

GW



**SAFETY SPECIALISTS, Inc.**  
The Full Service Environmental Health & Safety Corporation

P.O. Box 4420, Santa Clara, CA 95054  
Telephone (408) 988-1111  
Contractor's License No. 460905

1/2" of floating product (oil) on GW

10/3/89

August 29, 1989

Mr. Fred Houston  
Winning Action Investments Inc.  
7080 Donlon Way  
Dublin, CA 94568

Reference: Safety Specialists, Inc., Project No. 530110

Dear Mr. Houston:

Safety Specialists, Inc., is pleased to submit this report documenting the subsurface investigation conducted on the American City Truck Stop facility located at 6310 Houston Court in Dublin, California. This report describes the monitoring well (subsurface) installation, development, purging, sampling and analysis. It also describes the stockpiles from the tank excavation area, soil sampling protocol and results.

The purpose of this project was to determine the presence of contamination, if any, in the soil and groundwater at the above mentioned site.

**SITE HISTORY**

This history is based on information provided by H. G. Winter Company. On March 31, 1989, two 12,000 gallon diesel tanks, one 8,000 gallon diesel tank and one 500 gallon waste oil tank were removed from the site. One 12,000 gallon diesel tank was refinished internally with "Glass Armor" coating approved by the Dublin Fire Department and left in place for continued use.

Soil sampling results (see Appendix A for laboratory results from the Winters Company) indicated that no diesel hydrocarbons were detected. However, oil and grease concentrations, in general, ranged from non-detected to 24 parts per million (ppm) with one soil sample (No. 8) at 240 ppm. Analysis of water samples collected from the three excavation pits (see Figure 2) indicated concentrations of diesel hydrocarbons of 8.5 ppm, 95 ppm, 380 ppm (under diesel tanks) and 9.7 ppm (under waste oil tank).

**GROUNDWATER MONITORING WELL INSTALLATION**

Safety Specialists, Inc., subcontracted Exploration Geoservices of San Jose, California, for monitoring well installation. Monitoring wells (as shown in Figure 1) MW-1, MW-2, and MW-3 were installed on August 9, 1989. All work was performed under the direct supervision of Kenneth L. Meleen, Civil Engineer, License No. C 17487.

The boreholes for the monitoring wells were drilled using twelve-inch outside diameter hollow stem augers. The hollow stem augers were thoroughly steam cleaned prior to each use. Soil samples for chemical analysis were collected in each borehole at five-foot intervals until groundwater was encountered using a modified California split-spoon sampler lined with brass sleeves and driven into the bottom of the borehole by a 140 pound hammer falling 30-inches. Blowcounts per foot were recorded.

Groundwater was initially encountered at depths of approximately 11 to 12 feet in the three monitoring wells.

The brass sleeves were wrapped in aluminum foil, capped, labeled and placed in a cooler with ice. Samples were transported to a State-certified hazardous waste laboratory. Chain of custody procedures were observed.

Soil samples for logging purposes were collected at five-foot intervals in an identical manner to the collection of soil samples for chemical analysis until the bottom of the borehole was reached. The boreholes were logged according to the Unified Soil Classification System and standard geological techniques. The boreholes were advanced five-feet into a clay layer underlying the groundwater surface, and then terminated. The boreholes were not advanced deeper due to concerns of penetrating a probable aquitard beneath the site.

Upon completion of drilling, the boreholes were converted to monitoring wells by the installation of four-inch diameter schedule 40, factory threaded and slotted PVC casing.

The slotted interval was extended to about five-feet above the groundwater level in anticipation of seasonal fluctuations of groundwater levels. The sand filter was extended two-feet above the top of the slotted intervals, and one-foot of bentonite pellets were placed above the sand. The pellets were hydrated with clean water and allowed to set up. The remaining annulus was filled with neat cement.

Copies of the exploration boring logs and monitoring well construction details are provide in Appendix B.

After the monitoring well grout had been allowed to set for a minimum of 72 hours, the monitoring wells were developed by over pumping until the discharged water was clear. The field parameters of pH, electrical conductivity, and temperature were monitored during well development. The field parameter data is presented in Tables 1, 2, and 3. Water discharged from the monitoring wells was stored in sealed 55-gallon open head DOT-approved drums and disposed of properly.

A minimum of 24-hours was allowed to elapse after monitoring well development before the monitoring wells were sampled.



Prior to the groundwater sampling, the monitoring wells were purged of a minimum of three casing volumes of water. The field parameters of pH, electrical conductivity, and temperature were monitored during purging. After three casing volumes of water were purged and the field parameters stabilized, the monitoring wells were sampled. Water discharged during purging operation was stored in 55-gallon open head DOT-approved drums. Field parameter data is presented in Tables 1, 2, and 3.

Water samples were collected using a clean stainless steel bailer and a cotton cord. The bailer was decontaminated by washing with trisodium phosphate solution followed by a distilled water rinse prior to each use.

Water samples were collected into 40-milliliter Volatile Organic Analysis (VOA) bottles and 1-liter amber glass bottles from each monitoring well. To minimize the potential volatilization of contaminants, care was taken to gently lower the bailer into the water in the monitoring well and pour from the bailer into the VOA bottles. After filling, the bottles were labeled, placed in a cooler with ice, and transported to a State-certified hazardous waste testing laboratory. Chain of custody procedures were observed.

#### Hydrogeological Conditions

The site in the vicinity of the excavation area and the surrounding areas is sequentially underlain by approximately three-feet of sandy gravel, three-feet of silty clay that shows some plasticity, fourteen-feet of clayey silt (water bearing formation) and more than five-feet of stiff silty clay. Groundwater was originally encountered at eleven-feet below the ground surface in all monitoring wells. Appendix B provides the exploratory boring logs. Figure 1 shows the locating of the boring log.

