PRELIMINARY SITE ASSESSMENT REPORT

DOWNTOWN TOYOTA
4145 Broadway
Oakland, California

March 11, 1994

Prepared for:

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Project BRK103/11385.2001

BURLINGTON ENVIRONMENTAL

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The material and data in this report were prepared under the supervision and direction of the undersigned.

BURLINGTON ENVIRONMENTAL INC.

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EXECUTIVE SUMMARY

Burlington Environmental Inc. conducted a preliminary site assessment (PSA) on February 2, 1994, at Downtown Toyota at 4145 Broadway in Oakland, California. The PSA was conducted at the request of Alameda County Department of Environmental Health. The property is currently owned by Patterson Ranch. Limited hydrocarbon impact to soil was encountered during this investigation. The upgradient extent of hydrocarbon impact to groundwater was defined. The crossgradient and downgradient extent of hydrocarbon-impacted groundwater has been defined with the exception of low levels of petroleum hydrocarbons.

One 500-gallon underground used-oil storage tank was previously located on the site in a Car Detailing Bay. The tank was removed by Burlington in February 1992. Soil and groundwater samples were collected during the tank removal activities. Hydrocarbon-impacted soil was encountered beneath the former tank at 8 feet below ground surface (BGS). An additional soil sample was collected at 9 feet BGS. The 9-foot depth sample was below method detection limits for hydrocarbons. Groundwater was encountered at 10 feet BGS and a groundwater sample was collected. Chemical analysis of the groundwater sample measured detectable levels of hydrocarbons. Benzene was not detected above the California maximum contaminant level of 1 microgram per liter (µg/l).

Burlington's preliminary site assessment included collecting eight soil samples from four locations, collecting nine groundwater samples in the suspected upgradient, crossgradient, and downgradient directions from the former used-oil tank, and analyzing the samples for petroleum hydrocarbons. The soil and groundwater samples were collected using a pneumatic sampling rig.

Soil samples were collected from four boreholes located adjacent to the former tank. All soil samples analyzed were below method detection limits for total extractable hydrocarbons as diesel (TEHd), total extractable hydrocarbons as motor oil (TEHm), and total recoverable petroleum hydrocarbons (TRPH). All soil samples analyzed were below method detection limits for benzene, toluene, ethylbenzene, and total xylenes (BTEX) with

the exception of soil samples from borehole PS04. Hydrocarbon-impacted soil was only encountered on the southwest side of the former tank location. The low levels of hydrocarbons encountered at 4 feet BGS decreased with depth.

Groundwater samples were collected and analyzed from nine boreholes. Groundwater samples with the highest levels of hydrocarbon impact were encountered at sample locations positioned approximately 35 feet in the suspected downgradient direction of the former tank. Low levels of hydrocarbons were measured in the groundwater samples collected from boreholes positioned approximately 55 to 70 feet in the suspected downgradient direction from the former tank. The groundwater sample analyzed from the borehole positioned in the suspected upgradient direction was below method detection limits for petroleum hydrocarbons.

The detectable concentrations of hydrocarbons in the groundwater ranged from 2,900 to 520,000 µg/l of TRPH, 4,200 to 15,000 µg/l total petroleum hydrocarbons as gasoline; 1,000 to 50,000 µg/l of TEHd; 1,700 to 36,000 µg/l of TEHm, 0.49 to 1.6 µg/l benzene, 5.6 to 45 µg/l toluene, 0.66 to 1.4 µg/l ethylbenzene, and 18 to 130 µg/l total xylenes. According to the laboratory, the gas chromatographs for TEHd and TEHm analyses suggest that the hydrocarbon that is impacting these samples is not a typical diesel product and resembles a synthetic motor oil. Location PS07 had a detectable concentration of 1.6 µg/l of benzene, which exceeds the California maximum contaminant level (MCL) for benzene of 1 µg/l. All other groundwater samples analyzed were below the California MCL for benzene.

In summary, low concentrations of hydrocarbons were detected at 4 and 9 feet BGS in only one borehole adjacent to the former tank location. The upgradient extent of hydrocarbon impact to groundwater was defined. The crossgradient and downgradient extent of hydrocarbon-impacted groundwater has been defined with the exception of low levels of petroleum hydrocarbons.

Burlington recommends the installation and quarterly sampling of a groundwater monitoring well in the downgradient direction from the former used-oil tank location.

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BURLINGTON
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PRELIMINARY SITE ASSESSMENT REPORT

DOWNTOWN TOYOTA
Oakland, California

1 INTRODUCTION

Burlington Environmental Inc. (Burlington) conducted a PSA at Downtown Toyota located at 4145 Broadway in Oakland, California on February 2, 1994. Patterson Ranch was requested by Alameda County Department of Environmental Health (ACDEH) to conduct a PSA to evaluate the environmental conditions adjacent to a former underground used-oil tank at the subject site in correspondence dated September 30, 1993. Approval was granted by the ACDEH to proceed with the PSA in correspondence dated December 16, 1993. The approval letter from the ACDEH also stated that one groundwater monitoring well will be required in the verified downgradient direction at a later date. The following report documents the results of the investigation.

1.1 Scope of Work

The investigation consisted of:

- preparing a Health and Safety Plan;
- clearing borehole locations using Underground Service Alert (USA) and a private utility locating firm;
- probing borehole locations for subsurface utilities and obstructions;
- conducting soil and groundwater sampling at 11 sample locations with the use of a pneumatic soil sampling (PSS) rig;
- submitting selected soil and groundwater samples to an approved laboratory for chemical analysis;
- compiling and reviewing the analytical results; and
- preparing this report.

1.2 Site Description

The site is occupied by Downtown Toyota, an active car dealership. The site is located on Broadway, between 41st and 42nd Streets, in Oakland, California (see Figure 1). The property is owned by Patterson Ranch and is leased to Downtown Toyota.

Properties surrounding the site are occupied primarily by residential housing and small commercial businesses. The site is located approximately four miles east of the San Francisco Bay. The topography slopes gently to the west-southwest. The anticipated local groundwater flow direction is west-southwest towards the Bay.

1.3 Previous Work

One 500-gallon underground used-oil storage tank was previously located on the site in a Car Detailing Bay. The tank was removed by Burlington on February 7, 1992. Additional soil excavation, sampling, and backfilling was conducted by Burlington on April 15, 1992. The results of the tank removal operations were presented in a report prepared by Burlington dated May 21, 1992.

During the tank removal operations soil samples were collected from beneath the tank in the center of the excavation. One soil sample was collected at 8 feet BGS. The soil sample was analyzed and measured 130 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH) quantified as Stoddard Solvent, 0.042 mg/kg ethylbenzene, 0.23 mg/kg total xylenes, 900 mg/kg total extractable hydrocarbons as motor oil (TEHm), 630 mg/kg total oil and grease, 20 mg/kg lead, 81 mg/kg zinc, and 37 mg/kg nickel.

Due to the presence of detectable concentrations of petroleum hydrocarbons in the soil additional vertical soil excavation was conducted. An additional soil sample was collected at 9 feet BGS. The soil sample was analyzed and was below method detection limits for all analytes.

Groundwater was encountered in the excavation at 10 feet BGS. A groundwater sample was collected and analyzed. Chemical analysis of the water sample measured 5,600 micrograms per liter (µg/l) TEHm, 180 µg/l total petroleum hydrocarbons as gasoline (TPHg), 0.87 µg/l benzene, 0.55 µg/l ethylbenzene, and 4.2 µg/l total xylenes. The groundwater sample was below method detection limits for total extractable hydrocarbons as diesel (TEHd) and toluene. The analytical results from the sampling during the underground tank removal operations are presented in Appendix A.

In response to the results of the tank removal activities, ACDEH requested Patterson Ranch to conduct a preliminary site assessment. The following are the findings of the preliminary site assessment.

2 INVESTIGATIVE METHODS

Burlington performed the investigative site work on February 2, 1994. Eleven boreholes were drilled and sampled on the site, not including two boreholes which were abandoned after encountering refusal. Soil samples were collected from four boreholes adjacent to the former tank excavation for descriptive and analytical purposes. Groundwater samples were collected from the boreholes containing groundwater. Selected soil and groundwater samples were submitted for chemical analysis. The results of the sample analyses were evaluated and this report was prepared.

The procedures and results of the investigation are presented below.

2.1 Prefield Activities

Utility clearance was conducted in and around the boreholes by Cruz Brothers Subsurface Locators of Milpitas, California. In addition, USA was contacted to schedule visits to the site by public and private utility companies. Each company located its utilities with the aid of maps, and the locating service verified and marked these locations. All utility clearances were coordinated with the client or client representative before drilling began. In addition, a 4-foot long, 1/4-inch diameter fiberglass rod was inserted in each hole prior to sampling to check for subsurface obstructions.

2.2 Pneumatic Soil and Groundwater Sampling

The soil and groundwater sampling was conducted on February 2, 1994, under the direction of Burlington Environmental. A pneumatic sampling rig, operated by Environmental Control Associates (ECA) of Watsonville, California, was utilized during the project. Eleven boreholes were drilled and sampled. Two additional boreholes, PS01A and PS04, were terminated before soil and groundwater sampling was conducted as a result of refusal. Borehole PS11 was not sampled due to time constraints.

Soil samples were collected using 5-foot long sections of 1-inch diameter galvanized steel probe pipe, an attached 1-foot long galvanized steel soil-core tube, and a solid steel insert rod. The assemblage was pneumatically driven to sampling depths of 4 feet BGS and subsequently to 9 feet BGS. At the top of the required sampling interval the insert rod was removed and the probe pipe and soil-core tube were advanced one foot to drive the soil-core tube into undisturbed soil. The probe pipe and soil-core tube were removed from the borehole, disconnected, and the soil-core tube was sealed with Teflon tape, polypropylene end caps and tape, and stored in a sealable plastic bag on ice. No soil cuttings were generated.

Before sealing the soil-core tube, a small portion of the soil sample was removed, inspected, and logged. The sample was logged using the Unified Soil Classification System by a geologist under the supervision of a California registered geologist. Boring logs are presented in Appendix B.

Following soil sample collection, a perforated galvanized pipe was attached to the bottom of the probe pipe, and the assemblage was driven down into the water table for groundwater sample collection. The total depth driven ranged from 13 to 19.5 feet BGS. Groundwater samples were collected by lowering a stainless-steel bailer inside the perforated pipe into the water. The bailer was then removed from the borehole, and the sample was decanted from the bailer into the appropriate sample container, and stored on ice for subsequent transport to the laboratory for analysis (see Section 2.3 and Appendix D).

Following soil and groundwater sampling, the sampling pipes were removed from each borehole, and the boreholes were backfilled to the surface with cement grout.

Borehole PS01A resulted in refusal at 4 feet BGS. Another borehole, PS01, was attempted approximately 2 feet away from borehole PS01A. Soil and groundwater samples were successfully collected from borehole PS01. Borehole PS04 resulted in refusal at 10.5 feet BGS. Soil samples were successfully collected from borehole PS04. Another borehole, PS04A, was advanced to 19.5 feet BGS and was dry. Borehole PS10

was advanced to 19.5 feet BGS and was dry. No groundwater samples were collected from boreholes PS04A or PS10.

2.3 Sample Analysis

The soil and groundwater samples were analyzed for TRPH using United States Environmental Protection Agency (USEPA) Method 418.1; TPHg, total extractable hydrocarbons as diesel (TEHd), and total extractable hydrocarbons as motor oil (TEHm) using a method described in the California Department of Health Services (DHS) Method - Leaking Underground Fuel Tank (LUFT) Manual October 1989 (the LUFT Method); and BTEX using USEPA Method 8020. The samples were analyzed by Western Environmental Science & Technology (WEST) of Davis, California.

3 SUBSURFACE CONDITIONS

3.1 Geology

The study area is located on the east-central flanks of the San Francisco Bay, within the gently bayward-sloping alluvial plain of Alameda County. The study area is bounded on the north by the Berkeley alluvial plain, on the east by the foothills of the Diablo Range, on the south by the San Leandro alluvial cone, and on the west by the San Francisco Bay.

The alluvial sediments of the Bay Plain consist of interbedded gravels, sands, and clays that are Pliocene-Pleistocene to late Pleistocene in age and were laid down on the alluvial cones west of the foothills. (Helley, et. al., 1979)

The near-surface site stratigraphy consists of fill material consisting of silty clay with minor amounts of gravel, sand, and rubble material (see Appendix B for details).

3.2 Hydrogeology

Groundwater found within the alluvial deposits of the region are typically contained in discontinuous lenses of sand and gravel. The regional groundwater flow direction is generally to the west towards San Francisco Bay.

Groundwater beneath the site is first encountered at a depth of approximately 11 feet BGS (see Appendix B).

4 ANALYTICAL RESULTS

4.1 Soil

Soil analytical results are presented in Table 1 and Appendix D. Figure 3 presents the TPHg, TRPH, and BTEX concentrations in the soil samples analyzed.

All soil samples analyzed were below method detection limits for TEHd, TEHm, and TRPH. Detectable concentrations of TPHg and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were found in the soil in only one sample point, PS04 (see Table 1). Sample PS04-04, collected from 4 to 5 feet BGS, had 32 mg/kg TPHg, 0.0065 mg/kg toluene, 0.015 mg/kg ethylbenzene, and 0.14 mg/kg total xylenes. Sample PS04-09, collected from 9 to 10 feet BGS, measured concentrations of 11 mg/kg TPHg, 0.0074 mg/kg toluene, and 0.0096 mg/kg total xylenes. All other soil samples analyzed were below method detection limits for TPHg and BTEX.

The certified analytical results and the chain-of-custody (COC) forms are presented in Appendix D.

4.2 Groundwater

Groundwater analytical results are presented in Table 2, and Appendix D. Figure 4 presents the concentrations of TPHg and benzene. Figure 5 presents the concentrations of TEHd, TEHm, and TRPH.

During the groundwater sampling process, the groundwater samples were evaluated for the presence of phase-separated hydrocarbons (PSH). PSH were not detected in any of the groundwater samples collected.

The groundwater sample from boring PS08 had the highest hydrocarbon concentrations in the groundwater samples analyzed, with 520,000 µg/l of TRPH, 16,000 µg/l TPHg; 50,000 µg/l of TEHd; 36,000 µg/l of TEHm, 45 µg/l toluene, and 130 µg/l total xylenes. Due to sample dilution, the detection limit for benzene on groundwater sample PW08 was raised to 15 µg/l; the chemical analysis of the sample for benzene was below the elevated benzene method detection limit. Location PS07 had detectable concentrations of benzene, with 1.6 µg/l (which exceeds the California Department of Health Services (DHS) primary maximum contaminant level [MCL] for benzene of 1 µg/l [26 CCR 22-64444.5; Barclays, 1990]), 5.6 µg/l toluene, and 18 µg/l total xylenes. All other groundwater samples analyzed were below the California DHS MCL for benzene.

Detectable concentrations of TEHd and TEHm were found in five groundwater samples analyzed. The levels ranged from 91 to 50,000 µg/l of TEHd and 110 to 36,000 µg/l of TEHm. According to WEST, the gas chromatograms for these samples did not resemble the diesel and motor oil standards. The chromatograms generated during the TEHd and TEHm analyses suggest that the hydrocarbon that is impacting these samples is not a typical diesel product and resembles a synthetic motor oil (see Certified Analytical Results, Appendix D).

Detectable concentrations of TRPH were found in two groundwater samples analyzed. The levels ranged from 2,900 to 520,000 µg/l in boreholes PS07 and PS08, respectively. All other groundwater samples analyzed for TRPH were below method detection limits.

The certified analytical results and the COC forms are presented in Appendix D.

5 SUMMARY

Burlington's preliminary site assessment included collecting 8 soil samples from 4 locations adjacent to the former used-oil tank, collecting nine groundwater samples in the suspected upgradient, crossgradient, and downgradient directions from the former used-oil tank, and analyzing the samples for petroleum hydrocarbons. The soil and groundwater samples were collected using a pneumatic sampling rig.

The following conclusions were made:

1. Limited hydrocarbon impacted soil was encountered adjacent to the former used-oil tank during the investigation. No additional soil excavation for source removal is warranted.

2. Elevated levels of TRPH, TPHg, TEHd, TEHm, and BTEX were encountered in the groundwater sampled approximately 35 feet in the suspected downgradient direction from the former used-oil tank, suggesting past releases from the underground tank or associated piping impacted the groundwater at the site. The concentration of benzene at location PS07 exceeded the California primary MCL for benzene.

3. Non detectable to low levels of petroleum hydrocarbons were encountered in the groundwater sampled approximately 55 to 70 feet in the suspected downgradient direction from the former used-oil tank, suggesting that with the exception of the low levels of hydrocarbons encountered the downgradient extent of the groundwater impact has been defined.

5. According to WEST, the gas chromatograms for these samples did not resemble the diesel and motor oil standards. The chromatograms generated during the TEHd and TEHm analyses suggest that the hydrocarbon that is impacting these samples is not a typical diesel product and resembles a synthetic motor oil.

5. Burlington recommends the installation and sampling of a groundwater monitoring well in the downgradient direction from the former used-oil tank. Burlington proposes that one year of quarterly groundwater monitoring be conducted and if benzene concentrations decrease over time site closure should be proposed.

6 LIMITATIONS OF STUDY

Services provided were performed in accordance with current, generally accepted environmental consulting principles and practices. The conclusions and recommendations presented reflect opinions based on these practices. No other warranty, expressed or implied, is made.

LIST OF ABBREVIATIONS AND ACRONYMS

BGS	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
Burlington	Burlington Environmental Inc.
COC	chain-of-custody
DHS	Department of Health Services
ECA	Environmental Control Associates
LUFT	Leaking Underground Fuel Tank
MCL	maximum contaminant level
µg/l	micrograms per liter
mg/kg	milligrams per kilogram
PSH	phase-separated hydrocarbons
TEH	total extractable hydrocarbons
TEHd	total extractable hydrocarbons as diesel
TEHm	total extractable hydrocarbons as motor oil
TPHg	total petroleum hydrocarbons as gasoline
USEPA	United States Environmental Protection Agency
WEST	Western Environmental Science & Technology

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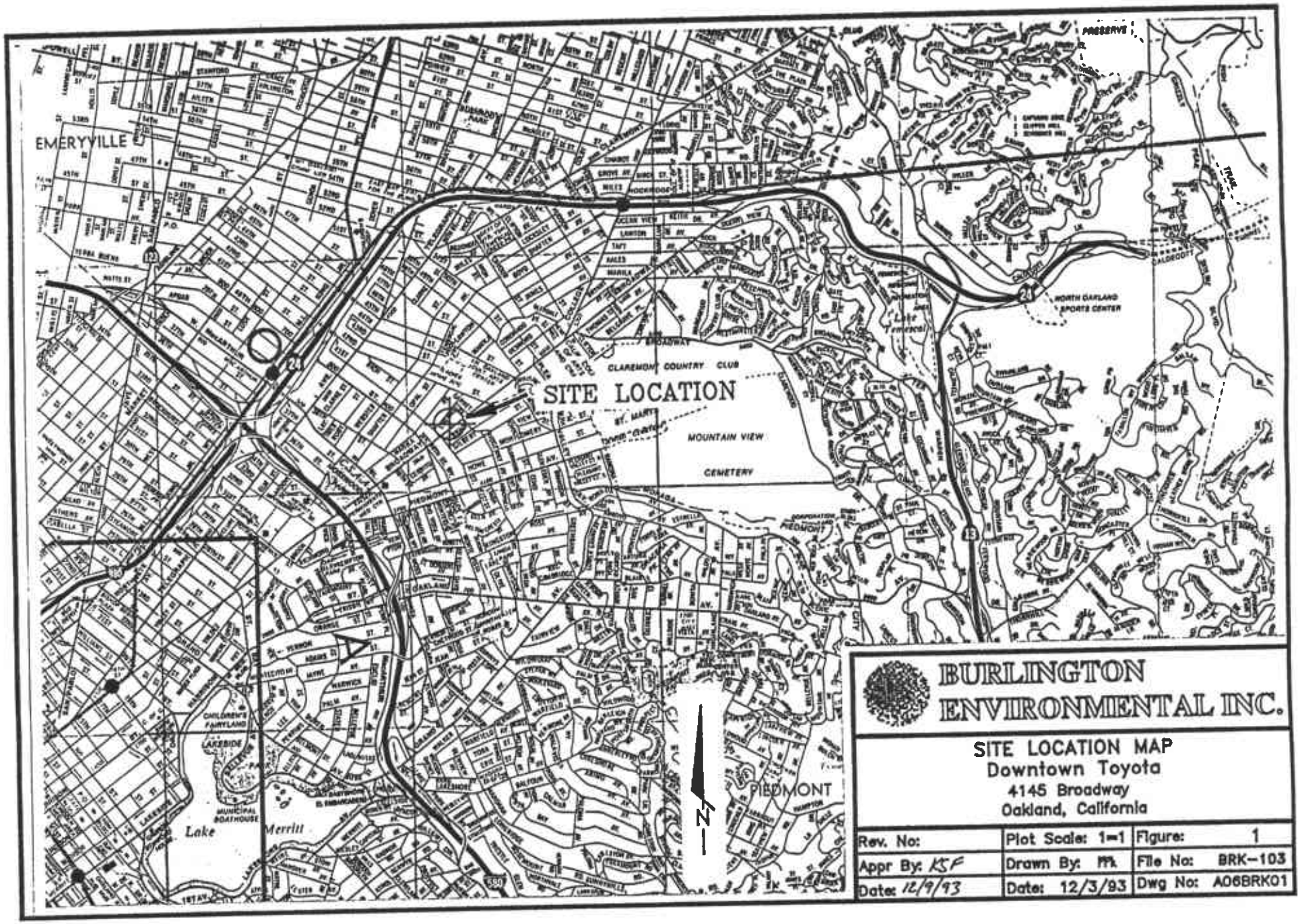
Water Quality Control Board, North Coast, San Francisco Bay and Central Valley Regions. 1990. Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks. Revised August 10.



