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UNDERGROUND STORAGE TANK REMOVAL REPORT

THRIFTY OIL COMPANY SERVICE STATION NO. 63
6125 TELEGRAPH ROAD
OAKLAND, CALIFORNIA
PEG PROJECT NO. 331-008.1B

Prepared for:

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August 31, 1998

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UNDERGROUND STORAGE TANK REMOVAL REPORT

THRIFTY OIL COMPANY SERVICE STATION NO. 63
6125 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
PEG PROJECT NO. 331-008.1B

1.0 INTRODUCTION

Pacific Environmental Group, Inc. (PEG) was contracted by ARCO Products Company (ARCO) to perform soil sampling during underground storage tank (UST) removal activities at Thrifty Oil Company (Thrifty) Service Station No. 63, located at 6125 Telegraph Avenue, Oakland, California (the Site). The purpose of the soil sampling was to fulfill local agency requirements and to provide additional information to baseline environmental related subsurface conditions from operations at Thrifty Service Station No. 63. The services provided by PEG included the following:

- Collecting soil samples following removal of USTs, product piping, and dispensers as directed by the City of Oakland Fire Department.

2.0 SOIL INFORMATION

This section summarizes the pertinent information concerning the Site location, Site geology, and hydrology, and the removed and installed USTs.

Site Location: Southwest corner of Telegraph Avenue and 62nd Avenue in the City of Oakland, California.

Site Geology: Soil types encountered during the tank removal and previous site investigation activities consisted predominantly of clay and silty sand from the ground surface to the total depth of the investigations, approximately 20 feet below ground surface (bgs).

- Local Hydrology: Based on results of recent subsurface investigations conducted by Thrifty, groundwater was encountered to a depth of approximately 16 feet bgs.
- Removed USTs and Associated Piping: On February 4, 1998, three gasoline USTs and their associated piping were removed from the Site. The tanks consisted of two 10,000-gallon and one 12,000-gallon USTs, and were constructed of steel coated with fiberglass. The associated piping was comprised of both single-walled steel and single-walled fiberglass.
- Installed USTs: On February 10, 1998, two 20,000-gallon double-walled USTs were installed at the Site. One of the USTs is partitioned (two 10,000-gallon sub tanks) to accommodate two different grades of fuel.

3.0 EXCAVATED SOIL

Excavation activities were performed by the K. E. Curtis Construction Company (KEC), of Newbury Park, California. The excavated soil was segregated based on volatile organic compound (VOC) concentrations measured using a flame-ionization detector (FID). All excavated soil was segregated and stockpiled according to the following criteria: soil which did not emit measured VOC concentrations greater than 50 ppmv, soil which emitted VOC concentrations measured between 50 and 100 ppmv, and soil which emitted VOC concentrations measured greater than 1,000 ppmv. To characterize the stockpiled soil, samples were collected from each stockpile and submitted to a laboratory for chemical analysis.

This section summarizes the pertinent information concerning the excavated soil, waste characterization, and final disposition of the excavated soil. For the purposes of this report, soil will be labeled "clean" and "impacted" based on results of chemical analysis. Stockpiles for which analytical results of soil samples are reported as not detectable are considered "clean" and stockpiles for which results of soil samples are reported to have detectable concentrations are considered "impacted".

- Approximate Volume of "Clean" Stockpiled Soil: 200 cubic yards
- Number of "Clean" Stockpile Samples: 6

“Clean” Stockpile Sample Names:	SS-2 through SS-6 and SS-8 (Table 1 and Appendix A)
Final Disposition of “Clean” Soil:	Used as backfill
Total Volume of Stockpiled “Impacted Soil:	977 tons
Number of “Impacted” Stockpile Samples:	16
“Impacted” Stockpile Sample Names:	SS-1, SS-7, SS-9 through SS-17, and SS-19 through SS-23 (Table 1 and Appendix A)
Final Dispositions of “Impacted” Soil:	TPS Technologies, Inc., Adalanto, California (nonhazardous waste data forms included in Appendix C)
Number of “Impacted” Groundwater Samples:	2
“Impacted” Groundwater Sample Names:	T-W and T-1 (Table 2 and Appendix B)

4.0 TANK REMOVAL

KEC was contracted by ARCO to obtain all necessary tank removal permits; make all required preliminary notifications; and clean, remove, transport, and dispose of the removed USTs. This section summarizes the pertinent information concerning the UST removal activities.

Lead Agency:	Oakland City Fire Department
Agency Contact Name:	Inspector Phillip Basada
Agency Phone Number:	(510) 238-3856
UST Cleaning Contractor:	Adams Services, Anaheim, California
Final Disposition of Rinseate:	DeMenno/Kerdoon, 2000 North Alameda Street, Compton, California 90222 (Uniform Hazardous Waste Manifest included as Appendix D)

Final Disposition of USTs: Adams Steel, 3200 East Frontiera Road, Anaheim, California 92806 (Tank Destruction Certificate included as Appendix E)

5.0 SOIL SAMPLING

PEG collected soil samples under the direction of Inspector Basada of the Oakland City Fire Department. The field activities were conducted in accordance with the procedures for soil sampling located in Appendix F. Soil sample locations are indicated on Figure 1. Soil sample collection dates are indicated on the chain of custody documentation included in Appendix B. This section summarizes the results of the soil sampling activities.

Lead Agency:	Oakland City Fire Department
Agency Contact Name:	Inspector Phillip Basada
Agency Phone Number:	(510) 238-3856
Number of Tank Bottom Samples:	4
Tank Bottom Sample Names:	T-1(8'), T-2(8'), T-3(8'), T-4(8')
Number of Piping Samples:	6
Piping Sample Names:	P-1 through P-6
Number of Dispenser Samples:	0
Dispenser Sample Names:	Not Applicable

6.0 ANALYTICAL RESULTS

All soil samples were relinquished to Columbia Analytical Services, Inc. of Santa Clara, California (CAS). CAS is an ARCO-contracted and California Department of Health Services certified laboratory. PEG and CAS adhered to strict chain of custody procedures from sample collection to sample analysis. All soil and groundwater samples were analyzed for some of the following analytes and in accordance with the appropriate United States Environmental Protection Agency (EPA) method.

- Total petroleum hydrocarbons as gasoline (TPH-g) by EPA Method 8015 Modified
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8020
- Methyl tert-butyl ether (MtBE) by EPA Method 8020 Modified
- Total lead by EPA Method 6010A

Soil sample analytical results are summarized in Table 1 and soil sample locations are indicated on Figure 1. Copies of soil sample chain of custody documentation and laboratory analytical reports are included as Appendix A. Groundwater sample analytical results are summarized in Table 2. Copies of groundwater sample chain of custody documentation and laboratory analytical reports are included as Appendix B.

7.0 DISCUSSION OF RESULTS

Based on analytical results (Table 1), the following areas, as defined by the indicated soil samples, appear to be impacted by petroleum hydrocarbons. The impacted soil and other subsurface conditions are the result of operations at Thrifty Service Station No. 63.

- Former UST basin (T-1(8'), T-2(8'), T-3(8'), and T-4(8'))
- Product Piping Trenches (P-1 through P-6)

8.0 REMARKS/SIGNATURES

The procedures and protocol used for this work are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this location. Other than this, no warranty is implied or intended.

PACIFIC ENVIRONMENTAL GROUP, INC.

Chris Rohlif

Chris Rohlifing
Senior Staff Geologist

Date 8-31-98

Gary P. Postana

Gary Postana, R.G.
Project Manager

Date 8/31/98

cc: Kateri Luka



9.0 References

Divisions of Mines and Geology (DMG), 1979, Geology of Northern California, Bulletin 190.

United States Geological Survey (USGS), 1969, Oakland West Quadrangle, 7.5 minute topographic, photorevised 1980.

TABLES

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
FORMER TANK BASIN, PRODUCT PIPING, DISPENSERS,
AND ASSOCIATED STOCKPILES
FORMER THRIFTY SERVICE STATION NO. 63
6125 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
PEG PROJECT NUMBER 331-008.1B

SAMPLE	CONCENTRATIONS (mg/kg)						
	TOTAL LEAD	TPH _g	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES	MBE
T-1(8)	NA	61	0.085	1.3	0.77	4.6	0.60
T-2(8)	NA	260	<0.03	0.18	3.0	1.1	<0.3
T-3(8)	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
T-4(8)	NA	2	<0.005	<0.005	<0.005	0.01	0.07
UST-10	NA	210	<0.12	<0.5	0.71	1.1	<1.2
P-1	NA	49	0.071	0.39	0.44	2.6	<0.25
P-2	NA	1,200	1.7	24	21	96	15
P-3	NA	<5	0.062	0.092	0.031	0.098	9.4
P-4	NA	310	1.6	25	7.4	47	26
P-5	NA	920	6.5	35	15	78	13
P-6	NA	330	1.9	5.5	8.3	38	<2.5
SS-1	<5	<1.0	<0.005	<0.005	<0.005	0.022	0.56
SS-2	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SS-3	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SS-4	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SS-5	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SS-6	NA	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SS-7	NA	<1.0	<0.005	0.009	<0.005	0.008	<0.05
SS-8	<5	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05
SS-9	NA	<1.0	<0.005	0.006	<0.005	0.017	<0.05
SS-10	NA	<1.0	<0.005	<0.005	<0.005	0.016	<0.05
SS-11	NA	<1.0	<0.005	0.007	<0.005	0.007	<0.05
SS-12	NA	<1.0	<0.005	0.032	0.017	0.19	0.56
SS-13	NA	2,700	4.03	66	42	220	6.4
SS-14	NA	4	<0.005	0.74	0.047	0.33	0.86
SS-15	6	3,600	4.2	78	49	260	7.3
SS-16	NA	2,100	2.4	41	27	130	5.2

