91 MAY 13 PM 1:33

ROBERT GILS
ASSOCIATES, INC.

ENVIRONMENTAL
CONSULTANTS
HAZARD
ASSESSMENTS

CERTIFIED
INDUSTRIAL
HYGIENISTS

Tank Removal Report
4701 San Leandro Street
Oakland, CA

Written By:

Chris Nwabuzoh
Project Geologist
REA #02842

Reviewed By:

Robert Gils
CIH #1151

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INTRODUCTION

Francis Collins retained RGA, Inc. to provide technical assistance in the removal of underground storage tanks and to collect soil samples from the tank pit excavation at 4701 San Leandro Street, Oakland, California (see site location map, Figure 1). The purpose of the soil sampling was to determine the absence or presence of hydrocarbon-containing soil beneath the underground storage tanks, and to evaluate the structural integrity of theses tanks. The work was authorized by Ms. Lauren Meyer, Project Coordinator with Francis Collins.

LOCAL GEOLOGY

This site is situated between the San Andreas and Hayward-Calaveras Fault Zones, and about one mile north of the San Leandro Bay. The depth to groundwater ranges from 9 feet to 10 feet below grade. Groundwater flow is generally southwest.

The reported geology in this area consists of silty clay and clay with lenses of sand and gravel. The soil type encountered during the tanks removal were clay of medium to high plasticity.

No groundwater was encountered in the excavation pit.

EXCAVATION AND TANK INSPECTION

On October 15 to 16, 1991, Veri's Construction, Inc. (VCI), of San Leandro, California, excavated the tank pit of the steel tank and the concrete tops of the two concrete tanks. On October 21, 1991, after tank dry-icing and LEL monitoring, Hazardous Waste Specialist Barney Chan of the Alameda County Environmental Health approved the removal of the steel tank. On October 21, 1991, VCI removed the underground fuel oil steel tank from the site. Ms. Lauren, representing Francis Collins, attended the tank removal. Table 1, below, summarizes the tanks details.

TABLE 1

4701 San Leandro Street
Oakland, California

Tank #	UL #	Date	Composition	Size (Gal)	Product Stored
1	Unknown	Unknown	Concrete	10,000	Fuel Oil
2	Unknown	Unknown	Concrete	10,000	Fuel Oil
3	Unknown	Unknown	Steel	20,000	Fuel Oil

One storage tank was removed, and loaded on to flatbed trailers for transportation to Erickson Yard, California, for scraping. The tank was visually inspected to determine its

external condition and past structural integrity. No holes were found in the tank, however, the tank sustained some structural damage during the excavation.

SOIL SAMPLING AND ANALYSES

On October 21 and 23, 1991, 12 soil samples were collected from locations 2 feet beneath the ends of the tanks. Due to the concrete foundation of the tanks, samples were collected using a low access rig. Soil samples were also collected from the soil piles using brass sleeves, (see Figure 2 for boring and sampling locations). All samples were collected following safe collection procedures. All samples were sealed, identified, placed in zip-loc bags, and placed on ice. Mr. Barney Chan directed and witnessed the sampling. Following strict Chain-of-Custody procedure, the samples were transported to state-certified Carter Analytical Laboratory, Inc. in Campbell, California. All the samples were analyzed for Total Petroleum Hydrocarbons as gas (TPH g) and diesel (TPH d), Aromatic Hydrocarbons (BTEX), oil and grease, metals, and Chlorinated Hydrocarbons, using appropriate EPA Methods. Soil samples from each soil pile will be composited for laboratory analyses.

Laboratory results of the in-situ soil samples (T1-A, T1-B, T2-A, T2-B, T3-A and T3-B) indicated the following:

a. All the samples were above the detection limits for TTLC metal analyses but were below the TTLC Regulatory levels.

b. All the samples were below the detection limits for TPH d, and Benzene. Samples T1-A, T1-B, T2-A, T2-B and T3-A have levels of TPH g, and Toluene above the detection limits, sample T3-B was below the detection limits. With the exception of sample T1-B all the samples are below the detection limit for Ethyl Benzene, sample T1-B was above the detection limits. All the samples except T1-A are below the detection limits for Xylene, sample T1-A was above the detection limit.

c. All the samples were below the detection limits for the Chlorinated Hydrocarbons, and oil and grease.

d. The levels of the Priority Pollutants will depend on the background levels. See Appendix A for detailed laboratory results, and Chain-of-Custody.

Laboratory results of the soil pile samples (SP-1, SP-2, and SP-3) indicated the followings:

a. The levels of chromium, lead, nickel and zinc were above the detection limits, but below the TTLC regulatory levels in all the samples. Cadmium was not detected in any of the samples.

b. The levels of TPH g were above the detection limits in all of the samples. The levels of TPH d were above detection limits in SP-1 and SP-3, but was below detection limits in SP-2.

c. Benzene was below the detection limits in all of the samples. The levels of Toluene were below detection limits in SP-1 and SP-3, but were above detection limits in S-2. The levels of Ethyl Benzene and Xylenes were above detection limits in SP-1 and SP-3, but were below detection limits in SP-2.

