



S. SEP 21 1994

September 19, 1994

Ms. Juliet Shin
Alameda County Health Care Services
Department of Environmental Health
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Alameda, CA 94502-6577

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Marketing – Northwest Region
Phone 510 842 9500

**Re: Former Chevron Service Station #9-0191
900 Otis Drive, Alameda, CA**

Dear Ms. Shin:

Enclosed is the Tank Removal and Excavation Report dated June 30, 1994, prepared by our consultant Touchstone Developments for the above referenced site. As indicated in the report, three single wall steel fuel tanks (7500, 7000, and 3500 gallon), one 550 gallon single wall steel waste oil tank, all associated piping, two hydraulic hoists, and an oil-water separator sump were removed on May 18, 1993.

Soil samples collected beneath the former fuel tanks and product piping were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and BTEX. A ground water sample was collected from the open tank pit and analyzed for TPH-G and BTEX. Soil samples collected beneath the former waste oil tank and sump were analyzed for TPH-G, BTEX, TPH-D, total oil and grease (TOG), metals, and EPA Methods 8010 and 8270 compounds. All analytical data is summarized in Tables A through D of the report.

Source removal was performed by excavating the impacted soils in the area of the former fuel storage tanks and pump islands to remove the elevated hydrocarbon concentrations and assess the magnitude and extent of the subsurface impact. Excavation continued vertically to ground water and laterally to the extent practical to remove hydrocarbon impacted soils. Laboratory analytical results of confirmatory soil samples collected from the sidewalls of the excavation contained concentrations of hydrocarbons which were negligible or below method detection limits.

Approximately 1,100 cubic yards of soil was excavated from the former product tank and pump island areas and aerated on-site. Upon approval from Alameda County Health Care Services, the remediated soil was used then used as backfill material. Approximately 40 cubic yards of soil were removed from the vicinity of the waste oil tank, sump, and hoists. This material was disposed of at Redwood Landfill in Novato, CA.

Based on the data collected to date, it appears that hydrocarbon bearing soils have been removed from the site to the extent feasible and no further soils work is warranted.

We will instruct our consultant to prepare a work plan for the installation of monitor wells to assess the extent of hydrocarbon impact to ground water beneath the site. We currently anticipate submitting a work plan to your office during the month of November, 1994.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Page 2
September 19, 1994
Former SS#9-0191

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY



Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Kevin Graves, RWQCB - Bay Area
Mr. S.A. Willer

File: 9-0191 TD TR1



**Touchstone
Developments**
Environmental Management

ALDO
HAZMAT

SI SEP 21 PM 4:53

UST Removal and Overexcavation Report

Former Chevron Service Station No. 9-0191

**900 Otis Drive
Alameda, California**

prepared for

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

prepared by

Touchstone Developments



Michael J. Tambroni
Project Manager



Marc Seeley CEG #1014
Technical Review

August 31, 1994

INTRODUCTION

This report prepared by Touchstone Developments (Touchstone) documents the underground storage tank (UST) and product line removal, soil excavation and disposal activities at Chevron Service Station Number 9-0191 located at 900 Otis Drive in Alameda, California (Figure 1). UST removal was performed on May 18, 1993.

SITE CONDITIONS

The site is bordered by Otis Drive to the north, residential/commercial property to the west and south, and Westline Drive to the east. Soil types encountered at the site generally consist of well sorted sand. Groundwater was observed during tank removal and excavation at approximately 5 feet below ground surface (bgs).

UST REMOVAL ACTIVITIES

One 7,000 gallon single walled steel tank formerly containing supreme unleaded gasoline, one 7,500 gallon single walled steel tank formerly containing regular unleaded gasoline, one 3,000 gallon single walled steel tank formerly containing unleaded plus gasoline, one 550 gallon single walled steel tank formerly containing waste oil, associated piping, pump islands, dispensers, two hydraulic hoists and one sump were removed on May 18, 1993 (Figure 1). The tanks were observed to be in good condition with no holes. The waste oil tank was observed to contain one hole, approximately 1/2 inch in diameter, on the east end of the tank bottom.

The UST removal was performed by Gettler-Ryan Inc. of Hayward, California. A Touchstone representative was on site to observe the removal activities and to collect soil/water samples from the excavation and stockpiled material. Also present during UST removal were: Eva Chu from Alameda County Department of Environmental Health, Steve McKinley of the City of Alameda Fire Department, Mark Miller and Gordon Johnson from Chevron U.S.A. Transportation and disposal of the USTs and associated piping was accomplished by Erickson Inc. of Richmond, California.

UST Sampling

Soil samples TX-1-5', TX-2-5', TX-3-5', TX-4-5', TX-5-5', TX-6-5' were collected following UST removal from the excavation sidewalls at approximately 5 feet bgs. Groundwater was observed in the excavation at approximately 5 feet bgs. A

water sample, MW-H₂O, was collected from a monitoring well located within the tank excavation. An additional soil sample, SW-1-3', was collected to the east of the former UST excavation at approximately 3 feet bgs. Sample locations are illustrated in Figure 2 and analytical results are presented in Table A.

Product Piping and Pump Island Sampling

Soil samples P-1-2' and P-2-3' were collected from beneath the former product piping at approximately 2 and 3 feet bgs respectively. Soil samples P-3-3' and P-4-3' were collected from beneath the former pump islands at approximately 3 feet bgs. Sample locations are illustrated in Figure 2 and analytical results are presented in Table A.

Waste Oil Tank Sampling

One soil sample, WO-5', was collected from the east sidewall of the excavation at approximately 5 feet bgs. Sample locations are illustrated in Figure 2 and analytical results are presented in Table A.

Sump and Hoist Sampling

One soil sample, S-1-5', was collected from the bottom of the excavation following the removal of the sump and hoists at approximately 5 feet bgs. At the time of sampling, no water was observed in the excavation. Sample locations are illustrated in Figure 2 and analytical results are presented in Table A.

OVEREXCAVATION ACTIVITIES

Overexcavation was performed in the areas of the formerly removed USTs and pump islands. Following excavation, soil samples were collected from the excavation sidewalls under the direction of Eva Chu and Juliet Shin from the Alameda County Department of Environmental Health. Excavation activities in the area of the former USTs was performed by Gettler-Ryan Inc. of Hayward, California. Excavation in the area of the former pump islands was performed by Golden West Builders of Livermore, California. A Touchstone representative was on site to direct the excavation and to collect soil samples. Excavation limits are illustrated in Figure 3.

UST Overexcavation Sampling

Soil samples OX-1-6' through OX-11-5' were collected from the excavation sidewalls and bottom in the area of the formerly removed USTs. Samples were collected at various depths ranging from 3 to 6 feet bgs. Groundwater was observed in the excavation at approximately 5 feet bgs. Sample locations are illustrated in Figure 3 and analytical results are presented in Table B.

Pump Island Overexcavation Sampling

Soil samples PX-1-5' through PX-8-5' were collected from the excavation sidewalls in the area of the formerly removed pump islands. Samples were collected at depths of 5 feet bgs. Groundwater was observed in the excavation at approximately 5 feet bgs. Sample locations are illustrated in Figure 3 and analytical results are presented in Table B.

STOCKPILED SOIL

UST Removal and Overexcavation

Soil generated during UST and product piping removal and UST overexcavation activities was stockpiled on site. A total of approximately 800 cubic yards of soil was stockpiled. Soil samples, SP-1A-D through SP-8A-D, were collected at a frequency of one (four point) composite sample for approximately each 100 cubic yards of soil. Following the receipt of the analytical results and proper notification to the Bay Area Air Quality Management District (BAAQMD), the soil was aerated on site. Soil samples, A-1 through A-39 (a sample designated A-24 was not collected), were then collected from the aerated soil at a frequency of approximately one discrete sample for every 20 cubic yards of soil. Upon approval from Alameda County Environmental Health the soil was used as backfill material on site. Sample locations are illustrated in Figure 4 and analytical results are presented in Table C.

Pump Island Overexcavation

Soil generated during pump island overexcavation activities was stockpiled on site, a total of approximately 300 cubic yards of soil. Soil samples, PSP-1A-D through PSP-3A-D, were collected at a frequency of one (four point) composite sample for approximately each 100 cubic yards of soil. Soil sampling protocol is described further in this report. Following the receipt of the analytical results and proper notification to the Bay Area Air Quality Management District (BAAQMD), the soil was aerated on site. Soil samples, 2A-1 through 2A-15, were then collected from the aerated soil at a frequency of approximately one discrete sample for every 20 cubic yards of soil. Upon approval from Alameda County Environmental Health the soil was used as backfill material on site. Sample locations are illustrated in Figure 5 and analytical results are presented in Table C.

Waste Oil Tank, Sump and Hoist Removal

Soil generated during the removal of the waste oil tank, sump and hoists was stockpiled together, a total of approximately 40 cubic yards. One four point composite soil sample, WOSP-1A-D (later re-sampled as WOSP-2A-D), was collected from the stockpile. The soil was transported by Stamco/Allwaste of San Martin, California to Redwood Landfill in Novato, California for disposal. Sample

locations are illustrated in Figure 4 and analytical results are presented in Table D.

SAMPLING PROTOCOL

Water Samples

A single groundwater sample was collected using a 1 liter PVC bailer directly from a monitoring well located in the UST excavation. The sample was decanted from the bailer via a bottom emptying device (to minimize the loss of volatile compounds) into three laboratory supplied 40ml glass VOAs, preserved with hydrochloric acid (HCL). After care was taken to ensure each VOA was free of headspace they were then sealed with a teflon lined plastic caps. The samples were then labeled, placed in a cooler with blue ice, entered on a Chain-of Custody form, and transported to Superior Precision Analytical Inc., San Francisco, a state certified laboratory.

Soil Samples

Soil samples were collected from the excavator bucket by removing the top few inches of soil and pushing a clean, six-inch-long (two inches in diameter) brass sample tube into the soil until completely full. The ends of the tubes were covered with aluminum foil and sealed with plastic end caps. The samples were then labeled, placed in a cooler with blue ice, entered on a Chain-of Custody form, and transported to Superior Precision Analytical Inc., San Francisco, a state certified laboratory.

Stockpile Samples

Four stockpile samples were collected for approximately every 100 cubic yards of soil (4 samples per 40 cubic yards of soil generated during waste oil tank, sump and hoist removal). Four discrete soil samples were composited into one at the laboratory for a representative analysis of approximately every 100 cubic yards. The samples were collected by removing the top 6 to 12 inches of soil and pushing a clean, six-inch-long (two inches in diameter) brass sample tube into the soil until completely full. The ends of the tubes were covered with aluminum foil and sealed with plastic end caps. The samples were then labeled, placed in a cooler with blue ice, entered on a Chain-of Custody form, and transported to Superior Precision Analytical Inc., San Francisco, a state certified laboratory.

Aerated Soil Sampling

Discrete soil samples were collected by removing the top 6 to 12 inches of soil and pushing a clean, six-inch-long (two inches in diameter) brass sample tube into the soil until completely full. The ends of the tubes were covered with aluminum foil and sealed with plastic end caps. The samples were then labeled, placed in a cooler with blue ice, entered on a Chain-of Custody form, and transported to

Superior Precision Analytical Inc., San Francisco, a state certified laboratory.

SAMPLE ANALYSIS

Samples collected were analyzed for Total Petroleum Hydrocarbons calculated as gasoline (TPH-Gasoline) according to EPA Method 8015 Modified, Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) according to EPA Method 8020. Additional analysis for specific samples included Total Petroleum Hydrocarbons calculated as diesel (TPH-Diesel) according to EPA Method 8015 Modified, Total Oil & grease according to EPA Method 5520F, analysis for base/neutral and acid extractables according to EPA SW-846 Method 8270, Halogenated Volatile Organics according to EPA SW-846 Method 8010, Total Lead by SW-846 Method 6000 Series, Cadmium, Chromium, Lead, Zinc & Nickel by EPA SW-846 Method 6010, Soluble CAM 17 Metals by California Administration Code Title 22, Paragraph 66700 & EPA Methods SW-846 6010 & 7000 Series and Volatile Organics by EPA SW-846 Method 8240. For specific soil analysis results, please refer to Tables A, B, C, and D. Copies of the analytical laboratory reports and Chain-of-Custody forms are presented in Appendix A.

LIST OF TABLES, FIGURES & APPENDICES

Table A
UST, Piping, Sump & Hoist Removal Analytical Summary

Table B
UST & Pump Island Overexcavation Analytical Summary

Table C
Stockpile & Aerated Soil Analytical Summary

Table D
Waste Oil Tank, Sump & Hoist Stockpiled Soil Analytical Summary

Figure 1
Site Plan

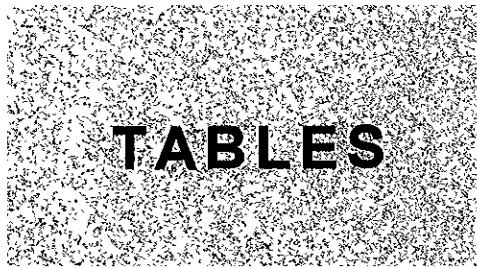
Figure 2
UST, Piping, Sump & Hoist Removal Sample Locations

Figure 3
Overexcavation Limits & Sample Locations

Figure 4
Aerated Soil Sample Locations (UST Excavation)

Figure 5
Aerated Soil Sample Locations (Pump Island Excavation)

Appendix A
Analytical Laboratory Reports and Chain-of-Custody



TABLES

TABLE A
UST, PIPING, SUMP & HOIST REMOVAL ANALYTICAL SUMMARY
 Results in mg/Kg - parts per million (ppm)

UST REMOVAL SAMPLING RESULTS

SAMPLE ID	DEPTH (feet)	DATE	LAB	TPH-Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	TPH-Diesel	TOG	LEAD
TX-1-5'	5	18-May-93	Superior	130	ND	0.47	0.6	4.9	NA	NA	6
TX-2-5'	5	18-May-93	Superior	120	0.085	0.5	0.58	4.5	NA	NA	NA
TX-3-5'	5	18-May-93	Superior	140	ND	0.78	1.1	9.9	NA	NA	NA
TX-4-5'	5	18-May-93	Superior	1	0.053	0.056	0.054	0.12	NA	NA	NA
TX-5-5'	5	18-May-93	Superior	7400	3.1	160	68	940	NA	NA	NA
TX-6-5'	5	18-May-93	Superior	ND	0.031	0.01	0.021	0.031	NA	NA	NA
SW-1-3'	3	18-May-93	Superior	14	0.067	0.51	0.2	2.1	NA	NA	NA
MW-H2O *	na	18-May-93	Superior	10000	560	230	720	1000	NA	NA	NA

SUMP & HOIST REMOVAL RESULTS

SAMPLE ID	DEPTH (feet)	DATE	LAB	TPH-Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes
S-1-5'	5	21-May-93	Superior	1400	ND	0.3	1.3	30

SUMP & HOIST REMOVAL RESULTS

SAMPLE ID	DEPTH (feet)	DATE	LAB	TPH-Diesel	TOG	8270	8010
S-1-5'	5	21-May-93	Superior	25	ND	ND	ND

TABLE A
UST, PIPING, SUMP & HOIST REMOVAL ANALYTICAL SUMMARY
 Results in mg/Kg - parts per million (ppm)

PRODUCT PIPING REMOVAL SAMPLING RESULTS

SAMPLE ID	DEPTH (feet)	DATE	LAB	TPH-Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	TPH-Diesel	TOG
P-1-2'	2	18-May-93	Superior	ND	ND	ND	ND	ND	NA	NA
P-2-3'	3	18-May-93	Superior	3	ND	0.006	0.067	0.26	NA	NA
P-3-3'	3	18-May-93	Superior	31000	220	1600	480	3100	NA	NA
P-4-3'	3	18-May-93	Superior	4	ND	0.016	0.095	0.05	NA	NA

WASTE-OIL TANK REMOVAL SAMPLING RESULTS

SAMPLE ID	DEPTH (feet)	DATE	LAB	TPH-Gasoline	Benzene	Toluene	Ethyl- benzene	Xylenes	TPH-Diesel	TOG
WO-5'	5	18-May-93	Superior	ND	ND	ND	ND	ND	ND	ND

WASTE-OIL TANK REMOVAL METALS RESULTS

SAMPLE ID	DEPTH (feet)	DATE	LAB	Cadmium	Chromium	Lead	Nickel	Zinc
WO-5'	5	18-May-93	Superior	ND	22	22	ND	18

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.

* = Results in ug/L, parts per billion (ppb)

na = not applicable

TABLE D
WASTE-OIL, SUMP, & HOIST STOCKPILE SAMPLING SUMMARY
 Results in mg/Kg - parts per million (ppm)

WASTE-OIL, SUMP, & HOIST STOCKPILE SAMPLING RESULTS

SAMPLE ID	DATE	LAB	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TPH-Diesel	TOG	CAM 17 METALS
WOSP-1A-D	25-May-93	Superior	850	ND	0.16	ND	8.8	39	ND	NA
WOSP-2A-D	23-Nov-93	Superior	ND	ND	ND	ND	ND	*10	ND	CAR **

WASTE-OIL, SUMP, & HOIST STOCKPILE SAMPLING RESULTS

SAMPLE ID	DATE	LAB	8270	8010	8240	Cadmium	Chromium	Lead	Nickel	Zinc
WOSP-1A-D	25-May-93	Superior	CAR	ND	NA	ND	24	5	22	26
WOSP-2A-D	23-Nov-93	Superior	ND	NA	ND	ND **	ND **	ND **	ND **	ND **

* = does not match the typical diesel pattern - heavier hydrocarbons present.

