

6723 Towpath Road, Box 66  
Syracuse, NY 13214-0066

June 11, 2003

Reference No. 17366-30

Alameda County  
JUN 13 2003  
Environmental Health

Ms. Donna Drogos  
Alameda County Environmental Health  
Subsurface Leak Investigation and Cleanup Division  
1131 Harbor Bay Parkway  
Alameda, California 94502

Dear Ms. Drogos:

Re: Chronology of Events and Investigation Summary  
Oil/Water Separator Removal and Replacement  
Saturn of Pleasanton  
4340 Rosewood Drive  
Pleasanton, California **34588**

---

## 1.0 INTRODUCTION

On behalf of Saturn Corporation Inc. (Saturn), ENCORE Environmental Consortium, L.L.C. (EEC) has prepared this Chronology of Events and Investigation Summary (Summary) prior to the upcoming removal and replacement of an oil/water separator (OWS) at the subject property located at the above-referenced address (Site). This Summary has been prepared per our discussion of the proposed activities at the Site and applicable reporting requirements on June 4, 2003.

## 2.0 EVENT CHRONOLOGY AND INVESTIGATION SUMMARY

The following documents are enclosed as Attachments A through C which describe all the Site investigation activities conducted by EEC to date, including:

- Attachment A: Soil Boring and Monitoring Well Installation letter report to Mr. Wyman Hong with the Alameda County Flood Control and Water Conservation District dated April 8, 2003;
- Attachment B: Oil/Water Separator Closure Plan (Plan) letter to Mr. Paul Smith with the Livermore Pleasanton Fire Department (LPFD) dated April 17, 2003;

- **Attachment C:** Various Correspondence, including:
  - Response comments from Mr. Paul Smith of the LPFD regarding the Plan referenced above, dated May 22, 2003;
  - EEC Response to LPFD Comments letter dated June 3, 2003;
  - E-mailed correspondence from Mr. Paul Smith of the LPFD to Jeni Quigley of EEC dated June 10, 2003 regarding additional comments to Item D referenced above; and,
  - Addendum to Response to LPFD Comments dated June 11, 2003.

**3.0 CLOSURE**

EEC anticipates receipt of the permit for the OWS replacement/removal this week and will provide a schedule for the removal activities when available. Please contact the undersigned at (517) 316-2397 with any questions or comments regarding this Summary.

Yours truly,

*Jennifer T. Holly, P.E.*  
Jennifer L. Quigley, P.E.

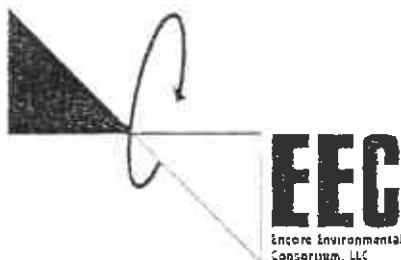
BH/1/Det.

Encl.

c.c.: Rob Fogal, Saturn Corporation Inc.  
Ben Holly, EEC

**ATTACHMENT A**

**SOIL BORING AND MONITORING WELL INSTALLATION LETTER REPORT**



6723 Towpath Road Box 66  
Syracuse, NY 13214-0066

April 8, 2003

Reference No. 17366-30

Mr. Wyman Hong  
Water Resources Technician II  
Alameda County Flood Control and Water Conservation District  
5997 Parkside Drive  
Pleasanton, California 94588

Dear Mr. Hong:

Re: Drilling Permit No. 22172  
Soil Boring and Monitoring Well Installation  
Saturn of Pleasanton  
Pleasanton, California

---

#### 1.0 INTRODUCTION

On behalf of Saturn Corporation Inc. (Saturn), ENCORE Environmental Consortium, L.L.C. (EEC) has prepared this summary of field subsurface activities (Summary) conducted in accordance with the requirements of Drilling Permit No. 22172. The subsurface field activities were conducted at the Saturn of Pleasanton properties located at 4340 and 4390 Rosewood Drive (Site) on December 2, 2002.

#### 2.0 SCOPE OF WORK

The Scope of Work (SOW) for the field activities included the installation of 12 soil borings, DP-1 through DP-12. Eleven of the borings were installed on the property at 4340 Rosewood Drive and one soil boring was installed on the property located at 4390 Rosewood Drive. Figure 1 presents the approximate soil boring locations.

#### 2.1 SOIL BORING INSTALLATION

The soil borings were advanced utilizing Geoprobe direct push technology, including a 2-inch diameter 4-foot long macro-core soil sampler containing clear plastic liners. The soil borings were installed to final depths from 12 to 20 feet below ground surface (bgs). Soil samples were collected continuously from the borings. Soil samples were screened using a photoionization detector (PID). The stratigraphy of these borings was logged by a geologist during installation. Stratigraphic soil boring logs are presented in Attachment A.

April 8, 2003

2

Reference No. 17366-30

## 2.2 SOIL SAMPLE COLLECTION

Soil samples were collected continuously in 4-foot intervals and screened utilizing a PID. The soil sample exhibiting the highest PID reading, or exhibiting visual or olfactory evidence of impact, the sample from just above the groundwater table, or the soil sample from the total depth (if groundwater or elevated PID readings are not encountered) was submitted for laboratory analysis. A total of 10 soil samples were collected and analyzed for total petroleum hydrocarbons diesel range organics (TPH-DRO) and TPH gasoline range organics (TPH-GRO). Table 1 presents a summary of detected compounds in soil samples. Analytical results are presented in Attachment B.

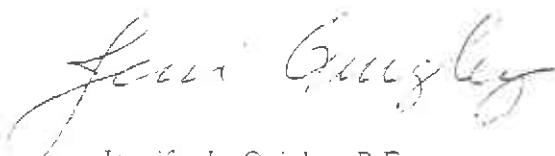
## 2.3 GROUNDWATER SAMPLE COLLECTION

Groundwater samples were collected from soil borings DP-11 and DP-12 during the subsurface field activities. A total of two groundwater samples were collected and analyzed for TPH-GRO and Target Compound List (TCL) volatile organic compounds (VOCs). Table 2 presents a summary of detected compounds in groundwater samples. Analytical results are presented in Attachment B.

## 3.0 CLOSURE

Please contact the undersigned at (517) 316-2397 with any questions or comments regarding this Summary.

Yours truly,



Jennifer L. Quigley, P.E.

KK/cr/l/Lan.  
Enci.

cc: Rob Fogal, Saturn Corporation Inc.  
Ben Holly, EEC

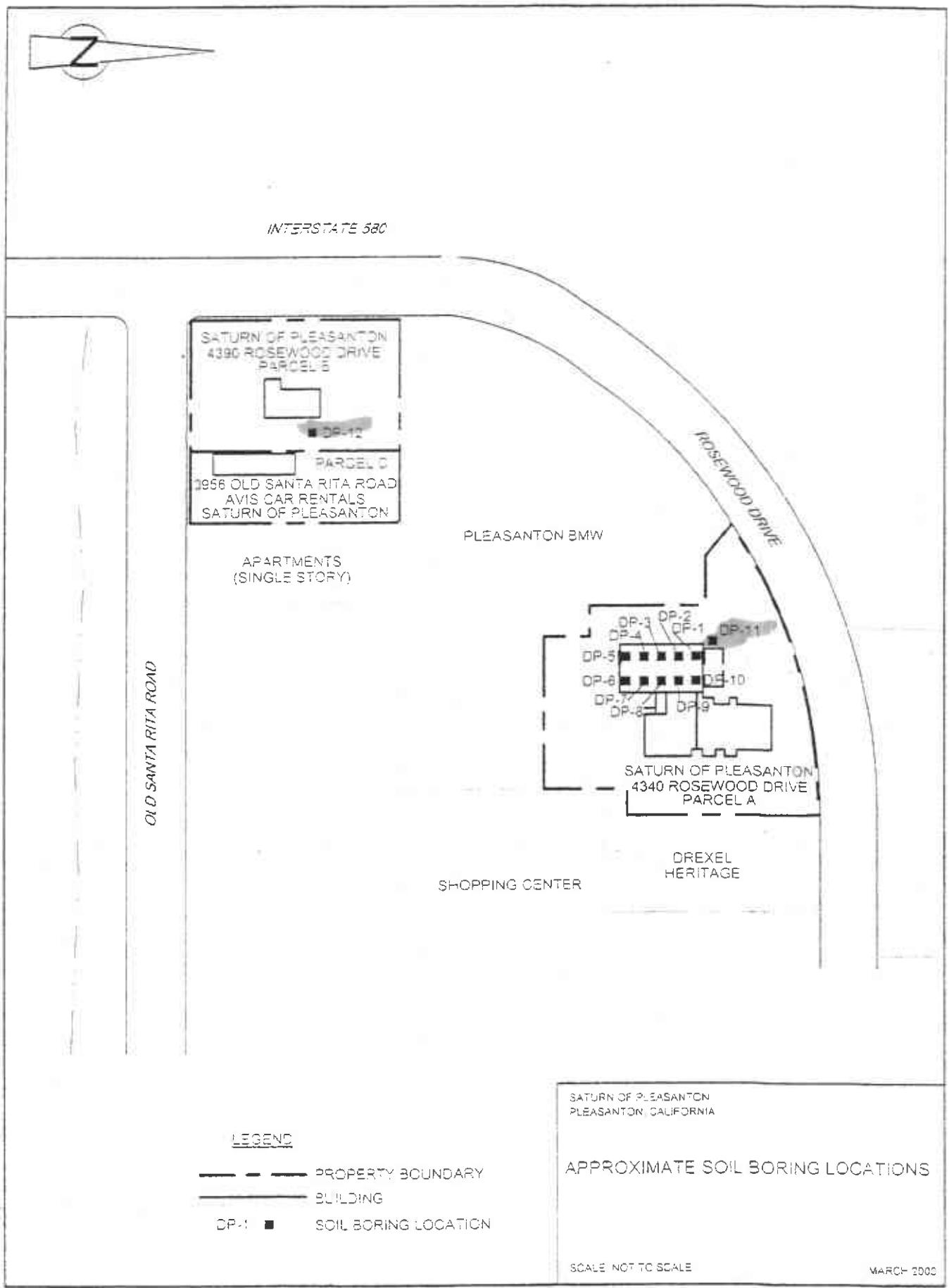


TABLE I  
SUMMARY OF DETECTED COMPOUNDS IN SOIL SAMPLES  
SATURN OF PLEASANTON  
PLEASANTON, CALIFORNIA

<i>Sample Location</i>	<i>Total</i>	<i>DP-1</i>	<i>DP-2</i>	<i>DP-3</i>	<i>DP-4</i>	<i>DP-5</i>	<i>DP-6</i>	<i>DP-7</i>	<i>DP-8</i>	<i>DP-9</i>	<i>DP-10</i>
<i>Sample ID (S-120202-RS-)</i>	<i>Petroleum</i>	1	2	3	5	4	6	7	8	10	9
<i>Sample Depth (feet bgs)</i>	<i>Hydrocarbon</i>	11 - 12	11 - 12	11 - 12	11.5 - 12	11.5 - 12	11.5 - 12	11 - 12	11 - 12	11 - 12	11 - 12
<i>Sample Date</i>	<i>Screening</i>	12/2/02	12/2/02	12/2/02	12/2/02	12/2/02	12/2/02	12/2/02	12/2/02	12/2/02	12/2/02
<i>Units</i>	<i>Levels <sup>(1)</sup></i>	mg/kg									

<i>Parameter (mg/kg)</i>	<i>TPH DRO</i>	<i>TPH GRO</i>										
100	ND (13)	ND (13)	ND (12)	ND (12)	ND (12)	ND (13)	ND (12)	ND (12)	ND (13)	ND (12)	ND (11)	ND (11)
100	ND (0.13)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.12)	ND (0.12)	ND (0.12)	ND (0.13)	ND (0.11)	ND (0.11)

*Notes:*

<sup>(1)</sup> California does not have promulgated soil standard for TPH; therefore, criteria is utilized for screening purposes only.

Boxed values indicate an exceedance of the criteria or screening level.

ND - Parameter was not detected at laboratory detection limit identified in parenthesis.

TPH - Total Petroleum Hydrocarbons

DRO - Diesel Range Organics

GRO - Gasoline Range Organics

TABLE 2

**SUMMARY OF DETECTED COMPOUNDS IN GROUNDWATER SAMPLES**

**SATURN OF PLEASANTON**  
**PLEASANTON, CALIFORNIA**

<i>Sample Location</i>	<i>California</i>	<i>Total Petroleum</i>	<i>DP-11</i>	<i>DP-12</i>
<i>Sample ID (W-120202 RS)</i>	<i>Maximum</i>	<i>Hydrocarbon</i>	<i>11</i>	<i>12</i>
<i>Sample Depth (feet bgs)</i>	<i>Contaminant</i>	<i>Screening</i>	<i>22 - 23</i>	<i>30 - 32</i>
<i>Sample Date</i>	<i>Level</i> <sup>(b)</sup>	<i>Level</i> <sup>(b)</sup>	<i>12/2/02</i>	<i>12/2/02</i>
<i>Units</i>	<i>(ug/L)</i>	<i>(ug/L)</i>	<i>(ug/L)</i>	<i>(ug/L)</i>

Parameter (ug/L)

<i>TPH-GRO</i>	NC	1.0	330	ND (100)
<b>TCL VOCs</b>				
<i>Benzene</i>	1.0	NC	6.3	ND (1.0)
<i>Toluene</i>	150	NC	ND (2.0)	ND (1.0)
<i>Ethylbenzene</i>	300	NC	5.5	ND (1.0)
<i>Xylenes</i>	1,750	NC	19	ND (1.0)
<i>Methyl tert butyl ether</i>	13	NC	42	1.7
<i>1,1 Dichloroethene</i>	6.0	NC	2.5	NA
<i>cis 1,2 Dichloroethene</i>	6.0	NC	17	NA
<i>trans 1,2 Dichloroethene</i>	10.0	NC	8.2	NA
<i>Tetrachloroethylene</i>	5.0	NC	2.8	NA
<i>Trichloroethylene</i>	5.0	NC	120	NA

*Notes:*

<sup>(a)</sup> Drinking Water Maximum Contaminant Level from Title 22 California Code of Regulations (CCR) §64431 §64444

<sup>(b)</sup> California does not have promulgated groundwater standard for TPH; therefore, criterion is utilized for screening purposes only.

Boxed values indicate an exceedance of the criteria or screening level.

NC - No standards currently promulgated for this parameter in the State of California.

