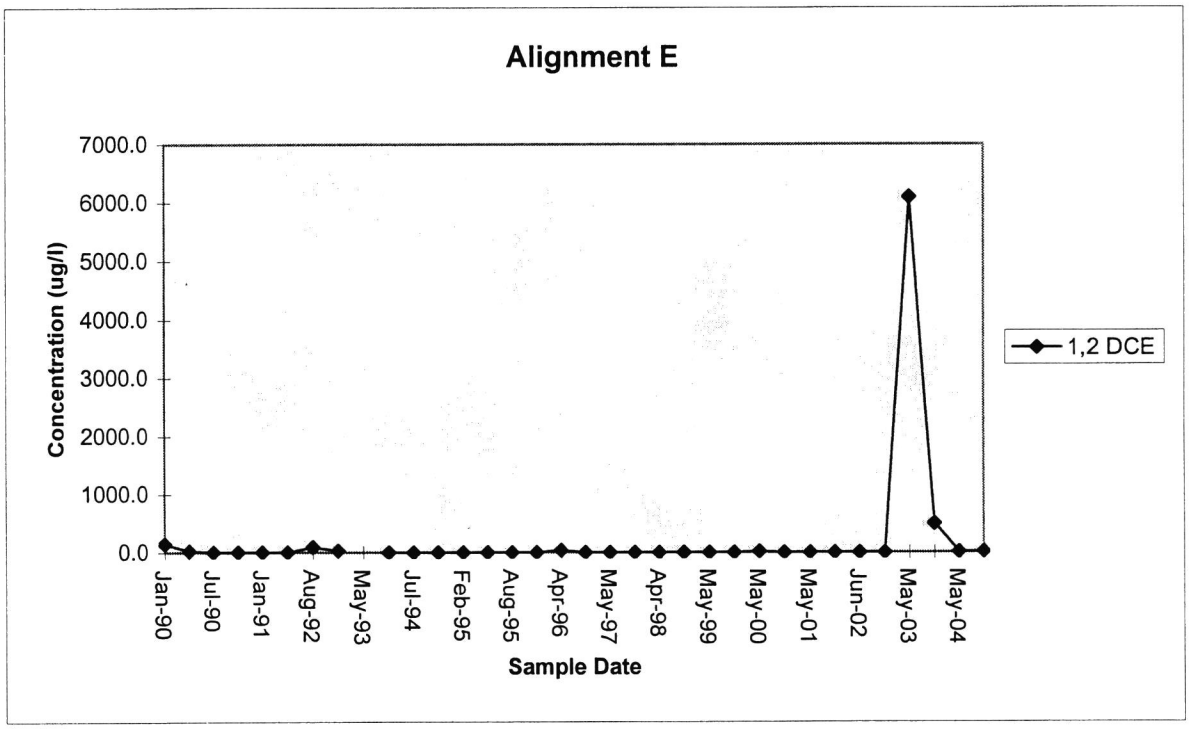

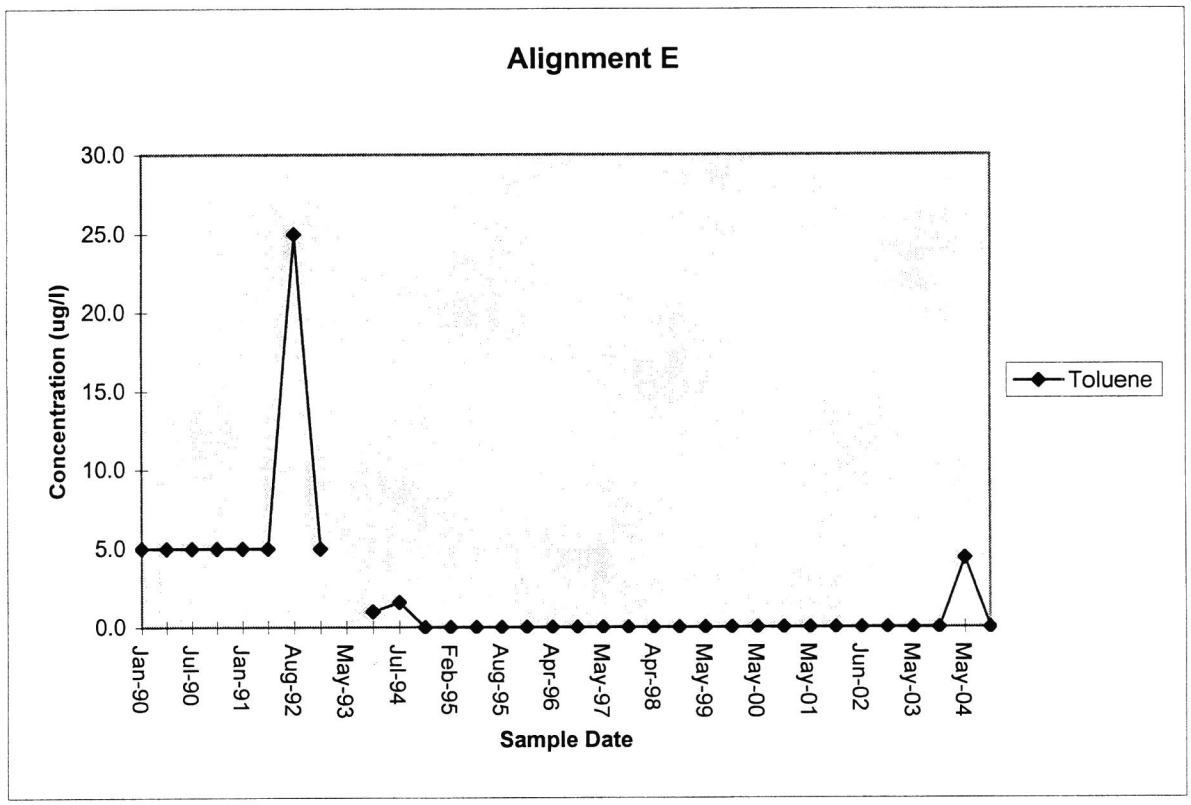

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