



January 12, 1993

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

Attention: Mark Miller

Reference: Former Gulf #0006
460 Grand Avenue
Oakland, California

Gentlemen:

INTRODUCTION

This report summarizes the field sampling activities performed by Touchstone Developments on December 4, 1992 at the above referenced site (figure 1). Touchstone Developments collected soil samples from stockpiled soil generated from a previous Underground Storage Tank (UGST) removal and water samples from both the waste oil tank and fuel tank excavations. These activities were performed at Chevron U.S.A.'s request.

SAMPLING

Soil samples were collected in clean six-inch-long brass tubes (2 inches in diameter), covered at both ends with aluminum foil and sealed with plastic end caps. The water samples were collected in clean glass 40 ml volatile organic analysis vials (VOAs) and one liter amber glass bottles. The samples were labeled, recorded on a Chain-of-Custody form, put in a cooler on ice and transported to Superior Precision Analytical, Inc., (Superior) a State-certified analytical laboratory located in Martinez, California.

Stockpile Sampling

Soil stockpiles generated from the UGSTs and line removal were sampled on December 4, 1992. The samples designated S-1 through S-8 represent the stockpile generated from the gasoline tanks and product line removal, and represent approximately 200 cubic yards of soil. The soil sample designated W-1 was collected from the soil generated from the waste oil tank removal and represents approximately 20 cubic yards of soil (figure 2). Soil samples were collected by removing the top 8 to 14 inches of soil, pushing a clean 6 inch brass tube into the soil stockpile, then removing, sealing and handling the sample tube as described above.

Excavation Water Samples

Water samples were collected from both UGST excavations. Three 40 ml VOAs were collected from the fuel UGST excavation by removing the teflon caps approximately 6 inches under the water surface and allowing the bottles to fill completely without headspace. These samples were designated FT-1. Three 40 ml VOAs and three one liter amber glass bottles were used to collect water samples from the waste oil tank excavation in the same manner. The water samples collected from the waste oil tank excavation were designated WT-1 (figure 2).

ANALYTICAL RESULTS

Copies of the Certified Laboratory Reports (CARs) and Chain-of-Custody forms are attached in Appendix A and a summary of analytical results are attached as Table A. The samples collected from the fuel UGST excavation and associated 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. In addition, water sample FT-1 was analyzed for Total Lead according to EPA Method 6010. Water and soil samples collected from the waste oil tank excavation and associated stockpile were analyzed for TPH-gas, (BTEX), TPH-Diesel according to EPA Method 8015 modified, Total Oil and Grease (TOG) according to EPA Method 5520E & F, Volatile Organics according to EPA Method 8010, and ICAP Metals according to EPA Method 6010.

Do not hesitate to call if you have questions.