ND - Parameter was not detected at laboratory detection limit identified in parenthesis

TPH - Total Petroleum Hydrocarbons

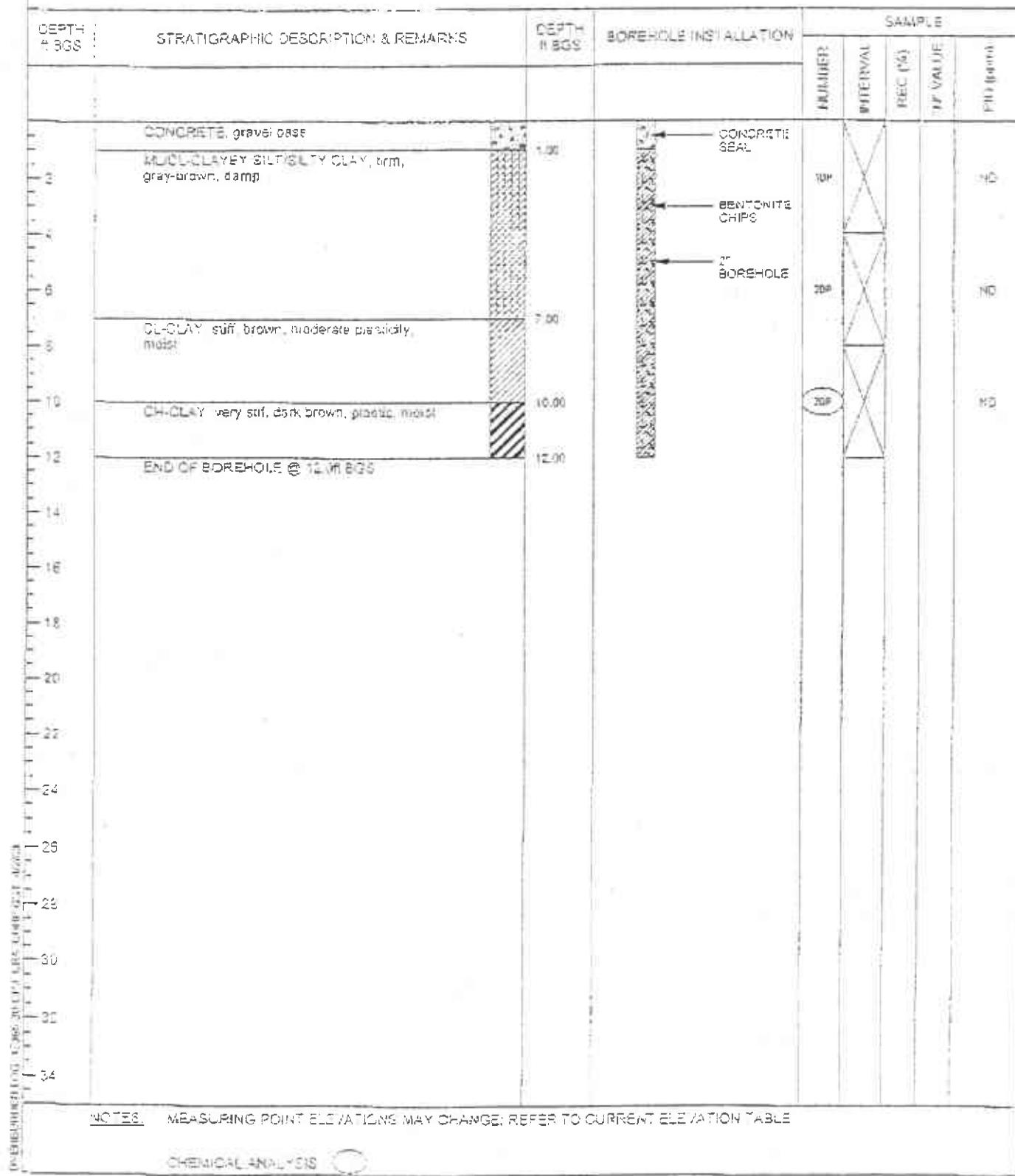
GRO - Gasoline Range Organics

**STRATIGRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
PROJECT NUMBER: 17386-30  
CLIENT: EEC  
LOCATION: PLEASANTON, CALIFORNIA

HOLE DESIGNATION: DF-1  
DATE COMPLETED: December 2, 2002  
DRILLING METHOD: DIRECT PUSH  
FIELD PERSONNEL: B. SIEGFRIED

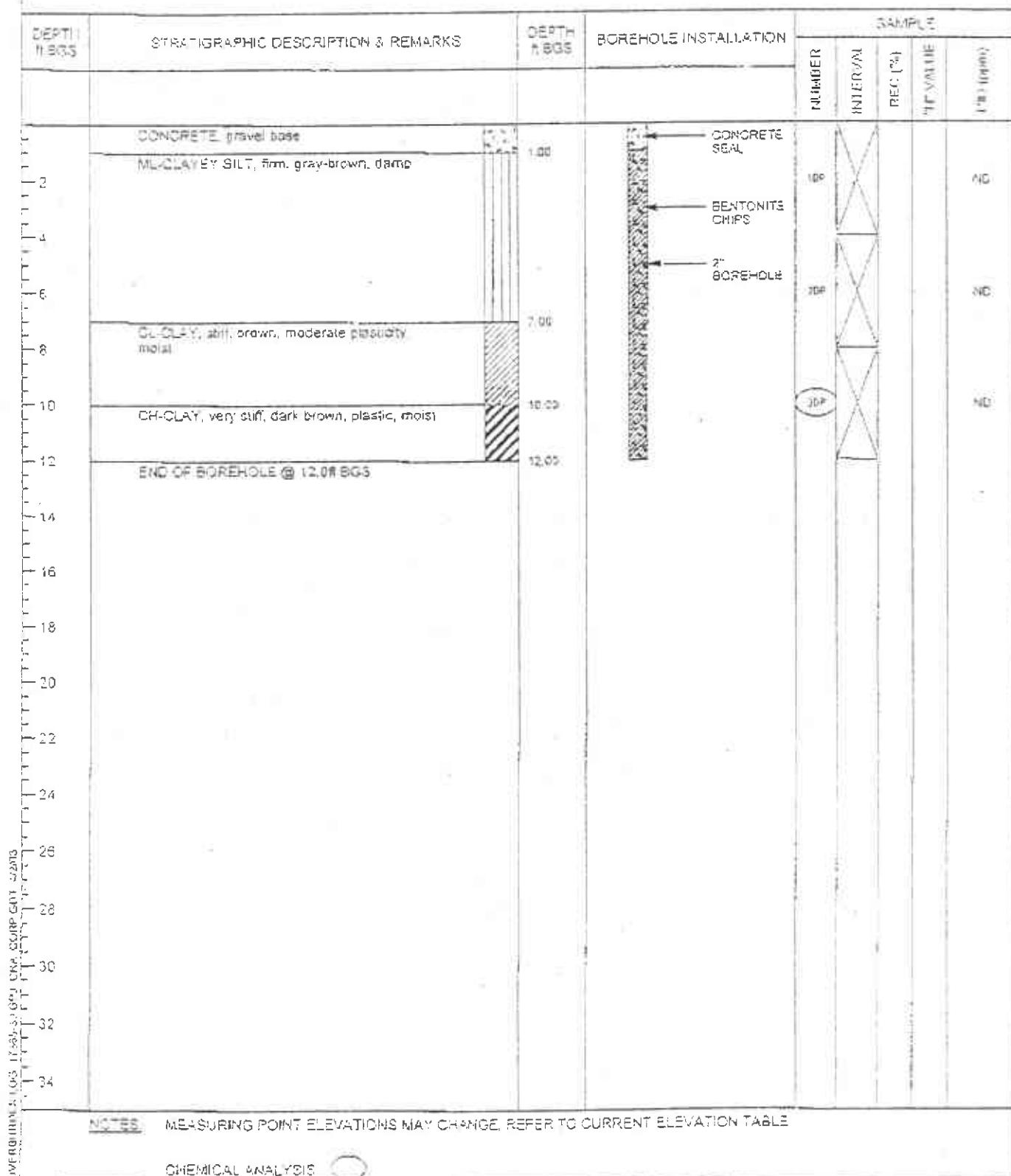


**STRATIGRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
PROJECT NUMBER: 17366-30  
CLIENT: GEO  
LOCATION: PLEASANTON, CALIFORNIA

HOLE DESIGNATION: DP-2  
DATE COMPLETED: December 2, 2002  
DRILLING METHOD: DIRECT PUSH  
FIELD PERSONNEL: B. SIEGFRIED



**STRATIGRAPHIC AND INSTRUMENTATION LOG**  
**(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON

HOLE DESIGNATION DP-3

PROJECT NUMBER: 17066-30

DATE COMPLETED: December 2, 2002

CLIENT: EEC

DRILLING METHOD: DIRECT PUSH

LOCATION: PLEASANTON, CALIFORNIA

FIELD PERSONNEL: S. SIEGFRIED

DEPTH ft SGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft SGS	BOREHOLE INSTALLATION	SAMPLE			
				NUMBER	INTERVAL	PERC. (%)	TF VALUE
5.25	CONCRETE gravel base	5.25					
5.30	ML-CLAYEY SILT, firm, gray-brown, damp	5.30					
6.30	CL-CLAY, stiff, moderate plasticity, brown, moist	6.30					
10.00	CH-CLAY, very stiff, dark brown, plastic, moist	10.00					
12.00	END OF BOREHOLE @ 12.0 ft SGS	12.00					
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							

NOTE: MEASURING POINT ELEVATIONS MAY CHANGE, REFER TO CURRENT ELEVATION TABLE

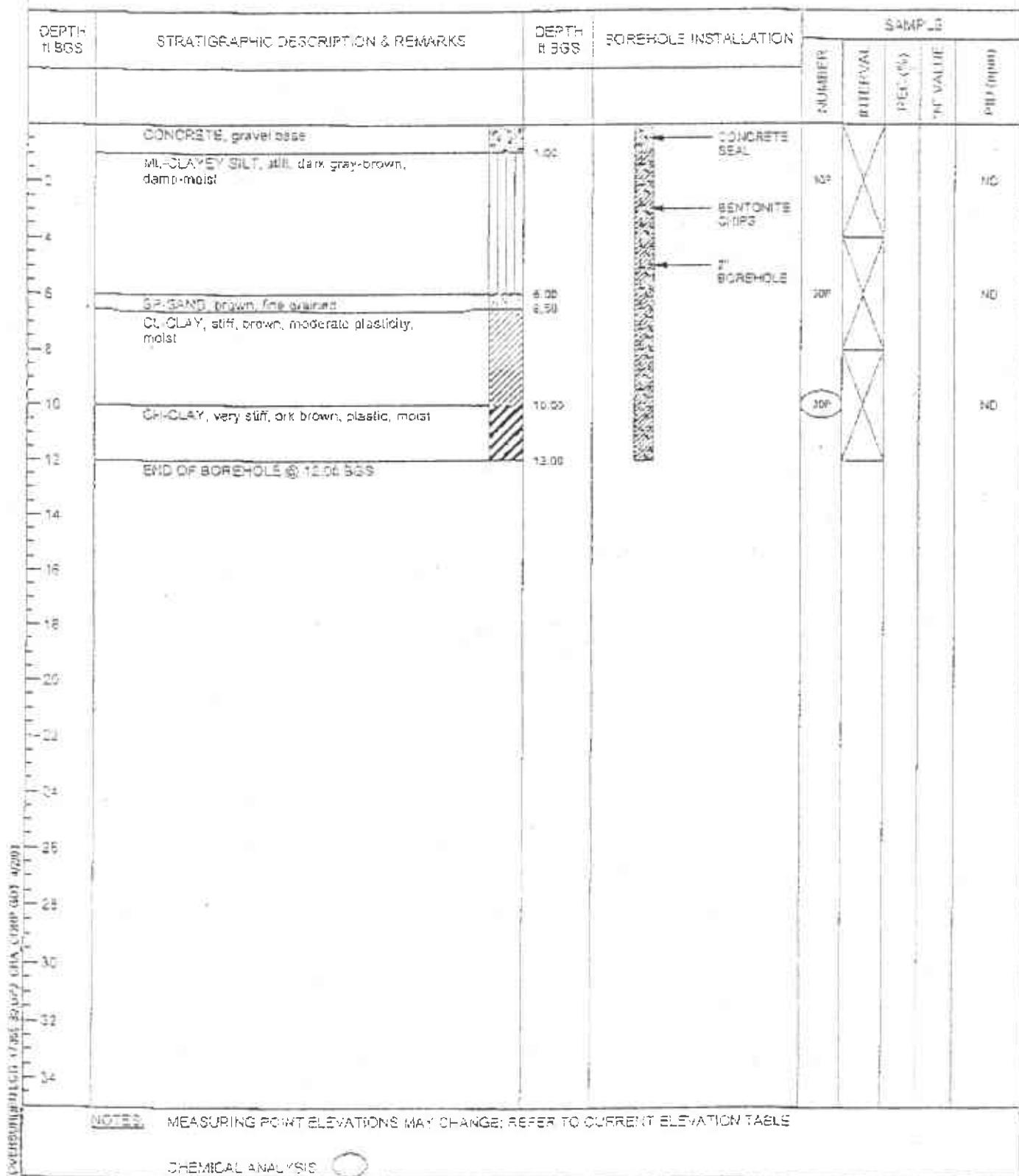
CHEMICAL ANALYSIS

**STRATIGRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
PROJECT NUMBER: 17388-30  
CLIENT: EEC  
LOCATION: PLEASANTON, CALIFORNIA