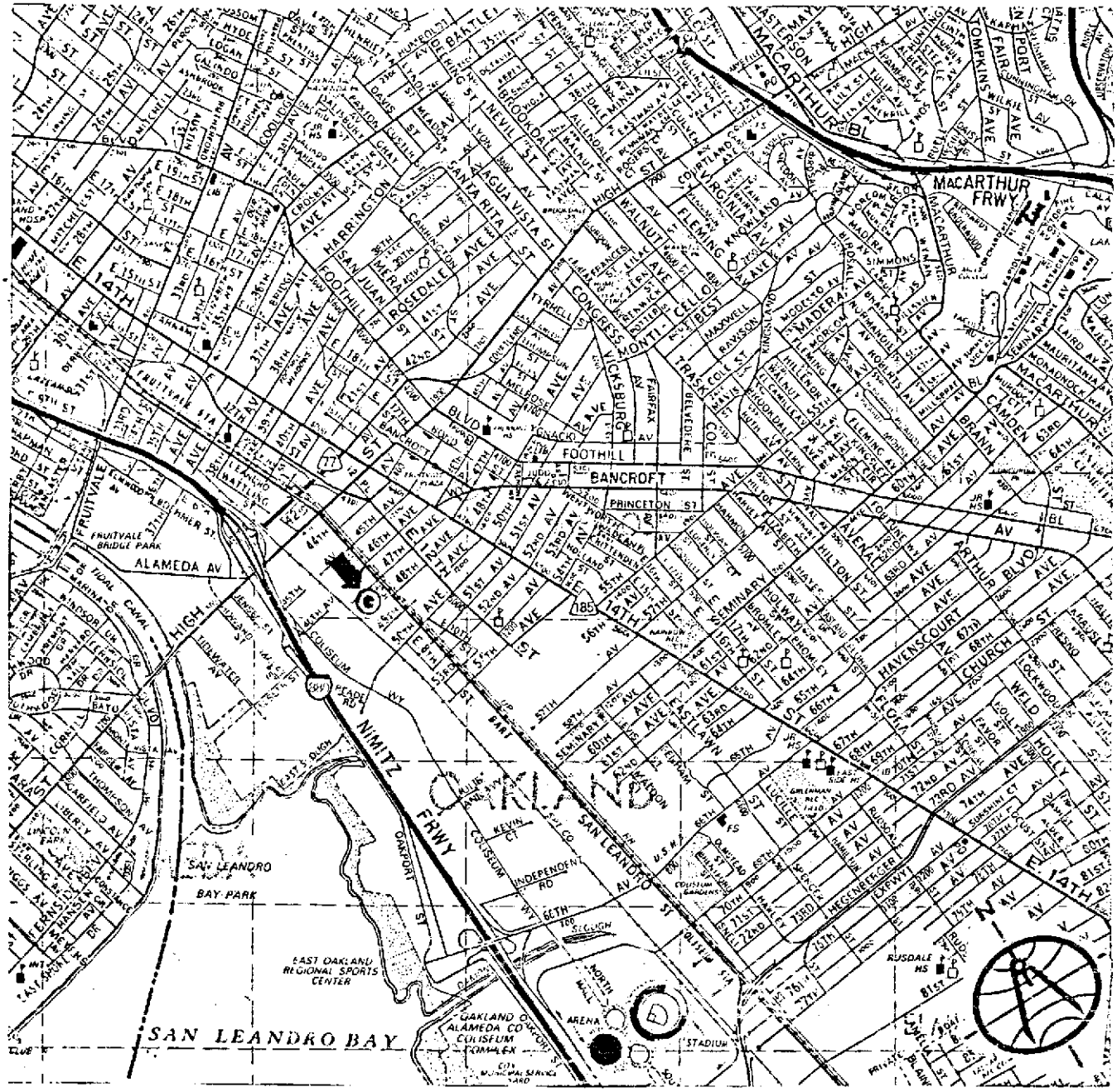
d. The levels of Chloroform, Chloromethane in samples SP-1, SP-2 and SP-3, and Dichloromethane in SP-1 were above the detection limits. The remaining Chlorinated Hydrocarbons were below the detection limits.

e. The levels of oil and grease were above the detection limits in all of the samples.

f. The levels of the Priority Pollutants will depend on the background levels. See Appendix B for detailed laboratory results and Chain-of-Custody.