TABLE 1
 SOIL SAMPLE ANALYTICAL RESULTS
 FORMER TANK BASIN, PRODUCT PIPING, DISPENSERS,
 AND ASSOCIATED STOCKPILES
 FORMER THRIFTY SERVICE STATION NO. 63
 6125 TELEGRAPH AVENUE
 OAKLAND, CALIFORNIA
 PEG PROJECT NUMBER 331-008.1B

SAMPLE	CONCENTRATIONS (mg/kg)					
	TOTAL LEAD	TPH _g	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES
SS-17	NA	2,900	3.8	67	42	230
SS-19	31	15	0.04	0.055	0.1	0.42
SS-20	NA	270	<0.12	1.9	2.7	16
SS-21	NA	86	<0.05	0.6	0.75	4.2
SS-22	NA	240	0.25	4.1	3.3	19
SS-23	NA	1	<0.005	0.007	0.007	0.082
						0.1

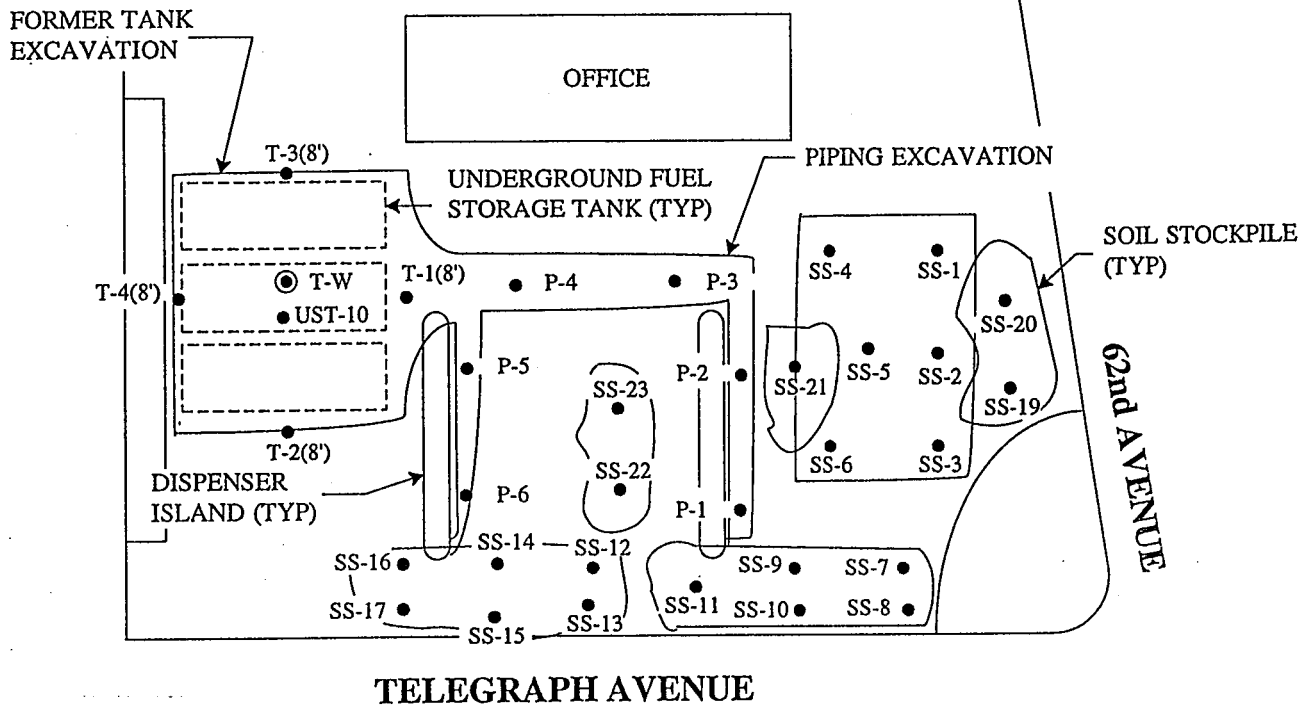
Notes:
 mg/kg = Milligrams per kilogram
 TPH_g = Total petroleum hydrocarbons as gasoline (BPA Method 8015M)
 MIBE = Methyl *tert*-butyl ether (BPA Method 8020A)
 NA = Not analyzed
 < = Less than method detection limit

TABLE 2
 GROUNDWATER SAMPLE ANALYTICAL RESULTS
 FORMER TANK BASIN
 FORMER THIRTIY SERVICE STATION NO. 63
 6125 TELEGRAPH AVENUE
 OAKLAND, CALIFORNIA
 PEG PROJECT NUMBER 331-008.1B

SAMPLE	CONCENTRATIONS (ug/L)					
	TPHg	BENZENE	TOLUENE	ETHYL BENZENE	XYLENES	MBE
T-W	39,000	470	3,900	760	6,100	8,400
T-1	130,000	800	14,000	4,500	27,000	3,800

Notes:
 mg/kg = Milligrams per kilogram
 TPHg = Total petroleum hydrocarbons as gasoline (EPA Method 8015M)
 MBE = Methyl *tert*-butyl ether (EPA Method 8020A)

FIGURE



LEGEND

- T-1 ● SOIL SAMPLE LOCATION AND DESIGNATION
- T-W ● GROUNDWATER SAMPLE LOCATION AND DESIGNATION

SCALE



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PACIFIC ENVIRONMENTAL GROUP, INC.

FORMER THRIFTY SERVICE STATION 63
6125 Telegraph Avenue
Oakland, California

SITE MAP

FIGURE:
1
PROJECT:
331-008.1B

ATTACHMENT A

**LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION -
SOIL SAMPLES**

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800243
 Date Collected: 2/4/98
 Date Received: 2/5/98

BTEX, MTBE and TPH as Gasoline

Sample Name: T-1(8)
 Lab Code: S9800243-001
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	2	2/5/98	2/5/98	61	
Benzene	EPA 5030	8020	0.005	2	2/5/98	2/5/98	0.085	
Toluene	EPA 5030	8020	0.005	2	2/5/98	2/5/98	1.3	
Ethylbenzene	EPA 5030	8020	0.005	2	2/5/98	2/5/98	0.77	
Xylenes, Total	EPA 5030	8020	0.005	2	2/5/98	2/5/98	4.6	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	2	2/5/98	2/5/98	0.60	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800243
 Date Collected: 2/4/98
 Date Received: 2/5/98

BTEX, MTBE and TPH as Gasoline

Sample Name: T-2(8)
 Lab Code: S9800243-002
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	5	2/5/98	2/6/98	260	
Benzene	EPA 5030	8020	0.005	5	2/5/98	2/6/98	<0.03	C1
Toluene	EPA 5030	8020	0.005	5	2/5/98	2/6/98	0.18	
Ethylbenzene	EPA 5030	8020	0.005	5	2/5/98	2/6/98	3.0	
Xylenes, Total	EPA 5030	8020	0.005	5	2/5/98	2/6/98	1.1	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	5	2/5/98	2/6/98	<0.3	C1

C1

The MRL was elevated due to high analyte concentration requiring sample dilution.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800243
 Date Collected: 2/4/98
 Date Received: 2/5/98

BTEX, MTBE and TPH as Gasoline

Sample Name: T-3(8)
 Lab Code: S9800243-003
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/5/98	2/6/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/5/98	2/6/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/5/98	2/6/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/5/98	2/6/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/5/98	2/6/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/5/98	2/6/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800243
 Date Collected: 2/4/98
 Date Received: 2/5/98

BTEX, MTBE and TPH as Gasoline

Sample Name: T-4(8)
 Lab Code: S9800243-004
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/5/98	2/6/98	2	
Benzene	EPA 5030	8020	0.005	1	2/5/98	2/6/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/5/98	2/6/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/5/98	2/6/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/5/98	2/6/98	0.01	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/5/98	2/6/98	0.07	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: Thrifty Oil Co. #63/331-008.1B
 Sample Matrix: Soil

Service Request: S9800268
 Date Collected: 2/10/98
 Date Received: 2/10/98

BTEX, MTBE and TPH as Gasoline

Sample Name: UST-10
 Lab Code: S9800268-002
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CALUFT	1	25	2/10/98	2/10/98	210	
Benzene	EPA 5030	8020	0.005	25	2/10/98	2/10/98	<0.12	C1
Toluene	EPA 5030	8020	0.02	25	2/10/98	2/10/98	<0.5	C1
Ethylbenzene	EPA 5030	8020	0.005	25	2/10/98	2/10/98	0.71	
Xylenes, Total	EPA 5030	8020	0.02	25	2/10/98	2/10/98	1.1	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	25	2/10/98	2/10/98	<1.2	C1

C1 The MRL was elevated due to high analyte concentration requiring sample dilution.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800363
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: P-1(3)
 Lab Code: S9800363-001
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	5	2/23/98	2/23/98	49	
Benzene	EPA 5030	8020	0.005	5	2/23/98	2/23/98	0.071	
Toluene	EPA 5030	8020	0.005	5	2/23/98	2/23/98	0.39	
Ethylbenzene	EPA 5030	8020	0.005	5	2/23/98	2/23/98	0.44	
Xylenes, Total	EPA 5030	8020	0.005	5	2/23/98	2/23/98	2.6	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	5	2/23/98	2/23/98	<0.25	C1