HOLE DESIGNATION: DP-4  
DATE COMPLETED: December 2, 2002  
DRILLING METHOD: DIRECT PUSH  
FIELD PERSONNEL: B. SIEGFRIED

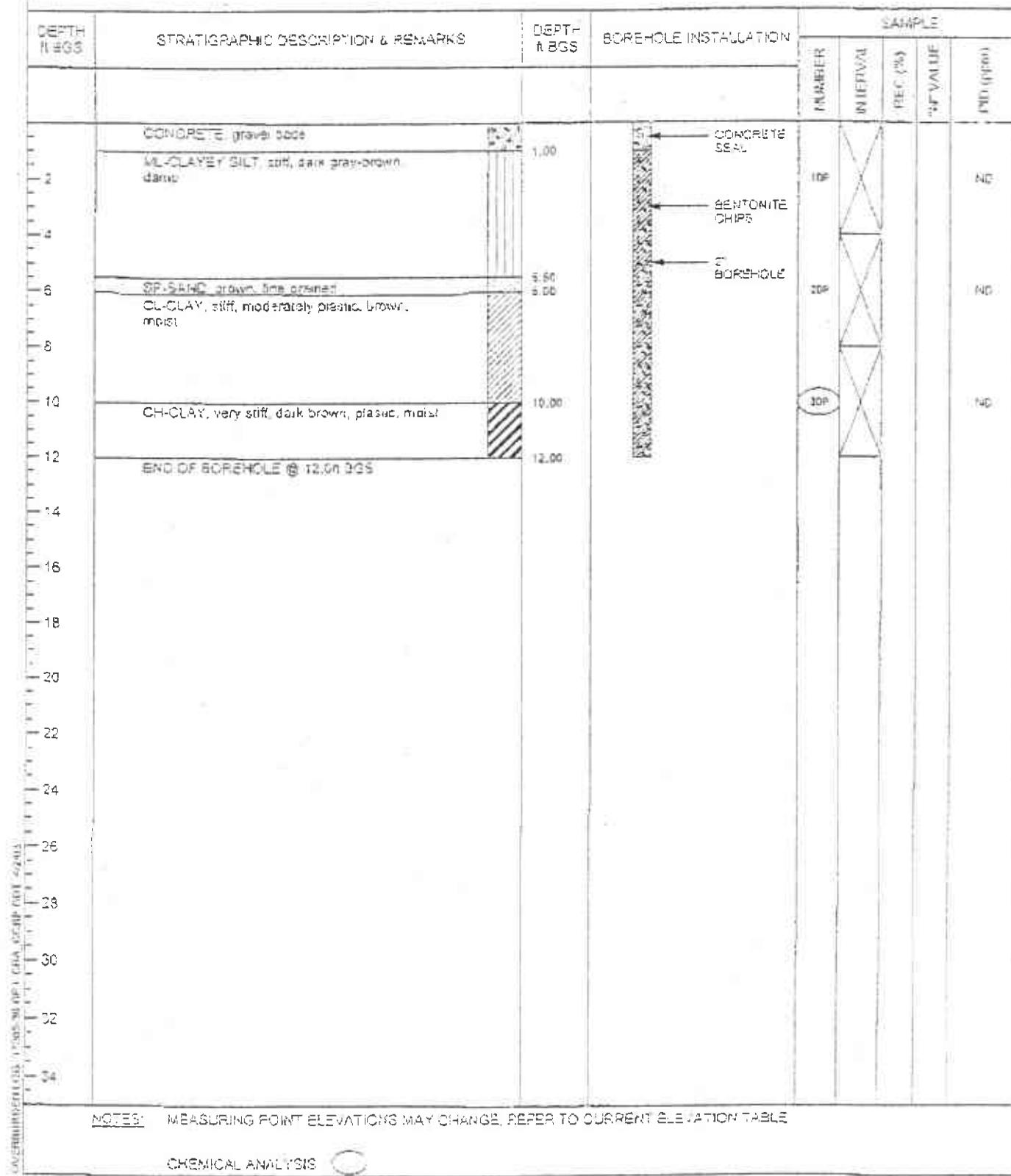


**STRATIGRAPHIC AND INSTRUMENTATION LOG**  
**(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
 PROJECT NUMBER: 17355-30  
 CLIENT: EEC  
 LOCATION: PLEASANTON, CALIFORNIA

HOLE DESIGNATION: DP-5  
 DATE COMPLETED: December 2, 2002  
 DRILLING METHOD: DIRECT PUSH  
 FIELD PERSONNEL: S. SIEGFRIED



**STRATIGRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
PROJECT NUMBER: 17366-30  
CLIENT: EEC  
LOCATION: PLEASANTON, CALIFORNIA

HOLE DESIGNATION: DP-6  
DATE COMPLETED: December 2, 2002  
DRILLING METHOD: DIRECT PUSH  
FIELD PERSONNEL: S. SIEGFRIED

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH # BGS	BOREHOLE INSTALLATION	SAMPLE			
				HIGHER P. KPH (kPa)	MEDIUM P. KPH (kPa)	LOW P. KPH (kPa)	PDO (gpm)
4.0	CONCRETE, gravel base	4.00					
4.0	CL-SILTY CLAY, firm, dark gray-brown, moist	4.00					
6.0		6.00					
6.0	SP-SAND, brown, fine grained	6.00					
6.0	CL-CLAY, stiff, brown, moderate plasticity, moist	6.00					
10.0		10.00					
10.0	CH-CLAY, very stiff, dark brown, plastic, moist	10.00					
12.0	END OF BOREHOLE @ 12.0 ft BGS	12.00					
14							
16							
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							
40							
42							
44							
46							
48							
50							
52							
54							
56							
58							
60							
62							
64							
66							
68							
70							
72							
74							
76							
78							
80							
82							
84							
86							
88							
90							
92							
94							
96							
98							
100							
102							
104							
106							
108							
110							
112							
114							
116							
118							
120							
122							
124							
126							
128							
130							
132							
134							
136							
138							
140							
142							
144							
146							
148							
150							
152							
154							
156							
158							
160							
162							
164							
166							
168							
170							
172							
174							
176							
178							
180							
182							
184							
186							
188							
190							
192							
194							
196							
198							
200							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE, REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



**STRATIGRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON

HOLE DESIGNATION: DP-8

PROJECT NUMBER: 17366-30

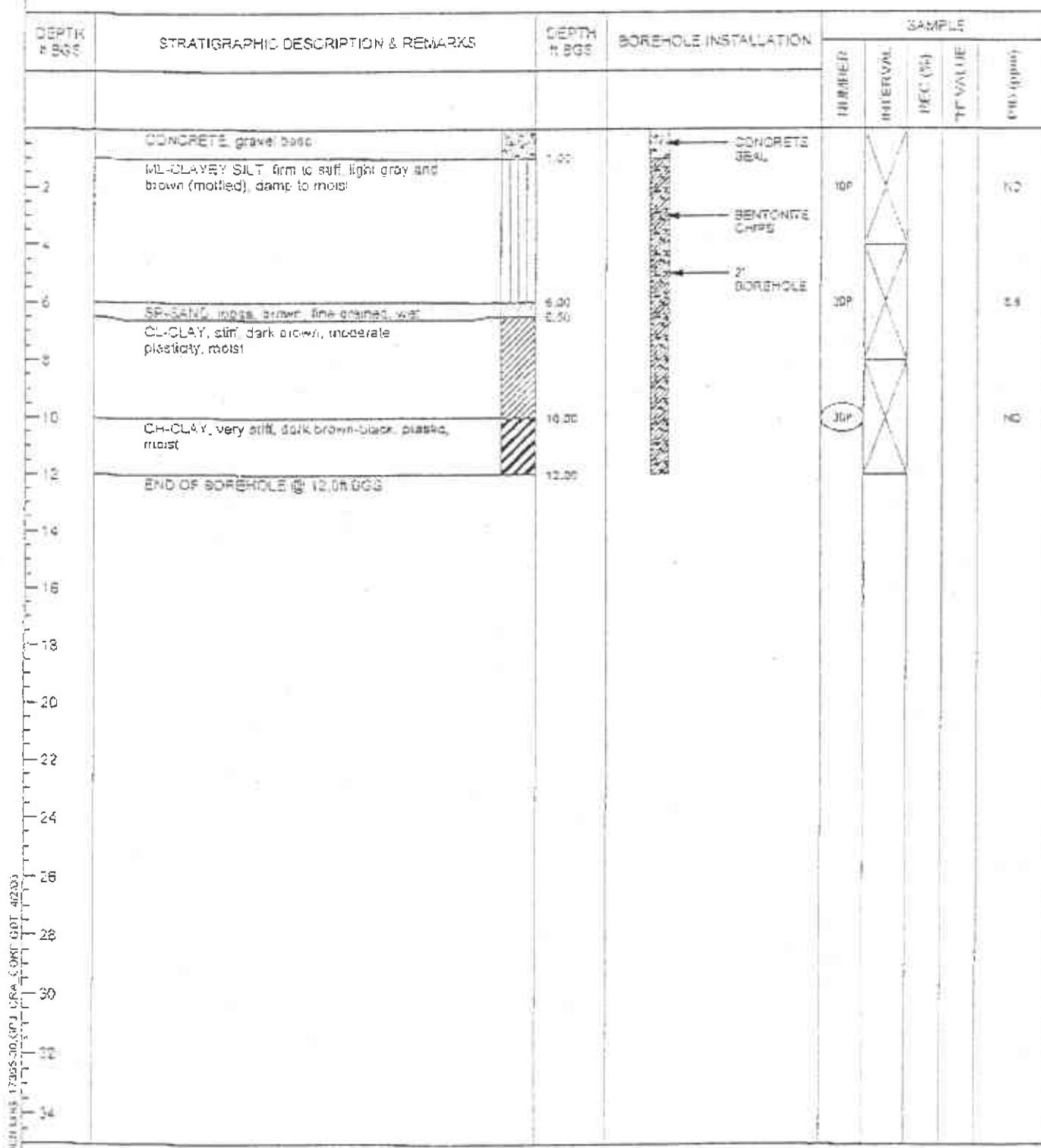
DATE COMPLETED: December 2, 2002

CLIENT: EEC

DRILLING METHOD: DIRECT PUSH

LOCATION: PLEASANTON, CALIFORNIA

FIELD PERSONNEL: B. SIEGFRIED



NOTES: MEASURING POINT ELEVATIONS MAY CHANGE, REFER TO CURRENT ELEVATION TABLE

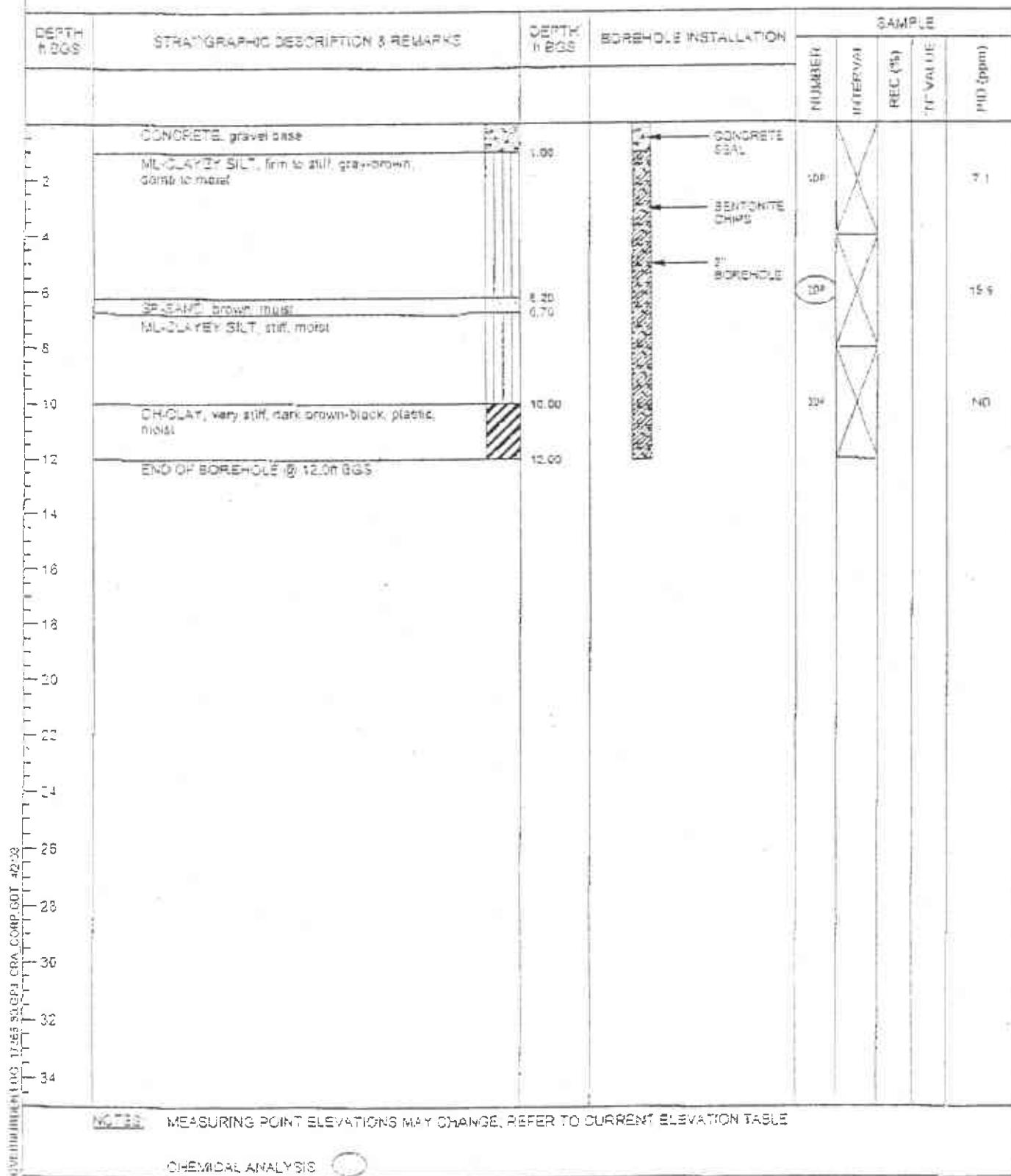
CHEMICAL ANALYSIS

**STRATIGRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
PROJECT NUMBER: 17386-30  
CLIENT: EEC  
LOCATION: PLEASANTON, CALIFORNIA

HOLE DESIGNATION: DP-9  
DATE COMPLETED: December 2, 2002  
DRILLING METHOD: DIRECT PUSH  
FIELD PERSONNEL: 6 SISERIED

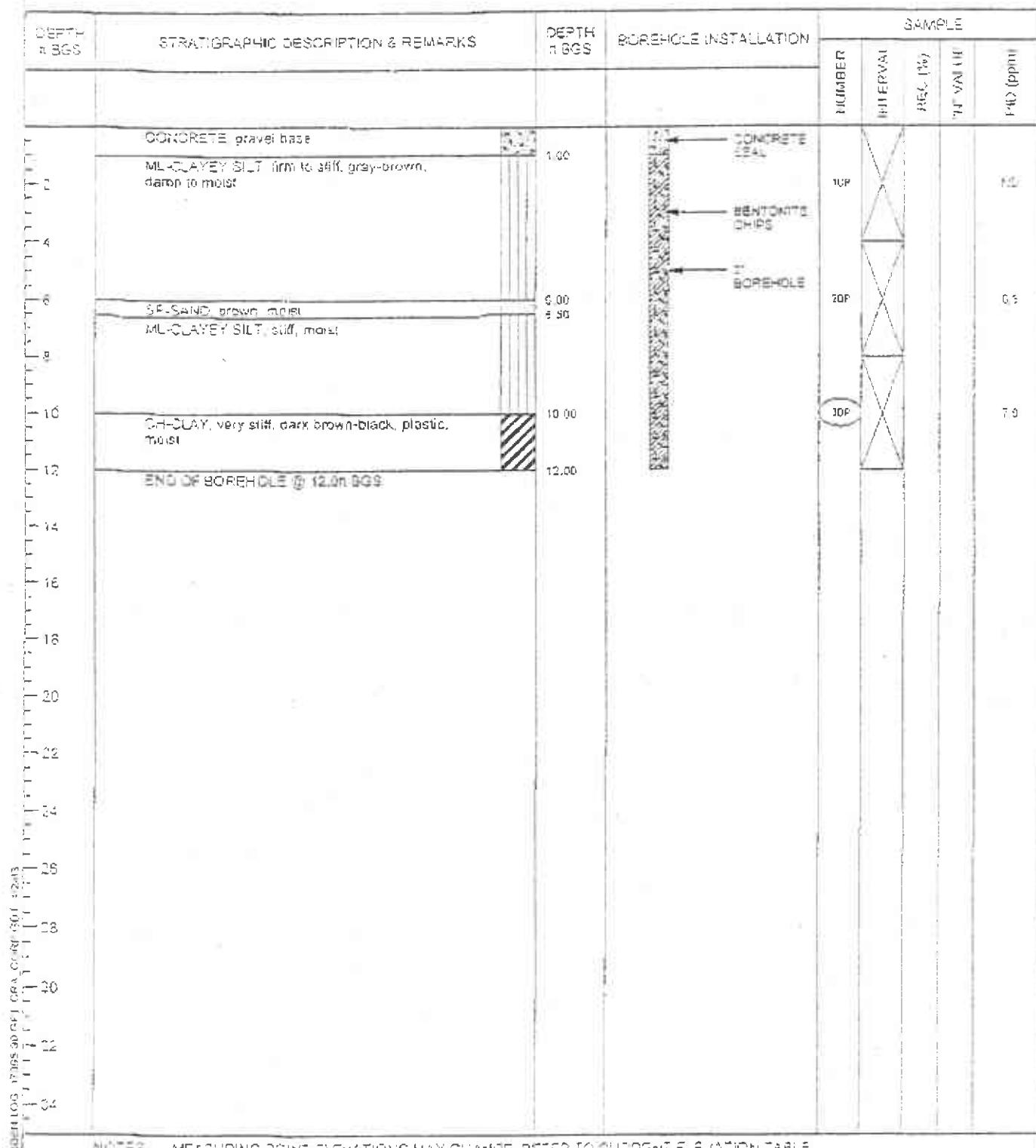


STRATIGRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
PROJECT NUMBER: 17026-80  
CLIENT: EED  
LOCATION: PLEASANTON, CALIFORNIA