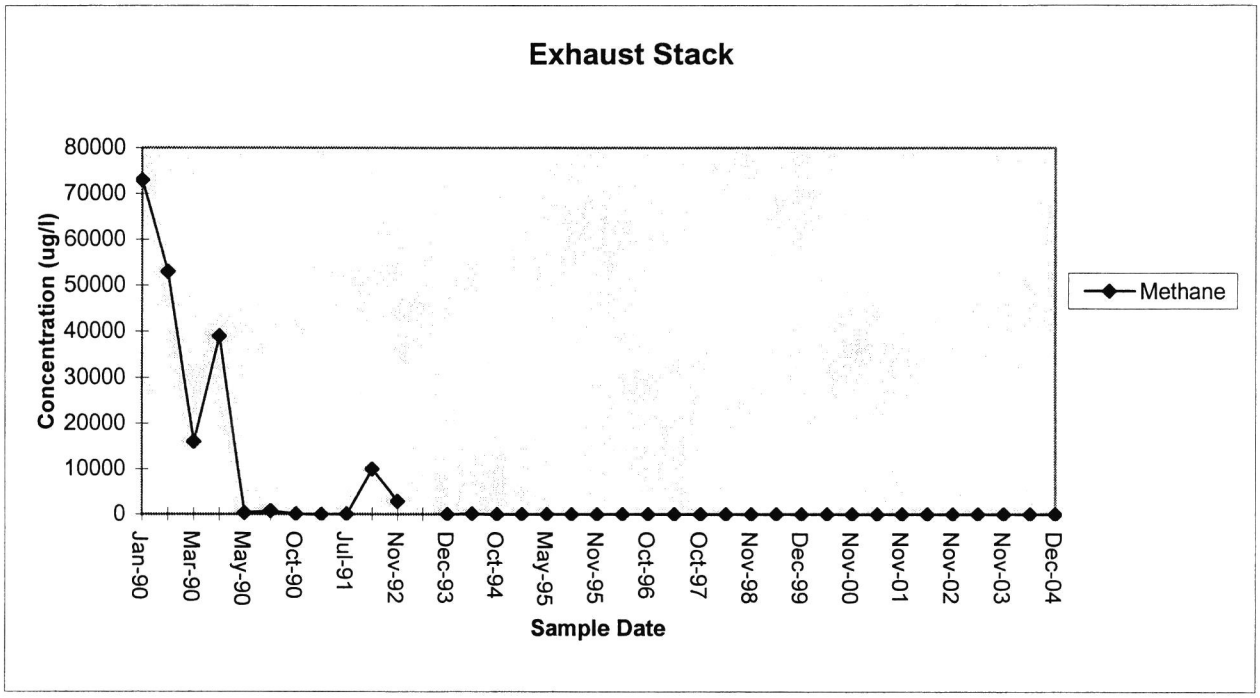
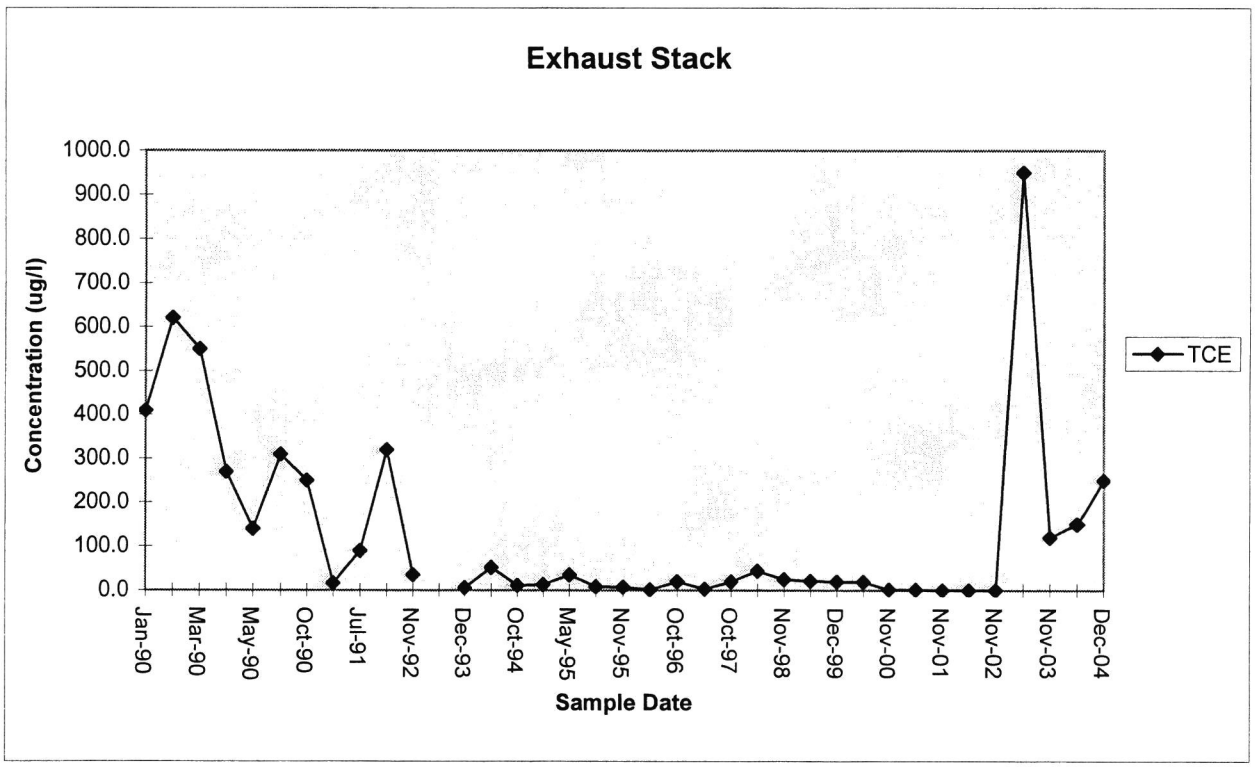
SVE Alignment Data Plots