Touchstone Developments by,

Jeff L. Monroe
Project Manager

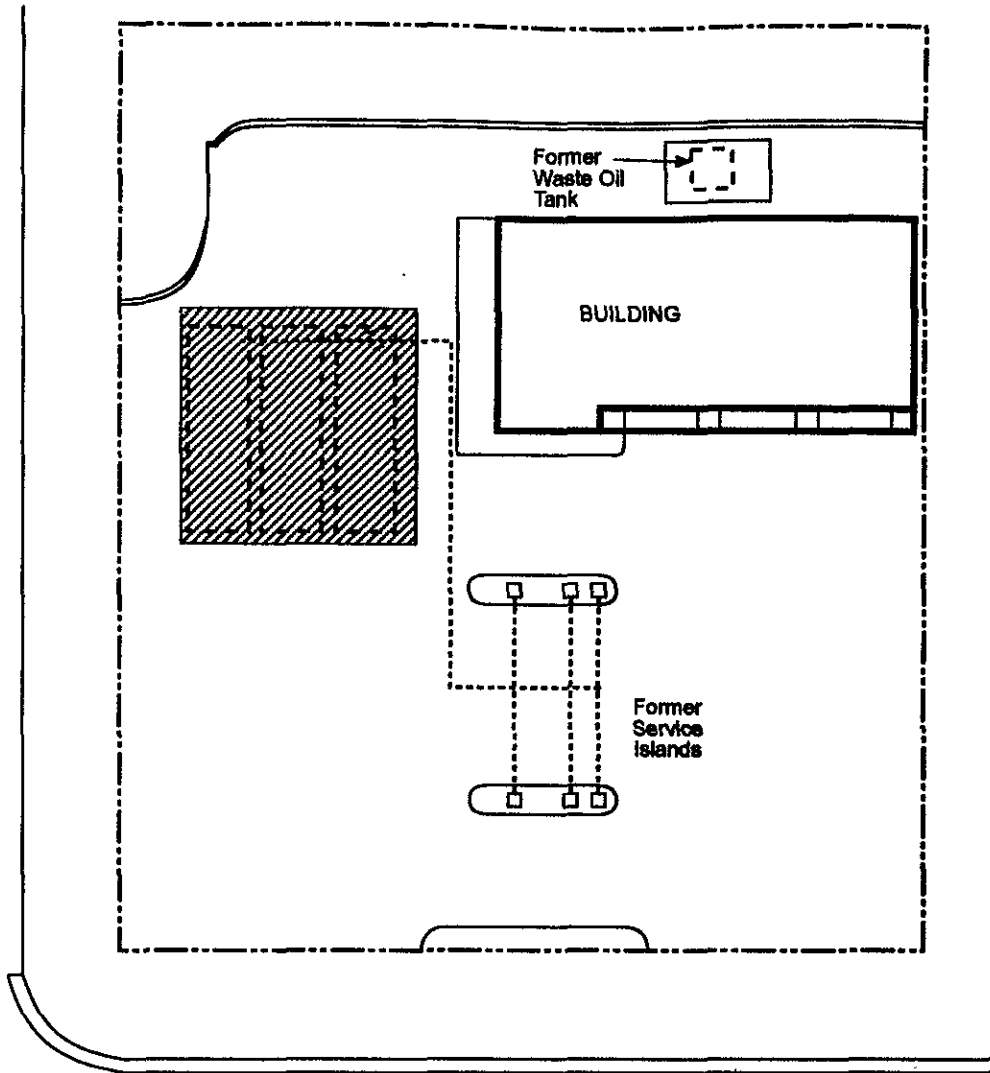
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Figure 1: Site Plan with Sample Locations

Table A: Analytical Summary

Appendix A: Certified Analytical Reports with Chain-of-Custody Forms

Bellevue Avenue



Grand Avenue

LEGEND



Product Line

Former Underground Storage Tanks

Limit of Excavation



FIGURE



**Touchstone
Developments**
Environmental Management

Site Plan
Former Chevron Station 9-0008
460 Grand Avenue at Bellevue
Oakland, California

