enviros®

October 30, 1996

Ms. Jennifer Eberle
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502-6577

RE: Soil Boring and Well Installation Report
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California
WIC #204-5508-1701

Dear Ms. Eberle:

This report documents drilling and well installation activities performed at the above referenced site (Plates 1 and 2). The work included drilling six exploratory soil borings, converting two borings to ground water monitoring wells, converting two borings to soil vapor extraction wells, associated soil and ground water sampling, and preparation of this report. This work was performed by Enviros, Inc. (Enviros) on behalf of Shell Oil Products Company in response to the Alameda County Health Care Services Agency (ACHCSA) correspondence dated October 6, 1995 requesting a site investigation to evaluate soil and ground water conditions. The scope of work was performed to comply with Regional Water Quality Control Board (RWQCB) and ACHCSA guidelines.

1.0 SITE DESCRIPTION

The subject property is located on the northwest corner of the intersection of Martin Luther King Jr. Way and 27th Street, in Oakland, California. The site layout consists of a two bay garage with an office. An automotive repair business (Auto-Tech West) currently operates at the site.

Site Background

A Shell service station operated on the property from approximately 1959 to 1979. Shell's USTs were removed after Shell terminated operations at the site.

In 1979, Acme West Ambulance Company (Acme) purchased the site and installed a 2,000 gallon UST for gasoline storage. Acme sold the property to Auto-Tech West (ATW) in 1986. ATW reportedly never used the UST.

The 2,000 gallon UST was removed on October 11, 1994 by KTW & Associates. Two soil samples were collected from beneath the tank. Chemical analysis of the soil samples identified the presence of Total Petroleum Hydrocarbons calculated as Gasoline (TPH-G) at concentrations ranging from 870 parts per million (ppm) to

Enviros, Inc. 270 Perkins Street P.O. Box 259 Sonoma, California 95476-0259 Tel 707 / 935-4850 Fax 707 / 935-6649

18,000 ppm. Benzene concentrations in these samples ranged from 2.9 ppm to 100 ppm. The tank pit remained open until March 19, 1996 when the excavation was backfilled by a Shell contractor.

A site assessment was performed by ACC Environmental Consultants on May 23, 1995. This included drilling nine soil borings in the vicinity of the former USTs and product dispenser islands with a pneumatic sampling tool and collecting soil and ground water samples for chemical analysis. Concentrations of TPH-G in soil samples ranged from none detected (ND) to 830 ppm. Benzene concentrations ranged from ND to 1.8 ppm. Separate-phase hydrocarbons (SPH) were identified in water samples collected from four of the soil borings. TPH-G concentrations in water samples submitted for chemical analysis ranged from ND to 89,000 parts per billion (ppb). Benzene concentrations ranged from ND to 21,000 ppb.

Over-excavation and backfilling of ACME's former UST pit were performed on March 19, 1996. The pit was open to 9 feet below grade (fbg) and was over-excavated to approximately 11 fbg. Two soil samples (TP3-W and TP4-E) were collected at the bottom of the former UST excavation. Soil sample TP3-W, collected from the western end of the excavation, contained 560 ppm TPPH and 3.1 ppm benzene. Soil sample TP4-E, collected from the eastern end of the excavation, contained 2,700 ppm TPPH and was ND for benzene. The pit was backfilled with clean imported fill material. Soil sampling and backfilling activities are documented in Enviros' May 10, 1996 letter.

2.0 FIELD PROCEDURES

2.1 Exploratory Soil Borings

Six exploratory soil borings were drilled and sampled on July 17 and 19, 1996 using a hollow-stem auger drilling rig. The locations and designations of each boring are shown on Plate 2. Soil samples were collected at five-foot intervals for chemical analysis and lithologic description.

An Enviros geologist supervised the drilling and described encountered soils using the Unified Soil Classification System and Munsell Color chart. Encountered lithology is described on the exploratory boring logs presented in Appendix A.

A soil sample was collected from above the saturated zone from Borings B-10, B-11, B-12, B-13, and V-2 and submitted for laboratory analysis. Soil samples were not analyzed from Boring V-1 because this boring was drilled in fill material recently placed in the former tank excavation. A sample from below the saturated zone from Boring V-2 was submitted for physical parameter testing. Soil sample tubes selected for laboratory analysis were covered with Teflon tape, capped, labeled, entered onto a Chain-of-Custody record, and stored in a cooler with ice. The samples were transported to Sequoia Analytical (Sequoia) in Redwood City, California, a state-certified environmental laboratory, for analysis. The soil sample collected for physical parameters testing was sent to Core Laboratories, Inc. in Bakersfield, California.

Selected soil samples from the borings were analyzed for Total Purgeable Petroleum Hydrocarbons (TPPH) according to EPA Method 8015 (Modified) and benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl-tertiary-butyl-ether (MTBE) according to EPA Method 8020. One soil sample from Boring V-2 was tested for physical parameters including porosity, permeability, fractional organic carbon content, and dry bulk density.

2.2 In Situ Ground Water Sampling

Ground water samples were collected from Borings B-10, B-12 (MW-2), and B-13 at the depth of first encountered ground water for chemical analysis. Boring B-11 did not yield sufficient water for the collection of a ground water sample. Ground water sample collection was attempted using the Hydropunch™ tool, but soil density was too great to use the tool. The ground water samples were then collected from the borings using a clean disposable bailer. Ground water samples were transported to Sequoia where they were analyzed for TPPH, BTEX, and MTBE on a 24-hour turn around time.

2.3 Monitoring Well Installations

Borings B-11 and B-12 were completed as ground water monitoring wells MW-1 and MW-2, respectively. The wells were constructed of 2-inch diameter threaded Schedule 40 PVC well casing. Well screen was placed from 6 to 21 fbg, in the first encountered water bearing zone.

Borings V-1 and V-2 were completed as soil vapor extraction wells (V-1 and V-2). The wells were constructed of 2-inch diameter threaded Schedule 40 PVC well casing. Well screen was placed from 3 to 13 fbg.

Well construction included the placement of Lonestar #3 sand to one-half foot above the top of the screen interval. A one-half foot thick bentonite seal was placed above the sandpack followed by a cement seal to grade. The well was secured with a locking well plug and a vault box. Well completion details are presented on the exploratory boring logs contained in Appendix A.

The elevations of the newly installed wells were surveyed to Mean Sea Level datum by a state of California registered Land Surveyor. The top of casing and top of vault box elevations for the wells were surveyed to the nearest 0.01 foot.

2.4 Drilling Soils Disposal

Approximately 3 cubic yards of soil were generated as a result of drilling activities. This soil was temporarily stockpiled on visqueen. Samples of this soil were collected for chemical analysis of TPPH, BTEX, and Total Threshold Limit Concentration (TTLC) Lead by EPA Method 6010. The soil was transported to Forward Inc's landfill in Manteca, California for disposal on September 13, 1996.

2.5 Ground Water Sampling and Well Development

On August 2, 1996 Blaine Tech Services (Blaine) of San Jose, California developed Wells MW-1 and MW-2 by surging and purging the wells. Water level measurements were collected from Wells MW-1, MW-2, V-1, and V-2 and ground water samples were collected from wells MW-1 and MW-2 by Blaine on August 5, 1996. Ground water samples were transported to Sequoia where they were analyzed for TPPH, BTEX, and MTBE. A duplicate sample was collected from Well MW-1 for quality control purposes.

3.0 FINDINGS

3.1 Geology and Hydrogeology

Lithology encountered during the drilling of the exploratory soil borings consisted predominantly of clay (CL) and clayey sand (SC) with lesser occurrences of silt (ML) and silty sand (SM) to a depth of approximately 21.0 fbg.

First encountered ground water occurred in the borings at approximately 8 to 11 fbg. Ground water in the all four wells later stabilized at approximately 7.9 to 8.8 fbg. Water level data collected on August 5, 1996 were used to construct a ground water contour map presented on Plate 3, and to calculate ground water flow direction and gradient. A ground water trough trending northwest/southeast appears to be present beneath the center portion on the site. Ground water elevation data collected from V-1 which was installed in the former UST backfill may be anomalous and contribute to the apparent ground water trough. Ground water flows towards the trough in an easterly and southerly direction. The general ground water flow direction beneath the site appears to be to the southeast. The hydraulic gradient was calculated to be approximately 0.008 to 0.017.

3.2 Soil Chemical Analytical Data

Soil chemical analytical data are presented in Table 1. The distribution of petroleum hydrocarbons in soils is shown on Plate 3. Certified analytical reports for soils are contained in Appendix B.

Soil samples collected from depths of 5 to 6 fbg from each boring were submitted for analysis. TPPH and benzene were not detected in soil samples collected from MW-1 (B-10), MW-2 (B-11) and B-13. TPPH was detected in soil samples collected from B-10 and V-1 at concentrations of 1.7 ppm and 110 ppm, respectively. Benzene concentrations in soil samples from B-10 and V-1 were ND and 0.29, respectively.