** = sample results are from CAM 17 METALS analysis.

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
UST & PUMP ISLAND OVEREXCAVATION SAMPLING SUMMARY
 Results in mg/Kg, parts per million (ppm)

UST OVEREXCAVATION SAMPLING RESULTS

SAMPLE ID	DEPTH (feet)	DATE	LAB	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
OX-1-6'	6	21-May-93	Superior	ND	ND	ND	ND	ND
OX-10-5'	5	24-May-93	Superior	ND	ND	ND	ND	ND
OX-11-5	5	25-May-93	Superior	ND	ND	ND	ND	ND
OX-2-5'	5	21-May-93	Superior	ND	ND	ND	0.007	ND
OX-3-5'	5	21-May-93	Superior	ND	0.005	ND	0.075	0.045
OX-4-6'	6	21-May-93	Superior	ND	ND	ND	ND	ND
OX-5-6'	6	24-May-93	Superior	ND	ND	ND	ND	ND
OX-6-5'	5	24-May-93	Superior	ND	ND	ND	ND	ND
OX-7-3'	3	24-May-93	Superior	ND	ND	ND	ND	ND
OX-8-5'	5	24-May-93	Superior	ND	ND	ND	ND	ND
OX-9-5'	5	24-May-93	Superior	ND	ND	ND	ND	ND

PUMP ISLAND OVEREXCAVATION SAMPLING RESULTS

SAMPLE ID	DEPTH (feet)	DATE	LAB	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
PX-1-5'	5	10-Mar-94	Superior	ND	ND	ND	ND	ND
PX-2-5'	5	10-Mar-94	Superior	ND	0.018	ND	ND	ND
PX-3-5'	5	10-Mar-94	Superior	ND	0.011	ND	ND	ND
PX-4-5'	5	10-Mar-94	Superior	ND	ND	ND	ND	ND
PX-5-5'	5	10-Mar-94	Superior	ND	ND	ND	ND	ND
PX-6-5'	5	10-Mar-94	Superior	1	0.097	0.15	0.01	0.098
PX-7-5'	5	10-Mar-94	Superior	ND	ND	ND	ND	ND
PX-8-5'	5	10-Mar-94	Superior	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 C
UST, PUMP ISLAND REMOVAL & OVEREXCAVATION AND STOCKPILE SAMPLING SUMMARY
 Results in mg/Kg, parts per million (ppm)

STOCKPILED SAMPLE RESULTS

UST AND PUMP ISLAND REMOVAL & OVEREXCAVATION SAMPLING RESULTS

SAMPLE ID	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes	TPH-Diesel	TOG
SP-1A-D	Superior	24-May-93	28	ND	0.043	ND	0.34	NA	NA
SP-2A-D	Superior	24-May-93	14	ND	ND	ND	0.16	NA	NA
SP-3 A-D	Superior	25-May-93	9	ND	0.012	ND	0.026	ND	ND
SP-4 A-D	Superior	25-May-93	120	ND	0.24	0.12	4.5	NA	NA
SP-5 A-D	Superior	25-May-93	160	ND	0.27	0.14	4.7	NA	NA
SP-6 A-D	Superior	25-May-93	80	ND	0.13	0.058	2.3	NA	NA
SP-7 A-D	Superior	25-May-93	2	ND	ND	ND	ND	NA	NA
SP-8 A-D	Superior	25-May-93	230	ND	0.34	0.16	8.1	NA	NA
WOSP-1A-D	Superior	25-May-93	850	ND	0.16	ND	8.8	39	ND
WOSP-2A-D	Superior	23-Nov-93	ND	ND	ND	ND	ND	*10	ND
PSP-1A-D	Superior	10-Mar-94	31	ND	0.69	0.2	5.1	NA	NA
PSP-2A-D	Superior	10-Mar-94	390	ND	0.5	0.34	9.8	NA	NA
PSP-3A-D	Superior	10-Mar-94	20	ND	0.06	0.027	0.7	NA	NA

Stockpile
Samples
from
UST excavation

Stockpile
from
pump island

TABLE C
UST, PUMP ISLAND REMOVAL & OVEREXCAVATION AND STOCKPILE SAMPLING SUMMARY
 Results in mg/Kg, parts per million (ppm)

UST AERATED STOCKPILE SAMPLING RESULTS

SAMPLE ID	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
A-1	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-2	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-3	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-4	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-5	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-6	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-7	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-8	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-9	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-10	Superior	13-Jul-93	ND	ND	ND	ND	ND
A-11	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-12	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-13	Superior	28-Sep-93	ND	ND	ND	ND	0.015
A-14	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-15	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-16	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-17	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-18	Superior	28-Sep-93	ND	0.009	0.01	0.008	0.025
A-19	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-20	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-21	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-22	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-23	Superior	28-Sep-93	ND	ND	ND	ND	ND
A-25	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-26	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-27	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-28	Superior	23-Nov-93	ND	ND	ND	ND	0.005

TABLE C
UST, PUMP ISLAND REMOVAL & OVEREXCAVATION AND STOCKPILE SAMPLING SUMMARY
 Results in mg/Kg, parts per million (ppm)

UST AND PUMP ISLAND AERATED STOCKPILE SAMPLING RESULTS

SAMPLE ID	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
A-29	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-30	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-31	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-32	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-33	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-34	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-35	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-36	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-37	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-38	Superior	23-Nov-93	ND	ND	ND	ND	ND
A-39	Superior	23-Nov-93	ND	ND	ND	ND	ND
2A-1	Superior	18-May-94	ND	ND	ND	ND	ND
2A-2	Superior	18-May-94	ND	ND	ND	ND	ND
2A-3	Superior	18-May-94	ND	ND	ND	ND	ND
2A-4	Superior	18-May-94	ND	ND	ND	ND	ND
2A-5	Superior	18-May-94	ND	ND	ND	ND	ND
2A-6	Superior	18-May-94	ND	ND	ND	ND	ND
2A-7	Superior	18-May-94	ND	ND	ND	ND	ND
2A-8	Superior	18-May-94	ND	ND	ND	ND	ND

TABLE C
UST, PUMP ISLAND REMOVAL & OVEREXCAVATION AND STOCKPILE SAMPLING SUMMARY
 Results in mg/Kg, parts per million (ppm)

UST AND PUMP ISLAND AERATED STOCKPILE SAMPLING RESULTS

SAMPLE ID	LAB	DATE	TPH-Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
2A-9	Superior	18-May-94	ND	ND	ND	ND	ND
2A-10	Superior	18-May-94	ND	ND	ND	ND	ND
2A-11	Superior	18-May-94	ND	ND	ND	ND	ND
2A-12	Superior	18-May-94	ND	ND	ND	ND	ND
2A-13	Superior	18-May-94	ND	ND	ND	ND	ND
2A-14	Superior	18-May-94	ND	ND	ND	ND	ND
2A-15	Superior	18-May-94	ND	ND	ND	ND	ND

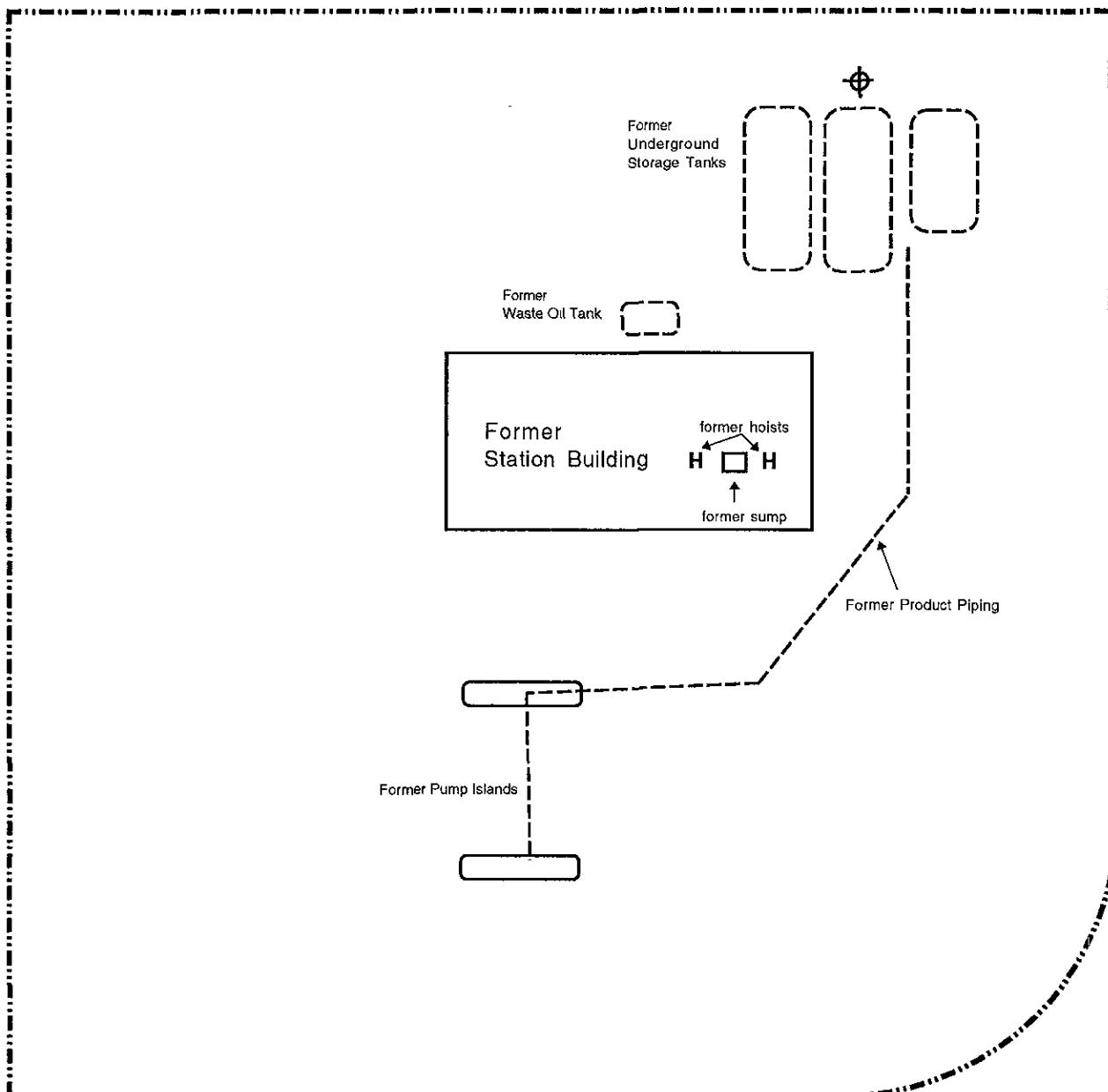
TPH-Gasoline = Total Petroleum Hydrocarbons calculated as Gasoline

TPH-Diesel = Total Petroleum hydrocarbons calculated as Diesel

ND = Not detected at or above laboratory detection limits.

NA = Analysis not requested.

FIGURES



Scale 1" = 20'

LEGEND



Monitoring Well



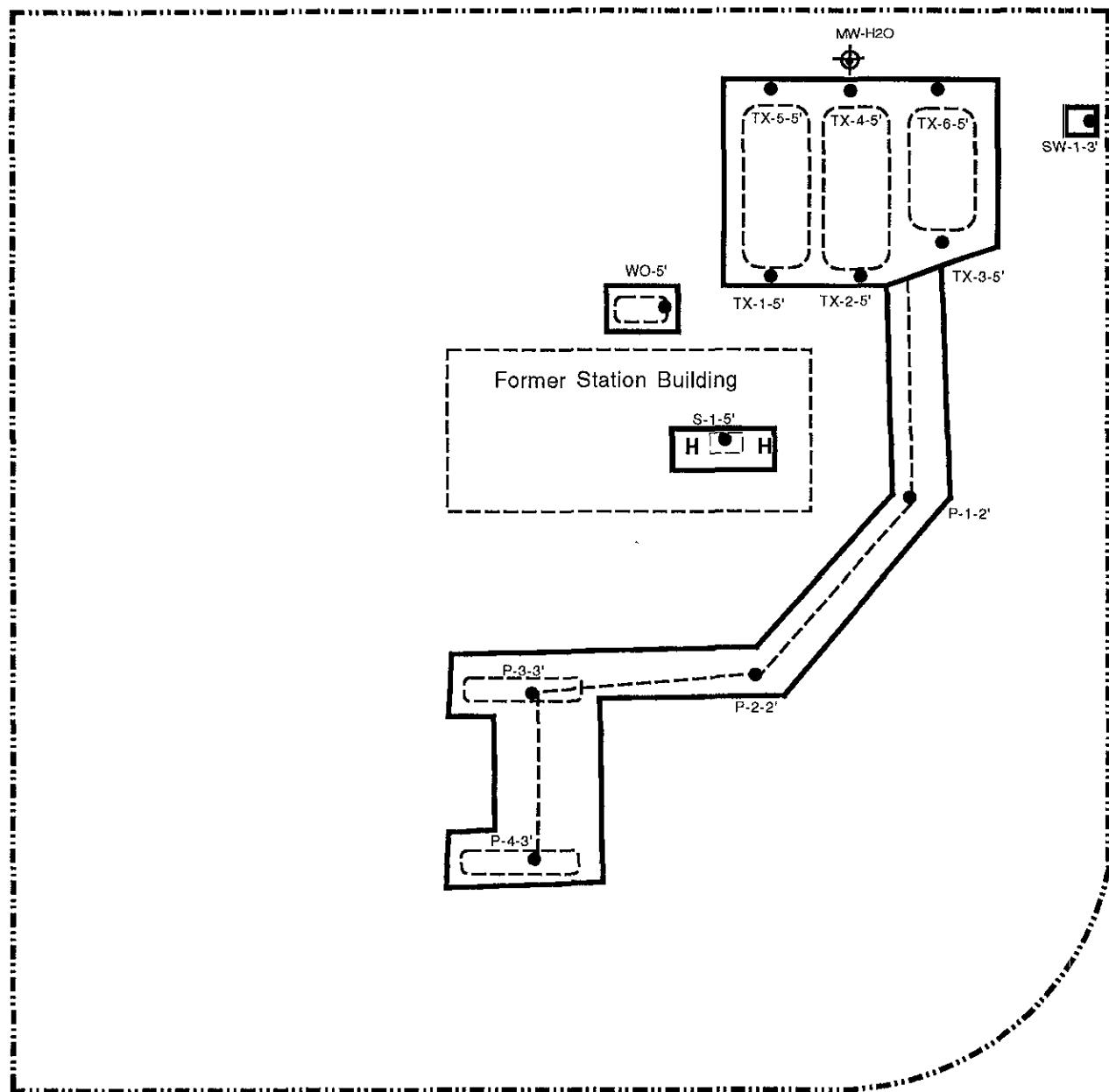
**Touchstone
Developments**
Environmental Management

Site Plan
Former Chevron Service Station 9-0191
900 Otis Drive
Alameda, California

Figure 1

5-20-93	mjt
---------	-----

Project Number 0191-1



OTIS DRIVE

LEGEND

● Approximate Sample Location
SW-1-3'

— Limits of Excavation

⊕ Monitoring Well

Scale 1" = 20'



**Touchstone
Developments**
Environmental Management

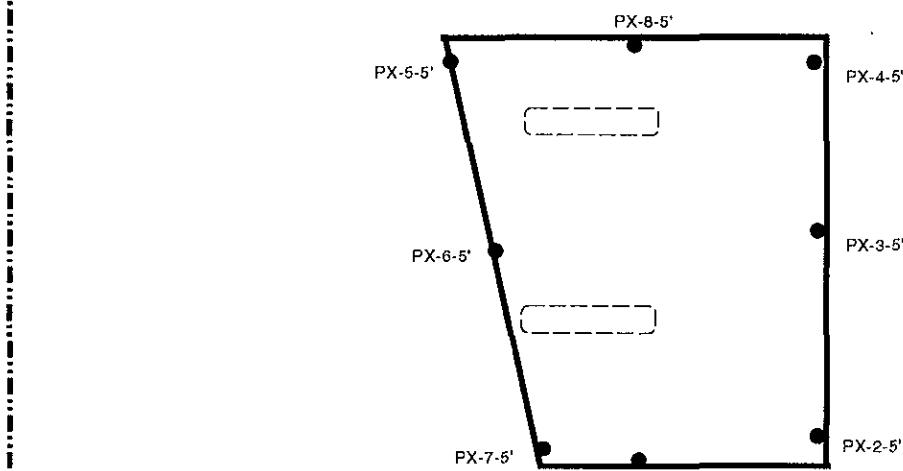
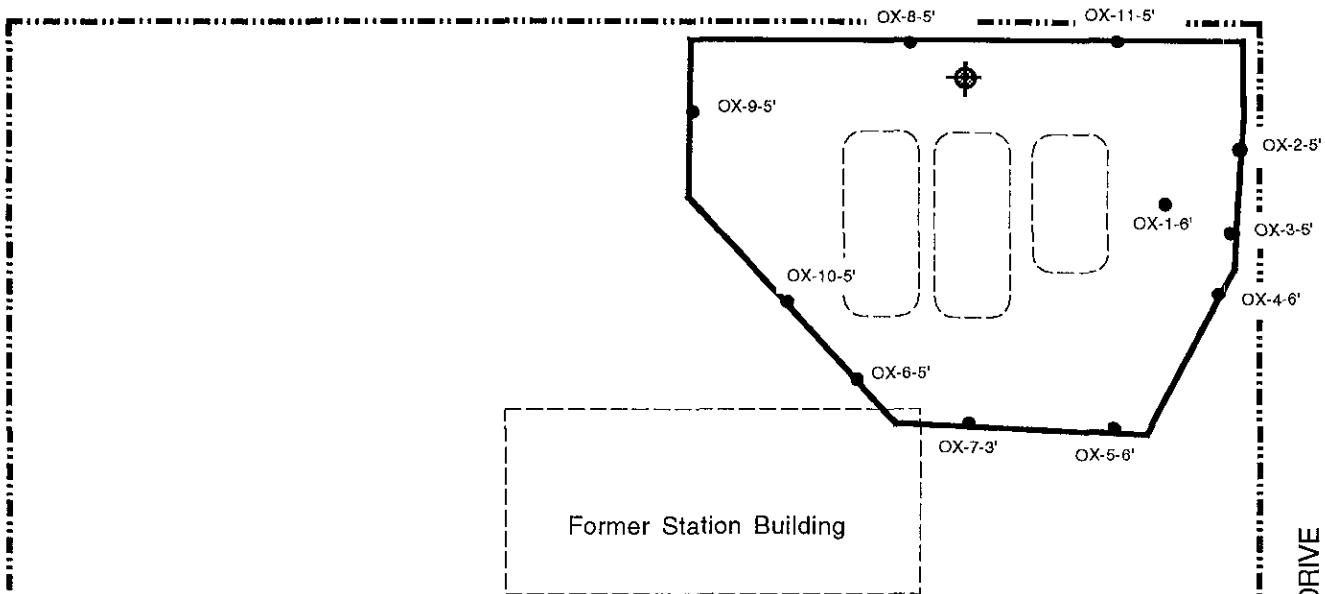
**UST, Piping, Sump & Hoist
Removal Sample Locations**
Former Chevron Service Station 9-0191
900 Otis Drive
Alameda, California

Figure 2

5-20-93

mjt

Project Number 0191-1



OTIS DRIVE

LEGEND

● Approximate Sample Location
SW-1-3'