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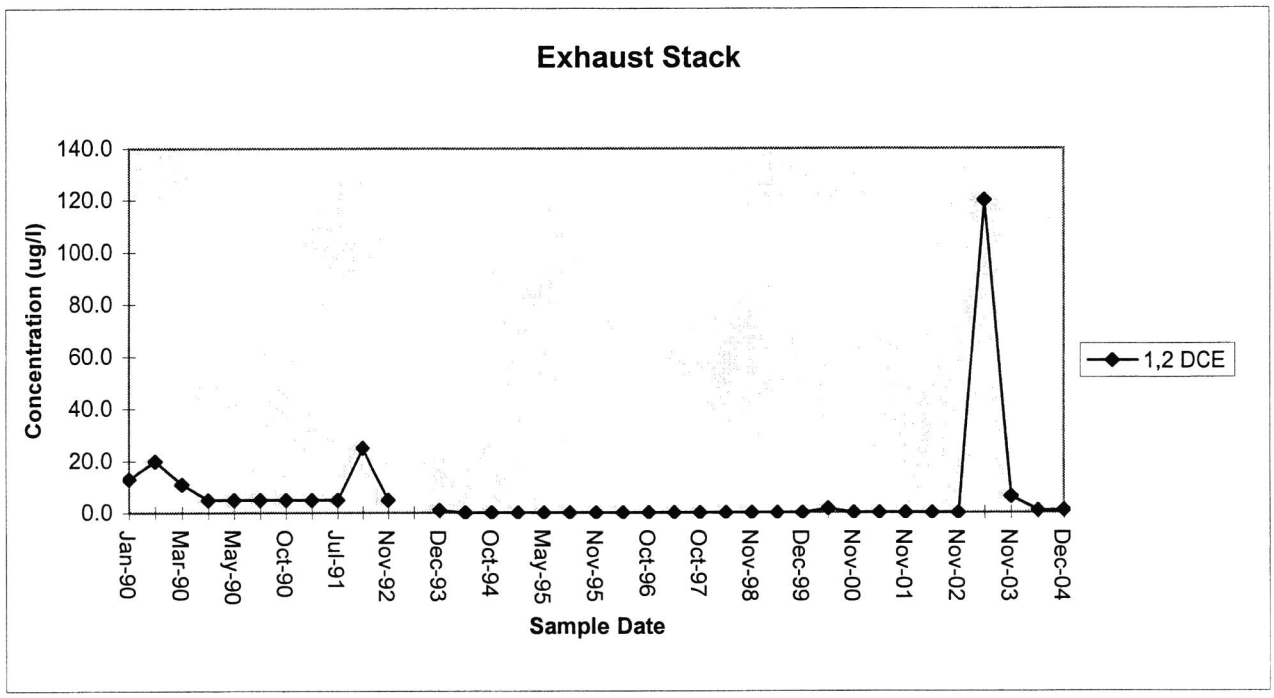
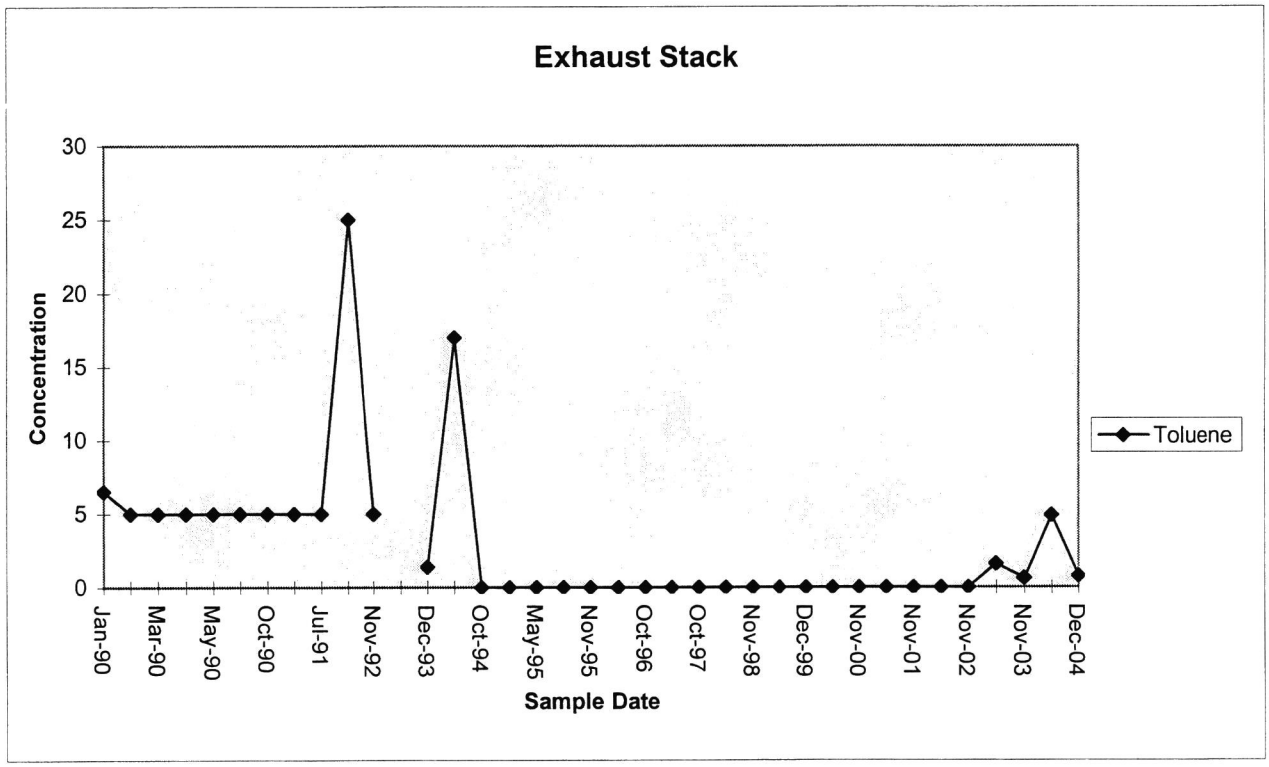
SVE Alignment Data Plots