3.3 Soil Physical Parameter Testing

One soil sample collected from the saturated zone from Boring V-2 was tested for physical parameters including porosity, permeability, fractional organic carbon content, and dry bulk density. Physical parameter testing results are contained in Appendix B.

3.4 Ground Water Chemical Analytical Data

Ground water samples were collected from Borings B-10, B-12 (MW-2), and B-13 on July 17, 1996 and from monitoring wells MW-1 and MW-2 on August 5, 1996. A summary of the ground water analytical data is presented on Table 3. TPPH and benzene ground water data are presented on Plate 2. The Blaine ground water monitoring report is contained in Appendix C.

The concentration of TPPH in wells at the site ranged from ND to 290,000 parts per billion (ppb). Benzene concentrations ranged from ND to 34,000 ppb.

4.0 CONCLUSIONS

Soils beneath the site consist predominantly of clay (CL) and clayey sand (SC) with lesser occurrences of silt (ML) and silty sand (SM) to a depth of approximately 21.0 fbg. Physical parameter testing results from the saturated zone indicate soils to be of low permeability. Ground water was first encountered at approximately 8 to 11 fbg and stabilized at depths ranging from 7.9 to 8.8 fbg. Ground water flow direction was determined to be generally southeasterly with an approximate hydraulic gradient ranging from 0.008 to 0.017.

Vadose zone soil samples (5 to 6 fbg) collected from borings B-10, B-11 (MW-1), B-12 (MW-2), and B-13 were ND for benzene. The vadose zone soil sample collected from V-2 contained TPPH and benzene at concentrations of 110 ppm and 0.29 ppm, respectively. These data indicate that petroleum hydrocarbons in the vadose zone are limited to the vicinity of the former UST. we don't know where Shell's USTs were.

The concentrations of TPPH in ground water samples ranged from ND to 290,000 parts per billion (ppb). Benzene concentrations ranged from ND to 34,000 ppb. MTBE was not detected in any of the ground water samples collected during this investigation. Based on these data, the extent of ground water contamination is delineated in the southern and eastern portions of the site. TPPH, BTEX and MTBE were not detected in the down-gradient (southeast) direction from former petroleum hydrocarbon source areas.

If you have any questions regarding the contents of this document, please call.

Sincerely,

Enviros, Inc.

Joe W. Neely
Project Geologist

Diane M. Lundquist, P.E.
Senior Engineer
C46725

Attachments:

Table 1.	Well/Boring/Probe Data
Table 2.	Soil Analytical Data
Table 3.	Well Concentrations
Plate 1.	Vicinity Map
Plate 2.	Site Plan/Soil Chemical Analytical Map
Plate 3.	Ground Water Contour/Benzene Concentration Map
Appendix A:	Exploratory Boring Logs
Appendix B:	Soil Laboratory Analytical Results & Chain Of Custody Records
Appendix C:	Ground Water Monitoring Report

cc: Ms. Jennifer Eberle, ACHCSA
Mr. Rod Kwan, Auto Tech West
Ms. Kim Johansen, Acme Western Ambulance Service

TABLE 1
WELL/BORING/PROBE DATA
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California
WIC# 204-5508-1701

Name	Type	Date Installed	Surface Elev (ft)	Total Depth (ft)	Soil Sample Incr. or	Soil Sample Depth(s)	First Encountered GW Depth (ft)	First Encountered GW Elev (ft)	Screen Diam. (In)	Screen Depth (ft) Top	Screen Depth (ft) Bottom	Packer Int. Depth (ft.)	Comments
B-10	HSA	7/17/96	---	9.5	5'	---	9'	---	---	---	---	---	
B-11 (MW-1)	HSA	7/17/96	23.80	16.0	5'	---	10'	13.80	2	6'	21'	---	
B-12 (MW-2)	HSA	7/17/96	22.87	21.0	5'	---	9'	13.87	2	6'	21'	---	
B-13	HSA	7/17/96	---	21.0	5'	---	11'	---	---	---	---	---	
V-1	HSA	7/17/96	23.69	13.0	5'	---	10'	13.69	2	3'	13'	---	
V-2	HSA	7/19/96	23.20	13.0	5'	---	8'	15.20	2	3'	13'	---	

Abbreviations:

HSA = Hollow Stem Auger Drilling Method

TABLE 2
SOIL ANALYTICAL DATA
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California
WIC# 204-5508-1701

Sample Depth (ft)	TPPH (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	TTLC Lead (mg/kg)	Organic Lead (mg/kg)	Primary Soil Type (Unified Soil Class)	Comments
TP-3-W		**Surface elevation (ft): NA**								
11	560	3.1	4.1	11	41	NA	NA	NA	NA	
TP-4-E		**Surface elevation (ft): NA**								
11	2700	<3.0	44	36	210	NA	NA	NA	NA	
SPN-(A-D)		**Surface elevation (ft): NA**								
Composite	140	0.17	0.70	1.5	6.6	NA	21	<2.0	NA	
SPO-(A-D)		**Surface elevation (ft): NA**								
Composite	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	23	<2.0	NA	
V-2		**Surface elevation (ft): NA**								
5.5	110	0.29	<0.12	1.2	<0.12	7.7	NA	NA	NA	
B-10		**Surface elevation (ft): NA**								
6	1.7	<0.0050	<0.0050	<0.0050	0.0058	<0.025	NA	NA	NA	
B-11 (MW-1)		**Surface elevation (ft): NA**								
5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	NA	NA	NA	
B-12 (MW-2)		**Surface elevation (ft): NA**								
5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	NA	NA	NA	
B-13		**Surface elevation (ft): NA**								
5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.025	NA	NA	NA	

TABLE 2
SOIL ANALYTICAL DATA
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California
WIC# 204-5508-1701

Sample Depth (ft)	TPPH (mg/kg)	B (mg/kg)	T (mg/kg)	E (mg/kg)	X (mg/kg)	MTBE (mg/kg)	TTLC Lead (mg/kg)	Organic Lead (mg/kg)	Primary Soil Type (Unified Soil Class)	Comments

Abbreviations:

TPPH = Total purgeable petroleum hydrocarbons, carbon range C6 to C12

NA = Not analyzed or not available

<x = Not detected at detection limit of x

TABLE 3

WELL CONCENTRATIONS
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California
WIC #204-5508-1701

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
MW-1 (B-11)		**Top casing elevation (ft): 23.53**								
02-Aug-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	
05-Aug-96	8.76	14.77	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-1 (DUP)										
05-Aug-96	NA	NA	NA	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
MW-2 (B-12)		**Top casing elevation (ft): 22.47**								
17-Jul-96	NA	NA	NA	<50	<0.50	0.69	<0.50	<0.50	<2.5	Water sample from Boring
05-Aug-96	8.35	14.12	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
B-10		**Top casing elevation (ft): NA**								
17-Jul-96	NA	NA	NA	20000	400	<100	<100	870	<500	Water sample from Boring
B-13		**Top casing elevation (ft): NA**								
17-Jul-96	NA	NA	NA	290000	34000	21000	9900	47000	<2500	Water sample from Boring
V-1		**Top casing elevation (ft): 23.26**								
02-Aug-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	
05-Aug-96	8.58	14.68	0.00	NA	NA	NA	NA	NA	NA	
V-2		**Top casing elevation (ft): 22.80**								
02-Aug-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	
05-Aug-96	7.94	14.86	0.00	NA	NA	NA	NA	NA	NA	

TABLE 3

WELL CONCENTRATIONS
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California
WIC #204-5508-1701

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments

Abbreviations:

TPPH = Total Purgeable Petroleum Hydrocarbons carbon range C6 to C12 by EPA Method 8015 modified