The approximate groundwater flow direction is towards the southeast with a gradient of 0.0031. This gradient indicates that the groundwater in the vicinity of the three monitoring wells is almost stagnant (see Figure 1).

#### Stockpile Sampling

Figure 2, attached, shows the location of the excavated and stockpiled soils. The large stockpile was divided into four sections and designated as A, B, C, and D. Four soil samples were collected from each section. Three smaller stockpiles were also sampled (S-four samples, A-two samples, B-four samples). The two smaller stockpiles (A- and B-) were simultaneously sampled by Kleinfelder Consulting Group.

#### Laboratory Analysis

Three (3) groundwater samples and six (6) soil samples were collected with respect to monitoring well installation. Soil samples MW1-5 and 10, MW2-5 and 10, and MW3-5 and 10 were collected respectively from monitoring wells MW-1, MW-2, and MW-3 at depths of five-feet, and six-inches above the groundwater level, respectively. Water samples MW-1, MW-2, and MW-3 were collected from monitoring wells MW-1, MW-2, and MW-3, respectively.



A total of twenty-eight (28) soil samples were collected from the stockpiles. All separate stockpile samples were composited individually into one major composite for each stockpile (see chain of custody records).

Groundwater samples MW-1 and MW-3 were analyzed individually for Total Petroleum Hydrocarbons as gasoline and diesel including Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) using EPA Test Methods 602/8015/3550. Groundwater sample MW-2 was analyzed for TPH as diesel, Total Oil and Grease, and volatile organics using EPA Test Methods 3550, 503, and 8240, respectively.

Soil composites from the stockpiles (total of seven (7) composites) were analyzed individually for TPH as diesel and Total Oil and Grease.

### RESULTS AND DISCUSSION

Soil composites of the smaller stockpiles A-a and b, and B-a, b, c, and d showed concentrations of TPH as diesel and oil and grease below the instrument detection limit used in the analysis which is indicated by N.D. in front of the chemical compound. Therefore, these stockpiled soils may be considered "clean."

For large stockpile composites (A, B, C, and D) and the smaller stockpile (S), concentration of TPH as diesel ranged from non-detected to 68 parts per million (ppm). Oil and grease concentrations for the same stockpiles ranged from 130 to 1020 ppm (see analytical results).

The exploratory boring samples (MW-1, MW-2, and MW-3) concentrations for Total Oil and Grease and diesel were mostly non-detected by the instrument used in analysis except for sample MW1-10. Sample MW1-10 showed concentration of Total Oil and Grease and TPH as diesel as 103 and 72 ppm respectively. Concentrations are most probably due to groundwater level fluctuation.

Groundwater sample MW-1 showed 4.4 ppm concentration of TPH as gasoline, 16 parts per billion (ppb) of Benzene, 2.4 ppb of Ethylbenzene, and 10.6 ppm of TPH as diesel. Groundwater sample MW-2 showed 47 ppm concentration of TPH as diesel and 50 ppm of Total Oil and Grease.

Groundwater sample MW-3 showed 2.0 ppm TPH as gasoline, 2.0 ppm TPH as diesel, 1.2 ppb Ethylbenzene, and 1.9 ppb Total Xylenes concentrations.

### RECOMMENDATION

Safety Specialists, Inc., recommends the disposal of stockpiles properly in dumpsites according to their contamination level.

Safety Specialists, Inc., believes that all contaminated soils have been removed from the ground. However, the contamination in the groundwater should be remediated.



A depression pump may be used to lower the groundwater locally and allow accumulation of floating product. A skimmer pump should be used to extract any floating hydrocarbons. The collected water from the skimmed pump should be disposed of properly. When the groundwater is free of the floating materials, a series of groundwater samples should be taken to assess the level of contamination present. If contamination is still detected, a cleanup program for the groundwater should be pursued.

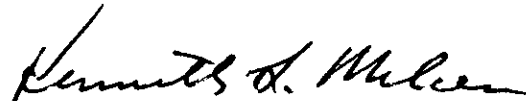
This report is intended to meet your current needs. If you have any additional questions, please call us.

Sincerely,

SAFETY SPECIALISTS, INC.



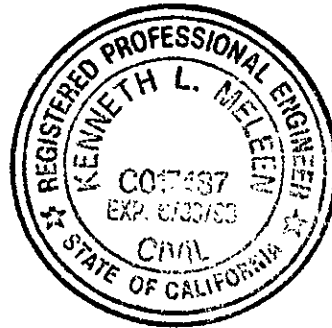
Rasmi El Jurf  
Environmental Engineer  
Environmental Engineering Services



Reviewed by:  
Kenneth L. Meleen, PE  
Registered Civil Engineer  
License No. C 17487  
License Expires 06/30/93