BURLINGTON ENVIRONMENTAL INC.

SITE LOCATION MAP
Downtown Toyota
4145 Broadway
Oakland, California

Rev. No:	Plot Scale: 1=1	Figure: 1
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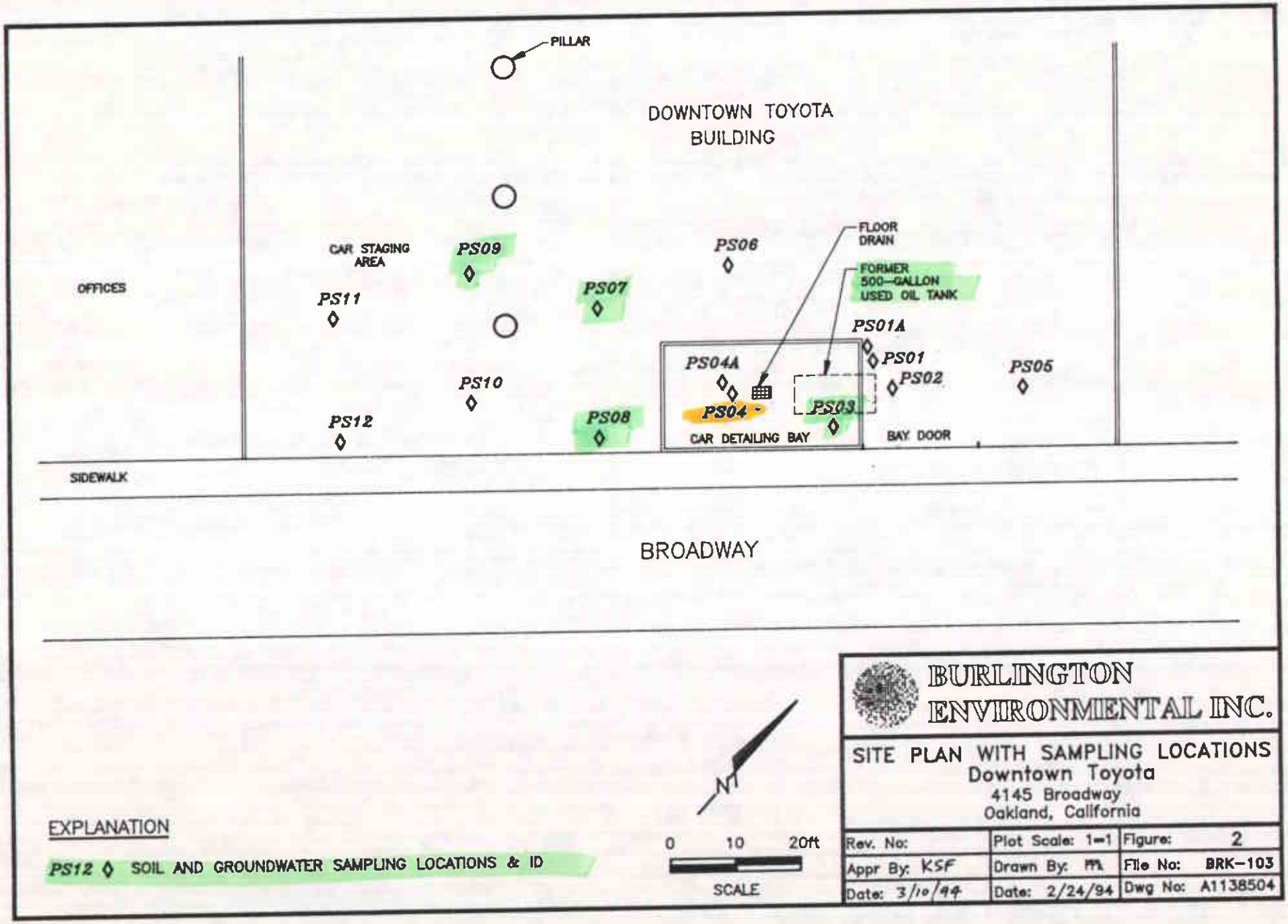
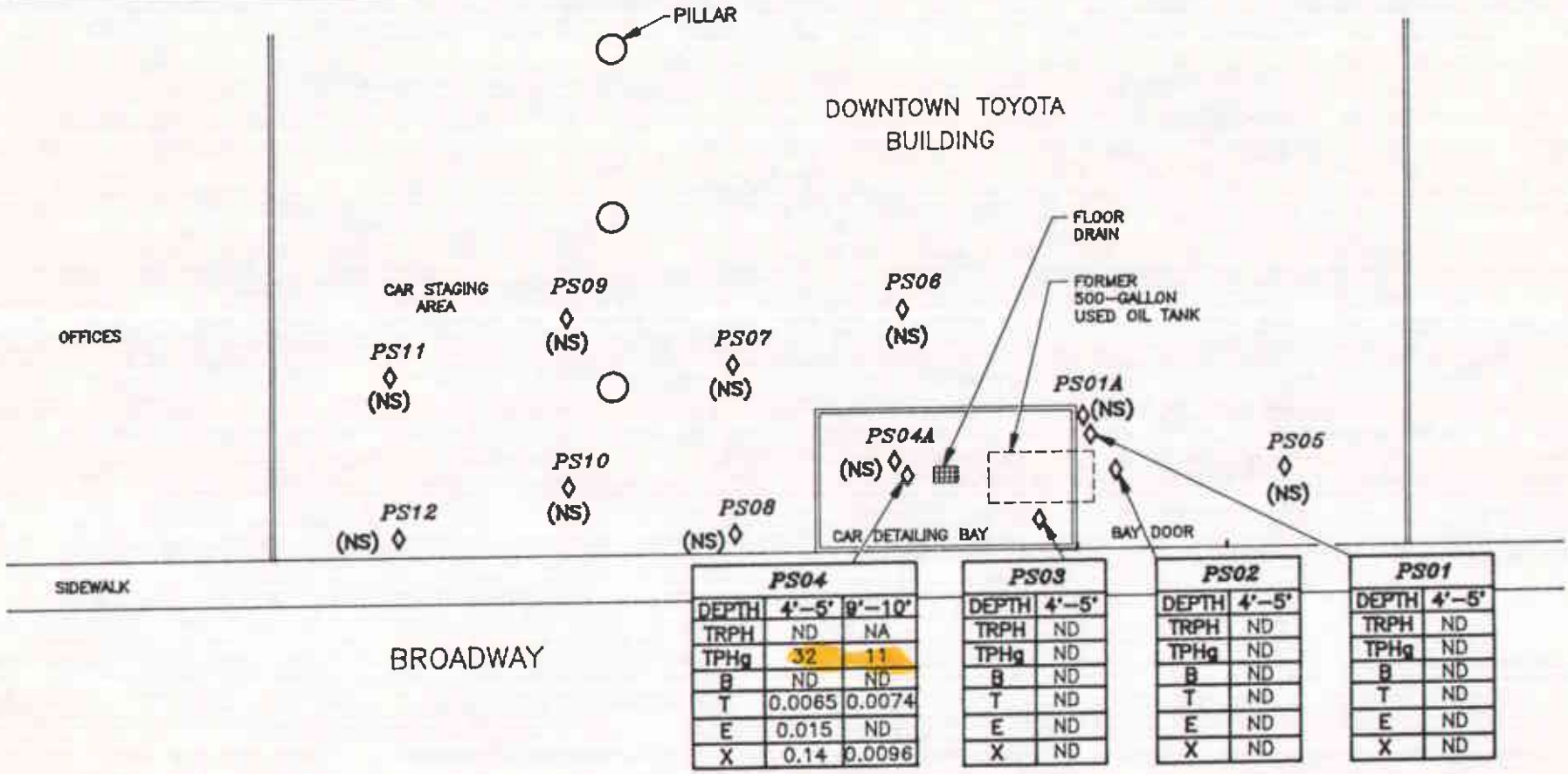
Date: 12/9/93	Date: 12/3/93	Dwg No: A06BRK01


PILLAR
DOWNTOWN TOYOTA
BUILDING
CAR STAGING
AREA
PS09
PS06
FLOOR
DRAIN
FORMER
500-GALLON
USED OIL TANK
OFFICES
PS11
PS07
PS01A
PS04A
PS01
PS05
PS02
PS10
PS04
PS03
PS12
PS08
CAR DETAILING BAY
BAY DOOR
SIDEWALK
BROADWAY
EXPLANATION
PS12 ◊ SOIL AND GROUNDWATER SAMPLING LOCATIONS & ID
N
0 10 20ft
SCALE
BURLINGTON
ENVIRONMENTAL INC.
SITE PLAN WITH SAMPLING LOCATIONS
Downtown Toyota
4145 Broadway
Oakland, California
Rev. No:
Plot Scale: 1=1
Figure: 2
Appr By: KSF
Drawn By: MA
File No: BRK-103
Date: 3/10/94
Date: 2/24/94
Dwg No: A1138504



PS04		
DEPTH	4'–5'	9'–10'
TRPH	ND	NA
TPHg	32	11
B	ND	ND
T	0.0065	0.0074
E	0.015	ND
X	0.14	0.0096

PS03	
DEPTH	4'–5'
TRPH	ND
TPHg	ND
B	ND
T	ND
E	ND
X	ND

PS02	
DEPTH	4'–5'
TRPH	ND
TPHg	ND
B	ND
T	ND
E	ND
X	ND

PS01	
DEPTH	4'–5'
TRPH	ND
TPHg	ND
B	ND
T	ND
E	ND
X	ND

EXPLANATION

- ***PS12*** ◊ SOIL AND GROUNDWATER SAMPLING LOCATIONS & ID
- TRPH TOTAL RECOVERABLE PETROLEUM HYDROCARBONS IN MILLIGRAMS PER KILOGRAM (mg/kg)
- TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (mg/kg)
- B BENZENE (mg/kg)
- T TOLUENE (mg/kg)
- E ETHYLBENZENE (mg/kg)
- X TOTAL XYLENES (mg/kg)
- NA NOT ANALYZED
- NS NOT SAMPLED
- ND BELOW METHOD DETECTION LIMITS

N

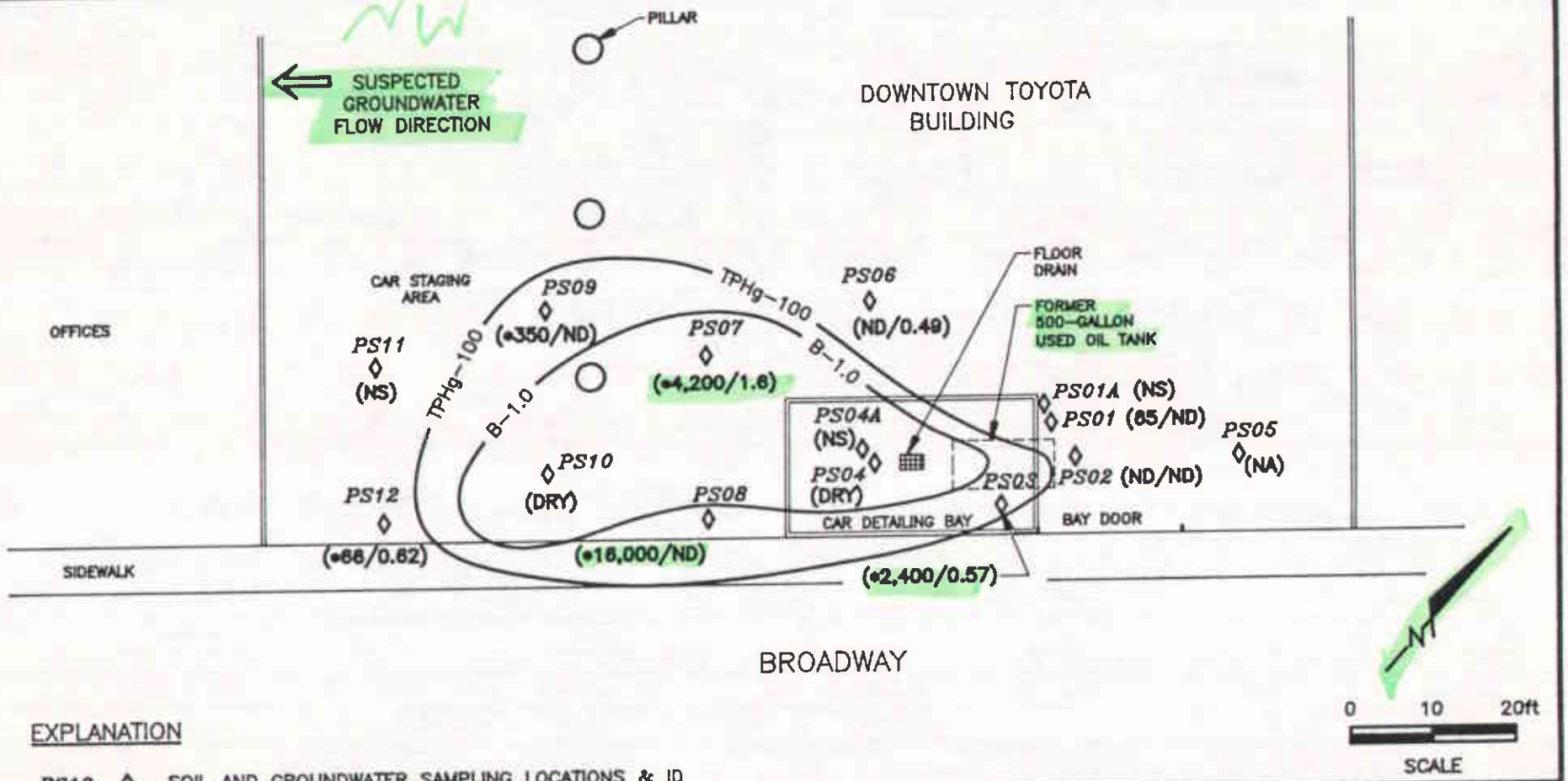
0 10 20ft

SCALE

BURLINGTON ENVIRONMENTAL INC.

TPHg/TRPH/BTEX CONCENTRATIONS IN SOIL
Downtown Toyota
4145 Broadway
Oakland, California

Rev. No:	Plot Scale: 1=1	Figure: 3
Appr By: KSF	Drawn By: MK	File No: BRK-103
Date: 3/10/94	Date: 2/24/94	Dwg No: A1138505



EXPLANATION

PS12 ◊	SOIL AND GROUNDWATER SAMPLING LOCATIONS & ID
(16,000/ND)	TPHg/BENZENE CONCENTRATIONS IN MICROGRAMS PER LITER
•	PRODUCT IS NOT TYPICAL GASOLINE
TPHg	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B-1.0	BENZENE ISOCONCENTRATION CONTOUR 1.0 MICROGRAMS PER LITER
TPHg-100	TPHg ISOCONCENTRATION CONTOUR 100 MICROGRAMS PER LITER
NA	NOT ANALYZED
NS	NOT SAMPLED
ND	BELOW METHOD DETECTION LIMITS

BURLINGTON ENVIRONMENTAL INC.

TPHg/BENZENE CONCENTRATIONS IN GROUNDWATER
Downtown Toyota
4145 Broadway
Oakland, California

Rev. No:	Plot Scale: 1=1	Figure: 4
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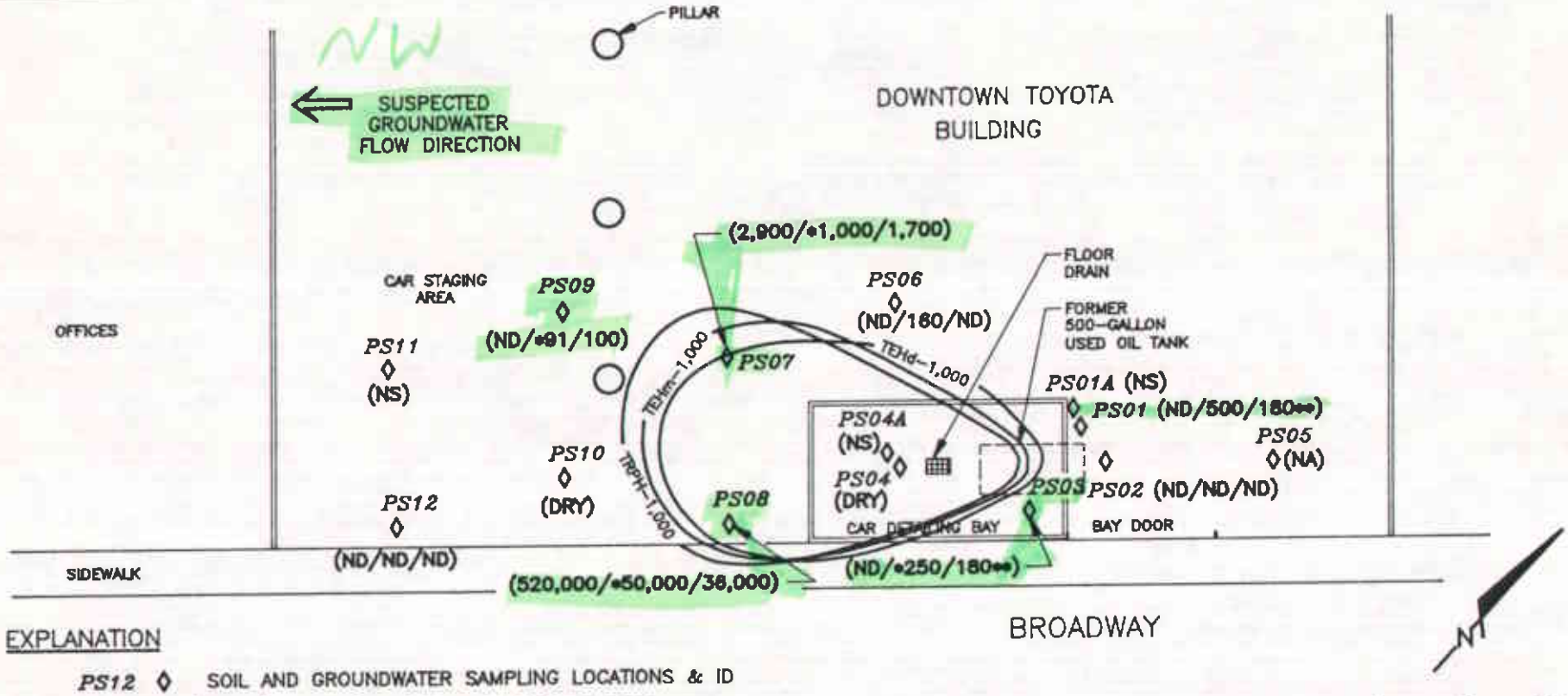
Date: 3/10/94	Date: 2/24/94	Dwg No: A1138506



EXPLANATION

PS12 ◊ SOIL AND GROUNDWATER SAMPLING LOCATIONS & ID

(520,000/50,000/38,000) TRPH/TEHd/TEHm CONCENTRATIONS IN MICROGRAMS PER LITER

TRPH TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

TEHd TOTAL EXTRACTABLE HYDROCARBONS AS DIESEL

TEHm TOTAL EXTRACTABLE HYDROCARBONS AS MOTOR OIL

• NOT TYPICAL DIESEL

•• OIL RANGE PRODUCT SIMILAR TO SYNTHETIC MOTOR OIL

TRPH-1,000 TRPH ISOCONCENTRATION CONTOUR-1,000 MICROGRAMS PER LITER

TEHd-1,000 TEHd ISOCONCENTRATION CONTOUR-1,000 MICROGRAMS PER LITER

TEHm-1,000 TEHm ISOCONCENTRATION CONTOUR-1,000 MICROGRAMS PER LITER

NA NOT ANALYZED

NS NOT SAMPLED

ND BELOW METHOD DETECTION LIMITS

BURLINGTON ENVIRONMENTAL INC.