1

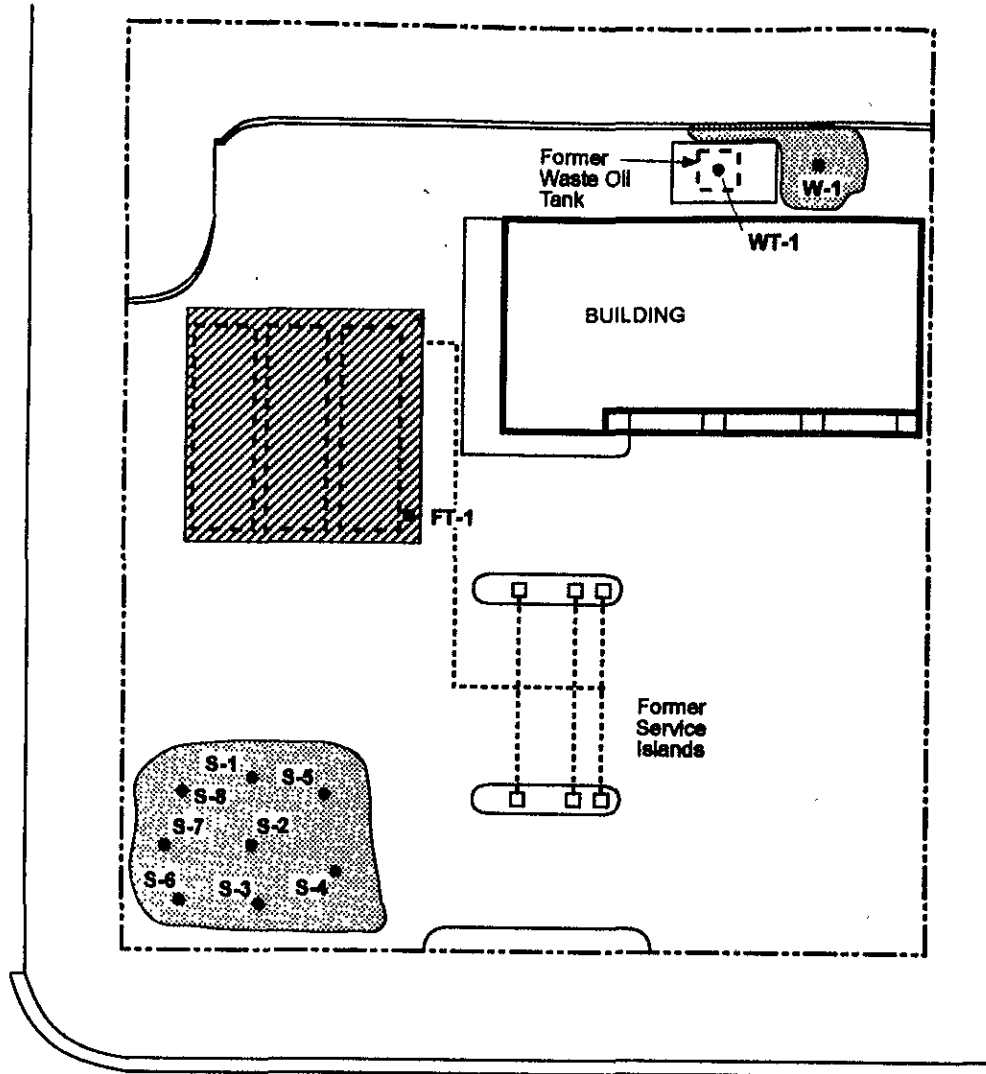
PROJECT NUMBER
0006-1

DRAWN
PM

APPROVED

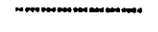
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Bellevue Avenue

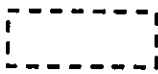


Grand Avenue

LEGEND



Product Line



Former Underground Storage Tanks



Stockpile

A-2 •

Sample Location



Limit of Excavation



map



**Touchstone
Developments**
Environmental Management

Sample Locations
Former Chevron Station 9-0008
460 Grand Avenue at Bellevue
Oakland, California

FIGURE

2

PROJECT NUMBER
0006-1

DRAWN
PM

APPROVED

DATE
1/93

TABLE A: Analytical Summary

Fuel Tank Stockpile Samples (Soil)

Sample ID # S-1 S-2 S-3 S-4 S-5 S-6 S-7 S-8

Sample Date 12/4/92 ✓
 Laboratory Superior ✓
 TPH-Gas Not detected at or above the detection limit (ND) ✓
 Benzene ND ✓
 Toluene ND ✓
 Ethylbenzene ND ✓
 Xylene(ppm) ND ✓

Fuel Tank Excavation Water Sample

Sample ID # FT-1

Sample Date 12/4/92 ✓
 Laboratory Superior ✓
 TPH-Gas ND ✓
 Benzene ND ✓
 Toluene ND ✓
 Ethylbenzene ND ✓
 Xylenes ND ✓
 Total Lead ND ✓