C1

The MRL was elevated due to high analyte concentration requiring sample dilution.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800363
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: P-2(3)
 Lab Code: S9800363-002
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	100	2/23/98	2/24/98	1200	
Benzene	EPA 5030	8020	0.005	100	2/23/98	2/24/98	1.7	
Toluene	EPA 5030	8020	0.005	100	2/23/98	2/24/98	24	
Ethylbenzene	EPA 5030	8020	0.005	100	2/23/98	2/24/98	21	
Xylenes, Total	EPA 5030	8020	0.005	100	2/23/98	2/24/98	96	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	100	2/23/98	2/24/98	15	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800363
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: P-3(3)
 Lab Code: S9800363-003
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	5	2/23/98	2/24/98	<5	C1
Benzene	EPA 5030	8020	0.005	5	2/23/98	2/24/98	0.062	
Toluene	EPA 5030	8020	0.005	5	2/23/98	2/24/98	0.092	
Ethylbenzene	EPA 5030	8020	0.005	5	2/23/98	2/24/98	0.031	
Xylenes, Total	EPA 5030	8020	0.005	5	2/23/98	2/24/98	0.098	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	5	2/23/98	2/24/98	9.4	

C1

The MRL was elevated due to high analyte concentration requiring sample dilution.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800363
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: P-4(3')
 Lab Code: S9800363-004
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	100	2/23/98	2/24/98	310	
Benzene	EPA 5030	8020	0.005	100	2/23/98	2/24/98	1.6	
Toluene	EPA 5030	8020	0.005	100	2/23/98	2/24/98	25	
Ethylbenzene	EPA 5030	8020	0.005	100	2/23/98	2/24/98	7.4	
Xylenes, Total	EPA 5030	8020	0.005	100	2/23/98	2/24/98	47	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	100	2/23/98	2/24/98	26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800363
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: P-5(3)
 Lab Code: S9800363-005
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	50	2/23/98	2/24/98	920	
Benzene	EPA 5030	8020	0.005	50	2/23/98	2/24/98	6.5	
Toluene	EPA 5030	8020	0.005	50	2/23/98	2/24/98	35	
Ethylbenzene	EPA 5030	8020	0.005	50	2/23/98	2/24/98	15	
Xylenes, Total	EPA 5030	8020	0.005	50	2/23/98	2/24/98	78	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	50	2/23/98	2/24/98	13	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800363
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: P-6(3')
 Lab Code: S9800363-006
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	50	2/23/98	2/24/98	330	
Benzene	EPA 5030	8020	0.005	50	2/23/98	2/24/98	1.9	
Toluene	EPA 5030	8020	0.005	50	2/23/98	2/24/98	5.5	
Ethylbenzene	EPA 5030	8020	0.005	50	2/23/98	2/24/98	8.3	
Xylenes, Total	EPA 5030	8020	0.005	50	2/23/98	2/24/98	38	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	50	2/23/98	2/24/98	<2.5	C1

C1

The MRL was elevated due to high analyte concentration requiring sample dilution.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-1
 Lab Code: S9800228-001
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.022	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	0.56	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-2
 Lab Code: S9800228-002
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/3/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/3/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-3
 Lab Code: S9800228-003
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/3/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/3/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-4
 Lab Code: S9800228-004
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-5
 Lab Code: S9800228-005
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-6
 Lab Code: S9800228-006
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-7
 Lab Code: S9800228-007
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.009	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.008	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-8
 Lab Code: S9800228-008
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-9
 Lab Code: S9800228-009
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.006	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.017	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-10
 Lab Code: S9800228-010
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.016	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-11
 Lab Code: S9800228-011
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.007	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.007	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-12
 Lab Code: S9800228-012
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/4/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.032	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.017	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.19	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	0.56	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
Project: 6125 Telegraph/331-008.1B
Sample Matrix: Soil

Service Request: S9800228
Date Collected: 2/3/98
Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-13
Lab Code: S9800228-013
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	50	2/3/98	2/4/98	2700	
Benzene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	4.03	
Toluene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	66	
Ethylbenzene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	42	
Xylenes, Total	EPA 5030	8020	0.005	50	2/3/98	2/4/98	220	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	50	2/3/98	2/4/98	6.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-14
 Lab Code: S9800228-014
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CALUFT	1	1	2/3/98	2/4/98	4	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.74	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.047	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/4/98	0.33	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/4/98	0.86	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-15
 Lab Code: S9800228-015
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	50	2/3/98	2/4/98	3600	
Benzene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	4.2	
Toluene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	78	
Ethylbenzene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	49	
Xylenes, Total	EPA 5030	8020	0.005	50	2/3/98	2/4/98	260	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	50	2/3/98	2/4/98	7.3	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-16
 Lab Code: S9800228-016
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	50	2/3/98	2/4/98	2100	
Benzene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	2.4	
Toluene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	41	
Ethylbenzene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	27	
Xylenes, Total	EPA 5030	8020	0.005	50	2/3/98	2/4/98	130	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	50	2/3/98	2/4/98	5.2	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: 2/3/98
 Date Received: 2/3/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-17
 Lab Code: S9800228-017
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	50	2/3/98	2/4/98	2900	
Benzene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	3.8	
Toluene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	67	
Ethylbenzene	EPA 5030	8020	0.005	50	2/3/98	2/4/98	42	
Xylenes, Total	EPA 5030	8020	0.005	50	2/3/98	2/4/98	230	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	50	2/3/98	2/4/98	4.7	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800362
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-19
 Lab Code: S9800362-001
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	2.5	2/23/98	2/23/98	15	
Benzene	EPA 5030	8020	0.005	2.5	2/23/98	2/23/98	0.04	
Toluene	EPA 5030	8020	0.005	2.5	2/23/98	2/23/98	0.055	
Ethylbenzene	EPA 5030	8020	0.005	2.5	2/23/98	2/23/98	0.1	
Xylenes, Total	EPA 5030	8020	0.005	2.5	2/23/98	2/23/98	0.42	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	2.5	2/23/98	2/23/98	0.45	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800362
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-20
 Lab Code: S9800362-002
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	25	2/23/98	2/24/98	270	
Benzene	EPA 5030	8020	0.005	25	2/23/98	2/24/98	<0.12	C1
Toluene	EPA 5030	8020	0.005	25	2/23/98	2/24/98	1.9	
Ethylbenzene	EPA 5030	8020	0.005	25	2/23/98	2/24/98	2.7	
Xylenes, Total	EPA 5030	8020	0.005	25	2/23/98	2/24/98	16	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	25	2/23/98	2/24/98	<1.2	C1

C1

The MRL was elevated due to high analyte concentration requiring sample dilution.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800362
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-21
 Lab Code: S9800362-003
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	10	2/23/98	2/24/98	86	
Benzene	EPA 5030	8020	0.005	10	2/23/98	2/24/98	<0.05	C1
Toluene	EPA 5030	8020	0.005	10	2/23/98	2/24/98	0.6	
Ethylbenzene	EPA 5030	8020	0.005	10	2/23/98	2/24/98	0.75	
Xylenes, Total	EPA 5030	8020	0.005	10	2/23/98	2/24/98	4.2	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	10	2/23/98	2/24/98	<0.5	C1

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800362
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-22
 Lab Code: S9800362-004
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	25	2/23/98	2.24/98	240	
Benzene	EPA 5030	8020	0.005	25	2/23/98	2.24/98	0.25	
Toluene	EPA 5030	8020	0.005	25	2/23/98	2.24/98	4.1	
Ethylbenzene	EPA 5030	8020	0.005	25	2/23/98	2.24/98	3.3	
Xylenes, Total	EPA 5030	8020	0.005	25	2/23/98	2.24/98	19	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	25	2/23/98	2.24/98	<1.2	C1

C1

The MRL was elevated due to high analyte concentration requiring sample dilution.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800362
 Date Collected: 2/23/98
 Date Received: 2/23/98

BTEX, MTBE and TPH as Gasoline

Sample Name: SS-23
 Lab Code: S9800362-005
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/23/98	2/23/98	1	
Benzene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	0.007	
Ethylbenzene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	0.007	
Xylenes, Total	EPA 5030	8020	0.005	1	2/23/98	2/23/98	0.082	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/23/98	2/23/98	0.1	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
Project: 6125 Telegraph/331-008.1B
Sample Matrix: Soil

Service Request: S9800228
Date Collected: 2/3/98
Date Received: 2/3/98

**Total Metals
Lead**

Prep Method: EPA 3050BM
Analysis Method: 6010A
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
SS-1	S9800228-001	5	1	2/4/98	2/4/98	ND	
SS-8	S9800228-008	5	1	2/4/98	2/4/98	ND	
SS-15	S9800228-015	5	1	2/4/98	2/4/98	6	
Method Blank	S980204-MB	5	1	2/4/98	2/4/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
Sample Matrix: Soil

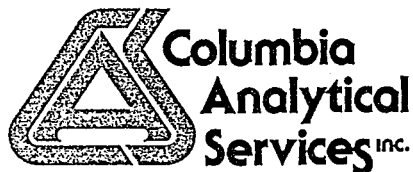
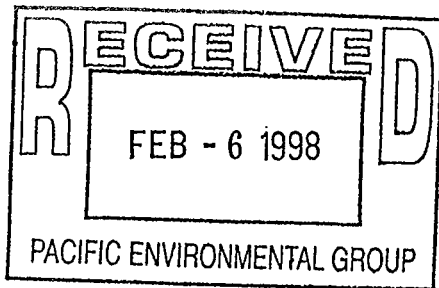
Service Request: S9800362
Date Collected: 2/23/98
Date Received: 2/23/98

Total Metals
Lead

Prep Method: EPA 3050BM
Analysis Method: 6010A
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
SS-19	S9800362-001	5	1	2/23/98	2/23/98	31	
Method Blank	S980223-MB	5	1	2/23/98	2/23/98	ND	



February 4, 1998

Service Request No.: S9800228

Doug Andrews
PACIFIC ENVIRONMENTAL GROUP
2025 Gateway Place, Suite 440
San Jose, CA 95110

RE: 6125 Telegraph/331-008.1B

Dear Mr. Andrews:

The following pages contain analytical results for sample(s) received by the laboratory on February 3, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 25, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Green". The signature is fluid and cursive, with a large initial "S" and "G".

