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TANK CAVITY CLOSURE REPORT

3-191

**GOLDEN GATE PETROLEUM
OAKLAND CARDLOCK**

Bonkowski & Associates, Inc.
3650 Mt. Diablo Blvd., Suite 200
Lafayette, California 94549-3765

16 September 1998

**CERTIFICATION
TANK CAVITY CLOSURE REPORT**

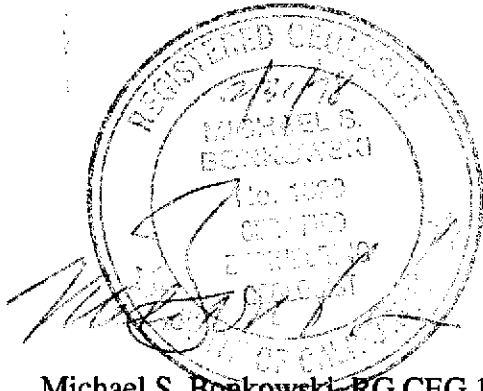
**Oakland Cardlock
Oakland, California**

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This report has been prepared by the staff of Bonkowski & Associates, Inc. and has been reviewed and approved by the professionals whose signatures appear below.

The findings, recommendations, specifications, or professional opinions are presented, within the limits prescribed by the Client, after being prepared in accordance with generally accepted engineering practice in Northern California at the time this report was prepared. No other warranty is either expressed or implied.

BONKOWSKI & ASSOCIATES, INC.



Michael S. Bonkowski, RG CEG 1329
Senior Environmental Principal
Environmental and Engineering Services

Peter J. Holland
Staff Geologist

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**TANK CAVITY CLOSURE REPORT
GOLDEN GATE PETROLEUM: OAKLAND CARDLOCK**

**421 23rd Avenue
Oakland, California**

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1.0 INTRODUCTION

This report describes the removal of underground storage tanks and hydrocarbon contaminated soil and groundwater at the Golden Gate Petroleum Oakland Cardlock, located at 421 23rd Avenue, in Oakland, California (Figure 1). The work was conducted by Bonkowski & Associates, Inc. on behalf of Golden Gate Petroleum in accordance with the "Supplemental IRM Workplan" (Bonkowski & Associates, Inc., August 18, 1998) which was approved by the Mr. Barney Chan of the Alameda County Department of Environmental Health (ACEH) on August 21, 1998. The initial field work was directed by City of Oakland Fire Inspector Mr. LeRoy Griffin on August 14, 1998. A copy of that directive is attached as Appendix A.

2.0 BACKGROUND

Golden Gate Petroleum Oakland Cardlock occupies an irregular shaped parcel that is bordered by 23rd Avenue on the east, Kennedy Avenue on the south and west, and commercial property to the north. The station has been in operation since 1976. On August 11, 1998 Golden Gate Petroleum initiated work to remove the underground storage tanks, product lines and dispenser islands to comply with 40 CFR Code of Federal Regulations, Part 280. Prior to the implementation of the IRM, the site included four gasoline/diesel fuel dispenser islands, a warehouse and five single walled underground storage tanks (Figure 2). The tanks were buried side by side with one 8,000-gallon and four 12,000-gallon capacity (Figure 2). The 8,000 gallon tank stored premium unleaded gasoline. The 12,000-gallon tanks stored regular unleaded gasoline and diesel fuel, all for retail sale.

3.0 IRM FIELD ACTIVITIES

B During August 1998, Bonkowski & Associates, Inc., implemented the field activities described in the Supplemental IRM Workplan. Consistent with Section 2722(b) of Title 23 Division 3 Chapter 16 California Code of Regulations, and to take advantage of the exposure to contaminated soils that the tank replacement work provided, and the City of Oakland Fire Marshall required the removal of all contaminated soil beneath the tanks, product lines and dispenser islands to a threshold of 250 ppm TPHD and 100 ppm TPHG. To complete this task hydrocarbon contaminated soil was removed from the vicinity of the underground storage tanks, product delivery lines and pump islands, a cut-off trench was installed and the removal of hydrocarbon impacted groundwater was removed from the tank cavity. The work elements required to complete these tasks as described below.

3.1 Tank, Product Line and Soil Removal

Sahara Construction removed the underground storage tanks, product lines and dispenser islands on August 13, 1998. This included the four 12,000-gallon tanks and the 8,000 gallon tank that occupied the central portion of the property (Figure 2). Prior to their removal, each tank was purged of hydrocarbon vapors and liquids, triple rinsed and the interior made inert with dry ice. The tanks were then lifted onto a flat bed truck and disposed at a properly licensed facility. At the time of their removal, the tank surfaces were locally pitted and corroded. Photographs of the underground product transfer lines and tank cavity as they appeared during the excavation are provided in Appendix B. Contaminated soil was off hauled from the site by Denbeste Transportation, Inc. beginning on August 19, 1998. Approximately 1,300 yards of soil were removed and hauled to Forward Landfill in Manteca, California.

3.2 Soil Sampling, Testing and Removal

A Bonkowski & Associates, Inc., field engineer collected a total of 49 soil samples from the tank cavity and soil piles between August 13 and 20, 1998. The soil samples were tested for TPHG, TPHD, BTEX and MTBE by Kiff Analytical in Davis, California. The soil sample test results and their collection dates are summarized in

Table 1. The soil sample locations are plotted on Figures 3 & 4. Copies of the soil analytical reports and the Chain-of-Custody's are provided in Appendix C.

Soil samples were collected to document the presence of hydrocarbons beneath the tanks. Samples were collected from the east end and the west end of each tank at a depth of approximately 11 feet at the soil/groundwater interface. As shown on Table 1, the highest concentrations were observed in samples labeled "Tank 1 East End" and "Tank 1 West End" collected beneath Tank 1 and "Tank 2 West End" collected beneath west end of Tank 2.

The soils adjacent to product lines that ran from the tanks to the dispenser islands were also sampled. Sample "PL-4B" contained the highest concentrations at 18,000 mg/kg TPHG, 60,000 µg/kg benzene, 1,800,000 µg/kg toluene, 370,000 µg/kg ethyl-benzene, 2,200,000 µg/kg total xylenes and 880,000 µg/kg MTBE. These concentrations indicated that overexcavation was required for the soils adjacent to the product lines.

Soil samples were collected from potholes dug under the centers of the dispenser islands at a depth of four feet. Chemical Analysis (samples DI-1E, DI-1W, DI-2E, DI-2W, DI-3E and DI-3W) indicated that leakage had occurred and additional soil needed to be overexcavated under dispenser islands 1, 2 and 3. Dispenser island 4 was the only one that was void of hydrocarbon impacted soil.

The overexcavation of hydrocarbon impacted soils ultimately included the area of the five underground storage tanks, and dispenser islands 1, 2 and 3 to an approximate depth of 12 feet (Figure 4). Soil samples labeled Truck No. 4 through 29B were collected from the overexcavation soil piles at a regular interval of one sample per 100 cubic yards of off-hauled soil, as the soil was loaded for disposal.

3.3 Dewatering of Tank Cavity

Groundwater was encountered at a depth of approximately 11 feet below the surface grade in the tank cavity and dispenser island 3. One groundwater sample was

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collected on August 13, 1998 from the tank cavity and contained 43 mg/l TPHG, 12 mg/l TPHD and 49,000 µg/l MTBE. Separate phase hydrocarbons were observed on groundwater in the tank cavity (See Appendix B, photos A-F). Approximately 28,000 gallons of groundwater were pumped from the tank cavity to two Baker holding tanks, and is currently awaiting approval for discharge to the East Bay Municipal Utility District treatment works.

3.4 Installation of Cut Off Trench

A cut off trench was constructed along the western and southern perimeter of the tank cavity excavation area. The trench extends to an approximate depth of 13 ft. It was installed prior the backfill of the excavation. Four-inch diameter perforated PVC pipe was placed in the bottom of the trench as described in the Supplemental IRM. Risers were installed at the ends of the cut off trench as shown on Figure 5.

3.5 Backfill and New Tank Emplacement

After the cut off trench was installed, two 20,000 double walled steel with fiberglass reinforced plastic tanks were emplaced. Clean back fill was imported to replace excavated material. The backfill consisted of pea gravel to approximately four feet below ground surface. The pea gravel was covered by clean imported fill.

4.0 RECOMMENDATIONS AND CONCLUSIONS

During August, 1998 Golden Gate Petroleum removed five old underground storage tanks and emplaced two new underground storage tanks the Oakland Cardlock, located at 421 23rd Avenue in Oakland, California. Approximately 1,300 yards of the surrounding hydrocarbon impacted soil on the site was excavated and removed. During the excavation, 49 soil samples and one groundwater sample were collected and analyzed for TPHG, TPHD, BTEX and MTBE, showing the presence of these compounds beneath the site. During the excavation approximately 28,000 gallons of groundwater that was pumped into Baker Tanks and is presently awaiting discharge to the East Bay MUD Treatment Works.

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In response to the letter directives written by Mr. Barney Chan of ACEH and City of Oakland Fire Inspector Mr. LeRoy Griffin, a preliminary site assessment workplan must be conducted to address the lateral and vertical extent of any hydrocarbon impacted soil and groundwater remaining on site. In addition, a Corrective Action Plan (CAP) consisting of a feasibility study and a proposal for applicable cleanup levels will be submitted within 30 days of the conclusion of the restoration of site, the permitting of the underground tanks or the disposal of soil groundwater, whichever occurs last. A copy of the directives from Mr. Chan and Mr. Griffin is attached as Appendix A.