CONCLUSION

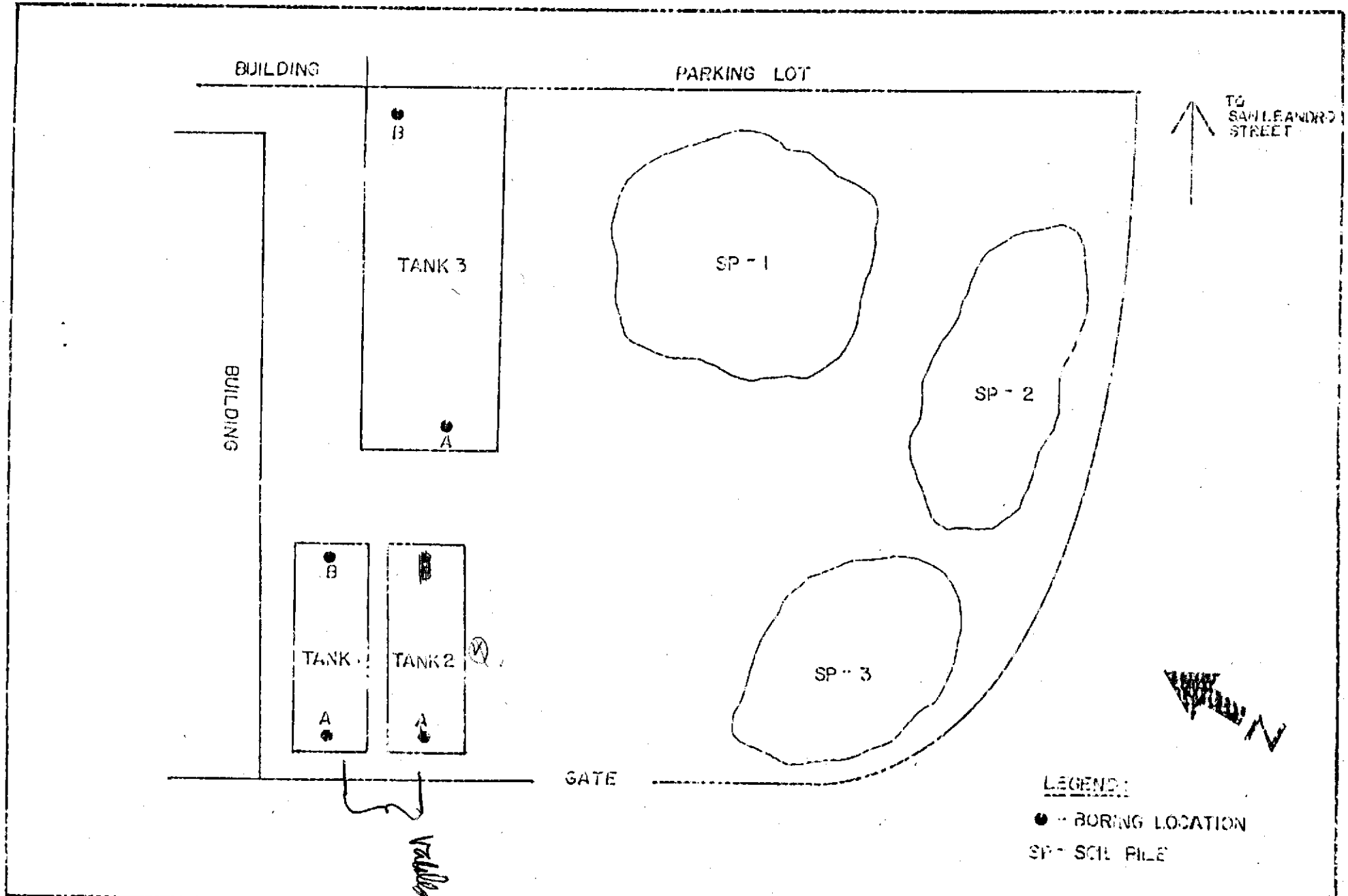
There are levels of petroleum hydrocarbon-bearing soils beneath the former locations of the fuel underground storage tanks. Subsequent excavation in the affected areas could reduce the levels. Most of the affected soil has been excavated as evidenced in the soil piles laboratory results.



LOCAL AREA SITE LOCATION MAP

Ⓒ - SITE LOCATION

FIGURE 1



RGA Environmental Consultants,	Job Number: 100897, FIGURE 3	SITE LOCATION: 4701 SAN LEANDRO ST. OAKLAND, CA.
Emeryville, California	SCALE: 1" = 17'-0"	SAMPLING LOCATIONS

ENVIRONMENTAL ANALYSIS REPORT

CARTER ANALYTICAL LABORATORY, INC.

590 DIVISION STREET • CAMPBELL, CA 95008 • (408) 364-3030 • FAX (408) 866-0319

ANALYSIS REPORT
FOR

RGA Environmental Consulting
1260 45th Street
Emeryville, CA 94608

CONTACT: Chris Nwabuzoh DATE: 10-31-91

CHAIN OF CUSTODY ID NO: FC-100697 ORDER NO: 11757-CD P.O. NO: FC-100697

SITE DESCRIPTION: San Leandro Street Project
4701 San Leandro Street
Oakland, CA

SAMPLE DESCRIPTION:

Soil
Sampled: 10-21-91, 10-23-91
Received: 10-24-91
Analyzed: 10-30-91
Number of Samples: 6

REQUESTED ANALYSIS:

Methods: EPA 6010, Total Petroleum Hydrocarbons as Gasoline (TPH-G) as Diesel (TPH-D) and Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX), EPA 8010, EPA 8270, EPA 5520D (modified)

Preparation Method: Title 22 TTLC

The analyses reported are considered accurate. Should you wish further support for the reported data, submit your requirements in writing within 10 days. It is Carter Analytical Labs intent to give you complete satisfaction. Please reference the order number when communicating with us. The invoice is due and payable within 30 days from invoice date.

Hazardous Materials Certification No: 304 • Drinking Water Certification No: 953
from the
State of California • Department of Health Services

CARTER ANALYTICAL LABORTORY, INC.