— Limits of Excavation

○ Former Monitoring Well

Scale 1" = 20'



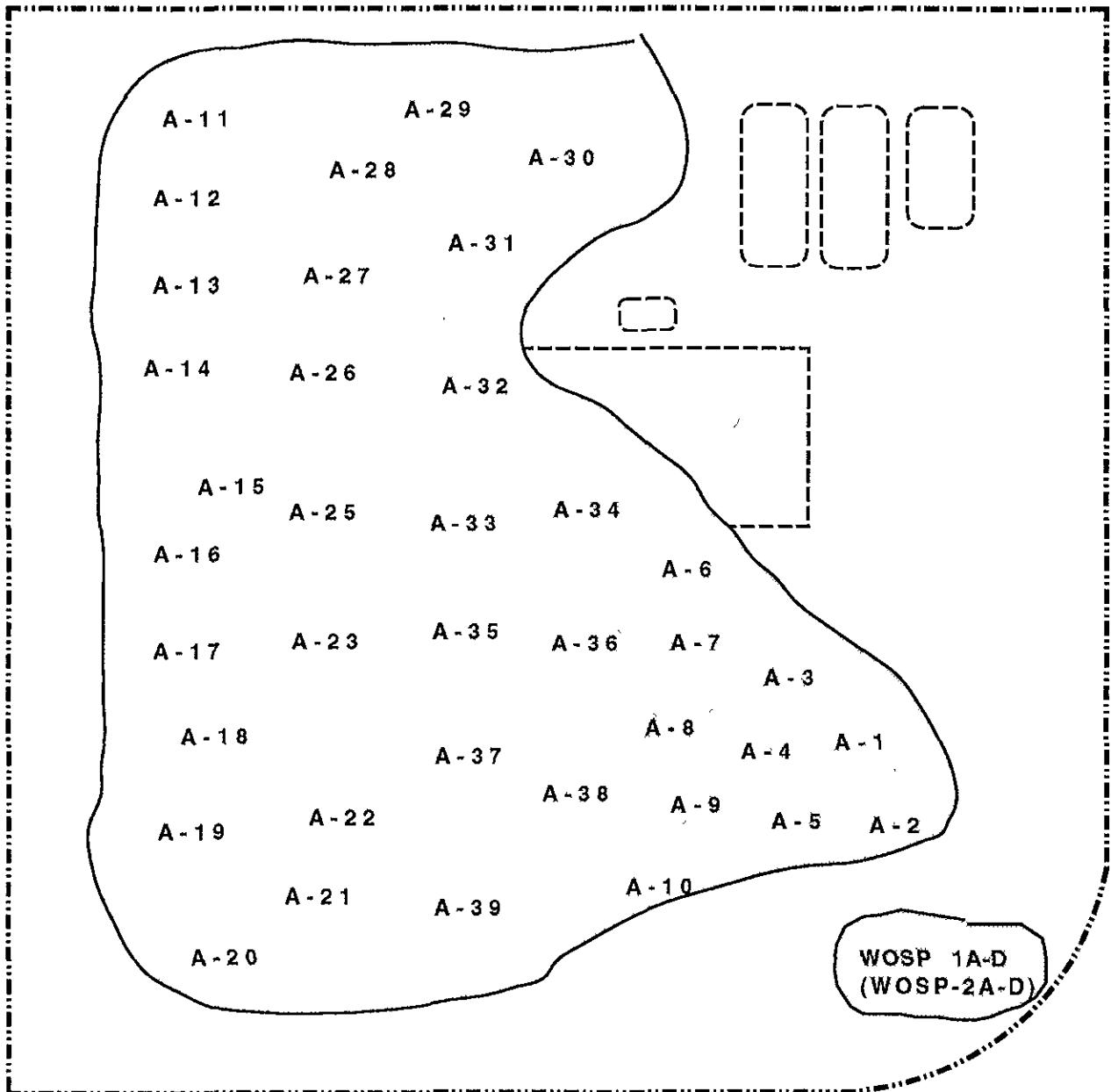
**Touchstone
Developments**
Environmental Management

**Overexcavation Limits &
Sample Locations**
Former Chevron Service Station 9-0191
900 Otis Drive
Alameda, California

Figure 3

5-24-93	mjt
---------	-----

Project Number 0191-2



Scale 1" = 20'

**Touchstone
Developments**
Environmental Management

**Aerated Stockpiled Soil Sample
Locations (UST Excavation)**
Former Chevron Service Station 9-0191
900 Otis Drive
Alameda, California

Figure 4

5-20-93	mjt
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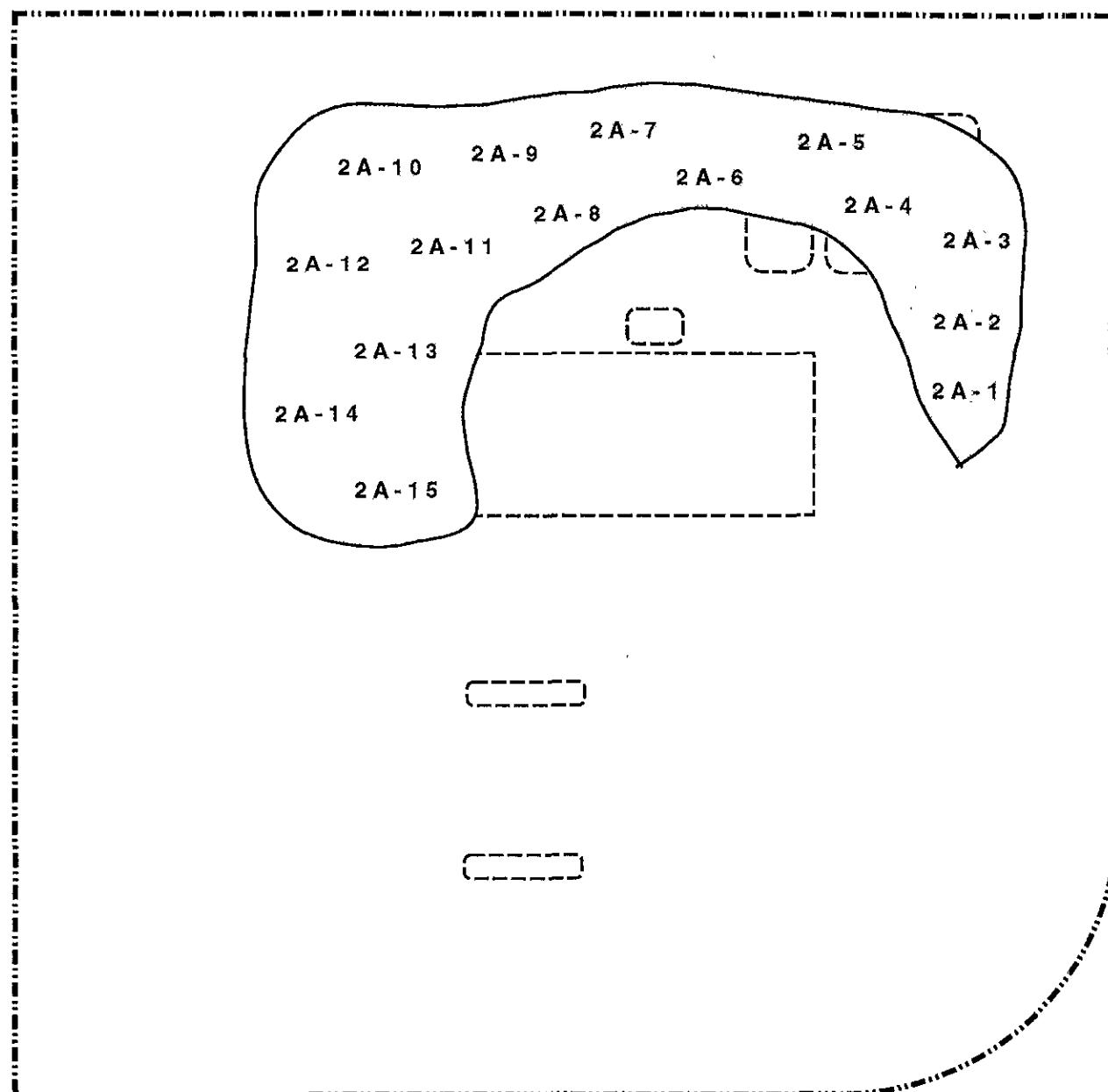
Project Number 0191-1	
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Stockpiled Soil



LEGEND

A - 1 Approximate Sample Location



OTIS DRIVE

LEGEND

2A-1 Approximate Sample Location



Stockpiled Soil

Scale 1" = 20'



**Touchstone
Developments**
Environmental Management

Aerated Soil Sample
Locations (Pump Island Excavation)
Former Chevron Service Station 9-0191
900 Otis Drive
Alameda, California

Figure 5

5-20-93

mjt

Project Number 0191-1

APPENDIX A

Chemical Analytical Reports and Chain-of-Custody Forms



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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: 15529

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline_Range:	81/84	4%	55-141
Benzene:	85/85	0%	67-141
Toluene:	95/97	2%	67-141
Ethyl Benzene:	90/90	0%	67-141
Total Xylenes:	95/95	0%	67-141

Certified Laboratories

Senior Chemist
Account Manager

5/25/94



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0190-2
Reported 05/24/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
15529- 1	2A-1	05/18/94	05/20/94	Soil
15529- 2	2A-2	05/18/94	05/20/94	Soil
15529- 3	2A-3	05/18/94	05/20/94	Soil
15529- 4	2A-4	05/18/94	05/20/94	Soil
15529- 5	2A-5	05/18/94	05/20/94	Soil
15529- 6	2A-6	05/18/94	05/20/94	Soil
15529- 7	2A-7	05/18/94	05/21/94	Soil
15529- 8	2A-8	05/18/94	05/21/94	Soil
15529- 9	2A-9	05/18/94	05/21/94	Soil
15529-10	2A-10	05/18/94	05/21/94	Soil

RESULTS OF ANALYSIS

Laboratory Number: 15529- 1 15529- 2 15529- 3 15529- 4 15529- 5

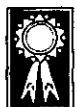
Gasoline_Range:	ND<1	ND<1	ND<1	ND<1	ND<1
Benzene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Toluene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Ethyl Benzene:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Total Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005

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

Laboratory Number: 15529- 6 15529- 7 15529- 8 15529- 9 15529-10

Gasoline_Range:	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
Total Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005

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



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0190-2
Reported 05/24/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
15529-11	2A-11	05/18/94	05/21/94	Soil
15529-12	2A-12	05/18/94	05/21/94	Soil
15529-13	2A-13	05/18/94	05/21/94	Soil
15529-14	2A-14	05/18/94	05/21/94	Soil
15529-15	2A-15	05/18/94	05/24/94	Soil

RESULTS OF ANALYSIS

Laboratory Number: 15529-11 15529-12 15529-13 15529-14 15529-15

Gasoline_Range:	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
Total Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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: 15529

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline_Range:	81/84	4%	55-141
Benzene:	85/85	0%	67-141
Toluene:	95/97	2%	67-141
Ethyl Benzene:	90/90	0%	67-141
Total Xylenes:	95/95	0%	67-141

Certified Laboratories

Senior Chemist
Account Manager

Fax copy of Lab Report and COC to Chevron Contact:

 Yes No

15529

Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number	9-0190	Chevron Contact (Name)	MICHAEL MILLER
	Facility Address	900 OTIS AVE., ALAMEDA	(Phone)	510-842-8134
	Consultant Project Number	0140-2	Laboratory Name	Superior
	Consultant Name	TOUCSTONE	Laboratory Release Number	1144000
	Address	684 30th Ave ST	Samples Collected by (Name)	M. TAUBBROW
Project Contact (Name)	M. TAUBBROW	Collection Date	5-18-94	
(Phone)	386-8791	(Fax Number)	386-8791	
		Signature		

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water	Type G = Grab Composite C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed						Remarks
								BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Purgeable Halocarbons (5520)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AAS)
2A-1	1	S	D	1230		Yes	X							
2A-2	1	1	1	1233										
2A-3				1236										
2A-4				1241										
2A-5				1245										
2A-6				1250										
2A-7				1254										
2A-8				1259										
2A-9				1304										
2A-10				1310										
2A-11				1315										
2A-12				1320										
2A-13				1325										
2A-14				1330										

COC-3.DWG/03.91/HCH

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
	TD	5-18-94 1735				24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
						5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Date/Time		10 Days
				4:40		As Contracted
				5/18/94		

Fax copy of Lab Report and COC to Chevron Contact:

 Yes No

15529

Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number	9-0190	Chevron Contact (Name)	MATTHEW MILLER
	Facility Address	900 OTIS Ave., Alameda	(Phone)	510-842-8134
	Consultant Project Number	0140-2	Laboratory Name	Superior
	Consultant Name	TOUCHSTONE	Laboratory Release Number	1144000
	Address	684 30th Ave St	Samples Collected by (Name)	M. TAUBERBROW
	Project Contact (Name)	M. TAUBERBROW	Collection Date	5-18-94
(Phone)	386-8791	Signature		

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water	A = Air C = Composite G = Grab D = Discrete	Type G = C = D	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)	
2A-1		1	S	D		1230		Yes	X								
2A-2						1233											
2A-3						1236											
2A-4						1241											
2A-5						1245											
2A-6						1250											
2A-7						1254											
2A-8						1259											
2A-9						1304											
2A-10						1310											
2A-11						1315											
2A-12						1320											
2A-13						1325											
2A-14						1330											

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
<i>[Signature]</i>	TD	5-18-94/1735				24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
						5 Days
						10 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Date/Time	4:40	As Contracted
			<i>Mack Heath</i>		5/18/94	



Superior Precision Analytical, Inc.

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

TOUCHSTONE
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 03/18/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
30343- 1	PX-1-5'	03/10/94	03/17/94	Soil
30343- 2	PX-2-5'	03/10/94	03/17/94	Soil
30343- 3	PX-3-5'	03/10/94	03/17/94	Soil
30343- 4	PX-4-5'	03/10/94	03/17/94	Soil
30343- 5	PX-5-5'	03/10/94	03/17/94	Soil
30343- 6	PX-6-5'	03/10/94	03/17/94	Soil
30343- 7	PX-7-5'	03/10/94	03/17/94	Soil
30343- 8	PX-8-5'	03/10/94	03/17/94	Soil
30343- 9	PSP-1A-D	03/10/94	03/17/94	Soil
30343-10	PSP-2A-D	03/10/94	03/17/94	Soil

RESULTS OF ANALYSIS

Laboratory Number: 30343- 1 30343- 2 30343- 3 30343- 4 30343- 5

Gasoline:	ND<1	ND<1	ND<1	ND<1	ND<1
Benzene:	ND<.005	0.096	0.065	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
Total Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005

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

Laboratory Number: 30343- 6 30343- 7 30343- 8 30343- 9 30343-10

Gasoline:	1	ND<1	ND<1	31	390
Benzene:	0.097	ND<.005	ND<.005	ND<.005	ND<0.05
Toluene:	0.15	ND<.005	ND<.005	0.69	0.5
Ethyl Benzene:	0.010	ND<.005	ND<.005	0.2	0.34
Total Xylenes:	0.098	ND<.005	ND<.005	5.1	9.8

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



Superior Precision Analytical, Inc.

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

TOUCHSTONE
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 03/18/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
30343-11	PSP-3A-D	03/10/94	03/17/94 Soil

RESULTS OF ANALYSIS

Laboratory Number: 30343-11

Gasoline:	20
Benzene:	ND<.005
Toluene:	0.060
Ethyl Benzene:	0.027
Total Xylenes:	0.7

Concentration: mg/kg



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

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 3 of 3
QA/QC INFORMATION
SET: 30343

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

mg/kg = parts per million (ppm)

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	91/87	4%	70-130
Benzene:	103/91	12%	70-130
Toluene:	80/80	0%	70-130
Ethyl Benzene:	80/70	13%	70-130
Total Xylenes:	87/83	5%	70-130

Afsaneh Sabri
Senior Chemist



Superior Precision Analytical, Inc.

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

TOUCHSTONE
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 18-March-1994

ANALYSIS FOR TOTAL LEAD

Laboratory Number	Sample Identification	Matrix
30343- 3	PX-3-5'	Soil
30343- 6	PX-6-5'	Soil

RESULTS OF ANALYSIS

Laboratory Number: 30343- 3 30343- 6

TOTAL LEAD: ND<5 ND<5

Concentration: mg/Kg mg/Kg



Superior Precision Analytical, Inc.

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

ANALYSIS FOR TOTAL LEAD Quality Assurance and Control Data - Soil

Laboratory Number 30343

Compound	Method Blank (mg/Kg)	RL (mg/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
TOTAL LEAD:	ND<5	5	101/100	75-125	1%

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/Kg = Parts per million (ppm)

QC File No. 30343

Afsaneh Sal
Senior Chemist
Account Manager

TSDF

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	9-091	Chevron Contact (Name)	MARK MILLER
	Facility Address	900 OTIS AVE, ALAMEDA	(Phone)	510-842-8134
	Consultant Project Number	C141-2	Laboratory Name	SUPERIOR
	Consultant Name	TOUCHTONE	Laboratory Release Number	9419420
	Address	684 30th Ave, SP	Samples Collected by (Name)	M. TAMBROW
	Project Contact (Name)	M. TAMBROW	Collection Date	3-10-94
(Phone)	386-8791	Signature	<i>Mark P. Miller</i>	
(Fax Number)	386-8791			

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 AAS)
PX-1-5'	1	S	D	1245				Yes	X							
PX-2-5'	1			1250												
PX-3-5'	1			1255												X
PX-4-5'				1300												.
PX-5-5'				1515												.
PX-6-5'				1520												X
PX-7-5'				1525												
PX-8-5'	1			1530												N.D.
BSF-1A-D	4		C	1555												ST
BSF-2A-D	4			1600												40°C
BSF-3A-D	4	1	1	1605												OF

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
<i>Mark P. Miller</i>	TD	3-11-94 / 1540	<i>Summer</i>	<i>Superior</i>	3/14 10am	24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
						5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Date/Time		10 Days
			<i>Summer</i>	3-11-94 / 1540		As Contracted



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Touchstone Developments
Attn: MICHAEL TAMBRONI

Project 0190-2
Reported 07/16/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
14585- 1	A-1	07/13/93	07/15/93	Soil
14585- 2	A-2	07/13/93	07/15/93	Soil
14585- 3	A-3	07/13/93	07/15/93	Soil
14585- 4	A-4	07/13/93	07/15/93	Soil
14585- 5	A-5	07/13/93	07/15/93	Soil
14585- 6	A-6	07/13/93	07/15/93	Soil
14585- 7	A-7	07/13/93	07/15/93	Soil
14585- 8	A-8	07/13/93	07/15/93	Soil
14585- 9	A-9	07/13/93	07/15/93	Soil
14585-10	A-10	07/13/93	07/15/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14585- 1 14585- 2 14585- 3 14585- 4 14585- 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<.015	ND<.015	ND<.015	ND<.015	ND<.015

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

Laboratory Number: 14585- 6 14585- 7 14585- 8 14585- 9 14585-10

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<.015	ND<.015	ND<.015	ND<.015	ND<.015

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



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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 2 of 2
QA/QC INFORMATION
SET: 14585

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	82/86	5%	75-111
Benzene:	95/94	1%	72-105
Toluene:	89/88	1%	75-111
Ethyl Benzene:	87/88	1%	78-110
Xylenes:	85/85	0%	69-117

Richard Srna, Ph.D.