TRPH/TEHd/TEHm CONCENTRATIONS IN GROUNDWATER
Downtown Toyota
4145 Broadway
Oakland, California

Rev. No:	Plot Scale: 1=1	Figure: 5
Appr By: KSF	Drawn By: MA	File No: BRK-103
Date: 3/10/94	Date: 2/24/94	Dwg No: A1138507

All soil OK for Tier 1 limits AC 2/18/99

PPM

Table 1
SOIL ANALYTICAL RESULTS

Downtown Toyota
Oakland, California

Not valid

All Benzene in soil less than Tier 1

Soil Boring	Sample Depth (ft)	Date Sampled	Sample No.	TPH Gasoline	TEH Diesel	TEH Motor Oil	TRPH	Benzene	Toluene	Ethyl-Benzene	Total Xylenes
			EPA Analysis Method	M8015	M8015	M8015	418.1	8020	8020	8020	8020
			Method Detection Limit (mg/kg)	0.5mg/kg	10.0mg/kg	10.0mg/kg	30mg/kg	0.0050mg/kg	0.0050mg/kg	0.0050mg/kg	0.0050mg/kg
PS01	4 - 5	2/2/94	PS01-04	ND<0.50	ND<10	ND<10	ND<30	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050
PS02	4 - 5	2/2/94	PS02-04	ND<0.50	ND<10	ND<10	ND<30	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050
PS03	4 - 5	2/2/94	PS03-04	ND<0.50	ND<10	ND<10	ND<30	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050
PS04	4 - 5	2/2/94	PS04-04	32 *	ND<10	ND<10	ND<30	ND<0.0050	0.0065	0.015	0.14
	9 - 10	2/2/94	PS04-09	11 *	NA	NA	NA	ND<0.0050	0.0074	ND<0.0050	0.0096

*	Product is not typical gasoline as indicated by Certified Analytical Results
NA	Not analyzed
ND	Not detected above method detection limit
ft	Feet
mg/kg	Milligrams per kilogram
TEH	Total extractable hydrocarbons
TPH	Total petroleum hydrocarbons
TRPH	Total recoverable petroleum hydrocarbons

Where are the chain of custody

How come 10 feet was done.

B:\BRK103\2001SD1.XLS

Table 2
GROUNDWATER ANALYTICAL RESULTS

Downtown Toyota
Oakland, California

Soil Boring Designation	Sample Date	Sample Number	TRPH	TPH Gasoline	TEH Diesel	TEH Motor Oil	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Comments
	EPA Analytical Method		418.1	M8015	M8015	M8015	8020	8020	8020	8020	
	Detection Limit (ug/l)		1000ug/l	50ug/l	50ug/l	100ug/l	0.30ug/l	0.30ug/l	0.30ug/l	0.50ug/l	
PS01	2/2/94	PW01-020294	ND<1000	65	500	180 ***	ND<0.30	ND<0.30	ND<0.30	1.0	
PS02	2/2/94	PW02-020294	ND<1000	ND<50	ND<50	ND<100	ND<0.30	0.37	0.30	1.2	
PS03	2/2/94	PW03-020294	ND<1000	2400 *	250 **	110 ***	0.57	0.89	1.4	3.0	
PS04	2/2/94	-	NS	NS	NS	NS	NS	NS	NS	NS	Dry borehole
PS05	2/2/94	PW05-020294	NA	NA	NA	NA	NA	NA	NA	NA	
PS06	2/2/94	PW06-020294	ND<1000	ND<50	160	ND<100	0.49	0.57	ND<0.30	1.5	
PS07	2/2/94	PW07-020294	2900	4200 *	1000 **	1700	1.6	5.6	ND<1.5	18	
PS08	2/2/94	PW08-020294	520000	16000 *	50000 **	36000	ND<15	45	ND<15	130	
PS09	2/2/94	PW09-020294	ND<1000	350 *	91 **	100	ND<0.30	ND<0.30	0.66	3.2	
PS10	2/2/94	-	NS	NS	NS	NS	NS	NS	NS	NS	Dry borehole
PS11	2/2/94	-	NS	NS	NS	NS	NS	NS	NS	NS	Not drilled
PS12	2/2/94	PW12-020294	ND<1000	66 *	ND<50	ND<100	0.62	ND<0.30	ND<0.30	2.2	
DRINKING WATER STANDARDS California Maximum Contaminant Levels (ug/l)				-	-	-	1	-	680	1750	

Groundwater chemistry values presented in micrograms per liter (ug/l).

*	Product is not typical gasoline (see Certified Analytical Results).
**	Not typical diesel (see Certified Analytical Results).
***	Oil range product similar to synthetic motor oil (see Certified Analytical Results).
NA	Not analyzed
NS	Not sampled
TPH	Total petroleum hydrocarbons as gasoline
TEH	Total extractable hydrocarbons
TRPH	Total recoverable petroleum hydrocarbons
BTEX	Benzene, toluene, ethylbenzene, and total xylenes

B:\BRK103\3010WD1.XLS

APPENDIX A

Certified Analytical Results
for
Former Underground Used-Oil Tank

February 12, 1992
Sample Log 3917

Jeff Allen
Burlington Environmental Inc. - Chempro Div.
950 B Gilman Street
Berkeley, CA 94710

Subject: Analytical Results for 1 Soil Sample
Identified as: Project # 339 (Berkeley Farms)
Received: 02/07/92

Dear Mr. Allen:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on February 11, 1992 and describes procedures used to analyze the samples.

Sample(s) were received in brass sleeves that were sealed with PTFE sheets and plastic endcaps. Each sample was transported and received under documented chain of custody and stored at 4 degrees C until analysis was performed.

Sample(s) were analyzed using the following method(s):

"BTEX" (EPA Method 8020/Purge-and-Trap)
"TPH as Gasoline" (Modified EPA Method 8015/Purge-and-Trap)
"TPH as Diesel,Motor Oil,Jet/Kerosene" (Mod. 8015/Extraction)
"Metals by Atomic Absorption" (EPA Method 7000)
"Oil and Grease" (ASTM Method 5520 E,F)
"Volatile Organic Priority Pollutants" (EPA Method 8240)
"Total Lead" (EPA 7420-Atomic Absorption)

Please refer to the following table(s) for summarized analytical results and contact us at 916-757-4650 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Joel Kiff
Senior Chemist

Western Environmental
Science & Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
916 753-9500

February 12, 1992
Sample Log 3917

Sample: 1BF

From : Project # 339 (Berkeley Farms)
Sampled : 02/07/92
Received : 02/07/92
Matrix : Soil

--all concentrations are units of mg/kg--

Parameter / (Reporting Limit)		Measured Value
Benzene	(.05)	<.05 *
Toluene	(.05)	<.05 *
Ethylbenzene	(.05)	<.05 *
Total Xylenes	(.05)	<.5 *
TPH as Gasoline	(.5)	130 **
Extractable TPH	(10)	Diesel : <50 *
		Motor Oil : 900
Cadmium	(0.5)	-----
Chromium	(1.0)	-----
Lead	(5.0)	20
Zinc	(0.5)	81
Nickel	(1.0)	37
Oil & Grease	(50)	630

* Increased reportimg limit due to interference from Stoddard Solvent.
** Product is Stoddard Solvent.

Western Environmental
Science & Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
916 753-9500

February 12, 1992
Sample Log 3917

Sample: 1BF
From : Project # 339 (Berkeley Farms) Received 02/07/92 Matrix : Soil
8240 - Volatile Organic Priority Pollutants(units are mg/kg)

Parameter /	(Reporting Limit)	Measured Value
Chloromethane	(0.10)	<0.10
Bromomethane	(0.10)	<0.10
cis-1,2-Dichloroethene	(0.01)	<0.01
trans-1,2-Dichloroethene	(0.01)	<0.01
Trichlorofluoromethane	(0.01)	<0.01
Vinyl Chloride	(0.10)	<0.10
Chloroethane	(0.10)	<0.10
Methylene Chloride	(0.01)	<0.01
Acetone	(0.10)	<0.10
Carbon Disulfide	(0.01)	<0.01
1,1-Dichloroethene	(0.01)	<0.01
1,1-Dichloroethane	(0.01)	<0.01
Chloroform	(0.01)	<0.01
1,2-Dichloroethane	(0.01)	<0.01
2-Butanone	(0.10)	<0.10
1,2-Dibromoethane	(0.01)	<0.01
1,1,1-Trichloroethane	(0.01)	<0.01
Carbon Tetrachloride	(0.01)	<0.01
Vinyl Acetate	(0.10)	<0.10
Bromodichloromethane	(0.01)	<0.01
1,2-Dichloropropane	(0.01)	<0.01
cis-1,3-Dichloropropene	(0.01)	<0.01
Trichloroethene	(0.01)	<0.01
Dibromochloromethane	(0.01)	<0.01
1,1,2-Trichloroethane	(0.01)	<0.01
Benzene	(0.01)	<0.01
trans-1,3-Dichloropropene	(0.01)	<0.01
Bromoform	(0.01)	<0.01
4-Methyl-2-Pentanone	(0.10)	<0.10
4-Chlorotoluene	(0.01)	<0.01
2-Chlorotoluene	(0.01)	<0.01
1,3-Dichlorobenzene	(0.01)	<0.01
1,2-Dichlorobenzene	(0.01)	<0.01
1,4-Dichlorobenzene	(0.01)	<0.01
2-Hexanone	(0.10)	<0.10
Tetrachloroethene	(0.01)	<0.01
1,1,2,2-Tetrachloroethane	(0.01)	<0.01
Toluene	(0.01)	<0.01
Chlorobenzene	(0.01)	<0.01
Ethylbenzene	**(0.01)**	**.042**
Styrene	(0.01)	<0.01
P,M-Xylene	**(0.01)**	**.15**
O-Xylene	**(0.01)**	**.080**

Western Environmental
Science & Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
916 753-9500

April 30, 1992
Sample Log 4265

Jeff Allen
Burlington Environmental Inc. - Chempro Div.
950 B Gilman Street
Berkeley, CA 94710

Subject: Analytical Results for 1 Water Sample and 1 Soil Sample
Identified as: Project # 339 (Berkeley Farms)
Received: 04/16/92
Purchase Order: 19369

Dear Mr. Allen:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on April 30, 1992 and describes procedures used to analyze the samples.

Samples were received in 40-mL glass vials sealed with TFE lined septae, 1-L glass bottles sealed with TFE-lined caps, and brass sleeves sealed with PTFE sheets and endcaps. Each sample was received under documented chain of custody and stored at 4 degrees C until analysis was performed.

Sample(s) were analyzed using the following method(s):

"BTEX" (EPA Method 8020/Purge-and-Trap)
"BTEX" (EPA Method 602/Purge-and-Trap)
"TPH as Gasoline" (Modified EPA Method 8015/Purge-and-Trap)
"TPH as Diesel,Motor Oil,Jet/Kerosene" (Mod. 8015/Extraction)

Please refer to the following table(s) for summarized analytical results and contact us at 916-757-4650 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Joel Kiff
Senior Chemist

Sample Log 4265

4265-1

Sample: **SS-1A-DT**

From : Project # 339 (Berkeley Farms)
Sampled : 04/15/92
Dilution : 1:1 QC Batch : 4032A
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50

Date Analyzed: 04-28-92
Column : 0.53mm ID X 30m DB-WAX (J&W Scientific)

Joel Kiff
Senior Chemist

Sample Log 4265

4265-1

Sample: SS-1A-DT

From : Project # 339 (Berkeley Farms)
Sampled : 04/15/92
Extracted: 04/27/92
Dilution : 1:1 QC Batch : 7053F
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10

EPA Mod 8015

Date: 04-27-92 Time: 22:31:42
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

S. Podolsky

Stewart Podolsky
Senior Chemist

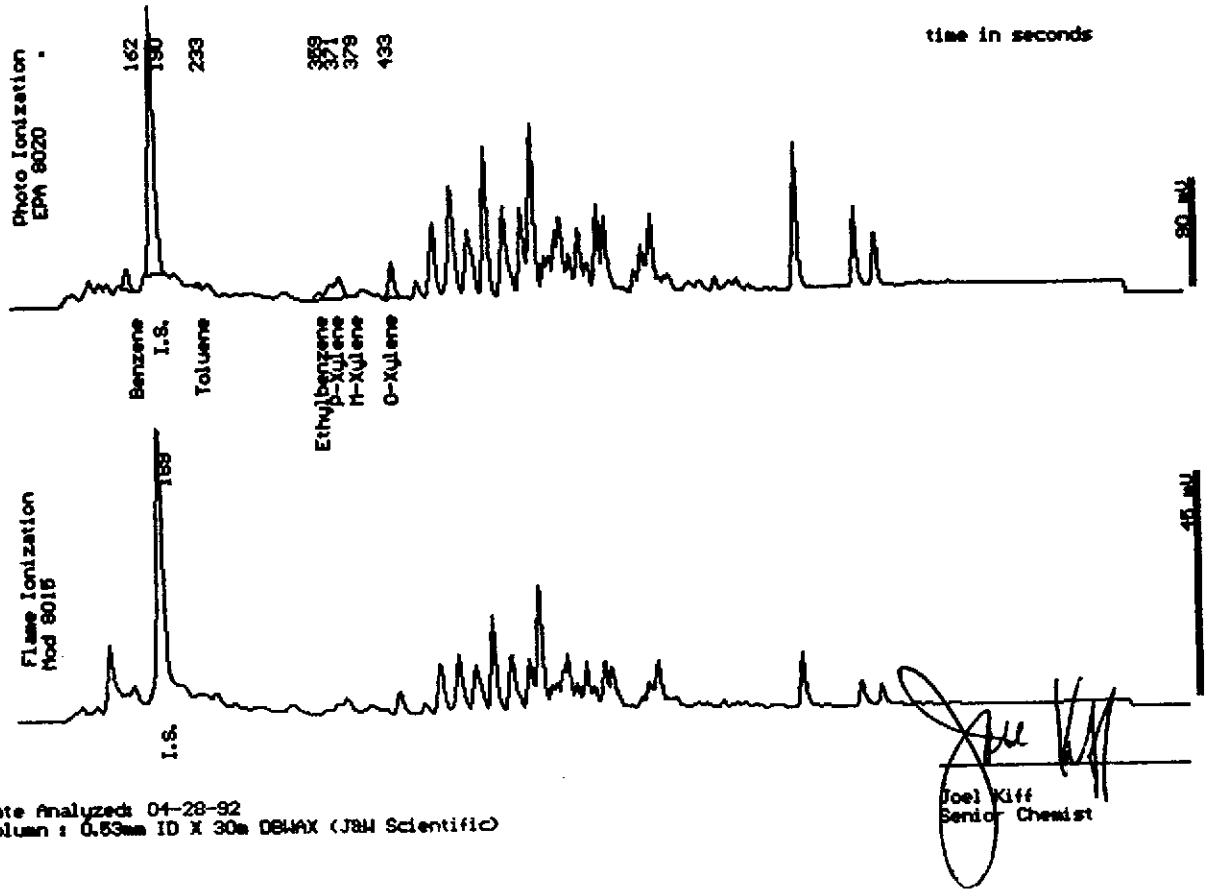
Sample Log 4265

4265-2

Sample: WS-1-DT

From : Project # 339 (Berkeley Farms)
Sampled : 04/15/92
Dilution : 1:1 QC Batch : 4032A
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
Benzene	(.50)	.87
Toluene	(.50)	<.50
Ethylbenzene	(.50)	.55
Total Xylenes	(.50)	4.2
TPH as Gasoline	(50)	180



Date Analyzed: 04-28-92
Column : 0.53mm ID X 30m DBWAX (J&W Scientific)

Joel Kiff
Senior Chemist

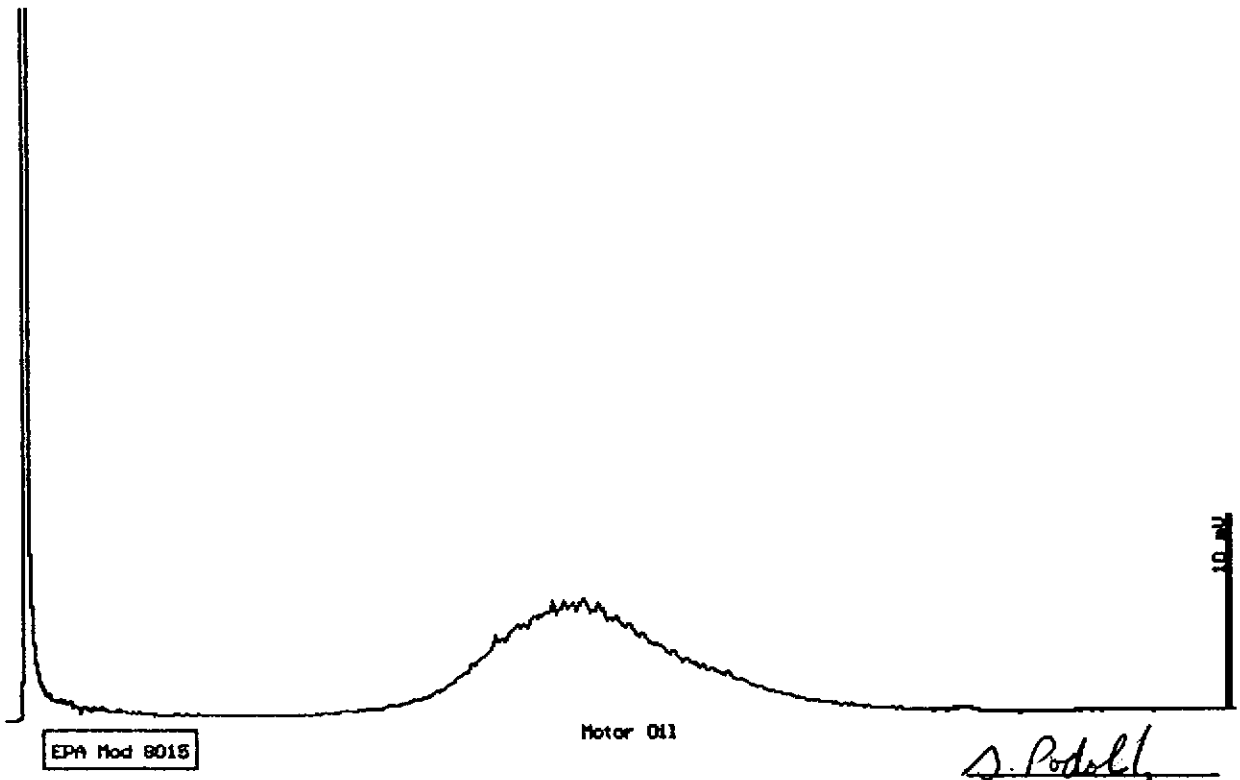
Sample Log 4265

4265-2

Sample: WS-1-DT

From : Project # 339 (Berkeley Farms)
Sampled : 04/15/92
Extracted: 04/22/92
Dilution : 1:6 QC Batch : 7053D
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(300)	<300
TPH as Motor Oil	(300)	5600



Date: 04-25-92 Time: 08:26:35
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

S. Podolsky

Stewart Podolsky
Senior Chemist

WEST
Western Environmental Science & Technology

1046 Olive Drive, Suite 3
Davis, CA 95616

916-753-9500
FAX #: 916-753-6091

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Jeff ALEN

Phone #: 510 (524-7372)

Address: 950 B. Gilman St, BERK

FAX #: 510 (524-7437)

Project Number: #339

Project Name: BERKELEY FARMS

Project Location: 4145 Broadway, OAKland

Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
1BF		1			X	X					X	X		7-9	1330

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals - 3oo-	Waste Extraction Test (WET)	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	✓	✓		✓			✓						X				

OTHER: STLC

SPECIAL HANDLING

RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr) or (1 wk)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS

Relinquished by:	Date	Time	Received by:
	9-C-92	1614	
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:

Remarks:

WEST
Western Environmental Science & Technology

1046 Olive Drive, Suite 3
Davis, CA 95616

916-753-9500
FAX #: 916-753-6091

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: JEFF ALLEN
Phone #: (510) 524-9372

Address: 950 'B' GILLMAN ST, BERKELEY, CA
FAX #: (510) 524-7439

Project Number: KC~~357~~ 339
Project Name: BERKELEY FARMS

Project Location: DOWNTOWN TOYOTA
Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
SS-1A-DT		1			X							X		4/15/92	1020
WS-1-DT		3	1 LITER/VOA	X					X					4/15/92	1120
WS-1-DT		1	1 LITER/VOA	X								X		4/15/92	1200

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015) Stoddard Solvent	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 501/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	Waste Extraction Test (WET)	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	X			X													
	X	X															
				X													

OTHER: MOTOR OIL

SPECIAL HANDLING
- RUSH SERVICE (12 hr) or (24 hr)
- EXPEDITED SERVICE (48 hr) or (1 wk)
- VERBALS/FAX
- SPECIAL DETECTION LIMITS (SPECIFY)
- SPECIAL REPORTING REQUIREMENTS

Relinquished by:	Date	Time	Received by:
[signature]	4-16-92	16:05	
Relinquished by	~~Date~~	~~Time~~	Received by:
Relinquished by	Date	Time	Received by Laboratory: [signature]

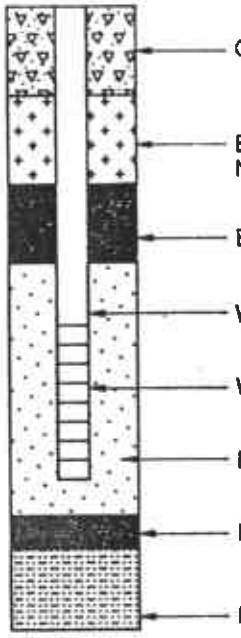
Remarks:
TPH(gas) WAS LAST REPORTED BY WEST AS STODDARD SOLVENT
10 DAY TURNAROUND

Boring Logs are Presented for Boreholes with Soil Samples Collected Only

BURLINGTON ENVIRONMENTAL INC.