REJ/KLM:mw

Attachments



HOUSTON PLACE

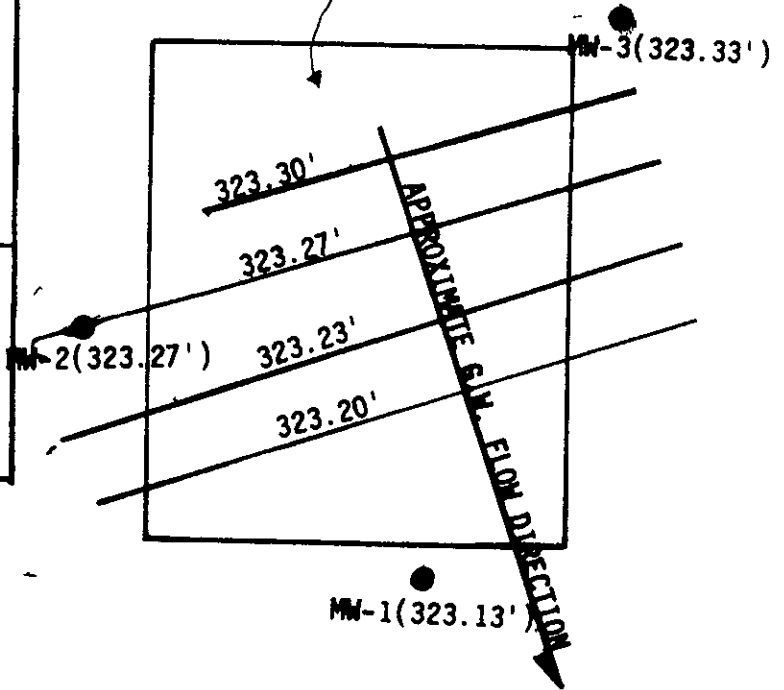


BUILDING

Overhang

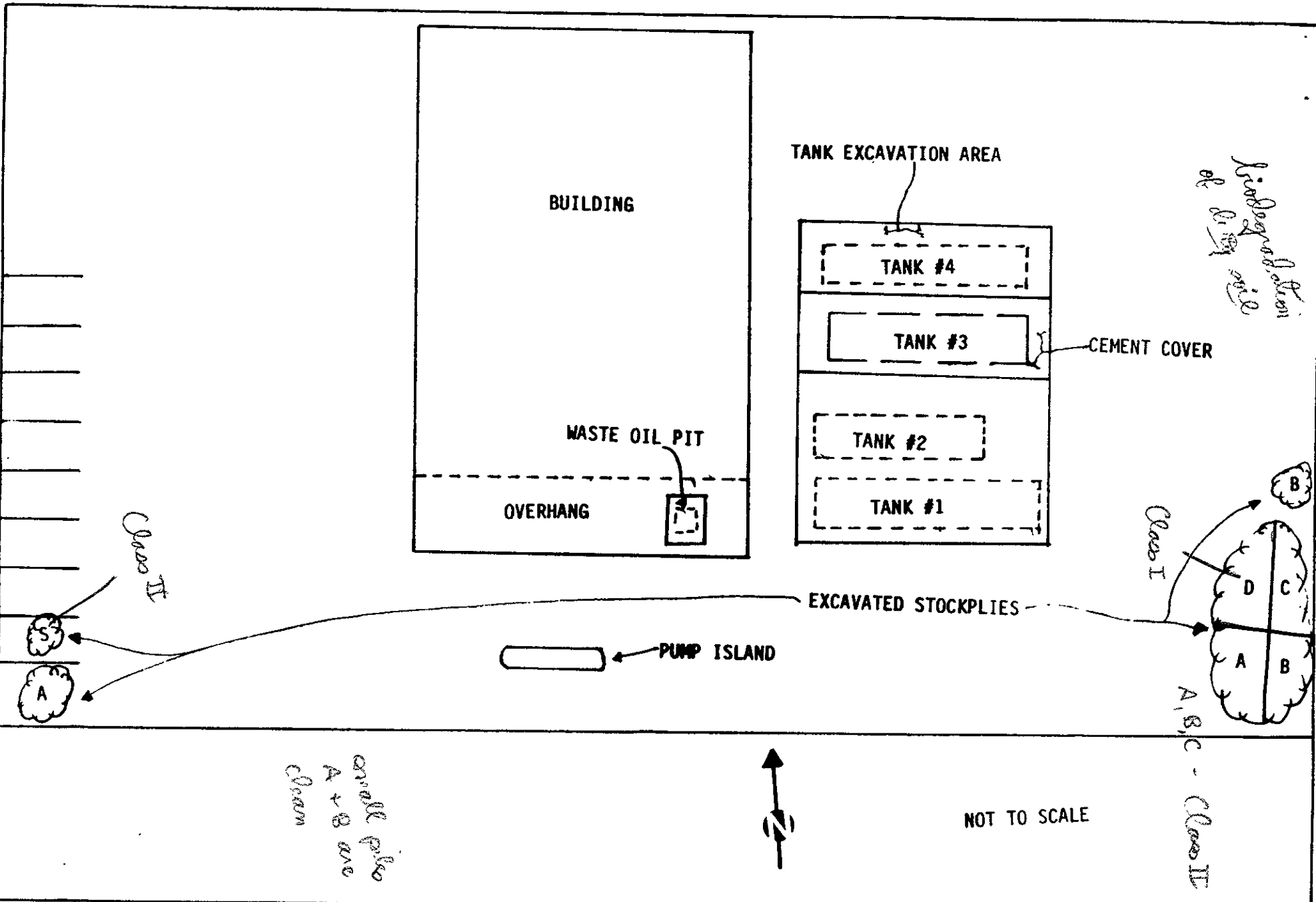


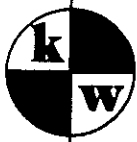
EXCAVATION AREA



0449-09-02 R6/79

			AMERICAN CITY TRUCK STOP		ENGINEER	DATE
			DUBLIN, CALIFORNIA		RE	08/28/89
			engineering sketch		MATERIAL	JOB ORDER
					SCALE	USE
REV	DATE	CHANGE				SKETCH NO
						1





**KIER & WRIGHT**  
Civil Engineers & Surveyors, Inc.

August 22, 1989

Job No. 89551

Table of Elevations  
American City Trucking Company  
6310 Houston Place  
Dublin, CA 94568

Well No.	Elevation
MW - 1	332.47 Cut Cross On North Rim of Christy Box
MW - 2	332.58 Cut Cross On North Rim of Christy Box
MW - 3	332.40 Cut Cross On North Rim of Christy Box

City of Dublin Benchmark: Dough-SL, Chisled square on the top of curb  
at centerline catch basin, northerly curb  
return on the Northwest corner, Dougherty Rd.  
& Sierra Way.