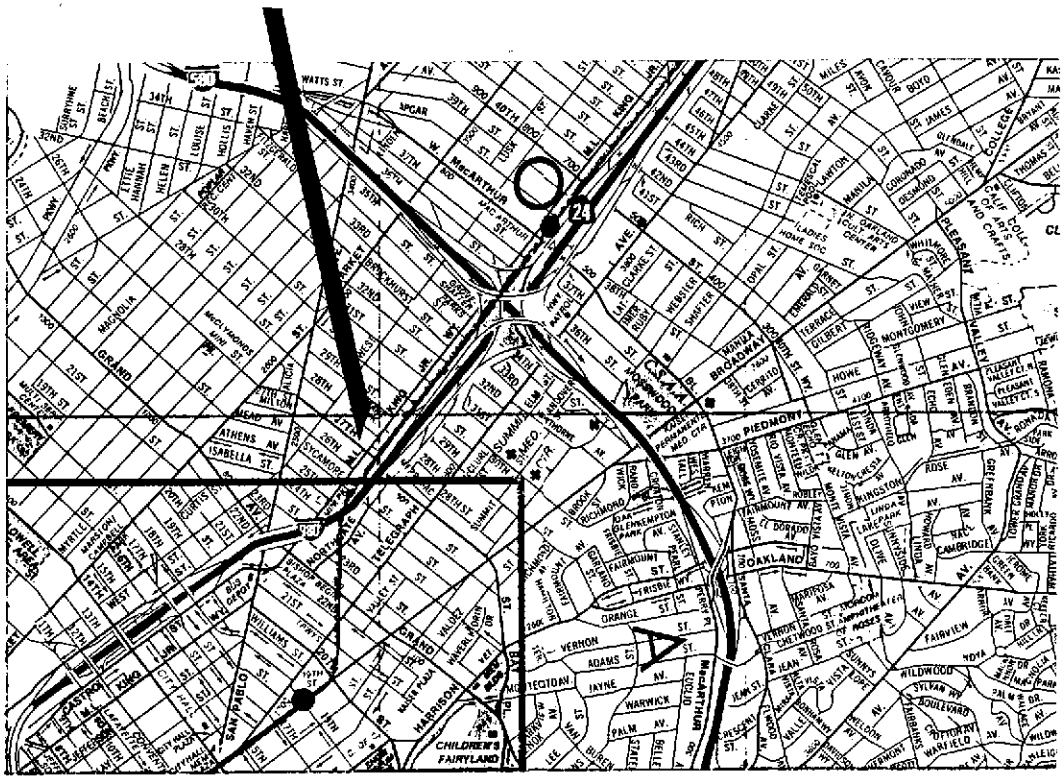
BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8020

MTBE = methyl-tertiary-butyl-ether by EPA Method 8020

NA = Not analyzed or not available

<x = Not detected at detection limit of x

Subject Site



N

BASE MAP: CALIFORNIA STATE AUTOMOBILE ASSOCIATION

PLATE	VICINITY MAP	enviros ®
1	Former Shell Service Station 2703 Martin Luther King Jr. Way Oakland, California	95324
Drawn By: DML	Date: 12-28-95	Approved By: JM Date: 30-Oct-96

Residential

EXPLANATION

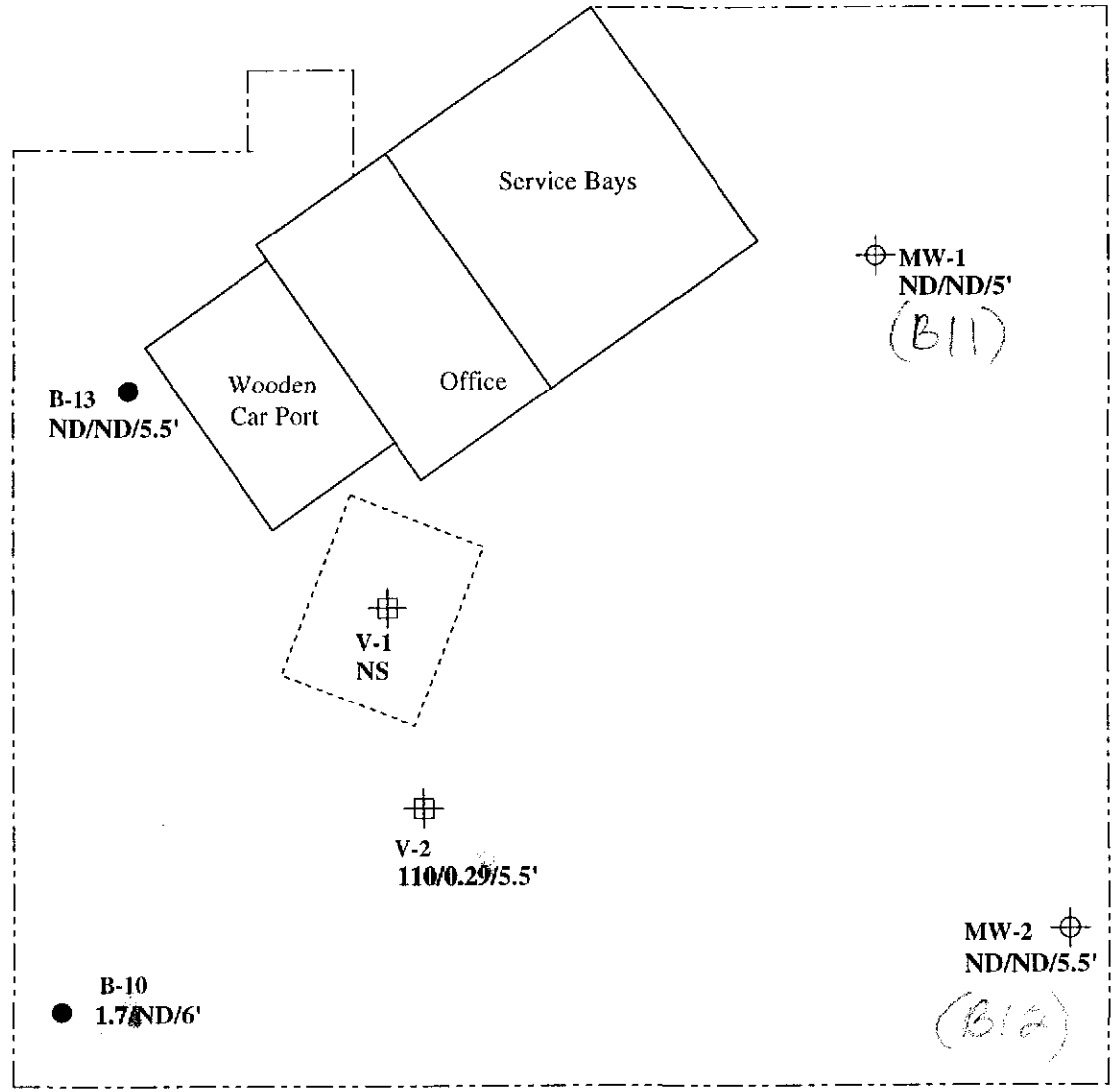
- ● Exploratory Boring
- ⊕ Soil Vapor Extraction Well
- ⊕ Ground Water Monitoring Well

1.7/ND/5' TPPH/benzene/depth in feet. Concentrations in parts per million.

ND None Detected

NS No samples analyzed

Note: Soil samples collected 17-Jul-96.



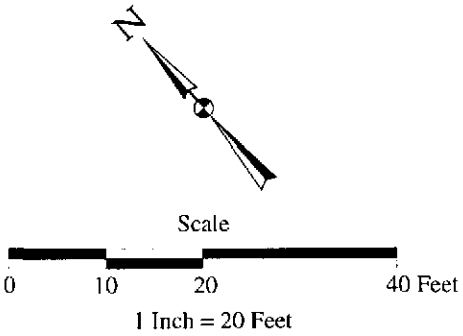


PLATE 2

SITE PLAN / SOIL CHEMICAL ANALYTICAL MAP
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California

enviros ®
96324

Drawn By: JWN | Date: 29-Aug-96 | Approved By: JN | Date: 30-OCT-96

Residential

EXPLANATION

- ● Exploratory Boring
- ⊕ Soil Vapor Extraction Well
- ⊕ Ground Water Monitoring Well
- **14.68'** Ground water elevation in feet above mean sea level.
- *20,000/400* **TPPH/benzene concentration** in ground water in parts per billion (ppb), collected from the boring on 17-Jul-96.
- **0.5** Benzene concentration in ppb collected from the well 5-Aug-96.
- **ND** None Detected
- **NS** Not sampled
- Ground water elevation contours in feet. Arrows indicate approximate direction of flow.