HOLE DESIGNATION: OP-10  
DATE COMPLETED: December 2, 2002  
DRILLING METHOD: DIRECT PUSH  
FIELD PERSONNEL: B. SIEGFRIED



NOTE: MEASURING POINT ELEVATIONS MAY CHANGE REFER TO CURRENT ELEVATION TABLE

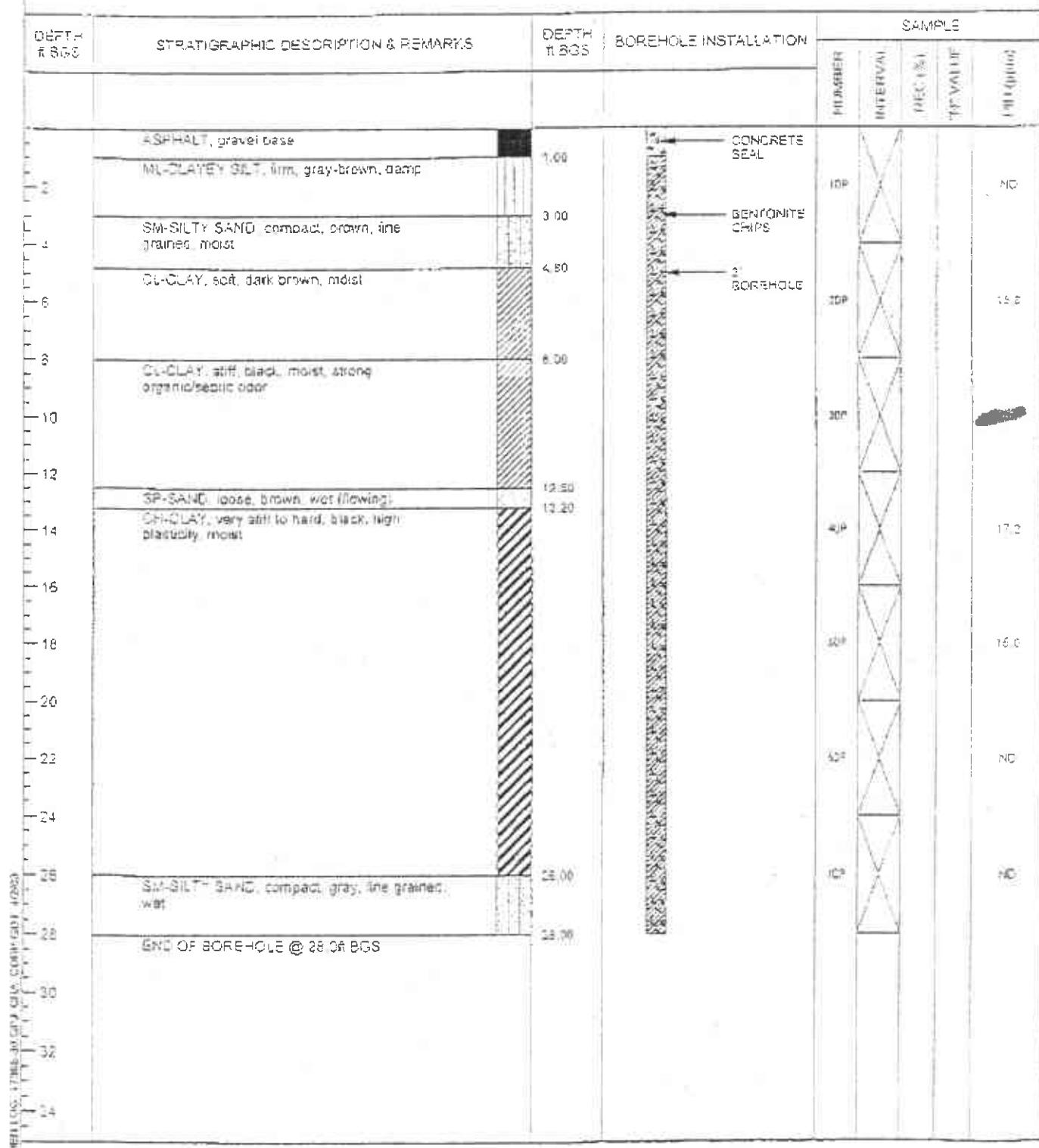
CHEMICAL ANALYSIS

**STRAT GRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
PROJECT NUMBER: 17066-30  
CLIENT: EEC  
LOCATION: PLEASANTON, CALIFORNIA,

HOLE DESIGNATION: DP-11  
DATE COMPLETED: December 2, 2002  
DRILLING METHOD: DIRECT PUSH  
FIELD PERSONNEL: S. SIEGFRIED



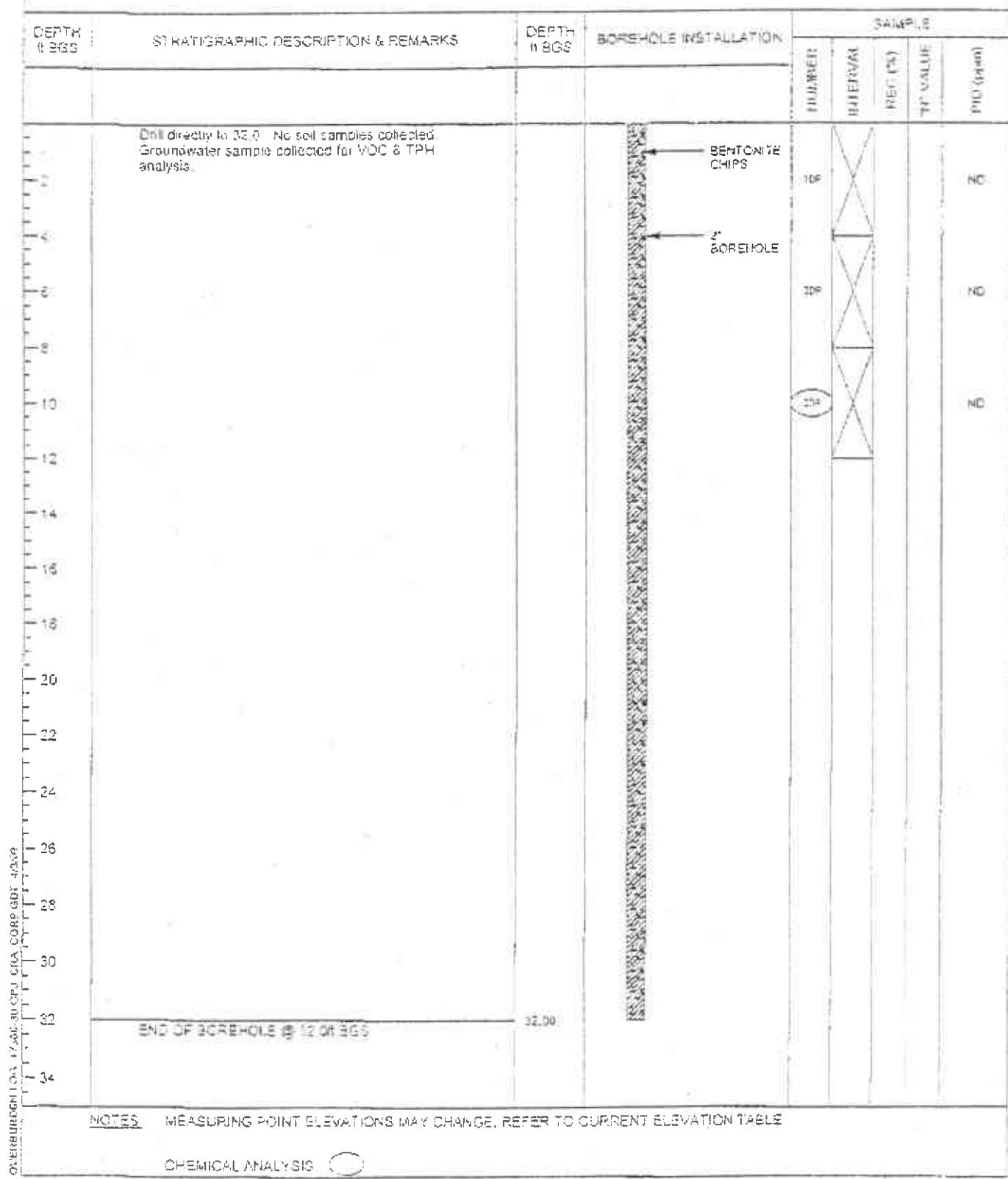
**NOTES:** MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

**STRATIGRAPHIC AND INSTRUMENTATION LOG  
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SATURN OF PLEASANTON  
PROJECT NUMBER: 17366-30  
CLIENT: EEC  
LOCATION: PLEASANTON, CALIFORNIA

HOLE DESIGNATION: DP-12  
DATE COMPLETED: December 2, 2002  
DRILLING METHOD: DIRECT PUSH  
FIELD PERSONNEL: B. SIEGFRIED



SEVERN

STL

## ANALYTICAL REPORT

PROJECT NO. 17365-30

SATURN OF PLEASANTON, CA

Lot #: A2L030139

### ORIGINAL ANALYTICAL REPORT

Project#: 17365-30 Date: A2L030139  
Name: SATURN OF PLEASANTON, CA

SEVERN TRENT LABORATORIES, INC.

Event: Phase II  
Samples: 13 soils, wats (R-7, R-12)  
Analysis: TPH-d, TPH-g, VOC

*Amy L. McCormick*

Amy L. McCormick  
Project Manager

TAT: 24 hrs (1 DAY)

Lab: STL-NC

Checked At:

Date:

Date of Vic:

Invoice At:

Comments:

Severn Trent Laboratories, Inc.

STL North Canton • 4101 Shuster Drive NW North Canton OH 44282

Tel 330 497 9396 Fax 330 497 0772 • www.stl-inc.com

# CASE NARRATIVE

ACL030139

The following report contains the analytical results for two water samples, ten solid samples, and one quality control sample submitted to STL North Canton.

from the Saturn of Pleasanton, California Site, project number 17365-30. The samples were received December 3, 2002, according to documented sample acceptance procedures.

The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. Preliminary results were provided to the Chemistry Department on December 4 and 11, 2002. A summary of QC data for these analyses is included at the rear of the report.

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

Sample Trip Blank was received at the laboratory but not listed on the chain-of-custody. It was analyzed per the sample label.

STL utilizes USEPA approved methods in all analytical work. The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with laboratory protocol.

*Amy McCormick*

Amy McCormick  
Project Manager

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-QC3. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated samples, must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals
Metavylene chloride	Phthalate Esters	Copper
Acetone		Iron
C-Butanone		Zinc
		Lead*

- for analyses run on TJA Trace ICP, ICPMS or GF/A only
- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 10 times the blank level.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analytic recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e., pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, PAH, and Herbicide methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.



### STL North Canton Certifications and Approvals:

Alabama (#41170), California (#2157), Connecticut (#PH-2590), Florida (#E87225),  
Illinois (#00439), Kansas (#E10336), Kentucky (#90021), Massachusetts (#M-OH048),  
Maryland (#272), Minnesota (#39-999-348), Missouri (#5090), New Jersey (#T4001),  
New York (#10975), North Dakota (#R-156), Ohio (#0090), Ohio VAP (#CL0024),  
Pennsylvania (#68-340), Rhode Island #237, South Carolina (#92007001, #92007002, #92007003),  
Tennessee (#02903), West Virginia (#219), Wisconsin (#999518190), NAVF ARMY,  
OSDA Soil Permit, ACIL Seal of Excellence - Participating Lab Status Award (#82)

# ANALYTICAL METHODS SUMMARY

A11030139

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Extractable Petroleum Hydrocarbons	SW846 8015B
Total Residue as Percent Solids	MCAWW 160.3 MCD
Volatile Petroleum Hydrocarbons	SW846 8015B
Volatiles by GC	SW846 8021B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-73-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A2L030139

WC #	SAMPLE#	CLIENT SAMPLE #	SAMPLED DATE	SAMP TIME
FD5DW	001	S-120202-RS-1	12/02/02	07:45
FD5EK	002	S-120202-RS-2	12/02/02	09:00
FD5EL	003	S-120202-RS-3	12/02/02	09:25
FD5EM	004	S-120202-RS-4	12/02/02	09:30
FD5EN	005	S-120202-RS-5	12/02/02	10:15
FD5EP	006	S-120202-RS-6	12/02/02	10:40
FD5ER	007	S-120202-RS-7	12/02/02	11:00
FD5ET	008	S-120202-RS-8	12/02/02	11:30
FD5EV	009	S-120202-RS-9	12/02/02	12:30
FD5EW	010	S-120202-RS-10	12/02/02	12:45
FD5EX	011	W-120202-RS-11	12/02/02	13:55
FD5E2	012	W-120202-RS-12	12/02/02	14:55
FD5ES	013	TRIP BLANK	12/02/02	

## NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Client Sample ID: S-120202-RS-1

GC Volatiles

Lot-Sample #....: AD1030138-001 Work Order #: FD6DWLAD Matrix.....: SO  
Date Sampled...: 12/02/02 07:45 Date Received.: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date.: 12/03/02  
Prep Batch #:....: 2008114  
Dilution Factor: 1  
% Moisture.....: 21 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPH (as Gasoline)	ND	130	ug/kg	53
SURROGATE	PERCENT	RECOVERY		
Trifluorotoluene	RECOVERY	LIMITS		
	105	(10 - 150)		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-2