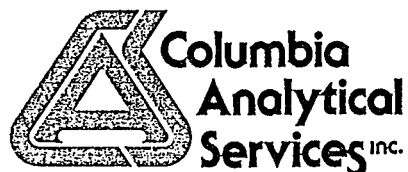
Steven L. Green
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

FEB 09 1998



February 6, 1998

Service Request No.: S9800243

Doug Andrews
PACIFIC ENVIRONMENTAL GROUP
2025 Gateway Place, Suite 440
San Jose, CA 95110

RE: 6125 Telegraph/331-008.1B

Dear Mr. Andrews:

The following pages contain analytical results for sample(s) received by the laboratory on February 5, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 9, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

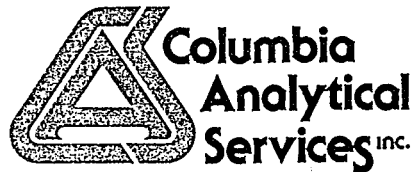
A handwritten signature in black ink, appearing to read "S. L. Green", is written over a large, light-colored scribble or watermark.

Steven L. Green
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

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ICB	Initial Calibration Blank sample
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ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
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MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
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TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)



February 11, 1998

Service Request No.: S9800268

Mr. Doug Andrews
PACIFIC ENVIRONMENTAL GROUP
2025 Gateway Place, Suite 440
San Jose, CA 95110

RE: Thrifty Oil Co. #63/331-008.1B

Dear Mr. Andrews:

The following pages contain analytical results for sample(s) received by the laboratory on February 10, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 10, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

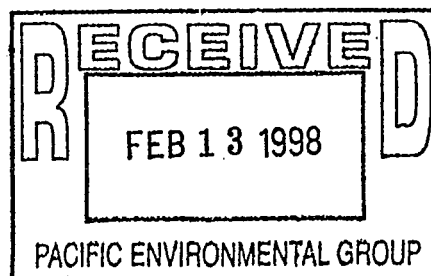
Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written over a white background.

Steven L. Green
Project Chemist

A handwritten signature in black ink, appearing to read "Bernadette J. Cox for", written in a cursive style.

Greg Anderson
Regional QA Coordinator



COLUMBIA ANALYTICAL SERVICES, Inc.

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TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
Project: Thrifty Oil Co. #63/331-008.1B
Sample Matrix: Soil

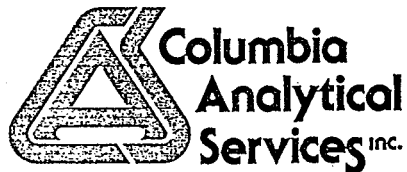
Service Request: S9800268
Date Collected: 2/10/98
Date Received: 2/10/98

Total Metals
Lead

Prep Method: EPA 3050BM
Analysis Method: 6010A
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
UST-10	S9800268-002	5	1	2/10/98	2/10/98	9	
Method Blank	S980210-MB	5	1	2/10/98	2/10/98	ND	



February 24, 1998

Service Request No.: S9800363

Doug Andrews
PACIFIC ENVIRONMENTAL GROUP
2025 Gateway Place, Suite 440
San Jose, CA 95110

RE: Thrifty Oil Station 63/TO#21792.00/331-008.1B

Dear Mr. Andrews:

The following pages contain analytical results for sample(s) received by the laboratory on February 23, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 13, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written over a white background.

Steven L. Green
Project Chemist

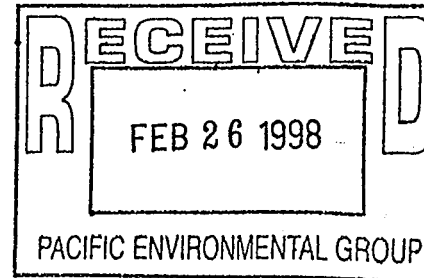
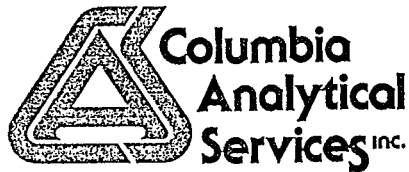
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Greg Anderson
Regional QA Coordinator

COLUMBIA ANALYTICAL SERVICES, Inc.

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TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)



February 24, 1998

Service Request No.: S9800362

Doug Andrews
PACIFIC ENVIRONMENTAL GROUP
2025 Gateway Place, Suite 440
San Jose, CA 95110

RE: Thrifty Oil Station 63/TO#21792.00/331-008.1B

Dear Mr. Andrews:

The following pages contain analytical results for sample(s) received by the laboratory on February 23, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 14, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. Green". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Steven L. Green
Project Chemist

A handwritten signature in black ink, appearing to read "Bernadette J. Cox". The signature is cursive and somewhat stylized.

Greg Anderson
Regional QA Coordinator

COLUMBIA ANALYTICAL SERVICES, Inc.

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TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTL	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800363
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S980223-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/23/98	2/23/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/23/98	2/23/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S980203-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/3/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/3/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S98mmdd (#1)-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/3/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/3/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S98mmdd (#3)-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/3/98	2/3/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/3/98	2/3/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/3/98	2/3/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800243
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S980205-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/5/98	2/5/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/5/98	2/5/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/5/98	2/5/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/5/98	2/5/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/5/98	2/5/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/5/98	2/5/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: Thrifty Oil Co. #63/331-008.1B
 Sample Matrix: Soil

Service Request: S9800268
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S980210-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/10/98	2/10/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/10/98	2/10/98	ND	
Toluene	EPA 5030	8020	0.02	1	2/10/98	2/10/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/10/98	2/10/98	ND	
Xylenes, Total	EPA 5030	8020	0.02	1	2/10/98	2/10/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/10/98	2/10/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800362
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S980223-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	2/23/98	2/23/98	ND	
Benzene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Toluene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	2/23/98	2/23/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	2/23/98	2/23/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Soil

Service Request: S9800228
 Date Collected: NA
 Date Received: NA
 Date Extracted: NA
 Date Analyzed: NA

Surrogate Recovery Summary
 BTEX and TPH as Gasoline

Prep Method: EPA 5030
 Analysis Method: 8020 CA/LUFT

Units: PERCENT
 Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
SS-1	S9800228-001		89	79
SS-2	S9800228-002		88	85
SS-3	S9800228-003		91	87
SS-4	S9800228-004		90	81
SS-5	S9800228-005		93	85
SS-6	S9800228-006		86	73
SS-7	S9800228-007		92	82
SS-8	S9800228-008		91	83
SS-9	S9800228-009		90	80
SS-10	S9800228-010		88	69
SS-11	S9800228-011		92	80
SS-12	S9800228-012		92	801
SS-13	S9800228-013		93	110
SS-14	S9800228-014		99	92
SS-15	S9800228-015		93	125
SS-16	S9800228-016		102	114
SS-17	S9800228-017		100	114
Method Blank	S980203-SB1		100	80

CAS Acceptance Limits: 51-137 51-137

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Pacific Environmental Group
Project: 6125 Telegraph/331-008.1B
Sample Matrix: Soil

Service Request: S9800243
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8020 CALUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
T-1(8')	S9800243-001		100	93
T-2(8')	S9800243-002		87	116
T-3(8')	S9800243-003		100	88
T-4(8')	S9800243-004		103	87
Method Blank	S980205-SB1		96	89

CAS Acceptance Limits: 51-137 51-137

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Pacific Environmental Group
Project: Thrifty Oil Co. #63/331-008.1B
Sample Matrix: Soil

Service Request: S9800268
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8020 CA/LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
UST-10	S9800268-002		91	97
Method Blank	S980210-SB1		97	89

CAS Acceptance Limits: 51-137 51-137

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800363
 Date Collected: NA
 Date Received: NA
 Date Extracted: NA
 Date Analyzed: NA

Surrogate Recovery Summary
 BTEX and TPH as Gasoline

Prep Method: EPA 5030
 Analysis Method: 8020 CA/LUFT

Units: PERCENT
 Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
P-1(3')	S9800363-001		103	89
P-2(3')	S9800363-002		99	96
P-3(3')	S9800363-003		108	79
P-4(3')	S9800363-004		98	76
P-5(3')	S9800363-005		94	105
P-6(3')	S9800363-006		103	85
LCS	S980223-LCS		100	84
Method Blank	S980223-SB1		100	81

CAS Acceptance Limits: 51-137 51-137

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
LCS Matrix: Soil

Service Request: S9800363
Date Collected: NA
Date Received: NA
Date Extracted: 2/23/98
Date Analyzed: 2/23/98

**Laboratory Control Sample Summary
 BTEX and TPH as Gasoline**

Sample Name: Lab Control Sample
Lab Code: S980223-LCS
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS		Result Notes
						Percent Recovery	Acceptance Limits	
Benzene	EPA 5030	8020	0.5	0.5	100	57-154		
Toluene	EPA 5030	8020	0.5	0.5	100	60-142		
Ethylbenzene	EPA 5030	8020	0.5	0.5	100	46-150		

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B

Service Request: S9800363
 Date Analyzed: 2/23/98

Initial Calibration Verification (ICV) Summary
 BTEX, MTBE and TPH as Gasoline

Sample Name: ICV
 Lab Code: ICV1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