Approximate Hydraulic Gradient = 0.008 to 0.017

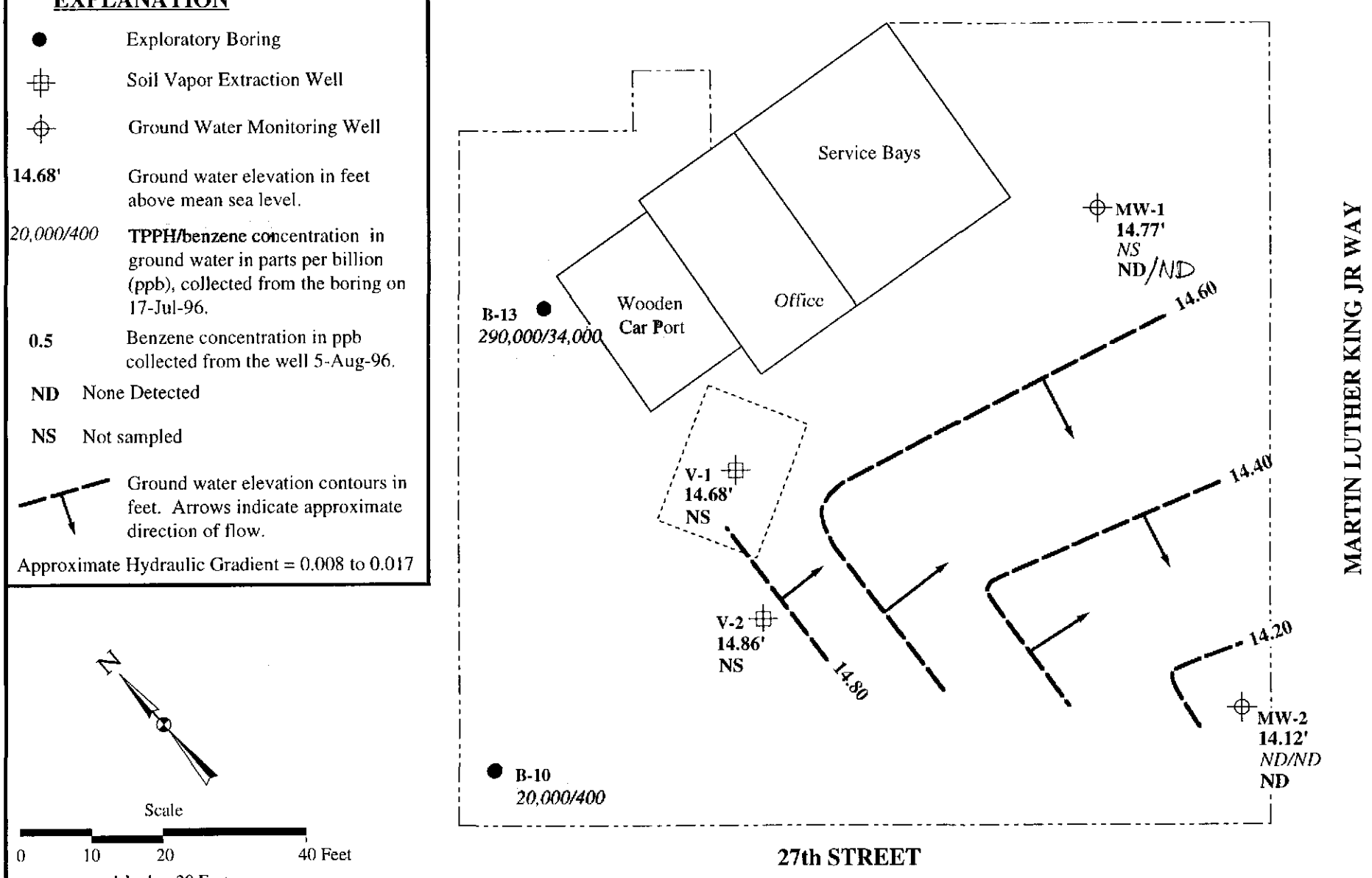


PLATE 3

GROUND WATER CONTOUR / GROUND WATER CHEMICAL ANALYTICAL MAP
Shell Oil Products Company
2703 Martin Luther King Jr. Way
Oakland, California

enviros ®
96324

Drawn By: JWN | Date: 29-Aug-96 | Approved By: JN | Date: 30-OCT-96

Appendix A

Exploratory Boring Logs

Field Exploratory Boring Log B-10

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
0.0	6 16 18	B10-6		5 10 15 20 25 30		Asphalt & Base rock: 0 to 0.5'. Clay (CL) Olive gray (5Y 4/2), moist, low plasticity, hard, 60% clay, 30% silt, 10% fine sand. @ 4.5': As above, moist. Bottom of boring = 9.5 feet.

BORING
B-10

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	19-Jul-96

enviros®
96324

Field Exploratory Boring Log B-13

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
						Asphalt & Base rock: 0 to 0.5'.
						Clay (CL) Dark olive gray (5Y 3/2), moist, very stiff, low plasticity, 80% clay, 20% fine sand, faint iron staining noted.
684	6 8 15	B13-5.5		5		@ 4.5': As above, moist, very stiff.
1224	5 10 15	B13-10	▽	10		Silt (ML) Dark olive gray (5Y 3/2), moist, very stiff, 60% silt, 40% fine sand.
267.4	9 17 22	B13-15.5		15		Silty Sand (ML) Dark olive gray (5Y 3/2), wet, dense, 65% fine to coarse sand, 10% clay, 25% silt.
						Bottom of boring = 16 feet.
				20		
				25		
				30		

BORING
B-13

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	19-Jul-96

enviros®
96324

Field Exploratory Boring Log MW-1 (B-11)

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox 0 - 0.5 ft.			Asphalt & Base rock: 0 to 0.5'.
			Cement 0.5 to 4 ft.			Clayey Sand (SC)
						Dark yellowish brown (10YR 4/4), moist, dense, 70% fine to coarse sand, 30% clay.
			Bentonite 5 to 4 ft.			
	14		2-in. Sch. 40 PVC			
0.0	16	B11-5		5		@ 4.5': As above, moist, very stiff.
	16					
	7					
0.0	10	B11-10.5		10		@ 9.5': As above, moist.
	10					
			Lonestar #3 Sand			
	6					
0.0	9	B11-15.5		15		Clay (CL)
	11					Dark yellowish brown (10YR 4/4), moist, medium plasticity, very stiff, 90% clay, 10% fine sand.
			2-in. Sch. 40 PVC - 0.02-in. Slot 6 to 21 ft.			
	8					
0.0	9	B11-20		20		@ 19.5': As above, wet, 60% clay, 10% silt, 30% fine sand.
	13					
						Bottom of boring at 21 feet.
				25		
				30		

BORING
(B-11)
MW-1

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	19-Jul-96

***enviros*®**
96324

Field Exploratory Boring Log MW-2 (B-12)

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox 0 - 0.5 ft.			Asphalt & Base rock: 0 to 0.5'.
			Cement 0.5 to 4 ft.			Clayey Sand (SC)
						Dark yellowish brown (10YR 4/4), moist, 70% fine to coarse sand, 30% clay.
			Bentonite 5 to 4 ft.			
0.0	12 12 20	B12-5.5	2-in. Sch. 40 PVC	5		@ 4.5': As above, moist, medium dense.
						Clay (CL)
0.0	5 7 8	B12-11		10		Light olive brown (2.5Y 3/5), moist, medium dense, medium plasticity, 70% clay, 10% silt, 20% fine to coarse sand.
			Lonestar #3 Sand			
0.0	12 35 37	B12-15.5	2-in. Sch. 40 PVC - 0.02-in. Slot 6 to 21 ft.	15		@ 14.5': As above, wet, hard.
0.0	15 30 40	B12-20.5		20		@ 19.5': As above, wet, hard.
						Bottom of boring = 21 feet.
				25		
				30		

BORING
(B-12)
MW-2

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	19-Jul-96

enviros®
96324

Field Exploratory Boring Log V-1

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox 0 - 0.5 ft.			Asphalt 0 to 3".
			Cement 0.5 to 2 ft.			Clayey Sand (SC-Fill)
			Bentonite 2 to 2.5 ft.			Dark yellowish brown (10YR 4/6), moist, 70% fine to coarse sand, 30% clay.
NA	5 5 5		Lonestar #3 Sand	5		@ 4.5': As above, moist, medium dense.
35.4	3 3 4	V-1-10.5	2-in. Sch. 40 PVC - 0.02-in. Slot 3 to 13 ft.	10		@ 10.5': As above, wet, loose, color change to very dark gray (5Y 3/1), 80% fine sand, 20% clay.
						Bottom of boring = 13 feet.
				15		
				20		
				25		
				30		

not sampled not analyzed

BORING
V-1

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	17-Jul-96
Date Completed:	17-Jul-96

enviros®
96324

Field Exploratory Boring Log V-2

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox 0 - 0.5 ft.			Asphalt & Base rock: 0 to 0.5'.
			Cement 0.5 to 2 ft.			Clay (CL)
			Bentonite 2 to 2.5 ft.			Dark olive gray (5Y 3/2), moist, low plasticity, 60% clay, 25% silt, 15% fine sand.
	7		2-in. Sch. 40 PVC			
96.4	13	V-2-5.5	Lonestar #3 Sand	5		@ 4.5': As above, moist, dense.
	18		2-in. Sch. 40 PVC - 0.02-in. Slot 3 to 13 ft.			
	10					Silty Sand (SM)
474.4	16	V-2-10.5		10		Dark olive gray (5Y 3/2), moist to wet, dense, 70% fine sand, 30% silt.
	20					
	20					Clayey Sand (SC)
11.8	16					Olive (5Y 4/3), wet, medium dense, 65% clay, 15% silt, 20% fine sand.
	12					
				15		Bottom of boring = 13 feet.
				20		
				25		
				30		