Darryl N. Wagnleitner
Laboratory Director

Fax copy of Lab Report and COC to Chevron Contact:

 Yes No

K585

Chain-of-Custody-Record

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

Chevron Facility Number 9-0190
Facility Address 900 OTIS AVE., ALAMEDA
Consultant Project Number 0190-2
Consultant Name TOTAL CHEMICAL
Address 184 30TH AVE
Project Contact (Name) M. TAMBROWI
(Phone) 386-8791 (Fax Number) 386-8791

Chevron Contact (Name) MARK MILLER
(Phone) 510-842-8134
Laboratory Name SUPERIOR
Laboratory Release Number 9419420
Samples Collected by (Name) M. TAMBROWI
Collection Date 7-13-93
Signature Mark J. Miller

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water	A = Air C = Charcoal	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed							Remarks	
								STEX + 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)	
A-1	1	S D	900			X X										
A-2	1		905			/ /										
A-3	1		907			/ /										ss
A-4	1		911			/ /										v
A-5	1		915			/ /										/
A-6	1		919			/ /										/
A-7	1		924			/ /										/
A-8	1		930			/ /										
A-9	1		935			/ /										OK -
A-10	1	V V	937			/ /										

COC-3.DWG 03-29-91/HCH

Relinquished By (Signature)

Organization

Date/Time
7-13-93 1458

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)

Date/Time
7-13-93 3:00



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 0191-2
Reported 10/05/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
90119- 1	A-11	09/28/93	10/04/93	Soil
90119- 2	A-12	09/28/93	10/04/93	Soil
90119- 3	A-13	09/28/93	10/04/93	Soil
90119- 4	A-14	09/28/93	10/04/93	Soil
90119- 5	A-15	09/28/93	10/04/93	Soil
90119- 6	A-16	09/28/93	10/04/93	Soil
90119- 7	A-17	09/28/93	10/04/93	Soil
90119- 8	A-18	09/28/93	10/04/93	Soil
90119- 9	A-19	09/28/93	10/04/93	Soil
90119-10	A-20	09/28/93	10/04/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 90119- 1 90119- 2 90119- 3 90119- 4 90119- 5

Gasoline:	ND<1	ND<1	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
Total Xylenes:	ND<.005	ND<.005	0.015	ND<.005	ND<.005

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

Laboratory Number: 90119- 6 90119- 7 90119- 8 90119- 9 90119-10

Gasoline:	ND<1	ND<1	ND<1	ND<1	ND<1
Benzene:	ND<.005	ND<.005	0.009	ND<.005	ND<.005
Toluene:	ND<.005	ND<.005	0.010	ND<.005	ND<.005
Ethyl Benzene:	ND<.005	ND<.005	0.008	ND<.005	ND<.005
Total Xylenes:	ND<.005	ND<.005	0.025	ND<.005	ND<.005

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



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 0191-2
Reported 10/05/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
90119-11	A-21	09/28/93	10/04/93	Soil
90119-12	A-22	09/28/93	10/04/93	Soil
90119-13	A-23	09/28/93	10/04/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 90119-11 90119-12 90119-13

Gasoline:	ND<1	ND<1	ND<1
Benzene:	ND<.005	ND<.005	ND<.005
Toluene:	ND<.005	ND<.005	ND<.005
Ethyl Benzene:	ND<.005	ND<.005	ND<.005
Total Xylenes:	ND<.005	ND<.005	ND<.005
Concentration:	mg/kg	mg/kg	mg/kg



Superior Precision Analytical, Inc.

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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: 90119

NA = ANALYSIS NOT REQUESTED

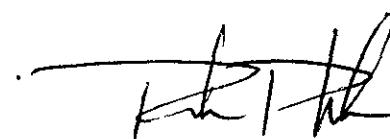
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

mg/kg = parts per million (ppm)

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	100/102	2%	70-130
Benzene:	103/107	4%	70-130
Toluene:	98/97	1%	70-130
Ethyl Benzene:	96/91	5%	70-130
Total Xylenes:	94/89	5%	70-130

 10/6/93
John T. Hall

Senior Chemist

Fax copy of Lab Report and COC to Chevron Contact:

 Yes 9-0019
 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	9-019	Chevron Contact (Name)	Mark Miller
	Facility Address	900 9th Ave, Alameda, CA	(Phone)	510 842 8134
	Consultant Project Number	0191-2	Laboratory Name	Superior
	Consultant Name	Touchstone Developments	Laboratory Release Number	9419420
	Address	PO Box 2554 Santa Rosa, CA	Samples Collected by (Name)	Jeff Monroe
	Project Contact (Name)	Jeff Monroe	Collection Date	9-28-93
(Phone)	7075388818 (Fax Number)	Signature	Jeff Monroe	

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water 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)
A-11	SD 16:00	1			16:00	Yes X									
A-12		1			16:02										
A-13					16:04										
A-14					16:06										
A-15					16:08										
A-16					16:11										
A-17					16:13										
A-18					16:15										
A-19					16:18										
A-20					16:20										
A-21					16:21										
A-22					16:23										
A-23					16:24										
A-24		1	W		16:27		↓								

Released/Received By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
<i>Jeff Monroe</i>	TD	7:25 9-28-93				24 Hrs.
Released/Received By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
						5 Days
Released/Received By (Signature)	Organization	Date/Time	Received By Laboratory By (Signature)	Organization	Date/Time	10 Days
			<i>J. Monroe</i>		11:25 9/28/93	As Contracted

Fax copy of Lab Report and COC to Chevron Contact:

 Yes

10011

 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	9-0191	Chevron Contact (Name)	Mark Miller
	Facility Address	700 Otis Ave, Alameda, CA	(Phone)	510 842-8134
	Consultant Project Number	0191-2	Laboratory Name	Superior
	Consultant Name	Toughstone Developments	Laboratory Release Number	9419420
	Address	PO Box 2554 Santa Rosa, CA	Samples Collected by (Name)	Jeff Monroe
	Project Contact (Name)	Jeff Monroe	Collection Date	9-28-93
(Phone)	7075388810 (Fax Number)	Signature	Jeff Monroe	

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water 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 + 8016)	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 (ICP or AA)
A-11	1	S D	16:00	X	16:00	Yes X									
A-12	1				16:02										
A-13	1				16:04										
A-14	1				16:06										
A-15	1				16:08										
A-16	1				16:11										
A-17	1				16:13										
A-18	1				16:15										
A-19	1				16:18										
A-20	1				16:20										
A-21	1				16:21										
A-22	1				16:23										
A-23	1				16:24										
A-24	V	V	V	V	16:27	V V	NOT RECEIVED								

Please initial:
Samples Stored in ice.
Appropriate containers
Sampl. & Specimen
VOC's Will Not be Discarded
Comments:

Relinquished By (Signature)	Organization	Date/Time 17:25	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
J. Monroe	TD	9-28-93				24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
						5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Date/Time	17:25	10 Days
			H. H.	9/28/93		As Contracted



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 12/06/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
14994- 1	A-25	11/23/93	12/03/93	Soil
14994- 2	A-26	11/23/93	12/03/93	Soil
14994- 3	A-27	11/23/93	12/03/93	Soil
14994- 4	A-28	11/23/93	12/03/93	Soil
14994- 5	A-29	11/23/93	12/03/93	Soil
14994- 6	A-30	11/23/93	12/03/93	Soil
14994- 7	A-31	11/23/93	12/03/93	Soil
14994- 8	A-32	11/23/93	12/03/93	Soil
14994- 9	A-33	11/23/93	12/03/93	Soil
14994-10	A-34	11/23/93	12/03/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14994- 1 14994- 2 14994- 3 14994- 4 14994- 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
Total Xylenes:	ND<.005	ND<.005	ND<.005	0.005	ND<.005
Oil and Grease:	NA	NA	NA	NA	NA

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

Laboratory Number: 14994- 6 14994- 7 14994- 8 14994- 9 14994-10

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
Total Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Oil and Grease:	NA	NA	NA	NA	NA

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



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 12/06/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
14994-11	A-35	11/23/93	12/03/93	Soil
14994-12	A-36	11/23/93	12/03/93	Soil
14994-13	A-37	11/23/93	12/03/93	Soil
14994-14	A-38	11/23/93	12/03/93	Soil
14994-15	A-39	11/23/93	12/03/93	Soil
14994-16	WOSP-2A-D	11/23/93	12/03/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14994-11 14994-12 14994-13 14994-14 14994-15

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
Total Xylenes:	ND<.005	ND<.005	ND<.005	ND<.005	ND<.005
Oil and Grease:	NA	NA	NA	NA	NA
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

Laboratory Number: 14994-16

Gasoline:	ND<1
Benzene:	ND<.005
Toluene:	ND<.005
Ethyl Benzene:	ND<.005
Total Xylenes:	ND<.005
Oil and Grease:	ND<50
Concentration:	mg/kg



Superior Precision Analytical, Inc.

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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: 14994

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	86/86	0%	75-125
Benzene:	92/97	5%	72-125
Toluene:	94/97	3%	75-125
Ethyl Benzene:	98/98	0%	75-125
Total Xylenes:	99/100	1%	75-125
Oil and Grease:	73/79	8%	47-97

Fax copy of Lab Report and COC to Chevron Contact:

 Yes No

14974

Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number	9-0191	Chevron Contact (Name)	MARK MILLER
	Facility Address	900 OTIS AVE, ALAMEDA	(Phone)	(650)842-8134
	Consultant Project Number	0191-2	Laboratory Name	SUPERIOR
	Consultant Name	TOUCHSTONE	Laboratory Release Number	9419420
	Address	684 30TH AVE, SF	Samples Collected by (Name)	M. THIBBONI
	Project Contact (Name)	M. THIBBONI	Collection Date	11-23-93
(Phone)	386-8791	(Fax Number)	386-8791	

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)
A-25		1	S	D	1000			Yes	X							
A-26		1			1003											
A-27		1			1006											
A-28		1			1010											
A-29		1			1015											
A-30		1			1020											1025
A-31		1			1023											
A-32		1			1027											
A-33		1			1034											
A-34		1			1040											
A-35		1			1045											
A-36		1			1048											
A-37		1			1053											
A-38		1			1100											

VACUUM

COC-3-DWG/2

Released By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
<i>Mark J. Miller</i>	TD	11-23-93	<i>Barry Miller</i>	<i>TD</i>	11/23 4:15	24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
<i>Mark J. Miller</i>						5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Organization	Date/Time	10 Days
			<i>Miller</i>		11/23 7:05	As Contracted



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Touchstone Developments
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 05/28/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
14444- 1	S-1-5'	05/21/93	05/27/93	Soil
14444- 2	OX-1-6'	05/21/93	05/26/93	Soil
14444- 3	OX-2-5'	05/21/93	05/27/93	Soil
14444- 4	OX-3-5'	05/21/93	05/27/93	Soil
14444- 5	OX-4-6'	05/21/93	05/26/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14444- 1 14444- 2 14444- 3 14444- 4 14444- 5

Gasoline:	1400	ND<1	ND<1	ND<1	ND<1
Benzene:	ND<.25	ND<.005	ND<.005	0.005	ND<.005
Toluene:	0.30	ND<.005	ND<.005	ND<.005	ND<.005
Ethyl Benzene:	1.3	ND<.005	0.007	0.075	ND<.005
Xylenes:	30	ND<.015	ND<.015	0.045	ND<.015
Diesel:	25	NA	NA	NA	NA
Oil and Grease:	ND<50	NA	NA	NA	NA
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg



Superior Precision Analytical, Inc.

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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 2 of 2
QA/QC INFORMATION
SET: 14444

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	93/89	4%	75-111
Benzene:	93/93	0%	75-114
Toluene:	96/96	0%	78-114
Ethyl Benzene:	95/93	2%	76-120
Xylenes:	98/95	3%	71-117
Diesel:	93/102	9%	69-127
Oil and Grease:	64/68	6%	56-132

Richard Srna, Ph.D.

Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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

Page 1 of 2

LABORATORY NO.: 14444-1
CLIENT: TOUCHSTONE DEVELOPMENT

DATE RECEIVED: 05/21/93
DATE REPORTED: 05/28/93
JOB NO.: 01911-2

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES
by EPA SW-846 Method 8270
Extraction Method: EPA 3550
Sample Identification: S-1-5'

Analyte	Result (mg/Kg)	Quantitation Limit (mg/Kg)
Acenaphthene	ND	330
Acenaphthylene	ND	330
Aniline	ND	330
Anthracene	ND	330
Benzo(a)anthracene	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(ghi)perylene	ND	330
Benzo(a)pyrene	ND	1600
Benzidine	ND	1500
Butyl benzyl phthalate	ND	330
Bis(2-chloroethoxy)methane	ND	330
Bis(2-chloroethyl)ether	ND	330
Bis (2-chloroisopropyl) ether	ND	330
Bis (2-ethylhexyl) phthalate	ND	3000
4-Bromophenyl phenyl ether	ND	330
4-Chloroaniline	ND	330
2-chloronaphthalene	ND	330
4-chlorophenyl phenyl ether	ND	330
Chrysene	ND	330
Dibenzo(a,h)anthracene	ND	330
Dibenzofuran	ND	330
Di-n-butyl phthalate	ND	2100
1,2-Dichlorobenzene	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
3,3'-Dichlorobenzidine	ND	660
Diethylphthalate	ND	330
Dimethyl phthalate	ND	330
2,4-Dinitrotoluene	ND	330
2,6-Dinitrotoluene	ND	330
Di-n-octylphthalate	ND	330
Fluoranthene	ND	330



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Page 2 of 2 Sample# 14444-1

8270 Certificate

Quantitation

Result (ug/kg)

Limit (ug/kg)

Analyte	Result (ug/kg)	Limit (ug/kg)
Fluorene	ND	330
Hexachlorobenzene	ND	330
Hexachlorobutadiene	ND	330
Hexachlorocyclopentadiene	ND	330
Hexachloroethane	ND	330
Indeno(1,2,3-cd) pyrene	ND	330
Isophorone	ND	330
2-Methylnaphthalene	ND	330
2-Nitroanaline	ND	1600
3-Nitroanaline	ND	1600
4-Nitroanaline	ND	1600
Naphthalene	ND	330
Nitrobenzene	ND	330
N-Nitrosodi-n-propylamine	ND	330
N-Nitrosodiphenylamine	ND	330
Phenanthrene	ND	330
Pyrene	ND	330
1,2,4-Trichlorobenzene	ND	330
ACID EXTRACTABLES		
Benzoic acid	ND	1600
Benzyl alcohol	ND	330
4-Chloro-3-methylphenol	ND	330
2-Chlorophenol	ND	330
2,4-Dichlorophenol	ND	330
2,4-Dimethylphenol	ND	330
2,4-Dinitrophenol	ND	1600
2-Methyl-4,6-dinitrophenol	ND	1600
2-Methylphenol	ND	330
4-Methylphenol	ND	330
4-Nitrophenol	ND	1600
2-Nitrophenol	ND	1600
Pentachlorophenol	ND	1600
Phenol	ND	330
2,4,5-Trichlorophenol	ND	1600
2,4,6-Trichlorophenol	ND	330

ND = Not detected ug/Kg = ppb (Parts per Billion)

QC DATA :

Surrogate Recoveries QC Limits Surrogate Recoveries QC Limits

Nitrobenzene-d5.....61 (23-120) Phenol-d5.....58 (24-113)
2-Fluorobiphenyl....67 (30-115) 2-Fluorophenol.....66 (25-121)
Terphenyl-d14.....97 (18-137) 2,4,6-Tribromophenol...68 (19-122)

Richard Srna, Ph.D.

Laboratory Director



Superior Precision Analytical, Inc.

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

Page 1 of 2

LABORATORY NO.: 14433
CLIENT: TOUCHSTONE DEVELOPMENT

DATE RECEIVED: NA
DATE REPORTED: 05/28/93
JOB NO.: 0191-2

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES

by EPA SW-846 Method 8270

Extraction Method: EPA 3550

Sample Identification: SOIL LAB BLANK

Analyte	Result (ug/kg)	Quantitation Limit (ug/kg)
Acenaphthene	ND	330
Acenaphthylene	ND	330
Aniline	ND	330
Anthracene	ND	330
Benzo(a)anthracene	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(ghi)perylene	ND	330
Benzo(a)pyrene	ND	1600
Benzidine	ND	1500
Butyl benzyl phthalate	ND	330
Bis(2-chloroethoxy)methane	ND	330
Bis(2-chloroethyl)ether	ND	330
Bis (2-chloroisopropyl) ether	ND	330
Bis (2-ethylhexyl) phthalate	ND	3000
4-Bromophenyl phenyl ether	ND	330
4-Chloroaniline	ND	330
2-chloronaphthalene	ND	330
4-chlorophenyl phenyl ether	ND	330
Chrysene	ND	330
Dibenzo(a,h)anthracene	ND	330
Dibenzofuran	ND	330
Di-n-butyl phthalate	ND	2100
1,2-Dichlorobenzene	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
3,3'-Dichlorobenzidine	ND	660
Diethylphthalate	ND	330
Dimethyl phthalate	ND	330
2,4-Dinitrotoluene	ND	330
2,6-Dinitrotoluene	ND	330
Di-n-octylphthalate	ND	330
Fluoranthene	ND	330



Superior Precision Analytical, Inc.