ATTACHMENT D

SVE WELL LOGS

CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-5

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Baserock fill material ~8 inches.		9"	
		Dark brown, silty clay (cl); medium stiff; moist; 15 to 25% silt; ≤2 to 10% very fine sand.			
		Dark brown, silty sand (sm); medium dense; moist; 30 to 40% silt.			
5		Dark brown, silty clay (cl); medium stiff; moist; 25 to 35% silt; ≤2 to 10% very fine sand.			5
		Dark brown, silty sand (sm); medium dense; moist; 30 to 40% silt.			
10		Becomes saturated at 12 feet.			10
		Dark brown, silty clay (cl); medium stiff; moist; 25 to 35% silt.			
15					15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			20
		Total depth is 22 feet.			
25					25
30					30

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-6

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Baserock fill material ~8 inches.		9"	
		Dark brown, silty clay (cl); medium stiff; moist; 15 to 25% silt; ≤2 to 10% very fine sand.			
		Dark brown, silty sand (sm); medium dense; moist; 30 to 40% silt; ≤2 to 7% clay.			
5		Dark brown, silty clay (cl); medium stiff; moist; 25 to 35% silt; ≤2 to 10% very fine sand.			5
		Dark brown, silty sand (sm); medium dense; moist; 30 to 40% silt; ≤2 to 10% clay.			
10		Becomes saturated at 12 feet.			10
		Dark brown, silty clay (cl); medium stiff; moist; 25 to 35% silt.			
15					15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			20
		Total depth is 22 feet.			
25					25
30					30

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-7

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG (LITHOLOGY)	COMPLETION	HOLE SIZE	DEPTH
		Baserock fill material ~8 inches.		9"	
		Dark brown, silty clay (cl); medium stiff; moist; 10 to 20% silt.			
5		Brown, silty sand (sm); medium dense; moist; 25 to 35% silt; very fine sand. Change in color to dark brown at 6 feet.			5
10		Becomes saturated at 12 feet.			10
		Dark brown and gray mottled, silty clay (cl); medium stiff to stiff; moist; 10 to 20% silt; abundant decayed wood particles.			
15					15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt. Dark brown, sandy clay (cl); medium stiff; moist; 30 to 40% very fine sand.			20
25		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 15 to 25% silt. Total depth is 22 feet.			25
30					30

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION East of Lagoon

WELL NO. VT-8

WELL LOG

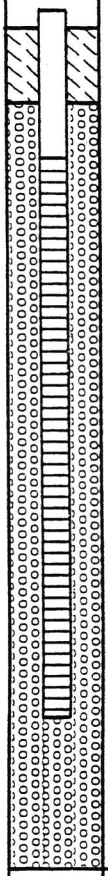
ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Baserock fill material ~8 inches. Dark brown, silty clay (cl); medium stiff; moist; 10 to 20% silt.		9"	
5		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			5
10		15 to 25% clay from 10 to 11 feet. Becomes saturated at 12 feet.			10
15		Dark brown and gray mottled, silty clay (cl); medium stiff to stiff; moist; 10 to 20% silt; abundant decayed wood particles. 2 to 7% very fine sand at 18 feet. Change in color at 19.5 feet to dark gray.			15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 15 to 25% silt.			20
25		Less silt at 24 feet (5 to 10%); becomes saturated. Total depth is 26 feet.			25
30					30



▼ WATER LEVEL
-O- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-9

WELL LOG

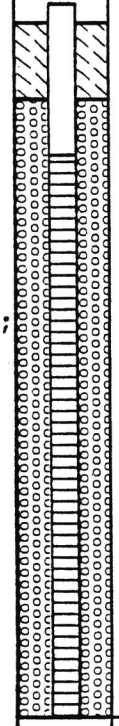
ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Baserock fill material.		9"	
		Dark brown, sandy clay (cl); medium stiff; moist; 30 to 40% very fine sand; 5 to 15% silt.			
5		Dark brown, silty sand (sm); medium dense; moist; 30 to 40% silt.			5
		Soil discolored black from 4 to 5 feet.			
10		Becomes saturated at 12 feet.			10
		Dark brown, silty clay (cl); medium stiff to stiff; moist; 15 to 25% silt; ≤2 to 5% very fine sand.			
15					15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			20
		Total depth is 22 feet.			
25					25
30					30



▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-10

WELL LOG

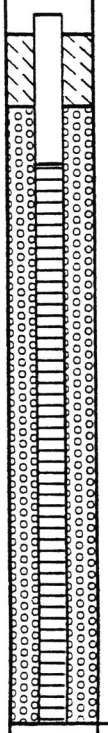
ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	HOLE SIZE	DEPTH
		Baserock fill material ~3 inches. Dark brown, silty clay (cl); medium stiff; moist; 15 to 25% silt; ≤2 to 7% very fine sand.		9"	
		No sand at 4 feet.			
5		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt; ≤2 to 5% clay.			5
10		Becomes saturated at 13 feet.			10
		Dark brown, silty clay (cl) medium stiff; moist; 15 to 25% silt; ≤2 to 10% very fine sand.			
15					15
		Dark gray and brown mottled, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			
20		Total depth is 22 feet.			20
25					25
30					30



▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-11

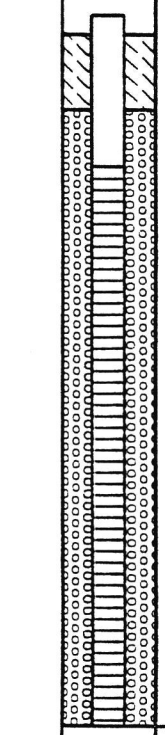
WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')
CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG
		Baserock fill material. Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.
5		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt. Soil discolored black from 4 to 5 feet.
10		Dark brown silty clay (cl); medium stiff; moist; 20 to 30% silt.
15		
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt. Total depth is 22 feet.
25		
30		



HOLE SIZE: 9"