BORING
V-2

SHELL OIL PRODUCTS COMPANY
Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

Borehole Diameter:	8 inches
Logged by:	J. Neely
Driller:	Gregg Drilling
Date Started:	19-Jul-96
Date Completed:	19-Jul-96

enviros®
96324

Appendix B

Laboratory Analytical Reports

&
Chain-of-Custody Records

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

RECEIVED
JUL 22 1996

Enviros
270 Perkins Ave.
Sonoma, CA 95476
Attention: Joe Neely

Project: Shell 2703 Martin Luther King

Enclosed are the results from samples received at Sequoia Analytical on July 17, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9607895 -01	LIQUID, B10-Liq	07/17/96	TPGBMW Purgeable TPH/BTEX
9607895 -02	LIQUID, B12-Liq	07/17/96	TPGBMW Purgeable TPH/BTEX
9607895 -03	LIQUID, B13-Liq	07/17/96	TPGBMW Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/17/96
270 Perkins Ave.	Sample Descript: B10-Liq	Received: 07/17/96
Sonoma, CA 95476	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 07/17/96
Attention: Joe Neely	Lab Number: 9607895-01	Reported: 07/19/96

QC Batch Number: GC071796BTEX03A
Instrument ID: GCHP03

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**10000**	**20000**
Methyl t-Butyl Ether	500	N.D.
Benzene	**100**	**400**
Toluene	100	N.D.
Ethyl Benzene	100	N.D.
Xylenes (Total)	**100**	**870**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	118

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/17/96
270 Perkins Ave.	Sample Descript: B12-Liq	Received: 07/17/96
Sonoma, CA 95476	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 07/19/96
Attention: Joe Neely	Lab Number: 9607895-02	Reported: 07/19/96

QC Batch Number: GC071996BTEX17A
Instrument ID: GCHP17

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	**0.50**	**0.69**
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	113

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/17/96
270 Perkins Ave.	Sample Descript: B13-Liq	Received: 07/17/96
Sonoma, CA 95476	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 07/18/96
Attention: Joe Neely	Lab Number: 9607895-03	Reported: 07/19/96

QC Batch Number: GC071896BTEX02A
Instrument ID: GCHP02

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	**50000**	**290000**
Methyl t-Butyl Ether	2500	N.D.
Benzene	**500**	**34000**
Toluene	**500**	**21000**
Ethyl Benzene	**500**	**9900**
Xylenes (Total)	**500**	**47000**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	102

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros
270 Perkins Ave.
Sonoma, CA 95476
Attention: Joe Neely

Client Project ID: Shell 2703 Martin Luther King
Matrix: Liquid
Work Order #: 9607895 -01
Reported: Jul 19, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC071796BTEX03A	GC071796BTEX03A	GC071796BTEX03A	GC071796BTEX03A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	R. Vincent	R. Vincent	R. Vincent	R. Vincent
MS/MSD #:	GW9607328-03C	GW9607328-03C	GW9607328-03C	GW9607328-03C
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/17/96	7/17/96	7/17/96	7/17/96
Analyzed Date:	7/17/96	7/17/96	7/17/96	7/17/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	9.6	9.3	9.3	28
MS % Recovery:	96	93	93	93
Dup. Result:	9.2	9.1	9.1	28
MSD % Recov.:	92	91	91	93
RPD:	4.3	2.2	2.2	0.0
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	GWBLK071796A	GWBLK071796A	GWBLK071796A	GWBLK071796A
Prepared Date:	7/17/96	7/17/96	7/17/96	7/17/96
Analyzed Date:	7/17/96	7/17/96	7/17/96	7/17/96
Instrument I.D.#:	GCHP3	GCHP3	GCHP3	GCHP3
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
LCS Result:	10	10	11	32
LCS % Recov.:	100	100	110	107
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros
270 Perkins Ave.
Sonoma, CA 95476
Attention: Joe Neely

Client Project ID: Shell 2703 Martin Luther King
Matrix: Liquid
Work Order #: 9607895 -02
Reported: Jul 19, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC071996BTEX17A	GC071996BTEX17A	GC071996BTEX17A	GC071996BTEX17A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	B. Sullivan	B. Sullivan	B. Sullivan	B. Sullivan
MS/MSD #:	G9607736-14E	G9607736-14E	G9607736-14E	G9607736-14E
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/19/96	7/19/96	7/19/96	7/19/96
Analyzed Date:	7/19/96	7/19/96	7/19/96	7/19/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	9.8	10	9.9	30
MS % Recovery:	98	100	99	100
Dup. Result:	9.6	9.6	9.7	29
MSD % Recov.:	96	96	97	97
RPD:	2.1	4.1	2.0	3.1
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	GBLK071996A	GBLK071996A	GBLK071996A	GBLK071996A
Prepared Date:	7/19/96	7/19/96	7/19/96	7/19/96
Analyzed Date:	7/19/96	7/19/96	7/19/96	7/19/96
Instrument I.D.#:	GCHP17	GCHP17	GCHP17	GCHP17
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
LCS Result:	9.7	9.7	9.8	29
LCS % Recov.:	97	97	98	97
MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros
270 Perkins Ave.
Sonoma, CA 95476
Attention: Joe Neely

Client Project ID: Shell 2703 Martin Luther King
Matrix: Liquid
Work Order #: 9607895 -03
Reported: Jul 19, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC071896BTEX02A	GC071896BTEX02A	GC071896BTEX02A	GC071896BTEX02A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	R. Vincent	R. Vincent	R. Vincent	R. Vincent
MS/MSD #:	G9607530-07C	G9607530-07C	G9607530-07C	G9607530-07C
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/18/96	7/18/96	7/18/96	7/18/96
Analyzed Date:	7/18/96	7/18/96	7/18/96	7/18/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
Result:	9.8	9.4	9.6	27
MS % Recovery:	98	94	96	90
Dup. Result:	11	10	10	28
MSD % Recov.:	110	100	100	93
RPD:	12	6.2	4.1	3.6
RPD Limit:	0-25	0-25	0-25	0-25

LCS #:	GWBLK071896A	GWBLK071896A	GWBLK071896A	GWBLK071896A
Prepared Date:	7/18/96	7/18/96	7/18/96	7/18/96
Analyzed Date:	7/18/96	7/18/96	7/18/96	7/18/96
Instrument I.D.#:	GCHP2	GCHP2	GCHP2	GCHP2
Conc. Spiked:	10 ug/L	10 ug/L	10 ug/L	30 ug/L
LCS Result:	9.7	9.8	10	28
LCS % Recov.:	97	98	100	93

MS/MSD	60-140	60-140	60-140	60-140
LCS	70-130	70-130	70-130	70-130
Control Limits				

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 17-Jul-96
Page 1 of 2

Site Address: 2703 Martin Luther King Jr. Way, Oakland

WIC#: 204-5505-1701

Shell Engineer: Jeff Granberry
Phone No.: 510 675-6168
Fax #:

Consultant Name & Address: Enviros Inc., P.O. Box 259 Sonoma, CA 95476

Consultant Contact: Joe Neely
Phone No.: 707 935-4854
Fax #: 935-6649

Comments:

Sampled by: JN.

Printed Name: Joe Neely

LAB: Sequoia

CHECK ONE (1) BOX ONLY	CT/DI
G.W. Monitoring	4461
Site Investigation	X 4441
Soil Classify/Disposal	4442
Water Classify/Disposal	4443
Soil/Air Rem. or Sys. O & M	4452
Water Rem. or Sys. O & M	4453
Other	

TURN AROUND TIME
- 24 hours: X
- 48 hours:
- 15 days: (Normal)
- Other: _____

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: _____

Analysis Required

9600785

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	MTBE (8020)		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
B10-6	17-Jul 96		X			1														Hold
B10-Liq				X		3						X	X				HCl			
B11-5			X																	Hold
B11-10.5			X																	
B11-15.5			X																	
B12-5.5			X																	
B12-11			X																	
B12-15.5			X																	

Relinquished By (signature):	Printed Name:	Date:	Received (signature):	Printed Name:	Date:
JNeely	Joe Neely	17-Jul-96 Time: 15:15		John Howe	7-17-96 Time: 15:5
	John Howe	7/17/96 Time: 4:48			Date: Time:
		Date: Time:		Richard Ting	Date: 7/17/96 Time: 1640

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Shell Oil Chain of Custody

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 17-Jul-96
Page 2 of 2

Site Address: 2703 Martin Luther King Jr. Way, Oakland
WIC#: 204-5508-1701

Shell Engineer: Jeff Granberry — **Phone No.:** 510 675-6168 **Fax #:**

Consultant Name & Address: Enviros Inc., P.O. Box 259 Sonoma, CA 95476

Consultant Contact: Joe Neely — **Phone No.:** 707 935-4854 **Fax #:** -6649

Comments:

Sampled by: JN

Printed Name: Joe Neely

LAB: Sequoia

CHECK ONE (1) BOX ONLY		CT/DT
G.W. Monitoring	☐	4461
Site Investigation	☒	4441
Soil Classify/Disposal	☐	4442
Water Classify/Disposal	☐	4443
Soil/Air Rem. or Sys. O & M	☐	4452
Water Rem. or Sys. O & M	☐	4453
Other	☐	