ICV Source:

Analyte	Prep Method	Analysis Method	True Value	Result	CAS Percent Recovery		Result Notes
					Acceptance Limits	Percent Recovery	
TPH as Gasoline	EPA 5030	CA/LUFT	25	26	90-110	104	
Benzene	EPA 5030	8020	2.5	2.5	85-115	100	
Toluene	EPA 5030	8020	2.5	2.5	85-115	100	
Ethylbenzene	EPA 5030	8020	2.5	2.5	85-115	100	
Xylenes, Total	EPA 5030	8020	7.5	7.1	85-115	95	
Methyl <i>tert</i> -Butyl Ether	EPA 5030	8020	2.5	2.5	85-115	100	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 Sample Matrix: Soil

Service Request: S9800362
 Date Collected: NA
 Date Received: NA
 Date Prepared: 2/23/98
 Date Analyzed: 2/23/98

Matrix Spike/Duplicate Matrix Spike Summary
 Lead

Sample Name: BATCH QC
 Lab Code: SS-19-001MS, SS-19-001DMS
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Spike Level		Sample Result	Spike Result		Percent Recovery		CAS Acceptance Limits	Relative Percent Difference	Result Notes
				MS	DMS		MS	DMS	MS	DMS			
Lead	PA 3050B	6010A	5	500	500	31	510	550	96	104	75-125	8	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
Sample Matrix: Soil

Service Request: S9800362
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8020 CA/LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
SS-19	S9800362-001		102	92
SS-20	S9800362-002		98	92
SS-21	S9800362-003		105	93
SS-22	S9800362-004		99	92
SS-23	S9800362-005		103	85
LCS	S980223-LCS		100	84
Method Blank	S980223-SB1		100	81

CAS Acceptance Limits: 51-137 51-137

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B
 LCS Matrix: Soil

Service Request: S9800362
 Date Collected: NA
 Date Received: NA
 Date Extracted: 2/23/98
 Date Analyzed: 2/23/98

Laboratory Control Sample Summary
 BTEX and TPH as Gasoline

Sample Name: Lab Control Sample
 Lab Code: S980223-LCS
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery Acceptance Limits	
Benzene	EPA 5030	8020	0.5	0.5	100	57-154	
Toluene	EPA 5030	8020	0.5	0.5	100	60-142	
Ethylbenzene	EPA 5030	8020	0.5	0.5	100	46-150	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: ARCO Products Company
 Project: Thrifty Oil Station 63/TO#21792.00/331-008.1B

Service Request: S9800362
 Date Analyzed: 2/23/98

Initial Calibration Verification (ICV) Summary
 BTEX, MTBE and TPH as Gasoline

Sample Name: ICV
 Lab Code: ICVI
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

ICV Source:

Analyte	Prep Method	Analysis Method	True Value	Result	CAS Percent Recovery		Result Notes
					Acceptance Limits	Percent Recovery	
TPH as Gasoline	EPA 5030	CA/LUFT	25	26	90-110	104	
Benzene	EPA 5030	8020	2.5	2.5	85-115	100	
Toluene	EPA 5030	8020	2.5	2.5	85-115	100	
Ethylbenzene	EPA 5030	8020	2.5	2.5	85-115	100	
Xylenes, Total	EPA 5030	8020	7.5	7.1	85-115	95	
Methyl <i>tert</i> -Butyl Ether	EPA 5030	8020	2.5	2.4	85-115	96	

T1110A, F

180-43

Thrifty Oil Company, 10,000 Colwood Blvd, Downey
Chain of Custody 1 of 1

Pacific Environmental Group, Inc.
2025 Gateway Place #440, San Jose CA 95110
Phone 408 441 7790 Fax 408 441 7539

PROJECT No. 331-008.1B

Facility No. 63

Facility Address: 6125 Telegraph Ave, Oakland

Billing Reference Number:

CLIENT engineer: Chris Panatescu

PACIFIC Point of Contact: Doug Andrews

Sampler: Doug Andrews

Laboratory Name: Columbia A.S.

Sample I.D.	Cont. No.	Container Size (ml)	Sample Preserv.	Matrix	Type	Sampling Date	Sampling Time	BTEX/ VPHgas (8015/ 8020)	TPH Diesel (8015)	Oil and Grease (5520)	Total Dislvd. Metals	VOC (EPA 624/ 8240)	SVOC (EPA 627/ 8270)	HVOC (EPA 601/ 8010)	Comments:
1) T-1 (8')	1	2" x 4"	NP	S	G	2-4-98		X							
2) T-2 (8')	↓	↓	↓	↓	↓	↓		↓							
3) T-3 (8')	↓	↓	↓	↓	↓	↓		↓							
4) T-4 (8')	↓	↓	↓	↓	↓	↓		↓							

Condition of Sample:

Temperature Received:

Mail original Analytical Report to:

Turnaround Time:

Relinquished by

Date

Time

Received by

Date

Time

2025 Gateway Place #440
San Jose, CA 95110

Priority Rush (1 day)

Relinquished by

Date

Time

Received by

Date

Time

620 Contra Costa Blvd. #209
Pleasant Hill, CA 94523

Rush (2 days)

Relinquished by

Date

Time

Received by

Date

Time

25725 Jeronimo Rd. #576C
Mission Viejo, CA 92622

Expedited (5 days)

Relinquished by

Date

Time

Received by laboratory

Date

Time

4020 148th Ave NE #B
Redmond, WA 98052

Standard (10 days)

As Contracted

TPH VOA, GC/MS, FID

Thrifty Oil Co, 10,000 Lakewood Dr, Downey CA

Chain of Custody

59800268

Pacific Environmental Group, Inc.

2025 Gateway Place #440, San Jose CA 95110

Phone 408 441 7790 Fax 408 441 7539

PROJECT No. 331-008.1B

Facility No. 63

Facility Address: 6125 Telegraph Ave Oakland

Billing Reference Number: 21792-00

CLIENT engineer: Chris Pameatosa

PACIFIC Point of Contact: Doug Anchors

Sampler: F. E. POIT

Laboratory Name: Columbia

Sample I.D.	Cont. No.	Container Size (ml)	Sample Preserv.	Matrix	Type	Sampling Date	Sampling Time	BTEX VPHgas (8015/8020)	TPH Diesel (8015)	Oil and Grease (5520)	Total Dislvd. Metals	VOC (EPA 624/8240)	SVOC (EPA 627/8270)	HVOC (EPA 601/8010)	Total Pb	Comments:
T-1	3	10ml	Acc	W	Q	2-10-98	13:45	X								
UST-10	1	2x8	UP	S	Q	2/10/98	13:50	X							X	

Condition of Sample:

Temperature Received:

Mail original Analytical Report to:

Turnaround Time:

[Signature]

Relinquished by

Date: 2/10/98 Time: 15:00

Received by: *[Signature]*

Date: 2/10/98 Time: 15:20

Pacific Environmental Group

Priority Rush (1 day)

Relinquished by

Date

Received by

Date

2025 Gateway Place #440 San Jose, CA 95110

Rush (2 days)

Relinquished by

Date

Received by

Date

620 Contra Costa Blvd. #209 Pleasant Hill, CA 94523

Expedited (5 days)

Relinquished by

Date

Received by laboratory

Date

25725 Jeronimo Rd. #576C Mission Viejo, CA 92622

Standard (10 days)

4020 148th Ave NE #B Redmond, WA 98052

As Contracted



TPHUA PC
EXT F

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

3334 Victor Court • Santa Clara, CA 95054 • (408) 437-2400 • FAX (408) 437-9356

SERVICE REQUEST NO. S9800363 P.O.# _____ PAGE 1 OF 1

PROJECT NAME Thrifty Str 63 # 331-008.1B
 PROJECT MGR. Douglas Andrews
 COMPANY Pacific Environmental Group
 ADDRESS 2025 Galway Pl Suite 440
San Jose PHONE 441-7500
 FAX 441-7539
 SAMPLER'S SIGNATURE [Signature]

NUMBER OF CONTAINERS	ANALYSIS REQUESTED														REMARKS
	PRESERVATIVE	HCl	HCl	HCl	NP	NP	NP	HCl	HCl	HNO ₃	NP	H ₂ SO ₄	H ₂ SO ₄	H ₂ SO ₄	
	Volatiles Organics GC/MS 625/8240/8260	Halogenated or Aromatic Volatiles 601/8010 □	TPH as Gas/BTEX DHS LUFT / 8020 □	TPH as Diesel/HBHC DHS LUFT	Base/New/Acid Organics GC/MS 625/8270	Pesticides / PCBs 608/8080	TRPH - 418.1	Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO ₄ , F, TDS, TSS Alk, NO ₃ , NO ₂ (circle)	NH ₃ -N, COD, Total-P, TKN, TOC	Total Organic Carbon	Total Phenols	Cyanide	
1			X												
2															
3															
4															
5															
1			X												

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX
P-1 (3')	2-23-98		1	Soil
P-2 (3')			2	
P-3 (3')			3	
P-4 (3')			4	
P-5 (3')			5	
P-6 (3')	2/23/98		6	Soil

RELINQUISHED BY:
 Signature [Signature]
 Printed Name Douglas Andrews
 Firm Pacific
 Date/Time 2-23-98/12:30pm

RECEIVED BY:
 Signature [Signature]
 Printed Name Kay Lovelace
 Firm AS
 Date/Time 2/23/98 1230

RELINQUISHED BY:
 Signature _____
 Printed Name _____
 Firm _____
 Date/Time _____

RECEIVED BY:
 Signature _____
 Printed Name _____
 Firm _____
 Date/Time _____

TURNAROUND REQUIREMENTS
 1 day 2 day 3 day
 5 day Other
 Standard (10 working days)
 Results Due 2/24/98

REPORT REQUIREMENTS
 I. Routine Report
 II. Report (includes MS, MSD, as required, may be charged as samples)
 III. Data Validation Report (includes All Raw Data)
 MDLs/PQLs/Trace #
 Electronic Data Deliverables

RELINQUISHED BY:
 Signature _____
 Printed Name _____
 Firm _____
 Date/Time _____
 Shipped Via/Tracking # _____

RECEIVED BY:
 Signature _____
 Printed Name _____
 Firm _____
 Date/Time _____

SAMPLE RECEIPT: Condition _____ Custody Seals _____
 SPECIAL INSTRUCTIONS/COMMENTS:
 Circle which metals are to be analyzed:
 Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn
 As Pb Se Tl Hg
 Storage: R11/D3

1/17/98 ml in F

S₁₀₋₀₂₂₀

Thrifty Oil Company / 10,000 Lakewood Ave, Downey CA

Chain of Custody

1 of 2

Pacific Environmental Group, Inc.