EXPLANATION OF SYMBOLS ON EXPLORATORY BORING LOGS

WELL DETAIL COLUMN



CONCRETE

BENTONITE–CEMENT GROUT OR NEAT CEMENT GROUT

BENTONITE

SURFACE SEAL

WELL CASING

WELL SCREEN

FILTER PACK

BENTONITE

NATIVE MATERIAL (SLOUGH)

BOTTOM SEAL

SAMPLE COLUMN

BAG/BULK SAMPLES

FIVE–FOOT SPLIT BARREL SAMPLER (CONTINUOUS SAMPLER)

MODIFIED CALIFORNIA SPLIT SPOON

OTHER SAMPLERS (SEE REMARKS FOR TYPE AND SIZE)

PITCHER BARREL

ROCK CORE (SEE REMARKS FOR TYPE AND SIZE)

SHELBY TUBE SAMPLER

STANDARD PENETRATION TEST SPLIT SPOON SAMPLER (2" OD)

(OVER)

BORING LOG

Project Number: 11385
Downtown Toyota
Oakland, California
Drawing No.: A1138501 Page: 1 of 1

Soil Boring No.: PS01
Total Boring Depth: 13'
By: KSF Date: 2/2/94

Sample No.	Sample Depth (feet)	Stratigraphic Column	Description
	0	CON	CONCRETE, 4" thick
		FILL	FILL, Silty Clay (CL) - black (10YR, 2/1); 95 to 100% low plasticity fines; trace to 5% very fine sand; stiff; moist; no hydrocarbon odor
PS01-04	5		
PS01-09	10		
PW-01 ▽			
	15		BORING TERMINATED AT 13 FEET

David C. Griffith RG#4603, Exp 6/3/94

NOTES: Boring was sampled with 1" outside-diameter galvanized pipe pneumatically advanced to top of soil sample depth. At the specified sample depth a soil core tube was advanced 1 foot into undisturbed soil. The soil sample was removed from the boring. Following soil sampling, if conducted, a perforated galvanized pipe was advanced below the first-encountered water surface. A groundwater sample was collected using a stainless-steel bailer. The boring was then backfilled with cement grout.

Total boring depth measured in feet below ground surface (ft-BGS).

BORING LOG

Project Number: 11385
Downtown Toyota
Oakland, California
Drawing No.: A113851A

Page: 1 of 1

Soil Boring No.: PS01A
Total Boring Depth: 4'
By: KSF Date: 2/2/94

Sample No.	Sample Depth (feet)	Stratigraphic Column	Description
	0	CON	CONCRETE, 4" thick
PS02-04		FILL	FILL, Silty Clay (CL), black (10YR, 2/1); 95 to 100% low plasticity fines; trace to 5% very fine sand; stiff; moist; no hydrocarbon odor.
	5		BORING TERMINATED AT 4 FEET
	10		
	15		

David C. Toth ; RG#4603 ; Exp 6/30/94

NOTES: Boring was sampled with 1" outside-diameter galvanized pipe pneumatically advanced to top of soil sample depth. At the specified sample depth a soil core tube was advanced 1 foot into undisturbed soil. The soil sample was removed from the boring.

Total boring depth measured in feet below ground surface (ft-BGS).

BORING LOG

Project Number: 11385
Downtown Toyota
Oakland, California
Drawing No.: A1138502
Page: 1 of 1

Soil Boring No.: PS02
Total Boring Depth: 15'
By: KSF Date: 2/2/94

Sample No.	Sample Depth (feet)	Stratigraphic Column	Description
	0	CON	CONCRETE, 4" thick
		FILL	FILL, Silty Clay (CL) - black (10YR, 2/1); 95 to 100% low plasticity fines; trace to 5% very fine sand; stiff; moist; no hydrocarbon odor.
PS02-04	5		
PS02-09	10		
PW-02 ▽			
	15		BORING TERMINATED AT 15 FEET

David C. Griffith; RG#4603; Exp. 6/30/97

NOTES: Boring was sampled with 1" outside-diameter galvanized pipe pneumatically advanced to top of soil sample depth. At the specified sample depth a soil core tube was advanced 1 foot into undisturbed soil. The soil sample was removed from the boring. Following soil sampling, if conducted, a perforated galvanized pipe was advanced below the first-encountered water surface. A groundwater sample was collected using a stainless-steel bailer. The boring was then backfilled with cement grout.

Total boring depth measured in feet below ground surface (ft-BGS).

BORING LOG

Project Number: 11385
Downtown Toyota
Oakland, California
Drawing No.: A1138503 Page: 1 of 1

Soil Boring No.: PS03
Total Boring Depth: 13'
By: KSF Date: 2/2/94

Sample No.	Sample Depth (feet)	Stratigraphic Column	Description
	0	CON	CONCRETE, 4" thick
		FILL	FILL, Silty Clay (CL) - black (10YR, 2/1); 95 to 100% low plasticity fines; trace to 5% very fine sand; stiff; moist; no hydrocarbon odor.
PS03-04	5		
PS03-09	10		@ 9 ft: Mottled dark yellowish brown (10YR, 3/4); and very dark brown (10YR, 2/2); 90 to 95% low plasticity fines; 5 to 10% very fine gravel; no hydrocarbon odor.
PW-03 ▽			
			BORING TERMINATED AT 13 FEET
	15		

David C. Toth, RG #4603, Exp. 6/3/94

NOTES: Boring was sampled with 1" outside-diameter galvanized pipe pneumatically advanced to top of soil sample depth. At the specified sample depth a soil core tube was advanced 1 foot into undisturbed soil. The soil sample was removed from the boring. Following soil sampling, if conducted, a perforated galvanized pipe was advanced below the first-encountered water surface. A groundwater sample was collected using a stainless-steel bailer. The boring was then backfilled with cement grout.

Total boring depth measured in feet below ground surface (ft-BGS).

BORING LOG

Project Number: 11385
Downtown Toyota
Oakland, California
Drawing No.: A1138504

Page: 1 of 1

Soil Boring No.: PS04
Total Boring Depth: 10.5'
By: KSF Date: 2/2/94

Sample No.	Sample Depth (feet)	Stratigraphic Column	Description
	0	CON	CONCRETE, 6" thick.
		FILL	FILL
		CON	CONCRETE, 6" thick.
		FILL	FILL, Silty Clay (CL) - black (10YR, 2/1); 95 to 100% low plasticity fines; trace to 5% very fine sand; stiff; moist; no hydrocarbon odor.
PS04-04	5		
PS04-09	10		@ 9 ft: Silty Sand (SM) - grayish green (5G, 4/2); 60 to 70% very fine sand; 30 to 40% low plasticity fines; trace fine gravel; hard; moist; no hydrocarbon odor.
			BORING TERMINATED AT 10.5 FEET
	15		

David C. Toto; RG# 4603; Exp 6/30/94

NOTES: Boring was sampled with 1" outside-diameter galvanized pipe pneumatically advanced to top of soil sample depth. At the specified sample depth a soil core tube was advanced 1 foot into undisturbed soil. The soil sample was removed from the boring.

Total boring depth measured in feet below ground surface (ft-BGS).

APPENDIX C

Groundwater Sampling and Analysis Procedures

APPENDIX C

Groundwater Sampling and Analysis Procedures

INTRODUCTION

The sampling and analysis procedures for water-quality monitoring programs are contained in this Appendix. These procedures will ensure that consistent and reproducible sampling methods were used, proper analytical methods were applied, analytical results were accurate, precise, and complete, and the overall objectives of the monitoring program were achieved.

SAMPLE COLLECTION

Sample collection procedures include: equipment cleaning, and borehole sampling.

Equipment Cleaning

Pre-cleaned sample bottles, caps, and septa were provided by a California Department of Health Services (DHS)-approved laboratory. All sampling containers were used only once and discarded after analyses were completed.

Before starting the sampling event and between each event, all equipment to be placed in the well or come in contact with groundwater was disassembled and cleaned thoroughly with detergent water, steam cleaned with tap water, and rinsed with deionized water.

Groundwater Sampling

Groundwater samples were collected with a pneumatic sampling system to evaluate the geochemistry of the groundwater beneath the borehole location. Following the collection of soil samples, if collected, a perforated pipe was placed on the bottom of the rods and advanced below the groundwater surface. The groundwater was sampled by lowering decontaminated stainless steel bailers down the galvanized steel probe pipes below the

groundwater surface. The stainless steel bailer was brought to the surface and the fluids collected were decanted into the proper sample containers which were provided by the laboratory, as outlined below.

Glass bottles of at least 40 milliliters volume and fitted with Teflon-lined septa were used in sampling for volatile organic compounds. These bottles were filled completely to prevent air from remaining in the bottle. A positive meniscus forms when the bottles are completely full. A convex Teflon septum was placed over the meniscus to eliminate air. After capping, the bottles were inverted and tapped to verify that they did not contain air bubbles. Other containers with varying volumes were used for the additional analytes in accordance with laboratory standards.

SAMPLE HANDLING AND DOCUMENTATION

The following section specifies the procedures and documentation used during sample handling.

Sample Handling

All sample containers were labeled immediately following sample collection. Samples were kept cool with ice until received by the laboratory. At the time of sampling, each sample was logged on a Chain-of-Custody record which accompanied the sample to the DHS-approved laboratory.

Sample Documentation

The following procedures were used during sampling and analysis to provide Chain-Of-Custody control:

* Field logbooks to document sampling activities in the field
* Labels to identify individual samples
* Chain-of-custody record sheets for documenting possession and transfer of samples

Field Logbook

In the field, the sampler recorded the following information on the Water Sample Field Data Sheet for each sample collected:

* Project number
* Client name
* Location
* Name of sampler
* Date and time
* Purging equipment used
* Sampling equipment used
* Appearance of each sample (e.g., color, turbidity, sediment)
* General comments

The field logbooks were signed by the sampler.

Labels

Sample labels contain the following information:

* Project number
* Sample number (i.e., well designation)
* Sampler's initials
* Date and time of collection
* Type of preservative used (if any)

Sampling and Analysis Chain-of-Custody Record

The Sampling and Analysis Chain-of-Custody record, initiated at the time of sampling, contains, but is not limited to, the well designation, sample type, analytical request, date of

sampling, and the name of the sampler. The record sheet was signed, and dated by the sampler when transferring the samples. The number of custodians in the chain of possession were kept to a minimum.

APPENDIX D

Certified Analytical Results and Chain-of-Custody Forms

February 17, 1994
Sample Log 8544

Kyle Flory
Burlington Environmental Inc.
5901 Cristie Street, Ste. 501
Emeryville, CA 94608

Subject: Analytical Results for 8 Water Samples and 5 Soil Samples
Identified as: Project # 11385 (Downtown Toyota)
Received: 02/03/94
Purchase Order: 42564

Dear Mr. Flory:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on February 17, 1994 and describes procedures used to analyze the samples.

The sample(s) were received in:

40-ml glass vials sealed with TFE-lined septae
1-L glass bottles sealed with TFE-lined caps
Stainless steel sleeves sealed with PTFE sheets & endcaps

Each sample was transported and received under documented chain of custody, assigned a consecutive log number and stored at 4 degrees Celsius until analysis commenced.

Sample(s) were analyzed using the following method(s):

"BTEX" (EPA Method 8020/Purge-and-Trap)
"BTEX" (EPA Method 602/Purge-and-Trap)
"TPH as Gasoline" (Modified EPA Method 8015/Purge-and-Trap)
"TPH as Diesel,Motor Oil,Jet/Kerosene" (Mod. 8015/Extraction)
"Total Recoverable Petroleum Hydrocarbons" (EPA 418.1)

Please refer to the following table(s) for summarized analytical results and contact us at 916-753-9500 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Joel Kiff
Senior Chemist

February 10, 1994
Sample Log 8544

Total Recoverable Petroleum Hydrocarbons (EPA 418.1)
From : Project # 11385 (Downtown Toyota)
Received : 02/03/94
Matrix : Soil

--all concentations are units of mg/kg--

	Date				(EPA 418.1)
Sample	Sample	Extract	Analyzed	RDL	TRPH
PS03-04	02/02/94	02/07/94	02/09/94	(30)	<30
PS02-04	02/02/94	02/07/94	02/09/94	(30)	<30
PS04-04	02/02/94	02/07/94	02/09/94	(30)	<30
PS01-04	02/02/94	02/07/94	02/09/94	(30)	<30

QC Batch: JS940201
QC Batch: JW940202

Joel Kiff
Senior Chemist

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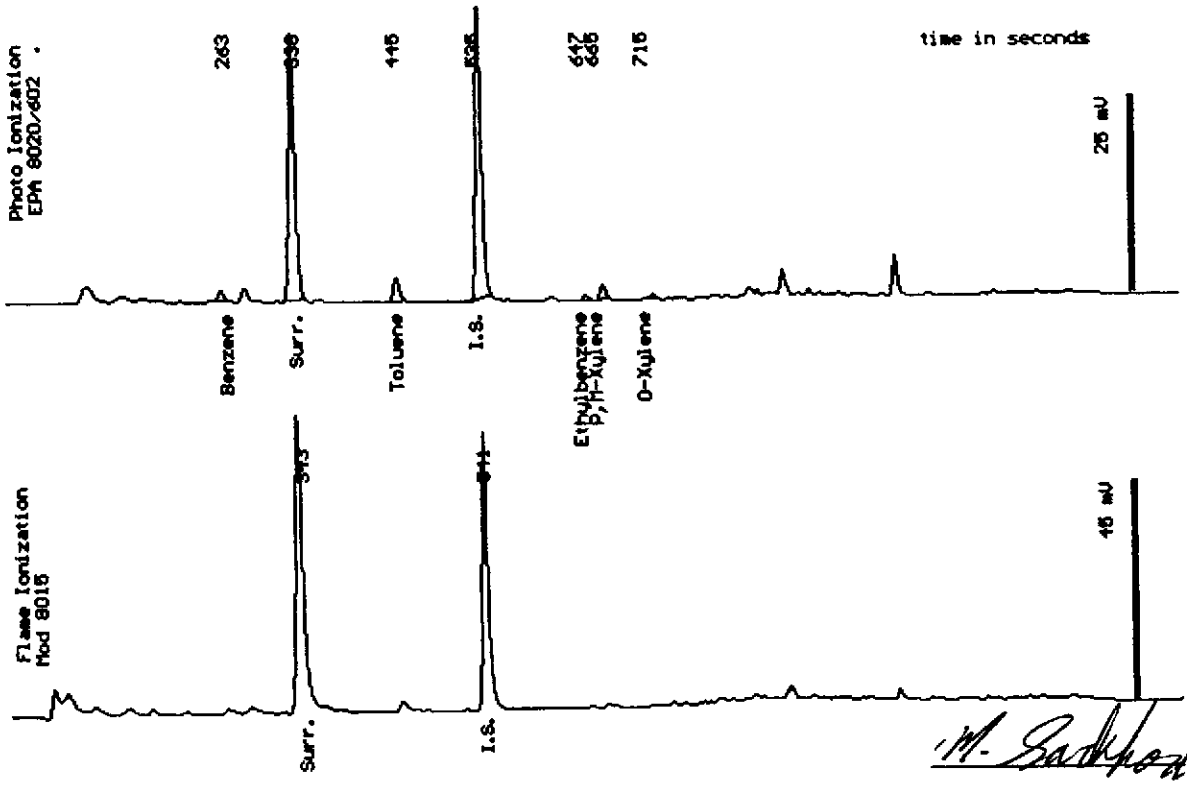
Sample Log 8544
8544-4

Sample: PSO1-04

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 6085a
Matrix : Soil

Parameter	(MRL) ug/kg	Measured Value ug/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		97 %



Date Analyzed: 02-09-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

M. Sarkhosh

Mitra Sarkhosh
Senior Chemist

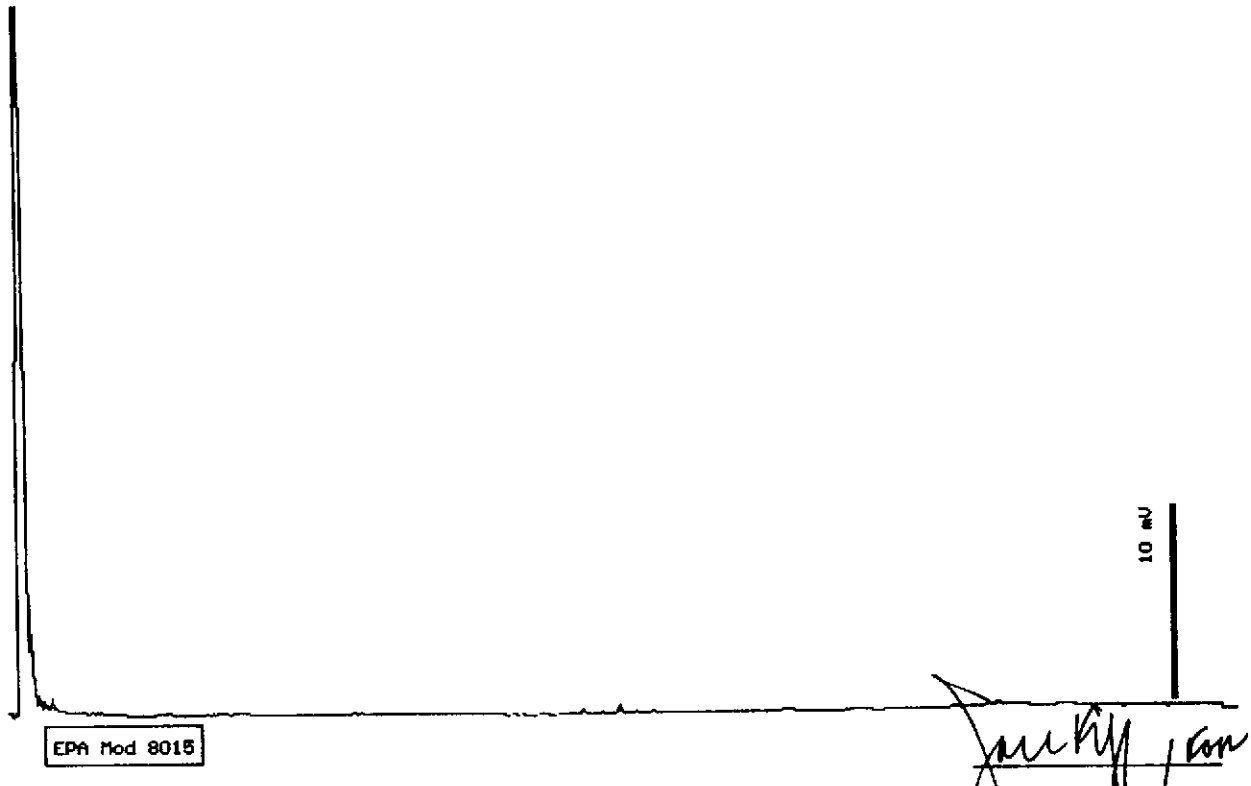
Sample Log 8544

8544-4

Sample: **PSO1-04**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/04/94 QC Batch : DS940203
Dilution : 1:1 Run Log : 8147H
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



Date: 02-05-94 Time: 02:58:35
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

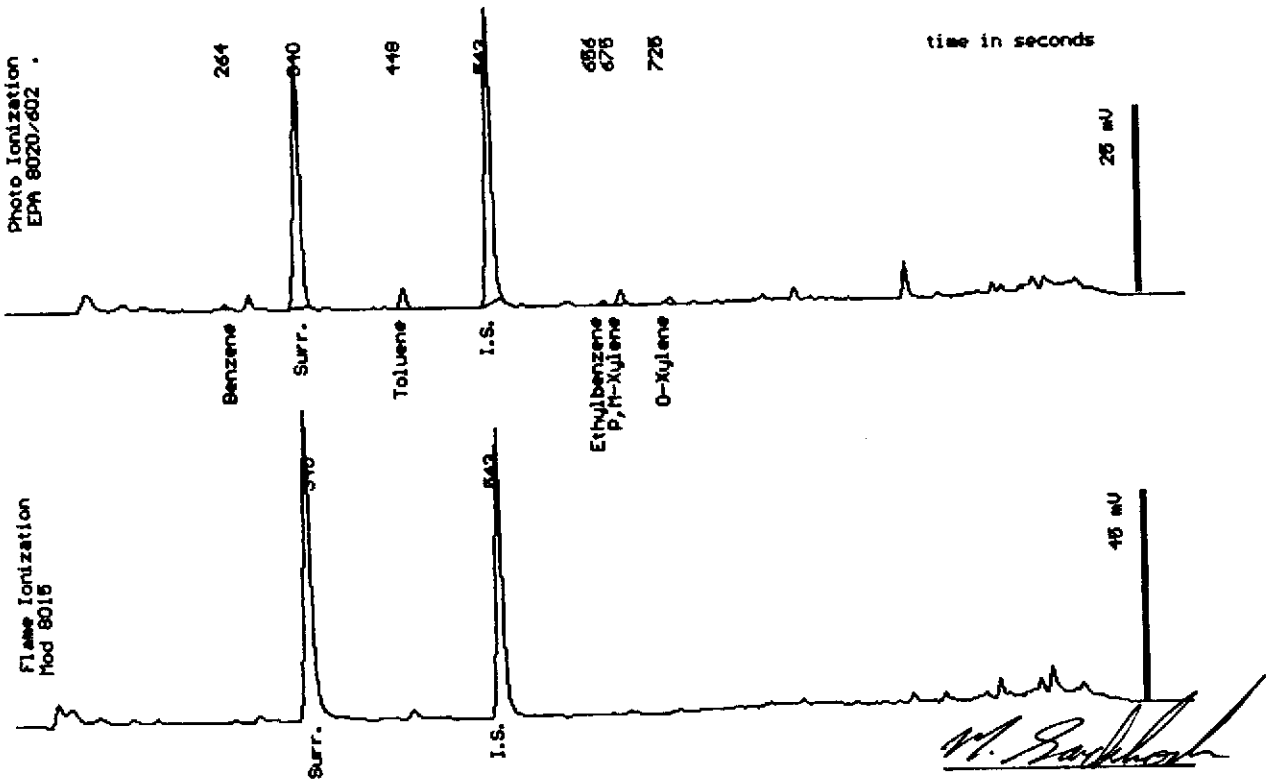
Sample Log 8544

8544-2

Sample: PSO2-04

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 6085a
Matrix : Soil

Parameter	(MRL) ug/kg	Measured Value ug/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		99 %