Results

Waste Oil Tank Excavation and Stockpile Samples

Sample ID # W-1(Soil) WT-1(Water)

SP

Sample Date	12/4/92;	12/4/92
Laboratory	Superior	Superior
TPH-Gas	ND ✓	ND ✓
Benzene	ND ✓	ND ✓
Toluene	ND ✓	ND ✓
Ethylbenzene	ND ✓	ND ✓
Xylenes	ND ✓	ND ✓
TPH-Diesel	190 ✓	0.170 ppm = 170 ppb ✓
Oil&Grease	8400 ✓	ND ✓
Nickel	30 ✓	17 ND ✓
Cadmium	ND ✓	ND ✓
Chromium	23 ✓	ND ✓
Lead	88 ✓	ND ✓
Zinc	340 ✓	0.07 ✓
8010	ND ✓	ND ✓

APPENDIX A:

Analytical Laboratory Report and Chain-of- Custody Forms



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

TOUCHSTONE DEVELOPMENTS
Attn: JEFF MONROE

Project 100-6
Reported 12/14/92

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
87316- 1	S-1	12/04/92	12/11/92 Soil
87316- 2	S-2	12/04/92	12/11/92 Soil
87316- 3	S-3	12/04/92	12/11/92 Soil
87316- 4	S-4	12/04/92	12/11/92 Soil
87316- 5	S-5	12/04/92	12/11/92 Soil
87316- 6	S-6	12/04/92	12/11/92 Soil
87316- 7	S-7	12/04/92	12/11/92 Soil
87316- 8	S-8	12/04/92	12/11/92 Soil
87316- 9	W-1	12/04/92	12/11/92 Soil
87316-10	FT-1 a-d	12/04/92	12/07/92 Water

RESULTS OF ANALYSIS

Laboratory Number: 87316- 1 87316- 2 87316- 3 87316- 4 87316- 5

Gasoline:	ND<1	ND<1	ND<1	ND<1	ND<1
Benzene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Toluene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Ethyl Benzene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Oil and Grease:	NA	NA	NA	NA	NA
Diesel:	NA	NA	NA	NA	NA

Concentration: mg/kg mg/kg mg/kg mg/kg mg/kg

Laboratory Number: 87316- 6 87316- 7 87316- 8 87316- 9 87316-10

Gasoline:	ND<1	ND<1	ND<1	ND<1	ND<50
Benzene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<0.5
Toluene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<0.5
Ethyl Benzene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<0.5
Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<0.5
Oil and Grease:	NA	NA	NA	8400	NA
Diesel:	NA	NA	NA	190 *	NA

Concentration: mg/kg mg/kg mg/kg mg/kg ug/L



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TOUCHSTONE DEVELOPMENTS
Attn: JEFF MONROE

Project 100-6
Reported 12/14/92

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
87316-11	WT-1 a-f	12/04/92	12/07/92 Water

RESULTS OF ANALYSIS

Laboratory Number: 87316-11

Gasoline: ND<50
Benzene: ND<0.5
Toluene: ND<0.5
Ethyl Benzene: ND<0.5
Xylenes: ND<0.5
Oil and Grease: ND<5000
Diesel: 170 *

Concentration: ug/L

* Diesel concentration range reported. The pattern observed in the chromatogram was more typical of hydrocarbons that are heavier than diesel.