TURN AROUND TIME
24 hours ☒
48 hours ☐
15 days ☐ (Normal)
Other ☐ _____

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: _____

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	MTBE (8020)		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
B12-Lrg	17-Jul 96			X		3						X	X				HCl			
B13-5.5			X			1														Hold
B13-10			X			1														
B13-15.5			X			1														
BB-Lrg				X		3						Y	X				HCl			
V-1-10.5	↓		X			1														Hold

Relinquished By (signature): Joe Neely	**Printed Name:** Joe Neely	Date: 17 Jul 96 Time: 15:15	**Received (signature):**	**Printed Name:** John Howe	Date: 7-17-96 Time: 1515
Relinquished By (signature):	**Printed Name:** John Howe	Date: 7-17-96 Time: 440	**Received (signature):**	**Printed Name:**	Date: Time:
Relinquished By (signature):	**Printed Name:**	Date: Time:	**Received (signature):**	**Printed Name:** Richard Horling	Date: 7/17/96 Time: 1640

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

End of Chain of Custody

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros
270 Perkins Ave.
Sonoma, CA 95476

Attention: Joe Neely

Client Proj. ID: Shell 2703 Martin Luther King

Lab Proj. ID: 9607D94

Sampled: 07/19/96
Received: 07/22/96
Analyzed: see below

Reported: 08/07/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9607D94-06				
Sample Desc : **SOLID,V-2-10.5**				
Bulk Density	-			**Attached**
Fraction Organic Carbon	%	07/30/96	0.033	**0.088**
Permeability	-			**Attached**
Porosity	-			**Attached**

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/17/96
270 Perkins Ave.	Sample Descript: B10-6	Received: 07/22/96
Sonoma, CA 95476	Matrix: LIQUID	Extracted: 07/26/96
	Analysis Method: 8015Mod/8020	Analyzed: 07/27/96
Attention: Joe Neely	Lab Number: 9607D94-01	Reported: 08/07/96

QC Batch Number: GC072696BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1.0**	**1.7**
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	**0.0050**	**0.0058**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	88

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/17/96
270 Perkins Ave.	Sample Descript: B11-5	Received: 07/22/96
Sonoma, CA 95476	Matrix: LIQUID	Extracted: 07/26/96
	Analysis Method: 8015Mod/8020	Analyzed: 07/27/96
Attention: Joe Neely	Lab Number: 9607D94-02	Reported: 08/07/96

QC Batch Number: GC072696BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/17/96
270 Perkins Ave.	Sample Descript: B12-5.5	Received: 07/22/96
Sonoma, CA 95476	Matrix: LIQUID	Extracted: 07/26/96
	Analysis Method: 8015Mod/8020	Analyzed: 07/27/96
Attention: Joe Neely	Lab Number: 9607D94-03	Reported: 08/07/96

QC Batch Number: GC072696BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	81

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/17/96
270 Perkins Ave.	Sample Descript: B13-5.5	Received: 07/22/96
Sonoma, CA 95476	Matrix: LIQUID	Extracted: 07/26/96
	Analysis Method: 8015Mod/8020	Analyzed: 07/27/96
Attention: Joe Neely	Lab Number: 9607D94-04	Reported: 08/07/96

QC Batch Number: GC072696BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Methyl t-Butyl Ether	0.025	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	83

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/17/96
270 Perkins Ave.	Sample Descript: V-2-5.5	Received: 07/22/96
Sonoma, CA 95476	Matrix: LIQUID	Extracted: 07/26/96
	Analysis Method: 8015Mod/8020	Analyzed: 07/28/96
Attention: Joe Neely	Lab Number: 9607D94-05	Reported: 08/07/96

QC Batch Number: GC072696BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**25**	**110**
Methyl t-Butyl Ether	**0.62**	**7.7**
Benzene	**0.12**	**0.29**
Toluene	0.12	N.D.
Ethyl Benzene	**0.12**	**1.2**
Xylenes (Total)	0.12	N.D.
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	103

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros
270 Perkins Ave.
Sonoma, CA 95476
Attention: Joe Neely

Client Project ID: Shell 2703 Martin Luther King
Matrix: Solid
Work Order #: 9607D94 -01 - 05
Reported: Aug 7, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC072696BTEXEXB	GC072696BTEXEXB	GC072696BTEXEXB	GC072696BTEXEXB
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	M. Otte	M. Otte	M. Otte	M. Otte
MS/MSD #:	G9607C96-02	G9607C96-02	G9607C96-02	G9607C96-02
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/26/96	7/26/96	7/26/96	7/26/96
Analyzed Date:	7/26/96	7/26/96	7/26/96	7/26/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
Result:	0.16	0.15	0.15	0.47
MS % Recovery:	80	75	75	78
Dup. Result:	0.15	0.15	0.12	0.47
MSD % Recov.:	75	75	60	78
RPD:	6.5	0.0	22	0.0
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	GBLK072696BS	GBLK072696BS	GBLK072696BS	GBLK072696BS
Prepared Date:	7/26/96	7/26/96	7/26/96	7/26/96
Analyzed Date:	7/26/96	7/26/96	7/26/96	7/26/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
LCS Result:	0.20	0.18	0.18	0.54
LCS % Recov.:	100	90	90	90
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Project ID:	Shell 2703 Martin Luther King	
270 Perkins Ave.	Matrix:	Solid	
Sonoma, CA 95476			
Attention: Joe Neely	Work Order #:	9607D94 -06	Reported: Aug 7, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Fractional Organic Carbon
QC Batch:	IN073096WALK00A
Analy. Method:	Walkey-Black
Prep Method:	N.A.

Analyst:	J. Clark
Duplicate Sample #:	9607E85-06
Prepared Date:	7/30/96
Analyzed Date:	7/30/96
Instrument I.D.#:	MANUAL
Sample Concentration:	0.98
Dup. Sample Concentration:	0.98
RPD:	0.0
RPD Limit:	0-20

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** RPD = Relative % Difference

CORELAB

ENVIRONMENTAL TESTING SERVICES

August 6, 1996

Mike Gregory
Sequoia Analytical
680 Chesapeake Dr.
Redwood City, CA 94063

Subject: Transmittal of Geotechnical Analysis Results
SA Project No. : 96-07-D94
Core Lab File No.: 57111-96209

Dear Mr Gregory:

A sample from project number 96-07-D94 was submitted to our Bakersfield laboratory for bulk density, total porosity, and hydraulic conductivity determination. Accompanying this letter, please find the results of this study.

Pore and grain volumes were determined by Boyle's Law dual-cell methods. Porosity and bulk density were determined and calculated as described in API RP-40, API Recommended Practice for Core-Analysis Procedure, 1960. Hydraulic conductivity was determined using ASTM D-5083 standard methods.

We appreciate this opportunity to be of service to you and to Sequoia Analytical, should you have any questions, or if we may be of further help in the future, please do not hesitate to contact us.

Very truly yours,

Jeffry L Smith

Jeffry L. Smith
Laboratory Supervisor - Rock Properties

JLS:nw
1 original report: Addressee

Core Laboratories, Inc.
3430 Unicorn Road, Bakersfield, California 93308, (805) 392-8600, Fax (805) 392-0824

CORE LABORATORIES

GEOTECHNICAL ANALYSIS RESULTS

SEQUOIA ANALYTICAL
SA PROJECT NO. 96-07-D94

CL FILE 57111-096209

PERFORMED BY:
CORE LABORATORIES
3430 UNICORN ROAD
BAKERSFIELD, CA 93308
(805) 392-8600

FINAL REPORT PRESENTED
AUGUST 6, 1996

CORELAB

ENVIRONMENTAL TESTING SERVICES

Sequoia Analytical
SA Project No.: 96-07-D94

CL File No. 57111-96209

Geotechnical Analysis Results

Sample ID	Bulk Density		Total Porosity	Description
	Dry gm/cc	Natural gm/cc	%	
6A V-2-10.5'	1.80	2.12	32.4	Sand tan vf-cgr v silty clay

Total porosity and bulk densities were determined as described in API RP-40, API Recommended Practice for Core-Analysis Procedure, 1960.