590 DIVISION STREET • CAMPBELL, CA 95008 • (408) 364-3030 • FAX (408) 866-0319

Stockpile soils

Sample	Customer Label	Description
L1	SP-1	soil
L2	SP-1	soil-composite with L1
L3	SP-2	soil
L4	SP-2	soil-composite with L3
L5	SP-3	soil
L6	SP-3	soil-composite with L5

TTLC Metals Analysis using EPA Method 6010

Metal	L1 (mg/Kg)	L3 (mg/Kg)	L5 (mg/Kg)	STLC Regulatory Levels	TTLC Regulatory Levels	TTLC Detection Limit
Cadmium	LDL	LDL	LDL	1.0	100.	0.003
Chromium	43.	65.	55.	560.	2500.	0.003
Lead	2.88	2.35	2.31	5.0	1000.	0.044
Nickel	72.	82.	60.	20.	2000.	0.011
Zinc	82.	135.	280.	250.	5000.	0.009

LDL indicates results were less than detection limit.

Sample	Customer Label	Description
L1	SP-1	soil
L2	SP-1	soil-composite with L1
L3	SP-2	soil
L4	SP-2	soil-composite with L3
L5	SP-3	soil
L6	SP-3	soil-composite with L5

Hydrocarbons and BTEX Analysis of Soil

Sample Number	TPH-G (mg/Kg)	TPH-D (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Xylenes (mg/Kg)
L1	8.8	860	LDL	LDL	0.03	0.41
L3	8.7	LDL	LDL	0.02	LDL	LDL
L5	4.1	710	LDL	LDL	0.02	0.3
DL:	1.0	1.0	0.005	0.005	0.005	0.005
AR (%):	91.4	118.1	---	91.3	---	---

LDL indicates results are less than detection limit.
DL = Detection Limit
AR = Average Recovery

Sample	Customer Label	Description
L1	SP-1	soil
L2	SP-1	soil-composite with L1
L3	SP-2	soil
L4	SP-2	soil-composite with L3
L5	SP-3	soil
L6	SP-3	soil-composite with L5

EPA Method 8010 Analysis

Compound	L1 (ug/Kg)	L3 (ug/Kg)	L5 (ug/Kg)	Detection Limit
Benzyl chloride	LDL	LDL	LDL	1.
Bis(2-chloroethoxy)methane	LDL	LDL	LDL	1.
Bromobenzene	LDL	LDL	LDL	1.
Bromodichloromethane	LDL	LDL	LDL	0.10
Bromoform	LDL	LDL	LDL	0.20
Bromomethane	LDL	LDL	LDL	1.0
Carbon tetrachloride	LDL	LDL	LDL	0.12
Chlorobenzene	LDL	LDL	LDL	0.25
Chloroethane	LDL	LDL	LDL	0.52
2-Chloroethylvinyl ether	LDL	LDL	LDL	0.13
Chloroform	33.	39.	35.	0.05
1-Chlorohexane	LDL	LDL	LDL	1.
Chloromethane CH_3Cl	15.	23.	927.	0.08
Chloromethyl methyl ether	LDL	LDL	LDL	1.
Chlorotoluene	LDL	LDL	LDL	1.
Dibromochloroethane	LDL	LDL	LDL	0.09
Dibromomethane	LDL	LDL	LDL	1.
1,2-Dichlorobenzene	LDL	LDL	LDL	0.15
1,3-Dichlorobenzene	LDL	LDL	LDL	0.32
1,4-Dichlorobenzene	LDL	LDL	LDL	0.24
Dichlorodifluoromethane	LDL	LDL	LDL	1.
1,1-Dichloroethane	LDL	LDL	LDL	0.07
1,2-Dichloroethane	LDL	LDL	LDL	0.03
1,1-Dichloroethylene	LDL	LDL	LDL	0.13
trans-1,2-Dichloroethylene	LDL	LDL	LDL	0.10
Dichloromethane	229.	LDL	LDL	1.
1,2-Dichloropropane	LDL	LDL	LDL	0.04
trans-1,3-Dichloropropylene	LDL	LDL	LDL	0.34
1,1,1,2-Tetrachloroethane	LDL	LDL	LDL	1.
1,1,2,2-Tetrachloroethane	LDL	LDL	LDL	0.03
Tetrachloroethylene	LDL	LDL	LDL	0.03

Sample	Customer Label	Description
L1	SP-1	soil
L2	SP-1	soil-composite with L1
L3	SP-2	soil
L4	SP-2	soil-composite with L3
L5	SP-3	soil
L6	SP-3	soil-composite with L5

EPA Method 8010 Analysis - cont

Compound	L1 (ug/Kg)	L3 (ug/Kg)	L5 (ug/Kg)	Detection Limit
1,1,1-Trichloroethane	LDL	LDL	LDL	0.03
1,1,2-Trichloroethane	LDL	LDL	LDL	0.02
Trichloroethylene	LDL	LDL	LDL	0.12
Trichlorofluoromethane	LDL	LDL	LDL	1.
Trichloropropane	LDL	LDL	LDL	1.
Vinyl chloride	LDL	LDL	LDL	0.18

Percent Recovery carbon tetrachloride: 64.2

LDL indicates results were less than detection limit.

Sample	Customer Label	Description
L1	SP-1	soil
L2	SP-1	soil-composite with L1
L3	SP-2	soil
L4	SP-2	soil-composite with L3
L5	SP-3	soil
L6	SP-3	soil-composite with L5

EPA Method 8270 Analysis

Compound	L1 (mg/Kg)	L3 (mg/Kg)	L5 (mg/Kg)
Acenaphthene	< 5.0	< 5.0	< 5.0
Acenaphthylene	< 5.0	< 5.0	< 5.0
Anthracene	< 5.0	< 5.0	< 5.0
Benzo(a)anthracene	< 25.	< 25.	< 25.
Benzo(b)fluoranthene	< 25.	< 25.	< 25.
Benzo(k)fluoranthene	< 25.	< 25.	< 25.
Benzo(g,h,i)perylene	< 25.	< 25.	< 25.
Benzo(a)pyrene	< 25.	< 25.	< 25.
Benzyl alcohol	< 25.	< 25.	< 25.
bis(2-Chloroethoxy)methane	< 5.0	< 5.0	< 5.0
bis(2-Chloroethyl)ether	< 5.0	< 5.0	< 5.0
bis(2-Chloroisopropyl)ether	< 5.0	< 5.0	< 5.0
bis(2-Ethylhexyl)phthalate	< 5.0	< 5.0	< 5.0
4-Bromophenyl phenylether	< 5.0	< 5.0	< 5.0
Butyl benzyl phthalate	< 5.0	< 5.0	< 5.0
4-Chloroaniline	< 25.	< 25.	< 25.
4-Chloro-3-methylphenol	< 25.	< 25.	< 25.
2-Chloronaphthalene	< 5.0	< 5.0	< 5.0
4-Chlorophenyl phenylether	< 5.0	< 5.0	< 5.0
Chrysene	< 10.	< 10.	< 10.
Dibenzo(a,h)anthracene	< 25.	< 25.	< 25.
1,2-Dichlorobenzene	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	< 5.0	< 5.0	< 5.0
3,3'-Dichlorobenzidine	< 25.	< 25.	< 25.
2,4-Dichlorophenol	< 5.0	< 5.0	< 5.0
2,4-Dimethylphenol	< 5.0	< 5.0	< 5.0
Di-n-butyl phthalate	< 5.0	< 5.0	< 5.0
Diethyl phthalate	< 5.0	< 5.0	< 5.0
Dimethyl phthalate	< 5.0	< 5.0	< 5.0
Di-n-octyl phthalate	< 5.0	< 5.0	< 5.0
4,6-Dinitro-2-methylphenol	< 5.0	< 5.0	< 5.0
2,4-Dinitrophenol	< 25.	< 25.	< 25.
Fluoranthene	< 10.	< 10.	< 10.
Fluorene	< 5.0	< 5.0	< 5.0
Hexachlorobenzene	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	< 5.0	< 5.0	< 5.0

Sample	Customer Label	Description
L1	SP-1	soil
L2	SP-1	soil-composite with L1
L3	SP-2	soil
L4	SP-2	soil-composite with L3
L5	SP-3	soil
L6	SP-3	soil-composite with L5

EPA Method 8270 Analysis - cont

Compound	L1 (mg/Kg)	L3 (mg/Kg)	L5 (mg/Kg)
Hexachlorocyclopentadiene	< 5.0	< 5.0	< 5.0
Hexachloroethane	< 5.0	< 5.0	< 5.0
Indeno(1,2,3-cd)pyrene	< 25.	< 25.	< 25.
Isophorone	< 5.0	< 5.0	< 5.0
Naphthalene	< 5.0	< 5.0	< 5.0
Nitrobenzene	< 5.0	< 5.0	< 5.0
2-Nitrophenol	< 10.	< 10.	< 10.
4-Nitrophenol	< 25.	< 25.	< 25.
2,4-Dinitrotoluene	< 5.0	< 5.0	< 5.0
2,6-Dinitrotoluene	< 5.0	< 5.0	< 5.0
N-Nitroso-diphenyl amine	< 5.0	< 5.0	< 5.0
N-Nitroso-di-n-propyl amine	< 5.0	< 5.0	< 5.0
Pentachlorophenol	< 25.	< 25.	< 25.
Phenol	< 5.0	< 5.0	< 5.0
Phenanthrene	< 10.	< 10.	< 10.
Pyrene	< 10.	< 10.	< 10.
1,2,4-Trichlorobenzene	< 5.	< 5.	< 5.
2,4,6-Trichlorophenol	< 25.	< 25.	< 25.

Sample	Customer Label	Description
L1	SP-1	soil
L2	SP-1	soil-composite with L1
L3	SP-2	soil
L4	SP-2	soil-composite with L3
L5	SP-3	soil
L6	SP-3	soil-composite with L5

EPA Method 5520D Analysis (modified)

Total Oil & Grease

Sample	Weight Mg/Kg
L1	780.
L3	3634.
L5	389.

CARTER ANALYTICAL LABORATORY

Dr. A. Edward Robinson
Laboratory Manager

J.L. Carter
QA/QC Manager

OCT-23-91 WED 09:28 CARTER LABS P.02

FROM:

COMPANY RGA, Inc.