Table 1. Soil Sample Chemical Analyses Results, Golden Gate Petroleum Oakland Cardlock, Oakland California

Sample No.	Sample Location	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Date Sampled
Tank 1	East end	11	3,100	4,400	5,400	3,000	30,000	45,000	2,700	8/13/98
	West end	11	2,000	2,300	15,000	120,000	45,000	240,000	56,000	8/13/98
Tank 2	East end	11	ND	15	ND	ND	ND	ND	850	8/13/98
	West end	11	12,000	9,400	15,000	120,000	45,000	240,000	56,000	8/13/98
Tank 3	East end	11	1.4	1.7	ND	ND	ND	ND	1,800	8/13/98
	West end	11	2.6	8.8	34	5.4	36	200	270	8/13/98
Tank 4	East end	11	2.0	2.7	6.1	ND	ND	ND	2,800	8/13/98
	West end	11	1.8	150	ND	ND	8.1	12	7.1	8/13/98
Tank 5	East end	11	ND	ND	ND	ND	ND	ND	20	8/13/98
	West end	11	ND	1.8	ND	ND	ND	ND	ND	8/13/98
SP-N,S,E,W	Soil Pile		70	760	54	74	49	1.8	66	8/13/98
PL-1	Product line	2.5	<1.0	33	ND	ND	ND	ND	ND	8/14/98
PL-2	Product line	2.5	1,400	20,000	<500	10,000	1,200	5,000	1,200	8/14/98
PL-2A	Product line	2.5	60	670	42	160	<20	360	300	8/14/98
PL-3	Product line	2.5	<1.0	32	ND	ND	ND	ND	ND	8/14/98
PL-4A	Product line	2.5	ND	ND	ND	ND	ND	ND	ND	8/14/98
PL-4B	Product line	2.5	18,000	<50	60,000	1,800,000	370,000	2,200,000	880,000	8/14/98

Table 1. Soil Sample Chemical Analyses Results, Golden Gate Petroleum Oakland Cardlock, Oakland California

Sample No.	Sample Location	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Date Sampled
PL-5	Product line	2.5	<1.0	540	ND	ND	ND	ND	8.4	8/14/98
DI-1E	Dispenser Island 1 East end	4	510	8,000	<200	390	<200	2,200	<200	8/14/98
DI-1W	Dispenser Island 1 West end	4	870	22,000	<200	1,400	350	7,600	<200	8/14/98
DI-2E	Dispenser Island 1 East end	4	290	1,900	<50	130	<50	<50	<50	8/14/98
DI-2W	Dispenser Island 1 West end	4	580	9,300	<200	310	<200	<200	<200	8/14/98
DI-3E	Dispenser Island 1 East end	4	680	4,600	<200	430	<200	900	<200	8/14/98
DI-3W	Dispenser Island 1 West end	4	21	31	230	2,000	350	3,400	240	8/14/98
DI-4E	Dispenser Island 1 East end	4	<1.0	<1.0	6.4	ND	ND	ND	7.0	8/14/98
DI-4W	Dispenser Island 1 West end	4	<1.0	<1.0	ND	ND	ND	ND	ND	8/14/98

Table 1. Soil Sample Chemical Analyses Results, Golden Gate Petroleum Oakland Cardlock, Oakland California

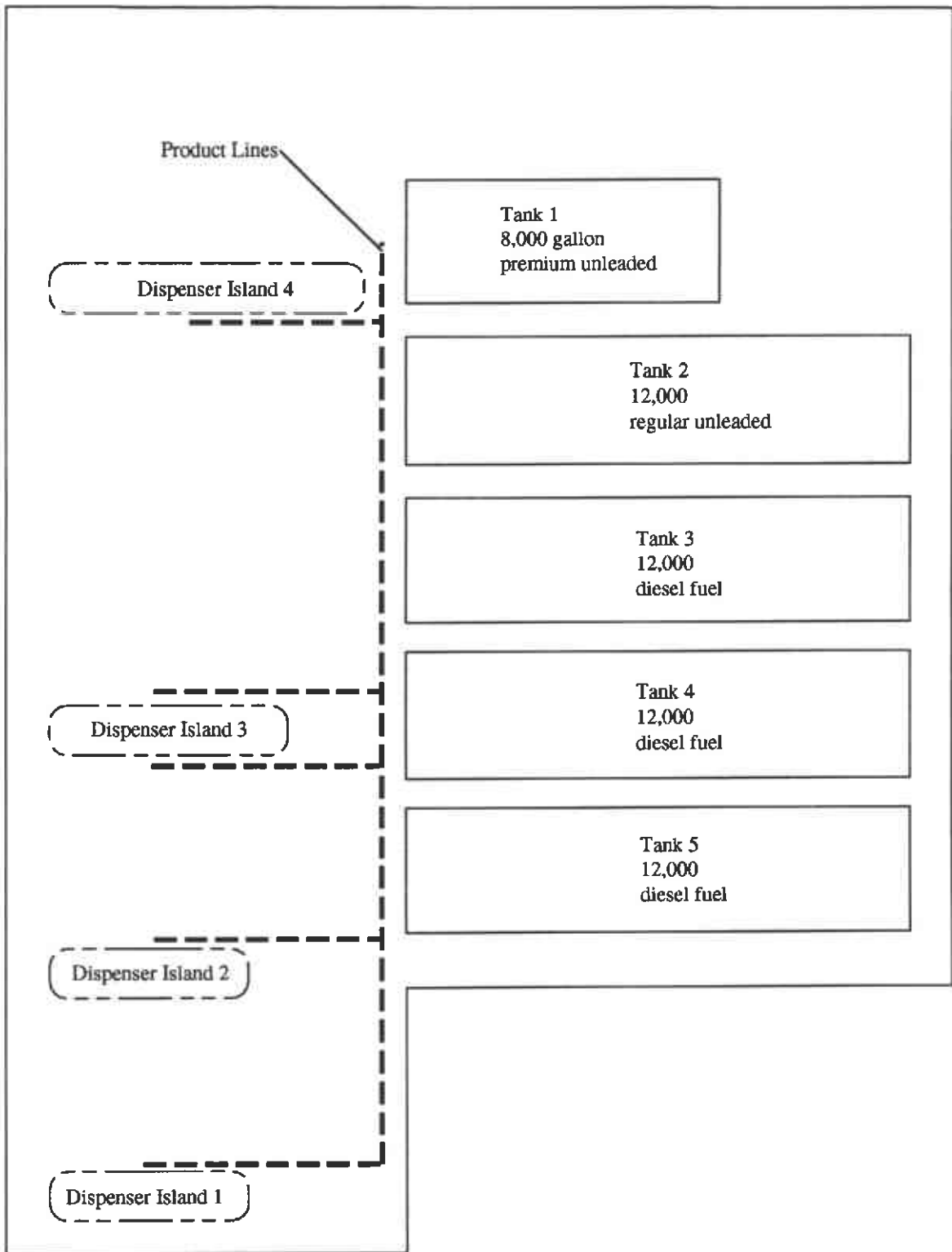
Sample No.	Sample Location	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Date Sampled
T1-Eox	Tank 1 East end over- excavation	11	<1.0	<1.0	ND	ND	ND	ND	150	8/15/98
T1-Wox	Tank 1 West end over- excavation	11	<1.0	<1.0	ND	ND	ND	ND	68	8/15/98
T2-Wox	Tank 2 East end over- excavation	11	8.2	<1.0	10	8.2	ND	6.8	7,300	8/15/98
DI-1c	Dispenser Island 1 Center	7	240	1,400	350	900	1,400	2,800	1,700	8/15/98
DI-2c	Dispenser Island 2 Center	8	<1.0	<1.0	ND	ND	ND	ND	120	8/15/98
DI-3c	Dispenser Island 1 Center	3	87	86	30	120	440	380	130	8/15/98
DI-1-A	Dispenser Island 1 South End	11	20	520	ND	ND	ND	ND	ND	8/20/98
DI-3-South	Dispenser Island 3 South	6	25	140	ND	ND	8.7	110	35	8/20/98
DI-3-South-A	Dispenser Island 3 South	10	ND	1.2	ND	ND	ND	9.4	ND	8/20/98
DI-3-Center-12	Dispenser Island 3-Center	12	30	1,800	<20	95	34	200	1,900	8/20/98

Table 1. Soil Sample Chemical Analyses Results, Golden Gate Petroleum Oakland Cardlock, Oakland California

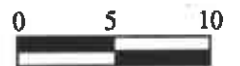
Sample No.	Sample Location	Sample Depth (feet)	TPHG (mg/kg)	TPHD (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethyl-benzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Date Sampled
Truck 4	Soil Pile		3.4	240	19	ND	ND	ND	240	8/19/98
Truck 8	Soil Pile		23	230	41	ND	ND	240	340	8/19/98
Truck 12	Soil Pile		22	270	39	7.1	ND	56	560	8/19/98
Truck 6B	Soil Pile		3.2	210	ND	ND	ND	34	930	8/20/98
Truck 8B	Soil Pile		5	150	6.6	ND	ND	ND	250	8/20/98
Truck 10B	Soil Pile		12	430	12	ND	ND	11	160	8/20/98
Truck 15B	Soil Pile		ND	140	ND	ND	ND	ND	ND	8/20/98
Truck 17B	Soil Pile		60	450	56	96	ND	88	69	8/20/98
Truck 19B	Soil Pile		94	750	87	110	ND	140	ND	8/20/98
Truck 25B	Soil Pile		ND	57	ND	ND	ND	ND	ND	8/20/98
Truck 27B	Soil Pile		99	770	ND	80	ND	ND	ND	8/20/98
Truck 29B	Soil Pile		100	460	ND	80	ND	60	ND	8/20/98