Elevation = 331.728 MSL Datum



TABLE 1

This table details the pH, conductivity, and temperature measured while purging and sampling groundwater monitoring well MW-1.

<u>Time Interval (min.)</u>	<u>pH</u>	<u>Micro-Siemens/cm</u>	<u>Temperature (°C)</u>
<u>A-Purging</u>			
Start	5.6	6 x 10 <sup>3</sup>	24.0
5	5.8	6.2 x 10 <sup>3</sup>	22.0
10	6.2	6.2 x 10 <sup>3</sup>	21.0
15	6.4	6.2 x 10 <sup>3</sup>	21.0
15	6.4	6.2 x 10 <sup>3</sup>	21.0
10	6.4	6.2 x 10 <sup>3</sup>	21.0
<u>B-Sampling</u>			
Start	6.0	6.0 x 10 <sup>3</sup>	23.5
5	6.2	6.1 x 10 <sup>3</sup>	22.4
5	6.4	6.15 x 10 <sup>3</sup>	21.7
10	6.4	6.2 x 10 <sup>3</sup>	21.0
15	6.4	6.2 x 10 <sup>3</sup>	21.0
5	6.4	6.2 x 10 <sup>3</sup>	21.0

Depth to groundwater = 9.34 feet



**TABLE 2**

This table details the pH, conductivity, and temperature measured while purging and sampling groundwater monitoring well MW-2.

<u>Time Interval (min.)</u>	<u>pH</u>	<u>Micro-Siemens/cm</u>	<u>Temperature (°C)</u>
<u>A-Purging</u>			
Start	5	6.8 x 10 <sup>3</sup>	22.0
5	5.2	6.8 x 10 <sup>3</sup>	21.7
5	5.2	7.0 x 10 <sup>3</sup>	20.8
15	6.0	7.0 x 10 <sup>3</sup>	20.0
10	6.2	7.0 x 10 <sup>3</sup>	20.0
10	6.2	7.0 x 10 <sup>3</sup>	20.0
<u>B-Sampling</u>			
Start			
5	6.0	6.9 x 10 <sup>3</sup>	20.5
5	6.7	7.0 x 10 <sup>3</sup>	20.1
10	6.2	7.0 x 10 <sup>3</sup>	20.0
10	6.2	7.0 x 10 <sup>3</sup>	20.0
5	6.2	7.0 x 10 <sup>3</sup>	20.0

Depth to groundwater = 9.20 feet



TABLE 3

This table details the pH, conductivity, and temperature measured while purging and sampling groundwater monitoring well MW-3.

<u>Time Interval (min.)</u>	<u>pH</u>	<u>Micro-Siemens/cm</u>	<u>Temperature (°C)</u>
<u>A-Purging</u>			
Start	7.0	8 x 10 <sup>3</sup>	23.4
5	7.0	9.8 x 10 <sup>3</sup>	22.8
5	6.8	9.8 x 10 <sup>3</sup>	22.7
10	6.8	9.8 x 10 <sup>3</sup>	22.0
15	6.8	9.8 x 10 <sup>3</sup>	22.0
15	6.8	9.8 x 10 <sup>3</sup>	22.0
<u>B-Sampling</u>			
Start	7.0	9.8 x 10 <sup>3</sup>	22.8
5	6.8	9.8 x 10 <sup>3</sup>	22.5
5	6.8	9.8 x 10 <sup>3</sup>	22.3
5	6.8	9.8 x 10 <sup>3</sup>	22.0
10	6.8	9.8 x 10 <sup>3</sup>	22.0
10	6.8	9.8 x 10 <sup>3</sup>	22.0
5	6.8	9.8 x 10 <sup>3</sup>	22.0

Depth to groundwater = 9.07 feet





## CHAIN OF SAMPLE CUSTODY RECORD

Collector: NASmi Date Sampled: 08-2/89 Time: Am 1pm  
 Location of Sampling: Dublin / American - W. Trucking  
 Project Number: 3-0110 Survey Number: 182-89  
 Sample Type: ENV  
 Container Type and Condition: GLASS sleeve  
 Contract Laboratory Record/Name: CHROMA LAB

Sample ID	Field Information
<u>MW1-5</u>	<u>Sample from MW1 @ 5'</u>
<u>MW1-10</u>	<u>" " " @ 10'</u>
<u>MW2-5</u>	<u>" " MW2 @ 5'</u>
<u>MW2-10</u>	<u>" " MW2 @ 10'</u>
<u>MW3-5</u>	<u>" " MW3 @ 5'</u>
<u>MW3-10</u>	<u>" " MW3 @ 10'</u>

Analysis Requested: \_\_\_\_\_  
Analyze individually for  
TPH - Diesel + TOG.

Results Needed By: \_\_\_\_\_

Travel Blank:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Travel Blank to be Analyzed Separately:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Duplicate Samples:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Duplicates to be Analyzed Separately:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Field Blank:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Field Blank to be Analyzed Separately:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Background Soil Sample:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Background Soil Sample to be Analyzed Separately:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Chain of Custody:**

1. [Signature]  
Field Personnel  
 2. [Signature]  
Courier  
 3. [Signature]  
Lab

08-2/89  
Date  
8-2-89  
Date



**SAFETY SPECIALISTS, Inc.**  
The Full Service Environmental, Health & Safety Corporation

P.O. Box 4420, Santa Clara, CA 95054  
Telephone (408) 988-1111  
Contractor's License No. 460905

## CHAIN OF SAMPLE CUSTODY RECORD

Collector: \_\_\_\_\_ Date Sampled: \_\_\_\_\_ Time: \_\_\_\_\_

Location of Sampling: \_\_\_\_\_

Project Number: \_\_\_\_\_ Survey Number: E182-89

Sample Type: \_\_\_\_\_

Container Type and Condition: \_\_\_\_\_

Contract Laboratory Record/Name: \_\_\_\_\_

Sample ID	Field Information
<u>A1 A2 A3 A4</u>	<u>sample from Stack #1 A</u>
<u>B1 B2 B3 B4</u>	<u>" " " F</u>
<u>C1 C2 C3 C4</u>	<u>" " " C</u>
<u>D1 D2 D3 D4</u>	<u>" " " D</u>
<u>S1 S2 S3 S4</u>	<u>" " " S</u>

Analysis Requested: composite A1, A2, A3, and A4  
" B1, B2, B3, and B4  
" C1, C2, C3, and C4  
" D1, D2, D3, and D4  
" S1, S2, S3, and S4  
Analyze each composite for TPA, Diesel & TOG

Results Needed By: \_\_\_\_\_

Travel Blank:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Travel Blank to be Analyzed Separately:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Duplicate Samples:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Duplicates to be Analyzed Separately:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Field Blank:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Field Blank to be Analyzed Separately:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Background Soil Sample:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Background Soil Sample to be Analyzed Separately:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Chain of Custody:**

1. [Signature]  
Field Personnel

2. [Signature]  
Courier

3. [Signature]  
Lab

08-07-89  
Date

8-5-89  
Date



## CHAIN OF SAMPLE CUSTODY RECORD

Collector: W. S. ... Date Sampled: 08-08 Time: AM  
 Location of Sampling: American Town Truck Stop  
Dustin  
 Project Number: 533110 Survey Number: E 181-89  
 Sample Type: soil  
 Container Type and Condition: ... - ...  
 Contract Laboratory Record/Name: ...

Sample ID	Field Information
MW-1	water sample from MW1
MW-2	" " " " MW2
MW-3	" " " " MW3

Analysis Requested: Analyse individually for TPH - Diesel + BTX  
TPH - Diesel + BTX  
TPH - Diesel + BTX  
TPH - Diesel + BTX

Results Needed By: ...

- |                         |   |   |   |
|-------------------------|---|---|---|
| Travel Blank:           | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Travel Blank to be Analyzed Separately:           | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Duplicate Samples:      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Duplicates to be Analyzed Separately:             | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Field Blank:            | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Field Blank to be Analyzed Separately:            | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Background Soil Sample: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Background Soil Sample to be Analyzed Separately: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

Chain of Custody:

1. <u>W. S. ...</u>	<u>08-08-89</u>
Field Personnel	Date
2. <u>David ...</u>	<u>08-09-89</u>
Courier	Date
3. <u>David ...</u>	<u>08-09-89</u>
Lab	Date

# CHROMALAB, INC.

Analytical Laboratory  
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#855)
- Waste Water
- Consultation

August 11, 1989

ChromaLab File # 0889013

Safety Specialists, Inc.

Attn: Rasmi

Re: Six soil samples for Diesel and Oil & Grease analysis

Project Number: 530 110

Survey Number: E 182-89

Duration of Analysis: August 6-10, 1989

Results:

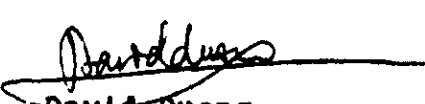
<u>Sample No.</u>	<u>Diesel (mg/Kg)</u>	<u>Oil &amp; Grease (mg/Kg)</u>
MW 1-5	N.D.	N.D.
MW 1-10	72	103
MW 2-5	N.D.	N.D.
MW 2-10	N.D.	N.D.
MW 3-5	N.D.	N.D.
MW 3-10	N.D.	N.D.
Detection Limit	5	50
Method of Analysis	mod.8015	503 D & E

QA/ QC:

\*Sample blank is none detected.

\*Spiked recovery for Diesel is 102.5%.

ChromaLab, Inc.

  
David Duong  
Senior Chemist

  
Eric Tam  
Lab Director

# CHROMALAB, INC.

Analytical Laboratory  
Specializing in GC-GC/MS

winning action 828-4253

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

August 11, 1989

ChromaLab File # 0889012

Safety Specialists, Inc.

Attn: Rasmi

Re: Five composited samples for Diesel and Oil & Grease analyses

Project Number: N/A

Survey Number: N/A

Duration of Analysis: August 6-10, 1989

Results:

<u>Sample No.</u>	<u>Diesel (mg/Kg)</u>	<u>Oil &amp; Grease (mg/Kg)</u>
A 1,2,3,4	25	276
B 1,2,3,4	57	680
C 1,2,3,4	7.9	130
D 1,2,3,4	68	1020
S 1,2,3,4	N.D.	130
Detection Limit	5	50

Method of  
Analysis

mod.8015


503 D & E

QA/QC:

\*Sample blank is none detected.

\*Spiked recovery for Diesel is 102.5%.

ChromaLab, Inc.