GC Volatiles

Lot-Sample #....: AML010139-002 Work Order #....: FDSEK1AD Matrix.....: SO  
Date Sampled...: 11/02/01 09:00 Date Received...: 12/03/02  
Prep Date.....: 12/01/02 Analysis Date...: 12/03/02  
Prep Batch #....: 0336114  
Dilution Factor: 1  
% Moisture.....: 43 Method.....: SW846 80155

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
TPH (as Gasoline)	ND	130	ug/kg	55
SURROGATE				RECOVERY
Trifluorotoluene	PERCENT	RECOVERY	LIMITS	(10 - 150)
108				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-3

GC Volatiles

Lot-Sample #....: A2L030119-003 Work Order #....: FDSEL1AD Matrix.....: SO  
Date Sampled...: 12/02/02 09:25 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 1318114  
Dilution Factor: 1  
% Moisture.....: 17 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPX (as Gasoline)	ND	120	ug/kg	51
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Trifluorotoluene	84	(10 - 150)		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-4

GC Volatiles

Lot-Sample #....: A2L030139-004 Work Order #...: FDSEMLAD Matrix.....: SO  
Date Sampled....: 12/02/02 09:00 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2338114  
Dilution Factor: 1  
\* Moisture.....: DC Method.....: SWS46 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPH (as Gasoline)	ND	120	ug/kg	50
SURROGATE	PERCENT	RECOVERY		
Trifluorotoluene	RECOVERY	LIMITS		
	74	(10 - 150)		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-5

GC Volatiles

Lot-Sample #....: A21010139-005 Work Order #....: FD5ENIAD Matrix.....: SO  
Date Sampled....: 12/02/02 10:15 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2338114  
Dilution Factor: 1  
% Moisture.....: 19 Method.....: SW846 SC153

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPH (as Gasoline)	ND	120	ug/kg	32
SUPROGATE	PERCENT	RECOVERY		
	RECOVERY	LIMITS		
Trifluorotoluene	77	(10 - 150)		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-6

GC Volatiles

Lot-Sample #....: A2L030139-006 Work Order #....: FDSEPLAD Matrix.....: SO  
Date Sampled...: 12/02/02 10:40 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2338114  
Dilution Factor: 1  
Moisture.....: 21

Method.....: SW646 8015E

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	MDL
TPH (as Gasoline)	ND	130	ug/kg	53

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Trifluorotoluene	71	(10 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-7

GC Volatiles

Lot-Sample #....: A21030139-007 Work Order #: F05ER1AC Matrix.....: SC  
Date Sampled...: 12/02/02 11:00 Date Received...: 12/02/02  
Prep Date.....: 12/01/02 Analysis Date...: 12/03/02  
Prep Batch #....: 1338114  
Dilution Factor: 1  
% Moisture.....: 19 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPH (as Gasoline)	ND	120	ug/kg	52
SURROGATE		PERCENT	RECOVERY	
Trifluorotoluene	65		LIMITS	
			(10 - 150)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-8

GC Volatiles

Lot-Sample #....: A21030139-008 Work Order #....: FDSSET1AD Matrix.....: SO  
Date Sampled....: 12/02/02 11:30 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2338114  
Dilution Factor: 1  
% Moisture.....: 19 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MOL
TPH (as Gasoline)	ND	120	ug/kg	52
SURROGATE	PERCENT	RECOVERY	LIMITS	
Trifluorotoluene	78		(10 - 150)	

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-9

GC Volatiles

Lot-Sample #....: A21030109-009 Work Order #....: F03EVIAD Matrix.....: SO  
Date Sampled....: 12/02/02 12:30 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2338114  
Dilution Factor: 1  
\* Moisture.....: 21 Method.....: SW846 6015B

PARAMETER	RESULT	REPORTING		
		LOMCT	UNITS	MDL
TPH (as Gasoline)	ND	130	ug/kg	53
SURROGATE	PERCENT	RECOVERY		
	RECOVERY	LIMITS		
Trifluorotoluene	65	(10 - 150)		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-10

GC Volatiles

Lot-Sample #....: AC12030139-010 Work Order #: FD5EWLAD Matrix.....: SO  
Date Sampled....: 12/02/02 12:45 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #:....: 2338114  
Dilution Factor: 1  
Moisture.....: 12

Method.....: SW846 9015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPH (as Gasoline)	ND	110	ug/kg	48
SURROGATE		PERCENT	RECOVERY	
Trifluorotoluene	66	RECOVERY	LIMITS	(10 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: W-120202-RS-11

GC Volatiles

Lot-Sample #....: A2L030119-011 Work Order #....: FDSEXLAA Matrix.....: WG  
Date Sampled....: 12/03/02 13:55 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2338112  
Dilution Factor.: Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MCL
TPE (as Gasoline)	330	100	ug/L	46
<u>SURROGATE</u>		PERCENT	RECOVERY	
Trifluorotoluene		RECOVERY	LIMITS	
		422 *	(10 - 150)	

NOTE(S):

- \* Surrogate recovery is outside stated control limits.
- Surrogates outside acceptance criteria due to demonstrated matrix effect.

Client Sample ID: W-120202-RS-12

GC Volatiles

Lot-Sample #....: A2L030109-010 Work Order #....: FD5E21AA Matrix.....: WG  
Date Sampled....: 12/02/02 14:56 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2308112  
Dilution Factor: 1 Method.....: SW646 20153

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPE (as Gasoline)	ND	100	ug/l	46
SURROGATE	PERCENT	RECOVERY		
Trifluorotoluene	78	LIMITS		
		(10 - 150)		

Client Sample ID: W-120202-RS-11

## GC Volatiles

Lot-Sample #....: A2L030139-011 Work Order #....: FDSEK1AC Matrix.....: WG  
 Date Sampled....: 12/03/02 13:56 Date Received...: 12/03/02  
 Prep Date.....: 12/06/02 Analysis Date...: 12/06/02  
 Prep Batch #....: 0345211  
 Dilution Factor: 2 Method.....: SW346 ~~8260~~ / **5 RUN 8260**

NIT CONFIRM  
FOR MTBE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	6.3	2.0	ug/L	0.48
Ethylbenzene	5.5	2.0	ug/L	0.48
Toluene	ND	2.0	ug/L	0.62
Xylenes (total)	19	2.0	ug/L	1.1
Methyl tert-butyl ether	ND	2.0	ug/L	0.26
Acetone	ND	2.0	ug/L	2.0
Bromodichloromethane	ND	2.0	ug/L	0.32
Bromoform	ND	2.0	ug/L	0.38
Bromomethane	ND	2.0	ug/L	0.20
2-Butanone	ND	4.0	ug/L	0.58
Carbon disulfide	ND	2.0	ug/L	4.4
Carbon tetrachloride	ND	2.0	ug/L	0.66
Chlorobenzene	ND	2.0	ug/L	0.28
Dibromochloromethane	ND	2.0	ug/L	0.50
Chloroethane	ND	2.0	ug/L	0.26
Chloroform	ND	2.0	ug/L	0.30
Chloromethane	ND	2.0	ug/L	0.78
1,2-Dichlorobenzene	ND	2.0	ug/L	0.30
1,3-Dichlorobenzene	ND	2.0	ug/L	0.34
1,4-Dichlorobenzene	ND	2.0	ug/L	0.48
Dichlorodifluoromethane	ND	2.0	ug/L	0.38
1,1-Dichloroethane	ND	2.0	ug/L	0.32
1,2-Dichloroethane	ND	2.0	ug/L	0.48
1,1-Dichloroethene	2.5	2.0	ug/L	0.38
cis-1,2-Dichloroethene	1.7	2.0	ug/L	0.54
trans-1,2-Dichloroethene	8.2	2.0	ug/L	0.38
1,1-Dichloropropane	ND	2.0	ug/L	0.24
cis-1,3-Dichloropropene	ND	2.0	ug/L	0.42
trans-1,3-Dichloropropene	ND	2.0	ug/L	0.28
Trichlorofluoromethane	ND	2.0	ug/L	0.18
2-Hexanone	ND	2.0	ug/L	4.0
Isopropylbenzene	ND	2.0	ug/L	0.16
Methylene chloride	ND	1.0	ug/L	0.26
4-Methyl-2-pentanone	ND	4.0	ug/L	1.0
Syrene	ND	2.0	ug/L	0.60
1,1,2,2-Tetrachloroethane	ND	2.0	ug/L	0.18
Tetrachloroethene	2.8	2.0	ug/L	0.58
1,2,4-Trichloro- benzene	ND	2.0	ug/L	0.90

(Continued on next page)

Client Sample ID: W-120202-RS-11

GC Volatiles

Lot-Sample #....: APL030139-011 Work Order #....: FDSENLAC Matrix.....: WG

PARAMETER	RESULT	REPORTING		MCL
		LIMIT	UNITS	
1,1,1-Trichloroethane	ND	2.0	ug/L	0.32
1,1,1-Trichloroethane	ND	2.0	ug/L	0.32
Trichloroethene	120	2.0	ug/L	0.82
1,1,2-Trichloro-	ND	2.0	ug/L	0.44
1,2,2-trifluoroethane				
Vinyl chloride	ND	2.0	ug/L	1.1
1,2-Dibromo-3-	ND	2.0	ug/L	1.2
chloropropane (DBCP)				
1,2-Dibromoethane (EDB)	ND	2.0	ug/L	0.36
PERCENT		RECOVERY		
SURROGATE	RECOVERY	LIMITS		
1,4-Dichlorobutane	80	(61 - 140)		
Trifluorotoluene	108	(82 - 119)		

NOTE(S):

Elevated reporting limits due to matrix interferences.

Client Sample ID: W-120202-RS-12

GC Volatiles

Lot-Sample #....: A20091109-002 Work Order #....: FD5EIIAC Matrix.....: WG  
Date Sampled....: 12/03/01 14:00 Date Received...: 12/03/01  
Prep Date.....: 12/04/01 Analysis Date...: 12/04/01  
Prep Batch #....: 2337279  
Dilution Factor: 1 Method.....: SW846 8011B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MOL
Benzene	ND	1.0	ug/L	0.14
Ethylbenzene	ND	1.0	ug/L	0.24
Toluene	ND	1.0	ug/L	0.31
Xylenes (total)	ND	1.0	ug/L	0.57
Methyl tert-butyl ether	1.7	1.0	ug/L	0.13

SURROGATE	PERCENT	RECOVERY	
		RECOVERY	LIMITS
Trifluorotoluene	98	(82 - 119)	

Client Sample ID: TRIP BLANK

GC Volatiles

Lot-Sample #....: A21030189-013 Work Order #....: FD5E61AA Matrix.....: WQ  
Date Sampled....: 11/01/02 Date Received...: 11/01/02  
Prep Date.....: 11/03/02 Analysis Date...: 11/01/02  
Prep Batch #....: 0337279  
Dilution Factor: 1 Method.....: SW846 8021B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.24
Ethylbenzene	ND	1.0	ug/L	0.24
Toluene	ND	1.0	ug/L	0.31
Xylenes (total)	ND	1.0	ug/L	0.57
Methyl tert-butyl ether	ND	1.0	ug/L	0.13
SURROGATE	PERCENT	RECOVERY		
		RECOVERY	LIMITS	
Trifluorotoluene	97		(82 - 119)	

Client Sample ID: S-120202-RS-1

GC Semivolatiles

Lot-Sample #....: A21030139-001 Work Order #: FDSDW1AC Matrix.....: SO  
Date Sampled...: 12/02/02 07:45 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2037264  
Dilution Factor: 1  
% Moisture.....: 01 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		NAME	UNITS	MDL
TPH (as Diesel)	ND	13	mg/kg	3.2
SURROGATE	PERCENT	RECOVERY	LIMITS	
C9 (nonane)	RECOVERY	19	(10 - 110)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-2

GC Semivolatiles

Lot-Sample #: A21020139-001 Work Order #: FDSKELAC Matrix.....: SO  
Date Sampled...: 12/03/02 09:00 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #: 2037164  
Dilution Factor: 1  
% Moisture.....: 23 Method.....: SW846 8015B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
C9H (as Diesel)	ND	13	mg/kg	3.3
SURROGATE				
C9 (nonane)	PERCENT	RECOVERY	LIMITS	
	18		(10 - 110)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-3

GC Semivolatiles

Lot-Sample #....: A2L03C109-003 Work Order #....: FDSELLAC Matrix.....: SO  
Date Sampled....: 12/03/02 09:16 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2337164  
Dilution Factor: 1  
+ Moisture.....: 1%

Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPH (as Diesel)	ND	12	mg/kg	3.0
SURROGATE	PERCENT	RECOVERY		
C9 (nonane)	RECOVERY	LIMITS		
	13	(10 - 110)		

NOTE(S):

Results and reporting limits have been adjusted for any weight.

Client Sample ID: S-120202-RS-4

GC Semivolatiles

Lot-Sample #....: A21030119-004 Work Order #....: FDSEMLAC Matrix.....: SC  
Date Sampled....: 12/03/02 09:30 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 1237064  
Dilution Factor: 1  
\* Moisture.....: 20 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPH (as Diesel)	ND	12	mg/kg	0.1
SURROGATE	PERCENT	RECOVERY		
C9 (nonane)	RECOVERY	LIMITS		
	19	(10 - 110)		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-5

GC Semivolatiles

Lot-Sample #....: APLOSC139-005 Work Order #....: FDSEN1AC Matrix.....: SO  
Date Sampled...: 12/03/02 10:15 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 1107264  
Dilution Factor: 1  
\* Moisture....: 19 Method.....: SW846 8015B

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	MDL
TPH (as Diesel)	ND	12	mg/kg	3.1
SURROGATE	PERCENT	RECOVERY		
C9 (nonane)	RECOVERY	LIMITS	(10 - 110)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-6

GC Semivolatiles

Lot-Sample #....: A21630139-006 Work Order #....: F055PIAC Matrix.....: SG  
Date Sampled....: 12/02/02 10:40 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2017264  
Dilution Factor: 1  
% Moisture.....: 01 Method.....: SW846 8016B

REPORTING:

PARAMETER	RESULT	COMET	UNITS	MCL
TPE (as Diesel)	ND	10	mg/kg	3.2
SURROGATE	PERCENT	RECOVERY	LIMITS	
C9 (nonane)	87		(10 - 110)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-7

GC Semivolatiles

Lot-Sample #....: A2LC030139-007 Work Order #....: FDSE01AC Matrix.....: SC  
Date Sampled...: 12/03/02 11:00 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #:....: 2337264  
Dilution Factor: 1  
% Moisture.....: 19 Method.....: SW846 8015B

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	WT%
TPH (as Diesel)	ND	12	mg/kg	1.1
SURROGATE		PERCENT	RECOVERY	
C9 (nonane)	19		LIMITS	(10 - 110)

NOTE(S):

Results and reporting limits have been adjusted for any weight.