Date Analyzed: 02-09-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

Sample Log 8544

8544-2

Sample: **PSO2-04**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/04/94 QC Batch : DS940203
Dilution : 1:1 Run Log : 8147H
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10

Date: 02-05-94 Time: 01:51:22
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

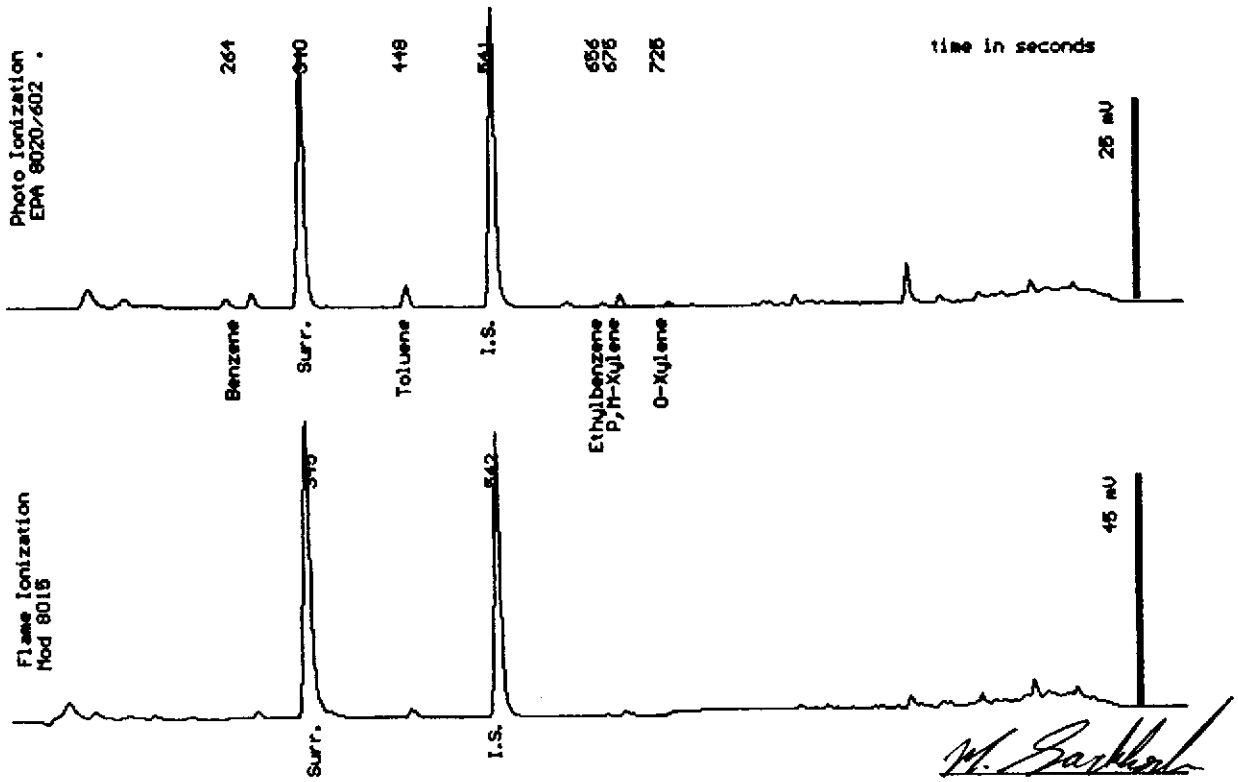
Sample Log 8544

8544-1

Sample: PSO3-04

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 6085a
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	<.0050
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	<.0050
TPH as Gasoline	(.50)	<.50
Surrogate Recovery		94 %



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Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

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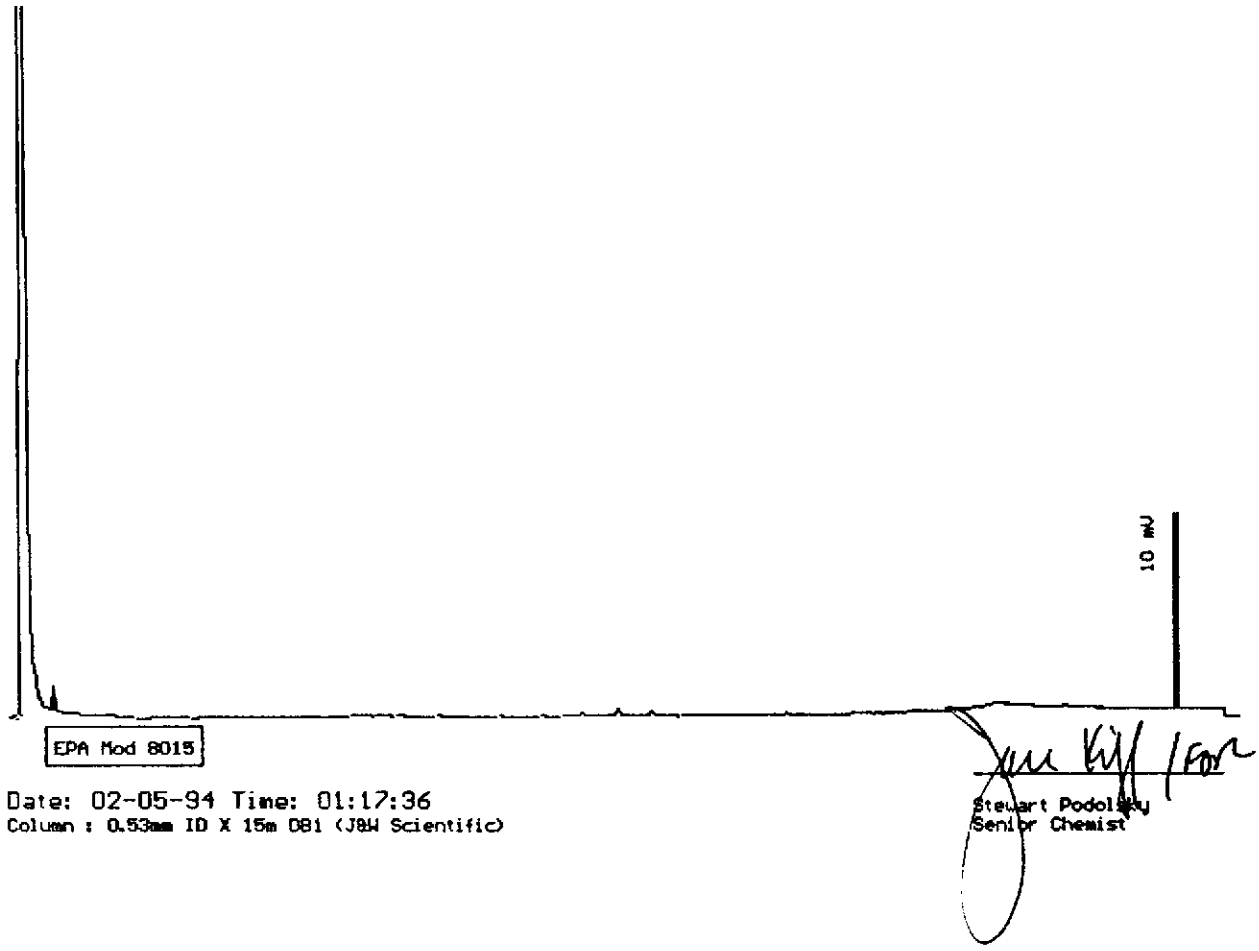
Sample Log 8544

8544-1

Sample: PSO3-04

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/04/94 QC Batch : DS940203
Dilution : 1:1 Run Log : 8147H
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



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Stewart Podolsky
Senior Chemist

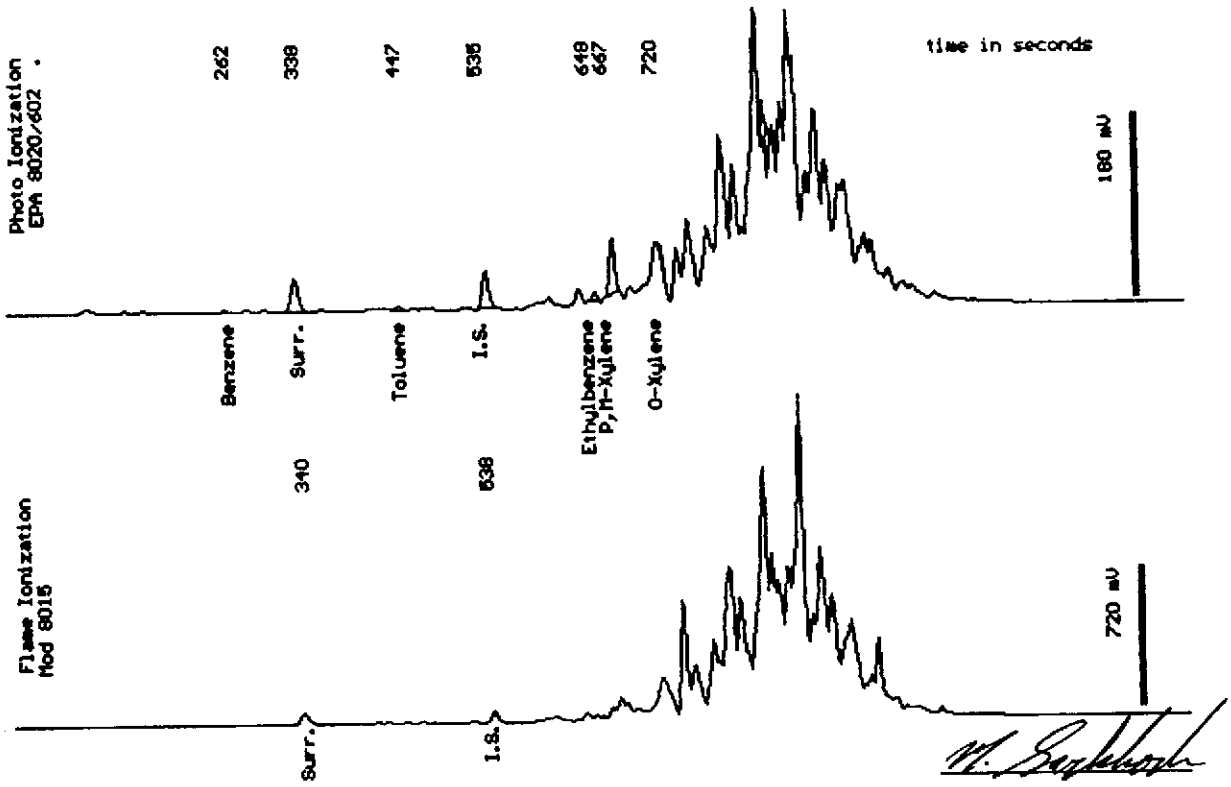
Sample Log 8544
8544-3

Sample: PSO4-04

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 6085a
Matrix : Soil

Parameter	(MRL) mg/kg	Measured Value mg/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	.0065
Ethylbenzene	(.0050)	.015
Total Xylenes	(.0050)	.14
TPH as Gasoline	(.50)	32 *
Surrogate Recovery		101 %

* Product is not typical gasoline.



Date Analyzed: 02-09-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

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Senior Chemist

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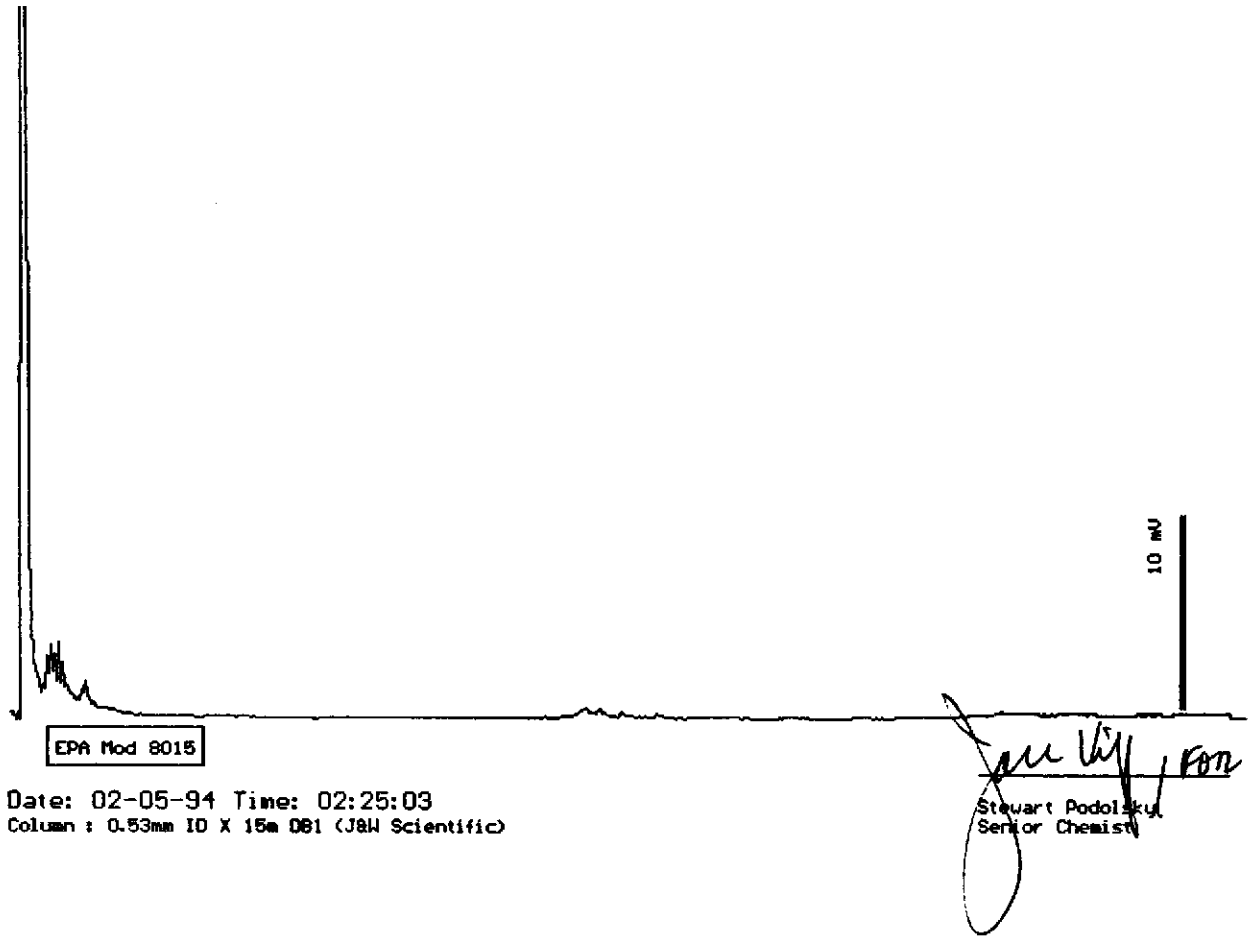
Sample Log 8544

8544-3

Sample: PSO4-04

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/04/94 QC Batch : DS940203
Dilution : 1:1 Run Log : 8147H
Matrix : Soil

Parameter	(MDL) mg/kg	Measured Value mg/kg
TPH as Diesel	(10)	<10
TPH as Motor Oil	(10)	<10



Date: 02-05-94 Time: 02:25:03
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

Sample Log 8544

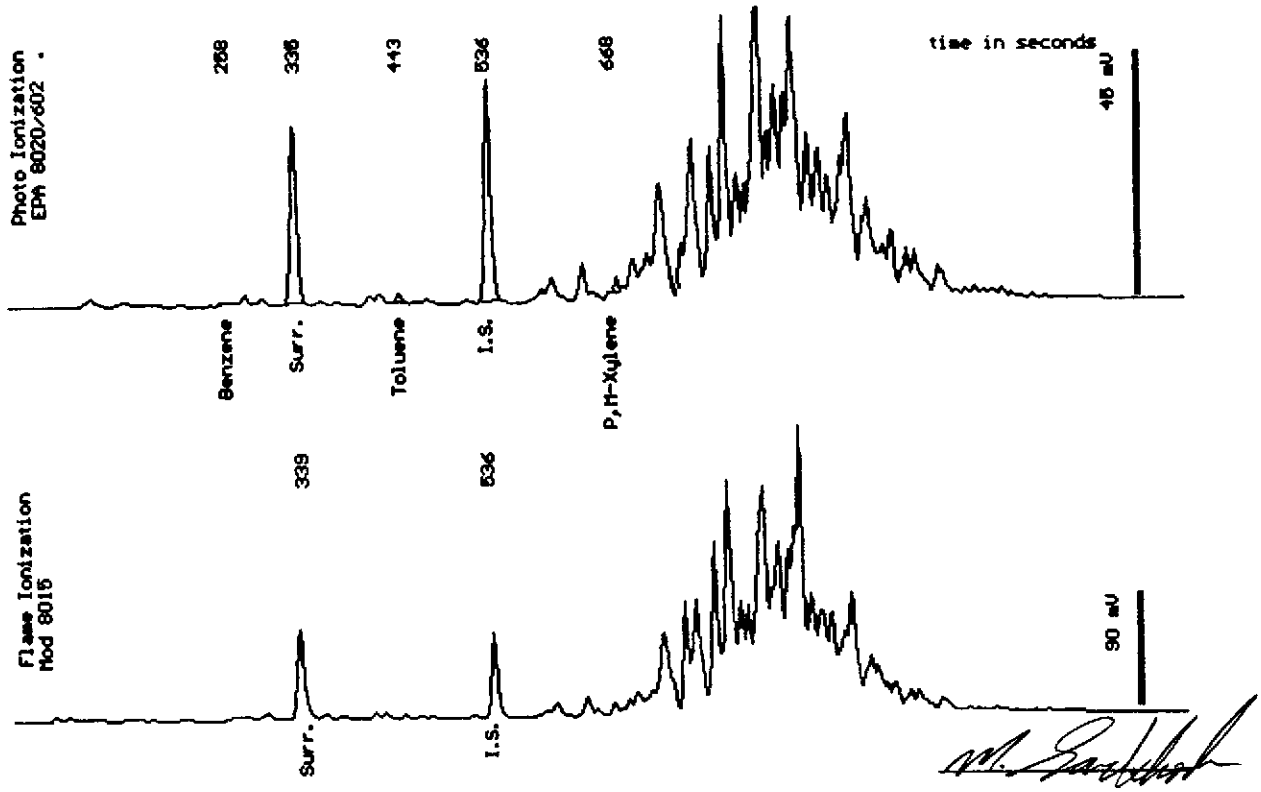
8544-15

Sample: PS04-09

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 6086f
Matrix : Soil

Parameter	(MRL) ug/kg	Measured Value ug/kg
Benzene	(.0050)	<.0050
Toluene	(.0050)	.0074
Ethylbenzene	(.0050)	<.0050
Total Xylenes	(.0050)	.0096
TPH as Gasoline	(.50)	11 *
Surrogate Recovery		94 %

* Product is not typical gasoline.