2025 Gateway Place #440, San Jose CA 95110

Phone 408 441 7790 Fax 408 441 7539

PROJECT No. 331-008.1B

Facility No. 63

Facility Address: 6125 Telegraph Ave, Oakland

Billing Reference Number:

CLIENT engineer: Chris Pameatescu

PACIFIC Point of Contact: Doug Andrews

Sampler: Doug Andrews

Laboratory Name: Columbia D.S.

Sample I.D.	Cont. No.	Container Size (ml)	Sample Preserv.	Matrix	W=water S=soil A=air	G=grab D=disc. C=comp.	Sampling Date	Sampling Time	BTEX/ VPHgas (8015/ 8020)	TPH Diesel (8015)	Oil and Grease (5520)	Dislvd. Metals	Total VOC (EPA 624/ 8240)	SVOC (EPA 627/ 8270)	HVOC (EPA 601/ 8010)	Total Pb	Comments:
SS-2																	
SS-3																	
SS-4																	
SS-5																	
SS-6																	
SS-7																	
SS-8																X	
SS-9																	
SS-10																	

Condition of Sample:			Temperature Received:			Mail original Analytical Report to:			Turnaround Time:																				
Relinquished by <i>Doug Andrews</i>			Date 2-3-98			Time 1123			Received by			Date			Time			2025 Gateway Place #440 San Jose, CA 95110			<input checked="" type="checkbox"/>			Priority Rush (1 day) ASAP			<input checked="" type="checkbox"/>		
Relinquished by			Date			Time			Received by			Date			Time			620 Contra Costa Blvd. #209 Pleasant Hill, CA 94523			<input type="checkbox"/>			Rush (2 days)			<input type="checkbox"/>		
Relinquished by			Date			Time			Received by			Date			Time			25725 Jeronimo Rd. #576C Mission Viejo, CA 92622			<input type="checkbox"/>			Expedited (5 days)			<input type="checkbox"/>		
Relinquished by			Date			Time			Received by laboratory <i>Way Coulter CAS</i>			Date 2/3/98			Time 1723			4020 148th Ave NE #B Redmond, WA 98052			<input type="checkbox"/>			Standard (10 days)			<input type="checkbox"/>		
																								As Contracted			<input type="checkbox"/>		

DATE 2/11/98

59800228

Thruppy Oil Co

Chain of Custody

2 of 2

Pacific Environmental Group, Inc.
2025 Gateway Place #440, San Jose CA 95110
Phone 408 441 7790 Fax 408 441 7539

PROJECT No. 331-008.1B

Facility No. 63 Facility Address: 6125 Telegraph Ave, Oakland Billing Reference Number:
CLIENT engineer: Chris Pomeatescu PACIFIC Point of Contact: Doug Andrews Sampler: Doug Andrews Laboratory Name: C&S

Sample I.D.	Cont. No.	Container Size (ml)	Sample Preserv.	W=water	G=grab	Sampling Date	Sampling Time	MTEB	BTEX/ VPHgas (8015/ 8020)	TPH Diesel (8015)	Oil and Grease (5520)	Total Dislvd. Metals	VOC (EPA 624/ 8240)	SVOC (EPA 627/ 8270)	HVOC (EPA 601/ 8010)	Total Pb	Comments:	
				S=soil	D=disc.													A=air
1 SS-11	1	2'x4"	NP	S	G	2/3/98			X									
2 SS-12																		
3 SS-13																		
4 SS-14																		
5 SS-15																X		
6 SS-16																		
7 SS-17																		

Condition of Sample:			Temperature Received:			Mail original Analytical Report to:			Turnaround Time:		
Relinquished by: <i>Doug Andrews</i>			Date: 2-3-98	Time: 1723	Received by:			Pacific Environmental Group			Priority Rush (1 day) <input checked="" type="checkbox"/>
Relinquished by:			Date:	Time:	Received by:			620 Contra Costa Blvd. #209 Pleasant Hill, CA 94523			Rush (2 days) <input type="checkbox"/>
Relinquished by:			Date:	Time:	Received by:			25725 Jeronimo Rd. #576C Mission Viejo, CA 92622			Expedited (5 days) <input type="checkbox"/>
Relinquished by:			Date:	Time:	Received by laboratory: <i>Van Louisa</i>			4020 148th Ave NE #B Redmond, WA 98052			Standard (10 days) <input type="checkbox"/>
			Date:	Time:							As Contracted <input type="checkbox"/>



THRUWA
EXT
M

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

3334 Victor Court • Santa Clara, CA 95054 • (408) 437-2400 • FAX (408) 437-9356

SERVICE REQUEST NO. S9800362 P.O.# _____ PAGE 1 OF 1

PROJECT NAME Thrifty Str 63 # 321-008.1B

PROJECT MGR. Doug Andrews

COMPANY Pacific Environmental Corp

ADDRESS 2025 Gateway Pl, Suite 440
San Jose CA 95110 PHONE 441-7500
FAX 441-7539

SAMPLER'S SIGNATURE _____

NUMBER OF CONTAINERS	ANALYSIS REQUESTED														REMARKS	
	PRESERVATIVE	HCl	HCl	HCl	NP	NP	NP	HCl	HCl	HNO ₃	NP	H ₂ SO ₄	H ₂ SO ₄	H ₂ SO ₄		NaOH
	Volatile Organics GC/MS 624/824/8260	Halogenated or Aromatic Volatiles 601/8010	TPH as Gas/BTEX DHS LUFT / 8020	TPH as Diesel/HBHC DHS LUFT	Base/Neu/Acid Organics GC/MS 625/8270	Pesticides / PCBs 608/8080	TRPH - 418.1	Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond, Cl, SO ₄ , F, TDS, TSS Alk, NO ₃ , NO ₂ (circle)	NH ₃ -N, COD, Total-P, TKN, NO ₃ / NO ₂ (circle)	Total Organic Carbon TOC	Total Phenols	Cyanide	Total Pb *	
			X													Total Pb on SS-19 only
																* If >50ppm
																run STLC by
																JN

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX
SS-19	2-23-98		1	Soil
SS-20			2	
SS-21			3	
SS-22			4	
SS-23			5	

RELINQUISHED BY:
Doug Andrews
Signature
Doug Andrews
Printed Name
Pacific
Firm

RECEIVED BY:
Kay Lovelace
Signature
Kay Lovelace
Printed Name
CAS
Firm
2/23/98 1230
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
X 1 day ___ 2 day ___ 3 day
___ 5 day ___ Other
Standard (10 working days)
Results Due 2/24/98

REPORT REQUIREMENTS
___ I. Routine Report
___ II. Report (includes MS. MSD, as required, may be charged as samples)
___ III. Data Validation Report (includes All Raw Data)
___ MDLs/PQLs/Trace #
___ Electronic Data Deliverables

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time
Shipped Via/Tracking #

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

SAMPLE RECEIPT: Condition _____ Custody Seals _____

SPECIAL INSTRUCTIONS/COMMENTS:
Circle which metals are to be analyzed:
Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn
As Pb Se Ti Hg

Storage: 2/11/03

ATTACHMENT B

LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION -
GROUNDWATER SAMPLES

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Water

Service Request: S9800242
 Date Collected: 2/4/98
 Date Received: 2/5/98

BTEX, MTBE and TPH as Gasoline

Sample Name: T-W
 Lab Code: S9800242-001
 Test Notes:

Units: ug/L (ppb)
 Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	100	NA	2/6/98	39000	
Benzene	EPA 5030	8020	0.5	100	NA	2/6/98	470	
Toluene	EPA 5030	8020	0.5	100	NA	2/6/98	3900	
Ethylbenzene	EPA 5030	8020	0.5	100	NA	2/6/98	760	
Xylenes, Total	EPA 5030	8020	0.5	100	NA	2/6/98	6100	
Methyl <i>tert</i> -Butyl Ether	EPA 5030	8020	3	100	NA	2/6/98	8400	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: Thrifty Oil Co. #63/331-008.1B
 Sample Matrix: Water

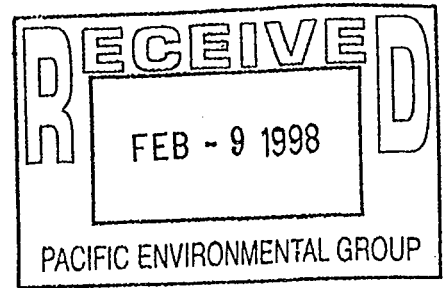
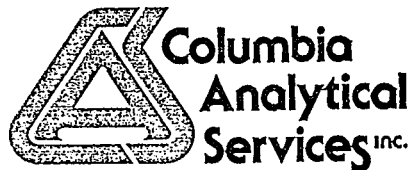
Service Request: S9800268
 Date Collected: 2/10/98
 Date Received: 2/10/98

BTEX, MTBE and TPH as Gasoline

Sample Name: T-1
 Lab Code: S9800268-001
 Test Notes:

Units: ug/L (ppb)
 Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	200	NA	2/10/98	130000	
Benzene	EPA 5030	8020	0.5	200	NA	2/10/98	800	
Toluene	EPA 5030	8020	0.5	200	NA	2/10/98	14000	
Ethylbenzene	EPA 5030	8020	0.5	200	NA	2/10/98	4500	
Xylenes, Total	EPA 5030	8020	1	200	NA	2/10/98	27000	
Methyl <i>tert</i> -Butyl Ether	EPA 5030	8020	3	200	NA	2/10/98	3800	



February 6, 1998

Service Request No.: S9800242

Doug Andrews
PACIFIC ENVIRONMENTAL GROUP
2025 Gateway Place, Suite 440
San Jose, CA 95110

RE: 6125 Telegraph/331-008.1B

Dear Mr. Andrews:

The following pages contain analytical results for sample(s) received by the laboratory on February 5, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 6, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Green", written over a horizontal line.