C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 3 of 3

QA/QC INFORMATION

SET: 87316

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:

Minimum Detection Limit in Soil: 50mg/kg

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:

Minimum Quantitation Limit for Diesel in Soil: 1mg/kg

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:

Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

EPA SW-846 Method 8020/BTXE

Minimum Quantitation Limit in Soil: 0.005mg/kg

ANALYTE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
-----	-----	-----	---	-----
Gasoline:	200 ng	97/90	7%	70-130
Benzene:	200 ng	87/85	2%	70-130
Toluene:	200 ng	90/89	1%	70-130
Ethyl Benzene:	200 ng	94/92	2%	70-130
Xylenes:	200 ng	95/92	3%	70-130
Oil and Grease:	30 ppm	85/89	5%	70-130
Diesel:	200 ppm	131/132	1%	67-139



C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 4 of 3
QA/QC INFORMATION
SET: 87316

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	SPIKE LEVEL	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	200 ng	81/91	11	75-125
Benzene:	200 ng	93/99	6	70-130
Toluene:	200 ng	95/100	5	70-130
Ethyl Benzene:	200 ng	98/104	6	70-130
Xylenes:	200 ng	99/106	7	70-130
Oil and Grease:	200 ng	120/121	1	70-130
Diesel:	200 ng	108/108	0	70-130

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Director



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87316

CLIENT: TOUCHSTONE DEVELOPMENTS

CLIENT JOB NO.: 100-6

DATE RECEIVED: 12/04/92

DATE REPORTED: 12/14/92

DATE SAMPLED: 12/04/92

ANALYSIS FOR TOTAL LEAD by SW-846 Method 6010

LAB # -----	Sample Identification -----	Concentration (mg/L) Total Lead -----
10	FT-1 a-d	ND<0.1

mg/L - parts per million (ppm)

Method Detection Limit for Lead in Water: 0.1 mg/L

QA/QC Summary: MS/MSD Average Recovery : 92%
Duplicate RPD : 2%

Richard Srna, Ph.D.

Nancy A. Nelson for
Laboratory Manager



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 ▪ Martinez, California 94553 ▪ (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87316
CLIENT: TOUCHSTONE DEVELOPMENTS
CLIENT JOB NO.: 100-6

DATE RECEIVED: 12/04/92
DATE REPORTED: 12/14/92
DATE SAMPLED: 12/04/92

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD & ZINC by EPA SW-846 Method 6010

LAB #	Sample Identification		Concentration (mg/L) (mg/kg)				
			Cadmium	Chromium	Lead	Zinc	Nickel
9	W-1	(mg/kg)	ND<1	23	88	340	30
11	WT-1 a-f	(mg/L)	ND<0.05	ND<0.05	ND<0.1	0.07	ND<0.5

mg/L - parts per million (ppm)

- Method Detection Limit for Cadmium in Soil: 1 mg/kg
- Method Detection Limit for Chromium in Soil: 5 mg/kg
- Method Detection Limit for Lead in Soil: 5 mg/kg
- Method Detection Limit for Zinc in Soil: 20 mg/kg
- Method Detection Limit for Cadmium in Water: 0.05 mg/L
- Method Detection Limit for Chromium in Water: 0.05 mg/L
- Method Detection Limit for Lead in Water: 0.1 mg/L
- Method Detection Limit for Zinc in Water: 0.05 mg/L

QAQC Summary: MS/MSD Average Recovery : 92%
Duplicate RPD : 2%

Richard Srna, Ph.D.

Nancy A. Nelson for
Laboratory Manager



Superior Precision Analytical, Inc.

PO. Box 1545 • Martinez, California 94553 • (510) 229-1590 / fax (510) 229-0916

TOUCHSTONE DEVELOPMENTS
Attn: JEFF MONROE

Project 100-6
Reported 10-December-1992

EPA METHOD 8010

Sample preparation by Purge and Trap (EPA SW-846 Method 5030) and Chromatographic analysis using an electrolytic conductivity detector (EPA SW-846 Method 8010).