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Page 2 of 2 Sample# SOIL LAB BLANK
8270 Certificate Quantitation

Analyte	Result (ug/kg)	Limit (ug/kg)
Fluorene	ND	330
Hexachlorobenzene	ND	330
Hexachlorobutadiene	ND	330
Hexachlorocyclopentadiene	ND	330
Hexachloroethane	ND	330
Indeno(1,2,3-cd) pyrene	ND	330
Isophorone	ND	330
2-Methylnaphthalene	ND	330
2-Nitroanaline	ND	1600
3-Nitroanaline	ND	1600
4-Nitroanaline	ND	1600
Naphthalene	ND	330
Nitrobenzene	ND	330
N-Nitrosodi-n-propylamine	ND	330
N-Nitrosodiphenylamine	ND	330
Phenanthrene	ND	330
Pyrene	ND	330
1,2,4-Trichlorobenzene	ND	330
ACID EXTRACTABLES		
Benzoic acid	ND	1600
Benzyl alcohol	ND	330
4-Chloro-3-methylphenol	ND	330
2-Chlorophenol	ND	330
2,4-Dichlorophenol	ND	330
2,4-Dimethylphenol	ND	330
2,4-Dinitrophenol	ND	1600
2-Methyl-4,6-dinitrophenol	ND	1600
2-Methylphenol	ND	330
4-Methylphenol	ND	330
4-Nitrophenol	ND	1600
2-Nitrophenol	ND	1600
Pentachlorophenol	ND	1600
Phenol	ND	330
2,4,5-Trichlorophenol	ND	1600
2,4,6-Trichlorophenol	ND	330

ND = Not detected

ug/kg = part per billion (ppb)

QC DATA :

Surrogate Recoveries QC Limits Surrogate Recoveries QC Limits

Nitrobenzene-d5.....74 (23-120) Phenol-d5.....71 (24-113)
2-Fluorobiphenyl....76 (30-115) 2-Fluorophenol.....77 (25-121)
Terphenyl-d14.....105(18-137) 2,4,6-Tribromophenol..75 (19-122)

Richard Srna, Ph.D.

Laboratory Director



Superior Precision Analytical, Inc.

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

LABORATORY NO.: 14444
CLIENT: TOUCHSTONE DEVELOPMENTS

DATE RECEIVED: NA
DATE REPORTED: 05/28/93
JOB NO.: 0191-2

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES
by EPA SW-846 Method 8270
Extraction Method: EPA 3550
MATRIX SPIKE SUMMARY REPORT

Sample Identification: SOIL LAB CONTROL

Date analysed: 27 May 1993 3:04 PM and 4:23 PM

SURROGATE COMPOUND RECOVERIES

Spiked at 100ug/L final for base neutrals and 200 ug/L for Acid Surrogates

	MS % RECOVERY	MSD % RECOVERY
2-Fluorophenol	82	86
Phenol-d5	79	84
Nitro henobenzene-d5	80	84
2-Fluorobiphenyl	83	89
2,4,6-Tribromophenol	91	95
Terphenyl-d14	120	128

MATRIX SPIKE/SPIKE DUPLICATE RECOVERIES

	MS% REC.	MSD % REC.	RPD	LIMITS	RPD
1,4-Dichlorobenzene	64	66	4	28-104	27
n-Nitroso-di-n-propylamine	57	63	11	41-126	38
1,2,4-Trichlorobenzene	68	71	5	38-107	23
Acenaphthene	77	80	4	31-137	19
2,4-Dinitrotoluene	55	57	3	28-89	47
Pyrene	105	107	2	35-142	36
Phenol	66	69	13	26-90	35
4-Nitrophenol	23	26	3	11-114	50
2-Chlorophenol	67	69	3	25-102	50
4-Chloro-3-methylphenol	63	65	2	26-103	42
Pentachlorophenol	51	48	5	17-109	47

ALL SPIKE COMPOUNDS WITHIN LIMITS



Superior Precision Analytical, Inc.

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

LABORATORY NO.: 14444-1
CLIENT: TOUCHSTONE DEVELOPMENTS
JOB NO.: 0191-2

DATE SAMPLED: 05/21/93
DATE RECEIVED: 05/21/93
DATE ANALYZED: 05/24/93

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: S-1-5'

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane/Vinyl Chloride	10	ND
Bromomethane/Chloroethane	10	ND
Trichlorofluoromethane	5	ND
1,1-Dichloroethene	5	ND
Methylene Chloride	50	ND
trans-1,2-Dichloroethene	5	ND
1,1-Dichloroethane	5	ND
cis-1,2-Dichloroethene	5	ND
Chloroform	5	ND
1,1,1-Trichloroethane	5	ND
Carbon tetrachloride	5	ND
1,2-Dichloroethane	5	ND
Trichloroethylene	5	ND
1,2-Dichloropropane	5	ND
Bromodichloromethane	5	ND
Cis-1,3-Dichloropropene	5	ND
trans-1,3-Dichloropropene	5	ND
1,1,2-Trichloroethane	5	ND
Tetrachloroethene	5	ND
Dibromochloromethane	5	ND
Chlorobenzene	5	ND
Bromoform	5	ND
1,1,2,2-Tetrachloroethane	5	ND
1,3-Dichlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND

MDL = Method Detection Limit

ug/kg = parts per billion (ppb)

QA/QC Summary: Daily Standard RPD =<15%

MS/MSD average recovery = 99 % :MS/MSD RPD = 10 %

Richard Srna, Ph.D.

Laboratory Director

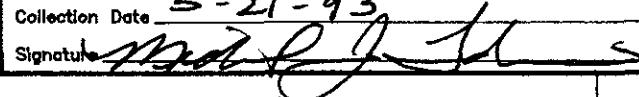
Fax copy of Lab Report and COC to Chevron Contact: Yes No

14444

Chain-of-Custody-Record

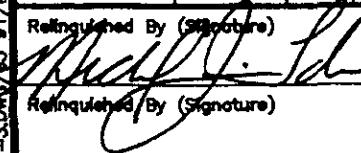
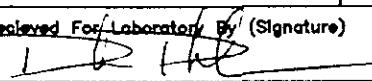
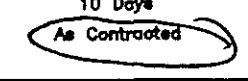
Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number 9-0191
Facility Address 900 OTS AVE
Consultant Project Number 091-2
Consultant Name TAULTSTONE
Address 684 30th AVE.
Project Contact (Name) M. TAMBRONI
(Phone) 386-8791 (Fax Number) 386-8791

Chevron Contact (Name) MARK MILLER
(Phone) 510-842-8134
Laboratory Name SUPERIOR
Laboratory Release Number 9419420
Samples Collected by (Name) M. TAMBRONI
Collection Date 5-21-93
Signature 

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water	Type G = Grab C = Composite D = Discrete	Time	Preservation	Iced (Yes or No)	Analyses To Be Performed							Remarks
								ETEX + 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)
S-1-5'	1	S	D	1030		yes	X	X	X	X	X	X	X	X	
OX-1-6'	1	S	D	1117				X							
OX-2-5'	1	S	D	1215				X							
OX-3-5'	1	S	D	1218				X							
OX-4-6'	1	S	D	1230		v	X								

Please initial:
Samples stored in
Appropriate containers
Frozen
Vials
Diamonds:

Relinquished By (Signature) 	Organization TD	Date/Time 5-21-93 552	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) 	Organization	Date/Time 1752 5/21/93	As Contracted 



Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

June 30, 1994

Mr. Michael Tambroni
Touchstone Developments
684 30th Avenue
San Francisco, CA 94121

Client Project # 0191-2
Laboratory Project # 14444

Dear Mike,

Due to an oversight by the laboratory, sample S-1-5' was not analyzed for 5 metals (Cd, Cr, Pb, Zn, Ni,).

Sincerely,

Cecilia G. Joaquin
Cecilia G. Joaquin
Senior Chemist



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Touchstone Developments
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 05/30/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
14447- 1	SP-1A-D	05/24/93	05/24/93	Soil
14447- 2	SP-2A-D	05/24/93	05/24/93	Soil
14447- 3	OX-5-6'	05/24/93	05/26/93	Soil
14447- 4	OX-6-5'	05/24/93	05/26/93	Soil
14447- 5	OX-7-3'	05/24/93	05/26/93	Soil
14447- 6	OX-8-5'	05/24/93	05/26/93	Soil
14447- 7	OX-9-5'	05/24/93	05/26/93	Soil
14447- 8	OX-10-5'	05/24/93	05/26/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14447- 1 14447- 2 14447- 3 14447- 4 14447- 5

Gasoline:	28	14	ND<1	ND<1	ND<1
Benzene:	ND<.025	ND<.025	ND<.005	ND<.005	ND<.005
Toluene:	0.043	ND<.025	ND<.005	ND<.005	ND<.005
Ethyl Benzene:	ND<.025	ND<.025	ND<.005	ND<.005	ND<.005
Xylenes:	0.34	0.16	ND<.015	ND<.015	ND<.015

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

Laboratory Number: 14447- 6 14447- 7 14447- 8

Gasoline:	ND<1	ND<1	ND<1
Benzene:	ND<.005	ND<.005	ND<.005
Toluene:	ND<.005	ND<.005	ND<.005
Ethyl Benzene:	ND<.005	ND<.005	ND<.005
Xylenes:	ND<.015	ND<.015	ND<.015

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



Superior Precision Analytical, Inc.

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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 2 of 2
QA/QC INFORMATION
SET: 14447

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	93/93	0%	75-111
Benzene:	96/96	0%	75-114
Toluene:	101/100	1%	78-114
Ethyl Benzene:	105/104	1%	76-120
Xylenes:	94/96	2%	71-117

Richard Srna, Ph.D.

Laboratory Director

6/1/93

Fax copy of Lab Report and COC to Chevron Contact: Yes No 14447 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>9-0191</u>	Chevron Contact (Name)	<u>MARK MILLER</u>
	Facility Address	<u>900 OTIS AVE., ALAMADA</u>	(Phone)	<u>510-842-8134</u>
	Consultant Project Number	<u>0191-2</u>	Laboratory Name	<u>SUPERIOR</u>
	Consultant Name	<u>TOUCHSTONE DEVELOPMENTS</u>	Laboratory Release Number	<u>9419420</u>
	Address	<u>684 30TH AVE., SF</u>	Samples Collected by (Name)	<u>M. TAMBRONI</u>
	Project Contact (Name)	<u>MICHAEL TAMBRONI</u>	Collection Date	<u>5-24-93</u>
(Phone)	<u>415 386 8791</u>	(Fax Number)	<u>415 386-8791</u>	

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water	A = Charcoal 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)	Organic Metals Cd, Cr, Pb, Zn, Ni (ICAP or AAS)
SP-1A-D	4	S C	1121	YES	X										18 HOUR
SP-2A-D	4	S C	1146		X										18 HOUR
DX-5-6'	1	S D	1311		X										
DX-6-5'	1	S D	1320		X										
DX-7-3'	1	S D	1328		X										
DX-8-5'	1	S D	1341		X										
DX-9-5'	1	S D	1350		X										
DX-10-5'	1	S D	1365		X										

Please initial:
Samples stored in ice.
Appropriate container.
Samples p...
VOA's w...
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
<u>Rebecca J. Daagman</u>		<u>5-24-93 1530</u>				24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
						5 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Organization	Date/Time	10 Days
			<u>Rebecca J. Daagman</u>			As Contracted



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Touchstone Developments
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 06/02/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
14450- 1	SP-3 A-D	05/25/93	05/27/93	Soil
14450- 2	SP-4 A-D	05/25/93	05/27/93	Soil
14450- 3	SP-5 A-D	05/25/93	05/27/93	Soil
14450- 4	SP-6 A-D	05/25/93	05/27/93	Soil
14450- 5	SP-7 A-D	05/25/93	05/28/93	Soil
14450- 6	SP-8 A-D	05/25/93	05/27/93	Soil
14450- 7	WOSP-1 A-D	05/25/93	05/28/93	Soil
14450- 8	OX-11-5	05/25/93	05/27/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14450- 1 14450- 2 14450- 3 14450- 4 14450- 5

Gasoline:	9	120	160	80	2
Benzene:	ND<.005	ND<.025	ND<.025	ND<.025	ND<.005
Toluene:	0.012	0.24	0.27	0.13	ND<.005
Ethyl Benzene:	ND<.005	0.12	0.14	0.058	ND<.005
Xylenes:	0.026	4.5	4.7	2.3	ND<.015
Diesel:	NA	NA	NA	NA	NA
Oil and Grease:	NA	NA	NA	NA	NA

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

Laboratory Number: 14450- 6 14450- 7 14450- 8

Gasoline:	230	850	ND<1
Benzene:	ND<.025	ND<.050	ND<.005
Toluene:	0.34	0.16	ND<.005
Ethyl Benzene:	0.16	ND<.050	ND<.005
Xylenes:	8.1	8.8	ND<.015
Diesel:	NA	39	NA
Oil and Grease:	NA	ND<50	NA

Concentration: mg/kg mg/kg mg/kg



Superior Precision Analytical, Inc.

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

LABORATORY NO.: 14450-7
CLIENT: TOUCHSTONE DEVELOPMENTS
JOB NO.: 0191-2

DATE SAMPLED: 05/25/93
DATE RECEIVED: 05/25/93
DATE ANALYZED: 06/03/93

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: WOSP-1 A-D

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane/Vinyl Chloride	10	ND
Bromomethane/Chloroethane	10	ND
Trichlorofluoromethane	5	ND
1,1-Dichloroethene	5	ND
Methylene Chloride	50	ND
trans-1,2-Dichloroethene	5	ND
1,1-Dichloroethane	5	ND
cis-1,2-Dichloroethene	5	ND
Chloroform	5	ND
1,1,1-Trichloroethane	5	ND
Carbon tetrachloride	5	ND
1,2-Dichloroethane	5	ND
Trichloroethylene	5	ND
1,2-Dichloropropane	5	ND
Bromodichloromethane	5	ND
Cis-1,3-Dichloropropene	5	ND
trans-1,3-Dichloropropene	5	ND
1,1,2-Trichloroethane	5	ND
Tetrachloroethene	5	ND
Dibromochloromethane	5	ND
Chlorobenzene	5	ND
Bromoform	5	ND
1,1,2,2-Tetrachloroethane	5	ND
1,3-Dichlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND

MDL = Method Detection Limit

ug/kg = parts per billion (ppb)

QA/QC Summary: Daily Standard RPD = <15%

MS/MSD average recovery = 93% : MS/MSD RPD = 4%

Richard Srna, Ph.D.

Richard Srna, Ph.D.
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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 2 of 2
QA/QC INFORMATION
SET: 14450

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

mg/kg = parts per million (ppm)

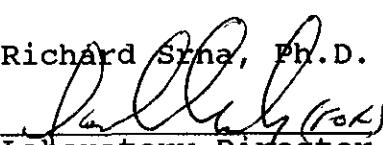
OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Soil: 50mg/kg

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	100/93	7%	75-111
Benzene:	88/97	10%	75-114
Toluene:	94/99	5%	78-114
Ethyl Benzene:	97/99	2%	76-120
Xylenes:	100/100	0%	71-117
Diesel:	93/102	9%	69-127
Oil and Grease:	64/68	6%	75-125

Richard Srna, Ph.D.

Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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

Page 1 of 2

LABORATORY NO.: 14450-7
CLIENT: TOUCHSTONE DEVELOPMENT

DATE RECEIVED: 05/25/93
DATE REPORTED: 06/02/93
JOB NO.: 0191-2

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES

by EPA SW-846 Method 8270

Extraction Method: EPA 3550

Sample Identification: WOSP-1 A-D

Analyte	Result (ug/kg)	Quantitation Limit (ug/kg)
Acenaphthene	ND	330
Acenaphthylene	ND	330
Aniline	ND	330
Anthracene	ND	330
Benzo(a)anthracene	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(ghi)perylene	ND	330
Benzo(a)pyrene	ND	330
Benzidine	ND	1600
Butyl benzyl phthalate	ND	330
Bis(2-chloroethoxy)methane	ND	330
Bis(2-chloroethyl)ether	ND	330
Bis (2-chloroisopropyl) ether	ND	330
Bis (2-ethylhexyl) phthalate	ND	2000
4-Bromophenyl phenyl ether	ND	330
4-Chloroaniline	ND	330
2-chloronaphthalene	ND	330
4-chlorophenyl phenyl ether	ND	330
Chrysene	ND	330
Dibenzo(a,h)anthracene	ND	330
Dibenzofuran	ND	330
Di-n-butyl phthalate	ND	3100
1,2-Dichlorobenzene	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
3,3'-Dichlorobenzidine	ND	660
Diethylphthalate	ND	330
Dimethyl phthalate	ND	330
2,4-Dinitrotoluene	ND	330
2,6-Dinitrotoluene	ND	330
Di-n-octylphthalate	ND	330
Fluoranthene	ND	330



Superior Precision Analytical, Inc.

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Page 2 of 2 Sample# 14450-7

8270 Certificate

Quantitation

Analyte	Result (ug/kg)	Limit (ug/kg)
Fluorene	ND	330
Hexachlorobenzene	ND	330
Hexachlorobutadiene	ND	330
Hexachlorocyclopentadiene	ND	330
Hexachloroethane	ND	330
Indeno(1,2,3-cd) pyrene	ND	330
Isophorone	ND	330
2-Methylnaphthalene	870	330
2-Nitroanaline	ND	1600
3-Nitroanaline	ND	1600
4-Nitroanaline	ND	1600
Naphthalene	530	330
Nitrobenzene	ND	330
N-Nitrosodi-n-propylamine	ND	330
N-Nitrosodiphenylamine	ND	330
Phenanthrene	ND	330
Pyrene	ND	330
1,2,4-Trichlorobenzene	ND	330
ACID EXTRACTABLES		
Benzoic acid	ND	1600
Benzyl alcohol	ND	330
4-Chloro-3-methylphenol	ND	330
2-Chlorophenol	ND	330
2,4-Dichlorophenol	ND	330
2,4-Dimethylphenol	ND	330
2,4-Dinitrophenol	ND	1600
2-Methyl-4,6-dinitrophenol	ND	1600
2-Methylphenol	ND	330
4-Methylphenol	ND	330
4-Nitrophenol	ND	1600
2-Nitrophenol	ND	1600
Pentachlorophenol	ND	1600
Phenol	ND	330
2,4,5-Trichlorophenol	ND	1600
2,4,6-Trichlorophenol	ND	330

ND = Not detected ug/kg = ppb (parts per billion)

QC DATA :

Surrogate Recoveries QC Limits Surrogate Recoveries QC Limits

Nitrobenzene-d5.....115(23-120) Phenol-d5.....40 (24-113)
2-Fluorobiphenyl....70 (30-115) 2-Fluorophenol.....68 (25-121)
Terphenyl-d14.....103(18-137) 2,4,6-Tribromophenol...76 (19-122)

Richard Srna, Ph.D.

Richard Srna
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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

Page 1 of 2

LABORATORY NO.: 14450
CLIENT: TOUCHSTONE DEVELOPMENT

DATE RECEIVED: NA
DATE REPORTED: 06/02/93
JOB NO.: 0191-2

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES
by EPA SW-846 Method 8270
Extraction Method: EPA 3550
Sample Identification: SOIL LAB BLANK

Analyte	Result (ug/kg)	Quantitation Limit (ug/kg)
Acenaphthene	ND	330
Acenaphthylene	ND	330
Aniline	ND	330
Anthracene	ND	330
Benzo(a)anthracene	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(ghi)perylene	ND	330
Benzo(a)pyrene	ND	330
Benzidine	ND	1600
Butyl benzyl phthalate	ND	330
Bis(2-chloroethoxy)methane	ND	330
Bis(2-chloroethyl)ether	ND	330
Bis (2-chloroisopropyl) ether	ND	330
Bis (2-ethylhexyl) phthalate	ND	2000
4-Bromophenyl phenyl ether	ND	330
4-Chloroaniline	ND	330
2-chloronaphthalene	ND	330
4-chlorophenyl phenyl ether	ND	330
Chrysene	ND	330
Dibenzo(a,h)anthracene	ND	330
Dibenzofuran	ND	330
Di-n-butyl phthalate	ND	2100
1,2-Dichlorobenzene	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
3,3'-Dichlorobenzidine	ND	660
Diethylphthalate	ND	330
Dimethyl phthalate	ND	330
2,4-Dinitrotoluene	ND	330
2,6-Dinitrotoluene	ND	330
Di-n-octylphthalate	ND	330
Fluoranthene	ND	330



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Page 2 of 2 Sample# SOIL LAB BLANK
8270 Certificate Quantitation

Analyte	Result (ug/kg)	Limit (ug/kg)
Fluorene	ND	330
Hexachlorobenzene	ND	330
Hexachlorobutadiene	ND	330
Hexachlorocyclopentadiene	ND	330
Hexachloroethane	ND	330
Indeno(1,2,3-cd) pyrene	ND	330
Isophorone	ND	330
2-Methylnaphthalene	ND	330
2-Nitroanaline	ND	1600
3-Nitroanaline	ND	1600
4-Nitroanaline	ND	1600
Naphthalene	ND	330
Nitrobenzene	ND	330
N-Nitrosodi-n-propylamine	ND	330
N-Nitrosodiphenylamine	ND	330
Phenanthrene	ND	330
Pyrene	ND	330
1,2,4-Trichlorobenzene	ND	330
ACID EXTRACTABLES		
Benzoic acid	ND	1600
Benzyl alcohol	ND	330
4-Chloro-3-methylphenol	ND	330
2-Chlorophenol	ND	330
2,4-Dichlorophenol	ND	330
2,4-Dimethylphenol	ND	330
2,4-Dinitrophenol	ND	1600
2-Methyl-4,6-dinitrophenol	ND	1600
2-Methylphenol	ND	330
4-Methylphenol	ND	330
4-Nitrophenol	ND	1600
2-Nitrophenol	ND	1600
Pentachlorophenol	ND	1600
Phenol	ND	330
2,4,5-Trichlorophenol	ND	1600
2,4,6-Trichlorophenol	ND	330

ND = Not detected

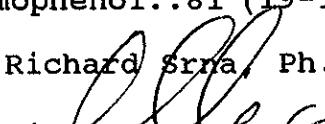
ug/kg = part per billion (ppb)

QC DATA :

Surrogate Recoveries QC Limits Surrogate Recoveries QC Limits

Nitrobenzene-d5.....78 (23-120) Phenol-d5.....73 (24-113)
2-Fluorobiphenyl....83 (30-115) 2-Fluorophenol.....80 (25-121)
Terphenyl-d14.....127 (18-137) 2,4,6-Tribromophenol..81 (19-122)

Richard Srna, Ph.D.


Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

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

LABORATORY NO.: 14450
CLIENT: TOUCHSTONE DEVELOPMENTS

DATE RECEIVED: NA
DATE REPORTED: 06/02/93
JOB NO.: 0191-2

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES
by EPA SW-846 Method 8270
Extraction Method: EPA 3550
MATRIX SPIKE SUMMARY REPORT

Sample Identification: SOIL LAB CONTROL

Date analysed: 27 May 1993 3:04 PM and 4:23 PM

SURROGATE COMPOUND RECOVERIES

Spiked at 100ug/L final for base neutrals and 200 ug/L for Acid Surrogates

	MS % RECOVERY	MSD % RECOVERY
2-Fluorophenol	82	85
Phenol-d5	80	83
Nitro henobenzene-d5	80	84
2-Fluorobiphenyl	84	90
2,4,6-Tribromophenol	93	94
Terphenyl-d14	132	136

MATRIX SPIKE/SPIKE DUPLICATE RECOVERIES

	MS% REC.	MSD % REC.	RPD	LIMITS RECOVERY	RPD
1,4-Dichlorobenzene	64	66	3	28-104	27
n-Nitroso-di-n-propylamine	58	56	3	41-126	38
1,2,4-Trichlorobenzene	68	72	5	38-107	23
Acenaphthene	78	80	2	31-137	19
2,4-Dinitrotoluene	52	54	3	28-89	47
Pyrene	113	116	2	35-142	36
Phenol	66	68	3	26-90	35
4-Nitrophenol	62	66	6	11-114	50
2-Chlorophenol	67	69	2	25-102	50
4-Chloro-3-methylphenol	60	63	5	26-103	42
Pentachlorophenol	46	39	17	17-109	47

ALL SPIKE COMPOUNDS WITHIN LIMITS

Date

177 Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Chevron Facility Number	9-0191	Chevron Contact (Name)	MARK MILLER
	Facility Address	900 OTIS AVE., ALAMEDA	(Phone)	510-842-8134
	Consultant Project Number	0191-2	Laboratory Name	SUPERIOR
	Consultant Name	TOUCHSTONE	Laboratory Release Number	9419420
	Address	684 30TH AVE, SF	Samples Collected by (Name)	M. TAMBRONI
	Project Contact (Name)	M. TAMBRONI	Collection Date	5-25-93
(Phone)	386-8791	(Fax Number)	386-8791	

Analytes To Be Performed

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)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8220)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICAP or AA)	
SP-3A-D	4	5	C	C	1236		YES	X									
SP-4A-D	2	4	S	C	1242				X								
SP-5A-D	2	4	S	C	1254				X								
SP-6A-D	4	4	S	C	1300				X								
SP-7A-D	4	4	S	C	1310				X								
SP-8A-D	4	4	S	C	1319				X								
WOSP-1A-D	7	4	S	C	1330				X	X	X	X	X	X	X		
OK-11-5-	1	1	S	D	1207		▼	X									

OCC-3-DWG/OS/91/HCH

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choices)
<i>Mark Miller</i>	T.D.	5-25-93 / 1804				24 Hrs.
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	48 Hrs.
						5 Days
						10 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)	Organization	Date/Time	As Contracted
			<i>Mark Miller</i>		11/25/93	

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

14450

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>9-0191</u> Facility Address <u>900 OTIS AVE., ALAMEDA</u> Consultant Project Number <u>0191-2</u> Consultant Name <u>TOUCHSTONE</u> Address <u>684 30TH AVE, SF</u> Project Contact (Name) <u>M. TAMBRONI</u> (Phone) <u>386-8791</u> (Fax Number) <u>386-8791</u>	Chevron Contact (Name) <u>MARK MILLER</u> (Phone) <u>510-842-8134</u> Laboratory Name <u>SUPERIOR</u> Laboratory Release Number <u>9419420</u> Samples Collected by (Name) <u>M. TAMBRONI</u> Collection Date <u>5-25-93</u> Signature <u>M. TAMBRONI</u>
--	--	---	---

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water	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)	Purgeable Halocarbons (8520)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd, Cr, Pb, Zn, Ni (ICP or AA)	
SP-3A-D	1	4	S	C	1236		YES	X							
SP-4A-D	2	4	S	C	1242			X							Private Label SC. (initials)
SP-5A-D	3	4	S	C	1254			X							Handled
SP-6-A-D	4	4	S	C	1300			X							V.O.C.
SP-7A-D	5	4	S	C	1310			X							
SP-8A-D	6	4	S	C	1319			X							
WSP-1A-D	7	4	S	C	1330			X	X	X	X	X	X		
OK-11-S-	8	1	S	D	1227			X							

Relinquished By (Signature) <i>M. TAMBRONI</i>	Organization <u>T.D.</u>	Date/Time <u>5-25-93 / 804</u>	Received By (Signature)	Organization	Date/Time	Turn Around Time (Circle Choice)
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	24 Hrs. 48 Hrs. 5 Days 10 Days
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <i>K. H.</i>	Date/Time		As Contracted

Section I

Chain of Custody and Analysis Request

page ____ of ____

From: Superior Precision Analytical, Inc.
 1555 Burke St. Unit 1
 San Francisco, CA 92124
 Phone No. (415) 647-2081 Fax No. (415) 821-7123
 Contact: Angela
 P.O. No. 14450

Turn Around Time
 (circle one)
 Same Day 72 Hrs
 24 Hrs 5 Day
 48 Hrs 10 Day



Superior Precision Analytical, Inc.

P.O. Box 1545
 Martinez, California 94553Work Subcontracted to: 7M17Z

Section II: Analysis Request

Laboratory Sample Identification	Matrix	S = Soil A = Air W = Water	CAMS	Metals:	418.1	8270	8080 (pest. and PCB's)	3 metals 10AT	Client Sample Identification	Number of Containers	Preservative (yes or no)	Sampling Remarks
1 14450-7						X			LJSP-1A-D	1		<input checked="" type="checkbox"/> Chevron <input type="checkbox"/> Non-Chevron
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
Relinquished by <u>Angela</u>	Organization	Date/Time <u>5/26/93 11:45</u>	Received by _____ Organization _____	Date/Time _____	Lab please initial the following: Samples Stored in Ice _____							
Relinquished by _____	Organization _____	Date/Time _____	Received by _____ Organization _____	Date/Time _____	Appropriate Containers _____							
Relinquished by _____	Organization _____	Date/Time _____	Received by _____ Organization _____	Date/Time _____	Samples Preserved _____							
Relinquished by _____	Organization _____	Date/Time _____	Received by _____ Organization _____	Date/Time _____	VOAs without Headspace _____							
					Comments _____							



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 0190-1
Reported 25-May-1993

METALS ANALYSIS by SW- 846 method 6000 series

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
TX-1-5'	05/18/93	05/18/93	/	/	05/25/93	1
WO-5'	05/18/93	05/18/93	/	/	05/25/93	2



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 0190-1
Reported 25-May-1993

Laboratory Number	Sample Identification	Matrix
-------------------	-----------------------	--------

88646- 1	TX-1-5'	Soil
88646- 2	WO-5'	Soil

RESULTS OF ANALYSIS

Laboratory Number: 88646- 1 88646-2

CADMIUM:	NA	ND<1
CHROMIUM:	NA	22
NICKEL:	NA	22
LEAD:	6	ND<5
ZINC:	NA	18

Concentration: mg/kg mg/kg



Superior Precision Analytical, Inc.

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

Quality Assurance and Control Data - Soil

Laboratory Number 88646

Compound	Method Blank (mg/kg)	PQL (mg/kg)	Average Spike Recovery (%)	Limits (%)	RPD (%)
CADMIUM:	ND<1	1	93	75-125	2
CHROMIUM:	ND<5	5	86	75-125	3
NICKEL:	ND<5	5	90	75-125	3
LEAD:	ND<5	5	100	75-125	3
ZINC:	ND<20	20	94	75-125	3

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

PQL = Practical Quantitation Limit

QC File No. 88646

Michele Carroll
Senior Analyst

Fax copy of Lab Report and COC to Chevron Contact: Yes No 14431 Chain-of-Custody-Record

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

Chevron Facility Number 9-0190
Facility Address 900 OTIS AVE. Alameda
Consultant Project Number 0190-1
Consultant Name TOUCHSTONE
Address 684 30th AVE. SF
Project Contact (Name) M. TAMBONI
(Phone) 386-8791 (Fax Number) 386-8791

Chevron Contact (Name) MARK MILLER
(Phone) 510-842-8134
Laboratory Name SUPERIOR
Laboratory Release Number 4751970
Samples Collected by (Name) M. TAMBONI
Collection Date 5-18-93
Signature *Mark Miller*

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water	Air A = Chappell	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)
MW-H2O	3	W	G	1025	ACL	yes	X									
TX-1-5'	1	S	D	1238		yes	X									X
TX-2-5'	1	S	D	1240		yes	X									
TX-3-5'	1	S	D	1242		yes	X									
TX-4-5'	1	S	D	1246		yes	X									
TX-5-5'	1	S	D	1248		yes	X									
TX-6-5'	1	S	D	1254		yes	X									
P-1-2'	1	S	D	110		yes	X									24 Hour TAT
P-2-3'	1	S	D	135		yes	X									24 Hour TAT
P-3-3'	1	S	D	143		yes	X									24 Hour TAT
P-4-3'	1	S	D	201		yes	X									24 Hour TAT
W0-5'	1	S	D	1213		yes	X	X	X	X						
SW-1-3'	1	S	D	300		yes	X									24 Hour TAT

COC-3 DWG/03/91 HCH

Relinquished By (Signature)

Relinquished By (Signature)

Relinquished By (Signature)

Organization

Organization

Organization

Date/Time

Date/Time

Date/Time

Received By (Signature)

Received By (Signature)

Received For Laboratory By (Signature)

Organization

Organization

Date/Time

Turn Around Time (Circle Choice)

24 hrs.

48 hrs.

5 Days

10 Days

As Contracted

Date/Time

6:20



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.: 88722
CLIENT: TOUCHSTONE DEVELOPMENTS
CLIENT JOB NO.: 0191-2

DATE RECEIVED: 05/25/93
DATE REPORTED: 06/01/93
DATE SAMPLED: 05/25/93

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

LAB #	Sample Identification	Cadmium	Chromium	Lead	Zinc	Nickel
1	WOSP-1 a-d	ND	24	5	26	22

mg/kg - parts per million (ppm)

Method Detection Limit for Cadmium in Soil: 0.5 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: 5 mg/kg
Method Detection Limit for Nickel in Soil: 5 mg/kg

QAQC Summary: MS/MSD Recovery Range: 93/102%
Duplicate RPD : < 3%

Richard Srna, Ph.D.

Felomina V. Languijig (far)
Laboratory Manager

copy of Lab Report and COC to Chevron Contact: No

Yes

14450

Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591	Facility Address	900 OTIS AVE., ALAMEDA	Facility Address	900 OTIS AVE., ALAMEDA
	Consultant Project Number	0191-2	Consultant Project Number	0191-2
	Consultant Name	TOUCHSTONE	Consultant Name	TOUCHSTONE
	Address	684 30TH AVE, SF	Address	684 30TH AVE, SF
	Project Contact (Name)	M. TAMBRONI	Project Contact (Name)	M. TAMBRONI
	(Phone)	386-8791	(Phone)	386-8791
	(Fax Number)		(Fax Number)	

www.ijmsc.org

Retinished By (Signature) <i>Mark J. H.</i>	Organization T.D.	Date/Time 5-25-93 / 1804	Received By (Signature) <i>John C. H.</i>	Organization	Date/Time	Turn Around Time (Circle Choice)
Retinished By (Signature) <i>Mark J. H.</i>	Organization	Date/Time	Received By (Signature)	Organization	Date/Time	
Retinished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) <i>Karen H.</i>	Organization	Date/Time 5-25-93	<input type="radio"/> 24 Hrs. <input type="radio"/> 48 Hrs. <input checked="" type="radio"/> 5 Days <input type="radio"/> 10 Days <input checked="" type="radio"/> As Contracted



Superior Precision Analytical, Inc.

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

TOUCHSTONE
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 02-December-1993

ANALYSIS FOR SOLUBLE CAM 17 METALS
California Administration Code Title 22, Paragraph 66700 & EPA Methods
SW-846 6010 & 7000 series.

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
WOSP-2 A-D	11/23/93	11/23/93	11/29/93	12/02/93		2



Superior Precision Analytical, Inc.

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TOUCHSTONE
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 02-December-1993

ANALYSIS FOR SOLUBLE CAM 17 METALS

Laboratory Number	Sample Identification	Matrix
14994- 2	WOSP-2 A-D	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14994- 2

Antimony	(Sb) :	ND<1
Arsenic	(As) :	ND<0.25
Barium	(Ba) :	1.1
Beryllium	(Be) :	ND<0.1
Cadmium	(Cd) :	ND<0.1
Chromium	(Cr) :	ND<0.5
Cobalt	(Co) :	ND<0.5
Copper	(Cu) :	ND<0.5
Lead	(Pb) :	ND<0.5
Mercury	(Hg) :	ND<0.05
Molybdenum	(Mo) :	ND<0.5
Nickel	(Ni) :	ND<0.5
Selenium	(Se) :	ND<1
Silver	(Ag) :	ND<0.5
Thallium	(Tl) :	ND<2
Vanadium	(V) :	ND<0.5
Zinc	(Zn) :	ND<0.5

Concentration: mg/L



Superior Precision Analytical, Inc.