Steven L. Green
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: Thrifty Oil Co. #63/331-008.1B
 Sample Matrix: Water

Service Request: S9800268
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S980210-WB1
 Test Notes:

Units: ug/L (ppb)
 Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	2/10/98	ND	
Benzene	EPA 5030	8020	0.5	1	NA	2/10/98	ND	
Toluene	EPA 5030	8020	0.5	1	NA	2/10/98	ND	
Ethylbenzene	EPA 5030	8020	0.5	1	NA	2/10/98	ND	
Xylenes, Total	EPA 5030	8020	1	1	NA	2/10/98	ND	
Methyl <i>tert</i> -Butyl Ether	EPA 5030	8020	3	1	NA	2/10/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Pacific Environmental Group
 Project: 6125 Telegraph/331-008.1B
 Sample Matrix: Water

Service Request: S9800242
 Date Collected: NA
 Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
 Lab Code: S980206-WB1
 Test Notes:

Units: ug/L (ppb)
 Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	2/6/98	ND	
Benzene	EPA 5030	8020	0.5	1	NA	2/6/98	ND	
Toluene	EPA 5030	8020	0.5	1	NA	2/6/98	ND	
Ethylbenzene	EPA 5030	8020	0.5	1	NA	2/6/98	ND	
Xylenes, Total	EPA 5030	8020	0.5	1	NA	2/6/98	ND	
Methyl <i>tert</i> -Butyl Ether	EPA 5030	8020	3	1	NA	2/6/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Pacific Environmental Group
Project: 6125 Telegraph/331-008.1B
Sample Matrix: Water

Service Request: S9800242
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX, MTBE and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8020 CA/LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
T-W	S9800242-001		98	99
Method Blank	S980206-WB1		98	97

CAS Acceptance Limits: 69-116 69-116

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Pacific Environmental Group
Project: Thrifty Oil Co. #63/331-008.1B
Sample Matrix: Water

Service Request: S9800268
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX, MTBE and TPH as Gasoline

Prep Method: EPA 5030
Analysis Method: 8020 CA/LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
T-1	S9800268-001		100	91
Method Blank	S980210-WB1		97	93

CAS Acceptance Limits: 69-116 69-116

Thrifty Oil Co, 10,000 Lakewood Dr, Downey CA

Pacific Environmental Group, Inc.
 2025 Gateway Place #440, San Jose CA 95110
 Phone 408 441 7790 Fax 408 441 7539

PROJECT No. 331-008.1B

Chain of Custody
 59800268

Facility No. 63

Facility Address: 6125 Telegraph Ave Oakland

Billing Reference Number: 21792-00

CLIENT engineer: Chris Panatosen

PACIFIC Point of Contact: Doug Anderson

Sampler: K. E. POIR

Laboratory Name: Columbia

Sample I.D.	Cont. No.	Container Size (ml)	Sample Preserv.	Matrix	Type	Sampling Date	Sampling Time	BTEX/ VPHgas (8015/ 8020)	TPH Diesel (8015)	Oil and Grease (5520)	Dislvd. Metals	Total VOC (EPA 624/ 8240)	SVOC (EPA 627/ 8270)	HVOC (EPA 601/ 8010)	Total Pb	Comments:
T-1	3	10ml	ACC	W	Q	2-10-98	13:45									
UST-10	1	200	UP	S	Q	2-10-98	13:50									

Condition of Sample:

Temperature Received:

Mail original Analytical Report to:

Turnaround Time:

Relinquished by: *[Signature]*

Date: 2-10-98
 Time: 15:00

Received by: *[Signature]*

Date: 2/10/98
 Time: 15:20

Pacific Environmental Group

2025 Gateway Place #440 San Jose, CA 95110

620 Contra Costa Blvd. #209 Pleasant Hill, CA 94523

25725 Jeronimo Rd. #576C Mission Viejo, CA 92622

4020 148th Ave NE #B Redmond, WA 98052

Priority Rush (1 day)

Rush (2 days)

Expedited (5 days)

Standard (10 days)

As Contracted

Relinquished by:

Date:

Received by:

Date:

2025 Gateway Place #440 San Jose, CA 95110

As Contracted

10010A F

Taniffy Oil Co, 10,000 Lakeswood Blvd, Downey 94800242
Chain of Custody

Pacific Environmental Group, Inc.
 2025 Gateway Place #440, San Jose CA 95110
 Phone 408 441 7790 Fax 408 441 7539

PROJECT No. 331-008.1B

Facility No. 63 Facility Address: 6125 Telegraph Ave, Oakland Billing Reference Number:

CLIENT engineer: Chris Paventesen PACIFIC Point of Contact: Doug Andrews Sampler: Doug Andrews Laboratory Name: CAS

Sample I.D.	Cont. No.	Container Size (ml)	Sample Preserv.	Matrix	Type	Sampling Date	Sampling Time	mtBE		TPH Diesel (8015)	Oil and Grease (5520)	Total Dislvd. Metals	VOC (EPA 624/8240)	SVOC (EPA 627/8270)	HVOC (EPA 601/8010)	Comments:
								BTEX/ VPHgas (8015/8020)	TPH (8015)							
1) T-W	3	40ml	NP	W	G	2-4-98		X								

Condition of Sample:			Temperature Received:			Mail original Analytical Report to:			Turnaround Time:		
Relinquished by <u>Doug Andrews</u>			Received by <u>Doug Andrews</u>			Pacific Environmental Group			Priority Rush (1 day) <input checked="" type="checkbox"/>		
Date <u>2-5-98</u> Time <u>9:45</u>			Date <u>2/5/98</u> Time <u>9:45</u>			2025 Gateway Place #440 <input checked="" type="checkbox"/>			Rush (2 days) <input type="checkbox"/>		
San Jose, CA 95110			620 Contra Costa Blvd. #209 <input type="checkbox"/>			Pleasant Hill, CA 94523			Expedited (5 days) <input type="checkbox"/>		
Relinquished by			Received by			25725 Jeronimo Rd. #576C <input type="checkbox"/>			Standard (10 days) <input type="checkbox"/>		
Date			Date			Mission Viejo, CA 92622			As Contracted <input type="checkbox"/>		
Time			Time			4020 148th Ave NE #B <input type="checkbox"/>					
Relinquished by			Received by laboratory			Redmond, WA 98052					
Date			Date								
Time			Time								

011102

ATTACHMENT C

NONHAZARDOUS WASTE DATA FORMS

Soil Master (c)

Customer Job Report

Gross & Tare Weight Codes: M=Manual; S=Scale; T=Trk File

Job Number Name	SiteAddress	SiteCity	State	ZipCode
A04 -- 00249 Thrifty Oil#63	6125 Telegraph Ave.	Oakland	CA	94110

Load #	Date & Time Out	Transporter #	Truck & Trailer Number	Gross (lb)	Tare (lb)	Net (lb)	Net Wt (tons)
2	02/11/98 08:35	4DENBES		91,760M	30,380M	61,320	30.66 ✓
1	02/11/98 08:40	4DENBES		76,860M	34,120M	42,740	21.37 ✓
3	02/11/98 08:46	4DENBES		100,940M	33,740M	67,200	33.60 ✓
11	02/11/98 09:26	4DENBES		105,780M	26,880M	78,900	39.45 ✓
4	02/11/98 09:53	4DENBES		84,620M	34,120M	50,500	25.25 ✓
5	02/11/98 10:26	4DENBES		93,740M	33,740M	60,000	30.00 ✓
10	02/11/98 11:42	4DENBES		80,660M	34,120M	46,540	23.27 ✓
9	02/11/98 12:08	4DENBES		93,960M	33,740M	60,220	30.11 ✓
6	02/11/98 13:17	4DENBES		81,240M	34,120M	47,120	23.56 ✓
8	02/11/98 13:50	4DENBES		96,580M	33,740M	62,840	31.42 ✓
7	02/11/98 14:31	4DENBES		79,140M	34,120M	45,020	22.51 ✓
12	02/11/98 15:29	4DENBES		95,760M	33,740M	62,020	31.01 ✓
13	02/12/98 08:05	4DENBES		98,280M	33,740M	64,540	32.27 ✓
14	02/12/98 09:35	4DENBES		95,730M	26,880M	68,900	34.45 ✓
15	02/12/98 10:00	4DENBES		95,740M	32,760M	62,980	31.49 ✓
16	02/12/98 11:52	4DENBES		94,160M	26,880M	67,280	33.64 ✓
19	02/12/98 11:57	4DENBES		102,060M	32,760M	69,300	34.65 ✓
20	02/12/98 14:20	4DENBES		108,780M	26,880M	81,900	40.95 ✓
21	02/12/98 14:40	4DENBES		99,840M	32,760M	67,080	33.54 ✓
22	02/13/98 10:46	4DENBES		109,700M	26,880M	82,820	41.41 ✓
25	02/13/98 11:19	4DENBES		104,180M	32,280M	71,900	35.95 ✓
24	02/13/98 13:02	4DENBES		107,340M	26,880M	80,460	40.23 ✓
23	02/13/98 13:25	4DENBES		108,780M	32,280M	76,500	38.25 ✓
26	02/13/98 15:12	4DENBES		113,640M	32,280M	81,360	40.68 ✓