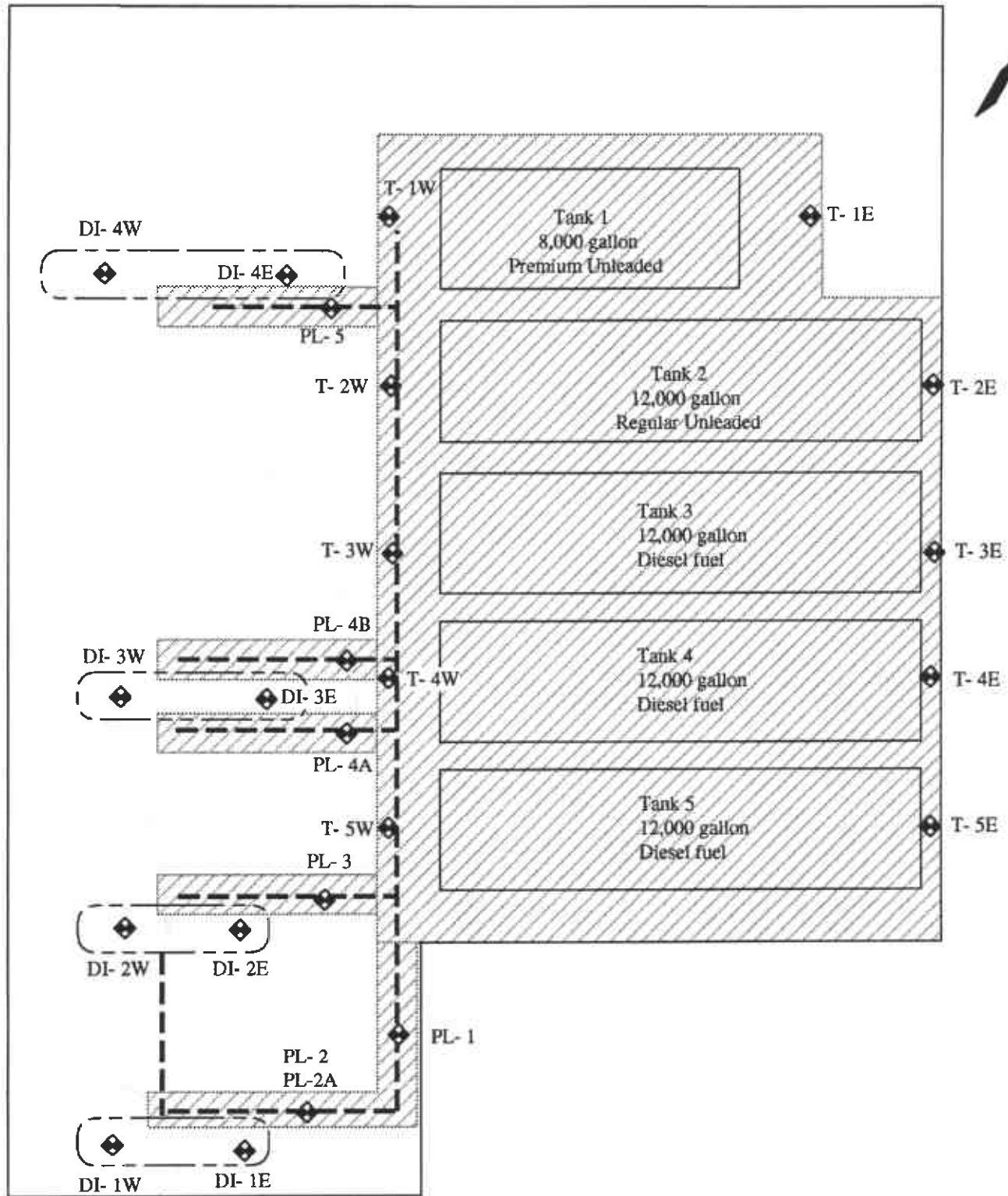
Project No. L98174	Golden Gate Petroleum	SITE LOCATION MAP FOR OAKLAND CARDLOCK AT 421 23RD AVENUE, OAKLAND, CALIFORNIA	Figure 1
Bonkowski & Associates, Inc.			



Approximate Scale:
1 inch = 10 feet



Project No. L98174	Golden Gate Petroleum	SITE PLAN MAP 421 23 rd AVENUE OAKLAND, CALIFORNIA	Figure 2
Bonkowski & Associates, Inc.			



Legend



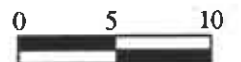
Extent of Excavation



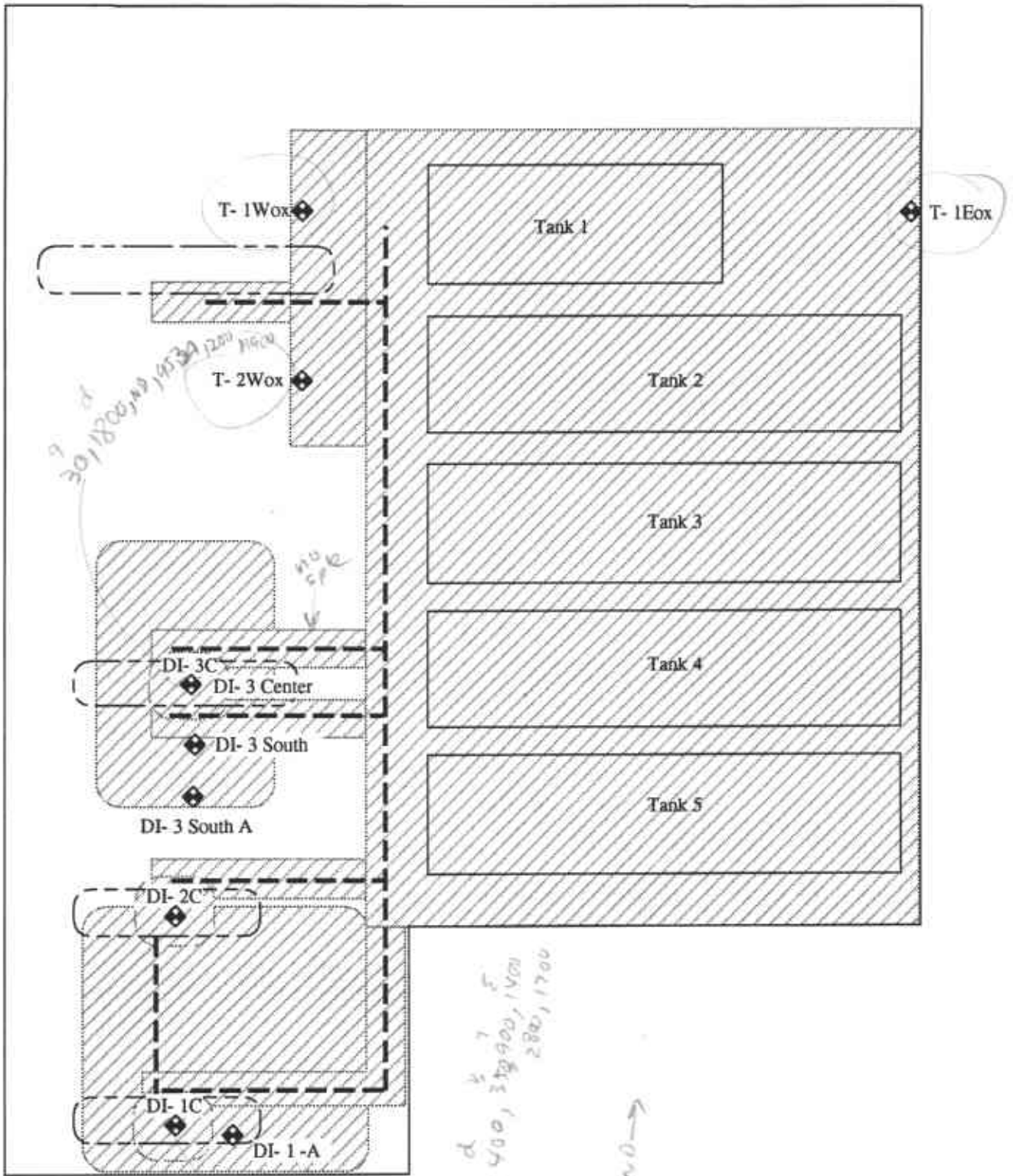
Soil Sample Location

DI-1C

Approximate Scale:
1 inch = 10 feet



Project No. L98174	Golden Gate Petroleum	EXCAVATION SOIL SAMPLE LOCATIONS, 421 23 rd AVENUE OAKLAND, CALIFORNIA	Figure 3
Bonkowski & Associates, Inc.			