ADDRESS 1260 45th Street

CITY Emeryville STATE CA ZIP 94606

Ref. No SO# 11757-21-26

TO:
Carter Analytical Laboratory, Inc.
(408) ~~866-~~ 364-3030 • (408) 866-0319 (FAX)

Chain of Custody

PROJECT NO.	SITE NAME & ADDRESS	DATE SAMPLE TAKEN	TPH (g)	TPH (d)	BTEX 8020	O & G 5520 (OK to do Manual Extraction for this - by Chris Nowabrzch - EWR 10/24/91)	CL HC 8010	Semi Vol 8270	ICAP (Cd, Cr, Pb, Zn, Ni)	REMARKS
FC-100697	San Leandro St Project 4701 San Leandro St Oakland, CA									
L1 SP-1	} COMPOSITE	10-21	✓	✓	✓	✓	✓	✓	✓	
L2 SP-1		10-21								
L3 SP-2	} COMPOSITE	10-21	✓	✓	✓	✓	✓	✓	✓	
L4 SP-2		10-21								
L5 SP-3	} COMPOSITE	10-21	✓	✓	✓	✓	✓	✓	✓	
L6 SP-3		10-2								

Relinquished By: (Signature):	Date:	Received By: (Signature):	Date:	Remarks:
Chris Nowabrzch	10-24-91	[signature]	10-24-91	
[signature]	10/24/91	Deborah Richmond	10/24/91	Samples rec'd. cold
Deborah Richmond	10/28/91	P. Golden	10/28/91	
P. Golden	10/31/91	Deborah Richmond	10/31/91	

ENVIRONMENTAL ANALYSIS REPORT

CARTER ANALYTICAL LABORATORY, INC.

590 DIVISION STREET • CAMPBELL, CA 95008 • (408) 364-3030 • FAX (408) 866-0319

ANALYSIS REPORT
FOR

RGA Environmental Consulting
1260 45th Street
Emeryville, CA 94608

CONTACT: Mr. Chris Nwabuzoh DATE: 10-31-91

CHAIN OF CUSTODY ID NO: FC-100697 ORDER NO: 11756-JT P.O. NO: FC-100697

SITE DESCRIPTION: San Leandro Street Project
4701 San Leandro Street
Oakland, California

SAMPLE DESCRIPTION:

Soil
Sampled: 10/21/91
Received: 10/24/91
Analyzed: 10/30/91
Number of Samples: 6

REQUESTED ANALYSIS:

Methods: EPA 6010, Total Petroleum Hydrocarbons as Deisel (TPH-D), Total Petroleum Hydrocarbons as Gasoline (TPH-G) with Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX), EPA 8010, EPA 8270 and EPA Method 5520D (modified)

Preparation Method: Title 22 TTLC

The analyses reported are considered accurate. Should you wish further support for the reported data, submit your requirements in writing within 10 days. It is Carter Analytical Labs intent to give you complete satisfaction. Please reference the order number when communicating with us. The invoice is due and payable within 30 days from invoice date.

Hazardous Materials Certification No: 304 • Drinking Water Certification No: 953
from the
State of California • Department of Health Services

CARTER ANALYTICAL LABORTORY, INC.

590 DIVISION STREET • CAMPBELL, CA 95008 • (408) 364-3030 • FAX (408) 866-0319

Sample	Customer Label	Description
L1	T1-A	Soil
L2	T1-B	Soil
L3	T2-A	Soil
L4	T2-B	Soil
L5	T3-A	Soil
L6	T3-B	Soil

duplicate soil spikes

TTLC Metals Analysis using EPA Method 6010

Metal	L1 (mg/Kg)	L2 (mg/Kg)	L3 (mg/Kg)	STLC Regulatory Levels	TTLC Regulatory Levels	TTLC Detection Limits
Cadmium	2.	2.	3.	1.0	100.	0.003
Chromium	87.	88.	85.	560.	500.	0.003
Lead	22.	25.	26.	~~20~~ 5.0	2500.	0.044
Nickel	104.	111.	96.	250. 20.	5000.	0.011
Zinc	45.	54.	64.	~~5.0~~ 250	1000.	0.009

Metal	L4 (mg/Kg)	L5 (mg/Kg)	L6 (mg/Kg)	STLC Regulatory Levels	TTLC Regulatory Levels	TTLC Detection Limits
Cadmium	3.	2.	1.	1.0	100.	0.003
Chromium	91.	65.	83.	560.	500.	0.003
Lead	44.	210.	20.	20.	2500.	0.044
Nickel	136.	78.	137.	250.	5000.	0.011
Zinc	62.	41.	47.	5.0	1000.	0.009

Percent Recovery Average: Cadmium = 84.0, Lead = 81.8
LDL indicates results were less than detection limit.