Completed Loads 80.00%	Manifests Received 24	Completed Weight 389.90%	Estimated Weight 200.00(tons)	TOTAL Net Wt: 779.72 (tons)
---------------------------	--------------------------	-----------------------------	----------------------------------	---------------------------------------

Customer Job Report

Gross & Tare Weight Codes: M=Manual; S=Scale; T=Trk File

Job Number Name	SiteAddress	SiteCity	State	ZipCode
A04 -- 00249 Thrifty Oil/#63	6125 Telegraph Ave.	Oaklandd	CA	94110

Load #	Date & Time Out	Transporter #	Truck & Trailer Number	Gross (lb)	Tare (lb)	Net (lb)	Net Wt (tons)
41	02/26/98 07:36	4DENBES		73,320M	30,320M	43,000	21.50*
28	02/26/98 08:20	4DENBES		86,300M	30,320M	55,980	27.99*
27	02/26/98 08:52	4DENBES		76,560M	31,400M	45,160	22.58*
29	02/26/98 09:03	4DENBES		72,800M	32,280M	40,520	20.26*
30	02/26/98 09:13	4DENBES		79,880M	31,400M	48,480	24.24*
32	02/26/98 09:52	4DENBES		76,140M	32,280M	43,860	21.93*
33	02/26/98 10:15	4DENBES		78,660M	30,320M	48,340	24.17*

Completed Loads	Manifests Received	Completed Weight	Estimated Weight	TOTAL Net Wt:
75.60%	31	471.20%	200.00(tons)	162.67(tons)

Soil Master (c)

TPS Technologies, Inc.

Customer Job Report

Gross & Tare Weight Codes: M=Manual; S=Scale; T=Trk File

Job Number	Name	Site Address	Site City	State	Zip Code
A04 -- 00249	Thrifty Oil/#63	6125 Telegraph Ave.	Oakland	CA	94110

Load #	Date & Time Out	Transporter #	Truck & Trailer Number	Gross (lb)	Tare (lb)	Net (lb)	Net Wt (tons)
42	03/10/98 10:01	4DENBES		76,780M	31,860M	44,920	22.46
43	03/10/98 13:06	4DENBES		56,600M	31,860M	24,740	12.37

Completed Loads	Manifests Received	Completed Weight	Estimated Weight	TOTAL Net Wt:
79.10%	34	504.60%	200.00(tons)	34.83(tons)

ATTACHMENT D

UNIFORM HAZARDOUS WASTE MANIFEST

Photo print on type form designed for use on elite (12-pitch) typewriter

UNIFORM HAZARDOUS WASTE MANIFEST		Generator's US EPA ID No C111010111371013 01 01 01 01 01		Manifest Document No		Page 1		Information in the shaded areas is not required by Federal law					
3. Generator's Name and Mailing Address THIRTY OIL COMPANY 10000 LAKEWOOD BLVD.; DOWNEY, CA 90240				A. State Manifest Document Number 97245633		B. State Generator ID		C. State Transporter ID					
4. Generator's Phone (562) 923-0876				6. US EPA ID Number		D. Transporter's Phone		E. State Transporter's ID					
5. Transporter 1 Company Name ADAMS SERVICES, INC.				7. Transporter 2 Company Name		F. Transporter's Phone		G. State Facility ID					
9. Designated Facility Name and Site Address DeMENNO/KERDOON 2000 N. ALAMEDA ST. COMPTON, CA 90222				10. US EPA ID Number		12. Containers		13. Total Quantity					
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)				No.		Type		14. Unit Wt/Vol					
a. (OIL & WATER) NON-R.C.P.A. HAZARDOUS WASTE LIQUID				001		TT		XX100 G					
b.													
c.													
d.													
K. Handling Code for Waste				a.		b.		c.					
99% WATER 1% OIL						01							
15. Special Handling Instructions and Additional Information DON PROPER PROTECTIVE GEAR NO SMOKING: E.R.G. #27 EMERGENCY #: 6125 Telegraph Ave.: Oakland, CA Contractor: T.H. Curtis Construction Co., Inc.													
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name				Signature				Month		Day		Year	
17. Transporter 1 Acknowledgement of Receipt of Materials								02		10		1988	
Printed/Typed Name				Signature				Month		Day		Year	
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name				Signature				Month		Day		Year	
19. Discrepancy Indication Space													
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.													
Printed/Typed Name SOPHAL P. SVAY				Signature				Month		Day		Year	
								02		10		1988	

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802: WITHIN CALIFORNIA, CALL 1-800-852-7550

GENERATOR'S FACILITY

DO NOT WRITE BELOW THIS LINE.

APPENDIX E

TANK CERTIFICATE OF DESTRUCTION

CERTIFICATE OF
DESTRUCTION

COMPANY NAME Arco

ADDRESS 6125 Telegraph Ave
Oakland

ADAMS STEEL CERTIFIES THAT 110K fiberglass
coated

HAS/HAVE BEEN SCRAPPED, CRUSHED AND TOTALLY
DESTROYED ON: 2-5-98

SIGNATURE Cheryl Hartman

TITLE Weighmaster

DATE 2-5-98

Adams Steel
3200 E. Frontera Street
Anaheim, California 92806
(714) 630-6523
FAX (714) 630-5836

APPENDIX F
PROCEDURES FOR SOIL SAMPLING

Standard Operating Procedures For Soil Sampling

The following section describes field techniques that were performed by PEG personnel in the performance of the tasks involved with this project.

1.0 UST Basin Soil Sampling Protocol

Soil sampling was performed under the direction of the appropriate agency representative. PEG attempted to collect undisturbed soil samples whenever possible. PEG utilized two methods when collecting UST basin soil samples. The first method was to collect the soil sample from the excavator bucket. Under the direction of the agency representative, the operator lowered the excavator bucket into the excavation bottom or sidewall, retrieved a full bucket of soil, and placed the bucket near the PEG geologist. Loose soil was removed so that undisturbed soil remained in the bucket. The PEG geologist pushed the open end of a pre-cleaned sample jar into the soil in several locations until the jar was packed tight. The jar was then sealed with a Teflon-lined cap, labeled, and stored in a chilled cooler for transport to the laboratory. The PEG geologist wore latex gloves while collecting the soil samples, and the gloves were changed between samples to reduce the potential for cross contamination between samples.

The second method of collecting UST basin samples consisted of using a hand auger to collect the soil samples. This method was used when the excavator could not reach the desired sample location. The hand auger was drilled to the desired depth, retrieved from the hole, and a pre-cleaned sample jar was pushed into the auger until the jar was packed tight. The jar was then sealed with a Teflon-lined cap, labeled, and stored in a chilled cooler for transport to the laboratory. The hand auger was washed in soap solution and double rinsed with tap and purified water between each sample to reduce the potential for cross contamination between samples.

2.0 Dispenser and Product Piping Soil Sampling Protocol

Soil sampling was performed under the direction of the appropriate agency representative. PEG attempted to collect undisturbed soil samples whenever possible. PEG collected the soil samples for the dispensers and product piping from the backhoe bucket. Under the direction of the agency representative, the operator lowered the

backhoe bucket into the excavation bottom, retrieved a full bucket of soil, and placed the bucket near the PEG geologist. Loose soil was removed so that undisturbed soil remained in the bucket. The PEG geologist pushed the open end of a pre-cleaned sample jar into the soil in several locations until the jar was packed tight. The jar was then sealed with a Teflon-lined cap, labeled, and stored in a chilled cooler for transport to the laboratory. The PEG geologist wore latex gloves while collecting the soil samples, and the gloves were changed between samples to reduce the potential for cross contamination between samples.

3.0 Stockpile Soil Sampling Protocol

Soil stockpile samples were collected at the rate of one sample for approximately 30 to 50 cubic yards of soil excavated. The soil samples were collected in pre-cleaned glass sample jars. After selecting the sample locations, the PEG geologist dug into the soil stockpile approximately one foot, then pushed the open end of a sample jar into the hole until the jar was packed tight with soil. The jar was then sealed with a Teflon-lined cap, labeled, and stored in a chilled cooler for transport to the laboratory. The PEG geologist wore latex gloves while collecting the soil samples, and the gloves were changed between samples to reduce the potential for cross contamination between samples.

4.0 Soil Sample Analyses

The soil samples collected from the UST basin, dispensers, and product piping were analyzed for constituents mandated by the regulatory agency. These analytical methods are listed in Table 1. Soil samples collected from the soil stockpiles were analyzed for total petroleum hydrocarbons as gasoline or diesel by EPA Method 8015 Modified; benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020; and methyl tert-butyl ether (MtBE) by EPA Method 8020 Modified. Selected soil samples were analyzed for total lead by EPA Method 6010A.

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