CORE LABORATORIES

HYDRAULIC CONDUCTIVITY DATA SUMMARY (ASTM D-5084) SEQUOIA ANALYTICAL SEQUOIA ANALYTICAL WORKORDER NUMBER: 9607 D943			
SAMPLE ID	**SAMPLE DESCRIPTION**	**HYDRAULIC CONDUCTIVITY (md)**	**HYDRAULIC CONDUCTIVITY (cm/sec)**
6A	V - 2 - 10.5	0.022	1.86×10^{-8}

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 17-Jul-96
Page 1 of 2

Site Address: 2703 Martin Luther King Jr. Way, Oakland
WIC#: 204-5505-1701

Shell Engineer: Jeff Granberry
Phone No.: 510 675-6168
Fax #:

Consultant Name & Address: Enviros Inc., P.O. Box 259 Sonoma, CA 95476
Consultant Contact: Joe Neely
Phone No.: 707 935-4854
Fax #: 935-6649

Comments:

Sampled by: JN.
Printed Name: Joe Neely

Analysis Required

LAB: Sequoia

CHECK ONE (1) BOX ONLY		CT/DT
G.W. Monitoring	☐	4461
Site Investigation	☒	4441
Soil Classify/Disposal	☐	4441
Water Classify/Disposal	☐	4443
Soil/Air Rem. or Sys. O & M	☐	4462
Water Rem. or Sys. O & M	☐	4463
Other	☐	

TURN AROUND TIME
24 hours ☒
48 hours ☐
15 days ☐ (Normal)
Other ☐ ____

NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	MTBE (8020)		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
B10-6	17-Jul 96		X			1						⊗	⊗							
B10-Lr2				X		3						X	X				HCl			440
B11-5			X									⊗	⊗							
B11-10.5			X																	Hold
B11-15.5			X																	
B12-5.5			X									⊗	⊗							
B12-11			X																	Hold
B12-15.5			X																	

Relinquished By (signature): JNeely	Printed Name: Joe Neely	Date: 17-Jul-96	Received (signature):	Printed Name: John Howe	Date: 7-17-96	
Relinquished By (signature):	Printed Name: John Howe	Time: 15:15	Received (signature):	Printed Name:	Time: 15:5	
Relinquished By (signature):	Printed Name:	Date: 7/17/96	Received (signature):	Printed Name:	Date:	
		Time: 440			Time:	
		Date:			Date: 7/17/96	
		Time:			Time: 1650	

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 17-Jul-96
Page 2 of 2

Site Address: 2703 Martin Luther King Jr. Way, Oakland
WIC#: 204-5508-1701

Shell Engineer: Jeff Granberry
Phone No.: 510 675-6168
Fax #:

Consultant Name & Address: Enviros Inc., P.O. Box 259 Sonoma, CA 95476
Consultant Contact: Joe Neely
Phone No.: 707 935-4854
Fax #: -6649

Comments:

Sampled by: JN
Printed Name: Joe Neely

LAB: Sequoia

CHECK ONE (1) BOX ONLY		CT/DI
G.W. Monitoring	☐	4451
Site Investigation	☒	4441
Soil Classify/Disposal	☐	4442
Water Classify/Disposal	☐	4443
Soil/Air Rem. or Sys. O & M	☐	4452
Water Rem. or Sys. O & M	☐	4453
Other	☐	

TURN AROUND TIME
24 hours ☒
48 hours ☐
15 days ☐ (Normal)
Other ☐ ____
NOTE: Notify Lab as soon as Possible of 24/48 hr. TAT.

UST AGENCY: _____

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	MTBE (8020)	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
B12-Lrg	17-Jul 96			X		3						X	X			HCl			
B13-5.5			X			1						⊗	⊗						
B13-10			X			1													Hold
B13-15.5			X			1													↓
BB-Lrg				X		3						X	X			HCl			
V-1-10.5	↓		X			1													Hold

Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
Joe Neely	Joe Neely	17 Jul 96	15:15				
	John Howe	7-17-96	4:40		John Howe	7-17-96	15:15
		Date:	Time:			Date:	Time:
		Date:	Time:		Richard Hosting	7/17/96	1640

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: ____________

Date: 19-Jul-96
Page 1 of 1

Site Address: 2703 ~~Mart~~ Martin Luther King, Oakland

WIC#: 204-5508-1701

Shell Engineer: Jeff Granberry
Phone No.: 510 675-6168
Fax #:

Consultant Name & Address: Enviros Inc., P.O. Box 259 Sonoma, CA 95476

Consultant Contact: Joe Neely
Phone No.: 707 935-4854
Fax #: -6649

Comments:

Sampled by: JN.

Printed Name: Joe Neely

LAB: Sequoia

CHECK ONE (1) BOX ONLY	CT/DT
G.W. Monitoring ☐	4461
Site Investigation ☒	4441
Soil Classify/Disposal ☒	4442
Water Classify/Disposal ☐	4443
Soil/Air Rem. or Sys. O & M ☐	4452
Water Rem. or Sys. O & M ☐	4453
Other ☐	

TURN AROUND TIME
24 hours ☐
48 hours ☐
15 days ☒ (Normal)
Other ☐

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: ____________

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	TTLC Lead (plus Shell disposal suite)	MTBE (8020)	permeability-grain, porosity, dry bulk density, fractional organic carbon content	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SP A-D	19-Jul 96		X			4						X	X					Y	CT/DT 4443	
V-2-5.5	↓		↓			1						⊗		⊗				N		
V-2-13	↓		↓			↓												↓		Hold
B12-20.5	↓		↓			↓												↓		↓
B11-20	↓		↓			↓												↓		↓
V-2-10.5	↓		↓			↓									⊗			↓		

Relinquished By (signature):	Printed Name:	Date/Time:	Received (signature):	Printed Name:	Date/Time:
[signature]	Joe Neely	Date: 22-Jul-96 Time: [illegible]	[signature]	Fultcher	Date: 7/22/96 Time: 9:45
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name:	Date: Time:

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros
270 Perkins Ave.
Sonoma, CA 95476
Attention: Joe Neely

Project: Shell 2703 Martin Luther King

Enclosed are the results from samples received at Sequoia Analytical on July 22, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION		DATE COLLECTED	TEST METHOD
9607D05 -01	SOIL,	SP A (Comp A-D)	07/19/96	Lead
9607D05 -01	SOIL,	SP A (Comp A-D)	07/19/96	TPHGBS Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros
270 Perkins Ave.
Sonoma, CA 95476

Attention: Joe Neely

Client Proj. ID: Shell 2703 Martin Luther King

Lab Proj. ID: 9607D05

Sampled: 07/19/96
Received: 07/22/96
Analyzed: see below

Reported: 08/02/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9607D05-01				
Sample Desc : **SOIL,SP A (Comp A-D)**				
#1271 **Lead**	**mg/Kg**	**07/29/96**	**2.5**	**9.0**

Analytes reported as N.D. were not present above the stated limit of detection.

ELAP Number
SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Proj. ID: Shell 2703 Martin Luther King	Sampled: 07/19/96
270 Perkins Ave.	Sample Descript: SP A (Comp A-D)	Received: 07/22/96
Sonoma, CA 95476	Matrix: SOIL	Extracted: 07/25/96
	Analysis Method: 8015Mod/8020	Analyzed: 07/26/96
Attention: Joe Neely	Lab Number: 9607D05-01	Reported: 08/02/96

QC Batch Number: GC072596BTEXEXA
Instrument ID: GCHP01

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**25**	**74**
Benzene	0.12	N.D.
Toluene	**0.12**	**0.39**
Ethyl Benzene	**0.12**	**0.86**
Xylenes (Total)	**0.12**	**3.2**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	116

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros	Client Project ID:	Shell 2703 Martin Luther King	
270 Perkins Ave.	Matrix:	Solid	
Sonoma, CA 95476			
Attention: Joe Neely	Work Order #:	9607D05 -01	Reported: Aug 5, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Lead
QC Batch#:	ME0724966010MDA
Analy. Method:	EPA 7420
Prep. Method:	EPA 3050
Analyst:	T. Le
MS/MSD #:	607C99-01
Sample Conc.:	N.D.
Prepared Date:	7/24/96
Analyzed Date:	7/29/96
Instrument I.D.#:	MV1
Conc. Spiked:	100 mg/kg
Result:	89
MS % Recovery:	89
Dup. Result:	91
MSD % Recov.:	91
RPD:	2.2
RPD Limit:	0-20

LCS #:	LCS072496
Prepared Date:	7/24/96
Analyzed Date:	7/29/96
Instrument I.D.#:	MV1
Conc. Spiked:	100 mg/kg
LCS Result:	97
LCS % Recov.:	97

MS/MSD	75-125
LCS	80-120
Control Limits	

SEQUOIA ANALYTICAL
ELAP #1271

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Enviros
270 Perkins Ave.
Sonoma, CA 95476
Attention: Joe Neely

Client Project ID: Shell 2703 Martin Luther King
Matrix: Solid
Work Order #: 9607D05 -01

Reported: Aug 5, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC072596BTEXEXA	GC072596BTEXEXA	GC072596BTEXEXA	GC072596BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	E. Cunanan	E. Cunanan	E. Cunanan	E. Cunanan
MS/MSD #:	G9607E17-01	G9607E17-01	G9607E17-01	G9607E17-01
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/25/96	7/25/96	7/25/96	7/25/96
Analyzed Date:	7/25/96	7/25/96	7/25/96	7/25/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
Result:	0.13	0.15	0.14	0.43
MS % Recovery:	65	75	70	72
Dup. Result:	0.14	0.15	0.16	0.47
MSD % Recov.:	70	75	80	78
RPD:	7.4	0.0	13	8.9
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	GBLK072496BS	GBLK072496BS	GBLK072496BS	GBLK072496BS
Prepared Date:	7/25/96	7/25/96	7/25/96	7/25/96
Analyzed Date:	7/25/96	7/25/96	7/25/96	7/25/96
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg
LCS Result:	0.17	0.18	0.18	0.55
LCS % Recov.:	85	90	90	92
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 19-Jul-96
Page 1 of 1

Site Address: 2703 ~~Mac~~ Martin Luther King, Oakland

WIC#: 204-3508-1701

Shell Engineer: Jeff Granberry
Phone No.: 510 675-6168
Fax #:

Consultant Name & Address: Enviros Inc., P.O. Box 259 Sonoma, CA 95476

Consultant Contact: Joe Neely
Phone No.: 707 935-4854
Fax #: -6649

Comments: 9607005

Sampled by: J.N.