▼ WATER LEVEL
-O- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-12

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Baserock fill material. Dark brown, silty clay (cl); medium stiff; moist; 30 to 40% silt.		9"	
5		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			5
10					10
15		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt. Total depth is 22 feet.			20
25					25
30					30

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-13

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Baserock fill material.		9"	
		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			
5					5
10		Becomes saturated at 12 feet.			10
		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			
15					15
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			
20		Total depth is 22 feet.			20
25					25
30					30

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-14

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG (LITHOLOGY)	COMPLETION	HOLE SIZE	DEPTH
		Baserock fill material.		9"	
		Dark brown, silty clay (cl); medium stiff; moist; 15 to 25% silt.			
5		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			5
10		Becomes saturated at 13 feet.			10
15		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			15
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			
20		Total depth is 22 feet.			20
25					25
30					30

▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-15

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-7')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG (LITHOLOGY)	COMPLETION	HOLE SIZE	DEPTH
		Baserock fill material.		9"	
		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			
5					5
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			
10					10
		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			
15					15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			20
		Total depth is 22 feet.			
25					25
30					30

▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
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AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-16

WELL LOG

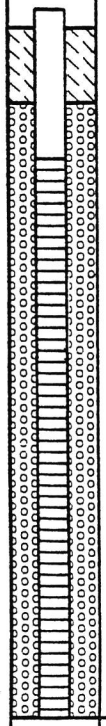
ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	LITHOLOGY: SYMBOL	LITHOLOGY: SAMPLE LOG	COMPLETION	COMPLETION: HOLE SIZE	DEPTH
		Baserock fill material ~3 inches. Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt; strong hydrocarbon odor.		9"	
5		10 to 15% very fine sand at 15 feet.			5
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt; strong hydrocarbon odor.			
10					10
		Dark brown, silty clay (cl); medium stiff; moist; 30 to 40% silt; strong hydrocarbon odor.			
15					15
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt; strong hydrocarbon odor.			
20					20
		Total depth is 22 feet.			
25					25
30					30



▼ WATER LEVEL
PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
AUSTIN • CORPUS CHRISTI • MIDLAND

CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-17

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG (LITHOLOGY)	COMPLETION	HOLE SIZE	DEPTH
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.		9"	
		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			
5					5
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			
10					10
15		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			15
20					20
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt. Total depth is 22 feet.			
25					25
30					30

▼ WATER LEVEL
-O- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
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CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-18

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

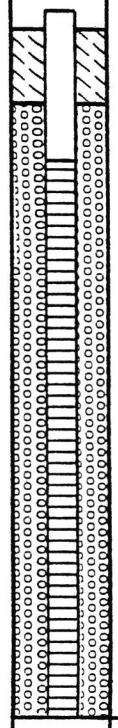
CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG (LITHOLOGY)
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.
5		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.
		Dark brown, silty sand (sm); medium dense; moist, very fine sand; 30 to 40% silt.
10		
15		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.
20		Change in color at 18 feet to dark gray. Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.
		Total depth is 22 feet.
25		
30		

COMPLETION



HOLE SIZE: 9"

▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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CLIENT Hussmann Corporation

PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-19

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION Pea gravel #4 (5.5-22')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG (LITHOLOGY)	COMPLETION	HOLE SIZE	DEPTH
		Baserock fill material ~8 inches.		9"	
		Dark brown, clayey sand (sc); medium dense; moist; very fine sand; 10 to 15% clay; 2 to 10% silt.			
5		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt; ≤2 to 10% very fine sand.			5
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			
10					10
		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt; slight hydrocarbon odor.			
15					15
		Dark brown, silty sand (sm); medium dense; moist; 30 to 40% silt, very fine sand; strong hydrocarbon odor.			
20					20
		Total depth is 22 feet.			
25					25
30					30

▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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PROJECT Vapor Extraction system

LOCATION Area East of Lagoon

WELL NO. VT-20

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-7')
2" PVC, 0.020" slot (7-22')

COMPLETION
CEMENT Pea gravel #4 (5.5-22')
Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG (LITHOLOGY)	COMPLETION	HOLE SIZE	DEPTH
		Baserock fill material ~8 inches.		9"	
		Dark brown, clayey sand (sc); medium dense; moist; very fine sand; 10 to 20% clay.			
5		Dark brown, silty clay (cl); medium stiff; moist; 15 to 25% silt.			5
10		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt; strong hydrocarbon odor.			10
15		Dark brown, silty clay (cl); medium stiff; moist; 30 to 40% silt; ≤2 to 7% very fine sand; strong hydrocarbon odor. Change in color at 14 feet to dark gray.			15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt; ≤2 to 10% clay; strong hydrocarbon odor.			20
		Total depth is 22 feet.			
25					25
30					30

▼ WATER LEVEL
-O- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

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PROJECT Vapor Extraction System

LOCATION Area East of Lagoon

WELL NO. VT-21

WELL LOG

ELEVATION
Ground Level
Casing
Water Level

CASING 2" PVC, Sch. 40 (-3-9')
2" PVC, 0.020" slot (9-24')

COMPLETION Pea gravel #4 (5.5-24')

CEMENT Bentonite pellets (3.5-5.5')

DEPTH	SYMBOL	SAMPLE LOG (LITHOLOGY)	COMPLETION	HOLE SIZE	DEPTH
		Baserock fill material ~6 inches.		9"	
		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt; ≤2 to 7% clay.			
5		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			5
10		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			10
15		Dark brown, silty clay (cl); medium stiff; moist; 20 to 30% silt.			15
20		Dark brown, silty sand (sm); medium dense; moist; very fine sand; 30 to 40% silt.			20
25		Total depth is 24 feet.			25
30					30

▼ WATER LEVEL
-o- PUMP SETTING
CEMENT
BENTONITE SEAL
GRAVEL PACK
PERFORATIONS

REED & ASSOCIATES, INC.
Hydrologists and Environmental Consultants
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ATTACHMENT E