Legend



Extent of Excavation



Soil Sample Location

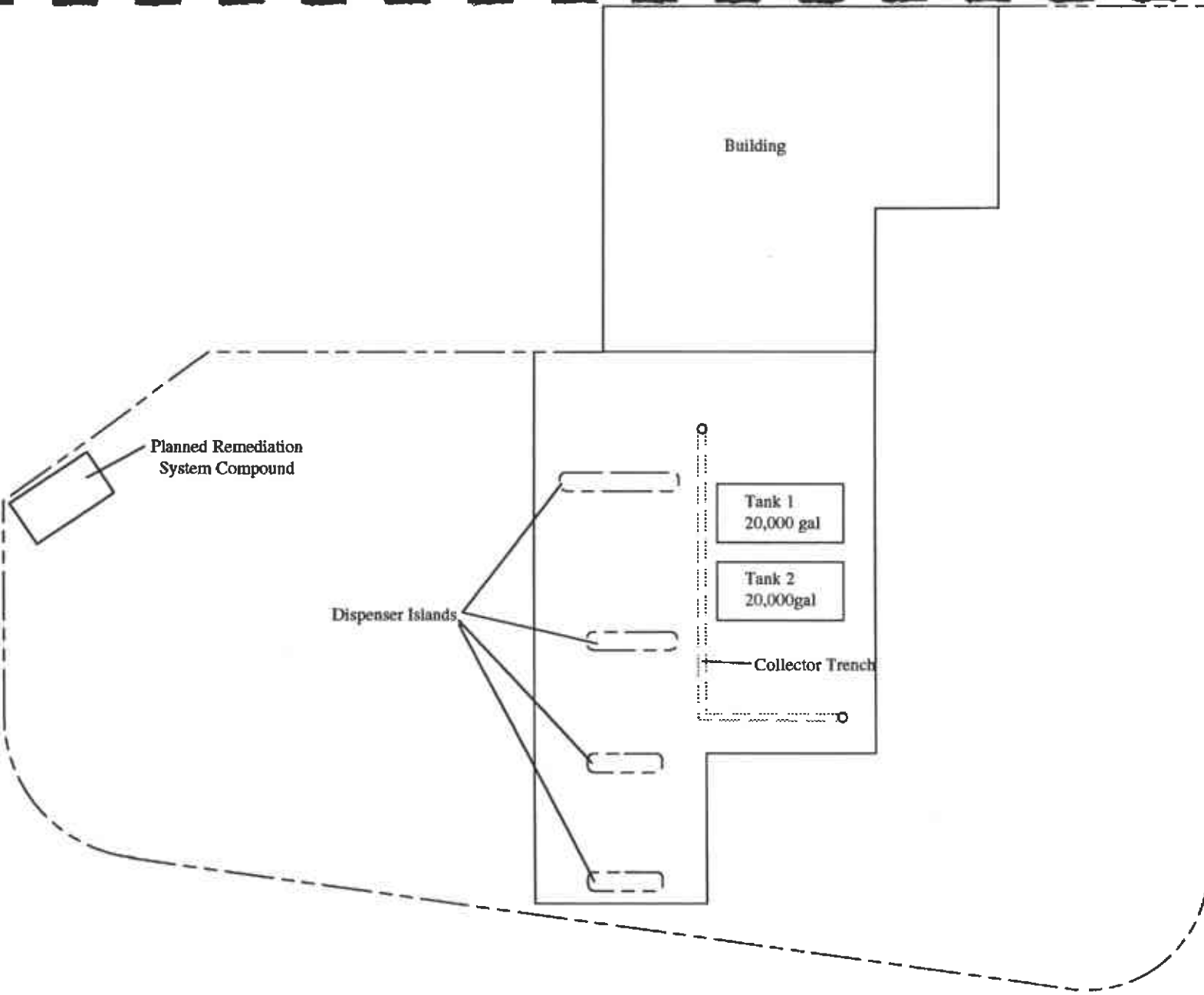
DI-1C

Approximate Scale:
1 inch = 10 feet



Project No. L98174	Golden Gate Petroleum	OVER-EXCAVATION SOIL SAMPLE LOCATIONS, 421 23 rd AVENUE OAKLAND, CALIFORNIA	Figure 4
Bonkowski & Associates, Inc.			

KENNEDY AVENUE

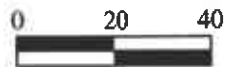


23RD AVENUE

Legend

--- Sanitary Sewer

Approximate Scale:
1 inch = 40 feet



Project No. L98174	Golden Gate Petroleum	CURRENT SITE PLAN MAP 421 23 rd AVENUE OAKLAND, CALIFORNIA	Figure 5
Bonkowski & Associates, Inc.			

CITY OF OAKLAND



FIRE SERVICES AGENCY • 505 FOURTEENTH STREET • SUITE 702 • OAKLAND, CALIFORNIA 94612

Office of Emergency Services

(510) 238-3938
FAX (510) 238-7761
TDD (510) 839-6451

August 14, 1998

Mr. Terry Pinney
Golden Gate Petroleum
1001 Galaxy Way, Suite #308
Concord, CA 94520

RE: UNDERGROUND TANK REMOVAL AT 421 23RD AVENUE OAKLAND CALIFORNIA.

Dear MrPinney:

The results of the sample analysis and observations documented during the closure of five underground storage tanks (UST), detectable fuel hydrocarbon contamination was identified in the water and soil sampled from the excavation pit.

A confirmed release from a UST has occurred at this site. Pursuant to the provisions of Article 11, Title 23, California Code of Regulations (CCR), you are required to perform an preliminary site assessment (PSA) to define the extent of both soil and groundwater contamination. To facilitate this task, a PSA work plan must be submitted for review.

This work plan is due within five days of receipt of this letter.

Pursuant to provisions of the Business and Professions Code all work and reports which require geologic or engineering evaluations and /or judgements must be performed under the direction of an appropriately registered or certified professional.

Please contact me at (510) 238-7759, if you have any questions regarding this matter

Sincerely

A handwritten signature in black ink, appearing to read "Leroy Griffin".

LeROY GRIFFIN
Hazardous Materials Supervisor

cc: Cynthia A. Dittmar, Bonkowski & Associates

CITY OF OAKLAND



FIRE SERVICES AGENCY • 505 FOURTEENTH STREET • SUITE 702 • OAKLAND, CALIFORNIA 94612

Office of Emergency Services

(510) 238-3938
FAX (510) 238-7761
TDD (510) 839-6451

August 14, 1998

Mr. Terry Pinney
Golden Gate Petroleum
1001 Galaxy Way, Suite #308
Concord, CA 94520

**RE: UNDERGROUND TANK REMOVAL AT 421 23RD AVENUE OAKLAND
CALIFORNIA.**

Dear MrPinney:

The purpose of this letter is to acknowledge receipt of the soil analytical report and your proposed remediation workplan for 421 23rd Avenue in Oakland.

Based upon the data provided, I approve of the site assessment workplan for this location. Please contact me at least 72 hours prior to the start of any activities associated with this workplan. If you have any questions regarding this matter, you can contact me at 238-7759.

Sincerely

A handwritten signature in black ink, appearing to read "Leroy Griffin".

LEROY GRIFFIN

Hazardous Materials Supervisor

cc: Cynthia A. Dittmar, Bonkowski & Associates

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RECEIVED
AUG 25 1998

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(415) 567-6700
FAX (415) 337-9335

August 21, 1998
StID # 191

Mr. Terry Pinney
Golden Gate Petroleum
1001 Galaxy Way, Suite #308
Concord CA 94520

Re: Supplemental IRM Workplan for Oakland Cardlock, 421 23rd Ave., Oakland CA 94606

Dear Mr. Pinney:

In lieu of signing the requested page on the August 18, 1998 IRM Work plan, I am writing this letter. This letter serves to reply to the IRM (Interim Remedial Measures) Workplan submitted to me today during my site visit by Mr. Peter Holland of Bonkowski & Associates. As you are aware, our office will be overseeing the investigation and remediation of this site through Alameda County Environmental Health's Local Oversight Program (LOP). A Notice of Responsibility (NOR) has been recently sent to you informing you of this administrative action.

Although the IRM was initially sent to and approved by Mr. Leroy Griffin of the City of Oakland, our office was aware and concurred with those actions stated in the August 18, 1998 report.

Those items included:

- The removal of free product and impacted groundwater from the tank pit;
- The proper disposal of this collected groundwater;
- The over-excavation of highly impacted areas including the ends of Tank 1 and 2 and three of the four former dispenser islands;
- The installation of a collector trench within the underground tank pit. The collector trench consists of slotted 4 inch PVC piping wrapped in filter fabric and lain horizontally at the base of the tank pit along the south and west sides. Vertical risers are placed at the ends of the piping.
- The proper disposal of stockpiled soil generated from the tank removal.

At the conclusion of your tank removal activities, please provide a copy of the complete Underground Storage Tank Closure Plan to our office and the City of Oakland. It was noticed that a map indicating the exact locations of samples was not included in this report.

You are also required to submit a Corrective Action Plan (CAP) pursuant to Title 23, Division 3, Chapter 16, Section 2725(d). The CAP consists of a site assessment, a feasibility study and a proposal for applicable cleanup levels. The initial work performed in the IRM work plan has greatly contributed to the preliminary site assessment part of the CAP. At this time, our office requests the submission of a work plan to determine the impact of the petroleum release to groundwater. Because you are, at this time, installing and permitting a new underground tank system, you may submit your work plan within 30 days of the conclusion of the restoration of site, the permitting of the underground tanks or the disposal of soil or groundwater, whichever is occurs last.