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ANALYSIS FOR SOLUBLE CAM 17 METALS Quality Assurance and Control Data - Soil

Laboratory Number 14994

Compound	Method	Blank (mg/L)	RL (mg/L)	Spike Recovery (%)	Limits (%)	RPD (%)
Antimony	(Sb) :	ND<1	1	104/104	75-125	0%
Arsenic	(As) :	ND<0.25	0.25	104/107	75-125	3%
Barium	(Ba) :	ND<0.5	0.5	98/97	75-125	1%
Beryllium	(Be) :	ND<0.1	0.1	100/101	75-125	1%
Cadmium	(Cd) :	ND<0.1	0.1	107/107	75-125	0%
Chromium	(Cr) :	ND<0.5	0.5	101/101	75-125	0%
Cobalt	(Co) :	ND<0.5	0.5	103/104	75-125	1%
Copper	(Cu) :	ND<0.5	0.5	100/99	75-125	1%
Lead	(Pb) :	ND<0.5	0.5	108/106	75-125	2%
Mercury	(Hg) :	ND<0.05	0.05	116/103	75-125	12%
Molybdenum	(Mo) :	ND<0.5	0.5	102/103	75-125	1%
Nickel	(Ni) :	ND<0.5	0.5	103/104	75-125	1%
Selenium	(Se) :	ND<1	1	107/116	75-125	8%
Silver	(Ag) :	ND<0.5	0.5	97/100	75-125	3%
Thallium	(Tl) :	ND<2	2	101/107	75-125	6%
Vanadium	(V) :	ND<0.5	0.5	103/103	75-125	0%
Zinc	(Zn) :	ND<0.5	0.5	104/102	75-125	2%

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/L = Parts per million (ppm)

QC File No. 14994

Michael R. Vucora

Senior Chemist
Account Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 04/08/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
15386- 1	WOSP-2A-D	04/07/94	04/08/94 Soil

RESULTS OF ANALYSIS

Laboratory Number: 15386- 1

Diesel: *10

Concentration: mg/kg

* Does not match the typical diesel pattern - heavier hydrocarbons present.



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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 2 of 2
QA/QC INFORMATION
SET: 15386

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Diesel:	100/98	2%	47-164

Senior Chemist
Account Manager

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

Yes
 No

15386 Chain-of-Custody-Record

<p>Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591</p>	Chevron Facility Number	9-0191
	Facility Address	900 OTIS Ave, ALAMEDA
	Consultant Project Number	0141-2
	Consultant Name	TOUCHSTONE
	Address	684 - 30th Ave, SF, CA
	Project Contact (Name)	M. TAMBROW
(Phone)	386-8791 (Fax Number)	
	386-8791	

Relinquished By (Signature)

Organization

Date/Th

Date/Time Rec
4-7-94 175

Received By (Signature)

Organization

Date / Time _____

Turn Around Time (Circle Choice)

~~3~~ Distinguished By (Signature)

Organization

Bgt/M

Date/Time

Received By (Signature)

Organization

Date/Time

Turn Around Time (Circle Choice)

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



Superior Precision Analytical, Inc.

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TOUCHSTONE
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 02-December-1993

ANALYSIS FOR SOLUBLE CAM 17 METALS
California Administration Code Title 22, Paragraph 66700 & EPA Methods
SW-846 6010 & 7000 series.

Chronology	Laboratory Number 14994					
Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
WOSP-2 A-D	11/23/93	11/23/93	11/29/93	12/02/93		2



Superior Precision Analytical, Inc.

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

TOUCHSTONE
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 02-December-1993

ANALYSIS FOR SOLUBLE CAM 17 METALS

Laboratory Number	Sample Identification	Matrix
14994- 2	WOSP-2 A-D	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14994- 2

Antimony	(Sb) :	ND<1
Arsenic	(As) :	ND<0.5
Barium	(Ba) :	1.1
Beryllium	(Be) :	ND<0.1
Cadmium	(Cd) :	ND<0.1
Chromium	(Cr) :	ND<0.5
Cobalt	(Co) :	ND<0.5
Copper	(Cu) :	ND<0.5
Lead	(Pb) :	ND<0.5
Mercury	(Hg) :	ND<0.05
Molybdenum	(Mo) :	ND<0.5
Nickel	(Ni) :	ND<0.5
Selenium	(Se) :	ND<1
Silver	(Ag) :	ND<0.5
Thallium	(Tl) :	ND<2
Vanadium	(V) :	ND<0.5
Zinc	(Zn) :	ND<0.5

Concentration: mg/L



Superior Precision Analytical, Inc.

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

ANALYSIS FOR SOLUBLE CAM 17 METALS Quality Assurance and Control Data - Soil

Laboratory Number 14994

Compound		Method		Spike		
		Blank	RL	Recovery	Limits	RPD
		(mg/L)	(mg/L)	(%)	(%)	(%)
Antimony	(Sb) :	ND<1	1	104/104	75-125	0%
Arsenic	(As) :	ND<0.5	0.5	104/107	75-125	3%
Barium	(Ba) :	ND<0.5	0.5	98/97	75-125	1%
Beryllium	(Be) :	ND<0.1	0.1	100/101	75-125	1%
Cadmium	(Cd) :	ND<0.1	0.1	107/107	75-125	0%
Chromium	(Cr) :	ND<0.5	0.5	101/101	75-125	0%
Cobalt	(Co) :	ND<0.5	0.5	103/104	75-125	1%
Copper	(Cu) :	ND<0.5	0.5	100/99	75-125	1%
Lead	(Pb) :	ND<0.5	0.5	108/106	75-125	2%
Mercury	(Hg) :	ND<0.05	0.05	116/103	75-125	12%
Molybdenum	(Mo) :	ND<0.5	0.5	102/103	75-125	1%
Nickel	(Ni) :	ND<0.5	0.5	103/104	75-125	1%
Selenium	(Se) :	ND<1	1	107/116	75-125	8%
Silver	(Ag) :	ND<0.5	0.5	97/100	75-125	3%
Thallium	(Tl) :	ND<2	2	101/107	75-125	6%
Vanadium	(V) :	ND<0.5	0.5	103/103	75-125	0%
Zinc	(Zn) :	ND<0.5	0.5	104/102	75-125	2%

Definitions:

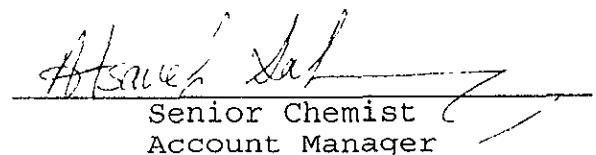
ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

mg/L = Parts per million (ppm)

QC File No. 14994


H. Baker, Jr.
Senior Chemist
Account Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 02-December-1993

METHOD 8270 SEMIVOLATILE ORGANICS BY GC/MS

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
WOSP-2A-D	11/23/93	11/23/93	12/01/93	12/02/93		16



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TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 02-December-1993

METHOD 8270 SEMIVOLATILE ORGANICS BY GC/MS

Laboratory Number	Sample Identification	Matrix
14994-16	WOSP-2A-D	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14994-16

bis(2-chloroethyl)ethe:	ND<330
aniline:	ND<330
phenol:	ND<330
2-chlorophenol:	ND<330
1,3-dichlorobenzene:	ND<330
1,4-dichlorobenzene:	ND<330
1,2-dichlorobenzene:	ND<330
benzyl alcohol:	ND<330
bis-(2-chloroisopropyl):	ND<330
2-methylphenol:	ND<330
hexachloroethane:	ND<330
n-nitroso-di-n-propyla:	ND<330
4-methylphenol:	ND<330
nitrobenzene:	ND<330
isophorone:	ND<330
2-nitrophenol:	ND<330
2,4-dimethylphenol:	ND<330
bis(2-chloroethoxy)met:	ND<330
2,4-dichlorophenol:	ND<330
1,2,4-trichlorobenzene:	ND<330
naphthalene:	ND<330
benzoic acid:	ND<330
4-chloroaniline:	ND<330
hexachlorobutadiene:	ND<330
4-chloro-3-methylpheno:	ND<330
2-methyl-naphthalene:	ND<330
hexaclarocyclopentadie:	ND<330
2,4,6-trichlorophenol:	ND<330
2,4,5-trichlorophenol:	ND<800

Concentration: ug/Kg



Superior Precision Analytical, Inc.

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TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 02-December-1993

METHOD 8270 SEMIVOLATILE ORGANICS BY GC/MS

Laboratory Number	Sample Identification	Matrix
14994-16	WOSP-2A-D	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14994-16

2-chloronaphthalene:	ND<330
2-nitroaniline:	ND<800
acenaphthylene:	ND<330
dimethylphthalate:	ND<330
2,6-dinitrotoluene:	ND<330
acenaphthene:	ND<330
3-nitroaniline:	ND<800
2,4-dinitrophenol:	ND<800
dibenzofuran:	ND<330
2,4-dinitrotoluene:	ND<330
4-nitrophenol:	ND<800
fluorene:	ND<330
4-chlorophenyl-phenyle:	ND<330
diethylphthalate:	ND<330
4-nitroaniline:	ND<800
4,6-dinitro-2-methylph:	ND<800
n-nitrosodiphenylamine:	ND<330
4-bromo-phenyl-phenyle:	ND<330
hexachlorobenzene:	ND<330
pentachlorophenol:	ND<800
phenanthrene:	ND<330
anthracene:	ND<330
di-n-butylphthalate:	ND<330
fluoranthene:	ND<330
benzidine:	ND<1700
pyrene:	ND<330
butylbenzylphthalate:	ND<330
3,3'-dichlorobenzidine:	ND<660
benzo[a]anthracene:	ND<330

Concentration: ug/Kg



TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 02-December-1993

METHOD 8270 SEMIVOLATILE ORGANICS BY GC/MS

Laboratory Number	Sample Identification	Matrix
-------------------	-----------------------	--------

14994-16	WOSP-2A-D	Soil
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RESULTS OF ANALYSIS

Laboratory Number: 14994-16

chrysene: ND<330
bis(2-ethylhexyl)phtha:ND<330
di-n-octylphthalate: ND<330
benzo(b,k)fluoranthene:ND<330
benzo[a]pyrene: ND<330
indeno[1,2,3-cd]pyrene:ND<330
dibenzo[a,h]anthracene:ND<330
benzo[g,h,i]anthracene:ND<330

Concentration: ug/Kg

-- Surrogate % Recoveries --

2-fluorophenol: 75
phenol-d6: 77
nitrobenzene-d5: 73
2-fluorobiphenyl: 77
2,4,6-tribromophenol: 92
terphenyl-d14: 84



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METHOD 8270 SEMIVOLATILE ORGANICS BY GC/MS Quality Assurance and Control Data - Soil

Laboratory Number 14994

Compound	Method Blank (ug/Kg)	RL (ug/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
bis(2-chloroethyl)ethe:	ND<330	330			
aniline:	ND<330	330			
phenol:	ND<330	330	61/63	26-90	3%
2-chlorophenol:	ND<330	330	65/67	11-120	3%
1,3-dichlorobenzene:	ND<330	330			
1,4-dichlorobenzene:	ND<330	330	62/63	1-154	2%
1,2-dichlorobenzene:	ND<330	330			
benzyl alcohol:	ND<330	330			
bis-(2-chloroisopropyl):	ND<330	330			
2-methylphenol:	ND<330	330			
hexachloroethane:	ND<330	330			
n-nitroso-di-n-propyla:	ND<330	330	79/81	11-133	3%
4-methylphenol:	ND<330	330			
nitrobenzene:	ND<330	330			
isophorone:	ND<330	330			
2-nitrophenol:	ND<330	330			
2,4-dimethylphenol:	ND<330	330			
bis(2-chloroethoxy)met:	ND<330	330			
2,4-dichlorophenol:	ND<330	330			
1,2,4-trichlorobenzene:	ND<330	330	58/59	1-139	2%
naphthalene:	ND<330	330			
benzoic acid:	ND<330	330			
4-chloroaniline:	ND<330	330			
hexachlorobutadiene:	ND<330	330			
4-chloro-3-methylpheno:	ND<330	330	61/62	11-122	2%
2-methyl-naphthalene:	ND<330	330			
hexachlorocyclopentadiie:	ND<330	330			
2,4,6-trichlorophenol:	ND<330	330			
2,4,5-trichlorophenol:	ND<800	800			



Superior Precision Analytical, Inc.

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METHOD 8270 SEMIVOLATILE ORGANICS BY GC/MS Quality Assurance and Control Data - Soil

Laboratory Number 14994

Compound	Method Blank (ug/Kg)	RL (ug/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
2-chloronaphthalene:	ND<330	330			
2-nitroaniline:	ND<800	800			
acenaphthylene:	ND<330	330			
dimethylphthalate:	ND<330	330			
2,6-dinitrotoluene:	ND<330	330			
acenaphthene:	ND<330	330	62/62	20-131	0%
3-nitroaniline:	ND<800	800			
2,4-dinitrophenol:	ND<800	800			
dibenzofuran:	ND<330	330			
2,4-dinitrotoluene:	ND<330	330	53/55	7-111	4%
4-nitrophenol:	ND<800	800	30/31	1-118	3%
fluorene:	ND<330	330			
4-chlorophenyl-phenyle:	ND<330	330			
diethylphthalate:	ND<330	330			
4-nitroaniline:	ND<800	800			
4,6-dinitro-2-methylph:	ND<800	800			
n-nitrosodiphenylamine:	ND<330	330			
4-bromo-phenyl-phenyle:	ND<330	330			
hexachlorobenzene:	ND<330	330			
pentachlorophenol:	ND<800	800	31/35	1-119	12%
phenanthrene:	ND<330	330			
anthracene:	ND<330	330			
di-n-butylphthalate:	ND<330	330			
fluoranthene:	ND<330	330			
benzidine:	ND<1700	1700			
pyrene:	ND<330	330	71/69	20-156	3%
butylbenzylphthalate:	ND<330	330			
3,3'-dichlorobenzidine:	ND<660	660			
benzo[a]anthracene:	ND<330	330			



Superior Precision Analytical, Inc.

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METHOD 8270 SEMIVOLATILE ORGANICS BY GC/MS Quality Assurance and Control Data - Soil

Laboratory Number 14994

Compound	Method Blank (ug/Kg)	RL (ug/Kg)	Spike Recovery (%)	Limits (%)	RPD (%)
chrysene:	ND<330	330			
bis(2-ethylhexyl)phtha:	ND<330	330			
di-n-octylphthalate:	ND<330	330			
benzo(b,k)fluoranthene:	ND<330	330			
benzo[a]pyrene:	ND<330	330			
indeno[1,2,3-cd]pyrene:	ND<330	330			
dibenzo[a,h]anthracene:	ND<330	330			
benzo[g,h,i]anthracene:	ND<330	330			
2-fluorophenol:	86			25-121	
phenol-d6:	86			24-113	
nitrobenzene-d5:	72			23-120	
2-fluorobiphenyl:	79			30-115	
2,4,6-tribromophenol:	91			19-122	
terphenyl-d14:	85			18-137	

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

ug/Kg = Parts per billion (ppb)

QC File No. 14994

Amy A Noggin

Senior Chemist
Account Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 30-November-1993

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
by GAS CHROMATOGRAPHY - MASS SPECTROMETRY

Identification	Sampled	Received	Extracted	Analyzed	Run #	Lab #
WOSP-2A-D	11/23/93	11/23/93	/	/	11/26/93	16



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 30-November-1993

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS

Laboratory Number	Sample Identification	Matrix
14994-16	WOSP-2A-D	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14994-16

Chloromethane:	ND<50
Bromomethane:	ND<50
Vinyl Chloride:	ND<50
Chloroethane:	ND<50
Methylene Chloride:	ND<50
Acetone:	ND<50
Carbon Disulfide:	ND<15
Trichlorofluoromethane:	ND<15
1,1-Dichloroethene:	ND<15
1,1-Dichloroethane:	ND<15
t-1,2-Dichloroethene:	ND<15
Chloroform:	ND<15
1,2-Dichloroethane:	ND<5
2-Butanone:	ND<100
1,1,1-Trichloroethane:	ND<15
Carbon tetrachloride:	ND<15
Vinyl Acetate:	ND<50
Bromodichloromethane:	ND<15
1,2-Dichloropropane:	ND<15
c-1,2-Dichloroethene:	ND<15
c-1,3-Dichloropropene:	ND<15
Trichloroethene:	ND<15
Dibromochloromethane:	ND<15
1,1,2-Trichloroethane:	ND<15
Benzene:	ND<5
t-1,3-Dichloropropene:	ND<15
Bromoform:	ND<15
4-Methyl-2-Pentanone:	ND<50
2-Hexanone:	ND<50
Concentration:	ug/kg



Superior Precision Analytical, Inc.

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TOUCHSTONE DEVELOPMENTS
Attn: MICHAEL TAMBRONI

Project 0191-2
Reported 30-November-1993

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS

Laboratory Number	Sample Identification	Matrix
14994-16	WOSP-2A-D	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14994-16

Tetrachloroethene:	ND<15
1,1,2,2-Tetrachloroethane:	ND<15
Toluene:	ND<15
Chlorobenzene:	ND<15
Ethyl Benzene:	ND<15
Styrene:	ND<15
Xylenes:	ND<15
1,3-Dichlorobenzene:	ND<15
1,4-Dichlorobenzene:	ND<15
1,2-Dichlorobenzene:	ND<15

Concentration: ug/kg

-- Surrogate % Recoveries --
1,2-Dichloroethane-d4: 111
Toluene-d8: 105
Bromofluorobenzene: 99



Superior Precision Analytical, Inc.