  
David Duong  
Senior Chemist

  
Eric Tam  
Lab Director



# CHROMALAB, INC.

Analytical Laboratory  
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

August 8, 1989

ChromaLab File # 0889004

Safety Specialists, Inc.

Attn: Rasmi

Re: Two composited soil samples for Diesel and Oil & Grease

Site Identification: 10-2002-01


Duration of Analysis: August 7 - 8, 1989

Results:

530110 \* E182-89

<u>Sample No.</u>	<u>Diesel (mg/Kg)</u>	<u>Oil &amp; Grease (mg/Kg)</u>
A a,b (composite)	N.D.	N.D.
B a,b,c,d (composite)	N.D.	N.D.
BLANK	N.D.	N.D.
SPIKE RECOVERY	102.5%	---
DETECTION LIMIT	5.0	50
METHOD OF ANALYSIS	3550/8015	503D&E

ChromaLab, Inc.

  
David Duong  
Senior Chemist

  
Eric Tam  
Lab Director

cc:Kleinfelder

# CHROMALAB, INC.

Analytical Laboratory  
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

August 17, 1989

ChromaLab File # 0889038

Safety Specialists, Inc.

Attn: Rasmi

Re: Three water samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses

Project No.: 530110

Survey No.: E184-89

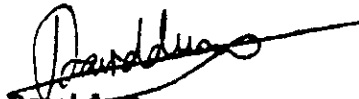
Duration of Analysis: August 11-15, 1989

Results:

Sample No.	Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
MW-1	4.4	16	N.D.	2.4	3.1
MW-3	2.0	N.D.	N.D.	1.2	1.9
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	103.1%	103.0%	96.5%	87.6%	102.0%
DETECTION LIMIT	0.5	1.0	1.0	1.0	1.0
METHOD OF ANALYSIS	MOD8015	602	602	602	602

Sample No.	Diesel (mg/L)	Oil & Grease (mg/L)
MW-1	10.6	--- .75
MW-2	47	50
MW-3	2.0	---
BLANK	N.D.	N.D.
SPIKE RECOVERY	101.0%	---
DETECTION LIMIT	0.5	5.0
METHOD OF ANALYSIS	3550	503

ChromaLab, Inc.

  
David Duong  
Senior Chemist

  
Eric Tam  
Lab Director

# CHROMALAB, INC.

Analytical Laboratory  
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

August 17, 1989

ChromaLab File # 0789026A

Client: Safety Specialists, Inc.

Attn: Rasmi

Date Submitted: July 9, 1989

Date of Analysis: July 14, 1989

Project No: 530110

Survey No.: 184-89

Sample I.D.: MW-2 (water)

Method of Analysis: 8240

Detection Limit: 20µg/l

COMPOUND NAME	µg/l	Spike Recovery
CHLOROMETHANE	N.D.	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	---
METHYLENE CHLORIDE	N.D.	96.7%
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	---
BENZENE	N.D.	105.7%
1,2-DICHLOROETHANE	N.D.	---
TRICHLOROETHENE	N.D.	---
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYL VINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	100.8%
TOLUENE	N.D.	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	---
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	N.D.	---
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---
1,3-DICHLOROBENZENE	N.D.	90.0%
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	N.D.	---

ChromaLab, Inc.

  
David Duong  
Senior Chemist

  
Eric Tam  
Lab Director

**APPENDIX A**





DATE: 4/25/89  
LOG NO.: 7231  
DATE SAMPLED: 4/4/89  
DATE RECEIVED: 4/4/89

CUSTOMER: H. G. Winter Company  
REQUESTER: Gail Williams  
PROJECT: American City, 6310 Houston Pl., Dublin, CA

Sample Type: Water

Method and Constituent	Units	No. 1		No. 2	
		Concentration	Detection Limit	Concentration	Detection Limit
Standard Method 503E, Hydrocarbons:					
Oil and Grease	ug/l	750	200	750	200

Dan Farah

Dan Farah, Ph.D.  
Supervisory Chemist

DF:vs



DATE: 4/25/89  
 LOG NO.: 7230  
 DATE SAMPLED: 3/31/89  
 DATE RECEIVED: 4/4/89

CUSTOMER: H. G. Winter Company  
 REQUESTER: Gail Williams  
 PROJECT: American City, 6310 Houston Court, Dublin

Sample Type: Soil

Method and Constituent	Units	No. 1		No. 4		No. 6	
		Concentration	Detection Limit	Concentration	Detection Limit	Concentration	Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Diesel	ug/kg	< 3,000	3,000	< 3,000	3,000	< 3,000	3,000
Total Petroleum Hydrocarbons as Gasoline	ug/kg	< 500	500				
Modified EPA Method 8020:							
Benzene	ug/kg	< 40	40				
Toluene	ug/kg	< 40	40				
Xylenes	ug/kg	< 200	200				
Ethyl Benzene	ug/kg	< 60	60				
Standard Method 503E, Hydrocarbons:							
Oil and Grease	ug/kg	< 10,000	10,000	24,000	10,000	< 10,000	10,000

DATE: 4/25/89  
 LOG NO.: 7230  
 DATE SAMPLED: 3/31/89  
 DATE RECEIVED: 4/4/89  
 PAGE: Two

Sample Type: Soil

Method and Constituent	Units	No. 8		No. 9		No. 10	
		Concentration	Detection Limit	Concentration	Detection Limit	Concentration	Detection Limit
DHS Method:							
Total Petroleum Hydrocarbons as Diesel	ug/kg	190,000	3,000	< 3,000	3,000	< 3,000	3,000
Standard Method 503E, Hydrocarbons:							
Oil and Grease	ug/kg	240,000	10,000	24,000	10,000	< 10,000	10,000