Printed Name: Joe Neely

LAB: Segnos

CHECK ONE (1) BOX ONLY		CT/DT
G.W. Monitoring	☐	4441
Site Investigation	☒	4441
Soil Classify/Disposal	☒	4442
Water Classify/Disposal	☐	4443
Soil/Air Rem. or Sys. O & M	☐	4452
Water Rem. or Sys. O & M	☐	4453
Other	☐	

TURN AROUND TIME
24 hours ☐
48 hours ☐
15 days ☒ (Normal)
Other ☐ _____

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

UST AGENCY: _____

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	TTLC Lead (plus Shell Additions)		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SP A-D	19-Jul 96		X			4						X	X					Y	CT/DT 4443	
SV-2-5.5						1												N		Hold
V-2-13																				
B12-20.5																				
B11-20																				
V-2-10.5																				

Relinquished By (signature):	Printed Name: Joe Neely	Date: 22-Jul-96	Received (signature):	Printed Name: Fulcher	Date: 7-22-96
Relinquished By (signature):	Printed Name:	Time: ~~10:00~~ 9:45	Received (signature):	Printed Name:	Time: 9:45
Relinquished By (signature):	Printed Name:	Date: 7/22/96	Received (signature):	Printed Name:	Date:
		Time:			Time:
		Date:	Received (signature):	Printed Name: Lisa DeCardenas	Date: 7-22-96
		Time:			Time: 1140

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Rev. 7/7/93

Shell Oil Chain of Custody

Appendix C

Ground Water Monitoring Report

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

August 16, 1996

Shell Oil Company
P.O. Box 4023
Concord, CA 94524

Attn: R. Jeff Granberry

Shell WIC #204-5508-1701
2703 Martin Luther King Junior Way
Oakland, California

3rd Quarter 1996

Quarterly Groundwater Monitoring Report 960805-V-1

Blaine Tech Services, Inc. performs environmental sampling and documentation as an independent third party. Copies of our Sampling Report along with the laboratory's Certified Analytical Report are forwarded to the consultant overseeing work at this site. Submission of the assembled documents to interested regulatory agencies will be made by the designated consultant.

Groundwater monitoring at this site was performed in accordance with Standard Operating Procedures provided to the interested regulatory agencies. If you have any questions about the work performed at this site please call me at (408) 995-5535 ext. 201.

Yours truly,

Francis Thie

attachments: Table of Well Gauging Data
Chain of Custody
Field Data Sheets
Certified Analytical Report

cc: Enviros, Inc.
P.O. Box 259
Sonoma, CA 95476-0259
Attn: Joe Neely

(Any professional evaluations or recommendations will be made by the consultant under separate cover.)

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1 *	08/05/96	TOC	--	NONE	--	--	8.76	20.14
MW-2	08/05/96	TOC	--	NONE	--	--	8.35	20.08
V-1	08/05/96	TOC	--	NONE	--	--	8.58	13.11
V-2	08/05/96	TOC	--	NONE	--	--	7.94	13.28

* Sample DUP was a duplicate sample taken from well MW-1.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 960905-V-1

Date: 8-5-96
Page 1 of 1

Site Address: 2703 Martin Luther King Junior Way, Oakland, CA

WIC#: 204-5508-1701

Shell Engineer: R. Jeff Granberry — Phone No.: (510) 675-6168 Fax #: 675-6172

Consultant Name & Address: Blaine Tech Services, Inc. 985 Timothy Dr., San Jose, CA 95133

Consultant Contact: Fran Thie — Phone No.: (408) 995-5535 Fax #: 293-8773

Comments:

Sampled by: F.A. VanDenBroeck

Printed Name: F.A. VANDENBROECK

Analysis Required 9608262

LAB: SEQ

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	MTBE	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
MW-1	8/5/96			✓		3		1	A-C			✓	✓					Confirm highest	
MW-2	"			✓		3		2	✓			✓	✓					MTBE hit by	
Dup.	"			✓		3		3	✓			✓	✓					8260	

CHECK ONE (1) BOX ONLY — CT/DT

G.W. Monitoring	☒	4441
Site Investigation	☐	4441
Soil Classify/Disposal	☐	4442
Water Classify/Disposal	☐	4443
Soil/Air Rem. or Sys. O & M	☐	4452
Water Rem. or Sys. O & M	☐	4453
Other	☐	

TURN AROUND TIME

- 24 hours ☐
- 48 hours ☐
- 15 days ☒ (Normal)
- Other ☐ _____

NOTE: Notify Lab as soon as possible of 24/48 hr. TAT.

UST AGENCY: _____

Relinquished By (signature):	Printed Name:	Date: 8-5-96 Time: 5:45	Received (signature):	Printed Name:	Date: 8/5/96 Time: 5:45
Relinquished By (signature):	Printed Name:	Date: 8/5/96 Time:	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name:	Date: 8/5/96 Time: 1719

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services
985 Timothy Drive
San Jose, CA 95133
Attention: Fran Thie

Project: Shell, Oakland, 960805-V-1

Enclosed are the results from samples received at Sequoia Analytical on August 5, 1996. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9608262 -01	LIQUID, MW-1	08/05/96	TPGBMW Purgeable TPH/BTEX
9608262 -02	LIQUID, MW-2	08/05/96	TPGBMW Purgeable TPH/BTEX
9608262 -03	LIQUID, DUP	08/05/96	TPGBMW Purgeable TPH/BTEX

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

for

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell, Oakland, 960805-V-1	Sampled: 08/05/96
985 Timothy Drive	Sample Descript: MW-1	Received: 08/05/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/09/96
Attention: Fran Thie	Lab Number: 9608262-01	Reported: 08/13/96

QC Batch Number: GC080996BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	94

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

for

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell, Oakland, 960805-V-1	Sampled: 08/05/96
985 Timothy Drive	Sample Descript: MW-2	Received: 08/05/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/09/96
Attention: Fran Thie	Lab Number: 9608262-02	Reported: 08/13/96

QC Batch Number: GC080996BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	82

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

for

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Technical Services	Client Proj. ID: Shell, Oakland, 960805-V-1	Sampled: 08/05/96
985 Timothy Drive	Sample Descript: DUP	Received: 08/05/96
San Jose, CA 95133	Matrix: LIQUID	
	Analysis Method: 8015Mod/8020	Analyzed: 08/09/96
Attention: Fran Thie	Lab Number: 9608262-03	Reported: 08/13/96

QC Batch Number: GC080996BTEX21A
Instrument ID: GCHP21

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX and MTBE

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Methyl t-Butyl Ether	2.5	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	95

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

for

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Blaine Tech Services, Inc.
985 Timothy Drive
San Jose, CA 95133
Attention: Fran Thie

Client Project ID: Shell, Oakland / 960805-V-1
Matrix: Liquid
Work Order #: 9608262 -01-03

Reported: Aug 14, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC080996BTEX21A	GC080996BTEX21A	GC080996BTEX21A	GC080996BTEX21A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	D. Jirsa	D. Jirsa	D. Jirsa	D. Jirsa
MS/MSD #:	960824406	960824406	960824406	960824406
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	8/9/96	8/9/96	8/9/96	8/9/96
Analyzed Date:	8/9/96	8/9/96	8/9/96	8/9/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
Result:	11	12	10	31
MS % Recovery:	110	120	100	103
Dup. Result:	11	12	11	33
MSD % Recov.:	110	120	110	110
RPD:	0.0	0.0	9.5	6.3
RPD Limit:	0-25	0-25	0-25	0-25
LCS #:	BLK080996	BLK080996	BLK080996	BLK080996
Prepared Date:	8/9/96	8/9/96	8/9/96	8/9/96
Analyzed Date:	8/9/96	8/9/96	8/9/96	8/9/96
Instrument I.D.#:	GCHP21	GCHP21	GCHP21	GCHP21
Conc. Spiked:	10 µg/L	10 µg/L	10 µg/L	30 µg/L
LCS Result:	9.5	9.7	9.5	29
LCS % Recov.:	95	97	95	97
MS/MSD Control Limits	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

for Peggy Penner
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference