



Chevron

July 26, 1994

Chevron U.S.A. Products Company

2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department

Phone 510 842 9500

Ms. Juliet Shin
Alameda County Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re : Chevron Service Station No. 9-8341
MacArthur Blvd., Oakland, California

Dear Ms. Shin :

Based on the sampling results from the excavation of the product trench, residual levels of petroleum hydrocarbons exist at the footing of western most pump island. Residual levels remained around the footing because the structural integrity of the footing would have been compromised if further excavation continued. The quantity of soil left around the footing was little.

Samples from the used oil tank show non-detectable levels of TPH-G, TPH-D, BTEX, total lead, TOG, 8010 and 8270 constituents. A water sample collected from the used oil tank also show non-detectable levels of the same constituents.

Approximately 285 cu. yd. of soil was generated from the excavation activities. Of the 285 cu. yd., 25 cu. yd. was disposed at Forward Landfill in Stockton, California while the remaining 260 cu. yd. was disposed at Redwood Landfill in Novato, California.

For additional information, please refer to the enclosed report from Touchstone Developments dated June 28, 1994. If you have any questions, please feel free to call me at (510) 842-8752.

Sincerely,

Chevron U.S.A. Products Co.

Kenneth Kan
Engineer

LKAN/MacFile 9-8341R1

Enclosure

cc : Mr. Ronald J. Owcarz, Alameda County Environmental Health
80 Swan Way, Room 200, Oakland, CA 94621

Mr. Richard Hiatt, RWQCB-S.F. Bay Region
2101 Webster Str., Ste. 500, Oakland, CA 94612

Mr. Steve Willer, Chevron U.S.A. Products Co.



JUL 01 '94 K.L.K.

**WASTE OIL TANK AND PRODUCT LINE REMOVAL AND
OVEREXCAVATION REPORT**

for

**Chevron Station No. 9-8341
3530 MacArthur Boulevard
Oakland, California**

Prepared for

**Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, California 94583**

by

Touchstone Developments

June 28, 1994



June 28, 1994

Chevron U.S.A.
2410 Camino Ramon
San Ramon, California 94583

Attention: Kenneth Kan

Reference: Waste Oil Tank and Product Line Removal And
Overexcavation Report
Chevron Service Station No. 9-8341
3530 MacArthur Boulevard
Oakland, California

Gentlemen:

INTRODUCTION

This report summarizes the sampling activities performed at the above referenced site (Figure 1) associated with the recent removal of product lines and a 1000 gallon waste oil tank. Excavation activities were performed by Armer/Norman Construction of Walnut Creek, California. A Touchstone Developments (TD) representative was present on-site to observe the tank removal and to obtain soil samples from the tank excavation, old product line piping and associated stockpiles. The soil sampling described in this report was performed to comply with current State of California Regional Water Quality Control Board and Alameda County guidelines.

SITE DESCRIPTION

The site is currently operating as a Chevron Service Station on the corner MacArthur Boulevard and Magee in Oakland. The waste oil tank was located next to the northeast corner of the service station building (Figure 1).

FIELD EXCAVATION ACTIVITIES

The 1000 gallon, single walled, fiberglass waste oil tank was removed May 9, 1994 with no obvious holes or leaks observed. Tank removal and sampling was witnessed by Juliet Shin, of Alameda County Health Agency, Department of Environmental Health. Also present were Kenneth Kan and Belinda Erdelt representing Chevron U.S.A. The excavation was approximately 6 feet wide by 14 feet long by 8 feet

deep. Approximately 30 cubic yards of soil were removed and placed in two stockpiles (Figure 2).

SOIL SAMPLING

Soil samples were collected from the backhoe bucket by removing the top few inches of soil and pushing a clean six-inch-long brass tube (2 inches in diameter) into native soil until completely full. The ends of each tube were covered with aluminium foil and sealed with plastic end caps. The sample was then labeled, placed in a cooler with ice, entered on a Chain-of-Custody form and transported to GTEL Environmental laboratories, a State-certified analytical laboratory located in San Francisco, California.

Waste Oil Excavation Sampling

Two excavation samples (WO-N and WO-S) were collected from beneath the ends of the waste oil tank after tank removal at a depth of approximately 6 feet below grade (Figure 2). The sample depths and locations were directed by Juliet Shin. Groundwater was encountered at approximately 6 feet below ground surface. A groundwater sample was obtained from the excavation at the direction of Juliet Shin.

Samples from the bottom of the excavation and soil stockpile were analyzed for Total Petroleum Hydrocarbons calculated as gasoline (TPH-gas) and Diesel (TPH-diesel) according to EPA Method 8015 (modified), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) according to EPA Method 8020, Halogenated Volatile Organics (VOCs) according to EPA Method 8010, Total Oil and Grease (TOG) according to EPA Method 5520 E and F, ICAP Metals by atomic absorption (EPA Method 6010) and Semi-Volatile Organic Priority Pollutants according to EPA Method 8270 as recommended by the Tri-Regional Board Staff Guidelines. The groundwater sample was analyzed for TPH-gas, TPH-diesel, BTEX, and TOG.

Product Line Sampling

Six samples (P-1 through P-6) were collected from the bottom of the former product lines at depths ranging from 2 to 4.5 feet below ground surface. Samples were collected by pushing a brass tube a few inches into native soil at the bottom of the trench. Samples from the bottom of the trench and soil stockpile were analyzed for TPH-gas and TPH-diesel, BTEX, and Total Lead.

Stockpile Sampling

Seven stockpile samples (SP-1 through SP-7) were collected from the stockpiles of soil generated during tank, product line removal and overexcavation activities, respectively. These soil samples were collected by removing the top 8 to 12 inches of soil and pushing a clean six-inch long brass tube (2" in diameter) into the soil until completely full. The soil samples were then handled as described above. The four samples were composited in the laboratory and analyzed as one sample.

Overexcavation/Remediation Activities

On May 2 and May 5, 1994 Armer/Norman Construction performed overexcavation activities to remove hydrocarbon impacted soils beneath the old product lines. The existing trenches were cleaned out and overexcavated to approximately 5 to 5.5 feet below grade.

Eleven soil samples (PX-1 through PX-11) were collected from approximately 3.5 to 5.5 feet below grade along the bottom of the product lines trenches (Figure 2). Samples from the bottom of the trench and soil stockpile were analyzed for Total Petroleum Hydrocarbons calculated as gasoline (TPH-gas) according to EPA Method 8015 (modified), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) according to EPA Method 8020.

Approximately 130 cubic yards were generated during the product line removal and excavation and approximately 30 cubic yards were generated during the waste oil tank removal. Approximately 130 cubic yards were additionally generated from new construction and utility trenching on site.

ANALYTICAL RESULTS

Waste Oil Tank Excavation Results

Analytical laboratory results for the waste oil excavation verification samples were not detected (ND) at or above the laboratory detection limits for WO-N-6' and WO-S-6'. Chemical analytical data for both excavation and stockpile samples are summarized in Table A.

Product Line Results

Analytical laboratory results for overexcavation verification samples PX-1, PX-2, PX-3, PX-6, PX-7, and PX-8 contained detectable concentrations of TPH-gas and BTEX.

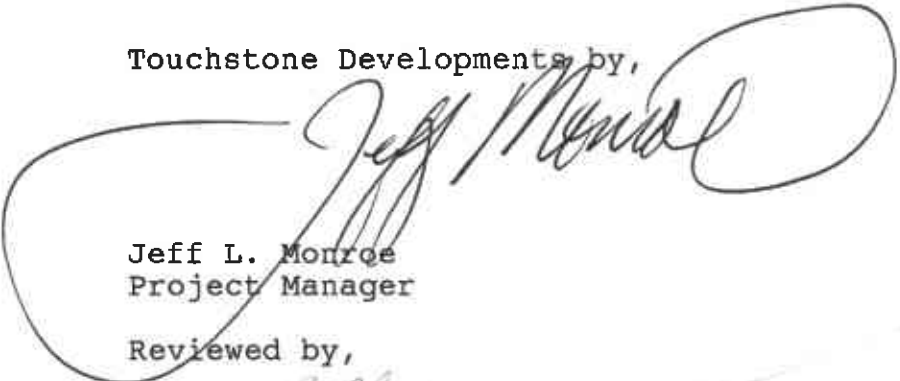
These samples were collected adjacent to a concrete footing which prevented further excavation in the area (Figure 3). Chemical analytical data for both excavation and stockpile samples are summarized in Table A.

SOIL DISPOSTION

The approximately 25 cubic yards of soil generated from the waste oil tank removal was transported to Forward Landfill in Stockton, California. The stockpiled soil (approximately 260 cubic yards) generated from both the product line excavations and new construction were transported to Redwood Landfill in Novato, California.


If you have any questions, please call me at (707) 538-8818.

Touchstone Developments by,



Jeff L. Monroe
Project Manager

Reviewed by,



Marc W. Seeley
CEG 1014

JLM/ral

Table A: Chemical Analytical Summary
Figure 1: Site Plan
Figure 2: Product Line and Waste Oil Tank Excavation and Sampling
Figure 3: Product Line Overexcavation and Sampling
Appendix A: Analytical Laboratory Report and Chain-of-Custody form

TABLE A
PRODUCT LINE and WASTE-OIL REMOVAL SAMPLING SUMMARY
 Results in mg/Kg - parts per million (ppm)

Product Line Sampling Results

SAMPLE ID #	DEPTH (feet)	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOTAL LEAD
P-1-2.5	2.5	GTEL	26-Apr-94	59	0.42	0.15	0.20	0.77	NA
P-2-3.5	3.5	GTEL	26-Apr-94	1200	2.2	5.6	3.4	70.9	ND
P-3-4.5	4.5	GTEL	26-Apr-94	ND	ND	ND	ND	ND	NA
P-4-4.5	4.5	GTEL	26-Apr-94	ND	ND	ND	ND	ND	NA
P-5-2.0	2	GTEL	26-Apr-94	14	0.4	0.096	0.086	0.61	NA
P-6	3	GTEL	26-Apr-94	63	ND	ND	ND	0.74	NA

Product Line Overexcavation Sampling Results

SAMPLE ID #	DEPTH (feet)	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOTAL LEAD
PX-1	3	GTEL	02-May-94	35	0.52	0.15	0.41	0.33	NA
PX-2	3	GTEL	02-May-94	540	1.9	4.2	9.2	1.8	NA
PX-3	4	GTEL	02-May-94	ND	1.1	0.028	0.044	0.12	NA
PX-4	5	GTEL	02-May-94	ND	ND	ND	ND	ND	NA
PX-5	5.5	GTEL	02-May-94	ND	ND	ND	ND	ND	NA
PX-6	3	GTEL	02-May-94	36	1.2	0.15	2	0.62	NA
PX-7	3.5	GTEL	02-May-94	230	1.3	0.92	6	29	NA
PX-8	5	GTEL	02-May-94	1300	6	38	33	170	NA
PX-9	5	GTEL	02-May-94	ND	ND	ND	ND	ND	NA
PX-10	3.5	GTEL	05-May-94	ND	ND	ND	ND	ND	NA
PX-11	3.5	GTEL	05-May-94	ND	ND	ND	ND	ND	NA

Waste-oil Removal Sampling Results

SAMPLE ID #	DEPTH (feet)	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TOTAL LEAD	TPH- Diesel	TOG
WO-N-6'	6	GTEL	19-May-94	ND	ND	ND	ND	ND	ND	ND	ND
WO-S-6'	6	GTEL	19-May-94	ND	ND	ND	ND	ND	ND	ND	ND

TPH-Gasoline = Total Petroleum Hydrocarbons calculated as Gasoline; TPH-Diesel = Total Petroleum Hydrocarbons calculated as Diesel

ND = Not Detected at or above laboratory detection limits; NA = Analysis not requested

TABLE B
STOCKPILE SAMPLING SUMMARY
 Results in mg/Kg - parts per million (ppm)

TRENCH STOCKPILE SAMPLING RESULTS

SAMPLE ID #	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	ORGANIC LEAD
SP-1(A-D)	GTEL	28-Apr-94	130	ND	ND	ND	1.6	NA
SP-2(A-D)	GTEL	02-May-94	120	0.65	0.92	1.3	5.00	NA
SP-3(A-D)	GTEL	24-Apr-94	ND	ND	ND	ND	ND	ND
SP-4(A-D)	GTEL	05-May-94	ND	ND	ND	ND	ND	NA

WASTE-OIL STOCKPILE SAMPLING RESULTS

SAMPLE ID #	LAB	DATE	TPH-Gasoline	TPH-Diesel	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG
SP-1(A-B)	GTEL	19-Apr-94	35	ND	0.52	0.15	0.41	0.33	180
SP-2(A-B)	GTEL	19-Apr-94	540	ND	1.9	4.2	9.2	1.8	23
SP-3A	GTEL	19-Apr-94	ND	NA	1.1	0.028	0.044	0.12	NA
SP-4A	GTEL	19-Apr-94	ND	NA	ND	ND	ND	ND	NA

WASTE-OIL EXCAVATION GROUNDWATER SAMPLING RESULTS (Results in ug/L, parts per billion, ppb)

SAMPLE ID #	LAB	DATE	TPH-Gasoline	TPH-Diesel	Benzene	Toluene	Ethyl-benzene	Xylenes	TOG
WO-H20	GTEL	24-May-94	ND	ND	ND	ND	ND	ND	ND

TPH-Gasoline = Total Petroleum Hydrocarbons calculated as Gasoline

TPH-Diesel = Total Petroleum Hydrocarbons calculated as Diesel

TOG = Total Oil & Grease

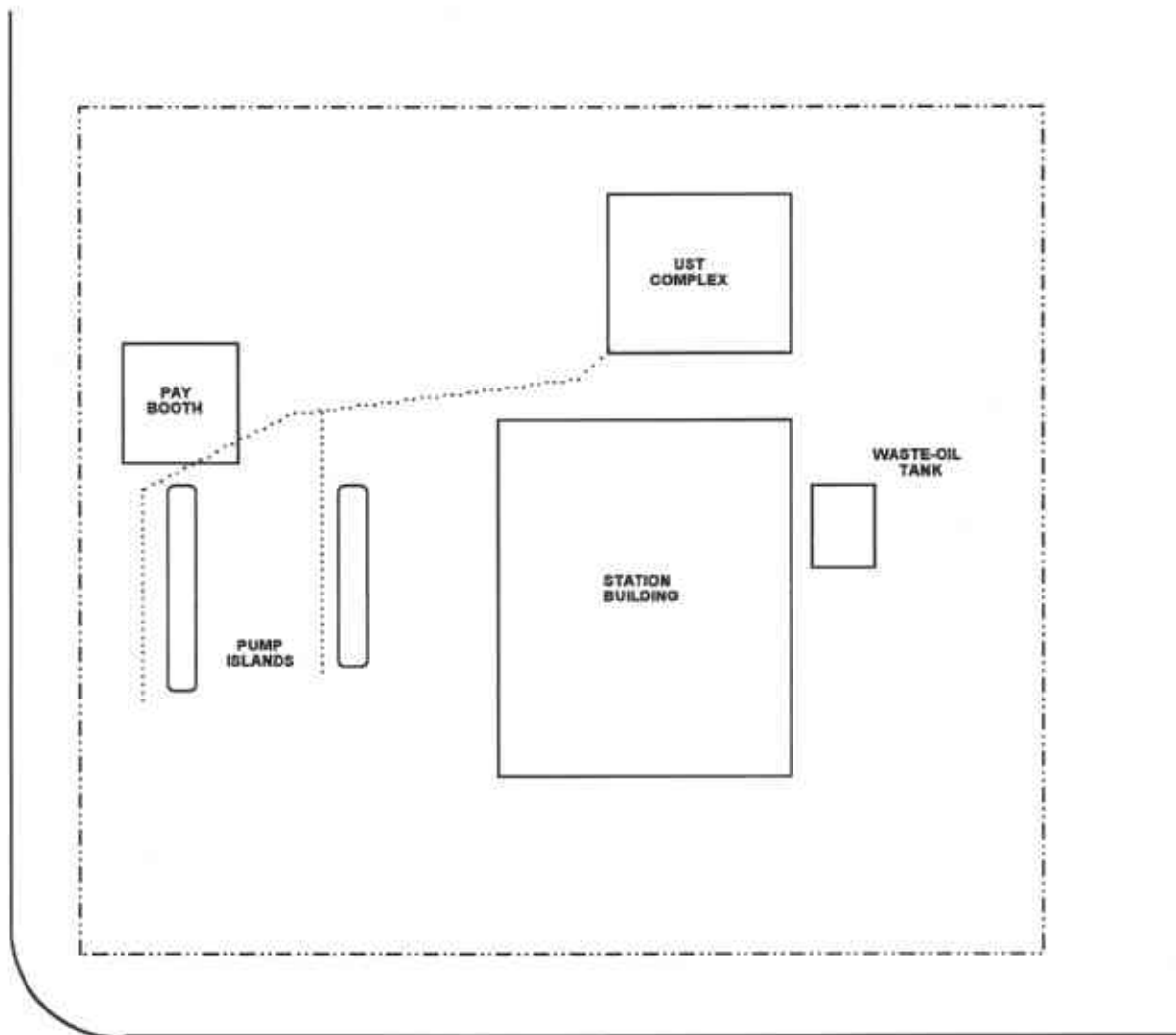
ND = Not Detected at or above laboratory detection limits

NA = Analysis not requested

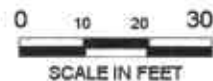
EXPLANATION

- UST Underground Storage Tank
- Product Piping Trenches

MacARTHUR BOULEVARD



MAGEE STREET



SITE PLAN

CHEVRON SERVICE STATION # 9-8341
3530 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FIGURE

1

PROJECT NO.
8341-1

DATE
6/94

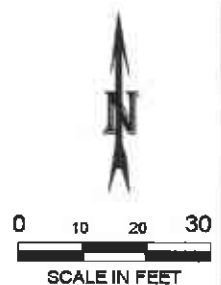
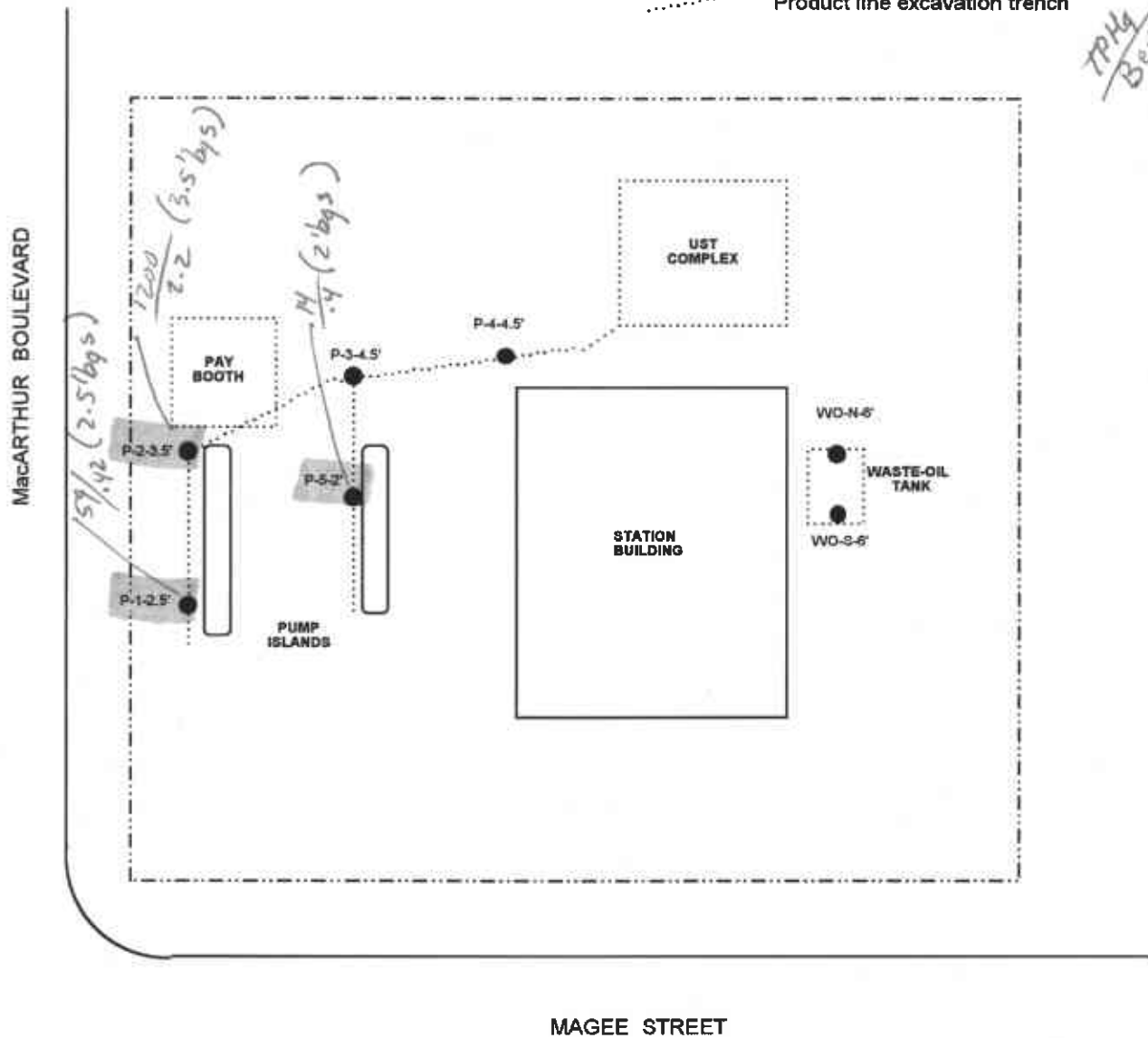
DRAWN BY:
WTJ

BASE MAP:
TOUCHSTONE SITE PLAN 1/93

EXPLANATION

- UST Underground Storage Tank
- P-1-2.5' Soil sample location and sample ID #
- Product line excavation trench

*TPM
Believe*



**PRODUCT LINE AND WASTE-OIL TANK
EXCAVATION AND SAMPLING**
CHEVRON SERVICE STATION # 9-8341
3530 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA

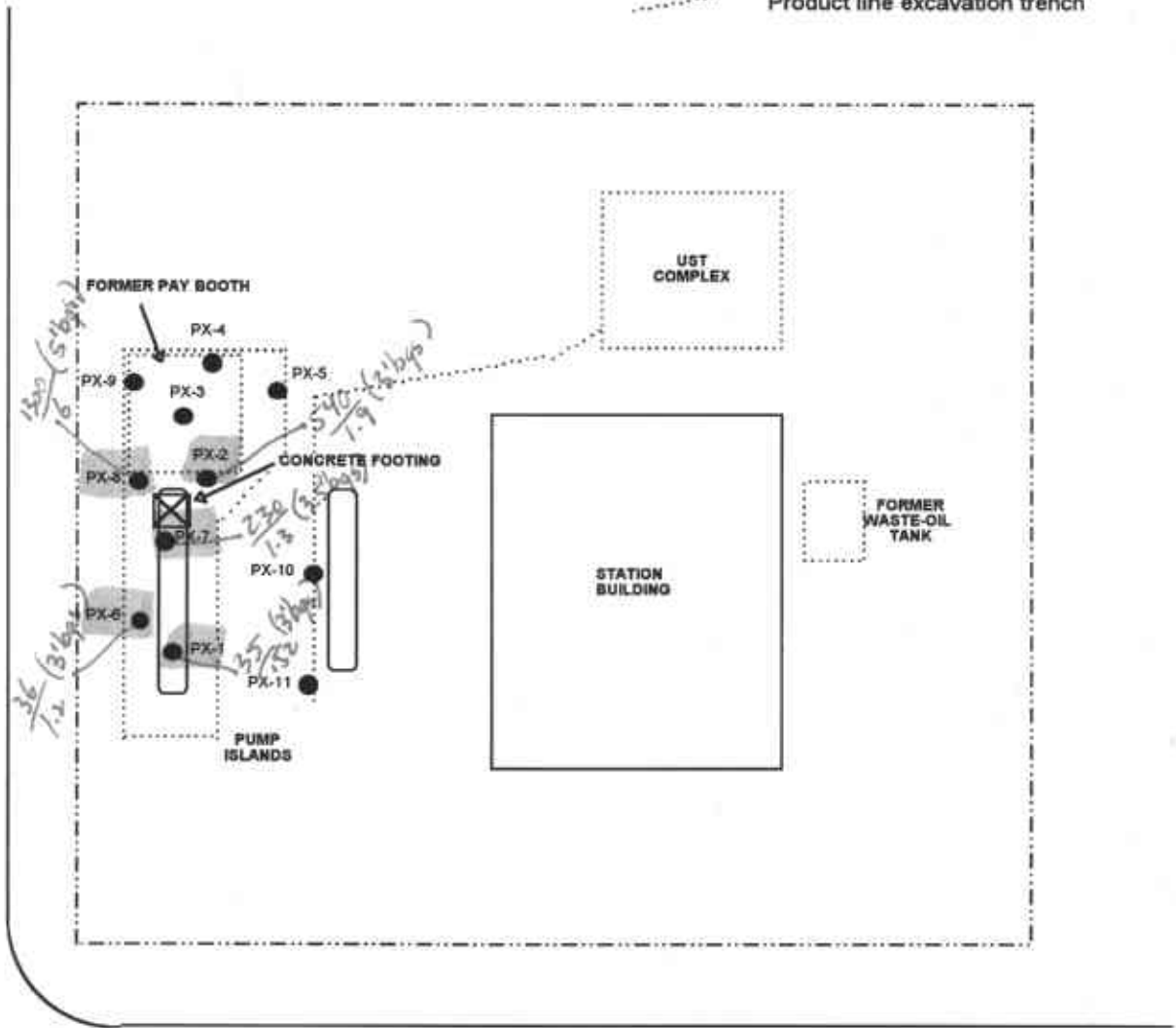
**FIGURE
2**

PROJECT NO. 8341-1	DATE 6/94	DRAWN BY: WTJ	BASE MAP: TOUCHSTONE SITE PLAN 1/93
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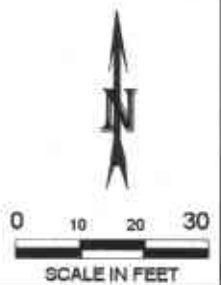
EXPLANATION

- UST Underground Storage Tank
- P-1-2.5' Soil sample location and sample ID #
- Product line excavation trench

MacARTHUR BOULEVARD



MAGEE STREET



**PRODUCT LINE
OVEREXCAVATION SAMPLING**
CHEVRON SERVICE STATION # 9-8341
3530 MacARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FIGURE

3

PROJECT NO.
8341-1

DATE
6/94

DRAWN BY:
WTJ

BASE MAP:
TOUCHSTONE SITE PLAN 1/93

APPENDIX A:

Certified Analytical Reports and Chain-of-Custody forms



Client Number: T0U01CHV08
Consultant Project Number: 8341-2
Facility Number: 9-8341
Project ID: 3530 MacArthur, Oakland
Work Order Number: C4-04-0450

Northwest Region
4080 Pike Lane
Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

April 28, 1994

Jeff Monroe
Touchstone Developments
P.O. Box 2554
Santa Rosa, CA 95405

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 04/26/94.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

A handwritten signature in black ink, appearing to read 'Rashmi Shah', is written over a horizontal line.

Rashmi Shah
Laboratory Director

Client Number: TOU01CHV08
 Consultant Project Number: 8341-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur, Oakland
 Work Order Number: C4-04-0450

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		01	02	03	04
Client Identification		P-1-2.5	P-2-3.5	P-3-4.5	P-4-4.5
Date Sampled		04/26/94	04/26/94	04/26/94	04/26/94
Date Analyzed		04/27/94	04/27/94	04/26/94	04/26/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	0.42	2.2	<0.005	<0.005
Toluene	0.005	0.15	5.6	<0.005	<0.005
Ethylbenzene	0.005	0.20	3.4	<0.005	<0.005
Xylene, total	0.015	0.77	70.9	<0.015	<0.015
TPH as Gasoline	1	59	1200	<1	<1
Detection Limit Multiplier		1	10	1	1
Percent solids		78.3	68.8	65.9	77.9
BFB Surrogate, % recovery		102	118	87.5	85.1

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene-surrogate recovery acceptability limits are 72.1-127%

Client Number: T0U01CHV08
 Consultant Project Number: 8341-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur, Oakland
 Work Order Number: C4-04-0450

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		05	F042694		
Client Identification		P-5-2.0	METHOD BLANK		
Date Sampled		04/26/94	-		
Date Analyzed		04/27/94	04/26/94		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	0.40	<0.005		
Toluene	0.005	0.096	<0.005		
Ethylbenzene	0.005	0.086	<0.005		
Xylene, total	0.015	0.61	<0.015		
TPH as Gasoline	1	14	<1		
Detection Limit Multiplier		1	1		
Percent solids		77.1	NA		
BFB Surrogate, % recovery		95.4	97.3		

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 72.1-127%. NA = Not Applicable.

Client Number: T0U01CHV06
 Consultant Project Number: 8341-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur, Oakland
 Work Order Number: C4-04-0450

ANALYTICAL RESULTS

Lead in Soil

EPA Method 6010a

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample preparation by Method 3050. Results reported on a wet weight basis. NA = Not Applicable.

GTEL Sample Number		02	042794 MET		
Client Identification		P-2-3.5	METHOD BLANK		
Date Sampled		04/26/94	-		
Date Prepared		04/27/94	04/27/94		
Date Analyzed		04/27/94	04/27/94		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Lead, total	5	<5	<5		
Detection Limit Multiplier		1	1		
Percent solids		81.2	NA		

Client Number: T0U01CHV08
 Consultant Project Number: 8341-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur, Oakland
 Work Order Number: C4-04-0450

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4040450-04	0.050	mg/Kg	86.0	86.6	0.7	48.8 - 129
Toluene	C4040450-04	0.050	mg/Kg	83.4	87.8	5.1	52.0 - 123
Ethylbenzene	C4040450-04	0.050	mg/Kg	83.6	87.6	4.7	55.4 - 122
Xylene, total	C4040450-04	0.150	mg/Kg	87.3	92.9	4.9	55.1 - 130
Metals:							
Lead	C4040391-01	100	mg/Kg	97.4	98.5	1.12	80 - 120



Northwest Region
4080 Pike Lane
Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: TOU01CHV08
Consultant Project Number: 834-1-2
Facility Number: 9-8341
Project ID: 3530 Mac Arthur, Oakland
Work Order Number: C4-04-0499

May 2, 1994

Jeff Monroe
Touchstone Developments
P.O. Box 2554
Santa Rosa, CA 95405

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 04/28/94.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

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If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

A handwritten signature in black ink, appearing to read 'Rashmi Shah', is written over a light blue horizontal line.

Rashmi Shah
Laboratory Director

Client Number: T0U01CHV08
 Consultant Project Number: 834-1-2
 Facility Number: 9-8341
 Project ID: 3530 Mac Arthur, Oakland
 Work Order Number: C4-04-0499

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01 ^b	02 ^b	F042994	
Client Identification		SP-1a-d	P-6	METHOD BLANK	
Date Sampled		04/28/94	04/28/94	-	
Date Analyzed		04/29/94	04/29/94	NA	
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	<0.020	<0.020	<0.020	
Toluene	0.005	<0.020	<0.020	<0.020	
Ethylbenzene	0.005	<0.020	<0.020	<0.020	
Xylene, total	0.015	1.6	0.74	<0.060	
TPH as Gasoline	1	130	63	<1	
Detection Limit Multiplier		1	1	1	
BFB Surrogate, % recovery		174	147	102	

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 72.1-127%. NA = Not Applicable.
- b. BFB recovery high due to interference of hydrocarbons. Hydrocarbon pattern is not characteristic of gasoline. Detection limit raised due to high levels of hydrocarbons.

Client Number: T0U01CHV08
 Consultant Project Number: 834-1-2
 Facility Number: 9-8341
 Project ID: 3530 Mac Arthur, Oakland
 Work Order Number: C4-04-0499

ANALYTICAL RESULTS

Organic Lead in Soil^{a,b}

- a. California State Water Resources Control Board LUFT Manual, May 1988 revision.
 b. Extract Analyzed by Graphite Furnace Atomic Absorption. Results reported on a wet weight basis. NA = Not Applicable.

GTEL Sample Number		01	042994 MET		
Client Identification		SP-1a-d	METHOD BLANK		
Date Sampled		04/28/94	--		
Date Prepared		05/02/94	05/02/94		
Date Analyzed		05/02/94	05/02/94		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Lead, organic	0.25	<0.25	<0.25		
Detection Limit Multiplier		1	1		
Percent solids		82.6	NA		

Client Number: T0U01CHV08
 Consultant Project Number: 834-1-2
 Facility Number: 9-8341
 Project ID: 3530 Mac Arthur, Oakland
 Work Order Number: C4-04-0499

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4040506-01	0.050	mg/Kg	82.4	71.2	14.6	48.8 - 129
Toluene	C4040506-01	0.050	mg/Kg	76.4	64.0	17.7	52.0 - 123
Ethylbenzene	C4040506-01	0.050	mg/Kg	65.8	54.8*	18.2	55.4 - 122
Xylene, total	C4040506-01	0.150	mg/Kg	66.5	56.0	17.1	55.1 - 130
Metals:							
Organic Lead	C4040499-01	7.5	mg/Kg	89.3	75.3	17.0	80 - 120

* Matrix spike recovery demonstrated matrix effect. Laboratory Control Sample indicated that the analysis was within control limits.



Western Region
4080 Pike Lane, Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: T0U01CHV08
Consultant Project Number: 8341-3
Facility Number: 9-8341
Project ID: 3530 MacArthur, Oakland
Work Order Number: C4-05-0010

May 4, 1994

Jeff Monroe
Touchstone Developments
P.O. Box 2554
Santa Rosa, CA 95405

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/03/94.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

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If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

A handwritten signature in black ink, appearing to read 'Rashmi Shah', is written over a light-colored background.

Rashmi Shah
Laboratory Director

Client Number: TOU01CHV08
 Consultant Project Number: 8341-3
 Facility Number: 9-8341
 Project ID: 3530 MacArthur, Oakland
 Work Order Number: C4-05-0010

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Methods 8020 and Modified 8015^a

GTEL Sample Number		01	A050394		
Client Identification		SP-2A-D	METHOD BLANK		
Date Sampled		05/02/94	--		
Date Analyzed		05/03/94	05/03/94		
Analyte	Detection Limit, mg/kg	Concentration, mg/kg			
Benzene	0.005	0.65	<0.005		
Toluene	0.005	0.92	<0.005		
Ethylbenzene	0.005	1.3	<0.005		
Xylene, total	0.015	5.00	<0.015		
TPH as Gasoline	1	120	<1		
Detection Limit Multiplier		1	1		
Percent solids		84.7	NA		
BFB surrogate, % recovery		149 ^b	94.5		

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 60 - 119%. NA = Not Applicable.
- b. BFB recovery high due to interference of hydrocarbons.

Client Number: TOU01CHV08
Consultant Project Number: 8341-3
Facility Number: 9-8341
Project ID: 3530 MacArthur, Oakland
Work Order Number: C4-05-0010

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050009-4	0.5	mg/Kg	95.5	95.0	0.5	48.8 - 129
Toluene	C4050009-4	0.5	mg/Kg	78.8	78.2	0.8	52.0 - 123
Ethylbenzene	C4050009-4	0.5	mg/Kg	80.0	78.6	0.5	55.4 - 122
Xylene, total	C4050009-4	1.5	mg/Kg	82.7	82.0	0.8	55.1 - 130

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-8341
Facility Address 3530 MacArthur, Oakland
Consultant Project Number 8341-3
Consultant Name Trickstone Developments
Address 10 Box 2554 Santa Rosa 95405
Project Contact (Name) Jeff Morris
(Phone) 705 788 8818 (Fax Number) 538 8812

Chevron Contact (Name) Kenneth Kim
(Phone) 510 842 8752
Laboratory Name GTEL
Laboratory Release Number 1016521
Samples Collected by (Name) Jeff Morris
Collection Date 5-2-94
Signature Jeff Morris

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Icud (Yes or No)	Analysees To Be Performed										Remarks					
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)								
PX-1	01	1	S	D	10:30		Yes	X															
PX-2	02	1			10:32																		
PX-3	03	1			10:35																		
PX-4	04	1			10:45																		
PX-5	05	1			10:48																		
PX-6	06	1			16:55																		
PX-7	07	1			16:57																		
PX-8	08	1			16:58																		
PX-9	09	1			17:00																		
SP-2a	01	4	W	C	17:05																	← Conf 4 into 1 (24 hr) TAT	
TH20-3	10	8	W	G	17:15	40500																	
																							40500 10-24 HR
																							40500 09-5 DAY

RUSH

RUSH

Relinquished By (Signature) <u>Jeff Morris</u>	Organization <u>TD</u>	Date/Time <u>5-2-94 17:00</u>	Received By (Signature) <u>[Signature]</u>	Organization <u>GTEL</u>	Date/Time <u>5-2-94 17:10</u>
Relinquished By (Signature) <u>[Signature]</u>	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>INPUT BY</u> <u>[Signature]</u>	Date/Time <u>08:05</u> <u>5/3/94</u>	

Turn Around Time (Circle Choice)

24 Hre.
48 Hre.
5 Days
10 Days
As Contracted

COC-3.DWG/03 91/MCH



Client Number: T0U01CHV08
Consultant Project Number: 8341-3
Facility Number: 9-8341
Project ID: 3530 MacArthur, Oakland
Work Order Number: C4-05-0059

Northwest Region
4080 Pike Lane
Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

May 9, 1994

Jeff Monroe
Touchstone Developments
P.O. Box 2554
Santa Rosa, CA 95405


Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/05/94.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

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If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.



Rashmi Shah
Laboratory Director

Client Number: TOU01CHV08
Consultant Project Number: 8341-3
Facility Number: 9-8341
Project ID: 3530 MacArthur, Oakland
Work Order Number: C4-05-0059

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050060-02	0.05	mg/Kg	69.8	60.4	14.4	48.8 - 129
Toluene	C4050060-02	0.05	mg/Kg	54.6	48.6 ^b	11.6	52.0 - 123
Ethylbenzene	C4050060-02	0.05	mg/Kg	52.4 ^b	48.6 ^b	11.7	55.4 - 122
Xylene, total	C4050060-02	0.150	mg/Kg	53.9 ^b	47.2 ^b	13.3	55.1 - 130

b. This sample demonstrated matrix effect. Laboratory control sample indicated the analysis was within control limits.



Northwest Region

4080 Pike Lane
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FAX (510) 825-0720

Client Number: TOU01CHV08
Consultant Project Number: 8341-3
Facility Number: 9-8341
Project ID: 3530 MacArthur
Oakland
Work Order Number: C4-05-0009

May 10, 1994

Jeff Monroe
Touchstone Developments
P.O. Box 2554
Santa Rosa, CA 95405

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/03/94.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

A handwritten signature in black ink, appearing to read 'Rashmi Shah', is written over a light-colored background.

Rashmi Shah
Laboratory Director

Client Number: TQU01CHV08
 Consultant Project Number: 8341-3
 Facility Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0009

ANALYTICAL RESULTS

Volatile Organics in Water

EPA Methods 8020 and Modified 8015^a

GTEL Sample Number		10	M050394		
Client Identification		TH ₂ 0-3	METHOD BLANK		
Date Sampled		05/02/94	--		
Date Analyzed		05/04/94	05/03/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5		
Toluene	0.5	<0.5	<0.5		
Ethylbenzene	0.5	<0.5	<0.5		
Xylene, total	0.5	0.9	<0.5		
Gasoline	50	<50	<50		
Detection Limit Multiplier		1	1		
BFB surrogate, % recovery		95.8	110		

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: TOU01CHV08
 Consultant Project Number: 8341-3
 Facility Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0009

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01 ^b	02	03 ^b	04
Client Identification		PX-1	PX-2	PX-3	PX-4
Date Sampled		05/02/94	05/02/94	05/02/94	05/02/94
Date Analyzed		05/05/94	05/03/94	05/03/95	05/03/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	0.52	1.9	1.1	<0.005
Toluene	0.005	0.15	4.2	0.028	<0.005
Ethylbenzene	0.005	0.41	9.2	0.044	<0.005
Xylene, total	0.015	0.330	1.80	0.12	<0.015
TPH as Gasoline	1	35	540	<1	<1
Detection Limit Multiplier		1	5	1	1
Percent solids		75.4	75.8	81.3	80.3
BFB Surrogate, % recovery		104	106	82.3	80.8

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 72.1-127%
- b. Uncategorized compound is not included in gasoline concentration.

Client Number: T0U01CHV08
 Consultant Project Number: 8341-3
 Facility Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0009

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		05	06	07	08
Client Identification		PX-5	PX-6	PX-7	PX-8
Date Sampled		05/02/94	05/02/94	05/02/94	05/02/94
Date Analyzed		05/05/94	05/05/94	05/04/94	05/05/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	<0.005	1.2	1.3	6.0
Toluene	0.005	<0.005	0.15	0.92	38
Ethylbenzene	0.005	<0.005	2.0	6.0	33
Xylene, total	0.015	<0.015	0.62	29	170
TPH as Gasoline	1	<1	36	230	1300
Detection Limit Multiplier		1	1	10	10
Percent solids		80.5	77.7	78.1	76.3
BFB Surrogate, % recovery		79.5	100	91.0	97.3

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 72.1-127%

Client Number: T0U01CHV08
 Consultant Project Number: 8341-3
 Facility Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0009

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		09	A050394		
Client Identification		PX-9	METHOD BLANK		
Date Sampled		05/02/94	--		
Date Analyzed		05/05/94	05/05/94		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	<0.005	<0.005		
Toluene	0.005	<0.005	<0.005		
Ethylbenzene	0.005	<0.005	<0.005		
Xylene, total	0.015	<0.015	<0.015		
TPH as Gasoline	1	<1	<1		
Detection Limit Multiplier		1	1		
Percent solids		77.2	NA		
BFB Surrogate, % recovery		39.4	94.5		

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 72.1-127%
 NA = Not Applicable.

Client Number: TOU01CHV08
 Consultant Project Number: 8341-3
 Facility Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0009

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050001-11	20.0	ug/L	102	90.7	11.7	57.3 - 138
Toluene	C4050001-11	20.0	ug/L	98.8	87.6	12.0	63.0 - 134
Ethylbenzene	C4050001-11	20.0	ug/L	99.9	87.4	13.3	59.3 - 137
Xylene, total	C4050001-11	60.0	ug/L	101	88.6	13.1	59.3 - 144

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050009-04	0.5	mg/Kg	95.5	95.0	0.5	48.8 - 129
Toluene	C4050009-04	0.5	mg/Kg	78.8	78.2	0.8	52.0 - 123
Ethylbenzene	C4050009-04	0.5	mg/Kg	80.0	78.6	0.5	55.4 - 122
Xylene, total	C4050009-04	1.5	mg/Kg	82.7	82.0	0.8	55.1 - 130



Northwest Region

4080 Pike Lane
Suite C
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(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: TOL01CHV08
Consultant Project Number: 8341-3
Facility Number: 9-8341
Project ID: 3530 MacArthur
Oakland
Work Order Number: C4-05-0060

May 11, 1994

Jeff Monroe
Touchstone Developments
P.O. Box 2554
Santa Rosa, CA 95405

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/05/94.

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Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
Laboratory Director

Client Number: T0U01CHV08
 Consultant Project Number: 8341-3
 Facility Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0060

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01	02	F050694	
Client Identification		PX-10	PX-11	METHOD BLANK	
Date Sampled		05/05/94	05/05/94	-	
Date Analyzed		05/06/94	05/06/94	05/06/94	
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	<0.005	<0.005	<0.005	
Toluene	0.005	<0.005	<0.005	<0.005	
Ethylbenzene	0.005	<0.005	<0.005	<0.005	
Xylene, total	0.015	<0.015	<0.015	<0.015	
TPH as Gasoline	1	<1	<1	<1	
Detection Limit Multiplier		1	1	1	
Percent solids		84.8	84.7	NA	
BFB Surrogate, % recovery		37.3 ^b	37.5 ^b	99.2	

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 72.1-127%. NA = Not Applicable.
- b. Estimated concentration surrogate recovery demonstrated sample matrix effect. LCS indicated the analysis was within control limits.

Client Number: T0U01CHV08
 Consultant Project Number: 8341-3
 Facility Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0060

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050060-02	0.05	mg/Kg	69.8	60.4	14.4	48.8 - 129
Toluene	C4050060-02	0.05	mg/Kg	54.6	48.6 ^b	11.6	52.0 - 123
Ethylbenzene	C4050060-02	0.05	mg/Kg	52.4 ^b	48.6 ^b	11.7	55.4 - 122
Xylene, total	C4050060-02	0.150	mg/Kg	53.9 ^b	47.2 ^b	13.3	55.1 - 130

b. This sample demonstrated matrix effect. Laboratory Control Sample indicated the analysis was within control limits.



Northwest Region

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(800) 544-3422 Inside CA
FAX (510) 825-0720

Client Number: T0U02CHV08
Consultant Project Number: 834-2
Facility Number: 9-8341
Project ID: 3530 MacAuthur Ave.
Oakland
Work Order Number: C4-05-0316

May 24, 1994

Mike Tambroni
Touchstone Developments
684 30th Avenue
San Francisco, CA 94121

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/20/94.

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Sincerely,

GTEL Environmental Laboratories, Inc.

A handwritten signature in black ink, appearing to read 'Rashmi Shah', is written over a faint, illegible typed name.

Rashmi Shah
Laboratory Director

Client Number: T0U02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0316

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		01	02	F052094-1	
Client Identification		WO-N-6'	WO-S-6'	METHOD BLANK	
Date Sampled		05/19/94	05/19/94	--	
Date Analyzed		05/20/94	05/20/94	05/20/94	
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	<0.005	<0.005	<0.005	
Toluene	0.005	<0.005	<0.005	<0.005	
Ethylbenzene	0.005	<0.005	<0.005	<0.005	
Xylene, total	0.015	<0.015	<0.015	<0.015	
TPH as Gasoline	1	<1	<1	<1	
Detection Limit Multiplier		1	1	1	
Percent solids		70.4	77.9	NA	
BFB Surrogate, % recovery		82.4	86.5	95.0	

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 60-119%. NA = Not Applicable.

Client Number: T0U02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacAthur Ave.
 Oakland
 Work Order Number: C4-05-0316
 Date Reissued: 07-21-94

ANALYTICAL RESULTS

Total Oil and Grease in Soil by Infrared Spectrometry

EPA 3550¹ (Mod.)/EPA 413.2²(SM 5520 C³)

GTEL Sample Number		01	02	052394 BLS	
Client Identification		WO-N-6'	WO-S-6'	METHOD BLANK	
Date Sampled		05/19/94	05/19/94	--	
Date Prepared		05/23/94	05/23/94	05/23/94	
Date Analyzed		05/23/94	05/23/94	05/23/94	
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Total Oil and Grease	50	<50	<50	<50	
Detection Limit Multiplier		78.4	77.9	NA	

1. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986.
2. Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, Revised March 1983, U.S. Environmental Protection Agency. Results reported on a wet weight basis.
3. Standard Methods for the Examination of Water and Wastewater, 17th ed., 1989, American Public Health Association. NA = Not Applicable.

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0316

ANALYTICAL RESULTS

TPH as Diesel in Soil

Method: Modified EPA 8015a

GTEL Sample Number		01	02	GCI 052394	
Client Identification		WO-N-6'	WO-S-6'	METHOD BLANK	
Date Sampled		05/19/94	05/19/94	--	
Date Extracted		05/23/94	05/23/94	05/23/94	
Date Analyzed		05/23/94	05/23/94	05/23/94	
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	
Detection Limit Multiplier		1	1	1	
Percent Solids		NA	NA	NA	
OTP surrogate, % recovery		55.6	60.2	88.1	

- a. O-Terphenyl surrogate recovery acceptability limits are 50-150%. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986.

NA = Not Applicable

Client Number: T0U02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0316

QC Check Sample Results

Analyte	Source	Date of Analysis	Expected Value	Units	Recovery, %
TOG/IR:	IW-0101	05/23/94	53.4	mg/L	102

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050306-05	20.0	ug/L	74.6	85.2	13.3	40 - 150
Toluene	C4050306-05	20.0	ug/L	75.6	86.4	13.3	46 - 148
Ethylbenzene	C4050306-05	20.0	ug/L	75.2	85.4	12.7	40 - 160
Xylene, total	C4050306-05	60.0	ug/L	79.0	89.7	12.7	40 - 160
TPH/IR:	C4050316-01	156	mg/Kg	83.5	78.5	6.2	70 - 130

Sample and Sample Duplicate Results

Matrix: Soil

Analyte	Sample ID	Date of Analysis	Sample Results	Sample Duplicate Results	Units	RPD, %
GC-FID:						
Diesel	WO-N-6	05/23/94	ND	ND	ug/L	NA

ND = Not Detected

NA = Not Applicable



Client Number: T0U01CHV08
Consultant Project Number: 9-8341
Project ID: 3530 MacArthur
Oakland
Work Order Number: C4-05-0348

Western Region

4080 Pike Lane, Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

May 25, 1994

Jeff Monroe
Touchstone Developments, Inc.
P.O. Box 2554
Santa Rosa, CA 95405

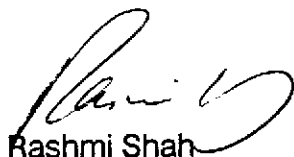
Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/29/94.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.



Rashmi Shah
Laboratory Director

Client Number: TOL01CHV08
 Consultant Project Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0348

ANALYTICAL RESULTS
Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water
EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		01	052494		
Client Identification		WO-H20	METHOD BLANK		
Date Sampled		05/24/94	--		
Date Analyzed		05/24/94	054/24/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<0.5	<0.5		
Toluene	0.5	<0.5	<0.5		
Ethylbenzene	0.5	<0.5	<0.5		
Xylene, total	0.5	<0.5	<0.5		
TPH as Gasoline	50	<50	<50		
Detection Limit Multiplier		1	1		
BFB surrogate, % recovery		115	119		

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual procedures. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: T0U01CHV08
 Consultant Project Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0348

ANALYTICAL RESULTS

**Total Oil and Grease in Water
 by Infrared Spectrometry**

EPA Method 413.2¹(SM 5520 C²)

1. Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-202, Revised March 1983, U.S. Environmental Protection Agency.
2. Standard Methods for the Examination of Water and Wastewater, 17th ed., 1989, American Public Health Association.

GTEL Sample Number		01	052594 TPH		
Client Identification		WO-H20	METHOD BLANK		
Date Sampled		05/24/94	-		
Date Prepared		05/24/94	05/24/94		
Date Analyzed		05/24/94	05/24/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Total Oil and Grease	5000	<5000	<5000		
Detection Limit Multiplier		1	1		

Client Number: TOU01CHV08
 Consultant Project Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0348

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		02		
Client Identification		ST-4 (A-D)	METHOD BLANK	
Date Sampled		05/24/94	-	
Date Analyzed		05/24/94	05/24/94	
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg		
Benzene	0.005	<0.005	<0.005	
Toluene	0.005	<0.005	<0.005	
Ethylbenzene	0.005	<0.005	<0.005	
Xylene, total	0.015	<0.015	<0.015	
TPH as Gasoline	1	<1	<1	
Detection Limit Multiplier		1	1	
Percent solids		82.5	NA	
BFB Surrogate, % recovery		70.0	90.0	

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 60-119%. NA = Not Applicable.

Client Number: T0U01CHV08
 Consultant Project Number: 9-8341
 Project ID: 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0348

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050351-02	20.0	ug/L	90.1	89.1	1.1	57.3 - 138
Toluene	C4050351-02	20.0	ug/L	86.0	86.0	0	63.0 - 134
Ethylbenzene	C4050351-02	20.0	ug/L	86.0	85.5	0.5	59.3 - 137
Xylene, total	C4050351-02	60.0	ug/L	85.5	86.7	1.3	59.3 - 144
TOG/IR:	LCS^a	52.3	mg/L	90.6	90.2	0.4	70 - 130

a. Not enough sample provided to perform a matrix QC. Laboratory control sample indicated the analysis was within control limits.

Client Number: TOU01CHV08
Consultant Project Number: 9-8341
Project ID: 3530 MacArthur
Oakland
Work Order Number: C4-05-0348

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050384-02	0.05	mg/Kg	66.4	84.0	23.4	48.8 - 129
Toluene	C4050384-02	0.05	mg/Kg	64.2	85.4	28.3	52.0 - 123
Ethylbenzene	C4050384-02	0.05	mg/Kg	60.6	83.4	31.7	55.4 - 122
Xylene, total	C4050384-02	0.150	mg/Kg	59.6	85.1	35.2	55.1 - 130



Client Number: T0U02CHV08
Consultant Project Number: 834-2
Facility Number: 9-8341
Project ID: 3530 MacArthur Ave.
Oakland
Work Order Number: C4-05-0317

Western Region

4080 Pike Lane, Suite C
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
FAX (510) 825-0720

June 2, 1994

Mike Tambroni
Touchstone Developments
684 30th Avenue
San Francisco, CA 94121

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/20/94.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

A handwritten signature in black ink, appearing to read 'Rashmi Shah', is written over a light blue horizontal line.

Rashmi Shah
Laboratory Director

Client Number: T0U02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacAuthor Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS
Volatile Halocarbons in Soil
EPA Method 8010^a

GTEL Sample Number		01	02	03	04
Client Identification		WO-N-6'	WO-S-6'	SP-1A-B	SP-2A-B
Date Sampled		05/19/94	05/19/94	05/19/94	05/19/94
Date Extracted		05/23/94	05/23/94	05/23/94	05/23/94
Date Analyzed		05/23/94	05/23/94	05/23/94	05/23/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Chloromethane	0.005	<0.005	<0.005	<0.005	<0.005
Bromomethane	0.005	<0.005	<0.005	<0.005	<0.005
Vinyl chloride	0.005	<0.005	<0.005	<0.005	<0.005
Chloroethane	0.005	<0.005	<0.005	<0.005	<0.005
Methylene chloride	0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethene	0.005	<0.005	<0.005	<0.005	<0.005
Chloroform	0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloroethane	0.005	<0.005	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	0.005	<0.005	<0.005	<0.005	<0.005
Carbon tetrachloride	0.005	<0.005	<0.005	<0.005	<0.005
Bromodichloromethane	0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	0.005	<0.005	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethene	0.005	<0.005	<0.005	<0.005	<0.005
Dichlorodifluoromethane	0.005	<0.005	<0.005	<0.005	<0.005
Dibromochloromethane	0.005	<0.005	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	0.005	<0.005	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	0.005	<0.005	<0.005	<0.005	<0.005
2-Chloroethylvinyl ether	0.005	<0.005	<0.005	<0.005	<0.005
Bromoform	0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	0.005	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichlorobenzene	0.005	<0.005	<0.005	<0.005	<0.005
1,3-Dichlorobenzene	0.005	<0.005	<0.005	<0.005	<0.005
1,4-Dichlorobenzene	0.005	<0.005	<0.005	<0.005	<0.005
Trichlorofluoromethane	0.005	<0.005	<0.005	<0.005	<0.005
Detection Limit Multiplier		1	1	1	1
Percent solids		79.7	81.2	97.2	97.0
BFB surrogate, % recovery		72.8	83.8	79.2	83.8

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%.

Client Number: T0U02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS
Volatile Halocarbons in Soil
EPA Method 8010^a

GTEL Sample Number		C052394		
Client Identification		METHOD BLANK		
Date Sampled		-		
Date Extracted		05/23/94		
Date Analyzed		05/23/94		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg		
Chloromethane	0.005	<0.005		
Bromomethane	0.005	<0.005		
Vinyl chloride	0.005	<0.005		
Chloroethane	0.005	<0.005		
Methylene chloride	0.005	<0.005		
1,1-Dichloroethene	0.005	<0.005		
1,1-Dichloroethane	0.005	<0.005		
1,2-Dichloroethene	0.005	<0.005		
Chloroform	0.005	<0.005		
1,2-Dichloroethane	0.005	<0.005		
1,1,1-Trichloroethane	0.005	<0.005		
Carbon tetrachloride	0.005	<0.005		
Bromodichloromethane	0.005	<0.005		
1,2-Dichloropropane	0.005	<0.005		
cis-1,3-Dichloropropene	0.005	<0.005		
Trichloroethene	0.005	<0.005		
Dichlorodifluoromethane	0.005	<0.005		
Dibromochloromethane	0.005	<0.005		
1,1,2-Trichloroethane	0.005	<0.005		
trans-1,3-Dichloropropene	0.005	<0.005		
2-Chloroethylvinyl ether	0.005	<0.005		
Bromoform	0.005	<0.005		
Tetrachloroethene	0.005	<0.005		
1,1,2,2-Tetrachloroethane	0.005	<0.005		
Chlorobenzene	0.005	<0.005		
1,2-Dichlorobenzene	0.005	<0.005		
1,3-Dichlorobenzene	0.005	<0.005		
1,4-Dichlorobenzene	0.005	<0.005		
Trichlorofluoromethane	0.005	<0.005		
Detection Limit Multiplier		1		
Percent solids		NA		
BFB surrogate, % recovery		86.3		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Bromofluorobenzene surrogate recovery acceptability limits are 70-130%. NA = Not Applicable.

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015a

GTEL Sample Number		03	04	05	06
Client Identification		SP-1A-B	SP-2A-B	SP-3A	SP-3B
Date Sampled		05/19/94	05/19/94	05/19/94	05/19/94
Date Analyzed		05/23/94	05/23/94	05/23/94	05/23/94
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	<0.005	<0.005	<0.005	<0.005
Toluene	0.005	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	0.005	<0.005	<0.005	<0.005	<0.005
Xylene, total	0.015	<0.015	<0.015	<0.015	<0.015
TPH as Gasoline	1	<1	<1	<1	<1
Detection Limit Multiplier		1	1	1	1
Percent solids		76.4	78.4	96.9	96.6
BFB Surrogate, % recovery		80.9	82.0	63.7	70.3

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 60-119%

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Soil

EPA Methods 5030, 8020, and Modified 8015^a

GTEL Sample Number		F052394-1			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		05/23/94			
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Benzene	0.005	<0.005			
Toluene	0.005	<0.005			
Ethylbenzene	0.005	<0.005			
Xylene, total	0.015	<0.015			
TPH as Gasoline	1	<1			
Detection Limit Multiplier		1			
Percent solids		NA			
BFB Surrogate, % recovery		95.5			

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. Results reported on a wet weight basis. Bromofluorobenzene surrogate recovery acceptability limits are 60-119%. NA = Not Applicable.

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS

Metals in Soil (TTLC)_a

GTEL Sample Number			01	02	03	04
Client Identification			WO-N-6'	WO-S-6'	SP-1A-B	SP-2A-B
Date Sampled			05/19/94	05/19/94	05/19/94	05/19/94
Date Prepared (Method 3055 ^b)			05/19/94	05/19/94	05/19/94	05/19/94
Date Analyzed (Method 6010)			05/23/94	05/23/94	05/23/94	05/23/94
Analyte	EPA Method ^a	Detection Limit, mg/Kg	Concentration, mg/Kg			
Cadmium	EPA 6010 ^c	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010 ^c	1	9	20	6	7
Lead	EPA 6010 ^c	5	<5	<5	<5	<5
Nickel	EPA 6010 ^c	2	5	18	9	14
Zinc	EPA 6010 ^c	2	10	30	22	12
Detection Limit Multiplier			1	1	1	1
Percent Solids			79.7	81.2	97.2	97.0

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Results reported on a wet weight basis.
- b. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.
- c. Inductively Coupled Argon Plasma (ICP).

Client Number: T0U02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS

Metals in Soil (TTLC)_a

GTEL Sample Number		051994 MET			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Prepared (Method 3055 ^b)		05/19/94			
Date Analyzed (Method 6010)		05/23/94			
Analyte	EPA Method ^a	Detection Limit, mg/Kg	Concentration, mg/Kg		
Cadmium	EPA 6010 ^c	0.5	<0.5		
Chromium, total	EPA 6010 ^c	1	<1		
Lead	EPA 6010 ^c	5	<5		
Nickel	EPA 6010 ^c	2	<2		
Zinc	EPA 6010 ^c	2	<2		
Detection Limit Multiplier			1		
Percent Solids			NA		

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Results reported on a wet weight basis.
 b. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.
 c. Inductively Coupled Argon Plasma (ICP).
 NA = Not Applicable.

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS

TPH as Diesel in Soil

Method: Modified EPA 8015a

GTEL Sample Number		03	04	GC-1 0525	
Client Identification		SP-1A-B	SP-2A-B	METHOD BLANK	
Date Sampled		05/19/94	05/19/94	--	
Date Extracted		05/25/94	05/25/94	05/25/94	
Date Analyzed		05/26/94	05/26/94	05/25/94	
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	
Detection Limit Multiplier		1	1	1	
Percent Solids		97.2	97.0	NA	
OTP surrogate, % recovery		100	77.7	83.2	

- a. O-Terphenyl surrogate recovery acceptability limits are 50-150%. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986.

NA = Not Applicable

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS

**Total Oil and Grease in Soil
 by Infrared Spectrometry**

EPA 3550¹ (Mod.)/EPA 413.2²(SM 5520 C³)

GTEL Sample Number		03	04	052394 BLS	
Client Identification		SP-1A-B	SP-2A-B	METHOD BLANK	
Date Sampled		05/19/94	05/19/94	-	
Date Prepared		05/23/94	05/23/94	05/23/94	
Date Analyzed		05/23/94	05/23/94	05/23/94	
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
Total Oil and Grease	5	180	23	<5	
Detection Limit Multiplier		1	1	1	

1. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986.
2. Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, Revised March 1983, U.S. Environmental Protection Agency. Results reported on a wet weight basis.
3. Standard Methods for the Examination of Water and Wastewater, 17th ed., 1989, American Public Health Association.

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS
 Semi-Volatile Organics in Soil
 EPA Method 8270a

GTEL Sample Number		01	02	03	04
Client Identification		WO-N-6'	WO-S-6'	SP-1A-B	SP-2A-B
Date Sampled		05/19/94	05/19/94	05/19/94	05/19/94
Date Extracted		05/23/94	05/23/94	05/23/94	05/23/94
Date Analyzed		06/01/94	06/01/94	06/01/94	06/01/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS
 Semi-Volatile Organics in Soil
 EPA Method 8270a

GTEL Sample Number		01	02	03	04
Client Identification		WO-N-6'	WO-S-6'	SP-1A-B	SP-2A-B
Date Sampled		05/19/94	05/19/94	05/19/94	05/19/94
Date Extracted		05/23/94	05/23/94	05/23/94	05/23/94
Date Analyzed		06/01/94	06/01/94	06/01/94	06/01/94
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
Percent solids		79.7	81.2	97.2	97.0
d5-Nitrobenzene surr., % rec.		80.8	80.2	80.4	81.9
2-Fluorobiphenyl surr., % rec.		72.8	79.0	90.6	86.3
d14-Terphenyl surr., % rec.		74.5	76.2	66.6	76.0
d5-Phenol surr., % rec.		91.3	91.8	87.0	92.3
2-Fluorophenol surr., % rec.		90.5	92.8	85.9	91.4
2,4,6-Tribromophenol surr., % rec.		90.4	91.2	96.1	94.0

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample Method 3550. Results reported on a dry weight basis.

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS
 Semi-Volatile Organics in Soil
 EPA Method 8270^a

GTEL Sample Number		BW4050317			
Client Identification		METHOD BLANK			
Date Sampled		-			
Date Extracted		05/23/94			
Date Analyzed		06/01/94			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300			
bis(2-Chloroethyl)ether	300	<300			
2-Chlorophenol	300	<300			
1,3-Dichlorobenzene	300	<300			
1,4-Dichlorobenzene	300	<300			
Benzyl alcohol	300	<300			
1,2-Dichlorobenzene	300	<300			
2-Methylphenol	300	<300			
bis-(2-Chloroisopropyl)ether	300	<300			
4-Methylphenol	300	<300			
N-Nitroso-di-propylamine	300	<300			
Hexachloroethane	300	<300			
Nitrobenzene	300	<300			
Isophorone	300	<300			
2-Nitrophenol	300	<300			
2,4-Dimethylphenol	300	<300			
Benzoic acid	1500	2000			
bis(2-Chloroethoxy)methane	300	<300			
2,4-Dichlorophenol	300	<300			
1,2,4-Trichlorobenzene	300	<300			
Naphthalene	300	<300			
4-Chloroaniline	300	<300			
Hexachlorobutadiene	300	<300			
4-Chloro-3-methylphenol	300	<300			
2-Methylnaphthalene	300	<300			
Hexachlorocyclopentadiene	300	<300			
2,4,6-Trichlorophenol	300	<300			
2,4,5-Trichlorophenol	1500	<1500			
2-Chloronaphthalene	300	<300			
2-Nitroaniline	1500	<1500			
Dimethylphthalate	300	<300			
Acenaphthylene	300	<300			
3-Nitroaniline	1500	<1500			
Acenaphthene	300	<300			
2,4-Dinitrophenol	1500	<1500			
4-Nitrophenol	1500	<1500			

Client Number: T0U02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

ANALYTICAL RESULTS
 Semi-Volatile Organics in Soil
 EPA Method 8270^a

GTEL Sample Number		BW4050317			
Client Identification		METHOD BLANK			
Date Sampled		-			
Date Extracted		05/23/94			
Date Analyzed		06/01/94			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300			
2,4-Dinitrotoluene	300	<300			
2,6-Dinitrotoluene	300	<300			
Diethylphthalate	300	<300			
4-Chlorophenyl-phenylether	300	<300			
Fluorene	300	<300			
4-Nitroaniline	1500	<1500			
4,6-Dinitro-2-methylphenol	1500	<1500			
N-Nitrosodiphenylamine	300	<300			
4-Bromophenyl-phenylether	300	<300			
Hexachlorobenzene	300	<300			
Pentachlorophenol	1500	<1500			
Phenanthrene	300	<300			
Anthracene	300	<300			
Di-n-butylphthalate	300	<300			
Fluoranthene	300	<300			
Pyrene	300	<300			
Butylbenzylphthalate	300	<300			
3,3'-Dichlorobenzidine	600	<600			
Benzo(a)anthracene	300	<300			
bis(2-Ethylhexyl)phthalate	300	<300			
Chrysene	300	<300			
Di-n-octylphthalate	300	<300			
Benzo(b)fluoranthene	300	<300			
Benzo(k)fluoranthene	300	<300			
Benzidine	600	<600			
Benzo(a)pyrene	300	<300			
Indeno(1,2,3-cd)pyrene	300	<300			
Dibenz(a,h)anthracene	300	<300			
Benzo(g,h,i)perylene	300	<300			
Detection Limit Multiplier		1			
Percent solids		NA			
d5-Nitrobenzene surr., % rec.		89.1			
2-Fluorobiphenyl surr., % rec.		90.6			
d14-Terphenyl surr., % rec.		74.6			
d5-Phenol surr., % rec.		95.2			
2-Fluorophenol surr., % rec.		94.0			
2,4,6-Tribromophenol surr., % rec.		95.7			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample Method 3550. Results reported on a dry weight basis. NA = Not Applicable.

Client Number: TOU02CHV08
Consultant Project Number: 834-2
Facility Number: 9-8341
Project ID: 3530 MacArthur Ave.
Oakland
Work Order Number: C4-05-0317

QC Check Sample Results

Analyte	Source	Date of Analysis	Expected Value	Units	Recovery, %
TOG/IR:	IW-0101	05/23/94	53.4	mg/L	102

Client Number: TOU02CHV08
 Consultant Project Number: 834-2
 Facility Number: 9-8341
 Project ID: 3530 MacArthur Ave.
 Oakland
 Work Order Number: C4-05-0317

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C4050306-12	20.0	ug/L	72.4	84.6	15.5	57.3 - 138
Toluene	C4050306-12	20.0	ug/L	73.0	84.6	14.7	63.0 - 134
Ethylbenzene	C4050306-12	20.0	ug/L	68.2	80.2	16.2	59.3 - 137
Xylene, total	C4050306-12	60.0	ug/L	72.2	82.9	13.8	59.3 - 144
GC-FID:							
Diesel	LCS	150	mg/Kg	79.6	NA	NA	58 - 144
EPA 8010:							
Chlorobenzene	C4050308-03	0.020	mg/Kg	85.5	93.5	8.9	63.5 - 129
Benzene	C4050308-03	0.020	mg/Kg	110	114	3.6	57.3 - 138
Toluene	C4050308-03	0.020	mg/Kg	108	114	5.4	63 - 134
Ethylbenzene	C4050308-03	0.020	mg/Kg	111	117	5.3	59.3 - 137
Xylene, total	C4050308-03	0.060	mg/Kg	108	117	8.0	59.3 - 144
1,1-Dichloroethene	C4050308-03	0.020	mg/Kg	97.0	91.0	6.4	44.6 - 150
Trichloroethene	C4050308-03	0.020	mg/Kg	132	136	3.0	61.5 - 133
Chloroform	C4050308-03	0.020	mg/Kg	97.0	91.0	6.4	71.4 - 116

NA = Not Applicable

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 625/8270:							
Phenol	C4050317-01	3333	ug/Kg	52.9	57.4	8.2	12 - 89
2-Chlorophenol	C4050317-01	3333	ug/Kg	59.3	61.2	3.2	27 - 123
4-Chloro-3-methylphenol	C4050317-01	3333	ug/Kg	57.9	59.2	2.2	23 - 97
4-Nitrophenol	C4050317-01	3333	ug/Kg	47.6	46.1	3.2	10 - 80
Pentachlorophenol	C4050317-01	3333	ug/Kg	69.5	70.4	1.3	19 - 103
1,4-Dichlorobenzene	C4050317-01	1666	ug/Kg	52.3	48.4	7.7	36 - 197
N-Nitroso-di-n-propylamine	C4050317-01	1666	ug/Kg	72.9	77.6	6.2	41 - 116
1,2,4-Trichlorobenzene	C4050317-01	1666	ug/Kg	69.1	64.2	7.4	39 - 98
2,4-Dinitrotoluene	C4050317-01	1666	ug/Kg	64.1	66.1	3.1	24 - 96
Acenaphthene	C4050317-01	1666	ug/Kg	75.7	78.2	3.2	46 - 118
Pyrene	C4050317-01	1666	ug/Kg	64.4	67.6	4.8	26 - 127
TOG/IR:							
	C4050316-01	156.1	mg/Kg	83.5	78.5	6.2	70 - 130
Metals:							
Cadmium	C4050317-02	50.0	mg/Kg	91.7	84.7	7.89	80 - 120
Chromium	C4050317-02	100	mg/Kg	96.3	85.8	9.5	80 - 120
Lead	C4050317-02	100	mg/Kg	94.0	86.6	8.18	75 - 125
Nickel	C4050317-02	100	mg/Kg	90.0	83.0	6.67	80 - 120
Zinc	C4050317-02	100	mg/Kg	94.4	83.7	9.05	80 - 120

Fax copy of Lab Report and COC to Chevron Contact: Yes No

Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number <u>9-8341</u>	Chevron Contact (Name) <u>KENNETH PAUL</u>
	Facility Address <u>3530 MacArthur Ave, Oakland</u>	(Phone) <u>510-842 8111</u>
Consultant Project Number <u>834-2</u>	Consultant Name <u>TAUCHSTONE DEVELOPMENTS</u>	Laboratory Name <u>GTEL</u>
Address <u>684 30th AVE, SF</u>	Project Contact (Name) <u>M. TAMBRONI</u>	Laboratory Release Number <u>1016531</u>
(Phone) <u>386-8791</u> (Fax Number) <u>386-8791</u>		Samples Collected by (Name) <u>M. TAMBRONI</u>
		Collection Date <u>5-19-94</u>
		Signature <u>[Signature]</u>

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed											Remarks
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICSP or AA)	PH	Zn	Pb	
WO-N-6'	01 01	1	S	D	1520		Yes	X	X	X	X				X	X		22 Hour TAT DON 8020, 8015, 5520	
WO-S-6'	02 02	1	S	D	1546			X	X	X	X				X	X			
SP-1A-B	03	2	S	C	1550			X	X	X	X				X	X			
SP-2A-B	04	2	S	C	1600			X	X	X	X				X	X			
SP-3A	05	1	S	D	1605			X											
SP-3B	06	1	S	D	1607			X											
H2O	07	5	W	G	1700			X											
																		HOLD	

Relinquished By (Signature) <u>[Signature]</u>	Organization <u>TD</u>	Date/Time <u>5-20-94 13:00</u>	Received By (Signature) <u>John Weber</u>	Organization <u>GTEL</u>	Date/Time <u>13:30</u>	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days As Contracted
Relinquished By (Signature) <u>John Weber</u>	Organization <u>GTEL</u>	Date/Time <u>5-20-94</u>	Received By (Signature) <u>[Signature]</u>	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>[Signature]</u>		Date/Time <u>5/20/94</u>	

COC-1.DWG/03.01/HCH

C4050316 (24 Hr) D 2/3
C4050317 (5 DAY) Z-BOX



ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region

4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California
(510) 825-0720 (FAX)

Client Number: T0U01CHV08
Facility Number: 9-8341
Project ID: Chevron 3530 MacArthur
Oakland
Work Order Number: C4-05-0349

June 2, 1994

Jeff Monroe
Touchstone Developments
P.O. Box 2554
Santa Rosa, CA 94505

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 05/24/94.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS
Purgeable Halocarbons in Water
EPA Method 8010^a

GTEL Sample Number		01	P052494		
Client Identification		WO-H ₂ O	METHOD BLANK		
Date Sampled		05/24/94	-		
Date Analyzed		05/24/94	05/24/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Chloromethane	0.5	<0.5	<0.5		
Bromomethane	0.5	<0.5	<0.5		
Vinyl chloride	1	<1	<1		
Chloroethane	0.5	0.6	<0.5		
Methylene chloride	0.5	<0.5	<0.5		
1,1-Dichloroethene	0.5	<0.5	<0.5		
1,1-Dichloroethane	0.5	<0.5	<0.5		
1,2-Dichloroethene	0.5	<0.5	<0.5		
Chloroform	0.5	<0.5	<0.5		
1,2-Dichloroethane	0.5	<0.5	<0.5		
1,1,1-Trichloroethane	0.5	<0.5	<0.5		
Carbon tetrachloride	0.5	<0.5	<0.5		
Bromodichloromethane	0.5	<0.5	<0.5		
1,2-Dichloropropane	0.5	<0.5	<0.5		
cis-1,3-Dichloropropene	0.5	<0.5	<0.5		
Trichloroethene	0.5	<0.5	<0.5		
Dichlorodifluoromethane	0.5	<0.5	<0.5		
Dibromochloromethane	0.5	<0.5	<0.5		
1,1,2-Trichloroethane	0.5	<0.5	<0.5		
trans-1,3-Dichloropropene	0.5	<0.5	<0.5		
2-Chloroethylvinyl ether	1	<1	<1		
Bromoform	0.5	<0.5	<0.5		
Tetrachloroethene	0.5	<0.5	<0.5		
1,1,2,2-Tetrachloroethane	0.5	<0.5	<0.5		
Chlorobenzene	0.5	<0.5	<0.5		
1,2-Dichlorobenzene	0.5	<0.5	<0.5		
1,3-Dichlorobenzene	0.5	<0.5	<0.5		
1,4-Dichlorobenzene	0.5	<0.5	<0.5		
Trichlorofluoromethane	0.5	<0.5	<0.5		
Detection Limit Multiplier		1	1		
BFB surrogate, % recovery		96.7	90.4		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Bromofluorobenzene surrogate recovery acceptability limits are 65-135%.

Client Number: TOU01CHV08
 Facility Number: 9-8341
 Project ID: Chevron 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0349

ANALYTICAL RESULTS
 Semi-Volatile Organics in Water
 EPA Method 8270^a/625^b

GTEL Sample Number		01	053194BNAW		
Client Identification		WO-H ₂ O	METHOD BLANK		
Date Sampled		05/24/94	-		
Date Extracted		05/27/94	05/27/94		
Date Analyzed		05/31/94	05/31/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Phenol	10	<10	<10		
bis(2-Chloroethyl)ether	10	<10	<10		
2-Chlorophenol	10	<10	<10		
1,3-Dichlorobenzene	10	<10	<10		
1,4-Dichlorobenzene	10	<10	<10		
Benzyl alcohol	10	<10	<10		
1,2-Dichlorobenzene	10	<10	<10		
2-Methylphenol	10	<10	<10		
bis-(2-Chloroisopropyl)ether	10	<10	<10		
4-Methylphenol	10	<10	<10		
N-Nitroso-di-propylamine	10	<10	<10		
Hexachloroethane	10	<10	<10		
Nitrobenzene	10	<10	<10		
Isophorone	10	<10	<10		
2-Nitrophenol	10	<10	<10		
2,4-Dimethylphenol	10	<10	<10		
Benzoic acid	50	<50	<50		
bis(2-Chloroethoxy)methane	10	<10	<10		
2,4-Dichlorophenol	10	<10	<10		
1,2,4-Trichlorobenzene	10	<10	<10		
Naphthalene	10	<10	<10		
4-Chloroaniline	10	<10	<10		
Hexachlorobutadiene	10	<10	<10		
4-Chloro-3-methylphenol	10	<10	<10		
2-Methylnaphthalene	10	<10	<10		
Hexachlorocyclopentadiene	10	<10	<10		
2,4,6-Trichlorophenol	10	<10	<10		
2,4,5-Trichlorophenol	50	<50	<50		
2-Chloronaphthalene	10	<10	<10		
2-Nitroaniline	50	<50	<50		
Dimethylphthalate	10	<10	<10		
Acenaphthylene	10	<10	<10		
3-Nitroaniline	50	<50	<50		
Acenaphthene	10	<10	<10		
2,4-Dinitrophenol	50	<50	<50		
4-Nitrophenol	50	<50	<50		
Dibenzofuran	10	<10	<10		

Client Number: TOU01CHV08
 Facility Number: 9-8341
 Project ID: Chevron 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0349

ANALYTICAL RESULTS
 Semi-Volatile Organics in Water
 EPA Method 8270^a/625^b

GTEL Sample Number		01	053194BNAW	
Client Identification		WO-H ₂ O	METHOD BLANK	
Date Sampled		05/24/94	-	
Date Extracted		05/27/94	05/27/94	
Date Analyzed		05/31/94	05/31/94	
Analyte	Detection Limit, ug/L	Concentration, ug/L		
2,4-Dinitrotoluene	10	<10	<10	
2,6-Dinitrotoluene	10	<10	<10	
Diethylphthalate	10	<10	<10	
4-Chlorophenyl-phenylether	10	<10	<10	
Fluorene	10	<10	<10	
4-Nitroaniline	50	<50	<50	
4,6-Dinitro-2-methylphenol	50	<50	<50	
N-Nitrosodiphenylamine	10	<10	<10	
4-Bromophenyl-phenylether	10	<10	<10	
Hexachlorobenzene	10	<10	<10	
Pentachlorophenol	50	<50	<50	
Phenanthrene	10	<10	<10	
Anthracene	10	<10	<10	
Di-n-butylphthalate	10	<10	<10	
Fluoranthene	10	<10	<10	
Pyrene	10	<10	<10	
Butylbenzylphthalate	10	<10	<10	
3,3'-Dichlorobenzidine	20	<20	<20	
Benzo(a)anthracene	10	<10	<10	
bis(2-Ethylhexyl)phthalate	10	<10	<10	
Chrysene	10	<10	<10	
Di-n-octylphthalate	10	<10	<10	
Benzo(b)fluoranthene	10	<10	<10	
Benzo(k)fluoranthene	10	<10	<10	
Benzidine	20	<20	<20	
Benzo(a)pyrene	10	<10	<10	
Indeno(1,2,3-cd)pyrene	10	<10	<10	
Dibenz(a,h)anthracene	10	<10	<10	
Benzo(g,h,i)perylene	10	<10	<10	
Detection Limit Multiplier		1	1	
d5-Nitrobenzene surr., % rec.		71.5	91.2	
2-Fluorobiphenyl surr., % rec.		53.2	82.1	
d14-Terphenyl surr., % rec.		61.7	76.4	
d5-Phenol surr., % rec.		36.4	71.7	
2-Fluorophenol surr., % rec.		35.6	86.5	
2,4,6-Tribromophenol surr., % rec.		48.6	92.2	

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3510.
 b. Federal Register, Vol. 49, October 26, 1984. Sample extraction by EPA Method 3510.

Client Number: TOU01CHV08
 Facility Number: 9-8341
 Project ID: Chevron 3530 MacArthur
 Oakland
 Work Order Number: C4-05-0349

ANALYTICAL RESULTS

TPH as Diesel in Water

Method: Modified EPA 8015a

GTEL Sample Number		01	GCI 052694		
Client Identification		WO-H ₂ O	METHOD BLANK		
Date Sampled		05/24/94	--		
Date Extracted		05/25/94	05/25/94		
Date Analyzed		05/28/94	05/26/94		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	50	<50	<50		
Detection Limit Multiplier		1	1		
O:TP surrogate, % recovery		76.6	88.8		

- a. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. O, U.S. EPA, November, 1986. Modification for TPH as diesel as per California State Water Resources Board LUFT Manual procedures. O-Terphenyl surrogate recovery acceptability limits are 50-150%.

ANALYTICAL RESULTS

Metals in Water

GTEL Sample Number			01	052494 MET		
Client Identification			WO-H ₂ O	METHOD BLANK		
Date Sampled			05/24/94	--		
Date Prepared (Method 3005 ^a)			05/24/94	05/24/94		
Date Analyzed (Method 6010)			05/26/94	05/26/94		
Date Analyzed (Method 7421)			05/25/94	05/25/94		
Analyte	EPA Method ^a	Detection Limit, ug/L	Concentration, ug/L			
Cadmium	EPA 6010 ^b	5	<5	<5		
Chromium, total	EPA 6010 ^b	10	20	<10		
Lead	EPA 7421 ^c	5	7	<5		
Nickel	EPA 6010 ^b	20	28	<20		
Zinc	EPA 6010 ^b	20	29	<20		
Detection Limit Multiplier			1	1		

- a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986.
 b. Inductively Coupled Argon Plasma(ICP)
 c. Graphite Furnace Atomic Absorption (GFAA)

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS	1500	ug/L	109	106	2.79	63 - 127
EPA 8010/8020:							
Chlorobenzene	C4050290-4	20.0	ug/L	102	101.5	0.5	63.5 - 129
Benzene	C4050290-4	20.0	ug/L	101	99.5	1.5	57.3 - 138
Toluene	C4050290-4	20.0	ug/L	100.5	98.0	2.5	63 - 134
Ethylbenzene	C4050290-4	20.0	ug/L	96.5	92.5	4.2	59.3 - 137
Xylene, total	C4050290-4	60.0	ug/L	99.7	94.0	5.9	59.3 - 144
1,1-Dichloroethene	C4050290-4	20.0	ug/L	101	100	1.0	44.6 - 150
Trichloroethene	C4050290-4	20.0	ug/L	111.0	114.5	3.1	61.5 - 133
EPA 625/8270:							
Phenol	C4050430-2	0.200	ug/mL	*	20.2	NA	12 - 89
2-Chlorophenol	C4050430-2	0.200	ug/mL	33.5	47.0	33.5	27 - 123
4-Chloro-3-methylphenol	C4050430-2	0.200	ug/mL	*	12.1*	NA	23 - 97
4-Nitrophenol	C4050430-2	0.200	ug/mL	84.9	47.1	57.3	10 - 80
Pentachlorophenol	C4050430-2	0.200	ug/mL	60.4	64.7	6.87	19 - 103
1,4-Dichlorobenzene	C4050430-2	0.10	ug/mL	62.3	63.4	1.75	36 - 197
N-Nitroso-di-n-propylamine	C4050430-2	0.10	ug/mL	124*	108	12.1	41 - 116
1,2,4-Trichlorobenzene	C4050430-2	0.10	ug/mL	68.1	69.9	2.60	39 - 98
2,4-Dinitrotoluene	C4050430-2	0.10	ug/mL	89.0	79.3	11.5	24 - 96
Acenaphthene	C4050430-2	0.10	ug/mL	77.2	79.8	3.31	46 - 118
Pyrene	C4050430-2	0.10	ug/mL	63.7	62.4	2.06	26 - 127
Metals:							
Cadmium	C4050295-1	2500.0	ug/L	92.4	90	2.63	80 - 120
Chromium	C4050295-1	5000.0	ug/L	96.8	94.4	2.51	80 - 120
Lead	C4050295-1	50.0	ug/L	91.2	95.4	4.5	75 - 125
Nickel	C4050295-1	5000.0	ug/L	95.2	94	1.27	80 - 120
Zinc	C4050295-1	5000.0	ug/L	97.4	95.6	1.87	80 - 120

* Recovery out of QC limits due to matrix interference.

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 4-834
Facility Address 3530 MacArthur, Oakland
Consultant Project Number _____
Consultant Name _____
Address _____
Project Contact (Name) Jeff Monroe
(Phone) 707 538 8818 (Fax Number) 538-8812

Chevron Contact (Name) _____
(Phone) _____
Laboratory Name GTCL
Laboratory Release Number 106521
Samples Collected by (Name) Robert Lauritzen
Collection Date 5/24/94
Signature Robert Lauritzen

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composites D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed										Remarks				
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Greases (8020)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)							
<u>W0-H2O</u>	<u>(348) (349)</u>	<u>10</u>	<u>W</u>		<u>0815</u>	<u>HCL-VBA semi-none</u>	<u>Yes</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>TPH-gas/BTEX + TOC on 24hr</u>	
<u>ST-4A</u>	<u>(348) 02</u>	<u>1</u>			<u>0730</u>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>5 Day all other analyses</u>
<u>ST-4B</u>	<u>Comp As ONE</u>	<u>1</u>			<u>↓</u>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>ST-4C</u>		<u>1</u>			<u>↓</u>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>ST-4D</u>		<u>1</u>				<u>↓</u>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CA050349 - 5 DAY
CA050348 - 24 HR

Relinquished By (Signature) <u>Robert Lauritzen</u>	Organization <u>Towhe Stone</u>	Date/Time <u>0938 5/24/94</u>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice) <u>24 Hrs.</u> <u>48 Hrs.</u> <u>5 Days</u> <u>10 Days</u> As Contracted
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <u>Ronald P. ...</u>		Date/Time <u>5/24/94 09:30</u>	

COC-3.DWG/03 91/HCH