Mr. Terry Pinney
Golden Gate Petroleum
421 23rd Ave.
StID #191
August 21, 1998
Page 2.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

C: B. Chan, files

Mr. M. Bonkowski, Bonkowski & Associates, 3650 Mount Diablo Blvd., Suite 200, Lafayette,
CA 94549

Mr. Leroy Griffin, City of Oakland, Fire Dept., OES, 505 14th St., 7th Floor, Oakland 94612

Stat421-23



A) View of the tank cavity orientated to the west.



B) View of the tank cavity and floating product, orientated to the northeast.



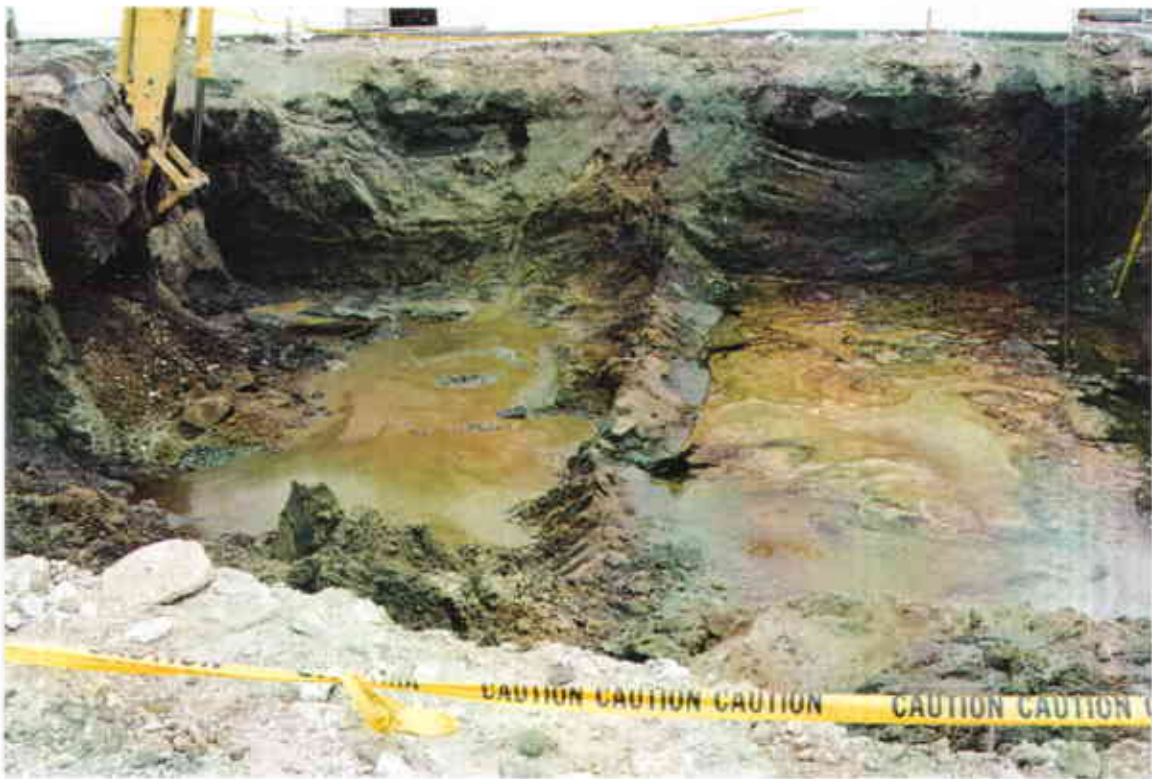
C) View of the tank cavity and floating product (Tank 1 was in the foreground).



D) View of the tank cavity overexcavation.



E) View of tank cavity overexcavation and floating product.



F) View of the tank cavity overexcavation and floating product.



G) View of product lines in the vicinity of dispenser island 1.



H) View of product lines south of tank cavity.

Project Name : L98174

Project Number : L98174

Sample : W-L98174-Pit

Matrix : Water

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 25	25	ug/L	EPA 8020	08/14/98
Toluene	< 25	25	ug/L	EPA 8020	08/14/98
Ethylbenzene	< 25	25	ug/L	EPA 8020	08/14/98
Total Xylenes	< 25	25	ug/L	EPA 8020	08/14/98
Methyl-t-butyl ether	49000	250	ug/L	EPA 8020	08/14/98
TPH as Gasoline	43000	2500	ug/L	M EPA 8015	08/14/98
TPH as Diesel	12000	50	ug/L	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	86.7		% Recovery	M EPA 8015	08/14/98

Sample : L98174-Tank 1 E End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	5.4	1.0	mg/Kg	EPA 8020	08/14/98
Toluene	3.0	1.0	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	30	1.0	mg/Kg	EPA 8020	08/14/98
Total Xylenes	45	1.0	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	2.7	1.0	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	3100	200	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	4400	100	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	104		% Recovery	M EPA 8015	08/14/98

Approved By:  Joel Kiff

Project Name : L98174

Project Number : L98174

Sample : L98174-Tank 2 E End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	0.85	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	15	1.0	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	100		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	96.9		% Recovery	M EPA 8015	08/14/98

Sample : L98174-Tank 3 E End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	1.8	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	1.4	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	1.7	1.0	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	99.6		% Recovery	M EPA 8015	08/14/98

Approved By:  Joel Kiff



Report Number : 12089

Date : 08/17/98

Project Name : L98174

Project Number : L98174

Sample : L98174-Tank 4 E End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.0061	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	2.8	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	2.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	2.7	1.0	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	99.1		% Recovery	M EPA 8015	08/14/98

Sample : L98174-Tank 5 E End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	0.020	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	98.7		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	99.5		% Recovery	M EPA 8015	08/14/98

Approved By: 
Joel Kiff



Report Number : 12089

Date : 08/17/98

Project Name : L98174

Project Number : L98174

Sample : L98174-Tank 1 W End

Matrix : Soil

Sample Date :08/13/98

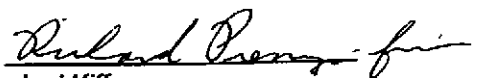
Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	15	0.20	mg/Kg	EPA 8020	08/14/98
Toluene	120	0.20	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	45	0.20	mg/Kg	EPA 8020	08/14/98
Total Xylenes	240	0.20	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	56	0.20	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	2000	20	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	2300	100	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	91.5		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	172		% Recovery	M EPA 8015	08/14/98

Sample : L98174-Tank 2 W End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	67	5.0	mg/Kg	EPA 8020	08/14/98
Toluene	650	5.0	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	240	5.0	mg/Kg	EPA 8020	08/14/98
Total Xylenes	1400	5.0	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	100	5.0	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	12000	500	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	9400	100	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	103		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	100		% Recovery	M EPA 8015	08/14/98

Approved By:  Joel Kiff

Project Name : L98174

Project Number : L98174

Sample : L98174-Tank 3 W End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.034	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	0.0054	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	0.036	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	0.20	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	0.27	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	2.6	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	8.8	1.0	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	110		% Recovery	M EPA 8015	08/14/98

Sample : L98174-Tank 4 W End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	0.0081	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	0.012	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	0.0071	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	1.8	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	150	1.0	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	100		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	100		% Recovery	M EPA 8015	08/14/98

Approved By:  Joel Kiff



Report Number : 12089

Date : 08/17/98

Project Name : L98174

Project Number : L98174

Sample : L98174-Tank 5 W End

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	1.8	1.0	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	99.3		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	96.7		% Recovery	M EPA 8015	08/14/98

Sample : L98174-SP-N,E,S,W

Matrix : Soil

Sample Date :08/13/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.054	0.020	mg/Kg	EPA 8020	08/14/98
Toluene	0.074	0.020	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	0.049	0.020	mg/Kg	EPA 8020	08/14/98
Total Xylenes	1.8	0.020	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	0.066	0.020	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	70	5.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	760	50	mg/Kg	M EPA 8015	08/14/98
aaa-Trifluorotoluene (8020 Surrogate)	100		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	101		% Recovery	M EPA 8015	08/14/98

Approved By:  Joel Kiff

Analysis Report: Lead, EPA Method 6010

Client: Joel Kiff
720 Olive Drive,
Suite D
Davis, CA 95616

Project No.:
Contact: JOEL KIFF
Phone: (530)297-4800

Project:

Date Sampled: 08/14/98
Date Received: 08/14/98
Date Extracted: 08/14/98
Date Analyzed: 08/14/98
Date Reported: 08/14/98

Lab Contact: George Hampton
Lab ID No.: P6181
Job No.: 816181
COC Log No.: NO #
Batch No.: M980814A
Instrument ID: IP004
Analyst ID: PONGC
Matrix: SOIL

ANALYTICAL RESULTS

Lab / Client ID Analyte	CAS No.	Results (mg/kg)	Rep. Limit (mg/kg)	Dilution (factor)
1A / SP-N,E,S,W Pb (Lead)	7439-92-1	20	10	1.0

ND = Not detected at or above indicated Reporting Limit

Project Name : L98174

Project Number : L98174

Sample : L98174-PL-1

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	33	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	94.5		% Recovery	M EPA 8015	08/14/98