UP-TO-DATE GROUND WATER TRACKING TABLE

TABLE 5
SECO WATER LEVEL ELEVATIONS

	10/24/1994		1/17/1995		6/26/1995		4/30/1996	
Location	WL	Elevation	WL	Elevation	WL	Elevation	WL	Elevation
BRIDGE	33.85	455.94	29.55	460.24	18.88	470.91	18.00	471.79
Creek		455.94		460.24		470.91		471.79
Creek		455.94		460.24		470.91		471.79
Creek		455.94		460.24		470.91		471.79
Creek		455.94		460.24		470.91		471.79
Creek		455.94		460.24		470.91		471.79
Creek		455.94		460.24		470.91		471.79
Creek		455.94		460.24		470.91		471.79
CreekS								471.79
CreekS								471.79
MD1	19.75	-19.75	19.27	-19.27				
MD2	18.50	-18.50	18.26	-18.26				
MS1	19.70	462.37	17.88	464.19	8.02	474.05	11.79	470.28
MS2	19.40	462.95	20.12	462.23			10.54	471.81
MS3	26.55	465.70	24.62	467.63	16.57	475.68	21.63	470.62
MS5	28.55	463.01	27.16	464.40	17.82	473.74	21.89	469.67
MS6	23.70	468.02	22.54	469.18	14.38	477.34	22.03	469.69
MW1	20.25	-20.25	16.86	-16.86	5.11	-5.11		
MW2	20.25	471.94	21.48	470.71	9.51	482.68	21.29	470.90
MW3	18.05	464.52	14.28	468.29	5.02	477.55	16.25	466.32
MW4	17.35	464.16	11.45	470.06	4.38	477.13	10.49	471.02
MW5	22.70	461.20	Vacuum	Vacuum	9.31	474.59	10.82	473.08
MW6	25.55	467.50	22.95	470.10	16.50	476.55	19.94	473.11
PIEZO	21.20	-21.20	19.89	-19.89				
RW1	18.80	460.58	24.11	455.27	23.30	456.08	24.11	455.27
RW2	17.50	461.09	18.69	459.90			17.50	461.09
RW3	15.55	463.08	12.37	466.26			12.37	466.26
RW4	21.05	462.44	21.23	462.26	25.62	457.87	25.62	457.87
RW5	20.60	465.86	35.85	450.61	40.34	446.12	40.34	446.12
RW6							32.56	457.53
RW7							34.75	455.39
SS1	DRY	DRY	DRY	DRY	8.49	-8.49		
SS2	DRY	DRY	16.70	-16.70	7.93	-7.93		
SS3	DRY	DRY	DRY	DRY	14.55	-14.55		
SWGW/A	20.30	460.58	19.31	461.57	6.81	474.07	9.84	471.04
SWGW/AS	17.45	463.88	11.95	469.38	5.56	475.77	7.95	473.38
SWGW/B	22.40	461.14	21.45	462.09	8.89	474.65	11.57	471.97
SWGW/C	21.15	461.62	19.46	463.31	9.05	473.72	11.80	470.97
SWGW/CS	21.40	461.27	19.97	462.70	8.53	474.14	10.90	471.77
SWGW/D	8.95	469.91	9.34	469.52	6.83	472.03	9.49	469.37
SWGW/DS	15.85	463.02	13.86	465.01	6.09	472.78	8.69	470.18

TABLE 5
SECO WATER LEVEL ELEVATIONS

	10/29/1996		4/30/1997		10/21/1997		4/21/1998	
Location	WL	Elevation	WL	Elevation	WL	Elevation	WL	Elevation
BRIDGE	27.51	462.28	21.42	468.37	28.14	461.65	23.67	466.12
Creek		462.28		468.37		461.65		466.12
Creek		462.28		468.37		461.65		466.12
Creek		462.28		468.37		461.65		466.12
Creek		462.28		468.37		461.65		466.12
Creek		462.28		468.37		461.65		466.12
Creek		462.28		468.37		461.65		466.12
Creek		462.28		468.37		461.65		466.12
CreekS		462.28		468.37		461.65		466.12
CreekS		462.28		468.37		70.97		466.12
MD1								
MD2								
MS1	15.21	466.86	9.24	472.83	17.15	464.92	11.55	470.52
MS2	16.55	465.80	10.64	471.71	18.49	463.86	11.55	470.80
MS3	24.20	468.05	19.37	472.88	24.84	467.41	19.50	472.75
MS5	24.58	466.98	24.58	466.98	26.30	465.26	21.75	469.81
MS6	22.50	469.22	18.49	473.23	23.67	468.05	18.35	473.37
MW1								
MW2	20.67	471.52	12.92	479.27	21.37	470.82	13.61	478.58
MW3	15.90	466.67	8.99	473.58	17.46	465.11	8.09	474.48
MW4	14.61	466.90	8.47	473.04	16.25	465.26	7.31	474.20
MW5	17.65	466.25	12.52	471.38	19.27	464.63	11.70	472.20
MW6	23.73	469.32	19.53	473.52	25.10	467.95	19.76	473.29
RW1			33.55	445.83	27.75	451.63	15.98	463.40
RW2	17.50	461.09	12.75	465.84	18.03	460.56	11.65	466.94
RW3	12.37	466.26	16.85	461.78	20.80	457.83	23.69	454.94
RW4	25.62	457.87	24.21	459.28	20.50	462.99	31.54	451.95
RW5	18.32	468.14	43.25	443.21	40.50	445.96	43.45	443.01
RW6	32.56	457.53	37.12	452.97	36.42	453.67	23.60	466.49
RW7	34.75	455.39	41.85	448.29	16.88	473.26	15.28	474.86
SS1								
SS2								
SS3								
SWGW/A	15.26	465.62	10.40	470.48	17.56	463.32	10.78	470.10
SWGW/AS	16.10	465.23	13.26	468.07	17.42	463.91	13.10	468.23
SWGW/B	17.44	466.10	12.40	471.14	18.71	464.83	12.80	470.74
SWGW/C	16.20	466.57	10.99	471.78	18.22	464.55	12.55	470.22
SWGW/CS	12.26	470.41	11.24	471.43	18.46	464.21	11.68	470.99
SWGW/D	9.61	469.25	7.43	471.43	9.92	468.94	8.29	470.57
SWGW/DS	11.63	467.24	6.85	472.02	13.37	465.50	9.70	469.17