Chronology

Laboratory Number 87316

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
W-1	12/04/92	12/04/92	/ /	12/07/92		9
WT-1 a-f	12/04/92	12/04/92	/ /	12/08/92		11



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TOUCHSTONE DEVELOPMENTS
Attn: JEFF MONROE

Project 100-6
Reported 10-December-1992

EPA METHOD 8010

Laboratory Number	Sample Identification	Matrix
87316- 9	W-1	Soil
87316-11	WT-1 a-f	Water

RESULTS OF ANALYSIS

Laboratory Number: 87316- 9 87316-11

Chloromethane:	ND<5	ND<0.5
Vinyl Chloride:	ND<5	ND<0.5
Bromomethane:	ND<5	ND<0.5
Chloroethane:	ND<5	ND<0.5
Trichlorofluoromethane:	ND<5	ND<0.5
1,1-Dichloroethene:	ND<5	ND<0.5
Dichloromethane:	ND<5	ND<0.5
c-1,2-Dichloroethene:	ND<5	ND<0.5
1,1-Dichloroethane:	ND<5	ND<0.5
t-1,2-Dichloroethene:	ND<5	ND<0.5
Chloroform:	ND<5	ND<0.5
1,1,1-Trichloroethane:	ND<5	ND<0.5
Carbon tetrachloride:	ND<5	ND<0.5
1,2-Dichloroethane:	ND<5	ND<0.5
Trichloroethene:	ND<5	ND<0.5
1,2-Dichloropropane:	ND<5	ND<0.5
Bromodichloromethane:	ND<5	ND<0.5
c-1,3-Dichloropropene:	ND<5	ND<0.5
t-1,3-Dichloropropene:	ND<5	ND<0.5
1,1,2-Trichloroethane:	ND<5	ND<0.5
Tetrachloroethene:	ND<5	ND<0.5
Dibromochloromethane:	ND<5	ND<0.5
Chlorobenzene:	ND<5	ND<0.5
Bromoform:	ND<5	ND<0.5
1,1,2,2-Tetracl-ethane:	ND<5	ND<0.5
1,3-Dichlorobenzene:	ND<5	ND<0.5
1,4-Dichlorobenzene:	ND<5	ND<0.5
1,2-Dichlorobenzene:	ND<5	ND<0.5
Concentration:	ug/kg	ug/L
Surrogate Recovery:	57%	89%



Superior Precision Analytical, Inc.

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EPA METHOD 8010 Quality Assurance and Control Data - Soil Laboratory Number 87316

Compound	Method Blank (ug/kg)	PQL (ug/kg)	Average Spike Recovery (%)	Limits (%)	RPD (%)	Spike Level (ug/kg)
Chloromethane:	ND<5	5				
Vinyl Chloride:	ND<5	5				
Bromomethane:	ND<5	5				
Chloroethane:	ND<5	5				
Trichlorofluoromethane:	ND<5	5				
1,1-Dichloroethene:	ND<5	5	124%	60-140	<1%	100
Dichloromethane:	ND<5	5				
c-1,2-Dichloroethene:	ND<5	5				
1,1-Dichloroethane:	ND<5	5				
t-1,2-Dichloroethene:	ND<5	5				
Chloroform:	ND<5	5				
1,1,1-Trichloroethane:	ND<5	5				
Carbon tetrachloride:	ND<5	5				
1,2-Dichloroethane:	ND<5	5				
Trichloroethene:	ND<5	5	100%	60-140	3%	100
1,2-Dichloropropane:	ND<5	5				
Bromodichloromethane:	ND<5	5				
c-1,3-Dichloropropene:	ND<5	5				
t-1,3-Dichloropropene:	ND<5	5				
1,1,2-Trichloroethane:	ND<5	5				
Tetrachloroethene:	ND<5	5				
Dibromochloromethane:	ND<5	5				
Chlorobenzene:	ND<5	5	103%	60-140	0%	100
Bromoform:	ND<5	5				
1,1,2,2-Tetracl-ethane:	ND<5	5				
1,3-Dichlorobenzene:	ND<5	5				
1,4-Dichlorobenzene:	ND<5	5				
1,2-Dichlorobenzene:	ND<5	5				
4-Chlorotoluene:	93%					
Average Recovery:			109%		2%	



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

EPA METHOD 8010 Quality Assurance and Control Data - Water Laboratory Number 87316