Sample : L98174-PL-2

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	mg/Kg	EPA 8260B	08/14/98
Toluene	10	0.50	mg/Kg	EPA 8260B	08/14/98
Ethylbenzene	1.2	0.50	mg/Kg	EPA 8260B	08/14/98
Total Xylenes	5.0	0.50	mg/Kg	EPA 8260B	08/14/98
Methyl-t-butyl ether	1.2	0.50	mg/Kg	EPA 8260B	08/14/98
TPH as Gasoline	1400	50	mg/Kg	EPA 8260B	08/14/98
TPH as Diesel	20000	100	mg/Kg	M EPA 8015	08/15/98
Toluene - d8 (Surr)	104		% Recovery	EPA 8260B	08/14/98
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	08/14/98

Approved By:  Joel Kiff



Report Number : 12100

Date : 08/15/98

Project Name : L98174

Project Number : L98174

Sample : L98174-PL-2A

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.042	0.020	mg/Kg	EPA 8020	08/15/98
Toluene	0.16	0.020	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.020	0.020	mg/Kg	EPA 8020	08/15/98
Total Xylenes	0.36	0.020	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	0.30	0.020	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	60	5.0	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	670	50	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	100		% Recovery	M EPA 8015	08/15/98

Sample : L98174-PL-3

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	08/15/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	08/15/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	08/15/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	08/15/98
Methyl-t-butyl ether	< 0.0050	0.0050	mg/Kg	EPA 8260B	08/15/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	08/15/98
TPH as Diesel	32	1.0	mg/Kg	M EPA 8015	08/15/98
Toluene - d8 (Surr)	97.1		% Recovery	EPA 8260B	08/15/98
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	08/15/98

Approved By:  Joel Kiff

Project Name : L98174

Project Number : L98174

Sample : L98174-PL-4A

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	97.0		% Recovery	M EPA 8015	08/14/98

Sample : L98174-PL-4B

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	60	5.0	mg/Kg	EPA 8260B	08/15/98
Toluene	1800	5.0	mg/Kg	EPA 8260B	08/15/98
Ethylbenzene	370	5.0	mg/Kg	EPA 8260B	08/15/98
Total Xylenes	2200	5.0	mg/Kg	EPA 8260B	08/15/98
Methyl-t-butyl ether	880	5.0	mg/Kg	EPA 8260B	08/15/98
TPH as Gasoline	18000	500	mg/Kg	EPA 8260B	08/15/98
TPH as Diesel	< 50	50	mg/Kg	M EPA 8015	08/15/98
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	08/15/98
4-Bromofluorobenzene (Surr)	102		% Recovery	EPA 8260B	08/15/98

Approved By:  Joel Kiff

Project Name : L98174

Project Number : L98174

Sample : L98174-PL-5

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	0.0084	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	540	100	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	99.7		% Recovery	M EPA 8015	08/14/98

Sample : L98174-DI-1E

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
Toluene	0.39	0.20	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
Total Xylenes	2.2	0.20	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	510	20	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	8000	100	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	98.4		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	99.0		% Recovery	M EPA 8015	08/15/98

Approved By:  Joel Kiff



Report Number : 12100

Date : 08/15/98

Project Name : L98174

Project Number : L98174

Sample : L98174-DI-2E

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.050	0.050	mg/Kg	EPA 8020	08/15/98
Toluene	0.13	0.050	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.050	0.050	mg/Kg	EPA 8020	08/15/98
Total Xylenes	< 0.050	0.050	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	< 0.050	0.050	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	290	10	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	1900	50	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	97.9		% Recovery	M EPA 8015	08/15/98

Sample : L98174-DI-3E

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
Toluene	0.43	0.20	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
Total Xylenes	0.90	0.20	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	680	20	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	4600	50	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	97.0		% Recovery	M EPA 8015	08/15/98

Approved By:  Joel Kiff



Report Number : 12100

Date : 08/15/98

Project Name : L98174

Project Number : L98174

Sample : L98174-DI-4E

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.0064	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	0.0079	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	103		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	112		% Recovery	M EPA 8015	08/14/98

Sample : L98174-DI-1W

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
Toluene	1.4	0.20	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	0.35	0.20	mg/Kg	EPA 8020	08/15/98
Total Xylenes	7.6	0.20	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	870	20	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	22000	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	96.8		% Recovery	M EPA 8015	08/15/98

Approved By: Joe Kiff

Project Name : L98174

Project Number : L98174

Sample : L98174-DI-2W

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
Toluene	0.31	0.20	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
Total Xylenes	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	< 0.20	0.20	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	580	20	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	9300	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	98.1		% Recovery	M EPA 8015	08/15/98

Sample : L98174-DI-3W

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.23	0.020	mg/Kg	EPA 8020	08/15/98
Toluene	2.0	0.020	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	0.35	0.020	mg/Kg	EPA 8020	08/15/98
Total Xylenes	3.4	0.020	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	0.24	0.020	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	21	5.0	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	31	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	103		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	97.0		% Recovery	M EPA 8015	08/15/98

Approved By: Joel Kiff

Project Name : L98174

Project Number : L98174

Sample : L98174-DI-4W

Matrix : Soil

Sample Date :08/14/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
Methyl-t-butyl ether	< 0.0050	0.0050	mg/Kg	EPA 8020	08/14/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/14/98
TPH as Diesel	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	08/14/98
aaa-Trifluorotoluene (Gasoline Surrogate)	97.8		% Recovery	M EPA 8015	08/14/98

Approved By:  Joel Kiff



Report Number : 12101

Date : 08/16/98

Project Name : L98174

Project Number : L98174

Sample : L98174-T1 E OX

Matrix : Soil

Sample Date :08/15/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	0.15	0.0050	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	101		% Recovery	M EPA 8015	08/15/98
1-Chlorooctadecane (Diesel Surrogate)	106		% Recovery	M EPA 8015	08/15/98

Sample : L98174-T1 W OX

Matrix : Soil

Sample Date :08/15/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	0.068	0.0050	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	105		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	105		% Recovery	M EPA 8015	08/15/98
1-Chlorooctadecane (Diesel Surrogate)	108		% Recovery	M EPA 8015	08/15/98

Approved By:  Joe Kiff

Project Name : L98174

Project Number : L98174

Sample : L98174-T2 W OX

Matrix : Soil

Sample Date :08/15/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.010	0.0050	mg/Kg	EPA 8020	08/15/98
Toluene	0.0082	0.0050	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Total Xylenes	0.0068	0.0050	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	7.3	0.020	mg/Kg	EPA 8020	08/16/98
TPH as Gasoline	8.2	1.0	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	106		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	104		% Recovery	M EPA 8015	08/15/98
1-Chlorooctadecane (Diesel Surrogate)	111		% Recovery	M EPA 8015	08/15/98

Sample : L98174-DI-1C

Matrix : Soil

Sample Date :08/15/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.35	0.20	mg/Kg	EPA 8020	08/15/98
Toluene	0.90	0.20	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	1.4	0.20	mg/Kg	EPA 8020	08/15/98
Total Xylenes	2.8	0.20	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	1.7	0.20	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	240	20	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	1400	20	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	99.2		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	78.6		% Recovery	M EPA 8015	08/15/98
1-Chlorooctadecane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	08/15/98

Approved By:  Joel Kiff

Project Name : L98174

Project Number : L98174

Sample : L98174-DI-2C

Matrix : Soil

Sample Date :08/15/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	0.12	0.0050	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	< 1.0	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	100		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	98.1		% Recovery	M EPA 8015	08/15/98
1-Chlorooctadecane (Diesel Surrogate)	108		% Recovery	M EPA 8015	08/15/98

Sample : L98174-DI-3C

Matrix : Soil

Sample Date :08/15/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.030	0.020	mg/Kg	EPA 8020	08/15/98
Toluene	0.12	0.020	mg/Kg	EPA 8020	08/15/98
Ethylbenzene	0.44	0.020	mg/Kg	EPA 8020	08/15/98
Total Xylenes	0.38	0.020	mg/Kg	EPA 8020	08/15/98
Methyl-t-butyl ether	0.13	0.020	mg/Kg	EPA 8020	08/15/98
TPH as Gasoline	87	5.0	mg/Kg	M EPA 8015	08/15/98
TPH as Diesel	86	1.0	mg/Kg	M EPA 8015	08/15/98
aaa-Trifluorotoluene (8020 Surrogate)	99.2		% Recovery	EPA 8020	08/15/98
aaa-Trifluorotoluene (Gasoline Surrogate)	103		% Recovery	M EPA 8015	08/15/98
1-Chlorooctadecane (Diesel Surrogate)	111		% Recovery	M EPA 8015	08/15/98

Approved By:  Joel Kiff



Report Number : 12112

Date : 08/19/98

Project Name :

Project Number : L98174

Sample : SP-2N,2S,2E,2W

Matrix : Soil

Sample Date :08/18/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	08/18/98
Toluene	0.032	0.0050	mg/Kg	EPA 8260B	08/18/98
Ethylbenzene	0.035	0.0050	mg/Kg	EPA 8260B	08/18/98
Total Xylenes	0.86	0.0050	mg/Kg	EPA 8260B	08/18/98
Methyl-t-butyl ether	0.18	0.0050	mg/Kg	EPA 8260B	08/18/98
TPH as Gasoline	68	5.0	mg/Kg	M EPA 8015	08/19/98
TPH as Diesel	260	1.0	mg/Kg	M EPA 8015	08/19/98
Toluene - d8 (Surr)	110		% Recovery	EPA 8260B	08/18/98
4-Bromofluorobenzene (Surr)	112		% Recovery	EPA 8260B	08/18/98