TABLE 5
SECO WATER LEVEL ELEVATIONS

	10/28/1998		5/12/1999		10/21/1999		4/19/2000	
Location	WL	Elevation	WL	Elevation	WL	Elevation	WL	Elevation
BRIDGE	23.67	466.12	20.64	469.15	31.90	457.89	32.90	456.89
Creek		466.12		469.15		457.89		456.89
Creek		466.12		469.15		457.89		456.89
Creek		466.12		469.15		457.89		456.89
Creek		466.12		469.15		457.89		456.89
Creek		466.12		469.15		457.89		456.89
Creek		466.12		469.15		457.89		456.89
Creek		466.12		469.15		457.89		456.89
CreekS		466.12		469.15		457.89		456.89
CreekS		466.12		469.15		457.89		456.89
MD1								
MD2								
MS1	13.69	468.38	7.00	475.07	18.34	463.73	21.59	460.48
MS2	13.40	468.95	8.51	473.84	21.52	460.83	23.52	458.83
MS3	21.38	470.87	18.10	474.15	26.00	466.25	26.16	466.09
MS5	23.54	468.02	16.58	474.98	26.70	464.86	26.70	464.86
MS6	19.33	472.39	18.29	473.43	23.55	468.17	23.87	467.85
MW1								
MW2	15.93	476.26	13.68	478.51	21.95	470.24	22.82	469.37
MW3	8.45	474.12	5.49	477.08	20.57	462.00	22.48	460.09
MW4	7.57	473.94	4.20	477.31	17.28	464.23	18.35	463.16
MW5	13.12	470.78	9.65	474.25	22.91	460.99	30.30	453.60
MW6	21.03	472.02	18.48	474.57	25.57	467.48	26.04	467.01
RW1	41.15	438.23	7.60	471.78	27.00	452.38	27.00	452.38
RW2	15.88	462.71	11.30	467.29	25.79	452.80	22.39	456.20
RW3	55.45	423.18	27.20	451.43	30.01	448.62	48.90	429.73
RW4	34.33	449.16	14.99	468.50	11.60	471.89	35.45	448.04
RW5	39.90	446.56	34.00	452.46	34.89	451.57	38.58	447.88
RW6	36.45	453.64	34.55	455.54	37.02	453.07	23.76	466.33
RW7	40.54	449.60	28.40	461.74	38.65	451.49	41.61	448.53
SS1								
SS2								
SS3								
SWGW/A	13.07	467.81	5.86	475.02	20.57	460.31	22.43	458.45
SWGW/AS	14.10	467.23	11.25	470.08	18.09	463.24	17.24	464.09
SWGW/B	15.12	468.42	10.52	473.02	22.76	460.78	24.61	458.93
SWGW/C	14.85	467.92	9.50	473.27	20.00	462.77	22.95	459.82
SWGW/CS	13.78	468.89	6.37	476.30	21.00	461.67	21.00	461.67
SWGW/D	9.05	469.81	7.25	471.61	9.11	469.75	21.78	457.08
SWGW/DS	11.50	467.37	7.22	471.65	12.82	466.05	17.27	461.60

TABLE 5
SECO WATER LEVEL ELEVATIONS

	2/5/2001		4/19/2001		10/19/2001		4/18/2002	
Location	WL	Elevation	WL	Elevation	WL	Elevation	WL	Elevation
BRIDGE	35.36	454.43	24.64	465.15	31.85	457.94	34.70	455.09
Creek		454.43		465.15		457.94		455.09
Creek		454.43		465.15		457.94		455.09
Creek		454.43		465.15		457.94		455.09
Creek		454.43		465.15		457.94		455.09
Creek		454.43		465.15		457.94		455.09
Creek		454.43		465.15		457.94		455.09
Creek		454.43		465.15		457.94		455.09
CreekS		454.43		465.15		457.94		455.09
CreekS		454.43		465.15		457.94		455.09
MD1								
MD2								
MS1	22.55	459.52	13.72	468.35	19.50	462.57	19.60	462.47
MS2	24.62	457.73	14.49	467.86	21.70	460.65	22.80	459.55
MS3	27.60	464.65	22.97	469.28	26.60	465.65	26.93	465.32
MS5	31.20	460.36	23.51	468.05	32.00	459.56	27.86	463.70
MS6	24.35	467.37	24.35	467.37	23.73	467.99	22.50	469.22
MW1								
MW2	23.09	469.10	20.57	471.62	22.15	470.04	20.80	471.39
MW3	23.99	458.58	13.36	469.21	20.68	461.89	21.53	461.04
MW4	21.29	460.22	12.27	469.24	16.70	464.81	16.60	464.91
MW5	26.31	457.59	15.87	468.03	23.23	460.67	24.38	459.52
MW6	25.54	467.51	23.55	469.50	25.30	467.75	24.81	468.24
RW1	22.57	456.81	22.57	456.81	24.55	454.83	26.11	453.27
RW2	32.50	446.09	21.07	457.52	24.20	454.39	29.51	449.08
RW3	28.32	450.31	21.05	457.58	25.25	453.38	17.26	461.37
RW4	27.76	455.73	28.20	455.29	20.05	463.44	15.57	467.92
RW5	35.89	450.57	34.35	452.11	39.48	446.98	37.34	449.12
RW6	36.95	453.14	35.80	454.29	34.00	456.09	33.21	456.88
RW7	39.80	450.34	39.35	450.79	39.70	450.44	37.67	452.47
SS1								
SS2								
SS3								
SWGW/A	18.15	462.73	13.49	467.39	20.33	460.55	22.25	458.63
SWGW/AS	23.74	457.59	13.63	467.70	18.77	462.56	17.25	464.08
SWGW/B	25.94	457.60	15.65	467.89	22.85	460.69	23.97	459.57
SWGW/C	19.95	462.82	14.60	468.17	20.67	462.10	21.40	461.37
SWGW/CS	24.20	458.47	14.15	468.52	20.97	461.70	21.96	460.71
SWGW/D	13.85	465.01	11.30	467.56	11.10	467.76	11.93	466.93
SWGW/DS	20.50	458.37	10.97	467.90	15.00	463.87	14.74	464.13