Sample	Customer Label	Description
L1	T1-A	Soil
L2	T1-B	Soil
L3	T2-A	Soil
L4	T2-B	Soil
L5	T3-A	Soil
L6	T3-B	Soil

Hydrocarbons and BTEX Analysis of Soil

Sample Number	TPH-G (mg/Kg)	TPH-D (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Xylenes (mg/Kg)
L1	39.1	LDL	LDL	0.008	LDL	0.09
L2	23.8	LDL	LDL	0.007	0.03	LDL
L3	15.3	LDL	LDL	0.02	LDL	LDL
L4	23.1	LDL	LDL	0.5	LDL	LDL
L5	31.1	LDL	LDL	0.01	LDL	LDL
L6	LDL	LDL	LDL	LDL	LDL	LDL
DL:	1.0	1.0	0.005	0.005	0.005	0.005
AR (%):	91.4	118.1	---	91.3	---	---

LDL indicates results are less than detection limit.
DL = Detection Limit
AR = Average Recovery

Sample	Customer Label	Description
L1	T1-A	Soil
L2	T1-B	Soil
L3	T2-A	Soil
L4	T2-B	Soil
L5	T3-A	Soil
L6	T3-B	Soil

EPA Method 8010 Analysis

Compound	L1 (ug/Kg)	L2 (ug/Kg)	L3 (ug/Kg)	L4 (ug/Kg)	L5 (ug/Kg)	L6 (ug/Kg)	Detection Limit
Benzyl chloride	LDL	LDL	LDL	LDL	LDL	LDL	1.
Bis(2-chloroethoxy)methane	LDL	LDL	LDL	LDL	LDL	LDL	1.
Bromobenzene	LDL	LDL	LDL	LDL	LDL	LDL	1.
Bromodichloromethane	LDL	LDL	LDL	LDL	LDL	LDL	0.10
Bromoform	LDL	LDL	LDL	LDL	LDL	LDL	0.20
Bromomethane	LDL	LDL	LDL	LDL	LDL	LDL	1.0
Carbon tetrachloride	LDL	LDL	LDL	LDL	LDL	LDL	0.12
Chlorobenzene	LDL	LDL	LDL	LDL	LDL	LDL	0.25
Chloroethane	LDL	LDL	LDL	LDL	LDL	LDL	0.52
2-Chloroethylvinyl ether	LDL	LDL	LDL	LDL	LDL	LDL	0.13
Chloroform	114.	LDL	LDL	LDL	LDL	LDL	0.05
1-Chlorohexane	LDL	LDL	LDL	LDL	LDL	LDL	1.
Chloromethane	LDL	LDL	LDL	LDL	LDL	LDL	0.08
Chloromethyl methyl ether	LDL	LDL	LDL	LDL	LDL	LDL	1.
Chlorotoluene	LDL	LDL	LDL	LDL	LDL	LDL	1.
Dibromochloroethane	LDL	LDL	LDL	LDL	LDL	LDL	0.09
Dibromomethane	LDL	LDL	LDL	LDL	LDL	LDL	1.
1,2-Dichlorobenzene	LDL	LDL	LDL	LDL	LDL	LDL	0.15
1,3-Dichlorobenzene	LDL	LDL	LDL	LDL	LDL	LDL	0.32
1,4-Dichlorobenzene	LDL	LDL	LDL	LDL	LDL	LDL	0.24
Dichlorodifluoromethane	LDL	LDL	LDL	LDL	LDL	LDL	1.
1,1-Dichloroethane	LDL	LDL	LDL	LDL	LDL	LDL	0.07
1,2-Dichloroethane	LDL	LDL	LDL	LDL	LDL	LDL	0.03
1,1-Dichloroethylene	LDL	LDL	LDL	LDL	LDL	LDL	0.13
trans-1,2-Dichloroethylene	LDL	LDL	LDL	LDL	LDL	LDL	0.10
Dichloromethane	4000.	LDL	LDL	LDL	239.	535.	1.
1,2-Dichloropropane	LDL	LDL	LDL	LDL	LDL	LDL	0.04
trans-1,3-Dichloropropylene	LDL	LDL	LDL	LDL	LDL	LDL	0.34
1,1,1,2-Tetrachloroethane	LDL	LDL	LDL	LDL	LDL	LDL	1.
1,1,2,2-Tetrachloroethane	LDL	LDL	LDL	LDL	LDL	LDL	0.03
Tetrachloroethylene	LDL	LDL	LDL	LDL	LDL	LDL	0.03

Sample	Customer Label	Description
L1	T1-A	Soil
L2	T1-B	Soil
L3	T2-A	Soil
L4	T2-B	Soil
L5	T3-A	Soil
L6	T3-B	Soil

EPA Method 8010 Analysis - cont

Compound	L1 (ug/Kg)	L2 (ug/Kg)	L3 (ug/Kg)	L4 (ug/Kg)	L5 (ug/Kg)	L5 (ug/Kg)	Detection Limit
1,1,1-Trichloroethane	LDL	LDL	LDL	LDL	LDL	LDL	0.03
1,1,2-Trichloroethane	LDL	LDL	LDL	LDL	LDL	LDL	0.02
Trichloroethylene	LDL	LDL	LDL	LDL	LDL	LDL	0.12
Trichlorofluoromethane	LDL	LDL	LDL	LDL	LDL	LDL	1.
Trichloropropane	LDL	LDL	LDL	LDL	LDL	LDL	1.
Vinyl chloride	LDL	LDL	LDL	LDL	LDL	LDL	0.18

Percent Recovery carbon tetrachloride: 64.2

LDL indicates results were less than detection limit.