No. 11

DHS Method:		
Total Petroleum Hydrocarbons as Diesel	ug/kg	< 3,000 3,000
Standard Method 503E, Hydrocarbons:		
Oil and Grease	ug/kg	24,000 10,000



DATE: 4/25/89  
 LOG NO.: 7230  
 DATE SAMPLED: 3/31/89  
 DATE RECEIVED: 4/4/89  
 PAGE: Three

Sample Type: Soil

Method and Constituent	Units	No. 1	
		Concen- tration	Detection Limit
EPA Method 8010:			
Benzyl chloride	ug/kg	< 20	20
Bis (2-chloroethoxy) methane	ug/kg	< 20	20
Bis (2-chloroisopropyl) ether	ug/kg	< 20	20
Bromobenzene	ug/kg	< 20	20
Bromodichloromethane	ug/kg	< 20	20
Bromoform	ug/kg	< 20	20
Bromomethane	ug/kg	< 20	20
Carbon tetrachloride	ug/kg	< 20	20
Chloroacetaldehyde	ug/kg	< 20	20
Chloral	ug/kg	< 20	20
Chlorobenzene	ug/kg	< 20	20
Chloroethane	ug/kg	< 20	20
Chloroform	ug/kg	< 20	20
1-Chlorohexane	ug/kg	< 20	20
2-Chloroethyl vinyl ether	ug/kg	< 20	20
Chloromethane	ug/kg	< 20	20
Chloromethyl methyl ether	ug/kg	< 20	20
Chlorotoluene	ug/kg	< 20	20
Dibromochloromethane	ug/kg	< 20	20
Dibromomethane	ug/kg	< 20	20
1,2-Dichlorobenzene	ug/kg	< 20	20
1,3-Dichlorobenzene	ug/kg	< 20	20
1,4-Dichlorobenzene	ug/kg	< 20	20



DATE: 4/25/89  
 LOG NO.: 7230  
 DATE SAMPLED: 3/31/89  
 DATE RECEIVED: 4/4/89  
 PAGE: Four

Sample Type: Soil

Method and Constituent	Units	No. 1	
		Concen- tration	Detection Limit
EPA Method 8010, Continued:			
Dichlorodifluoromethane	ug/kg	< 20	20
<del>1,1-Dichloroethane</del>	<del>ug/kg</del>	<del>&lt; 20</del>	<del>20</del>
1,2-Dichloroethane	ug/kg	< 20	20
1,1-Dichloroethylene	ug/kg	< 20	20
trans-1,2-Dichloro- ethylene	ug/kg	< 20	20
Dichloromethane	ug/kg	< 20	20
1,2-Dichloropropane	ug/kg	< 20	20
1,3-Dichloropropylene	ug/kg	< 20	20
1,1,2,2-Tetrachloro- ethane	ug/kg	< 20	20
1,1,1,2-Tetrachloro- ethane	ug/kg	< 20	20
Tetrachloroethylene	ug/kg	< 20	20
1,1,1-Trichloroethane	ug/kg	< 20	20
1,1,2-Trichloroethane	ug/kg	< 20	20
Trichloroethylene	ug/kg	< 20	20
Trichlorofluoro- methane	ug/kg	< 20	20
Trichloropropane	ug/kg	< 20	20
Vinyl chloride	ug/kg	< 20	20

DATE: 4/25/89  
LOG NO.: 7230  
DATE SAMPLED: 3/31/89  
DATE RECEIVED: 4/4/89  
PAGE: Five

Sample Type: Water

Method and  
Constituent

DHS Method:

Total Petroleum Hydro-  
carbons-as-Diesel

Units	No. 2		No. 3	
	Concen- tration	Detection Limit	Concen- tration	Detection Limit
ug/l	9,700	3,000	380,000	30,000

DHS Method:

Total Petroleum Hydro-  
carbons as Diesel

Units	No. 5		No. 7	
	Concen- tration	Detection Limit	Concen- tration	Detection Limit
ug/l	8,500	3,000	95,000	20,000

Dan Farah

Dan Farah, Ph.D.  
Supervisory Chemist

DF:vs

DEPT	START	DUE	TEST	ORDER#	STAT	CLIENT	DASH#	RESULT	UNITS	STORED	DATE
OR	07/24	07/24	HOLDOR	89-07-050/W		KLE5_0051	01A	special		R-4,S-C	07/11
			COMFOR	89-07-050/W		KLE5_0051	03A	special		R-4,S-C	07/11
GC	07/17	07/22	TPHEXS	89-07-050/W		KLE5_0051	02A	90	mg/kg	30 mg/kg R-4,S-C	7-24
			TPHEXS	89-07-050/W		KLE5_0051	03A	1100	mg/kg	no (act) R-4,S-C	7-24

Pet Limits 10 mg/kg 20 mg/kg

Extracted 7/21  
Analyzed 7/22-25

# CHAIN OF CUSTODY RECORD

8907050

PLERB: (Signature)

Doug Heard

Phone: 415 938 5610

SHIP TO: Med TOX

## SHIPPING INFORMATION

Shipper KleinFelder

Address Walnut Creek

Date Shipped 7-10-89

Shipment Service HAND

Airbill No. \_\_\_\_\_

Cooler No. ATTN MARK FEVER

ATTENTION: \_\_\_\_\_

Phone No. \_\_\_\_\_

Relinquished by: (Signature) Doug Heard

Relinquished by: (Signature) \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_

Receive for laboratory by: (Signature) Naivee Harnung Date: 7/10

\* Analysis laboratory should complete. "sample condition upon receipt", section below, sign and return top copy to J. H. KLEINFELDER & ASSOCIATES, 1901 Olympic Blvd., Suite 300, Walnut Creek, California 94596