Client Sample ID: S-120202-RS-9

GC Semivolatiles

Lot-Sample #....: A21030139-008 Work Order #....: FDSSETLAC Matrix.....: SO  
Date Sampled...: 10/02/02 11:30 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/04/02  
Prep Batch #....: 0337264  
Dilution Factor: 1  
\* Moisture.....: 19 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
TPEH (as Diesel)	ND	12	mg/kg	0.1
SURROGATE	PERCENT	RECOVERY		
C9 (nonane)	RECOVERY	LIMITS		
	19	(10 - 110)		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-9

GC Semivolatiles

Loc-Sample #....: ADL03C139-009 Work Order #....: FDSEVLAC Matrix.....: SC  
Date Sampled....: 12/03/02 12:30 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/04/02  
Prep Batch #:....: 2137264  
Dilution Factor: 1  
\* Moisture.....: 01 Method.....: SW846 8015B

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	MDL
TPH (as Diesel)	ND	13	mg/kg	3.2
SURROGATE	PERCENT	RECOVERY		
C9 (nonane)	RECOVERY	LIMITS	(10 - 110)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: S-120202-RS-10

GC Semivolatiles

Lot-Sample #....: A11000139-010 Work Order #....: FDSEWLAC Matrix.....: SO  
Date Sampled....: 12/01/02 12:45 Date Received...: 12/03/02  
Prep Date.....: 12/03/02 Analysis Date...: 12/04/02  
Prep Batch #....: 2017264  
Dilution Factor: 1  
% Moisture.....: 11 Method.....: SW246 8016B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MOL
TPH (as Diesel)	ND	11	mg/kg	2.8
SURROGATE	PERCENT	RECOVERY		
C9 (nonane)	RECOVERY	LIMITS		
	16	(10 - 110)		

NOTE(S):

Results and reporting limits have been adjusted for any weight.

## METHOD BLANK REPORT

## GC Volatiles

Client Lot #....: A2L030139      Work Order #....: FD6TV1AA      Matrix.....: WATER  
MB Lot-Sample #: A2L040000-112      Prep Date.....: 12/03/02  
Analysis Date...: 12/03/02      Prep Batch #....: 2338112  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
TPH (as Gasoline)	ND	100	ug/L	SW846 8015B
SURROGATE		PERCENT	RECOVERY	
Trifluoroethlene	65	RECOVERY	LIMITS	
			(10 - 150)	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

## METHOD BLANK REPORT

## GC Volatiles

Client Lot #....: ALLOC019  
ME Lot-Sample #: ALLOC0000-114

Work Order #....: FD6TKLAA

Matrix.....: SOLID

Prep Date.....: 12/03/02

Prep Batch #....: 0306114

Analysis Date...: 12/03/02  
Dilution Factor: 1

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
TPH (as Gasoline)	ND	100	ug/kg	SW846 8015B
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	(10 - 150)	
Trifluorotoluene	65			

## NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #: A2L010119      Work Order #: F067V1AC-LCS      Matrix.....: WATER  
LCS Lot-Sample#: A2L040000-112    F067V1AD-LCSD  
Prep Date.....: 12/03/02      Analysis Date...: 12/03/02  
Prep Batch #: 2358112  
Dilution Factor: 1

PARAMETER	SPike	MEASURED		PERCENT	RPD	METHOD
	AMOUNT	AMOUNT	UNITS	RECOVERY		
TPH (as Gasoline)	200	210	ug/L	106		SW846 8015B
	200	210	ug/L	107	1.1	SW846 8015B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Trifluorotoluene	83	(10 - 150)
	81	(10 - 150)

## NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

BOLD print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #....: AIL638139 Work Order #....: FD6TVIAC-LCS Matrix.....: WATER  
LCS Loc-Sample#: AIL040000-112 FD6TVIAC-LCSD  
Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
Prep Batch #....: 2638112  
Dilution Factor: 1

PARAMETER	PERCENT	RECOVERY	RPD	LIMITS	METHOD
	RECOVERY	LIMITS			
TPE (as Gasoline)	106	(75 - 137)			SW846 8015B
	107	(75 - 137)	1.1	(0-20)	SW846 8015B
SURROGATE	PERCENT	RECOVERY			
Trifluorotoluene	RECOVERY	LIMITS			
	83	(10 - 150)			
	81	(10 - 150)			

## NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #....: A21030139 Work Order #....: FD6TXLAC-LCS Matrix.....: SOLID  
 LCS Lot-Sample#: AC1040000-114 FD6TXLAD-LCSD  
 Prep Date.....: 12/03/02 Analysis Date...: 12/03/02  
 Prep Batch #....: 0308114  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE</u>	<u>MEASURED</u>	<u>PERCENT</u>	<u>RPD</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMOUNT</u>	<u>UNITS</u>		
TPE (as Gasoline)	200	210	ug/kg	106	SW846 8015B
	200	210	ug/kg	107	1.1 SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Trifluorotoluene	83	(10 - 150)
	81	(10 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #....: AS1030139 Work Order #: FD6TX1AC-LCS Matrix.....: SC112  
LCS Lot-Sample#: AS1040000-114 FD6TX1AD-LCSD  
Prep Date.....: 12/03/02 Analysis Date.: 12/03/02  
Prep Batch #....: 2338114  
Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	
TPH (as Gasoline)	106	(74 - 133)		SW846 8015B
	107	(74 - 133)	1.1 (0-23)	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Trifluorotoluene	83	(10 - 150)
	81	(10 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## METHOD BLANK REPORT

## GC Volatiles

Client Lot #: A21C0109  
 MB Lot-Sample #: A21C90000-011  
 Analysis Date.: 12/06/02  
 Dilution Factor: 1

Work Order #: FEFW002A2  
 Prep Date....: 12/06/02  
 Prep Batch #: 2348001

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8021B
Styrylbenzene	ND	1.0	ug/L	SW846 8021B
Toluene	ND	1.0	ug/L	SW846 8021B
Xylenes (total)	ND	1.0	ug/L	SW846 8021B
Methyl tert-butyl ether	ND	1.0	ug/L	SW846 8021B
Acetone	ND	1.0	ug/L	SW846 8021B
Bromodichloromethane	ND	1.0	ug/L	SW846 8021B
Bromoform	ND	1.0	ug/L	SW846 8021B
Bromomethane	ND	1.0	ug/L	SW846 8021B
2-Butanone	ND	1.0	ug/L	SW846 8021B
Carbon disulfide	ND	1.0	ug/L	SW846 8021B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8021B
Chlorobenzene	ND	1.0	ug/L	SW846 8021B
Dibromochloromethane	ND	1.0	ug/L	SW846 8021B
Chloroethane	ND	1.0	ug/L	SW846 8021B
Chloroform	ND	1.0	ug/L	SW846 8021B
Chloromethane	ND	1.0	ug/L	SW846 8021B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8021B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8021B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8021B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8021B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8021B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8021B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8021B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8021B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8021B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8021B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8021B
2-Hexanone	ND	1.0	ug/L	SW846 8021B
Methylene chloride	ND	1.0	ug/L	SW846 8021B
4-Methyl-2-pentanone	ND	1.0	ug/L	SW846 8021B
Styrene	ND	1.0	ug/L	SW846 8021B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8021B
Tetrachloroethene	ND	1.0	ug/L	SW846 8021B
1,1,2-Trichloro-	ND	1.0	ug/L	SW846 8021B
benzene				
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8021B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8021B
Trichloroethene	ND	1.0	ug/L	SW846 8021B
Vinyl chloride	ND	1.0	ug/L	SW846 8021B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8021B

(Continued on next page)

## METHOD BLANK REPORT

## GC Volatiles

Client Lot #...: A2L03015S

Work Order #...: PEFWOLAA

Matrix.....: WATER

PARAMETER

Trichlorofluoromethane  
 Isopropylbenzene  
 1,1,2-Trichloro-  
 1,2,2-trifluoroethane  
 1,2-Dibromo-3-  
 chloropropane (DCCP)  
 1,2-Dibromoethane (EDB)

RESULT	REPORTING		METHOD
	LIMIT	UNITS	
ND	1.0	ug/L	SW846 8021B
ND	1.0	ug/L	SW846 8021B
ND	1.0	ug/L	SW846 8021B
ND	1.0	ug/L	SW846 8021B
ND	1.0	ug/L	SW846 8021B
ND	1.0	ug/L	SW846 8021B

SURROGATE	PERCENT RECOVERY	RECOVERY	
		VALUES	UNITS
1,4-Dichlorobutane	73	(61 - 140)	
Trifluorotoluene	104	(62 - 119)	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #....: A21030139      Work Order #....: FDSILLAC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A21030000-279      FDSILLAD-LCSD  
 Prep Date.....: 12/03/02      Analysis Date...: 10/03/02  
 Prep Batch #....: 2307279  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE</u>	<u>MEASURED</u>	<u>UNITS</u>	<u>PERCENT</u>	<u>RPD</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMOUNT</u>	<u>ug/L</u>	<u>RECOVERY</u>		
Toluene	20	20	ug/L	99	2.2	SW846 8021B
	20	19	ug/L	97		SW846 8021B
Benzene	20	20	ug/L	98	2.0	SW846 8021B
	20	19	ug/L	96		SW846 8021B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Trifluorotoluene	96	(82 - 119)
	96	(82 - 119)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #...: A210300139 Work Order #...: FD5111AC-LCS Matrix.....: WATER  
LCS Lot-Sample#: A21030000-079 FD5111AC-LCSD  
Prep Date.....: 12/03/02 Analysis Date.: 12/03/02  
Prep Batch #:...: 2037279  
Dilution Factor: 1

PARAMETER	PERCENT	RECOVERY	RPD	LIMITS	METHOD
	RECOVERY	LIMITS			
Toluene	99	(79 - 118)	2.2	(0-20)	SW846 8021B
	97	(79 - 118)			SW846 8021B
Benzene	98	(77 - 118)	2.0	(0-20)	SW846 8021B
	96	(77 - 118)			SW846 8021B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Trifluorotoluene	96	(82 - 118)
	96	(82 - 118)

## NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #....: A21030139 Work Order #....: PEFW01AC-LCS Matrix.....: WATER  
 LCS Lot-Sample#: A21090000-III PEFW01AD-LCSD  
 Prep Date.....: 12/06/02 Analysis Date...: 12/06/02  
 Prep Batch #:....: 2343011  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPike</u>	<u>MEASURED</u>		<u>PERCENT</u>	<u>RPD</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>		
Toluene	20	22	ug/L	109		SW846 8021B
	20	21	ug/L	106	2.3	SW846 8021B
Benzene	20	21	ug/L	106		SW846 8021B
	20	21	ug/L	103	2.2	SW846 8021B
1,1-Dichloroethene	20	21	ug/L	106		SW846 8021B
	20	20	ug/L	101	4.6	SW846 8021B
Trichloroethene	20	22	ug/L	110		SW846 8021B
	20	21	ug/L	107	3.2	SW846 8021B
Chlorobenzene	20	22	ug/L	109		SW846 8021B
	20	22	ug/L	108	1.5	SW846 8021B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
1,4-Dichlorobutane	99	(61 - 140)
	97	(61 - 140)
Trifluorotoluene	108	(82 - 119)
	109	(82 - 119)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #....: ALLOC0019 Work Order #: PEFW01AC-LCS Matrix.....: WATER  
 LCS Lot-Sample#: ALLOC0000-211 PEFW01AD-LCSD  
 Prep Date.....: 12/06/02 Analysis Date...: 12/06/02  
 Prep Batch #: 0040112  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>	
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>		
Toluene	109	(79 - 118)		SW846 8021B	
	106	(79 - 118)	2.3	(0-20)	SW846 8021B
Benzene	106	(77 - 118)		SW846 8021B	
	102	(77 - 118)	2.2	(0-20)	SW846 8021B
1,1-Dichloroethane	106	(72 - 127)		SW846 8021B	
	101	(72 - 127)	4.6	(0-20)	SW846 8021B
Trichloroethene	110	(82 - 117)		SW846 8021B	
	107	(82 - 117)	3.2	(0-20)	SW846 8021B
Chlorobenzene	109	(83 - 118)		SW846 8021B	
	108	(83 - 118)	1.5	(0-20)	SW846 8021B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
1,4-Dichlorobutane	99	(61 - 140)
	97	(61 - 140)
Trifluorotoluene	108	(82 - 119)
	109	(82 - 119)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results  
 Bold print denotes control parameters

## METHOD BLANK REPORT

## GC Semivolatiles

Client Lot #.... A11C0139  
MB Lot-Sample #: A11C0000-064  
Analysis Date... 12/04/02  
Dilution Factor: 1

Work Order #.... FDSFR1AA

Matrix..... SOLID

Prep Date..... 12/03/02  
Prep Batch #.... 2337264

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	ENOTS	
TSP as Diesel	ND	10	mg/kg	SW846 5016B
SURROGATE C9 (nonane)	PERCENT RECOVERY 20	RECOVERY LIMITS (10 - 110)		

## NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC Semivolatiles

Client Lot #....: AZL030119 Work Order #...: FDSFR1AC-LCS Matrix.....: SOLID  
LCS Lot-Sample#: AZL030000-264 FDSFR1AD-LCSD  
Prep Date.....: 12/03/01 Analysis Date...: 12/04/01  
Prep Batch #...: 2337264  
Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE</u>	<u>MEASURED</u>	<u>PERCENT</u>	<u>RPT</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMOUNT</u>	<u>UNITS</u>		
TEH (as Diesel)	17	12	mg/kg	78	SW846 8015B
	17	13	mg/kg	75	4.5 SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
C9 (nonane)	27	(10 - 110)
	11	(10 - 110)

NOTE(S):

Cancelling is performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Semivolatiles

Client Lot #....: A2L0300119      Work Order #....: FDSFR1AC-LCS      Matrix: ~~solid~~ SOLID  
LCS Lot-Sample#: A2L030000-264    FDSFR1AD-LCSD  
Prep Date.....: 11/03/02      Analysis Date...: 12/04/02  
Prep Batch #:....: 2127264  
Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	
<b>TPH (as Diesel)</b>	78	(37 - 153)		SW846 8015B
	75	(37 - 153)	4.5	(0-98) SW846 8015B
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>METHOD</u>	
	<u>RECOVERY</u>	<u>LIMITS</u>		
<b>C9 (nonane)</b>	27	(10 - 110)		
	21	(10 - 110)		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## CHAIN OF CUSTODY RECORD

SHIPPED TO (Laboratory Name):

STC

REFERENCE NUMBER:

17365-30

SAMPLE IT'S  
SIGNATUREPRINTED  
NAME:

Bob Siegfried

REMARKS

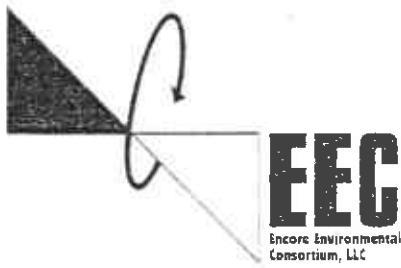
SFO No.	DATE	TIME	SAMPLE NO	SAMPLE TYPE	No of Containers	PARAMETERS			REMARKS
						T PH-8	T PH-9	TOL	
12-2	0945	S-120202 - RS-1	Soil	4	X X				
	0900	- RS-2		4	X X				
	0925	- RS-3		4	X X				
	0930	- RS-4		4	X X				
	1015	- RS-5		4	X X				
	1040	- RS-6		4	X X				
	1100	- RS-7		4	X X				
	1130	- RS-8		4	X X				
	1230	- RS-9		4	X X				
	1245	- RS-10		4	X X				
	1355	W-120202 - RS-11		6	X X				
	1445	W-120202 - RS-12		6	X X				

END

TOTAL NUMBER OF CONTAINERS			HEALTH/CHEMICAL HAZARDS		
RELINQUISHED BY ① Robert J. Siegfried	DATE 12-2-02 TIME 1530		RECEIVED BY ①		DATE TIME
RELINQUISHED BY ②	DATE	TIME	RECEIVED BY ②		DATE TIME
RELINQUISHED BY ③	DATE	TIME	RECEIVED BY ③		DATE TIME
METHOD OF SHIPMENT	WAY BILL No				
White	Fully Executed Copy	SAMPLE TEAM	RECEIVED FOR LABORATORY BY		
Yellow	Receiving Laboratory Copy		Signature		
Pink	Shipper Copy		DATE 12-3-02 TIME 1000		
Goldentrod	Sampler Copy		NO CRA 12014		

**ATTACHMENT B**

**OIL/WATER SEPARATOR CLOSURE PLAN**



6723 Towpath Road, Box 66  
Syracuse, NY 13214-0066

April 17, 2003

Reference No. 17366-30

Ms. Danielle Stefani  
Hazardous Materials Coordinator  
Livermore - Pleasanton Fire Department  
3560 Nevada Street  
Pleasanton, California 94566

Dear Ms. Stefani:

Re: Oil/Water Separator Closure Plan  
Saturn of Pleasanton  
4340 Rosewood Drive  
Pleasanton, California

---

## 1.0 INTRODUCTION

On behalf of Saturn Corporation Inc. (Saturn), ENCORE Environmental Consortium, L.L.C. (EEC) has prepared this Closure Plan (Plan) for the removal and replacement of an oil/water separator (OWS) at the subject property located at the above-referenced address (Site). This Plan has been prepared in accordance with the permit requirements provided to EEC by the Livermore - Pleasanton Fire Department (LPFD) and the sampling requirements presented in the Tri-Regional Board Guidelines (TRBG) dated August 10, 1990. A permit application associated with this Plan is enclosed.

## 2.0 BACKGROUND

In 1999, McLaren/Hart, Inc. (MH) conducted a subsurface Site investigation adjacent to the existing OWS, which identified that total petroleum hydrocarbon - gasoline range organics (TPH-GRO) and total petroleum hydrocarbon - diesel range organics (TPH-DRO) were not detected in soil above a reporting limit of 50 parts per million at an approximate depth of 8 to 10 feet.

Of the volatile organic compounds (VOCs) detected in soil adjacent to the existing OWS, only benzene, at a concentration of 2,000 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ), exceeded the applicable EPA Region 9 Preliminary Remediation Goals (PRG). Groundwater was not encountered during the 1999 MH investigation.

On December 2, 2002, EEC investigated the subsurface conditions adjacent to the existing OWS. EEC installed soil boring DP-11 adjacent to the existing OWS and collected one groundwater sample for analysis of TPH-GRO and VOCs. TPH-GRO was detected at a concentration of 330 micrograms per liter ( $\mu\text{g/l}$ ). VOCs detected above the applicable California Maximum Contaminant Levels (MCLs) and their respective concentrations include: benzene (6.3  $\mu\text{g/l}$ ), cis-1,2-dichloroethene (17  $\mu\text{g/l}$ ), and trichloroethene (120  $\mu\text{g/l}$ ). EEC encountered groundwater in soil boring DP-11 at an approximate depth of 26 feet below grade.

### 3.0 SCOPE OF WORK

EEC has contracted Marcor Remediation, Inc., (MARCOR) of San Leandro, California to complete the removal and replacement of one approximately 2,500-gallon OWS located at the Site. Photographic documentation of the OWS removal and replacement will be conducted. Figure 1 presents the location of the existing OWS unit. The existing OWS unit will be removed in accordance with all applicable permit requirements and replaced with a Jensen® precast model JZ2500ECE-CL 2,500-gallon OWS unit. A cut sheet for the new OWS unit is attached as Attachment A.

#### 3.1 SOIL SAMPLE LOCATIONS AND ANALYSIS

With the assistance of MARCOR, EEC will collect one soil sample from each sidewall of the OWS excavation and two floor soil samples from either end of the OWS excavation. If groundwater is encountered in the excavation, EEC will collect a groundwater sample, in lieu of floor samples, in accordance with applicable TRBG requirements.

Based on the results of the previous investigations and the TRBG requirements, EEC will analyze the soil and/or groundwater samples obtained from the OWS excavation for VOCs using USEPA method 8260B, TPH-GRO using USEPA method 8015B, and TPH-DRO using USEPA method 8015B.

In the event that any of the OWS excavation sidewall or bottom samples contain detected VOCs exceeding applicable regulatory criteria or TPH at a concentration of 100 milligrams per kilogram (mg/kg) or greater, EEC will direct MARCOR to remove additional soil from the excavation until no visual or olfactory evidence of impact is observed by EEC. Following the removal of additional soil, a second round of sidewall and bottom samples will be collected from the OWS excavation for the above analytical parameters.

Because non-fuel constituents have been detected in groundwater beneath the existing OWS, EEC will conduct a preliminary Site-specific subsurface investigation according to the requirements of the TRBG with the concurrence of the Regional Water Quality Control Board (RWQCB). Currently, EEC intends to delineate the horizontal extent of VOCs in groundwater through the installation of two soil borings in each direction surrounding the location of the OWS for a total of eight

April 17, 2003

3

Reference No. 17366-30

delineation soil borings. Groundwater samples will be collected from each soil boring and analyzed for VOCs as a screening method. After the removal and replacement of the OWS, based on the results of the subsurface investigation, EEC plans to install three monitoring wells for continued groundwater monitoring and determination of the groundwater flow direction.

### 3.2 OWS CONTENTS

The contents of the existing OWS consists of non-sanitary wastewater generated by Site activities. The contents of the existing OWS will be properly characterized by EEC and containerized by MARCOR for off-Site disposal or treatment at an approved facility.

### 4.0 CLOSURE

Please contact the undersigned at (517) 316-2397 with any questions or comments regarding this Plan.

Yours truly,

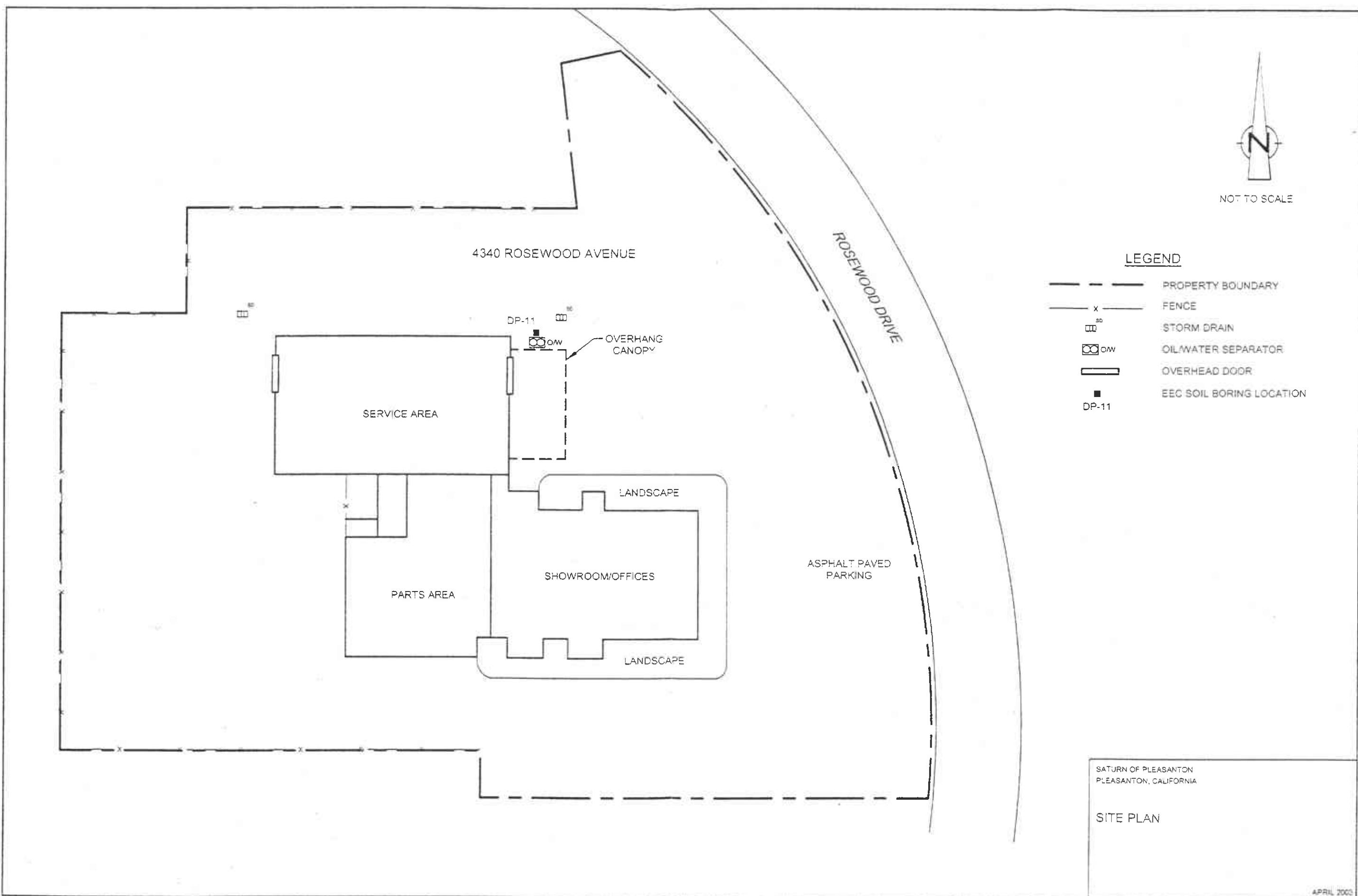
*Jennifer L. Quigley, P.E.*

Jennifer L. Quigley, P.E.

BH/1/Det.

Encl.

c.c.: Rob Fogal, Saturn Corporation Inc.  
Ben Holly, EEC



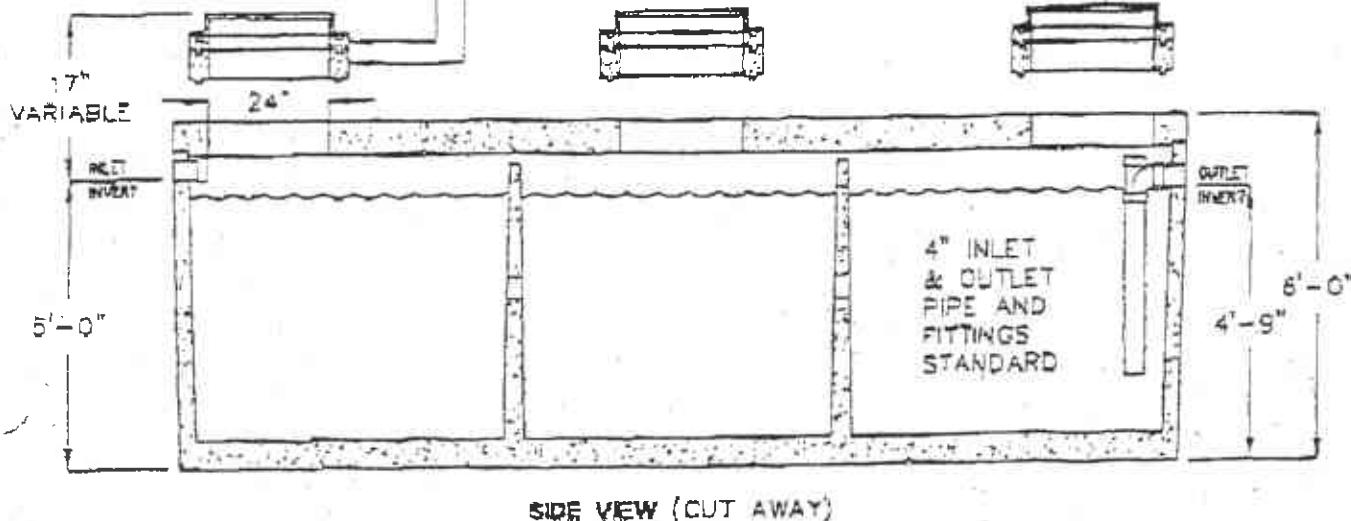
# 2500 GALLON CLARIFIER

MODEL JZ2500ECE-CL

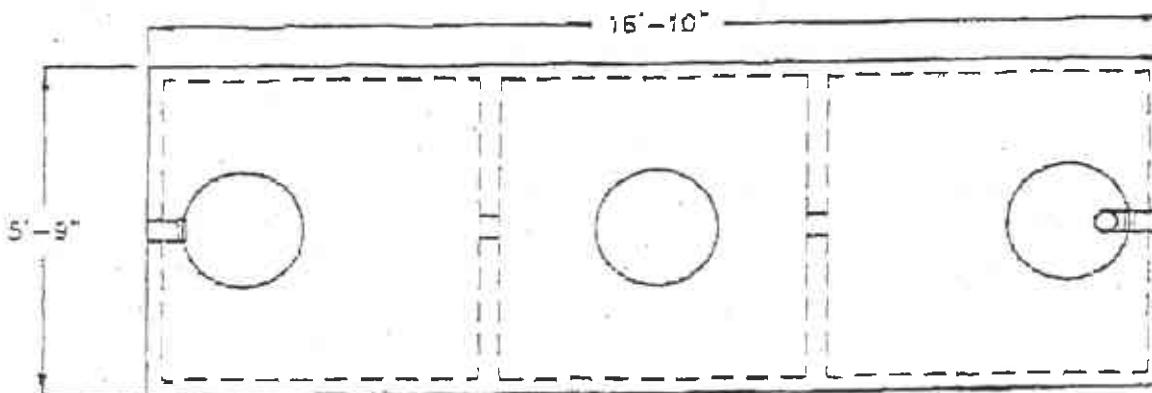
AS REQUIRED  
(AT EXTRA COST)

24" CAST IRON FRAME & COVER  
WITH GASKET (GASTIGHT) STANDARD.

2432-03 RISER - 3"  
2432-06 RISER - 6"



SIDE VIEW (CUT AWAY)



TOP VIEW  
(COVERS & RISERS REMOVED)

LIQUID CAPACITY: 2,500 GALLONS.

BOX DESIGN LOAD: H-20 TRAFFIC FROM  
1' TO 5' OF SOIL COVER.

FOR COMPLETE DESIGN AND PRODUCT  
INFORMATION CONTACT JENSEN PRECAST.