 Approved By: Joel Kiff

SEP-10-98 THU 17:48

KIFF ANALYTICAL

FAX NO. 9162974808

P. 01/01



Report Number : 12167

Date : 09/10/98

Project Name :

Project Number : L98174 - oakland

COPY

Sample : L98174-DI-1-A

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.050	0.050	mg/Kg	EPA 8020	09/10/98
Toluene	< 0.050	0.050	mg/Kg	EPA 8020	09/10/98
Ethylbenzene	< 0.050	0.050	mg/Kg	EPA 8020	09/10/98
Total Xylenes	< 0.050	0.050	mg/Kg	EPA 8020	09/10/98
Methyl-t-butyl ether	< 0.050	0.050	mg/Kg	EPA 8020	09/10/98
TPH as Gasoline	20	5.0	mg/Kg	M EPA 8015	09/10/98
TPH as Diesel	520	1.0	mg/Kg	M EPA 8015	09/09/98
aaa-Trifluorotoluene (8020 Surrogate)	103		% Recovery	EPA 8020	09/10/98
aaa-Trifluorotoluene (Gasoline Surrogate)	101		% Recovery	M EPA 8015	09/10/98
1-Chlorooctadecane (Diesel Surrogate)	174		% Recovery	M EPA 8015	09/09/98

Approved By: Joel Kiff

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SEP-08-98 TUE 18:11

KIFF ANALYTICAL

FAX NO. 9162974808

P. 02/10



Report Number : 12167

Date : 09/08/98

Project Name :

Project Number : L98174

Sample : L98174-Truck 6B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/02/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/02/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/02/98
Total Xylenes	0.034	0.0050	mg/Kg	EPA 8020	09/02/98
Methyl-t-butyl ether	0.93	0.0050	mg/Kg	EPA 8020	09/02/98
TPH as Gasoline	3.2	1.0	mg/Kg	M EPA 8015	09/02/98
TPH as Diesel	210	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	100		% Recovery	EPA 8020	09/02/98
aaa-Trifluorotoluene (Gasoline Surrogate)	104		% Recovery	M EPA 8015	09/02/98
1-Chlorooctadecane (Diesel Surrogate)	97.5		% Recovery	M EPA 8015	08/31/98

Sample : L98174-Truck 8B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.0066	0.0050	mg/Kg	EPA 8020	09/01/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	0.25	0.0050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	5.0	1.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	150	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	97.3		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	104		% Recovery	M EPA 8015	08/31/98

Approved By:  Joel Kiff

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Report Number : 12167

Date : 09/08/98

Project Name :

Project Number : L98174

Sample : L98174-Truck 10B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.012	0.0050	mg/Kg	EPA 8020	09/01/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	0.011	0.0050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	0.16	0.0050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	12	1.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	430	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	96.1		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	111		% Recovery	M EPA 8015	08/31/98

Sample : L98174-Truck 15B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	140	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	101		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	97.7		% Recovery	M EPA 8015	08/31/98

Approved By:  Joel Kiff



Report Number : 12167

Date : 09/08/98

Project Name :

Project Number : L98174

Sample : L98174-Truck 17B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.056	0.050	mg/Kg	EPA 8020	09/01/98
Toluene	0.096	0.050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	0.088	0.050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	0.069	0.050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	60	5.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	450	20	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	98.2		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	08/31/98

Sample : L98174-Truck 19B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.087	0.050	mg/Kg	EPA 8020	09/01/98
Toluene	0.11	0.050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	0.14	0.050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	94	5.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	750	20	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	103		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	08/31/98

Approved By: Joe Kiff



Report Number : 12167

Date : 09/08/98

Project Name :

Project Number : L98174

Sample : L98174-Truck 25B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	57	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	100		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	101		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	105		% Recovery	M EPA 8015	08/31/98

Sample : L98174-Truck 27B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
Toluene	0.080	0.050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	99	5.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	770	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	99.6		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	98.0		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	08/31/98

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Report Number : 12167

Date : 09/08/98

Project Name :

Project Number : L98174

Sample : L98174-Truck 29B

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
Toluene	0.080	0.050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	0.060	0.050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	< 0.050	0.050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	100	5.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	460	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	99.1		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	08/31/98

Sample : L98174-DI-3-South

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/02/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/02/98
Ethylbenzene	0.0087	0.0050	mg/Kg	EPA 8020	09/02/98
Total Xylenes	0.11	0.0050	mg/Kg	EPA 8020	09/02/98
Methyl-t-butyl ether	0.035	0.0050	mg/Kg	EPA 8020	09/02/98
TPH as Gasoline	25	1.0	mg/Kg	M EPA 8015	09/02/98
TPH as Diesel	140	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	104		% Recovery	EPA 8020	09/02/98
aaa-Trifluorotoluene (Gasoline Surrogate)	107		% Recovery	M EPA 8015	09/02/98
1-Chlorooctadecane (Diesel Surrogate)	105		% Recovery	M EPA 8015	08/31/98

Approved By: Joe Kiff

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Report Number : 12167

Date : 09/08/98

Project Name :

Project Number : L98174

Sample : L98174-DI-3-Center-12

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.020	0.020	mg/Kg	EPA 8020	09/08/98
Toluene	0.095	0.020	mg/Kg	EPA 8020	09/08/98
Ethylbenzene	0.034	0.020	mg/Kg	EPA 8020	09/08/98
Total Xylenes	0.20	0.020	mg/Kg	EPA 8020	09/08/98
Methyl-t-butyl ether	1.9	0.020	mg/Kg	EPA 8020	09/08/98
TPH as Gasoline	30	5.0	mg/Kg	M EPA 8015	09/08/98
TPH as Diesel	1800	10	mg/Kg	M EPA 8015	09/08/98
aaa-Trifluorotoluene (8020 Surrogate)	102		% Recovery	EPA 8020	09/08/98
aaa-Trifluorotoluene (Gasoline Surrogate)	104		% Recovery	M EPA 8015	09/08/98
1-Chlorooctadecane (Diesel Surrogate)	Diluted Out		% Recovery	M EPA 8015	09/08/98

Sample : L98174-DI-3-South A

Matrix : Soil

Sample Date :08/20/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/08/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/08/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/08/98
Total Xylenes	0.0094	0.0050	mg/Kg	EPA 8020	09/08/98
Methyl-t-butyl ether	< 0.0050	0.0050	mg/Kg	EPA 8020	09/08/98
TPH as Gasoline	< 1.0	1.0	mg/Kg	M EPA 8015	09/08/98
TPH as Diesel	1.2	1.0	mg/Kg	M EPA 8015	09/08/98
aaa-Trifluorotoluene (8020 Surrogate)	101		% Recovery	EPA 8020	09/08/98
aaa-Trifluorotoluene (Gasoline Surrogate)	102		% Recovery	M EPA 8015	09/08/98
1-Chlorooctadecane (Diesel Surrogate)	63.6		% Recovery	M EPA 8015	09/08/98

Approved By:  Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800



Report Number : 12168

Date : 09/08/98

Project Name :

Project Number : L98174

Sample : L98174-Truck 4

Matrix : Soil

Sample Date :08/19/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.019	0.0050	mg/Kg	EPA 8020	09/01/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	0.24	0.0050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	3.4	1.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	240	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	87.7		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	70.1		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecano (Diesel Surrogate)	104		% Recovery	M EPA 8015	08/31/98

Sample : L98174-Truck 8

Matrix : Soil

Sample Date :08/19/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.041	0.0050	mg/Kg	EPA 8020	09/08/98
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/08/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/08/98
Total Xylenes	0.24	0.0050	mg/Kg	EPA 8020	09/08/98
Methyl-t-butyl ether	0.34	0.0050	mg/Kg	EPA 8020	09/08/98
TPH as Gasoline	23	1.0	mg/Kg	M EPA 8015	09/08/98
TPH as Diesel	230	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	89.8		% Recovery	EPA 8020	09/08/98
aaa-Trifluorotoluene (Gasoline Surrogate)	85.4		% Recovery	M EPA 8015	09/08/98
1-Chlorooctadecane (Diesel Surrogate)	107		% Recovery	M EPA 8015	08/31/98

Approved By: Joel Kiff

720 Olive Drive, Suite D Davis, CA 95616 530-297-4800



Report Number : 12168

Date : 09/08/98

Project Name :

Project Number : L98174

Sample : L98174-Truck 12

Matrix : Soil

Sample Date :08/19/98

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	0.039	0.0050	mg/Kg	EPA 8020	09/01/98
Toluene	0.0071	0.0050	mg/Kg	EPA 8020	09/01/98
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8020	09/01/98
Total Xylenes	0.056	0.0050	mg/Kg	EPA 8020	09/01/98
Methyl-t-butyl ether	0.56	0.0050	mg/Kg	EPA 8020	09/01/98
TPH as Gasoline	22	1.0	mg/Kg	M EPA 8015	09/01/98
TPH as Diesel	270	1.0	mg/Kg	M EPA 8015	08/31/98
aaa-Trifluorotoluene (8020 Surrogate)	113		% Recovery	EPA 8020	09/01/98
aaa-Trifluorotoluene (Gasoline Surrogate)	107		% Recovery	M EPA 8015	09/01/98
1-Chlorooctadecane (Diesel Surrogate)	110		% Recovery	M EPA 8015	08/31/98

Approved By:  Joe Kiff

Project Manager: Tim Tatum Phone No.: (925) 283-9042 Chain-of-Custody Record and Analysis Request

Company/Address: Bonkowski & Assoc. Inc FAX No.: (925) 284-3552 Analysis Request

Project Number: L98174 PO. No.: ← Project Name: L98174 TAT For Lab Use Only

Project Location: Oakland Sampler Signature: [Signature] W.E.T. (X) TOTAL (X)

Sample Designation	Sampling		Container (Type/Amount)				Method Preserved				Matrix	BTEX (8020)	BTEX/TPH Gas/MTBE (8020/8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	EPA8010	EPA 8080 - Pesticides	EPA 8080 - PCBs	EPA 8240	EPA 8270	CAM - 17 Metals	Lead (7421/2392)	Cd, Cr, Pb, Zn, Ni	12 hr (24 hr) 48 hr / 72 hr / 1 wk / 2 wk			
	Date	Time	VOA	SLEEVE	1L GLASS	500 ml	HCl	HNO ₃	ICE	NONE																WATER/SOIL	
W-L98174-Pit	8/13/98	12:30	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	24	-01
L98174-Tank 1 E end	"	1:00	/	/	/	/	/	/	/	S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-02
-Tank 2 E end			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-03
-Tank 3 E end			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-04
-Tank 4 E end			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-05
-Tank 5 E end			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-06
-Tank 1 W end			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-07
-Tank 2 W end			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-08
-Tank 3 W end			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-09
-Tank 4 W end			/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-10

Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Remarks: _____

Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Email address: _____
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Relinquished by: [Signature] Date: 8/13/98 Time: 11:03 Received by Laboratory: Justin Neusch/Kiff Bill to: _____

12089

Project Manager: Tim Tatum Phone No.: (925) 283-9012 Chain-of-Custody Record and Analysis Request

Company/Address: Bunkowski & Assoc., Inc. FAX No.: (925) 284-3552 Analysis Request

Project Number: L98174 P.O. No.: Project Name: TAT For Lab Use Only

Project Location: Orland Sampler Signature: [Signature]

Sample Designation	Sampling		Container (Type/Amount)				Method Preserved				Matrix	Analysis Request										TAT	For Lab Use Only					
	Date	Time	VOA	SLEEVE	1L GLASS	500 ml	HCl	HNO ₃	ICE	NONE	WATER/SOIL	BTEX (8020)	BTEX/TPH Gas/MTBE (8020/8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	EPA8010	EPA 8080 - Pesticides	EPA 8080 - PCBs	EPA 8240	EPA 8270	CAM - 17 Metals			Lead (7421/239.2)	Cd, Cr, Pb, Zn, Ni	W.E.T. (X)	TOTAL (X)	
1 98174-Tank 5 W end	8/13/98	1:00	/	/	/	/	/	/	/	S	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	24	-11
-SP-N		2:30	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-12
-SP-E		"	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-12
-SP-S		"	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-12
-SP-W		"	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		-12

Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Remarks: _____

Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Email address: _____

Relinquished by: [Signature] Date: 8/13/98 Time: 1603 Received by Laboratory: Justin Bensch Bill to: _____



720 Olive Drive, Suite D
Davis, CA 95616

Lab: 916.297.4800
Fax: 916.297.4808

Page _____ of _____

Project Manager: Joel Kiff Phone No.:

Company/Address: FAX No.:

Project Number: PO. No.: Project Name:

Project Location: Sampler Signature:

Chain-of-Custody Record and Analysis Request

Analysis Request

TAT For Lab Use Only

Sample Designation	Sampling		Container (Type/Amount)				Method Preserved				Matrix	Analysis Request										TAT 12 hr/24 hr/48 hr/72 hr/1 wk/2 wk							
	Date	Time	VOA	SLEEVE	1L GLASS	500 ml	1 Baggie	HCl	HNO ₃	ICE	NONE	WATER/SOIL	BTEX (8020)	BTEX/TPH Gas/MTBE (8020/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	EPA8010	EPA 8080 - Pesticides	EPA 8080 - PCBs	EPA 8240	EPA 8270		CAM - 17 Metals	Lead (7421/239.2)	Cd, Cr, Pb, Zn, Ni	W.E.T. (X)	TOTAL (X)		
SP - N, E, S, W	9/14/98	8:45					1			X		S												X					

Relinquished by: Justin Dorach Date: 9/14/98 Time: 8:45 Received by: Laura Loder Date: 9/14/98

Remarks: Due 5 p.m. 9-14-98

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Email address: .doc .xls .bt other _____

Relinquished by: _____ Date: _____ Time: _____ Received by Laboratory: _____

Bill to: _____

Project Manager: Jim Tatum
Bonkowski & Assoc
Company/Address:

Phone No.: (925) 283-9042
FAX No.: (925) 284-3552

Chain-of-Custody Record and Analysis Request

Project Number: L98174 PO. No.:
Project Location: Oakland

Project Name:
Sampler Signature: [Signature]

Analysis Request

Sample Designation	Sampling		Container (Type/Amount)		Method Preserved				Matrix	BTEX (8020)	BTEX/TPH Gas/MTBE (8020/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	EPA8010	EPA 8080 - Pesticides	EPA 8080 - PCBs	EPA 8240	EPA 8270	CAM - 17 Metals Lead (7421/239.2)	Cd, Cr, Pb, Zn, Ni	WE.T. (X)	TOTAL (X)	TAT	For Lab Use Only
	Date	Time	VOA	SLEEVE 1L GLASS 500 ml	HCl	HNO ₃	ICE	NONE																
L98174 - T1 Eox	9/15/98		/		/			S	/	/														Monday
- T1 Wox																								AM
- T2 Wox																								
- DI-1C																								
- DI-2C																								
- DI-3C																								

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Relinquished by:	Date	Time	Received by:	Email address:
Relinquished by:	Date	Time	Received by Laboratory:	Bill to:

9/15/98 19:30

Project Manager: Tim Tatum Phone No.: (925) 283-9042 **Chain-of-Custody Record and Analysis Request**

Company/Address: Bonkowski FAX No.: (925) 284-3552

Project Number: L98174 P.O. No.: Project Name: Analysis Request

Project Location: Oakland Sampler Signature: [Signature]

Sample Designation	Sampling		Container (Type/Amount)		Method Preserved				Matrix	BTEX (8020)	BTEX/TPH Gas/MTBE (8020/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	EPA8010	EPA 8080 - Pesticides	EPA 8080 - PCBs	EPA 8240	EPA 8270	CAM - 17 Metals	Lead (7421/239.2)	Cd, Cr, Pb, Zn, Ni	WET (X)	TOTAL (X)	TAT	For Lab Use Only
	Date	Time	VOA	SLEEVE	1L GLASS	500 ml	HCl	HNO ₃																	
L98174-PL-1	8/14/98		/						S	/	/	/	/	/	/	/	/	/	/	/	/	/	24	-01	
-PL-2			/							/	/	/	/	/	/	/	/	/	/	/	/	/		-02	
-PL-2A			/							/	/	/	/	/	/	/	/	/	/	/	/	/		-03	
-PL-3			/							/	/	/	/	/	/	/	/	/	/	/	/	/		-04	
-PL-4A			/							/	/	/	/	/	/	/	/	/	/	/	/	/		-05	
-PL-4B			/							/	/	/	/	/	/	/	/	/	/	/	/	/		-06	
-PL-5			/							/	/	/	/	/	/	/	/	/	/	/	/	/		-07	

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Relinquished by: [Signature] Date: 8/14/98 Time: 1400 Received by Laboratory: Justin Deuch Bill to: _____

Project Manager: Tim Tatum
 Company/Address: Bonkowski
 Phone No.: (925) 283-9042
 FAX No.: (925) 284-3552

Chain-of-Custody Record and Analysis Request

Project Number: L98174 PO. No.:
 Project Location: Oakland
 Project Name:
 Sampler Signature: [Signature]

Analysis Request

Sample Designation	Sampling		Container (Type/Amount)				Method Preserved				Matrix	Analysis Request										TAT	For Lab Use Only							
	Date	Time	VOA	SLEEVE	1L GLASS	500 ml	HCl	HNO ₃	ICE	NONE	WATER/SOIL	BTEX (8020)	BTEX/TPH Gas/MTBE (8020/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	EPA8010	EPA 8080 - Pesticides	EPA 8080 - PCBs	EPA 8240	EPA 8270	CAM - 17 Metals			Lead (7421/239.2)	Cd, Cr, Pb, Zn, Ni	WE.T. (X)	TOTAL (X)			
L98174-DI-1E	8/14/98		/	/				/		S	/	/	/	/														12 hr/24 hr/48 hr/72 hr/1 wk/2 wk		
-2E			/	/							/	/	/	/															24	-08
-3E			/	/							/	/	/	/																-09
-4E			/	/							/	/	/	/																-10
-DI-1W			/	/							/	/	/	/																-11
-2W			/	/							/	/	/	/																-12
-3W			/	/							/	/	/	/																-13
-4W			/	/							/	/	/	/																-14
																														-15

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 Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Email address: _____
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 Relinquished by: [Signature] Date: 8/14/98 Time: 2:00 Received by Laboratory: Justin Deuch Bill to: _____