Date Analyzed: 02-16-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

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WEST
Western Environmental Science & Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
916-753-9500
FAX #: 916-753-6091
LAB#: 916-757-4650

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Kyle Flory
Phone #: 510-420-7910
Company/Address: Burlington Environ.
FAX #: 510-658-7990
5900 Christie Ave, Ste 501 Emeryville, CA
Project Number: 11385
P.O.#: 42564
Project Name: Downtown Toyota
Project Location: 4145 Broadway Oakland, CA
Sampler Signature:

ANALYSIS REQUEST

TAT: RUSH SERVICE (12 hr) or (24 hr) / EXPEDITED SERVICE (48 hr) or (1 wk) / STANDARD SERVICE (2 wk) 1 WK

Sample ID	Sampling DATE 1994	Sampling TIME	Container VOA	Container SLEEVE	Container 1L GLASS	Container 1L PLASTIC	Method Preserved HCl	Method Preserved HNO_3	Method Preserved ICE	Method Preserved NONE	Matrix WATER	Matrix SOIL	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni	W.E.T. (✓)	TOTAL (✓)	TPHg / BTEX	TPH as Diesel, M.O.	TOG EPA 413.2	HOLD
PS03-01	2-2	0905					X			X			X																					X	X	X	X	
PS03-09	2-2	0920					X			X			X																					X	X	X		
PS02-01	2-2	0940					X			X			X																					X	X	X	X	
PS02-09	2-2	0947					X			X			X																					X	X	X		
PS04-01	2-2	1048					X			X			X																					X	X	X	X	
PS04-09	2-2	1100					X			X			X																					X	X	X		
PS01-01	2-2	1155					X			X			X																					X	X	X	X	
PS01-09	2-2	1210					X			X			X																					X	X	X		
PW02-020294	2-2	1015	X		X		X		X	X	X																							X	X	X		
PW03-020294	2-2	1020	X		X		X		X	X	X																							X	X	X		
PW05-02-0294	2-2	1045	X		X		X		X	X	X																							X	X	X	X	

Relinquished by: Kyle Flory — Date/Time: 2/3/94 1116 — Received by:
Relinquished by: — Date/Time: — Received by:
Relinquished by: — Date/Time: 2/3/94 1257 — Received by Laboratory: WEST

Remarks: SEE JEFF WIESER FOR BILLING RATES

RECEIVED by W.E.S.T. date 2/3/94

Bill To:

WEST Western Environmental Science & Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
916-753-9500
FAX #: 916-753-6091
LAB#: 916-757-4650

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Kyle Flory
Phone #: 510-420-7910
Company/Address: Burlington Environ. FAX #: 510-658-7990
5901 Christie Ave Ste 501 Emeryville, CA
Project Number: 11385
P.O.#: 42564
Project Name: Downtown Toyota
Project Location: 4145 Broadway Oakland, CA
Sampler Signature: [signature]

Sample ID	Sampling DATE 1994	Sampling TIME	Container: VOA	SLEEVE	1L GLASS	1L PLASTIC	Method Preserved: HCl	HNO_3	ICE	NONE	Matrix: WATER	SOIL
PW01-020294	2-2	1230	X		X		X		X	X	X	
PW06-020294	2-2	1430	X		X		X		X	X	X	
PW07-020294	2-2	1515	X		X		X		X	X	X	
PW08-020294	2-2	1610	X		X		X		X	X	X	
PW09-020294	2-2	1700	X		X		X		X	X	X	
PW12-020294	2-2	1715	X		X		X		X	X	X	
PS01A-04	2-2	1040				X			X			X

ANALYSIS REQUEST

Printed analysis columns with no entries: BTEX (602/8020); BTEX/TPH as Gasoline (602/8020/8015); TPH as Diesel/Oil (8015); Total Oil & Grease (5520 B/E,F); Total Oil & Grease IR (5520 B/E,F,C); 96-Hour Fish Bioassay; EPA 601/8010; EPA 602/8020; EPA 615/8150; EPA 608/8080 - Pesticides; EPA 608/8080-PCBs; EPA 624/8240; EPA 625/8270; ORGANIC LEAD; Reactivity, Corrosivity, Ignitibility; CAM - 17 Metals; EPA - Priority Pollutant Metals; LEAD (7420/7421/239.2); Cd, Cr, Pb, Zn, Ni; W.E.T. (✓); TOTAL (✓)

Sample ID	TPH/BTEX	TPH as DIESEL, M.O.	TOG EPA 413.2	HOLD	TAT: RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr) or (1 wk)	STANDARD SERVICE (1 WK)
PW01-020294	X	X	X				X
PW06-020294	X	X	X				X
PW07-020294	X	X	X				X
PW08-020294	X	X	X				X
PW09-020294	X	X	X				X
PW12-020294	X	X	X				X
PS01A-04	X	X	X	X			X

Relinquished by:	Date	Time	Received by:
[signature]	2/3/94	1116	[signature]
Relinquished by [signature]	Date	Time	Received by:
Relinquished by [signature]	2/3/94	1253	Received by Laboratory: [signature] WEST

Remarks: SEE JEFF WIESER FOR BILLING

RECEIVED by W.E.S.T. date 2/3/94

Bill To:

February 17, 1994
Sample Log 8544

Kyle Flory
Burlington Environmental Inc.
5901 Cristie Street, Ste. 501
Emeryville, CA 94608

Subject: Analytical Results for 8 Water Samples and 5 Soil Samples
Identified as: Project # 11385 (Downtown Toyota)
Received: 02/03/94
Purchase Order: 42564

Dear Mr. Flory:

Analysis of the sample(s) referenced above has been completed. This report is written to confirm results communicated on February 17, 1994 and describes procedures used to analyze the samples.

The sample(s) were received in:

40-ml glass vials sealed with TFE-lined septae
1-L glass bottles sealed with TFE-lined caps
Stainless steel sleeves sealed with PTFE sheets & endcaps

Each sample was transported and received under documented chain of custody, assigned a consecutive log number and stored at 4 degrees Celsius until analysis commenced.

Sample(s) were analyzed using the following method(s):

"BTEX" (EPA Method 8020/Purge-and-Trap)
"BTEX" (EPA Method 602/Purge-and-Trap)
"TPH as Gasoline" (Modified EPA Method 8015/Purge-and-Trap)
"TPH as Diesel,Motor Oil,Jet/Kerosene" (Mod. 8015/Extraction)
"Total Recoverable Petroleum Hydrocarbons" (EPA 418.1)

Please refer to the following table(s) for summarized analytical results and contact us at 916-753-9500 if you have questions regarding procedures or results. The chain-of-custody document is enclosed.

Approved by:

Joel Kiff
Senior Chemist

February 10, 1994
Sample Log 8544

Total Recoverable Petroleum Hydrocarbons (EPA 418.1)
From : Project # 11385 (Downtown Toyota)
Received : 02/03/94
Matrix : Liquid

--all concentrations are units of ug/l--

Sample	Date Sample	Date Extract	Date Analyzed	RDL	(EPA 418.1) TRPH
PW02-020294	02/02/94	02/08/94	02/09/94	(1000)	<1000
PW03-020294	02/02/94	02/08/94	02/09/94	(1000)	<1000
PW01-020294	02/02/94	02/08/94	02/09/94	(1000)	<1000
PW06-020294	02/02/94	02/08/94	02/09/94	(1000)	<1000
PW07-020294	02/02/94	02/08/94	02/09/94	(1000)	2900
PW08-020294	02/02/94	02/08/94	02/09/94	(1000)	520000
PW09-020294	02/02/94	02/08/94	02/09/94	(1000)	<1000
PW12-020294	02/02/94	02/08/94	02/09/94	(1000)	<1000

QC Batch: JS940201
QC Batch: JW940202

Joel Kiff
Senior Chemist

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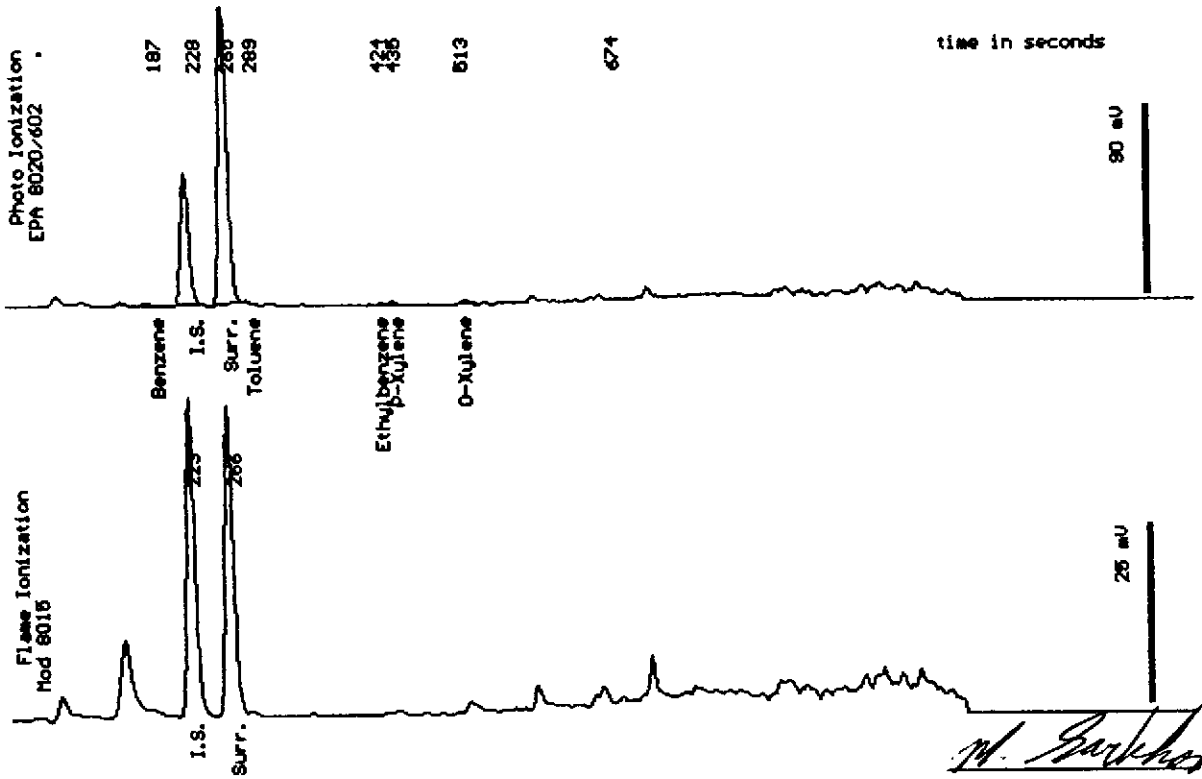
Sample Log 8544
8544-7

Sample: PWO1-020294

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 2051c
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	1.0
TPH as Gasoline	(50)	65
Surrogate Recovery		104 %



Date Analyzed: 02-10-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

Sample Log 8544

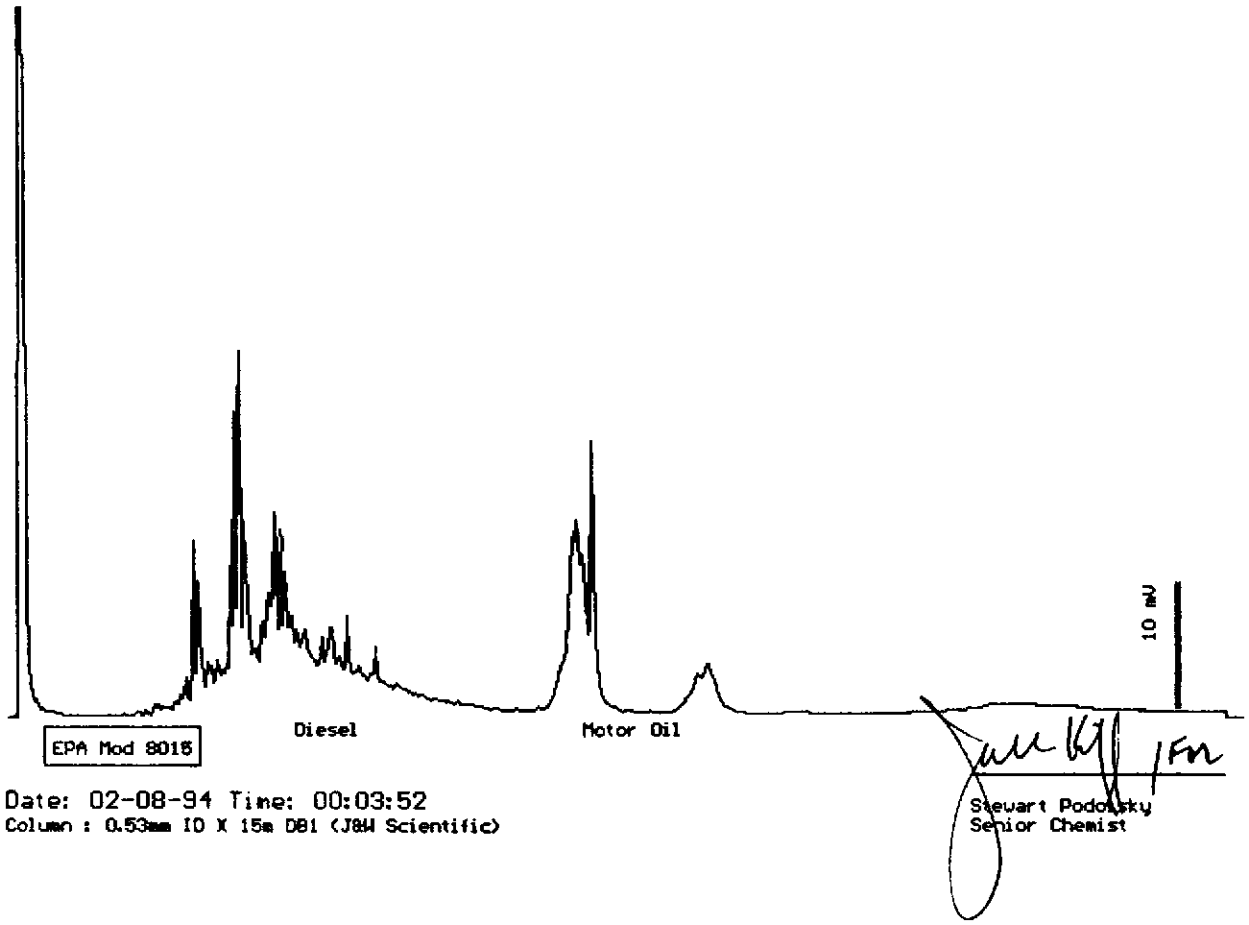
8544-7

Sample: **PWO1-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/07/94 QC Batch : DW940202
Dilution : 1:1 Run Log : 8148C
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	500
TPH as Motor Oil	(100)	180 *

* Oil range product similar to synthetic motor oil.



Date: 02-08-94 Time: 00:03:52
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

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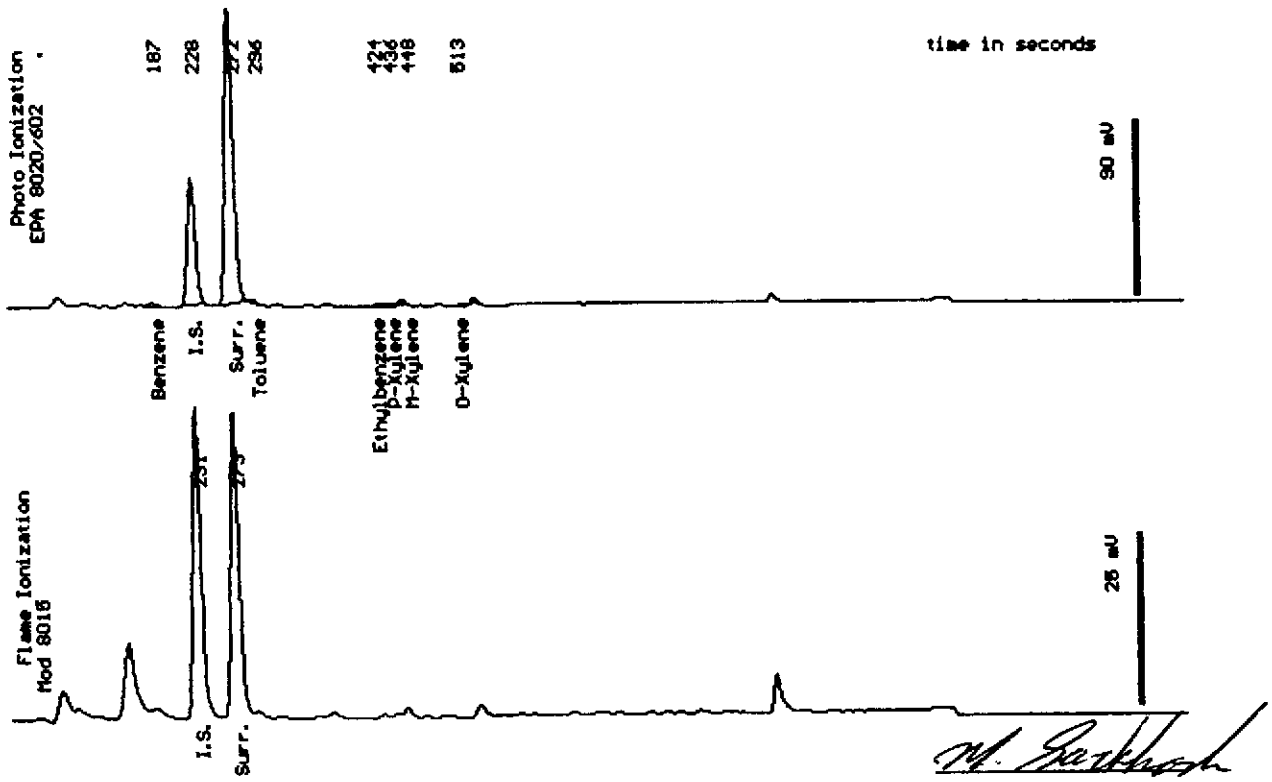
Sample Log 8544

8544-5

Sample: **PW02-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 2051c
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	.37
Ethylbenzene	(.30)	.30
Total Xylenes	(.50)	1.2
TPH as Gasoline	(50)	<50
Surrogate Recovery		107 %



Date Analyzed: 02-10-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

M. Sarkhosh

Mitra Sarkhosh
Senior Chemist

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Sample Log 8544

8544-5

Sample: **PW02-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/07/94 QC Batch : DW940202
Dilution : 1:1 Run Log : 8148C
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	<50
TPH as Motor Oil	(100)	<100

Date: 02-07-94 Time: 22:53:42
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

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Sample Log 8544

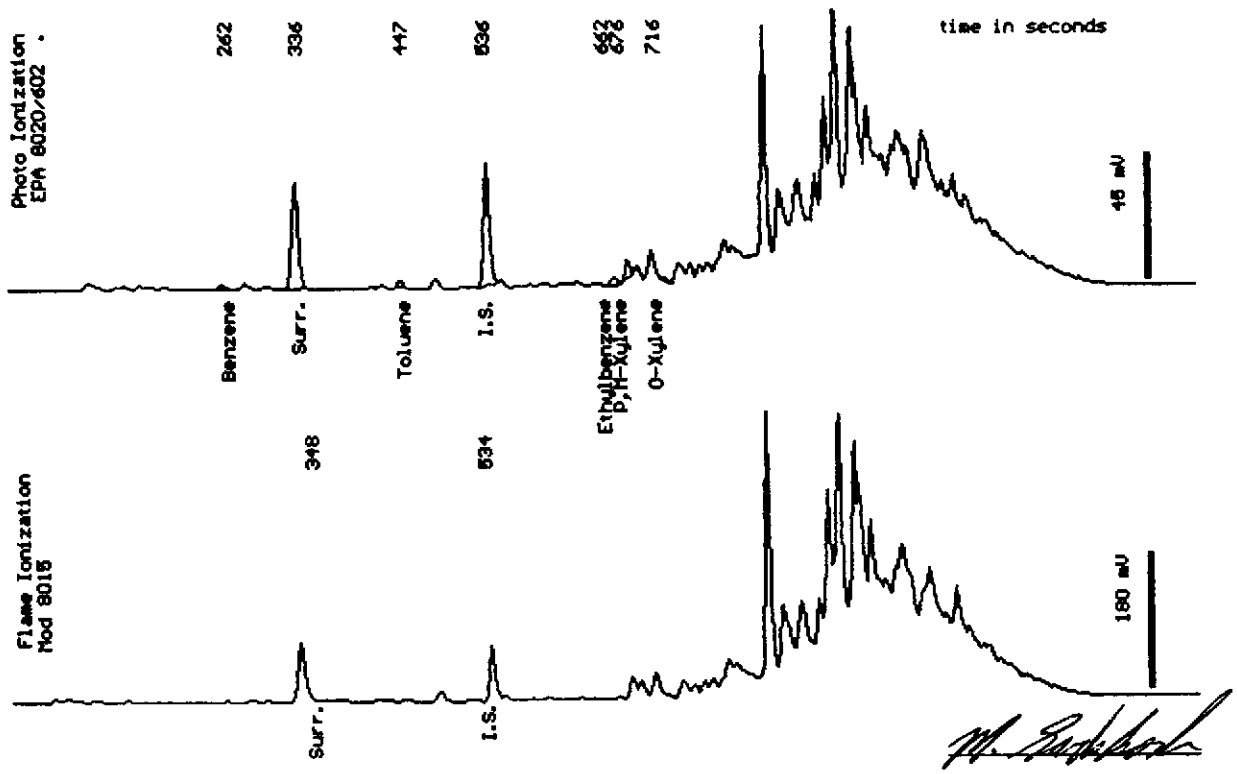
8544-6

Sample: **PW03-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 6085b
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	.57
Toluene	(.30)	.89
Ethylbenzene	(.30)	1.4
Total Xylenes	(.50)	3.0
TPH as Gasoline	(50)	2400 *
Surrogate Recovery		106 %

* Product is not typical gasoline.