Sample	Customer Label	Description
L1	T1-A	Soil
L2	T1-B	Soil
L3	T2-A	Soil
L4	T2-B	Soil
L5	T3-A	Soil
L6	T3-B	Soil

EPA Method 8270

Compound	L1 (mg/Kg)	L2 (mg/Kg)	L3 (mg/Kg)	L4 (mg/Kg)	L5 (mg/Kg)	L6 (mg/Kg)
Acenaphthene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Acenaphthylene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Anthracene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzo(a)anthracene	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
Benzo(b)fluoranthene	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
Benzo(k)fluoranthene	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
Benzo(g,h,i)perylene	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
Benzo(a)pyrene	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
Benzyl alcohol	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
bis(2-Chloroethoxy)methane	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-Chloroethyl)ether	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-Chloroisopropyl)ether	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
bis(2-Ethylhexyl)phthalate	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Bromophenyl phenylether	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butyl benzyl phthalate	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chloroaniline	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
4-Chloro-3-methylphenol	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
2-Chloronaphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorophenyl phenylether	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chrysene	< 10.	< 10.	< 10.	< 10.	< 10.	< 10.
Dibenzo(a,h)anthracene	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
1,2-Dichlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
3,3'-Dichlorobenzidine	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
2,4-Dichlorophenol	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dimethylphenol	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Di-n-butyl phthalate	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Diethyl phthalate	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dimethyl phthalate	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Di-n-octyl phthalate	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4,6-Dinitro-2-methylphenol	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,4-Dinitrophenol	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
Fluoranthene	< 10.	< 10.	< 10.	< 10.	< 10.	< 10.
Fluorene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobenzene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Sample	Customer Label	Description
L1	T1-A	Soil
L2	T1-B	Soil
L3	T2-A	Soil
L4	T2-B	Soil
L5	T3-A	Soil
L6	T3-B	Soil

EPA Method 8270 - cont

Compound	L1 (mg/Kg)	L2 (mg/Kg)	L3 (mg/Kg)	L4 (mg/Kg)	L5 (mg/Kg)	L6 (mg/Kg)
Hexachlorobutadiene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorocyclopentadiene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachloroethane	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Indeno(1,2,3-cd)pyrene	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
Isophorone	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Nitrobenzene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Nitrophenol	< 10.	< 10.	< 10.	< 10.	< 10.	< 10.
4-Nitrophenol	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
2,4-Dinitrotoluene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,6-Dinitrotoluene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
N-Nitroso-diphenyl amine	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
N-Nitroso-di-n-propyl amine	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Pentachlorophenol	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.
Phenol	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Phenanthrene	< 10.	< 10.	< 10.	< 10.	< 10.	< 10.
Pyrene	< 10.	< 10.	< 10.	< 10.	< 10.	< 10.
1,2,4-Trichlorobenzene	< 5.	< 5.	< 5.	< 5.	< 5.	< 5.
2,4,6-Trichlorophenol	< 25.	< 25.	< 25.	< 25.	< 25.	< 25.

Sample	Customer Label	Description
L1	T1-A	Soil
L2	T1-B	Soil
L3	T2-A	Soil
L4	T2-B	Soil
L5	T3-A	Soil
L6	T3-B	Soil

EPA Method 5520D (modified)

Sample	Weight mg/Kg
L1	< 20
L2	< 20
L3	< 20
L4	< 20
L5	< 20
L6	< 20

CARTER ANALYTICAL LABORATORY

Dr. A. Edward Robinson
Laboratory Manager

J.L. Carter
QAQC Manager

FROM:

COMPANY RGA, Inc.

ADDRESS 1260 45th Street

CITY Emeryville STATE CA ZIP 94606

Ref. No. SO#11756-L1-L6

TO:

Carter Analytical Laboratory, Inc.

(408) ~~866-xxxx~~ 364-3030 (408) 866-0319 (FAX)

Chain of Custody

PROJECT NO.	SITE NAME & ADDRESS	DATE SAMPLE TAKEN	TPH (G) 5030	TPH (D) 3550	BTEX 8020	O & G 5520 (ok to do Manual Extraction by Chris Nowalbuzok - EWM - 10/24/91)	CLHC 5010	Semi Vol 8270	ICAP (Cd, Cr, Pb, Zn, Ni)	REMARKS
FC-100697	San Leandro Street Project 4701 San Leandro St Oakland, CA									
L1 T1 - A		10-21	✓	✓	✓	✓	✓	✓	✓	
L2 T1 - B		10-21	✓	✓	✓	✓	✓	✓	✓	
L3 T2 - A		10-21	✓	✓	✓	✓	✓	✓	✓	
L4 T2 - B		10-21	✓	✓	✓	✓	✓	✓	✓	
L5 T3 - A		10-21	✓	✓	✓	✓	✓	✓	✓	
L6 T3 - B		10-23	✓	✓	✓	✓	✓	✓	✓	

Relinquished By: (Signature):	Date:	Received By: (Signature):	Date:	Remarks:
Chris Nowalbuzok	10-24-91	[signature]	10-24-91	
[signature]	10/24/91	Deborah Richmond	10/24/91	Samples rec'd. cold
Deborah Richmond	10/28/91	[signature]	10/28/91	
[signature]	10/31/91	Deborah Richmond	10/31/91	