8/16/98

**JENSEN**  
PRECAST.  
Since 1958  
TOTAL P.12

**ATTACHMENT C**  
**VARIOUS CORRESPONDENCE**

May 22, 2003

reviewed by Paul Smith, Livermore Pleasanton Fire Dept. (LPFD)  
3560 Nevada St., Pleasanton, CA 94566  
(925) 454-2339, fax (925) 454-2339

Comments on Removal/Replacement of Oil Water Separator, Saturn of Pleasanton, 4340 Rosewood Dr., Pleasanton, CA 94588

Building Department Permit # COPC 200022

Here are comments/ requests I will share with the contractor Marcor Remediation, Inc re the above project.

1. Need to submit a \$200 plan check and inspection fee through COP Building Department for LPFD oversight of this project prior to issuance of the permit.
2. Please confirm that the current and proposed sumps connect to sanitary sewer, not the storm system.
3. Based on levels of contaminants found in a subsurface samples of:
  - Soil taken in 2000 adjacent to the sump indicated 2,000 ug/kg benzene
  - Water sample taken in 12/2/2002 indicated: 6.3 ug/l benzene, 17 ug/l dichlorobenzene and 120 ug/l trichlorothene at a depth of 26 feetBased on the above data and on any further subsurface information ECC is proposing to install three ground water monitoring wells around the sump area. Please notify Alameda County Environmental Health, Local Oversight Program as soon as possible to provide them with all relevant information regarding previous contamination or cleanup objectives for this site. This will allow them to witness potential contamination and cleanup actions taken when the sump removal occurs. Please direct all correspondence and questions to: Donna Drogos, Ala. Co. Env. Health, Subsurface Leak Investigation and Cleanup Division, 1131 Harbor Bay Parkway, Alameda, CA 94502. Please contact Donna with any questions at 510 567-6721.
4. The Sampling plan dated April 17, 2003 prepared by Encore Environmental Consortium (EEC) states that one soil sample from each sidewall of the oil water separator excavation and two floor samples from either end of the separator excavation. If groundwater is encountered in the excavation EEC will collect a ground water sample, in lieu of floor samples, in accordance with applicable Tri Regional Board Guidelines Requirements. I am requesting that whether or not water is encountered that soil samples as indicated above be collected from the oil water separator pit. Based on contaminants identified above I anticipate that perched water may be encountered associated with a leaking sump might be present in the excavation pit.
5. I checked with Dublin San Ramon Services District regarding any permit conditions they may have regarding discharge into their sanitary sewer system. They do not require a permit for installation of discharge for this type of system. Allowable effluent discharge limitations are currently: 150 mg/l hydrocarbons/ Total Oil and Grease as Motor Oil/Grease and 200 mg/l hydrocarbons Total Oil and Grease as Vegetable Oil/Grease. Housekeeping of service bays flowing into the trench drains must be sufficient to minimize waste oil from flowing into the trench/and sump system. Housekeeping at the Saturn Service Center and a proper maintenance frequency of the sump must be sufficient to allow the sump to meet the above numerical discharge limitations.



6723 Towpath Road, Box 66  
Syracuse, NY 13214-0066

June 3, 2003

Reference No. 17366-30

Mr. Paul Smith  
Livermore - Pleasanton Fire Department  
3560 Nevada Street  
Pleasanton, California 94566

Dear Mr. Smith:

**Re:** Response to Livermore - Pleasanton Fire Department's Comments  
Oil/Water Separator Closure Plan  
Saturn of Pleasanton  
4340 Rosewood Drive  
Pleasanton, California

---

This letter, prepared on behalf of Saturn Corporation Inc. (Saturn), presents ENCORE Environmental Consortium, L.L.C.'s (EEC) response (Response) to the Livermore - Pleasanton Fire Department's (LPFD) comments (Comments) on the Oil/Water Separator Closure Plan (Closure Plan) for the Saturn of Pleasanton site located at 4340 Rosewood Drive in Pleasanton, California (Site), dated May 22, 2003.

The Closure Plan describes the activities that will be conducted during the removal and replacement of an oil/water separator (OWS) at the Site, and was submitted as a portion of an application for Building Department No. COPC 200022. This Response letter, and any other correspondence necessary, will serve as an addendum to the Closure Plan.

Each comment in the letter from LPFD to Marcor, and to EEC therefrom, dated May 22, 2003, is presented below followed by a response to that specific comment.

*Comment:*

1. *Need to submit a \$200 plan check and inspection fee through COP Building Department for LPFD oversight of this project prior to issuance of the permit.*

**Response:**

1. The plan check and inspection fees for the LPFD oversight will be submitted by MARCOR to the COP Building Department prior to initiation of the project.

**Comment:**

2. *Please confirm that the current and proposed sumps connect to the sanitary sewer, not the storm system.*

**Response:**

2. MARCOR spoke with Mr. Alfredo Vazquez of the City of Pleasanton Building Department (PBD) on May 28, 2003 regarding the existing connection of the OWS. Mr. Vazquez provided correspondence from Mr. Abbas Masjedi, Utility Engineer with the PBD. According to Mr. Masjedi, PBD records indicate that the OWS discharge is connected to the sanitary sewer system.

**Comment:**

3. *Based on levels of contaminants found in subsurface samples of:*
  - *Soil taken in 2000 adjacent to the sump indicated 2,000 ug/kg benzene*
  - *Water sample taken in 12/2/02 indicated: 6.3 ug/l benzene, 17 ug/l dichlorobenzene and 120 ug/l trichloroethene at a depth of 26 feet*

*Based on the above data and on any further subsurface information ECC is proposing to install three ground water monitoring wells around the sump area. Please notify Alameda County Environmental Health, Local Oversight Program as soon as possible to provide them with all relevant information regarding previous contamination or cleanup objectives for this site. This will allow them to witness potential contamination and cleanup actions taken when the sump removal occurs. Please direct all correspondence and questions to: Donna Drogos, Ala. Co. Env. Health, Subsurface Leak Investigation and Cleanup Division, 1131 Harbor Bay Parkway, Alameda, CA 94502. Please contact Donna with any questions at 510 567-6721.*

**Response:**

3. A letter identifying the scope of work and previous analytical results will be prepared and submitted to the Alameda County Environmental Health, Subsurface Leak Investigation, and Cleanup Division (ACHD). Notification will be conducted directly with the ADHD, in accordance with local regulatory requirements.

**Comment:**

4. *The Sampling plan dated April 17, 2003 prepared by Encore Environmental Consortium (EEC) states that one soil sample from each sidewall of the oil water separator excavation and two floor samples from either end of the separator excavation. If groundwater is encountered in the excavation EEC will collect a ground water sample, in lieu of floor samples, in accordance with applicable Tri Regional Board Guidelines Requirements. I am requesting that whether or not water is encountered that soil samples as indicated above be collected from the oil water separator pit. Based on contaminants identified above I anticipate that perched water may be encountered associated with a leaking sump might be present in the excavation pit.*

**Response:**

4. Previous Site investigations that have been conducted indicated that benzene was identified in a soil sample collected adjacent to the OWS at a concentration above the applicable cleanup criteria (the United States Environmental Protection Agency (U.S. EPA) Region 9 Preliminary Remediation Goal (PRG)), as presented in Comment No. 3. Based on the analytical results and the proximity of the OWS to the location of the soil sample, it was identified that the source of the soil impact was the OWS. In addition, as presented in Comment No. 3, several volatile organic compounds have been identified in groundwater at concentrations above the California Maximum Contaminant Levels (MCLs). This indicates that the soil surrounding the OWS has been impacted and has impacted the groundwater, at depth. If groundwater is encountered in the excavation, it can be assumed that groundwater is the transport media for the contamination at that depth; therefore, the focus of the sample collection for representative identification of contamination should be groundwater and not soil. Soil sample collection below the water table is not representative of soil conditions at that depth, rather, it is representative of the groundwater. Soil samples will not be collected from the excavation floor if groundwater is present. not perched water

**Comment:**

5. *I checked with Dublin San Ramon Services District regarding any permit conditions they may have regarding discharge into their sanitary sewer system. They do not require a permit for installation of discharge for this type of system. Allowable effluent discharge limitations are currently: 150 mg/l hydrocarbons/ Total Oil and Grease as Motor Oil/Grease and 200 mg/l hydrocarbons Total Oil and Grease as Vegetable Oil/Grease. Housekeeping of service bays flowing into the trench drains must be sufficient to minimize waste oil from flowing into the trench/and sump system. Housekeeping at the Saturn Service Center and a proper maintenance frequency of the sump must be sufficient to allow the sump to meet the above numerical discharge limitations.*

June 3, 2003

4

Reference No. 17366-30

**Response:**

5. EEC will notify the Site of these discharge requirements. No discharge to the sanitary sewer system will occur during the removal and replacement of the OWS.

Should you have any questions or comments regarding this Response, please contact the undersigned at (517) 316-2397.

Yours truly,

*Jennifer T. Quigley, P.E.*  
Jennifer L. Quigley, P.E.

BH/1/Det.  
Encl.

c.c.: Rob Fogal, Saturn Corporation Inc.  
Ben Holly, EEC

----Original Message----

From: Smith, Paul [mailto:[PSmith@lpfire.org](mailto:PSmith@lpfire.org)]  
Sent: Tuesday, June 10, 2003 5:51 PM  
To: Jennifer Quigley (E-mail)  
Cc: Donna Drogos (E-mail); Ron Imperiale (E-mail)  
Subject: Comments dated June 3, 2003 re Sump removal/replacement, Saturn  
of Pleasanton, 4340 Rosewood Dr., Pleasanton,

Hi Jennifer,

This note follows up on our phone conversation today concerning your response to the plan check comments I sent out on the above project on May 22, 2003.

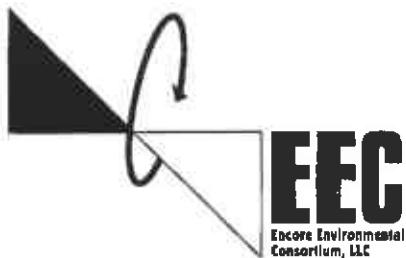
Plan approval is contingent on implementation of each of the following:

In item 4 of your June 2, 2003 response you mentioned that when collecting samples of soil in the sump excavation if water (either perched or groundwater) was encountered you would collect a water sample only. After conferring with Alameda County Environmental Health Department, Local Oversight Program involved in performing regulatory oversight of any site mitigation necessary, if any, we both agree that whether or not water is encountered in the sump excavation pit that soil samples shall be taken. If water is present a water sample will also be collected and analyzed for all of the appropriate parameters.

Regarding submission of a plan check/inspection fee for oversight of the plan check and removal and installation a deposit of \$200 must be submitted prior to issuance of an approved permit. Please be advised that the oversight is billed out at the rate of \$ 100/hour. Any time exceeding 2 hours spent on this project will be billed to you at the completion of this project. Please submit this amount through the City of Pleasanton Building Department for project CHPC T200017.

Once the above issues have been completed and a valid permit has been obtained please contact me, or have your removal installation contractor contact me at (925) 454-2339. Please feel free to contact me if you have any questions regarding the above.

Thank you.



6723 Towpath Road, Box 66  
Syracuse, NY 13214-0066

June 11, 2003

Reference No. 17366-30  
*Privileged and Confidential*  
*Prepared at the Request of Counsel*

Mr. Paul Smith  
Livermore - Pleasanton Fire Department  
3560 Nevada Street  
Pleasanton, California 94566

Dear Mr. Smith:

Re: Addendum to Response to Livermore - Pleasanton Fire Department's Comments  
Oil/Water Separator Closure Plan  
Saturn of Pleasanton  
4340 Rosewood Drive  
Pleasanton, California

---

This letter, prepared on behalf of Saturn Corporation Inc. (Saturn), presents ENCORE Environmental Consortium, L.L.C.'s (EEC) addendum (Addendum) to the response (Response) to the Livermore - Pleasanton Fire Department's (LPFD) comments (Comments) on the Oil/Water Separator Closure Plan (Closure Plan) for the Saturn of Pleasanton site located at 4340 Rosewood Drive in Pleasanton, California (Site). The Comments, dated May 22, 2003, were addressed in a letter from EEC dated June 3, 2003.

The Closure Plan describes the activities that will be conducted during the removal and replacement of an oil/water separator (OWS) at the Site, and was submitted as a portion of an application for Building Department Permit No. COPC 200022 (Permit). This Addendum letter, and any other correspondence necessary, will serve as an addendum to the Closure Plan.

Based on subsequent discussions between EEC and the LPFD and an email sent June 10, 2003, it was identified that EEC's response to Comment No. 4, presented in the June 3, 2003 letter, was unacceptable to the LPFD. In addition, it was identified that the payment for oversight of the OWS removal by the LPFD was required to be paid prior to issuance of the Permit. The comments from this email, and EEC's responses therefrom, are presented below.

June 11, 2003

2

Reference No. 17366-30  
*Privileged and Confidential*  
*Prepared at the Request of Counsel*

*Comment:*

1. *In item 4 of your June 2, 2003 response you mentioned that when collecting samples of soil in the sump excavation if water (either perched or groundwater) was encountered you would collect a water sample only. After conferring with Alameda County Environmental Health Department, Local Oversight Program involved in performing regulatory oversight of any site mitigation necessary, if any, we both agree that whether or not water is encountered in the sump excavation pit that soil samples shall be taken. If water is present a water sample will also be collected and analyzed for all of the appropriate parameters.*

**Response:**

1. A minimum of two soil samples will be collected from the OWS excavation floor for analysis for the same analytical parameters as the sidewall samples, as presented in the Closure Plan. In addition, if groundwater is encountered in the OWS excavation, EEC will collect a groundwater sample for analysis for the same analytical parameters as the soil samples.

*Comment:*

2. *Regarding submision of a plan check/inspection fee for oversight of the plan check and removal and installation a deposit of \$200 must be submitted prior to issuance of an approved permit. Please be advised that the oversight is billed out at the rate of \$ 100/hour. Any time exceeding 2 hours spent on this project will be billed to you at the completion of this project. Please submit this amount through the City of Pleasanton Building Department for project CHPC T200017.*
2. It is understood that the issuance of the Permit is contingent upon the submittal of the required oversight fee deposit of \$200 to the City of Pleasanton Building Department. This fee will be paid by our subcontractor, MARCOR Remediation, Incorporated during the application process and will reference project CHPC T200017.

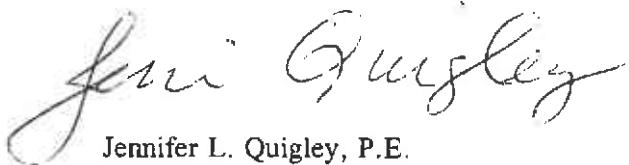
June 11, 2003

3

Reference No. 17366-30  
*Privileged and Confidential*  
*Prepared at the Request of Counsel*

Should you have any questions or comments regarding this Addendum, please contact the undersigned at (517) 316-2397.

Yours truly,



Jennifer L. Quigley, P.E.

JQ/1/Lan.  
Encl.

c.c.: Rob Fogal, Saturn Corporation Inc.  
Ben Holly, EEC