Compound	Method Blank (ug/L)	~ PQL (ug/L)	Average Spike Recovery (%)	Limits (%)	RPD (%)	Spike Level (ug/L)
Chloromethane:	ND<0.5	0.5				
Vinyl Chloride:	ND<0.5	0.5				
Bromomethane:	ND<0.5	0.5				
Chloroethane:	ND<0.5	0.5				
Trichloroflouromethane:	ND<0.5	0.5				
1,1,-Dichloroethene:	ND<0.5	0.5	118%	80-120	10%	100
Dichloromethane:	ND<0.5	0.5				
C-1,2,-Dichloroethene:	ND<0.5	0.5				
1,1-Dichloroethane:	ND<0.5	0.5				
T-1,2,-Dichloroethene:	ND<0.5	0.5				
Chloroform:	ND<0.5	0.5				
1,1,1-Trichloroethane:	ND<0.5	0.5				
Carbon Tetrachloride:	ND<0.5	0.5				
1,2,-Dichloroethane:	ND<0.5	0.5				
Trichloroethene:	ND<0.5	0.5	99%	80-120	8%	100
1,2-Dichloropropane:	ND<0.5	0.5				
Bromodichloromethane:	ND<0.5	0.5				
C-1,3-Dichloropropene:	ND<0.5	0.5				
T-1,3-Dichloropropene:	ND<0.5	0.5				
1,1,2-Trichloroethane:	ND<0.5	0.5				
Tetrachloroethene:	ND<0.5	0.5				
Dibromochloromethane:	ND<0.5	0.5				
Chlorobenzene:	ND<0.5	0.5	102%	80-120	<1%	100
Bromoform:	ND<0.5	0.5				
1,1,2,2-Tetracl-ethane:	ND<0.5	0.5				
1,3-Dichlorobenzene:	ND<0.5	0.5				
1,4-Dichlorobenzene:	ND<0.5	0.5				
1,2-Dichlorobenzene:	ND<0.5	0.5				
4-Chlorotoluene:	68%					
Average Spike Recovery:			106%		1%	

Definitions:

ND = Not Detected
PQL = Practical Quantitation Limit

QC File No. 87316

RPD = Relative Percent Difference

Nancy A. Nelson for
Senior Analyst

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

87316 Chain-of-Custody-Record

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

Chevron Facility Number _____
Facility Address 460 Grand Ave. Oakland
Consultant Project Number 100-6
Consultant Name Touchstone Developments
Address 10 Box 2554 Santa Rosa CA
Project Contact (Name) Jeff Monroe
(Phone) 707 538 8812 (Fax Number) 538 8812

Chevron Contact (Name) Mark Miller
(Phone) 510 842 8134
Laboratory Name Superior
Laboratory Release Number 2499660 (per Jeff Monroe)
Samples Collected by (Name) Jeff Monroe 12/7/92
Collection Date 12-4-92
Signature Jeff Monroe

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 (ICAP or AA)	Total PB							
S-1	1	1	S	D	12:10		Yes	✓															
S-2	2				12:12																		
S-3	3				12:13																		
S-4	4				12:14																		
S-5	5				12:16																		
S-6	6				12:19																		
S-7	7				12:20																		
S-8	8				12:21																		
W-1	9				12:25						✓	✓	✓										
PT-1a-d	10	4	W	G	12:35																		
WT-1a-f	11	6	W	G	12:45																		

Purgeable Organics
 Samples Stored in ice.
 Appropriate containers
 Samples preserved
 VOA's without headspace
 Comments: _____

5 day TAT

48 hr TAT

COC-3.DWG/03.91/HCH

Relinquished By (Signature) <u>Jeff Monroe</u>	Organization <u>TD</u>	Date/Time <u>12-4-92</u>	Received By (Signature) _____	Organization _____	Date/Time _____	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days 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>Robert Walker</u>	Organization <u>Superior</u>	Date/Time <u>12/4/92 2:15 PM</u>	