Sample Number	Site Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
<u>30381 S-1</u>	<u>1A/10-2002-01</u>	<u>7-10-89</u>	<u>Comp. 8015</u>	
<u>30382 S-2</u>	<u>2A</u>	<u>7-10-89</u>	<u>as diesel</u>	
<u>30383 S-3</u>		<u>7-10-89</u>		
<u>30384 S-4</u>	<u>3A</u>	<u>7-10-89</u>	<u>Comp. 8015</u>	
<u>30385 S-5</u>		<u>7-10-89</u>	<u>as diesel</u>	

\* Do not composite sample, put on hold (S-1) per Doug Heard on 7/10 4:55

- LAB INSTRUCTIONS: Laboratory reports should reference and be billed by site ID# and contain the following:
- (1) summary of analytical methodology and QA work (blanks, spikes, duplicates)
  - (2) dates for (a) sampling, (b) lab receipt, (c) extraction, (d) injection/analysis
  - (3) detection limits for all constituents analyzed for and reporting of all constituents detected which were not specifically designated
  - (4) \_\_\_\_\_
  - (5) \_\_\_\_\_

Standard Turn-around

Thank you

**APPENDIX B**



**SAFETY SPECIALISTS, Inc.**

# LOG OF EXPLORATORY BORING

Project No.: 530110  
 Project Name: American City Truck Stop  
 By: RE

Boring No. MW-1  
 Page 1 of 1

TORVANE (TSF)	POCKET PENETRO- METER (TSF)	PENETRA- TION (Blows/ 1/4 ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO- GRAPHIC COLUMN	DESCRIPTION
				0			
				2	GW		ASPHALT/6" SANDY GRAVEL, brown, 20-35% sand, well graded, medium dense, damp, odorless
		15		4			
				6	X CH		SILTY CLAY, gray to black, 15-30% silt, high plasticity, stiff, dry, odorless.
				8	X ML		CLAYEY SILT, yellow brown, 20-25% clay, stiff, damp, slight hydrocarbon odor.
		11		10			
				12			
				14			
		11		16			CLAYEY SILT, yellow brown, 20-25% clay, medium dense, saturated, slight hydrocarbon odor.
				18			
		9		20			SILTY CLAY, brown, 20-35% silt, low plasticity, stiff, dry, odorless.
		10		22	CL		
				24			Groundwater initially encountered @ 11 ft. Bottom of boring @ 23.5 ft. Soil boring converted to monitoring well 8/2/89

*K. Miller*

**REMARKS** Drilled using 12-inch outside diameter, hollow-stem  
 auger. Sample collected using 2 1/2 inch outside diameter modified  
 California split-spoon sampler with 2.0 inch brass liners.



SAFETY SPECIALISTS, INC.



# LOG OF EXPLORATORY BORING

Project No.: 530110  
 Project Name: American City Truck Stop  
 By: RE

Boring No. MW- 2  
 Page 1 of 1

TORVANE (TSF)	POCKET PENETRO- METER (TSF)	PENETRA- TION (Blows/ ½ ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO- GRAPHIC COLUMN	DESCRIPTION
				0			CONCRETE AND PEA GRAVEL
				2			SILTY SAND, brown to black, 30-40% silt with minor clay, medium dense, damp, odorless.
		15		4	SM		
				6	X ML		SANDY SILT, brown, 10-25% sand, medium dense, damp, odorless.
				8			
				10	X		
		18		12			SANDY SILT, brown, 10-25% sand, medium dense, saturated, odorless.
				14			CLAYEY SILT, green to brown, 5-10% clay, very stiff, saturated, odorless.
		16		16			
				18			SILTY CLAY, brown, 20-30% silt, low plasticity, stiff, dry, odorless.
		11		20	CL		
				22			Groundwater initially encountered @ 11 ft. Bottom of boring at 21.5 feet.
		11		24			Soil boring converted to monitoring well 8/2/89

*K. Miller*

**REMARKS** Drilled using 12-inch outside diameter, hollow-stem auger. Sample collected using 2 ½ inch outside diameter modified California split-spoon sampler with 2.0 inch brass liners.







# LOG OF EXPLORATORY BORING

Project No.: 530110  
 Project Name: American City Truck Stop  
 By: RE

Boring No. MW- 3  
 Page 1 of 1

TORVANE (TSF)	POCKET PENETRO- METER (TSF)	PENETRA- TION (Blows/ ¼ ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO- GRAPHIC COLUMN	DESCRIPTION
				0			ASPHALT 6"
				2	GW		SANDY GRAVEL, brown, 30-40% sand with minor silt, damp, odorless.
		13		4	CH		SILTY CLAY, black, 20-35% silt with minor sand, high plasticity, stiff, dry, odorless.
				6	X		SANDY SILT, brown, 15-25% sand, medium dense, damp, odorless.
				8			
				10	X	ML	
		18		12			SANDY SILT, brown, 15-25% sand, medium dense, saturated, odorless.
				14			
		10		16			SILTY CLAY, brown to green, 20-35% silt, low plasticity, stiff, dry, odorless.
				18	CL		
				20			Groundwater initially encountered @ 11 feet Bottom of boring at 18.5 feet.
				22			Soil boring converted to monitoring well 8/2/89
				24			

*K. Miller*

**REMARKS** Drilled using 12-inch outside diameter, hollow-stem auger. Sample collected using 2 ½ inch outside diameter modified California split-spoon sampler with 2.0 inch brass liners.



SAFETY SPECIALISTS, Inc.