TABLE 5
SECO WATER LEVEL ELEVATIONS

	10/17/2002		4/15/2003		6/17/2003		12/1-8/2003	
Location	WL	Elevation	WL	Elevation	WL	Elevation	WL	Elevation
BRIDGE	35.82	453.97	36.15	453.64			36.60	453.19
Creek		453.97		453.64				
Creek		453.97		453.64				
Creek		453.97		453.64				
Creek		453.97		453.64				
Creek		453.97		453.64				
Creek		453.97		453.64				
Creek		453.97		453.64				
CreekS		453.97		453.64				
CreekS		453.97		453.64				
MD1								
MD2								
MS1	22.45	459.62	22.30	459.77			20.87	461.20
MS2	25.05	457.30	24.52	457.83			23.32	459.03
MS3	28.00	464.25	27.72	464.53			27.46	464.79
MS5	30.90	460.66	31.11	460.45			29.51	462.05
MS6	24.75	466.97	23.61	468.11			23.28	468.44
MW1								
MW2	22.50	469.69	22.52	469.67			22.00	470.19
MW3	23.95	458.62	23.80	458.77			22.47	460.10
MW4	19.75	461.76	18.89	462.62			16.36	465.15
MW5	26.85	457.05	26.10	457.80			25.07	458.83
MW6	26.60	466.45	25.26	467.79			24.02	469.03
RW1	43.25	436.13			34.60	444.78	26.99	452.39
RW2	29.60	448.99			19.50	459.09	20.52	458.07
RW3	45.50	433.13			12.15	466.48	12.21	466.42
RW4	37.91	445.58			18.50	464.99	22.09	461.40
RW5	41.99	444.47			18.20	468.26	20.63	465.83
RW6	37.95	452.14			18.40	471.69	21.59	468.50
RW7	41.01	449.13			36.50	453.64	38.36	451.78
SS1								
SS2								
SS3								
SWGW/A	24.58	456.30	23.75	457.13			22.79	458.09
SWGW/AS	19.99	461.34	19.44	461.89			14.97	466.36
SWGW/B	26.50	457.04	25.72	457.82			24.87	458.67
SWGW/C	24.34	458.43	23.79	458.98			22.56	460.21
SWGW/CS	24.64	458.03	24.15	458.52			23.11	459.56
SWGW/D	12.02	466.84	13.56	465.30			14.17	464.69
SWGW/DS	19.00	459.87	18.20	460.67			16.72	462.15

TABLE 5
SECO WATER LEVEL ELEVATIONS

	05/19-21/2004			11/30/04-12/3/2004			7/18/05-7/22/2005	
Location	WL	Elevation	Location	WL	Elevation	Location	WL	Elevation
BRIDGE	28.54	461.25	BRIDGE	27.30	462.49	BRIDGE	35.00	454.79
Creek			Creek			Creek		
Creek			Creek			Creek		
Creek			Creek			Creek		
Creek			Creek			Creek		
Creek			Creek			Creek		
Creek			Creek			Creek		
Creek			Creek			Creek		
CreekS			CreekS			CreekS		
CreekS			CreekS			CreekS		
MD1			MD1			MD1		
MD2			MD2			MD2		
MS1	16.25	465.82	MS1	15.03	467.04	MS1	20.10	461.97
MS2	19.23	463.12	MS2	16.53	465.82	MS2	21.99	460.36
MS3	25.80	466.45	MS3	23.79	468.46	MS3	27.12	465.13
MS5	25.88	465.68	MS5	23.92	467.64	MS5	28.36	463.20
MS6	21.94	469.78	MS6	18.68	473.04	MS6	-	-
MW1			MW1			MW1		
MW2	17.70	474.49	MW2	18.26	473.93	MW2	20.85	471.34
MW3	12.23	470.34	MW3	14.25	468.32	MW3	20.72	461.85
MW4	10.95	470.56	MW4	9.82	471.69	MW4	17.06	464.45
MW5	20.81	463.09	MW5	18.25	465.65	MW5	24.08	459.82
MW6	22.33	470.72	MW6	17.62	475.43	MW6	25.87	467.18
RW1	44.00	435.38	RW1	44.00	435.38	RW1	44.00	435.38
RW2	22.06	456.53	RW2	12.20	466.39	RW2	62.00	416.59
RW3	56.00	422.63	RW3	56.00	422.63	RW3	56.00	422.63
RW4	37.00	446.49	RW4	37.00	446.49	RW4	37.00	446.49
RW5	44.00	442.46	RW5	44.00	442.46	RW5	44.00	442.46
RW6	37.00	453.09	RW6	37.00	453.09	RW6	37.00	453.09
RW7	43.00	447.14	RW7	43.00	447.14	RW7	43.00	447.14
SS1			SS1			SS1		
SS2			SS2			SS2		
SS3			SS3			SS3		
SWGW/A	18.30	462.58	SWGW/A	16.09	464.79	SWGW/A	21.55	459.33
SWGW/AS	13.92	467.41	SWGW/AS	12.85	468.48	SWGW/AS	18.78	462.55
SWGW/B	20.88	462.66	SWGW/B	17.94	465.60	SWGW/B	23.97	459.57
SWGW/C	17.70	465.07	SWGW/C	16.39	466.38	SWGW/C	21.36	461.41
SWGW/CS	18.31	464.36	SWGW/CS	16.38	466.29	SWGW/CS	21.55	461.12
SWGW/D	13.40	465.46	SWGW/D	12.00	466.86	SWGW/D	11.54	467.32
SWGW/DS	11.64	467.23	SWGW/DS	11.13	467.74	SWGW/DS	15.42	463.45