Date Analyzed: 02-10-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

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Sample Log 8544

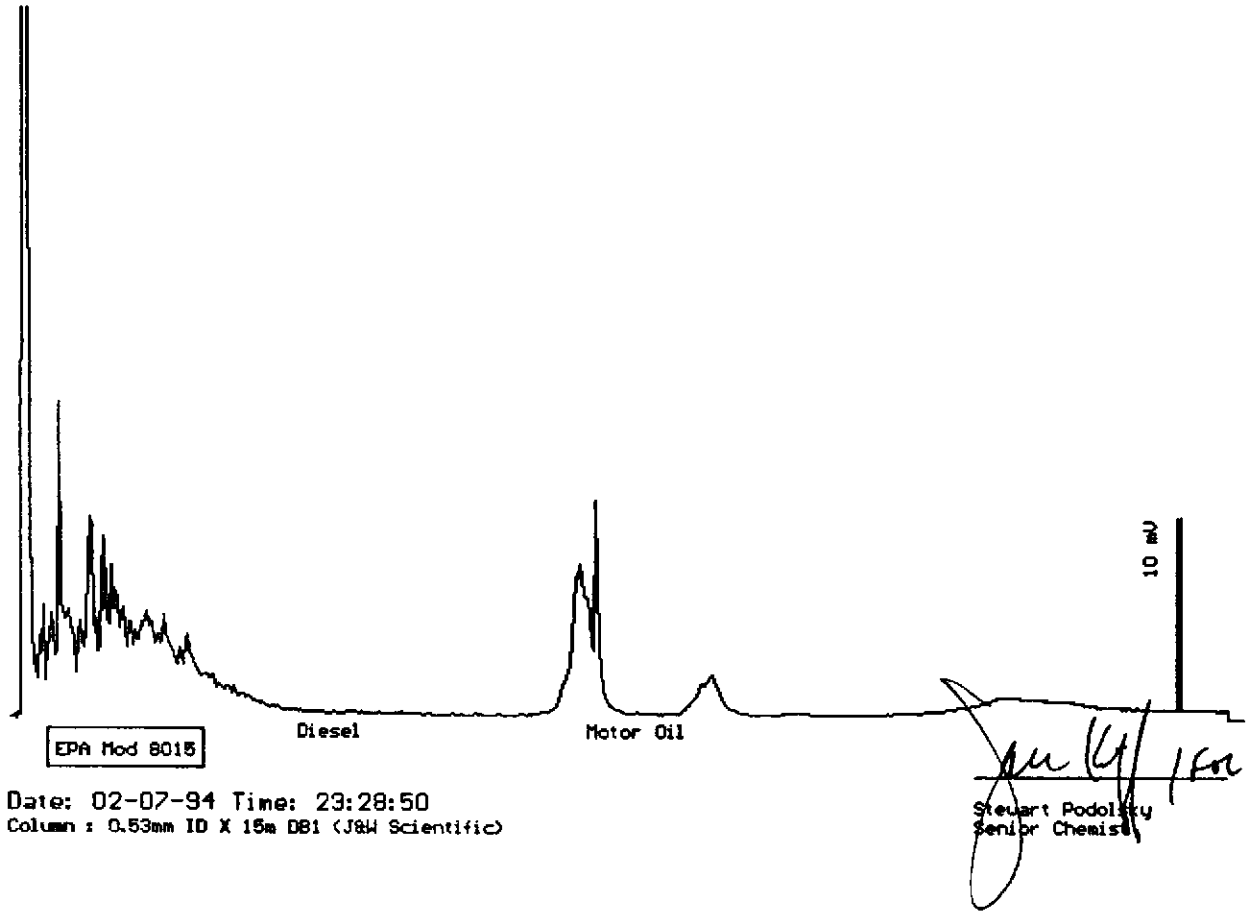
8544-6

Sample: **PW03-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/07/94 QC Batch : DW940202
Dilution : 1:1 Run Log : 8148C
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	250 *
TPH as Motor Oil	(100)	110 **

* Not typical diesel.
** Oil range product similar to synthetic motor oil.



Date: 02-07-94 Time: 23:28:50
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Steuart Podolsky
Senior Chemist

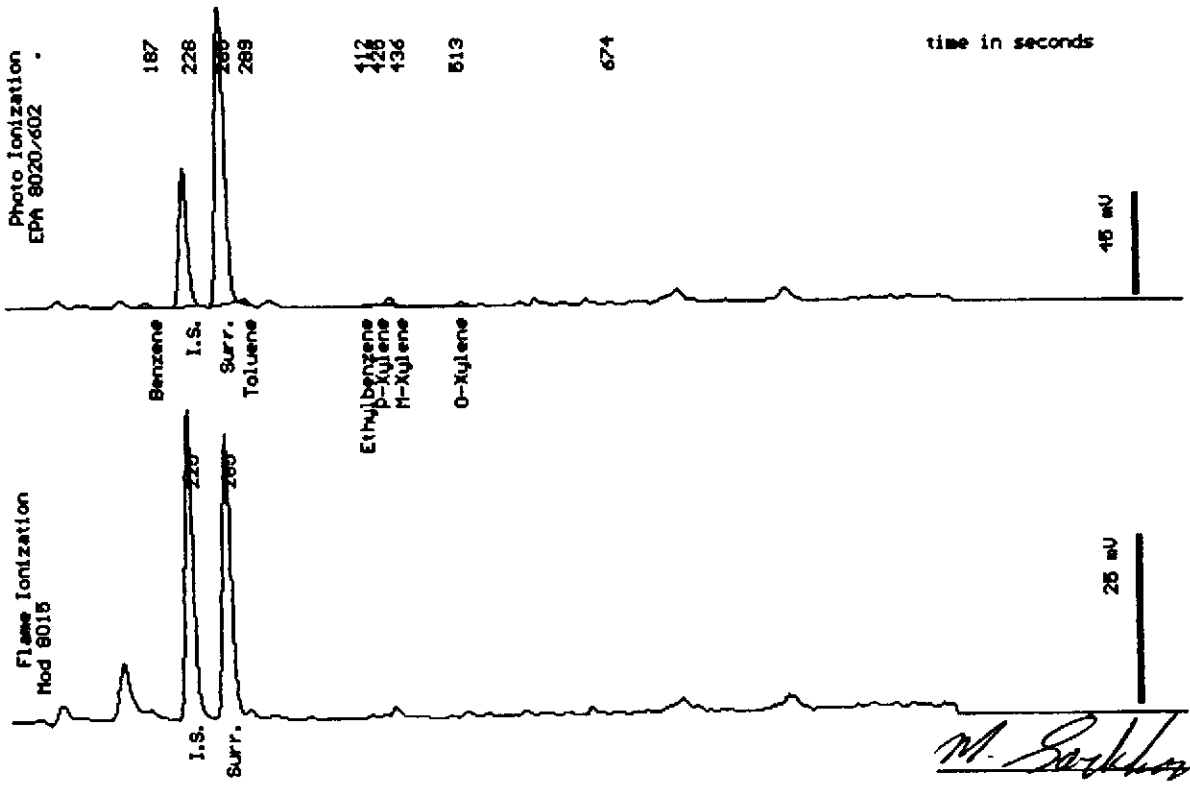
Sample Log 8544

8544-8

Sample: PWO6-020294

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 2051c
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	.49
Toluene	(.30)	.57
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	1.5
TPH as Gasoline	(50)	<50
Surrogate Recovery		100 %



Date Analyzed: 02-10-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

M. Sarkhosh

Mitra Sarkhosh
Senior Chemist

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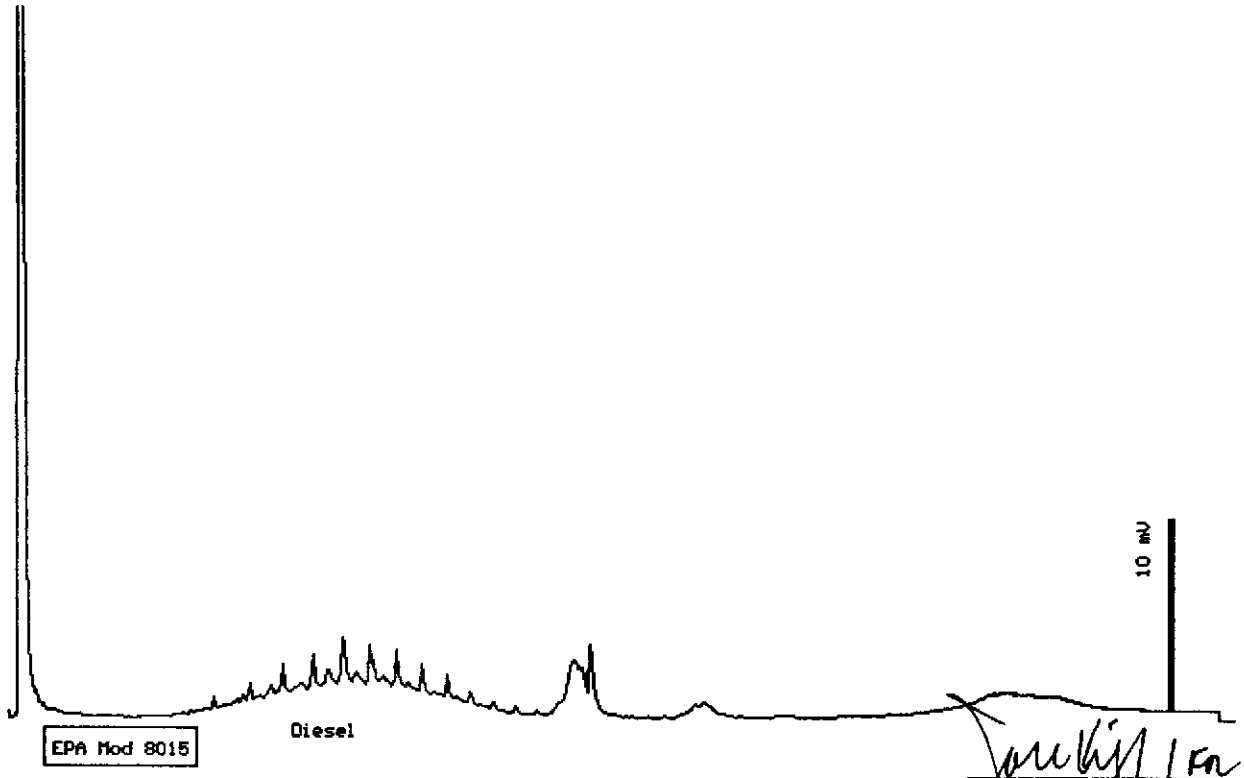
Sample Log 8544

8544-8

Sample: **PWO6-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/07/94 QC Batch : DW940202
Dilution : 1:1 Run Log : 8148C
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	160
TPH as Motor Oil	(100)	<100



Date: 02-08-94 Time: 00:38:04
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stevuart Podolsky
Senior Chemist

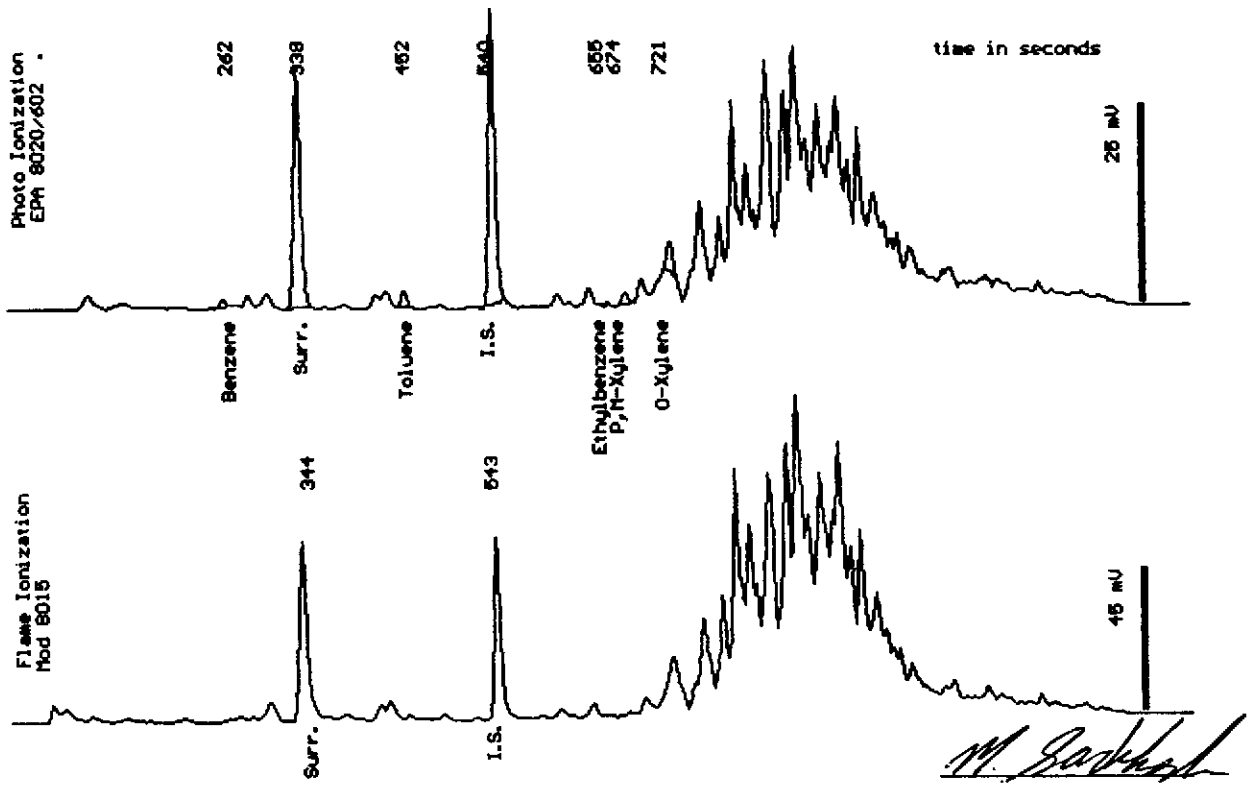
Sample Log 8544
8544-9

Sample: **PWO7-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:5 QC Batch : 6085b
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(1.5)	1.6
Toluene	(1.5)	5.6
Ethylbenzene	(1.5)	<1.5
Total Xylenes	(2.5)	18
TPH as Gasoline	(250)	4200 *
Surrogate Recovery		98 %

* Product is not typical gasoline.



Date Analyzed: 02-10-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

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Sample Log 8544

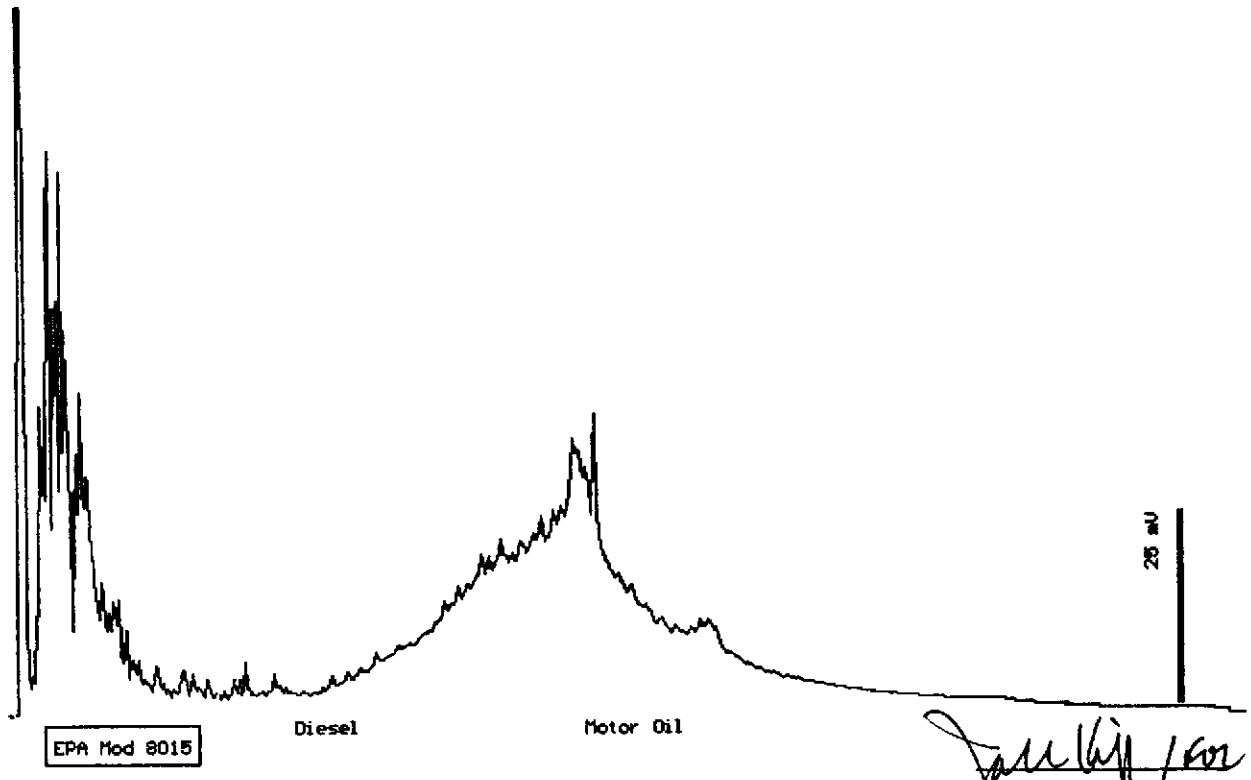
8544-9

Sample: **PWO7-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/07/94 QC Batch : DW940202
Dilution : 1:1 Run Log : 8148c
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	1000 *
TPH as Motor Oil	(100)	1700

* Not typical diesel.



Date: 02-08-94 Time: 02:53:51
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Steuart Podolsky
Senior Chemist

Sample Log 8544

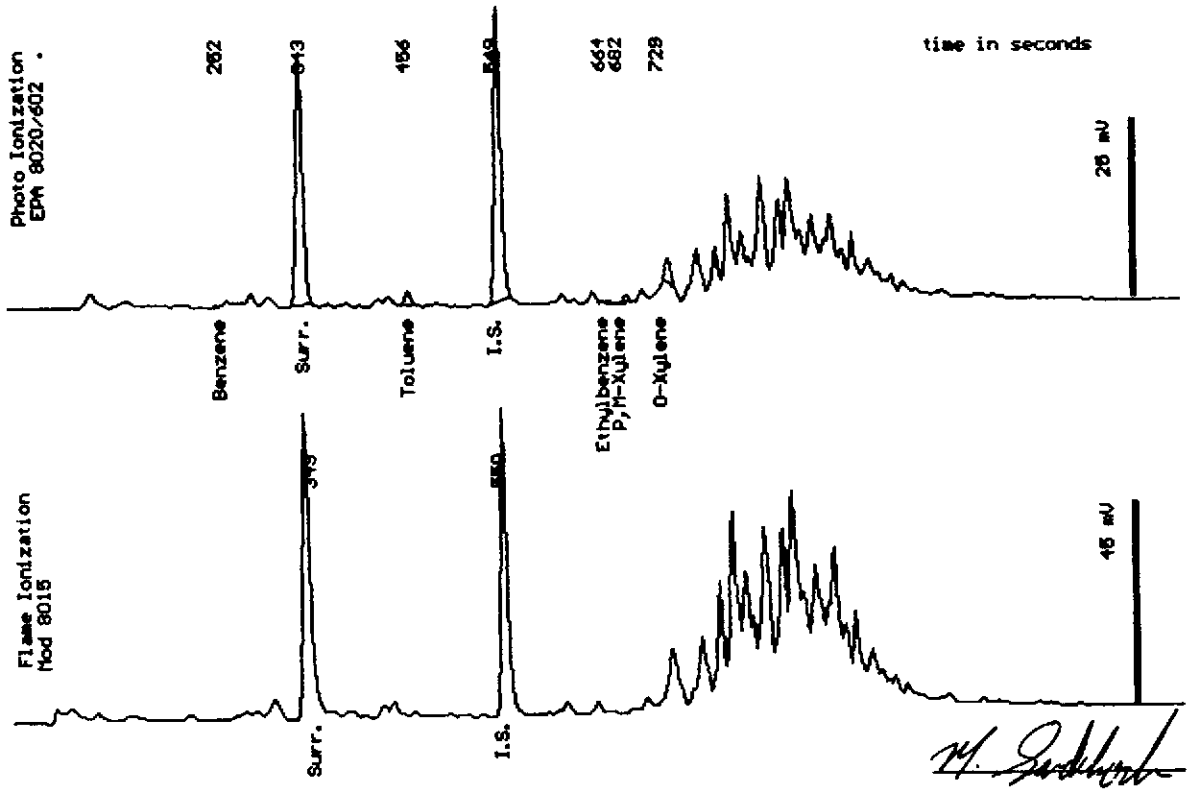
8544-10

Sample: **PWO8-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:50 QC Batch : 6085e
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(15)	<15
Toluene	(15)	45
Ethylbenzene	(15)	<15
Total Xylenes	(25)	130
TPH as Gasoline	(2500)	16000*
Surrogate Recovery		100 %

* Product is not typical gasoline.