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EPA SW-846 METHOD 8240 - VOLATILE ORGANICS Quality Assurance and Control Data - Soil

Laboratory Number 14994

Compound	Method Blank (ug/kg)	RL (ug/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Chloromethane:	ND<50	50			
Bromomethane:	ND<50	50			
Vinyl Chloride:	ND<50	50			
Chloroethane:	ND<50	50			
Methylene Chloride:	ND<50	50			
Acetone:	ND<50	50			
Carbon Disulfide:	ND<15	15			
Trichlorofluoromethane:	ND<15	15			
1,1-Dichloroethene:	ND<15	15	103/102	59-172	1%
1,1-Dichloroethane:	ND<15	15			
t-1,2-Dichloroethene:	ND<15	15			
Chloroform:	ND<15	15			
1,2-Dichloroethane:	ND<5	5			
2-Butanone:	ND<100	100			
1,1,1-Trichloroethane:	ND<15	15			
Carbon tetrachloride:	ND<15	15			
Vinyl Acetate:	ND<50	50			
Bromodichloromethane:	ND<15	15			
1,2-Dichloropropane:	ND<15	15			
c-1,2-Dichloroethene:	ND<15	15			
c-1,3-Dichloropropene:	ND<15	15			
Trichloroethene:	ND<15	15	103/99	62-137	4%
Dibromochloromethane:	ND<15	15			
1,1,2-Trichloroethane:	ND<15	15			
Benzene:	ND<5	5	104/101	66-142	3%
t-1,3-Dichloropropene:	ND<15	15			
Bromoform:	ND<15	15			
4-Methyl-2-Pentanone:	ND<50	50			
2-Hexanone:	ND<50	50			



EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
Quality Assurance and Control Data - Soil

Laboratory Number 14994

Compound	Method Blank (ug/kg)	RL (ug/kg)	Spike Recovery (%)	Limits (%)	RPD (%)
Tetrachloroethene:	ND<15	15			
1,1,2,2-Tetracl-ethane:	ND<15	15			
Toluene:	ND<15	15	100/100	59-139	0%
Chlorobenzene:	ND<15	15	108/107	60-133	1%
Ethyl Benzene:	ND<15	15			
Styrene:	ND<15	15			
Xylenes:	ND<15	15			
1,3-Dichlorobenzene:	ND<15	15			
1,4-Dichlorobenzene:	ND<15	15			
1,2-Dichlorobenzene:	ND<15	15			
1,2-Dichloroethane-d4:	101				
Toluene-d8:	101				
Bromofluorobenzene:	100				

Definitions:

ND = Not Detected

RPD = Relative Percent Difference

RL = Reporting Limit

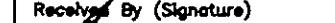
ug/kg = Parts per billion (ppb)

QC File No. 14994

Dawn A. Nwogo
Senior Chemist
Account Manager

Fax copy of Lab Report and COC to Chevron Contact: No 14994 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>9-0191</u> Facility Address <u>900 Oki's Ave, Alameda</u> Consultant Project Number <u>091-2</u> Consultant Name <u>TOUCHSTONE</u> Address <u>684 30th Ave, SF</u> Project Contact (Name) <u>M. Tamboni</u> (Phone) <u>386-8791</u> (Fax Number) <u>386-8791</u>	Chevron Contact (Name) <u>MARK MILLER</u> (Phone) <u>310-842-8134</u> Laboratory Name <u>SUPERIOR</u> Laboratory Release Number <u>9419420</u> Samples Collected by (Name) <u>M. Tamboni</u> Collection Date <u>11-23-93</u> Signature <u>MILLER</u> <u>Tamboni</u>
--	---	---

Relinquished By (Signature) 	Organization TO	Date/Time 1/23-93	Received By (Signature) 	Organization REC	Date/Time 1/23 9:13	Turn Around Time (Circle Choice)
Relinquished By (Signature) 	Organization	Date/Time	Received By (Signature) 	Organization	Date/Time	
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature) 		Date/Time 1/23 7:00pm	As Contracted



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Touchstone Developments
Attn: MICHAEL TAMBRONI

Project 0191-1
Reported 05/25/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
14431- 1	MW-H2O	05/18/93	05/20/93	Water
14431- 2	TX-1-5'	05/18/93	05/25/93	Soil
14431- 3	TX-2-5'	05/18/93	05/25/93	Soil
14431- 4	TX-3-5'	05/18/93	05/21/93	Soil
14431- 5	TX-4-5'	05/18/93	05/24/93	Soil
14431- 6	TX-5-5'	05/18/93	05/24/93	Soil
14431- 7	TX-6-5'	05/18/93	05/25/93	Soil
14431- 8	P-1-2'	05/18/93	05/19/93	Soil
14431- 9	P-2-3'	05/18/93	05/19/93	Soil
14431-10	P-3-3'	05/18/93	05/19/93	Soil

RESULTS OF ANALYSIS

Laboratory Number: 14431- 1 14431- 2 14431- 3 14431- 4 14431- 5

Gasoline:	10000	130	120	140	1
Benzene:	560	ND<0.25	0.085	ND<.025	0.053
Toluene:	230	0.47	0.50	0.78	0.056
Ethyl Benzene:	720	0.60	0.58	1.1	0.054
Xylenes:	1000	4.9	4.5	9.9	0.12
Diesel:	NA	NA	NA	NA	NA
Oil and Grease:	NA	NA	NA	NA	NA
Concentration:	ug/L	mg/kg	mg/kg	mg/kg	mg/kg

Laboratory Number: 14431- 6 14431- 7 14431- 8 14431- 9 14431-10

Gasoline:	7400	ND<1	ND<1	3	31000
Benzene:	3.1	0.031	ND<.005	ND<.005	220
Toluene:	160	0.010	ND<.005	0.006	1600
Ethyl Benzene:	68	0.021	ND<.005	0.067	480
Xylenes:	940	0.031	ND<.015	0.26	3100
Diesel:	NA	NA	NA	NA	NA
Oil and Grease:	NA	NA	NA	NA	NA
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg



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Touchstone Developments
Attn: MICHAEL TAMBRONI

Project 0191-1
Reported 05/25/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
14431-11	P-4-3'	05/18/93	05/19/93 Soil
14431-12	WO-5'	05/18/93	05/24/93 Soil
14431-13	SW-1-3'	05/18/93	05/19/93 Soil

RESULTS OF ANALYSIS

Laboratory Number: 14431-11 14431-12 14431-13

Gasoline:	4	ND<1	14
Benzene:	ND<.005	ND<.005	0.067
Toluene:	0.016	ND<.005	0.51
Ethyl Benzene:	0.095	ND<.005	0.20
Xylenes:	0.050	ND<.015	2.1
Diesel:	NA	ND<1	NA
Oil and Grease:	NA	ND<50	NA
Concentration:	mg/kg	mg/kg	mg/kg



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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: 14431

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	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	98/98	0%	74-106
Benzene:	102/98	4%	72-105
Toluene:	101/98	3%	75-111
Ethyl Benzene:	102/99	3%	78-110
Xylenes:	102/99	3%	69-117
Diesel:	101/94	7%	69-127
Oil and Grease:	84/84	0%	56-132

Richard Srna, Ph.D.

Richard Srna, Ph.D.
Laboratory Director



Superior Precision Analytical, Inc.

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

LABORATORY NO.: 14431-12
CLIENT: TOUCHSTONE DEVELOPMENTS
JOB NO.: 0191-1

DATE SAMPLED: 05/18/93
DATE RECEIVED: 05/18/93
DATE ANALYZED: 05/19/93

EPA SW-846 METHOD 8010
HALOGENATED VOLATILE ORGANICS
SAMPLE: WO-5'

Compound	MDL (ug/kg)	RESULTS (ug/kg)
Chloromethane/Vinyl Chloride	10	ND
Bromomethane/Chloroethane	10	ND
Trichlorofluoromethane	5	ND
1,1-Dichloroethene	5	ND
Methylene Chloride	20	ND
trans-1,2-Dichloroethene	5	ND
1,1-Dichloroethane	5	ND
cis-1,2-Dichloroethene	5	ND
Chloroform	5	ND
1,1,1-Trichloroethane	5	ND
Carbon tetrachloride	5	ND
1,2-Dichloroethane	5	ND
Trichloroethylene	5	ND
1,2-Dichloropropane	5	ND
Bromodichloromethane	5	ND
Cis-1,3-Dichloropropene	5	ND
trans-1,3-Dichloropropene	5	ND
1,1,2-Trichloroethane	5	ND
Tetrachloroethene	5	ND
Dibromochloromethane	5	ND
Chlorobenzene	5	ND
Bromoform	5	ND
1,1,2,2-Tetrachloroethane	5	ND
1,3-Dichlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND

MDL = Method Detection Limit

ug/kg = parts per billion (ppb)

QA/QC Summary: Daily Standard RPD =<15%

MS/MSD average recovery = 97 % : MS/MSD RPD = 4 %

Richard Srna, Ph.D.

John J. Knapp, Jr.
Laboratory Director



Superior Precision Analytical, Inc.

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

Page 1 of 2

LABORATORY NO.: 14431-12
CLIENT: TOUCHSTONE DEVELOPMENT

DATE RECEIVED: 05/18/93
DATE REPORTED: 05/25/93
JOB NO.: 0191-1

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES
by EPA SW-846 Method 8270
Extraction Method: EPA 3550
Sample Identification: WO-5'

Analyte	Result (ug/Kg)	Quantitation Limit (ug/Kg)
Acenaphthene	ND	330
Acenaphthylene	ND	330
Aniline	ND	330
Anthracene	ND	330
Benzo(a)anthracene	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(ghi)perylene	ND	330
Benzo(a)pyrene	ND	330
Benzidine	ND	1600
Butyl benzyl phthalate	ND	330
Bis(2-chloroethoxy)methane	ND	330
Bis(2-chloroethyl)ether	ND	330
Bis (2-chloroisopropyl) ether	ND	330
Bis (2-ethylhexyl) phthalate	ND	2000
4-Bromophenyl phenyl ether	ND	330
4-Chloroanaline	ND	330
2-chloronaphthalene	ND	330
4-chlorophenyl phenyl ether	ND	330
Chrysene	ND	330
Dibenzo(a,h)anthracene	ND	330
Dibenzofuran	ND	330
Di-n-butyl phthalate	ND	2100
1,2-Dichlorobenzene	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
3,3'-Dichlorobenzidine	ND	660
Diethylphthalate	ND	330
Dimethyl phthalate	ND	330
2,4-Dinitrotoluene	ND	330
2,6-Dinitrotoluene	ND	330
Di-n-octylphthalate	ND	2100
Fluoranthene	ND	330



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Page 2 of 2 Sample# SOIL LAB BLANK

8270 Certificate

Quantitation

Result (ug/kg)

Limit (ug/kg)

Analyte

Analyte	Result (ug/kg)	Quantitation Limit (ug/kg)
Fluorene	ND	330
Hexachlorobenzene	ND	330
Hexachlorobutadiene	ND	330
Hexachlorocyclopentadiene	ND	330
Hexachloroethane	ND	330
Indeno(1,2,3-cd) pyrene	ND	330
Isophorone	ND	330
2-Methylnaphthalene	ND	330
2-Nitroanaline	ND	1600
3-Nitroanaline	ND	1600
4-Nitroanaline	ND	1600
Naphthalene	ND	330
Nitrobenzene	ND	330
N-Nitrosodi-n-propylamine	ND	330
N-Nitrosodiphenylamine	ND	330
Phenanthrene	ND	330
Pyrene	ND	330
1,2,4-Trichlorobenzene	ND	330
ACID EXTRACTABLES		
Benzoic acid	ND	1600
Benzyl alcohol	ND	330
4-Chloro-3-methylphenol	ND	330
2-Chlorophenol	ND	330
2,4-Dichlorophenol	ND	330
2,4-Dimethylphenol	ND	330
2,4-Dinitrophenol	ND	1600
2-Methyl-4,6-dinitrophenol	ND	1600
2-Methylphenol	ND	330
4-Methylphenol	ND	330
4-Nitrophenol	ND	1600
2-Nitrophenol	ND	1600
Pentachlorophenol	ND	1600
Phenol	ND	330
2,4,5-Trichlorophenol	ND	1600
2,4,6-Trichlorophenol	ND	330

ND = Not detected

ug/kg = part per billion (ppb)

QC DATA :

Surrogate Recoveries QC Limits Surrogate Recoveries QC Limits

Nitrobenzene-d5.....83 (23-120) Phenol-d5.....83 (24-113)
2-Fluorobiphenyl....92 (30-115) 2-Fluorophenol.....88 (25-121)
Terphenyl-d14.....124 (18-137) 2,4,6-Tribromophenol..85 (19-122)

Richard Srna, Ph.D.

J. Wm. Jr. Nweska, Jr.
Laboratory Director



Superior Precision Analytical, Inc.

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

Page 1 of 2

LABORATORY NO.: 14431
CLIENT: TOUCHSTONE DEVELOPMENTS

DATE RECEIVED: NA
DATE REPORTED: 05/25/93
JOB NO.: 0191-1

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES

by EPA SW-846 Method 8270

Extraction Method: EPA 3550

Sample Identification: SOIL LAB BLANK

Analyte	Result (ug/kg)	Quantitation Limit (ug/kg)
Acenaphthene	ND	330
Acenaphthylene	ND	330
Aniline	ND	330
Anthracene	ND	330
Benzo(a)anthracene	ND	330
Benzo(b)fluoranthene	ND	330
Benzo(k)fluoranthene	ND	330
Benzo(ghi)perylene	ND	330
Benzo(a)pyrene	ND	330
Benzidine	ND	1600
Butyl benzyl phthalate	ND	330
Bis(2-chloroethoxy)methane	ND	330
Bis(2-chloroethyl)ether	ND	330
Bis (2-chloroisopropyl) ether	ND	330
Bis (2-ethylhexyl) phthalate	ND	2000
4-Bromophenyl phenyl ether	ND	330
4-Chloroaniline	ND	330
2-chloronaphthalene	ND	330
4-chlorophenyl phenyl ether	ND	330
Chrysene	ND	330
Dibenzo(a,h)anthracene	ND	330
Dibenzofuran	ND	330
Di-n-butyl phthalate	ND	2100
1,2-Dichlorobenzene	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
3,3'-Dichlorobenzidine	ND	660
Diethylphthalate	ND	330
Dimethyl phthalate	ND	330
2,4-Dinitrotoluene	ND	330
2,6-Dinitrotoluene	ND	330
Di-n-octylphthalate	ND	330
Fluoranthene	ND	330



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

LABORATORY NO.: 14431
CLIENT: TOUCHSTONE DEVELOPMENTS

DATE RECEIVED: NA
DATE REPORTED: 05/25/93
JOB NO.: 0191-1

ANALYSIS FOR BASE/NEUTRAL and ACID EXTRACTABLES
by EPA SW-846 Method 8270
Extraction Method: EPA 3550
MATRIX SPIKE SUMMARY REPORT

Sample Identification: SOIL LAB CONTROL

Date analysed: 24 May 1993 7:42 PM and 8:54 PM

SURROGATE COMPOUND RECOVERIES

Spiked at 100ug/L final for base neutrals and 200 ug/L for Acid Surrogates

	MS % RECOVERY	MSD % RECOVERY
2-Fluorophenol	86	85
Phenol-d5	86	84
Nitro henobenzene-d5	87	87
2-Fluorobiphenyl	94	93
2,4,6-Tribromophenol	94	93
Terphenyl-d14	119	126

MATRIX SPIKE/SPIKE DUPLICATE RECOVERIES

	MS% REC.	MSD % REC.	RPD	LIMITS RECOVERY	RPD
1,4-Dichlorobenzene	75	73	14	28-104	27
n-Nitroso-di-n-propylamine	67	64	2	41-126	38
1,2,4-Trichlorobenzene	77	76	7	38-107	23
Acenaphthene	85	81	5	31-137	19
2,4-Dinitrotoluene	64	62	5	28-89	47
Pyrene	104	106	5	35-142	36
Phenol	72	70	10	26-90	35
4-Nitrophenol	34	53	9	11-114	50
2-Chlorophenol	74	70	11	25-102	50
4-Chloro-3-methylphenol	66	64	3	26-103	42
Pentachlorophenol	55	52	3	17-109	47

ALL SPIKE COMPOUNDS WITHIN LIMITS



Superior Precision Analytical, Inc.

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Page 2 of 2 Sample# 14431-12

8270 Certificate

Result (ug/Kg)

Quantitation

Limit (ug/Kg)

Analyte	Result (ug/Kg)	Quantitation Limit (ug/Kg)
Fluorene	ND	330
Hexachlorobenzene	ND	330
Hexachlorobutadiene	ND	330
Hexachlorocyclopentadiene	ND	330
Hexachloroethane	ND	330
Indeno(1,2,3-cd) pyrene	ND	330
Isophorone	ND	330
2-Methylnaphthalene	ND	330
2-Nitroanaline	ND	1600
3-Nitroanaline	ND	1600
4-Nitroanaline	ND	1600
Naphthalene	ND	330
Nitrobenzene	ND	330
N-Nitrosodi-n-propylamine	ND	330
N-Nitrosodiphenylamine	ND	330
Phenanthrene	ND	330
Pyrene	ND	330
1,2,4-Trichlorobenzene	ND	330
ACID EXTRACTABLES		
Benzoic acid	ND	1600
Benzyl alcohol	ND	330
4-Chloro-3-methylphenol	ND	330
2-Chlorophenol	ND	330
2,4-Dichlorophenol	ND	330
2,4-Dimethylphenol	ND	330
2,4-Dinitrophenol	ND	1600
2-Methyl-4,6-dinitrophenol	ND	1600
2-Methylphenol	ND	330
4-Methylphenol	ND	330
4-Nitrophenol	ND	1600
2-Nitrophenol	ND	1600
Pentachlorophenol	ND	1600
Phenol	ND	330
2,4,5-Trichlorophenol	ND	1600
2,4,6-Trichlorophenol	ND	330

ND = Not detected mg/Kg = ppb (Parts per Billion)

QC DATA :

Surrogate Recoveries QC Limits Surrogate Recoveries QC Limits

Nitrobenzene-d5.....63 (23-120) Phenol-d5.....57 (24-113)
2-Fluorobiphenyl....70 (30-115) 2-Fluorophenol.....63 (25-121)
Terphenyl-d14.....97 (18-137) 2,4,6-Tribromophenol...60 (19-122)

Richard Srna, Ph.D.

Richard H. Srna, Ph.D.
Laboratory Director

Fax copy of Lab Report and COC to Chevron Contact:

 Yes No

14431

Chain-of-Custody-Record

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

Chevron Facility Number 9-0190
Facility Address 900 OTIS Ave. Alameda
Consultant Project Number 0190-1
Consultant Name TOUCHSTONE
Address 684 30th Ave. SF
Project Contact (Name) M. TAMBRONI
(Phone) 386-8791 (Fax Number) 386-8791

Chevron Contact (Name) MARK WILLER
(Phone) 510-842-8134
Laboratory Name SUPERIOR
Laboratory Release Number 4751970
Samples Collected by (Name) M. TAMBRONI
Collection Date 5-18-93
Signature *Mark J. St.*

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 AAS)	TOTAL P	
MW-H2O	3	W	G	1025	HCL	Yes	X										
TX-1-5'	1	S	D	1238		Yes	X										
TX-2-5'	1	S	D	1240		Yes	X										
TX-3-5'	1	S	D	1242		Yes	X										
TX-4-5'	1	S	D	1246		Yes	X										
TX-5-5'	1	S	D	1248		Yes	X										
TX-6-5'	1	S	D	1254		Yes	X										
P-1-2'	1	S	D	110		Yes	X										24 Hour TAT
P-2-3'	1	S	D	135		Yes	X										24 Hour TAT
P-3-3'	1	S	D	143		Yes	X										24 Hour TAT
P-4-3'	1	S	D	201		Yes	X										24 Hour TAT
W0-5'	1	S	D	1213		Yes	X	X	X	X	X	X	X				
SW-1-3'	1	S	D	300		Yes	X										24 Hour TAT

Relinquished By (Signature)
Mark J. St.

Organization TD

Date/Time 5-18-93 5:00

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)
Gray & Wagner

Date/Time

6:20