Date Analyzed: 02-11-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

Sample Log 8544

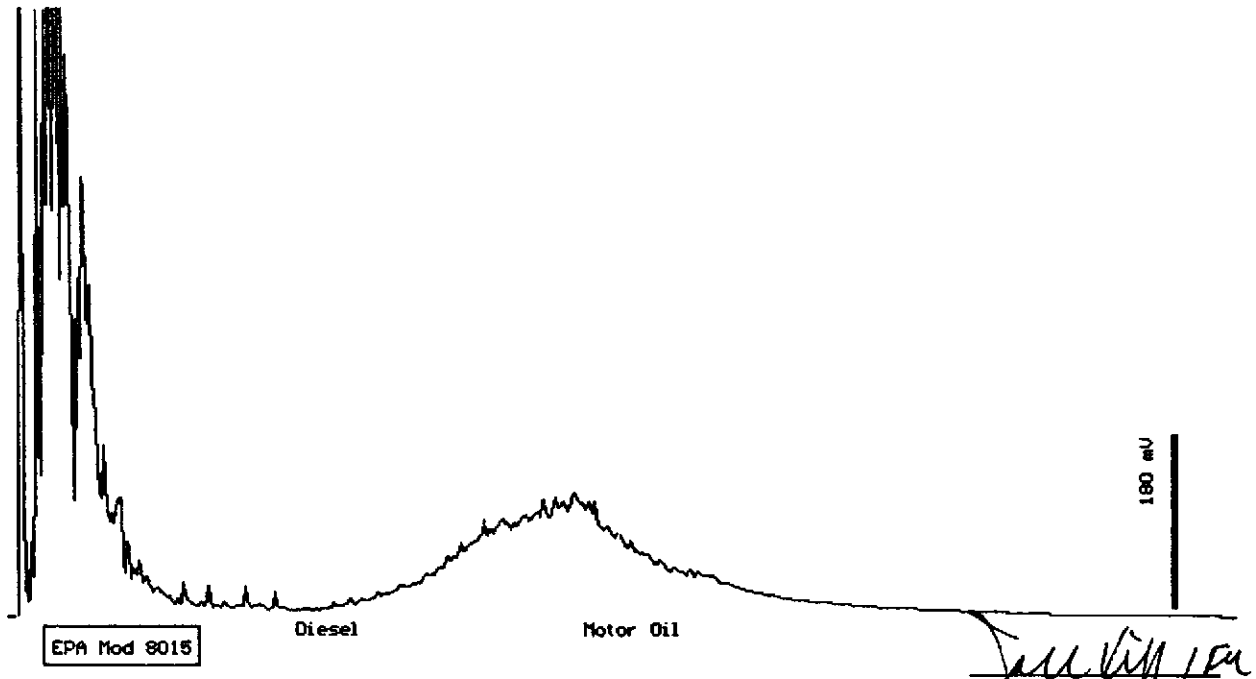
8544-10

Sample: **PWO8-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/07/94 QC Batch : DW940202
Dilution : 1:5 Run Log : 8148c
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(250)	50000 *
TPH as Motor Oil	(500)	36000

* Not typical diesel.



Date: 02-08-94 Time: 03:27:39
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

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Sample Log 8544

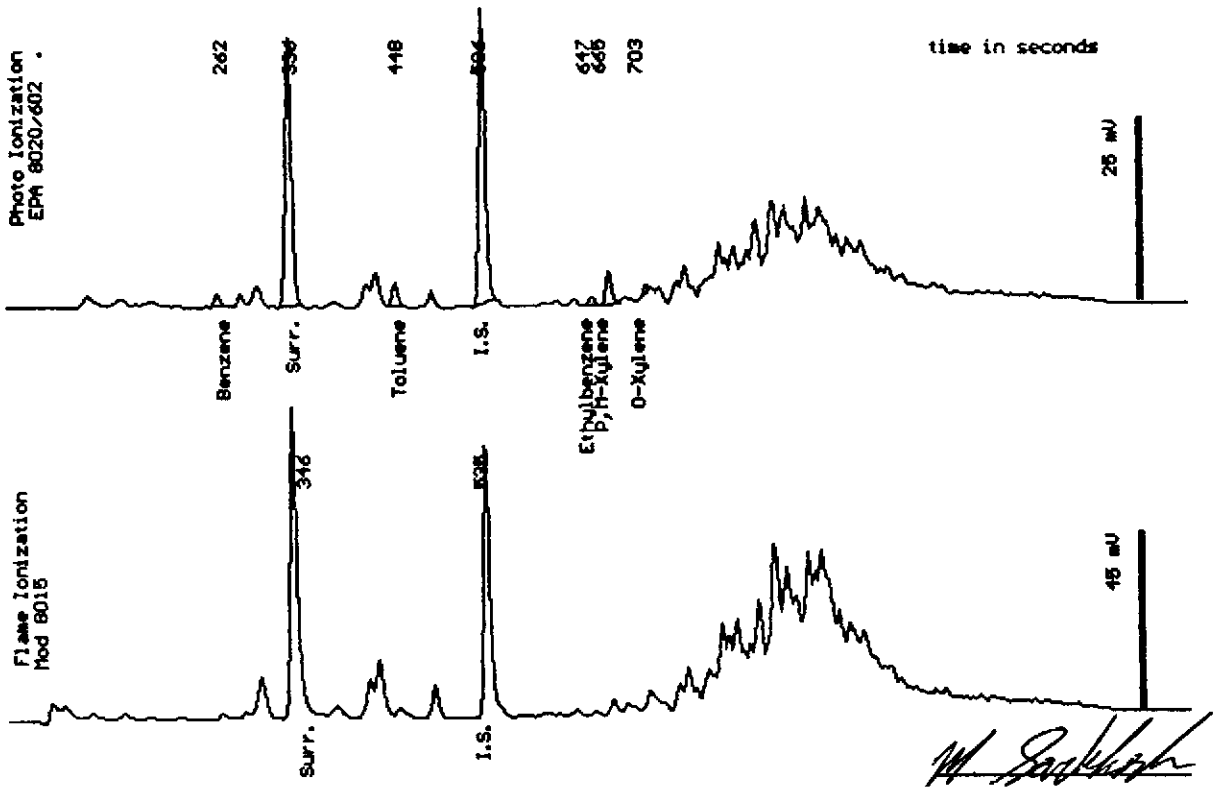
8544-11

Sample: PWO9-020294

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 6085b
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	<.30
Toluene	(.30)	<.30
Ethylbenzene	(.30)	.66
Total Xylenes	(.50)	3.2
TPH as Gasoline	(50)	350 *
Surrogate Recovery		100 %

* Product is not typical gasoline.



Date Analyzed: 02-10-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

Sample Log 8544

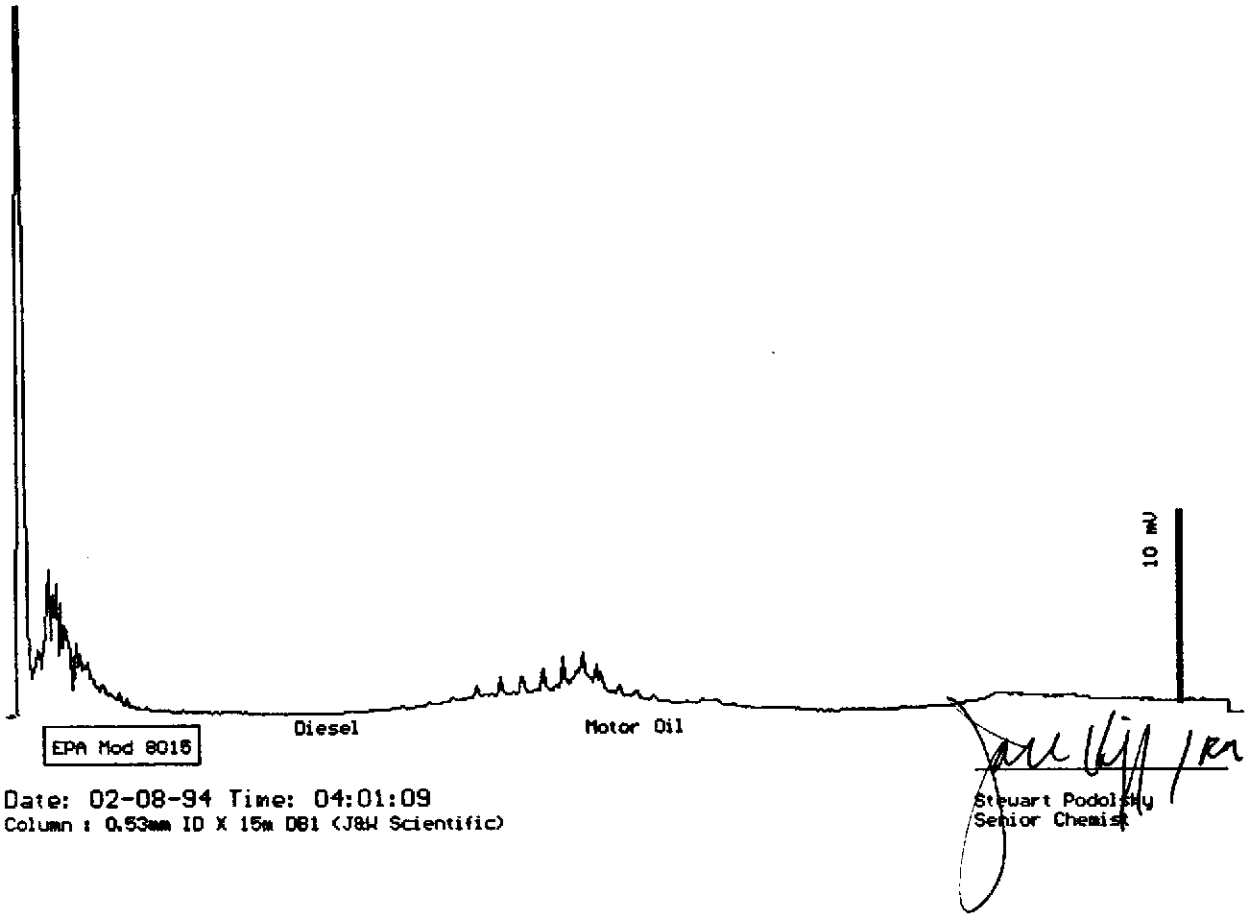
8544-11

Sample: **PWO9-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/07/94 QC Batch : DW940202
Dilution : 1:1 Run Log : 8148C
Matrix : Water

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	91 *
TPH as Motor Oil	(100)	100

* Not typical diesel.



Date: 02-08-94 Time: 04:01:09
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stewart Podolsky
Senior Chemist

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Sample Log 8544

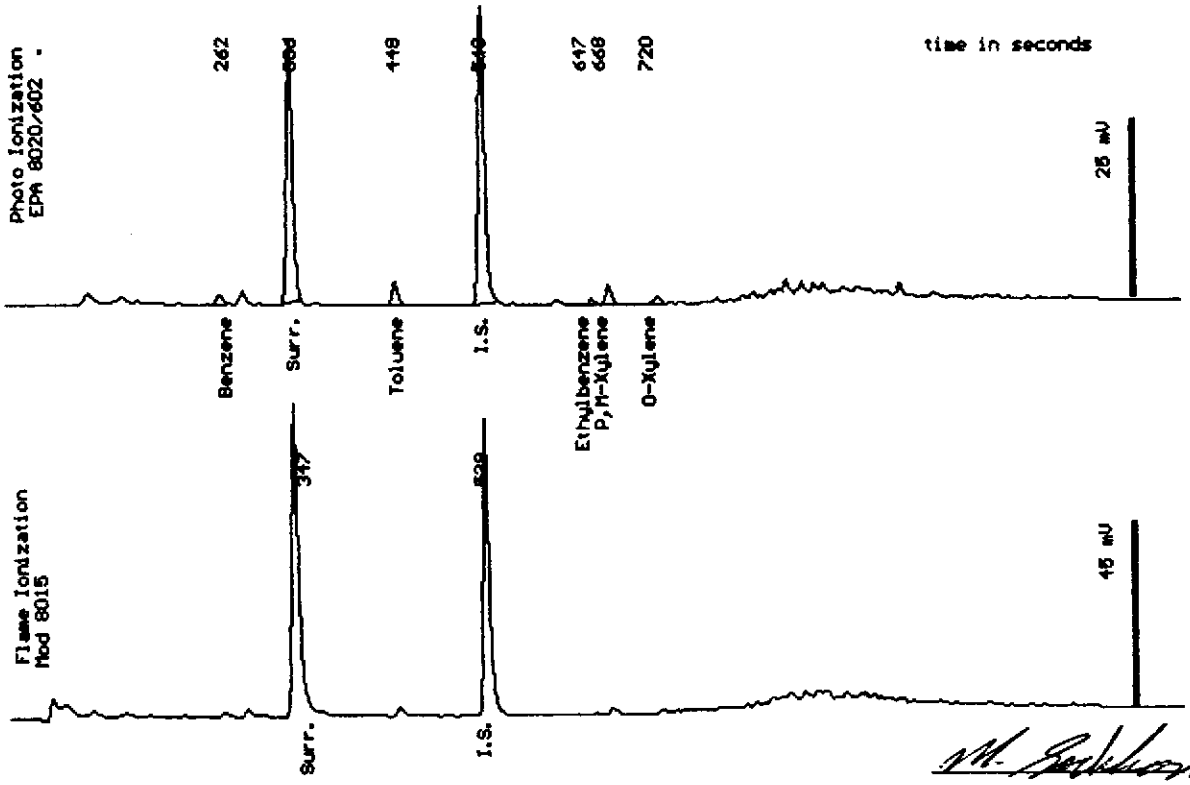
8544-12

Sample: **PW12-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Dilution : 1:1 QC Batch : 6085b
Matrix : Water

Parameter	(MRL) ug/L	Measured Value ug/L
Benzene	(.30)	.62
Toluene	(.30)	<.30
Ethylbenzene	(.30)	<.30
Total Xylenes	(.50)	2.2
TPH as Gasoline	(50)	66 *
Surrogate Recovery		96 %

* Product is not typical gasoline.



Date Analyzed: 02-10-94
Column : 0.53mm ID X 30m DB5 (J&W Scientific)

Mitra Sarkhosh
Senior Chemist

Sample Log 8544

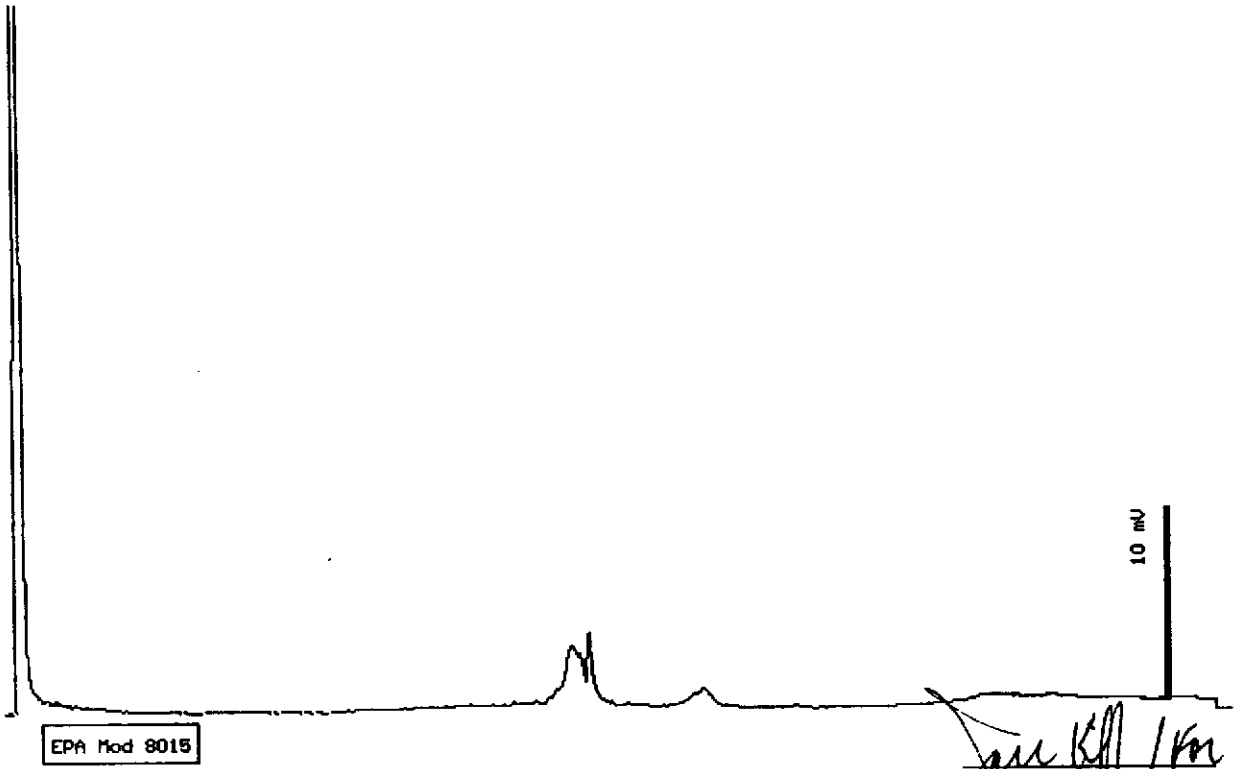
8544-12

Sample: **PW12-020294**

From : Project # 11385 (Downtown Toyota)
Sampled : 02/02/94
Extracted: 02/07/94
Dilution : 1:1
Matrix : Water

QC Batch : DW940202
Run Log : 8148C

Parameter	(MDL) ug/L	Measured Value ug/L
TPH as Diesel	(50)	<50
TPH as Motor Oil	(100)	<100



EPA Mod 8015

Date: 02-08-94 Time: 04:34:13
Column : 0.53mm ID X 15m DB1 (J&W Scientific)

Stevart Podolsky
Senior Chemist

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Western Environmental Science & Technology
1046 Olive Drive, Suite 3
Davis, CA 95616
916-753-9500
FAX #: 916-753-6091
LAB#: 916-757-4650

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Kyle Flory
Phone #: 510 · 420 · 7910
Company/Address: Burlington Environ. FAX #: 510 · 658 · 7990
5901 Christie Ave, Ste 501 Emeryville, CA
Project Number: 11385
P.O.#: 42564
Project Name: Downtown Toyota
Project Location: 4145 Broadway Oakland, CA
Sampler Signature: [signature]

Sample ID	Sampling DATE (1994)	Sampling TIME	Container: VOA	Container: SLEEVE	Container: 1L GLASS	Container: 1L PLASTIC	Container:	Method Preserved: HCl	Method Preserved: HNO_3	Method Preserved: ICE	Method Preserved: NONE	Matrix: WATER	Matrix: SOIL
PS03·04	2·2	0905					X			X			X
PS03·09	2·2	0920					X			X			X
PS02·04	2·2	0940					X			X			X
PS02·09	2·2	0947					X			X			X
PS04·04	2·2	1048					X			X			X
PS04·09	2·2	1100					X			X			X
PS01·04	2·2	1155					X			X			X
PS01·09	2·2	1210					X			X			X
PW02·020294	2·2	1015	X		X			X		X	X	X	
PW03·020294	2·2	1020	X		X			X		X	X	X	
PW05·02·0294	2·2	1045	X		X			X		X	X	X	

ANALYSIS REQUEST

Sample ID	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96-Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni	TPHg / BTEX	TPH as Diesel, M.O.	TOG EPA 413.2	HOLD	RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr) or (1 wk)	STANDARD SERVICE (1 WK)
PS03·04																				X	X	X	X			X
PS03·09																				X	X	X				X
PS02·04																				X	X	X	X			X
PS02·09																				X	X	X				X
PS04·04																				X	X	X	X			X
PS04·09																				X	X	X				X
PS01·04																				X	X	X	X			X
PS01·09																				X	X	X				X
PW02·020294																				X	X	X				X
PW03·020294																				X	X	X				X
PW05·02·0294																				X	X	X	X			X

W.E.T. (✓) TOTAL (✓)

Relinquished by:	Date	Time	Received by:
[signature]	2/3/94	1116	[signature]
Relinquished by	Date	Time	Received by:
Relinquished by: [signature]	2/3/94	1257	Received by Laboratory: [signature] WEST

Remarks: SEE JEFF WIESER FOR BILLING RATES

RECEIVED by W.E.S.T. date 2/3/94

Bill To:

WEST
Western Environmental Science & Technology

1046 Olive Drive, Suite 3
Davis, CA 95616

916-753-9500
FAX #: 916-753-6091
LAB#: 916-757-4650

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Kyle Flory
Phone #: 510 420-7910
Company/Address: Burlington Environ. FAX #: 510-658-7990
5901 Christie Ave Ste 201 Emeryville, CA
Project Number: 11385
P.O.#: 42564
Project Name: DownTown Toyota
Project Location: 4145 Broadway Oakland, CA
Sampler Signature:

Sample ID	Sampling DATE 1994	Sampling TIME	Container VOA	Container SLEEVE	Container 1L GLASS	Container 1L PLASTIC	Method Preserved HCl	Method Preserved HNO3	Method Preserved ICE	Method Preserved NONE	Matrix WATER	Matrix SOIL
PW01-020294	2-2	1230	X		X		X		X	X	X	
PW06-020294	2-2	1430	X		X		X		X	X	X	
PW07-020294	2-2	1515	X		X		X		X	X	X	
PW08-020294	2-2	1610	X		X		X		X	X	X	
PW09 020294	2-2	1700	X		X		X		X	X	X	
PW12 020294	2-2	1715	X		X		X		X	X	X	
PS01A-04	2-2	1040				X			X			X

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni	W.E.T. (-)	TOTAL (-)	TAT: RUSH SERVICE (12 hr) or (24 hr)	TAT: EXPEDITED SERVICE (48 hr) or (1 wk)	TAT: STANDARD SERVICE (1 WK)
																		X					X
																		X					X
																		X					X
																		X					X
																		X					X
																		X					X
																		X					X

TPH / BTEX
TPH as Diesel, Mo.
TOG EPA 413.2
HOLD

Relinquished by: [signature] Date 2/3/94 Time 1116
Received by: [signature]

Relinquished by: Date Time
Received by:

Relinquished by: [signature] Date 2/3/94 Time 1253
Received by Laboratory: WEST

Remarks:
SEE JEFF WIESER
FOR BILLING

RECEIVED by W.E.S.T. date 2/3/94

Bill To: