ENVIRONMENTAL RESOLUTIONS, INC.

TRANSMITTAL

TO: Ms. Eva Chu
Alameda County Health Care Services
Agency Environmental Health Division
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

DATE: October 13, 1999
PROJECT NUMBER: 223503T4
SUBJECT: Tosco 76 Service Station 1156
4276 MacArthur Boulevard, Oakland, California

FROM: Dylan R. Crouse
TITLE: Staff Geologist

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	October 11, 1999	Evaluation of Soil and Groundwater

THESE ARE TRANSMITTED as checked below:

[ ] For review and comment	[ ] Approved as submitted	[ ] Resubmit __ copies for approval
[X] As requested	[ ] Approved as noted	[ ] Submit__ copies for distribution
[ ] For approval	[ ] Return for corrections	[ ] Return __ corrected prints
[X] For your files	[ ] For distribution to regulatory agencies	

REMARKS: At the request of Tosco Marketing Company (Tosco), ERI is forwarding 1 copy of the above referenced report. Please call with any questions or comments.

Dylan R. Crouse, Staff Geologist

cc: Mr. Dave DeWitt, Tosco Marketing Company
1 to ERI project file 223503T4

ENVIRONMENTAL RESOLUTIONS, INC.

October 11, 1999
ERI 223503.R01

Mr. Dave DeWitt
Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

Subject: Evaluation of Soil and Groundwater at Tosco 76 Service Station 1156, 4276 MacArthur Boulevard, Oakland, California.

Mr. DeWitt:

At the request of Tosco Marketing Company (Tosco), Environmental Resolutions, Inc. (ERI) performed an environmental investigation at the subject site. The purpose of the work was to evaluate the extent of petroleum hydrocarbons and related constituents detected in soil and groundwater beneath the site. Tosco requested that ERI submit a Work Plan (dated May 12, 1999) in response to a letter from the Alameda County Health Services Agency (the County) dated March 12, 1999 (Attachment A), requesting that Tosco evaluate soil and groundwater conditions beneath the site. The County approved the Work Plan in a letter dated May 17, 1999 (Attachment A).

The following tasks were performed as part of this investigation:

- Obtaining a drilling permit from the Alameda Public Works Agency (Public Works);
- Observing the drilling of four on-site soil borings (B1 through B4);
- Collecting soil samples from the borings for laboratory analysis and to evaluate soil stratigraphy;
- Constructing groundwater monitoring wells MW1 through MW4 in borings (B1 through B4), respectively;
- Developing groundwater monitoring wells MW1 through MW4;
- Collecting groundwater samples from the wells for laboratory analyses;
- Submitting soil and groundwater samples for analysis of petroleum hydrocarbons and related constituents;
- Surveying well locations relative to a permanent datum and well casing elevations relative to mean sea level (msl);
- Evaluating the groundwater flow direction and gradient; and,
- Interpreting the data and preparing a report.

BACKGROUND

The site is located on the southeastern corner of MacArthur Boulevard and High Street in Oakland, California, as shown on the Site Vicinity Map (Plate 1). Properties in the vicinity of the site are occupied by commercial and residential developments.

Environmental work performed at the site has included the removal of two 10,000-gallon single-walled steel gasoline USTs, one 280-gallon single-wall steel used-oil UST, and associated product lines and dispensers, and excavation and disposal of approximately 1,350 tons of soil and backfill to Forward

Landfill in Manteca, California. Laboratory analysis of soil and groundwater samples collected during UST removal activities detected petroleum hydrocarbons in the soil and groundwater beneath the site (ERI, August 1998).

PRESENT INVESTIGATION

Scope of Work

ERI performed the field work in general accordance with ERI's Work Plan (May 1999), a site-specific Health and Safety Plan which was kept on site during field operations, and ERI's standard field protocol (Attachment B). ERI obtained a well installation permit from County Public Works before beginning work. The permit is included as Attachment C.

Soil Borings

On July 16, 1999, ERI observed Woodward Drilling, Inc. (Woodward) of Rio Vista, California, drill four on-site soil borings (B1 through B4). Drilling was performed under the guidance of an ERI geologist who collected soil samples from the borings during drilling. Soil samples were collected at approximately 5-foot intervals and above first-encountered groundwater. Groundwater was encountered at approximately 12 to 23 feet below ground surface (bgs).

ERI's geologist identified the soil samples collected from the borings using visual and manual methods, and classified the samples using the Unified Soil Classification System (Attachment D). Descriptions of the materials encountered are presented in the Boring Logs (Attachment D). Soil borings B1 through B4 were drilled ~~from~~ to approximately 25 to 31 feet bgs.

Monitoring Well Construction, Development, Sampling, and Surveying

Immediately after the borings were drilled and sampled, ERI observed Woodward construct groundwater monitoring wells MW1 through MW4 in borings B1 through B4, respectively. Details of the monitoring well construction are shown on the Boring Logs (Attachment D).

On July 19, 1999, ERI's representative developed the four new wells using surging and pumping techniques. An ERI representative measured depth to water and collected groundwater samples from wells MW1 through MW4 on July 20, 1999. Morrow Surveying of Sacramento surveyed the wells on July 21, 1999. Purge water generated during well development and sampling was left on site pending removal by Tosco to the Tosco Refinery in Rodeo, California for recycling.

Analytical Laboratory Methods

Soil Samples

Select soil samples collected from the borings were submitted under Chain of Custody record to Sequoia Analytical Laboratories, Inc. (Sequoia) in Walnut Creek, California. The laboratory analysis reports Chain of Custody records are attached (Attachment E). Soil samples were analyzed for total purgeable petroleum hydrocarbons as gas (TPPHg), methyl tertiary butyl ether (MTBE), and benzene, toluene, ethyl benzene, and total xylenes (BTEX) using the laboratory method listed in Table 1. Analytical laboratory results from select soil samples are presented in Table 1. The soil sample collected from B1, adjacent to

the former used-oil UST, was also analyzed for total extractable petroleum hydrocarbons as diesel (TEPHd), total recoverable petroleum hydrocarbons (TRPH), halogenated volatile organic compounds (HVOCs), and semi-volatile organic compounds (SVOCs) using EPA method 8270. The laboratory analysis results are included in Attachment E. At the request of Tosco, ERI submitted one soil sample, collected from boring B2 to PTS Laboratories, Inc. of Santa Fe Springs, California for analysis of select hydrogeologic parameters. The laboratory results are included in Attachment E.

ERI also collected and submitted a composite soil sample (four brass sleeves) from the drill cutting stockpile under Chain of Custody record to Sequoia to profile for disposal. The composite sample was analyzed for TPPHg, BTEX, MTBE, TRPH, HVOCs, SVOCs, and five California Assessment Manual (5-CAM) metals using the laboratory methods listed in Tables 1 and 2.

Groundwater Samples

Groundwater samples collected from wells MW1 through MW4 were submitted under Chain of Custody protocol to Sequoia. The Chain of Custody records and analytical laboratory results are provided in Attachment E. The groundwater samples were analyzed for TPPHg, BTEX, and MTBE, using the methods listed in Table 3. The groundwater samples collected from well MW1 was also analyzed for TEPHd, TRPH, HVOCs, and SVOCs using the method listed in Tables 3 and 4. The groundwater sample exhibiting the highest MTBE concentration using EPA Method 8020 was confirmed using EPA Method 8260. Please note that groundwater samples were not analyzed for oxygenated compounds di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and methanol. Groundwater samples collected from wells MW1 through MW4 will be analyzed for these oxygenated compounds during the next quarterly groundwater monitoring and sampling event.

RESULTS OF INVESTIGATION

Site Geology and Hydrogeology

Sediments encountered beneath the site consist of sandy clay interbedded with silty clay and course-grained sand. Indications of first encountered groundwater were in the borings at approximately 23 feet bgs during drilling. During July 1999, groundwater flow direction was towards the west-southwest with a calculated gradient of approximately 0.1 (Plate 2). Static water levels in the monitoring wells ranged from approximately 5 to 8.5 feet bgs.

Soil Conditions

Soil samples selected for analyses were collected above first-encountered groundwater. Photoionization detector readings were noted in borings B1 through B4 at depths ranging from 5 to 25 feet bgs. Analytical laboratory results are presented in Tables 1 and 2. Copies of laboratory reports for soil samples obtained during this investigation are included in Attachment E.

Groundwater Conditions

Results of laboratory analyses of groundwater samples are summarized in Tables 3 and 4 shown on Plate 2. Copies of the laboratory analysis reports for groundwater samples are included in Attachment E.

SOIL STOCKPILE DISPOSAL

At the request of Tosco, Manley & Sons Trucking, Inc. of Sacramento, California, transported approximately 1.7 tons of stockpiled soil to the Forward Inc. landfill in Manteca, California for disposal. Soil disposal documentation is included in Attachment F.

LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental practice in California at the time this investigation was performed. This investigation was conducted solely for the purpose of evaluating environmental conditions of the soil and first-encountered groundwater with respect to petroleum hydrocarbons. No soil engineering or geotechnical references are implied or should be inferred. Evaluation of the geologic conditions at the site for the purpose of this investigation is made from a limited number of observation points. Subsurface conditions may vary away from the data points available. Additional work, including further subsurface investigation, can reduce the inherent uncertainties associated with this type of investigation. This report has been prepared solely for Tosco and any reliance on this report by third parties shall be at such party's sole risk.

ERI recommends a signed copy of this report be forwarded to:

Ms. Eva Chu
Alameda County Health Care Services Agency
Environmental Health Division
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. Andreas Godfrey
Alameda County Public Works Agency
Water Resources Section
951 Turner Court, Suite 300
Hayward, California 94545-2651

Please call Mr. Glenn Matteucci, ERI's project manager for this site, at (415) 382-5994, if you have any questions regarding this report.

Sincerely,
Environmental Resolutions, Inc.

Dylan R. Crouse
Staff Geologist

Mark S. Dockum
R.G. 4412
C.E.G. 1675

Attachments:

	Table 1:	Analytical Results of Soil Samples (TEPHd, TPPHg, TRPH, MTBE, BTEX, 5-CAM Metals)
	Table 2:	Analytical Results of Soil Samples (HVOCs and SVOCs)
	Table 3:	Analytical Results of Groundwater Samples (TEPHd, TPPHg, TRPH, MTBE, BTEX)
	Table 4:	Analytical Results of Groundwater Samples (HVOCs and SVOCs)
	Plate 1:	Site Vicinity Map
	Plate 2:	Generalized Site Plan
	Attachment A:	Alameda County Health Services Agency Letters (dated March 12, 1999 and May 17, 1999)
	Attachment B:	Field Protocol
	Attachment C:	Well Construction Permit
	Attachment D:	Unified Soil Classification System and Symbol Key and Boring Logs
	Attachment E:	Laboratory Analysis Reports and Chain of Custody Records
	Attachment F:	Stockpile Soil Disposal Documentation

REFERENCES

Environmental Resolutions, Inc. August 24, 1998. Underground Storage Tank and Associated Piping and Dispenser Replacement, Tosco (Union) 76 Service Station 1156, 4276 MacArthur Boulevard, Oakland, California. ERI file # 223532.R01

Environmental Resolutions, Inc. May 12, 1999. Work Plan for Evaluation of Soil and Groundwater at Tosco 76 Service Station 1156, 4276 MacArthur Boulevard, California. ERI 223503.WO1.

United States Geological Survey. 1980. Oakland East, California, 7.5-Minute Topographic Quadrangle Map.

TABLE 1
ANALYTICAL RESULTS of SOIL SAMPLES
(TEPHd, TPPHg, TRPH, MTBE, 5-CAM Metals)
Tosco 76 Service Station 1156
4276 MacArthur Boulevard
Oakland, California

Sample Number	Plate Call-out	Date Sampled	TEPHd	TRPH	TPPHg	MTBE	B	T	E	X	5-CAM METALS				
											Pb	Cd	Cr	Ni	Zn
			<.....ppm.....>												
Soil - Borings															
S-10.5-B1	MW1	7/16/99	140	73	6,800	ND*	2.6	25	110	470	NA	NA	NA	NA	NA
S-10.5-B2	MW2	7/16/99	NA	NA	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
S-10.5-B3	MW3	7/16/99	NA	NA	16	0.36	0.32	0.43	0.28	1.8	NA	NA	NA	NA	NA
S-10.5-B4	MW4	7/16/99	NA	NA	22	0.71	1.1	0.32	0.46	1.3	NA	NA	NA	NA	NA
S-20.5-B4	MW4	7/16/99	ND	ND	ND	ND	ND	ND	0.0069	NA	NA	NA	NA	NA	NA
Soil-Stockpiles															
Comp SP1-(1-4)	---	7/16/99	19	NA	58	ND*	0.074	0.20	0.52	3.7	26	ND	23	28	41

Notes:

TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA Method 8015/8020 modified.
TEPHd	=	Total extractable petroleum hydrocarbons as diesel analyzed using EPA Method 3550/8015 modified.
TRPH	=	Total recoverable petroleum hydrocarbons as oil analyzed using EPA Method 5520 E&F.
ppm	=	Parts per million.
S-10.5-B1	=	Soil Sample-depth in feet-Boring 1.
Comp SP1-(1-4)	=	Stock Pile 1, 1 through 4 composite samples.
ND	=	Not detected at or above laboratory reporting limit.
NA	=	Not Analyzed.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8015/8020 modified .
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8015/8020 modified.
5-CAM Metals	=	California Assessment Manual Metals analysis performed using EPA Method 6010 A.
*	=	Elevated laboratory method detction limit.

TABLE 2
ANALYTICAL RESULTS OF SOIL SAMPLES
(HVOCs and SVOCs)
Tosco 76 Service Station 1156
4276 MacArthur Boulevard
Oakland, California

Sample Number	Plate Call-out	Date Sampled	HVOCS			SVOCs	
			Chlorobenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	2-Methylnaphthalene	Naphthalene
			<.....ppm.....>				
Soil - Borings							
S-10.5-B1	MW1	7/16/99	0.70	0.87	0.38	12	6.4
S-10.5-B2	MW2	7/16/99	NA	NA	NA	NA	NA
S-10.5-B3	MW3	7/16/99	NA	NA	NA	NA	NA
S-10.5-B4	MW4	7/16/99	NA	NA	NA	NA	NA
S-20.5-B4	MW4	7/16/99	NA	NA	NA	NA	NA
Soil-Stockpiles							
Comp SP1-(1-4)	----	7/16/99	ND	0.077	ND	ND	ND

Notes:

ppm	=	Parts per million.
S-10.5-B4	=	Soil Sample-depth in feet-Boring 4.
Comp SP1-(1-4)	=	Stock Pile 1, 1 through 4 composite samples.
HVOCs	=	Halogenated volatile organic compounds analyzed using EPA Method 8010.
SVOCs	=	Semi-volatile organics compounds analyzed using EPA Method 8270.
ND	=	Not detected at or above laboratory reporting limit.
Plate call out	=	MW1 (Monitoring Well 1).
---	=	Not applicable.
NA	=	Not Analyzed.

TABLE 3
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
(TEPHd, TPPHg, TRPH, BTEX, MTBE)
Tosco 76 Service Station 1156
4276 MacArthur Boulevard
Oakland, California

Sample (TOC)	Date Sampled	DTW (ft bgs)	Groundwater Elevation	TEPHd	TRPH	TPPHg	B	T	E	X	MTBE
				<.....ppb.....>							
W-9-MW1 (179.86)	7/20/99	7.50	167.36	16,000	ND**	120,000	11,000	27,000	3,300	18,000	ND**
W-6-MW2 (173.01)	7/20/99	5.40	167.61	NA	NA	ND**	ND**	ND**	ND**	ND**	4,500/11,000*
W-9-MW3 (178.44)	7/20/99	8.50	169.94	NA	NA	1,000	76	52	79	76	330
W-9-MW4 (179.10)	7/20/99	7.40	171.70	NA	NA	69	2.7	0.77	ND	7.1	100

Notes:

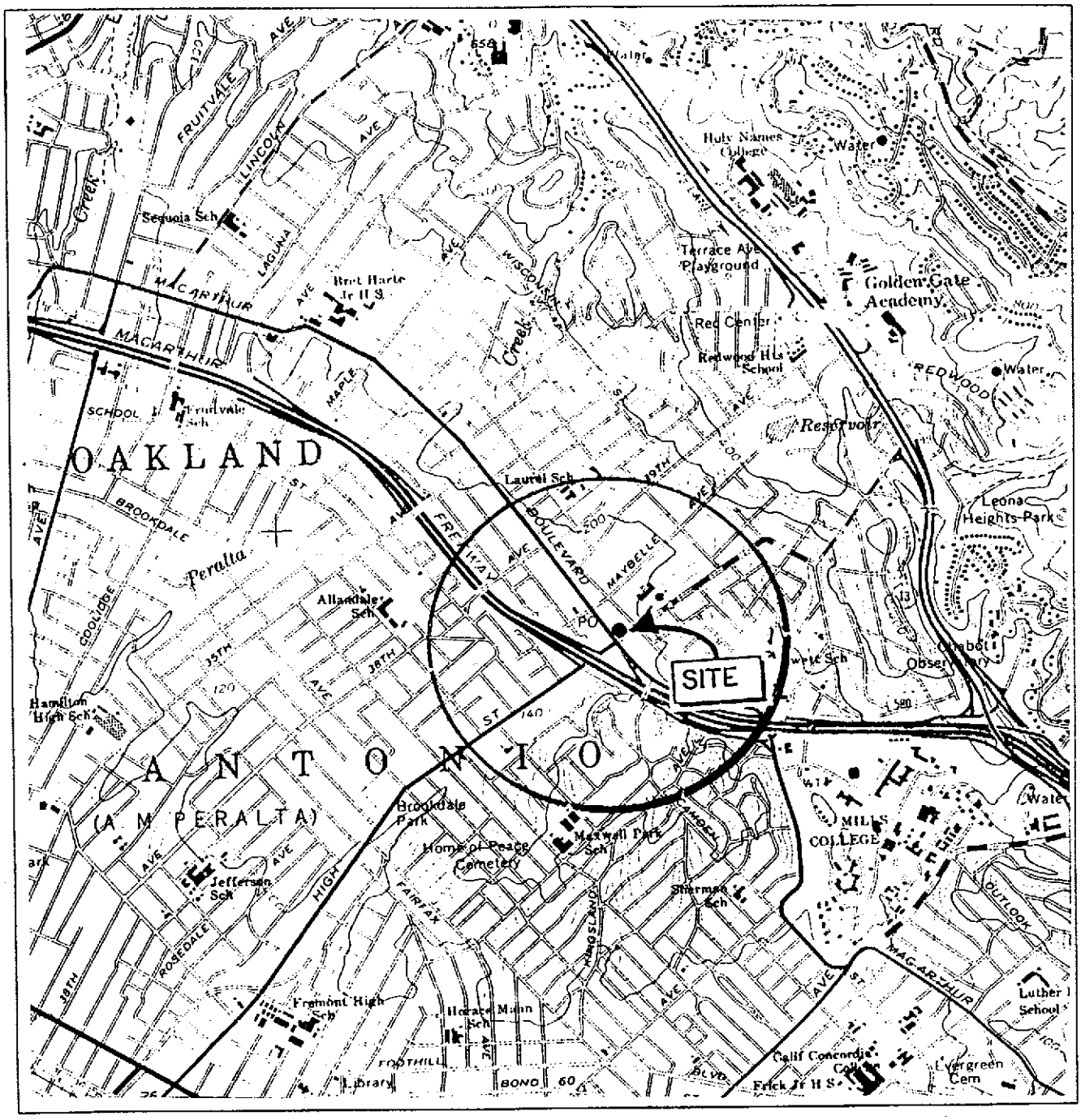
ppb	=	Parts per billion
W-9-MW4	=	Water sample-depth in feet-Monitoring Well #4.
TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA Method 8015 modified.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8020.
TEPHd	=	Total extractable petroleum hydrocarbons as diesel analyzed using EPA Method 3550/8015 modified.
TRPH	=	Total recoverable petroleum hydrocarbons as oil analyzed using EPA Method 5520 B&F.
*	=	MTBE confirmed using EPA Method 8260.
NA	=	Not Analyzed.
ND	=	Not detected at or above laboratory method detection limit.
**	=	Elevated laboratory detection limit.

TABLE 4
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
(HVOCs and SVOCs)
Tosco 76 Service Station 1156
4276 MacArthur Boulevard
Oakland, California

Sample (TOC)	Date Sampled	DTW (ft bgs)	Groundwater Elevation	HVOCs						SVOCs				
				Chlorobenzene	1,2-DCB	1,1-DCA	1,2-DCA	cis-1,2-DCA	1,2DCPA	BA	2,4-DMP	2-MNE	4-MP	Naphthalene
				<.....ppb.....>										
W-9-MW1 (179.86)	7/20/99	7.50	167.36	12	3.9	2.0	20	3.6	0.92	37	140	240	27	600
W-6-MW2 (173.01)	7/20/99	5.40	167.61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
W-9-MW3 (178.44)	7/20/99	8.50	169.94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
W-9-MW4 (179.10)	7/20/99	7.40	171.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ppb	=	Parts per billion
W-9-MW4	=	Water sample-depth in feet-Monitoring Well #4.
TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA Method 8015 modified.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 8260.
TEPHd	=	Total extractable petroleum hydrocarbons as diesel analyzed using EPA Method 8015 modified.
TRPH	=	Total recoverable petroleum hydrocarbons analyzed using EPA Method 5520 B&F.
HVOCs	=	Halogenated volatile organic compounds analyzed using EPA Method 8010. HVOCs lised in table were detected in at least one sample at or above the laboratory method detection limit. All others analyzed using EPA Method 8010 were not detected at or above the laboratory method detection limit in any samples analyzed.
1,2-DCB	=	1,2-Dichlorobenzene analyzed using EPA Method 8010.
1,1-DCA	=	1,1-Dichloroethane analyzed using EPA Method 8010.
1,2-DCA	=	1,2-Dichloroethane analyzed using EPA Method 8010.
cis-1,2-DCA	=	cis-1,2-Dichloroethane analyzed using EPA Method 8010.
1,2-DCPA	=	1,2-Dichloropropane analyzed using EPA Method 8010.
SVOCs	=	Semi-volatile organic compounds analyzed using EPA Method 8270. SVOCs were detected in at least one sample at or above the laboratory method detection limits. All others analyzed using EPA Method 8270 were not detected at or above the laboratory method detection limit in any samples analyzed.
BA	=	Benzyl Alcohol analyzed using EPA Method 8270.
2,4-DMP	=	2,4-Dimethylphenol analyzed using EPA Method 8270.
2-MNE	=	2-Methylnaphthalene analyzed using EPA Method 8270.
ND	=	Not detected at or above laboratory method detection limit.
NA	=	Not Analyzed.



FN 22350001

Source: U.S.G.S. 7.5 minute topographic quadrangle map Oakland East, California (Photorevised 1980)

N

APPROXIMATE SCALE

0 1/2 1

MILE

ENVIRONMENTAL RESOLUTIONS, INC.

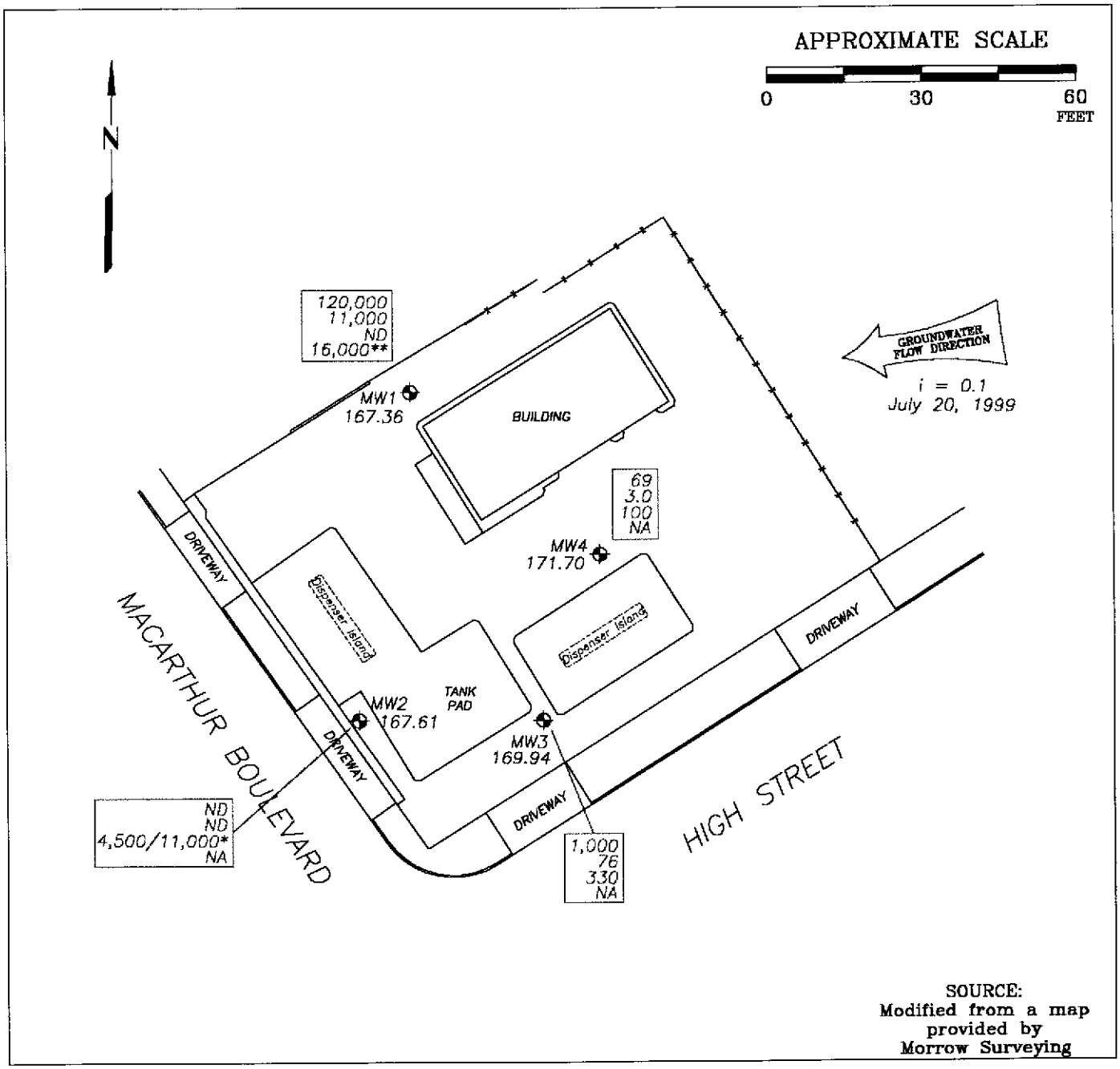
PROJECT ERI 2235

SITE VICINITY MAP

TOSCO 76 SERVICE STATION 1156
4276 MacArthur Boulevard
Oakland, California

PLATE

1



SOURCE:
Modified from a map provided by Morrow Surveying

FN 2235002A

EXPLANATION

MW4 ◆ Groundwater Monitoring Well

171.70 Groundwater Elevation Relative to Mean Sea Level

i = Interpreted Groundwater Gradient

Analytical results for Toluene, Ethylbenzene, and Total Xylenes are presented in Table 2.

Groundwater Concentrations in ppb.
Sampled July 20, 1999

120,000	Total Purgeable Petroleum Hydrocarbons as Gasoline
11,000	Benzene
ND	Methyl Tertiary Butyl Ether (MTBE)
16,000	Total Extractable Petroleum Hydrocarbons as Diesel
ND	Not Detected At or Above the Laboratory Method Detection Limit
NA	Not Analyzed
*	MTBE confirmed using EPA Method 8260
**	Total Recoverable Petroleum Hydrocarbons, Halogenated Volatile Organic Compounds, and Semivolatile Organic Compounds Analytical Results are presented in Table 2
ppb	Parts Per Billion

ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

TOSCO 76 SERVICE STATION 1156
4276 MacArthur Boulevard
Oakland, California

PROJECT NO. 2235

PLATE 2

September 9, 1999

ATTACHMENT A

ALAMEDA COUNTY
HEALTH CARE SERVICES AGENCY LETTERS
(dated March 17, 1999 and May 17, 1999)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700

StID 1163

March 12, 1999

Mr. Dave DeWitt
Tosco
P.O. Box 5155
San Ramon, CA 94583

RE: PSA for 76 Service Station 1156 at 4276 MacArthur Blvd., Oakland, CA

Dear Mr. Dewitt:

I have completed review of Environmental Resolutions, Inc's August 1998 *Underground Storage Tank and Associated Piping and Dispenser Replacement* report prepared for the above referenced site. This report summarized activities for the removal on one waste oil UST and removal and replacement of two gasoline USTs and associated piping and dispensers. Soil and groundwater samples collected from the excavation and trenches contained elevated petroleum hydrocarbon constituents.

At this time, additional investigations are required to delineate the extent and severity of soil and groundwater contamination at the site. Such an investigation shall be in the form of a **Preliminary Site Assessment**, or PSA. The information gathered by the PSA will be used to determine an appropriate course of action to remediate the site, if deemed necessary. A PSA proposal is due within 90 days of the date of this letter, or **by June 18, 1999.**

I have also enclosed an *Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report* which should be completed and returned to this office within 10 working days.

If you have any question, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

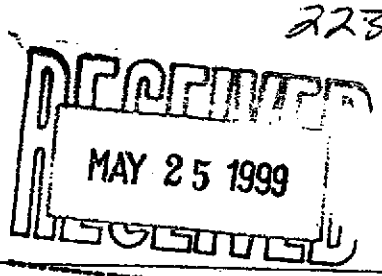
enclosure

76SS1156-1

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 1
To Glenn M	From Dave DeWitt
Co.	Co.
Dept.	Phone #
Fax #	Fax #

2235057Y

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

StID 1163

May 17, 1999

Mr. Dave DeWitt
Tosco
P.O. Box 5155
San Ramon, CA 94583

RE: Workplan Approval for 76 Service Station 1156 at 4276 MacArthur Boulevard, Oakland, CA

Dear Mr. DeWitt:

I have completed review of ERI's May 1999 *Work Plan for Evaluation of Soil and Groundwater* prepared for the above referenced site. The proposal to install four groundwater monitoring wells to evaluate the extent and severity of soil and groundwater contamination at the site is acceptable.

Field work should commence within 60 days of the date of this letter. Please notify me at least 72 hours prior to the start of field activities.

If you have any questions, I can be reached at (510) 567-6762.

eva chu
Hazardous Materials Specialist

c: Glenn Matteucci
ERI
73 Digital Drive, Suite 100
Novato, CA 94949-5791

76ss1156-2

ATTACHMENT B
FIELD PROTOCOL

FIELD PROTOCOL

Site Safety Plan

Field work is performed by ERI personnel in accordance with a site safety plan developed for the site. This plan describes the basic safety requirements for the subsurface investigation and the drilling of soil borings at the work site. The site safety plan is applicable to personnel and subcontractors of ERI. Personnel at the site are informed of the contents of the site safety plan before work begins. A copy of the site safety plan is kept at the work site and is available for reference by appropriate parties during the work. The ERI geologist acts as the Site Safety Officer.

Soil Borings and Sampling

Prior to drilling of borings and construction of wells, ERI acquires necessary permits from the appropriate agency(ies). ERI also contacts Underground Service Alert (USA) before drilling to help locate public utility lines at the site. ERI observes the driller hand-probe and hand-auger boring locations to a depth of approximately 5 feet bgs and a diameter greater than the soil boring diameter before drilling to reduce the risk of damaging underground structures.

Soil borings are drilled with a CME-55 (or similar) drill rig equipped with 8-inch diameter, hollow-stem augers. Auger flights and sampling equipment are steam-cleaned before use to minimize the possibility of cross-hole contamination. The rinsate is containerized and stored on site. ERI will coordinate with Tosco for appropriate recycling or disposal of the rinsate.

Drilling is performed under the observation of a field geologist, and the earth materials in the borings are identified using visual and manual methods, and classified as drilling progresses using the Unified Soil Classification System. Soil borings are drilled to approximately 10 feet below the uppermost zone of saturation or 5 feet into any competent clay layer (aquitard) encountered beneath the water-bearing zone. If an aquitard is encountered, the boring is terminated and backfilled with bentonite before installing a groundwater monitoring well.

During drilling, soil samples are collected at 5-foot intervals, obvious changes in lithology, and just above the groundwater surface. Samples are collected with a California-modified, split-spoon sampler equipped with laboratory-cleaned brass sleeves. Samples are collected by advancing the auger to a point just above the sampling depth and driving the sampler into the soil. The sampler is driven 18 inches with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows required to drive the sampler each successive 6-inch interval is counted and recorded to give an indication of soil consistency.

Soil samples are monitored with a photoionization detector (PID), which measures hydrocarbon concentrations in the ambient air or headspace above the soil sample. Field instruments such as the PID are useful for indicating relative levels of hydrocarbon vapors, but do not detect concentrations of hydrocarbons with the same precision as laboratory analyses. Soil samples selected for possible chemical analysis are sealed promptly with Teflon® tape, and plastic caps. The samples are labeled and placed in iced storage for transport to the laboratory. Chain of Custody Records are initiated by the geologist in the field, updated throughout handling of the samples, and sent with the samples to the laboratory. Copies of these records are in our report. Cuttings generated during drilling are

placed on plastic sheeting and covered and left at the site. ERI coordinates with Tosco for the soil to either be treated on site or removed to an appropriate recycling or disposal facility.

Monitoring Well Construction

Monitoring wells are constructed in borings using thread-jointed, 2-inch inner diameter, Schedule 40 polyvinyl chloride (PVC) casing. No chemical cements, glues, or solvents are used in well construction. The screened portion of each well consists of factory-perforated casing with 0.010-inch wide slots. If unconfined aquifer conditions exist, the well screen is installed from the total depth of each well to approximately 10 feet above the uppermost water-bearing unit. If confined conditions exist, the uppermost water-bearing unit is screened exclusively. Unperforated casing is installed from the top of each screen to the ground surface. The annular space in the well is packed with #2/1 sand to approximately 1 to 2 feet above the slotted interval. A bentonite plug is added above the sand pack to prevent cement from entering the well pack. The remaining annulus is backfilled to grade with a slurry of portland cement.

The monitoring wells are protected with a traffic-rated, cast-aluminum utility box equipped with a PVC skirt. The box has a watertight seal to protect against surface-water infiltration and must be opened with a special wrench. The design of this box discourages vandalism and reduces the possibility of accidental disturbance of the well.

Well Development and Sampling

ERI waits a minimum of 24 hours before development of the monitoring wells to allow the grout to seal. Initially, a water sample is collected for subjective analysis before development of the monitoring wells. This sample is collected from near the water surface in the well with a Teflon® bailer cleaned with a laboratory-grade detergent and deionized water. The wells are developed with a surge block and pump. Well development continues until the discharge water is clear of silt and sand. Clay-size sediments derived from the screened portion of the formation cannot be eliminated by well development. After the well has been allowed to stabilize, the well is checked for floating product using an interface probe. The thickness of any product detected in the well is recorded. If floating product is encountered in the well, the well is not purged, and the water is not sampled for chemical analysis. Product is bailed from the well and stored in appropriately labeled drums on site. ERI apprises Tosco of appropriate recycling and disposal options for product bailed from the well.

If no floating product is detected after development, the well is purged of stagnant water and a sample is collected for laboratory analysis. The well is purged of approximately three to five well volumes of water with a submersible pump, or until pH, conductivity, and temperature of the purged water have stabilized. Water purged from the wells is stored in labeled, 55-gallon, steel drums approved for this use by the Department of Transportation until suitable disposal options can be selected based on laboratory analysis. ERI coordinates with Tosco for recycling or disposal of the purged water.

The wells are allowed to recover to at least 80 percent of static conditions, and a sample of the formation water is collected with a Teflon® bailer cleaned with a laboratory-grade detergent and deionized water. The water is transferred slowly from the bailer to laboratory-cleaned, 1-liter amber bottles and 40-milliliter glass vials for analyses by the laboratory. The glass vials contain hydrochloric acid as a preservative. Our geologist checks to see if headspace is present. If headspace is present, we

collect more samples until none is present. Chain of Custody Records are initiated in the field by the geologist, updated throughout handling of the samples, and sent along with the samples to the laboratory. Copies of Chain of Custody Records are included in our report.

Gradient Evaluation

ERI evaluates the direction of flow and gradient at the site. The elevation of the top of each well casing is measured relative to mean sea level by a licensed land surveyor. Water-depth measurements are made from the top of the casing in the well to the nearest 0.01 foot with an electronic water-level indicator. The well is vented to atmosphere for a minimum of 0.5 to 1 hour before obtaining depth-to-water measurements. Venting is conducted to allow the groundwater to equilibrate with barometric pressure. These data are combined to evaluate the relative elevation of the groundwater surface in each well and the slope of the groundwater surface across the site.

Quality Assurance/Quality Control

The sampling and analysis procedures employed by ERI for groundwater monitoring and sampling follow regulatory guidance documents for quality assurance/quality control (QA/QC). Quality control is maintained by site-specific field protocols and quality control checks performed by the laboratory. Laboratory and field handling of samples may be monitored by including QC samples for analysis. QC samples may include any combination of the following. The number and types of QC samples are selected and analyzed on a project-specific basis.

Trip Blanks - Trip blanks are sent to the project site, and travel with samples collected from the project site to the laboratory. They are not opened, and are returned from the project site with the samples for analysis.

Field Blank - Prepared in the field using organic-free water. Field blanks accompany samples collected at the project site to the laboratory and are analyzed periodically for specific chemical compounds present at the project site where they were prepared.

Duplicates - Duplicate samples are collected from a selected well and project site. They are analyzed at two different laboratories, or at the same laboratory under different labels.

Equipment Blank - Periodic QC samples are collected from field equipment rinsate to verify adequate cleaning procedures.

ATTACHMENT C
WELL CONSTRUCTION PERMIT

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
951 TURNER COURT, SUITE 300, HAYWARD, CA 94545-2651
PHONE (510) 670-5575 ANDREAS GODFREY FAX (510) 670-5262
(510) 670-5248 ALVIN KAN

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 4276 Mac Arthur Boulevard, OAKLAND

California Coordinates Source ____ Accuracy ± ____ ft.
CCN ____ ft. CCE ____ ft.
APN ____

CLIENT
Name Tosco Marketing COMPANY ATTN: DANE DeWitt
Address 2000 Crow Canyon Phone 925-277-2394
City SAN RAMON CA Zip 94583

APPLICANT
Name Environmental Resolutions, Inc
Dylan Crouse @
Address Ygnacio Dr 74 Suite 6 Fax 415 382-1856
City NOVATO Phone 415 382-9105
Zip 94925

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☒	Well Destruction	☐

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other ____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☒
Cable	☐	Other	☐		

DRILLER'S LICENSE NO. 710079

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 20 ft.
Surface Seal Depth 4 ft. Number 4

GEOTECHNICAL PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

ESTIMATED STARTING DATE 7/14/99
ESTIMATED COMPLETION DATE 7/14/99

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Dylan Crouse DATE ____

FOR OFFICE USE

PERMIT NUMBER 99WR263
WELL NUMBER ____
APN ____

PERMIT CONDITIONS

Circled Permit Requirements Apply

GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

A. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL
Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cutting

E. CATHODIC
Fill hole above anode zone with concrete placed by trem

F. WELL DESTRUCTION
See attached.

G. SPECIAL CONDITIONS

APPROVED [signature] DATE 6-10

** TOTAL PAGE.02 **

** TOTAL PAGE.02 **

ATTACHMENT D
UNIFIED SOIL CLASSIFICATION SYSTEM AND SYMBOL KEY AND BORING LOGS

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		LTR	DESCRIPTION
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravels or gravel sand mixtures, little or no fines
		GP	Poorly-graded gravels or gravel sand mixture, little or no fines
		GM	Silty gravels, gravel-sand-clay mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
	SAND AND SANDY SOILS	SW	Well-graded sands or gravelly sands, little or no fines
		SP	Poorly-graded sands or gravelly sands, little or no fines
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures

MAJOR DIVISIONS		LTR	DESCRIPTION
FINE GRAINED SOILS	SILTS AND CLAYS LL<50	ML	Inorganic silts and very fine-grained sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silt-clays of low plasticity
	SILTS AND CLAYS LL>50	MH	Inorganic silts, micaceous or diatomaceous fine-grained sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils

DEPTH THROUGH WHICH SAMPLER IS DRIVEN

RELATIVELY UNDISTURBED SAMPLE

MISSED SAMPLE

GROUNDWATER LEVEL OBSERVED FROM FIRST WET SOIL SAMPLE IN BORING

STATIC GROUNDWATER LEVEL

OVM — ORGANIC VAPOR METER READING IN PARTS PER MILLION

PID — PHOTO-IONIZATION DETECTOR READING IN PARTS PER MILLION

WELL DESIGN

SAND PACK

BENTONITE ANNULAR SEAL

NEAT CEMENT ANNULAR SEAL

BLANK PVC

MACHINE-SLOTTED PVC

S-10 — SAMPLE LOCATION

NR — NOT RECORDED

NA — NOT ANALYZED

BLOW/FT. REPRESENTS THE NUMBER OF BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH THE LAST 12 INCHES OF AN 18-INCH PENETRATION.

DASHED LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDARIES ONLY. ACTUAL BOUNDARIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.

ENVIRONMENTAL RESOLUTIONS, INC.	**UNIFIED SOIL CLASSIFICATION SYSTEM AND LOG OF BORINGS SYMBOL KEY**	**ATTACHMENT**
PROJECT ERI 2235	TOSCO 76 SERVICE STATION 1156 4276 MacArthur Boulevard Oakland, California	D

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: B1/MW1 Plate: APPENDIX
Site: Tosco 76 Service Station 1156 Date: 7/16/99
Drill Contractor: Woodward Drlling
Sample Method: Split Spoon Geologist: MARK S. DOCKUM
Drill Rig: B57 Bore Hole Diameter: 8" Signature:
Location: 10 Feet North of Northwestern Corner of Station Registration: R.G. 4412
Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						2 1/2" asphalt	
					CH	Clay, grayish green, very moist, high plasticity	
					SP	Sand, fine-grained, grayish green, moist, no plasticity, black staining	
5	39	253			CH	Clay, grayish green, very moist, high plasticity	
10	27	87			ML	Silty sand, fine-grained sand, black, very moist, no plasticity, (65% silt, 35% sand)	
						Clay, with some sand, medium-grained, light olive brown, medium plasticity, wet	
15	36	222			CL		
20	37	22				sandy clay, strong brown, (40% sand, 60% clay)	
25	33	9				yellow orange, high plasticity, very moist	
						Total depth at 26.5 feet. Groundwater encountered at 23'7".	

Casing Diameter: 2" Slot Size: .010 , Sand Size: 2/12 , Grout: Portland I,II

FN: 22350001

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: B2/MW2 Plate: APPENDIX
Site: Tosco 76 Service Station 1156 Date: 7/16/99
Drill Contractor: Woodward Drilling
Sample Method: Split Spoon Geologist: MARK S. DOCKUM
Drill Rig: B57 Bore Hole Diameter: 8" Signature:
Location: 2 Feet EAst of Southernmost Driveway Registration: R.G. 4412
Along MacArthur Boulevard Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						4" asphalt	
						Clay, dark greenish gray, mottled redish orange, some coarse-grained sand, slightly damp, high plasticity, (35% sand, 65% clay)	
5	11	20			CH		
10	18	0				15% fine gravels up to 0.5", 20% sand, medium-grained, damp	
						Silty clay, orange brown, mottled green gray, (35% silt, 65% clay), moist, medium plasticity	
15	21	130			CL		
20	29	20				gravelly clay, light yellowish brown, (40% fine gravel, 60% clay), medium plasticity, very moist, black staining	
		▼					
					ML	Sandy clay, trace of silt, yellowish brown, wet, medium plasticity, (35% sand, 15% silt, 50% clay)	
25	45	18					
						Total depth at 26.5 feet. Groundwater encountered at 23' 6".	

Casing Diameter: 2" Slot Size: 010 , Sand Size: 2/12 , Grout: Portland I,II

FN: 22358002

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: B3/MW3 Plate: APPENDIX
Site: Tosco 76 Service Station 1156 Date: 7/16/99
Drill Contractor: Woodward Drilling
Sample Method: Split Spoon Geologist: MARK S. DOCKUM
Drill Rig: B57 Bore Hole Diameter: 8" Signature:
Location: Approximately 15' South West of Southern-most Dispenser Island Parallel to High Street Registration: R.G. 4412
Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	USCS	GEOLOGIC DESCRIPTION
				4 1/2" asphalt
				Clay, dark yellowish brown, mottled, trace of medium-grained sand, slightly damp, high plasticity, (15% sand, 85% clay)
5	18	235	CH	brown, mottled gray, dry
10	33	265		staining, trace of coarse gravel and rootlets (15% gravel, 85% clay), slightly damp
				Sandy clay, greenish gray, mottled, orange, some medium-grained sand, slight plasticity, caliche present, (35% sand, 65% clay)
15	25	81	CL	
				Clay, strong brown, slight mottling, trace of medium-grained sand, 20% sand, high plasticity, black staining, 80% clay
20	36	9	CH	
				Gravel, yellowish brown, wet
			GW	
25	25	0	CH	Clay, trace of medium-grained sand, yellowish brown, very moist, high plasticity, (15% sand)
			GW	Gravel, orange, slight plasticity, wet
				Clay, yellowish brown, moist, high plasticity
30	22	0	CH	
				Total depth at 31.5 feet. Groundwater encountered at 23.3 feet. Static groundwater at 12 feet.

WELL DESIGN

Casing Diameter: 2" Slot Size: 010 , Sand Size: 2/12 , Grout: Portland I/II

FN: 22358003

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: B4/MW4 Plate: APPENDIX
Site: Tosco 76 Service Station 1156 Date: 7/16/99
Drill Contractor: Woodward Drilling
Sample Method: Split Spoon Geologist: MARK S. DOCKUM
Drill Rig: B57 Bore Hole Diameter: 8" Signature:
Location: 18 Feet North of Southernmost Dispenser Island Parallel High Street Registration: R.G. 4412
Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						4 1/2" asphalt	
						Clay, greenish gray, mottled, orange slightly damp, high plasticity	
5	17	309					
10	22	253			CH	trace of medium-grained sand, slightly moist	
15	19	4				moist	
20	28	4				brownish yellow, black staining, 20% gravel, 20% medium-grained sand, moist	
		▼				brown, mottled, olive yellow, moist, black staining	
25	36	0					
						Total depth at 26.5 feet. Groundwater encountered at 23.6 feet.	

Casing Diameter: 2" Slot Size: 010 , Sand Size: 2/12 , Grout: Portland I,II

FN: 22358004

ATTACHMENT E
LABORATORY ANALYSIS REPORTS
AND CHAIN OF CUSTODY RECORDS

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

AUG 18 1999

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Matrix:	Soil	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	EPA 5030/8015 Mod./8020	Reported:	Aug 5, 1999
Attention: Glenn M.	First Sample #:	907-1434		

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit mg/Kg	Sample I.D. 907-1434 S-10.5-B3	Sample I.D. 907-1435 S-10.5-B4	Sample I.D. 907-1436 S-20.5-B4	Sample I.D. 907-1437 S-10.5-B2	Sample I.D. 907-1438 S-10.5-B1	Sample I.D. 907-1439 SP1(1-4)
QC Batch Number:		SP072299 8020EXA	SP072299 8020EXA	SP072299 8020EXA	SP072299 8020EXA	SP072299 8020EXA	SP072299 8020EXA
Purgeable Hydrocarbons	1.0	16	22	N.D.	N.D.	6,800	58
Benzene	0.0050	0.32	1.1	N.D.	N.D.	2.6	0.074
Toluene	0.0050	0.43	0.32	N.D.	N.D.	25	0.20
Ethyl Benzene	0.0050	0.28	0.46	N.D.	N.D.	110	0.52
Total Xylenes	0.0050	1.8	1.3	0.0069	N.D.	470	3.7
MTBE	0.050	0.36	0.71	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		Gasoline	Gasoline	--	--	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	5.0	10	1.0	1.0	500	10
Date Analyzed:	7/22/99	7/22/99	7/22/99	7/22/99	7/23/99	7/23/99
Instrument Identification:	HP-4	HP-4	HP-4	HP-4	HP-4	HP-4
Surrogate Recovery, %: (QC Limits = 70-130%)	81	92	72	76	*	101

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Please Note:
* Surrogate recovery below detection limit due to dilution.

9071434.ENR <1>

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Matrix:	Soil	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	EPA 3550/8015 Mod.	Reported:	Aug 5, 1999
Attention: Glenn M.	First Sample #:	907-1438		

QC Batch Number: SP073099 SP073099

8015EXB 8015EXB

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 907-1438 S-10.5-B1	Sample I.D. 907-1439 SP1(1-4)
Extractable Hydrocarbons	1.0	140	19
Chromatogram Pattern:		Unidentified Hydrocarbons >C9	Unidentified Hydrocarbons <C14 & >C18

Quality Control Data

Report Limit Multiplication Factor:	20	10
Date Extracted:	7/30/99	7/30/99
Date Analyzed:	7/31/99	8/2/99
Instrument Identification:	HP-3A	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Please Note:
Blank has a detected value of 1.4 mg/Kg.

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Matrix Descript:	Soil	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Aug 1, 1999
Attention: Glenn M.	First Sample #:	907-1438	Analyzed:	Aug 1, 1999
			Reported:	Aug 5, 1999

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)	Detection Limit Multiplication Factor	QC Batch Number
907-1438	S-10.5-B1	73	1.0	SP0801995520EXA

Detection Limits:	**50**

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

9071434.ENR <3>

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Descript:	Soil, S-10.5-B1	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	EPA 5030/8010	Analyzed:	Jul 30, 1999
Attention: Glenn M.	Lab Number:	907-1438	Reported:	Aug 5, 1999

QC Batch Number: SP0727998010EXA

Instrument ID: HP-7

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Bromodichloromethane	0.025	N.D.
Bromoform	0.025	N.D.
Bromomethane	0.050	N.D.
Carbon tetrachloride	0.025	N.D.
Chlorobenzene	**0.025**	**0.70**
Chloroethane	0.050	N.D.
Chloroform	0.025	N.D.
Chloromethane	0.050	N.D.
Dibromochloromethane	0.025	N.D.
1,2-Dichlorobenzene	**0.025**	**0.87**
1,3-Dichlorobenzene	0.025	N.D.
1,4-Dichlorobenzene	**0.025**	**0.38**
1,1-Dichloroethane	0.025	N.D.
1,2-Dichloroethane	0.025	N.D.
1,1-Dichloroethene	0.025	N.D.
cis-1,2-Dichloroethene	0.025	N.D.
trans-1,2-Dichloroethene	0.025	N.D.
1,2-Dichloropropane	0.025	N.D.
cis-1,3-Dichloropropene	0.025	N.D.
trans-1,3-Dichloropropene	0.025	N.D.
Methylene chloride	0.25	N.D.
1,1,2,2-Tetrachloroethane	0.025	N.D.
Tetrachloroethene	0.025	N.D.
1,1,1-Trichloroethane	0.025	N.D.
1,1,2-Trichloroethane	0.025	N.D.
Trichloroethene	0.025	N.D.
Trichlorofluoromethane	0.025	N.D.
Vinyl chloride	0.050	N.D.

Surrogates	Control Limit %		% Recovery
1-Chloro-2-fluorobenzene	50	150	89
4-Bromofluorobenzene	50	150	78

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Descript:	Soil, SP1(1-4)	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	EPA 5030/8010	Analyzed:	Jul 30, 1999
Attention: Glenn M.	Lab Number:	907-1439	Reported:	Aug 5, 1999

QC Batch Number: SP0727998010EXA

Instrument ID: HP-7

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Bromodichloromethane	0.025	N.D.
Bromoform	0.025	N.D.
Bromomethane	0.050	N.D.
Carbon tetrachloride	0.025	N.D.
Chlorobenzene	0.025	N.D.
Chloroethane	0.050	N.D.
Chloroform	0.025	N.D.
Chloromethane	0.050	N.D.
Dibromochloromethane	0.025	N.D.
1,2-Dichlorobenzene	**0.025**	**0.077**
1,3-Dichlorobenzene	0.025	N.D.
1,4-Dichlorobenzene	0.025	N.D.
1,1-Dichloroethane	0.025	N.D.
1,2-Dichloroethane	0.025	N.D.
1,1-Dichloroethene	0.025	N.D.
cis-1,2-Dichloroethene	0.025	N.D.
trans-1,2-Dichloroethene	0.025	N.D.
1,2-Dichloropropane	0.025	N.D.
cis-1,3-Dichloropropene	0.025	N.D.
trans-1,3-Dichloropropene	0.025	N.D.
Methylene chloride	0.25	N.D.
1,1,2,2-Tetrachloroethane	0.025	N.D.
Tetrachloroethene	0.025	N.D.
1,1,1-Trichloroethane	0.025	N.D.
1,1,2-Trichloroethane	0.025	N.D.
Trichloroethene	0.025	N.D.
Trichlorofluoromethane	0.025	N.D.
Vinyl chloride	0.050	N.D.

Surrogates	Control Limit %		% Recovery
1-Chloro-2-fluorobenzene	50	150	87
4-Bromofluorobenzene	50	150	71

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Descript:	Soil, S-10.5-B1	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	EPA 8270	Extracted:	Jul 26, 1999
Attention: Glenn M.	Lab Number:	907-1438	Analyzed:	Jul 30, 1999
			Reported:	Aug 5, 1999

QC Batch Number: SP0726998270EXA

Instrument ID: GC/MS-1

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acenaphthene	0.50	N.D.
Acenaphthylene	0.50	N.D.
Aniline	0.50	N.D.
Anthracene	0.50	N.D.
Benzidine	13	N.D.
Benzoic Acid	2.5	N.D.
Benzo(a)anthracene	0.50	N.D.
Benzo(b)fluoranthene	0.50	N.D.
Benzo(k)fluoranthene	0.50	N.D.
Benzo(g,h,i)perylene	0.50	N.D.
Benzo(a)pyrene	0.50	N.D.
Benzyl alcohol	0.50	N.D.
Bis(2-chloroethoxy)methane	0.50	N.D.
Bis(2-chloroethyl)ether	0.50	N.D.
Bis(2-chloroisopropyl)ether	0.50	N.D.
Bis(2-ethylhexyl)phthalate	2.5	N.D.
4-Bromophenyl phenyl ether	0.50	N.D.
Butyl benzyl phthalate	0.50	N.D.
4-Chloroaniline	0.50	N.D.
2-Chloronaphthalene	0.50	N.D.
4-Chloro-3-methylphenol	0.50	N.D.
2-Chlorophenol	0.50	N.D.
4-Chlorophenyl phenyl ether	0.50	N.D.
Chrysene	0.50	N.D.
Dibenz(a,h)anthracene	0.50	N.D.
Dibenzofuran	0.50	N.D.
Di-N-butyl phthalate	2.5	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
3,3-Dichlorobenzidine	2.5	N.D.
2,4-Dichlorophenol	0.50	N.D.
Diethyl phthalate	0.50	N.D.
2,4-Dimethylphenol	0.50	N.D.
Dimethyl phthalate	0.50	N.D.
4,6-Dinitro-2-methylphenol	2.5	N.D.
2,4-Dinitrophenol	2.5	N.D.
2,4-Dinitrotoluene	0.50	N.D.
2,6-Dinitrotoluene	0.50	N.D.
Di-N-octyl phthalate	0.50	N.D.
Fluoranthene	0.50	N.D.
Fluorene	0.50	N.D.

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Descript:	Soil, S-10.5-B1	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	EPA 8270	Extracted:	Jul 26, 1999
Attention: Glenn M.	Lab Number:	907-1438	Analyzed:	Jul 30, 1999
			Reported:	Aug 5, 1999

QC Batch Number: SP0726998270EXA

Instrument ID: GC/MS-1

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Hexachlorobenzene	0.50	N.D.
Hexachlorobutadiene	0.50	N.D.
Hexachlorocyclopentadiene	0.50	N.D.
Hexachloroethane	0.50	N.D.
Indeno(1,2,3-cd)pyrene	0.50	N.D.
Isophorone	0.50	N.D.
2-Methylnaphthalene	**0.50**	**12**
2-Methylphenol	0.50	N.D.
4-Methylphenol	0.50	N.D.
Naphthalene	**0.50**	**6.4**
2-Nitroaniline	2.5	N.D.
3-Nitroaniline	2.5	N.D.
4-Nitroaniline	2.5	N.D.
Nitrobenzene	0.50	N.D.
2-Nitrophenol	0.50	N.D.
4-Nitrophenol	2.5	N.D.
N-Nitrosodimethylamine	0.50	N.D.
N-Nitrosodiphenylamine	0.50	N.D.
N-Nitroso-di-N-propylamine	0.50	N.D.
Pentachlorophenol	2.5	N.D.
Phenanthrene	0.50	N.D.
Phenol	0.50	N.D.
Pyrene	0.50	N.D.
1,2,4-Trichlorobenzene	0.50	N.D.
2,4,5-Trichlorophenol	2.5	N.D.
2,4,6-Trichlorophenol	0.50	N.D.

Surrogates	Control Limit %		% Recovery
2-Fluorophenol	25	121	83
Phenol-d6	24	113	83
Nitrobenzene-d5	23	120	94
2-Fluorobiphenyl	30	115	103
2,4,6-Tribromophenol	19	122	97
4-Terphenyl-d14	18	137	102

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Descript:	Soil, SP1(1-4)	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	EPA 8270	Extracted:	Jul 26, 1999
Attention: Glenn M.	Lab Number:	907-1439	Analyzed:	Jul 30, 1999
			Reported:	Aug 5, 1999

QC Batch Number: SP0726998270EXA

Instrument ID: GC/MS-1

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acenaphthene	0.50	N.D.
Acenaphthylene	0.50	N.D.
Aniline	0.50	N.D.
Anthracene	0.50	N.D.
Benzidine	13	N.D.
Benzoic Acid	2.5	N.D.
Benzo(a)anthracene	0.50	N.D.
Benzo(b)fluoranthene	0.50	N.D.
Benzo(k)fluoranthene	0.50	N.D.
Benzo(g,h,i)perylene	0.50	N.D.
Benzo(a)pyrene	0.50	N.D.
Benzyl alcohol	0.50	N.D.
Bis(2-chloroethoxy)methane	0.50	N.D.
Bis(2-chloroethyl)ether	0.50	N.D.
Bis(2-chloroisopropyl)ether	0.50	N.D.
Bis(2-ethylhexyl)phthalate	2.5	N.D.
4-Bromophenyl phenyl ether	0.50	N.D.
Butyl benzyl phthalate	0.50	N.D.
4-Chloroaniline	0.50	N.D.
2-Chloronaphthalene	0.50	N.D.
4-Chloro-3-methylphenol	0.50	N.D.
2-Chlorophenol	0.50	N.D.
4-Chlorophenyl phenyl ether	0.50	N.D.
Chrysene	0.50	N.D.
Dibenz(a,h)anthracene	0.50	N.D.
Dibenzofuran	0.50	N.D.
Di-N-butyl phthalate	2.5	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	N.D.
3,3-Dichlorobenzidine	2.5	N.D.
2,4-Dichlorophenol	0.50	N.D.
Diethyl phthalate	0.50	N.D.
2,4-Dimethylphenol	0.50	N.D.
Dimethyl phthalate	0.50	N.D.
4,6-Dinitro-2-methylphenol	2.5	N.D.
2,4-Dinitrophenol	2.5	N.D.
2,4-Dinitrotoluene	0.50	N.D.
2,6-Dinitrotoluene	0.50	N.D.
Di-N-octyl phthalate	0.50	N.D.
Fluoranthene	0.50	N.D.
Fluorene	0.50	N.D.

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Descript:	Soil, SP1(1-4)	Received:	Jul 19, 1999
Novato, CA 94949	Analysis Method:	EPA 8270	Extracted:	Jul 26, 1999
Attention: Glenn M.	Lab Number:	907-1439	Analyzed:	Jul 30, 1999
			Reported:	Aug 5, 1999

QC Batch Number: SP0726998270EXA

Instrument ID: GC/MS-1

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Hexachlorobenzene	0.50	N.D.
Hexachlorobutadiene	0.50	N.D.
Hexachlorocyclopentadiene	0.50	N.D.
Hexachloroethane	0.50	N.D.
Indeno(1,2,3-cd)pyrene	0.50	N.D.
Isophorone	0.50	N.D.
2-Methylnaphthalene	0.50	N.D.
2-Methylphenol	0.50	N.D.
4-Methylphenol	0.50	N.D.
Naphthalene	0.50	N.D.
2-Nitroaniline	2.5	N.D.
3-Nitroaniline	2.5	N.D.
4-Nitroaniline	2.5	N.D.
Nitrobenzene	0.50	N.D.
2-Nitrophenol	0.50	N.D.
4-Nitrophenol	2.5	N.D.
N-Nitrosodimethylamine	0.50	N.D.
N-Nitrosodiphenylamine	0.50	N.D.
N-Nitroso-di-N-propylamine	0.50	N.D.
Pentachlorophenol	2.5	N.D.
Phenanthrene	0.50	N.D.
Phenol	0.50	N.D.
Pyrene	0.50	N.D.
1,2,4-Trichlorobenzene	0.50	N.D.
2,4,5-Trichlorophenol	2.5	N.D.
2,4,6-Trichlorophenol	0.50	N.D.

Surrogates	Control Limit %		% Recovery
2-Fluorophenol	25	121	93
Phenol-d6	24	113	91
Nitrobenzene-d5	23	120	100
2-Fluorobiphenyl	30	115	108
2,4,6-Tribromophenol	19	122	109
4-Terphenyl-d14	18	137	112

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Descript:	Soil	Received:	Jul 19, 1999
Novato, CA 94949	Analysis for:	Lead	Digested:	Jul 26, 1999
Attention: Glenn M.	First Sample #:	907-1439	Analyzed:	Jul 26, 1999
			Reported:	Aug 5, 1999

LABORATORY ANALYSIS FOR: Lead

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg	QC Batch Number	Instrument ID
907-1439	SP1(1-4)	1.0	26	ME0726993050MDA	MV-4

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

9071434.ENR <10>

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 16, 1999
73 Digital Dr, Ste 100	Sample Descript:	Soil, SP1(1-4)	Received:	Jul 19, 1999
Novato, CA 94949			Extracted:	Jul 26, 1999
Attention: Glenn M.	Lab Number:	907-1439	Analyzed:	Jul 26, 1999
			Reported:	Aug 9, 1999

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg	QC Batch Number	Instrument ID
Cadmium	0.50	N.D.	ME0726993050MDA	MV-4
Chromium	0.50	23	ME0726993050MDA	MV-4
Nickel	0.50	28	ME0726993050MDA	MV-4
Zinc	1.0	41	ME0726993050MDA	MV-4

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

9071434.ENR <11>

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Solid

QC Sample Group: 9071434-439

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	SP072299	SP072299	SP072299	SP072299
Analy. Method:	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9070941	9070941	9070941	9070941
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/22/99	7/22/99	7/22/99	7/22/99
Analyzed Date:	7/22/99	7/22/99	7/22/99	7/22/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	0.80 mg/Kg	0.80 mg/Kg	0.80 mg/Kg	2.4 mg/Kg
Result:	0.80	0.71	0.77	2.6
MS % Recovery:	100	89	96	108
Dup. Result:	0.81	0.72	0.78	2.6
MSD % Recov.:	101	90	98	108
RPD:	1.2	1.4	1.3	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	4LCS072299	4LCS072299	4LCS072299	4LCS072299
Prepared Date:	7/22/99	7/22/99	7/22/99	7/22/99
Analyzed Date:	7/22/99	7/22/99	7/22/99	7/22/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4
Conc. Spiked:	0.80 mg/Kg	0.80 mg/Kg	0.80 mg/Kg	2.4 mg/Kg
LCS Result:	0.72	0.62	0.66	2.2
LCS % Recov.:	90	78	83	92

MS/MSD LCS Control Limits	50-150	50-150	50-150	50-150

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Solid
QC Sample Group: 9071434-439

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
QC Batch#:	SP072299	SP072299	SP072299	SP072299	SP073099
Analy. Method:	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020	8015EXB EPA 8015M.
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 3550
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel	K. Grubb
MS/MSD #:	9070941	9070941	9070941	9070941	BLK073099B
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	1.4 mg/kg
Prepared Date:	7/22/99	7/22/99	7/22/99	7/22/99	7/30/99
Analyzed Date:	7/22/99	7/22/99	7/22/99	7/22/99	8/2/99
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	HP-3A
Conc. Spiked:	0.80 mg/Kg	0.80 mg/Kg	0.80 mg/Kg	2.4 mg/Kg	15 mg/Kg
Result:	0.80	0.71	0.77	2.6	15
MS % Recovery:	100	89	96	108	91
Dup. Result:	0.81	0.72	0.78	2.6	13
MSD % Recov.:	101	90	98	108	77
RPD:	1.2	1.4	1.3	0.0	14
RPD Limit:	0-20	0-20	0-20	0-20	0-50
LCS #:	4LCS072299	4LCS072299	4LCS072299	4LCS072299	-
Prepared Date:	7/22/99	7/22/99	7/22/99	7/22/99	-
Analyzed Date:	7/23/99	7/23/99	7/23/99	7/23/99	-
Instrument I.D.#:	HP-4	HP-4	HP-4	HP-4	-
Conc. Spiked:	0.80 mg/Kg	0.80 mg/Kg	0.80 mg/Kg	2.4 mg/Kg	-
LCS Result:	0.66	0.57	0.63	2.2	-
LCS % Recov.:	83	71	79	92	-
MS/MSD LCS Control Limits	50-150	50-150	50-150	50-150	60-140

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Solid
QC Sample Group: 9071434-439
Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro benzene	N-Nitroso-Di-N-propylamine	1,2,4-Trichloro benzene	4-Chloro-3 Methylphenol
QC Batch#:	SP072699	SP072699	SP072699	SP072699	SP072699	SP072699
	8270EXA	8270EXA	8270EXA	8270EXA	8270EXA	8270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz
MS/MSD #:	BLK072699	BLK072699	BLK072699	BLK072699	BLK072699	BLK072699
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99
Analyzed Date:	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99
Instrument I.D.#:	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1
Conc. Spiked:	5.0 mg/kg	5.0 mg/kg	3.3 mg/kg	3.3 mg/kg	3.3 mg/kg	5.0 mg/kg
Result:	2.9	3.3	2.1	2.6	2.4	3.1
MS % Recovery:	58	66	64	79	73	62
Dup. Result:	2.6	3.0	1.9	2.4	2.2	2.9
MSD % Recov.:	52	60	58	73	67	58
RPD:	11	9.5	10	8.0	8.7	6.7
RPD Limit:	0-40	0-40	0-40	0-40	0-40	0-40
LCS #:	-	-	-	-	-	-
Prepared Date:	-	-	-	-	-	-
Analyzed Date:	-	-	-	-	-	-
Instrument I.D.#:	-	-	-	-	-	-
Conc. Spiked:	-	-	-	-	-	-
LCS Result:	-	-	-	-	-	-
LCS % Recov.:	-	-	-	-	-	-
MS/MSD LCS Control Limits	26-90	25-102	28-104	41-126	38-107	26-103

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Solid
QC Sample Group: 9071434-439

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Acenaphthene	4-Nitrophenol	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
QC Batch#:	SP072699	SP072699	SP072699	SP072699	SP072699
	8270EXA	8270EXA	8270EXA	8270EXA	8270EXA
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3550	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz
MS/MSD #:	BLK072699	BLK072699	BLK072699	BLK072699	BLK072699
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99
Analyzed Date:	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99
Instrument I.D.#:	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1
Conc. Spiked:	3.3 mg/kg	5.0 mg/kg	3.3 mg/kg	5.0 mg/kg	3.3 mg/kg
Result:	2.2	3.3	2.2	3.4	2.2
MS % Recovery:	67	66	67	68	67
Dup. Result:	2.0	3.1	2.0	3.2	2.1
MSD % Recov.:	61	62	61	64	64
RPD:	9.5	6.2	9.5	6.1	4.7
RPD Limit:	0-40	0-40	0-40	0-40	0-40
LCS #:	-	-	-	-	-
Prepared Date:	-	-	-	-	-
Analyzed Date:	-	-	-	-	-
Instrument I.D.#:	-	-	-	-	-
Conc. Spiked:	-	-	-	-	-
LCS Result:	-	-	-	-	-
LCS % Recov.:	-	-	-	-	-
MS/MSD LCS Control Limits	31-137	11-114	28-89	17-109	35-142

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Solid

QC Sample Group: 9071434-439

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene	Lead	Oil & Grease
QC Batch#:	SP072799	SP072799	SP072799	ME072699	SP080199
	8010EXA	8010EXA	8010EXA	3050MDA	5520EXA
Analy. Method:	EPA 8010	EPA 8010	EPA 8010	EPA 6010	SM 5520
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 3050	SM 5520
Analyst:	P. Kosovskaya	P. Kosovskaya	P. Kosovskaya	J. Kelly	N. VanSlambrook
MS/MSD #:	9071666	9071666	9071666	9071557	9071438
Sample Conc.:	N.D.	N.D.	N.D.	210 mg/kg	73 mg/kg
Prepared Date:	7/27/99	7/27/99	7/27/99	7/26/99	8/1/99
Analyzed Date:	7/27/99	7/27/99	7/27/99	7/26/99	8/2/99
Instrument I.D.#:	HP-7	HP-7	HP-7	MV-4	Manual
Conc. Spiked:	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	50 mg/kg	5000 mg/kg
Result:	0.72	0.97	0.97	280	6000
MS % Recovery:	72	97	97	140	118
Dup. Result:	0.59	0.96	0.94	240	6000
MSD % Recov.:	59	96	94	60	118
RPD:	20	1.0	3.1	15	0.0
RPD Limit:	0-25	0-25	0-25	0-20	0-30
LCS #:	LCS073099	LCS073099	LCS073099	LCS072699	LCS080199
Prepared Date:	7/30/99	7/30/99	7/30/99	7/26/99	8/1/99
Analyzed Date:	7/30/99	7/30/99	7/30/99	7/26/99	8/2/99
Instrument I.D.#:	HP-7	HP-7	HP-7	MV-4	Manual
Conc. Spiked:	1.0 mg/kg	1.0 mg/kg	1.0 mg/kg	50 mg/kg	5000 mg/kg
LCS Result:	0.97	1.2	1.1	45	5800
LCS % Recov.:	97	120	110	90	116
MS/MSD LCS Control Limits	65-135	70-130	70-130	80-120	70-130

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland
73 Digital Dr, Ste 100	Matrix:	Solid
Novato, CA 94949		
Attention: Glenn M.	QC Sample Group: 907-1439	Reported: Aug 9, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Cadmium	Chromium	Zinc
QC Batch#:	ME072699	ME072699	ME072699
	3050MDA	3050MDA	3050MDA
Analy. Method:	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050
Analyst:	J. Kelly	J. Kelly	J. Kelly
MS/MSD #:	9071557	9071557	9071557
Sample Conc.:	4.6 mg/Kg	38 mg/Kg	104000 mg/Kg
Prepared Date:	7/26/99	7/26/99	7/26/99
Analyzed Date:	7/26/99	7/26/99	7/26/99
Instrument I.D.#:	MV-4	MV-4	MV-4
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg
Result:	54	88	-
MS % Recovery:	99	100	-
Dup. Result:	47	76	-
MSD % Recov.:	85	76	-
RPD:	14	15	-
RPD Limit:	0-20	0-20	0-20

LCS #:	LCS072699	LCS072699	LCS072699
Prepared Date:	7/26/99	7/26/99	7/26/99
Analyzed Date:	7/26/99	7/26/99	7/26/99
Instrument I.D.#:	MV-4	MV-4	MV-4
Conc. Spiked:	50 mg/Kg	50 mg/Kg	50 mg/Kg
LCS Result:	50	51	52
LCS % Recov.:	100	102	104

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

~~UNOCAL~~ TOSCO

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 364-9600
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600
☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865
☐ 18939 120th Ave., N.E. Suite 101 • Bothell, WA 98011 • (206) 481-9200
☐ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

223503T4 9907370

Consultant Company: ERI	Project Name: Tosco 76 SS 1156
Address: 73 Digital Drive, suite 100	~~UNOCAL~~ Tosco Project Manager: DAVE DeWITT
City: Novato State: CA Zip Code: 94949	~~ARE #:~~ 4276 MacArthur
Telephone: 415-382-9105 FAX #: 382-1856	Site #, City, State: OAKLAND, CA.
Report To: Glenn M. Sampler: D. Crouse	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☒ 10 Work Days ☐ 5 Work Days ☐ 3 Work Days ☐ 2 Work Days ☐ 1Work Day ☐ 2-8 Hours

CODE: ☐ Misc. ☐ Detect. ☐ Eval. ☐ Remed. ☐ Demol. ☐ Closure

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested

Client Sample I.D.	Date Sampled	Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPHg 8015 mod	BTEX/MTBE 8020	~~TPH diesel~~	~~[illegible] EPA~~	~~[illegible] 8010~~	~~[illegible] 8270~~	~~[illegible] 8010~~		Comments
1. S-5.5-B3	7/16/99	0735	Soil	1	Brass sleeve										Hold
2. S-10.5-B3	↓	0740		1	↓	9071434	X	X							
3. S-15.5-B3	↓	0745		1	↓										Hold
4. S-20.5-B3	↓	0800		1	↓										Hold
5. S-25.5-B3	↓	0809		1	↓										Hold
6. S-30.5-B3	↓	0815		1	↓										Hold
7. S-5.5-B4		1016		1	↓										Hold
8. S-10.5-B4		1027		1	↓	9071435	X	X							
9. S-15.5-B4		1031		1	↓										
10. S-20.5-B4		1037		1	↓	9071436	X	X							

Relinquished By: [signature]	Date: 7/19/99	Time:	Received By: [signature]	Date: 7-20-99	Time: 1330
Relinquished By: [signature]	Date: 7-20-99	Time: 1630	Received By: [signature]	Date: 7-21	Time: 1430
Relinquished By: [signature]	Date: 7-21	Time:	Received By Lab: [signature]	Date: 7/21/99	Time: 1630

Were Samples Received in Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment______ Page ___ of ___

To be completed upon receipt of report:
1) Were the analyses requested on the Chain of Custody reported? ☐ Yes ☐ No If no, what analyses are still needed? ______
2) Was the report issued within the requested turnaround time? ☐ Yes ☐ No If no, what was the turnaround time? ______

Approved by:______ Signature: ______ Company:______ Date:______

Pink - Client
Yellow - Laboratory
White - Laboratory

~~UNOCAL~~ TOSCO

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 364-9600
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600
☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865
☐ 18939 120th Ave., N.E. Suite 101 • Bothell, WA 98011 • (206) 481-9200
☐ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97224 • (503) 624-9800

223503 T4 9907370

Consultant Company: ERI	Project Name: Tosco 76 SS # 1156
Address: 73 Digital Drive, Suite 100	~~Tosco~~ Project Manager: DAVE DEWITT
City: Novato State: CA Zip Code: 94949	AFE #:
Telephone: (415) 382-9105 FAX #: 382-1856	Site #, City, State: 4276 MacArthur Blvd, Oakland
Report To: Glenn M. Sampler: D. Crouse	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☒ 10 Work Days ☐ 5 Work Days ☐ 3 Work Days ☐ 2 Work Days ☐ 1 Work Day ☐ 2-8 Hours

CODE: ☐ Misc. ☐ Detect. ☐ Eval. ☐ Remed. ☐ Demol. ☐ Closure

☐ Drinking Water ☐ Waste Water ☒ Other

Analyses Requested: TPH/g 8015 mod | BTEX/MTBE 8260 GCMS | TEPH 8015 mod | TRPH 5520 E&F | HVOCs 8010 | SVOCs 8270

Client Sample I.D.	Date Sampled	Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH/g	BTEX	TEPH	TRPH	HVOCs	SVOCs	Comments
1. S-25.5-B4	7/16	1042	Soil	1	Brass sleeve								
2. S-5.5-B2		1205		1									
3. S-10.5-B2		1210		1		9071437	X	X	[redacted]				
4. S-15.5-B2		1215		1									
5. S-20.5-B2		1220		1									
[redacted]													
7. S-5.5-B1		1425		1									
8. S-10.5-B1		1430		1		9071438	X	X	X	X	X	X	
9. S-15.5-B1		1435		1									
10. S-20.5-B1		1440		1									

Relinquished By:	Date: 7-19-99	Time:	Received By:	Date: 7-20-99	Time: 1530
Relinquished By:	Date: 7-20-99	Time: 1630	Received By:	Date: 7-21	Time: 1430
Relinquished By:	Date: 7-21	Time:	Received By Lab:	Date: 7/21/99	Time: 1630

Were Samples Received in Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment _____ Page ___ of ___

To be completed upon receipt of report:
1) Were the analyses requested on the Chain of Custody reported? ☐ Yes ☐ No If no, what analyses are still needed? _____
2) Was the report issued within the requested turnaround time? ☐ Yes ☐ No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
Yellow - Laboratory
White - Laboratory

~~UNOCAL~~ TOSCO

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 364-9600
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600
☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865
☐ 18939 120th Ave., N.E. Suite 101 • Bothell, WA 98011 • (206) 481-9200
☐ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

223503 T4

Consultant Company: ERT	Project Name: Tosco 76 ss # 11569907370
Address: 73 Digital Drive, Suite 100	~~UNOCAL~~ TOSCO Project Manager: DAVE DEWITT
City: Novato State: CA Zip Code: 94949	AFE #: 4276 Mac Arthur Blvd
Telephone: 415-382-9105 FAX #: 382-1856	Site #, City, State: Oakland, CA
Report To: Glenn, M. Sampler: D. Crouse	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☒ 10 Work Days ☐ 5 Work Days ☐ 3 Work Days ☐ 2 Work Days ☐ 1 Work Day ☐ 2-8 Hours

☐ Drinking Water ☐ Waste Water ☒ Other

CODE: ☐ Misc. ☐ Detect. ☐ Eval. ☐ Remed. ☐ Demol. ☐ Closure

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH-g gas/soil mod	TPH-d gas/soil mod	BTEX MTBE gas	8260's gas	8260's 8270	Total Lead 6010	Comments
1. S-25,S-B1	7/16 1450	Soil	1	Soil								
2.												
3. SP1 (1-4)	1530	↓	4	Soil	9071439 AD	X	X	X	X	X		Added Luft as per Glenn Matteucci in SP1 (1-4)
4.												
5.												
6.												
7.												
8.												
9.												
10.												

Relinquished By: [signature]	Date: 7/19/99	Time:	Received By: [signature]	Date: 7-20-99	Time: 1630
Relinquished By: [signature]	Date: 7-20-99	Time: 1630	Received By: [signature]	Date: 7-21	Time: 1430
Relinquished By: [signature]	Date: 7-21	Time:	Received By Lab:	Date:	Time:

Were Samples Received in Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment_____ Page ___ of ___

To be completed upon receipt of report:
1) Were the analyses requested on the Chain of Custody reported? ☐ Yes ☐ No If no, what analyses are still needed? _____
2) Was the report issued within the requested turnaround time? ☐ Yes ☐ No If no, what was the turnaround time? _____

Approved by:_____ Signature: _____ Company:_____ Date:_____

Pink - Client
Yellow - Laboratory
White - Laboratory

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled: Jul 20, 1999
73 Digital Dr, Ste 100	Sample Matrix:	Water	Received: Jul 20, 1999
Novato, CA 94949	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Aug 5, 1999
Attention: Glenn M.	First Sample #:	907-1430	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX / MTBE

Analyte	Reporting Limit µg/L	Sample I.D. 907-1430 W-9-MW3	Sample I.D. 907-1431 W-9-MW4	Sample I.D. 907-1432 W-6-MW2	Sample I.D. 907-1433 W-9-MW1
QC Batch Number:		SP072999 802002A	SP072999 802002A	SP073099 802005A	SP072999 802002A
Purgeable Hydrocarbons	50	1,000	69	N.D.	120,000
Benzene	0.50	76	2.7	N.D.	11,000
Toluene	0.50	52	0.77	N.D.	27,000
Ethyl Benzene	0.50	79	N.D.	N.D.	3,300
Total Xylenes	0.50	76	7.1	N.D.	18,000
MTBE	2.5	330	100	4,500	N.D.
Chromatogram Pattern:		Gasoline	Gasoline	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	20	1.0	20	400
Date Analyzed:	7/29/99	7/29/99	7/30/99	7/29/99
Instrument Identification:	HP-2	HP-2	HP-5	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	117	125	91	121

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 20, 1999
73 Digital Dr, Ste 100	Sample Matrix:	Soil	Received:	Jul 20, 1999
Novato, CA 94949	Analysis Method:	EPA 3550/8015 Mod.	Reported:	Aug 5, 1999
Attention: Glenn M.	First Sample #:	907-1433		

QC Batch Number: SP072999

8015EXA

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 907-1433 W-9-MW1
Extractable Hydrocarbons	1.0	16,000

Chromatogram Pattern: Unidentified Hydrocarbons C9 - C24

Quality Control Data

Report Limit Multiplication Factor:	10
Date Extracted:	7/29/99
Date Analyzed:	7/31/99
Instrument Identification:	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 20, 1999
73 Digital Dr, Ste 100	Matrix Descript:	Water	Received:	Jul 20, 1999
Novato, CA 94949	Analysis Method:	SM 5520 B&F (Gravimetric)	Extracted:	Jul 27, 1999
Attention: Glenn M.	First Sample #:	907-1433	Analyzed:	Jul 27, 1999
			Reported:	Aug 5, 1999

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)	Detection Limit Multiplication Factor	QC Batch Number
907-1433	W-9-MW1	N.D.	1.0	SP0727995520EXC

Detection Limits:	**5.0**

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

9071430.ENR <3>

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 20, 1999
73 Digital Dr, Ste 100	Sample Descript:	Water, W-9-MW1	Received:	Jul 20, 1999
Novato, CA 94949	Analysis Method:	EPA 8010	Analyzed:	Aug 3, 1999
Attention: Glenn M.	Lab Number:	907-1433	Reported:	Aug 5, 1999

QC Batch Number: GC080399801007A

Instrument ID: HP-7

HALOGENATED VOLATILE ORGANICS (EPA 8010)

Analyte	Detection Limit µg/L	Sample Results µg/L
Bromodichloromethane	0.50	N.D.
Bromoform	0.50	N.D.
Bromomethane	1.0	N.D.
Carbon tetrachloride	0.50	N.D.
Chlorobenzene	0.50	12
Chloroethane	1.0	N.D.
Chloroform	0.50	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	0.50	N.D.
1,3-Dichlorobenzene	0.50	N.D.
1,4-Dichlorobenzene	0.50	N.D.
1,2-Dichlorobenzene	0.50	3.9
1,1-Dichloroethane	0.50	2.0
1,2-Dichloroethane	0.50	20
1,1-Dichloroethene	0.50	N.D.
cis-1,2-Dichloroethene	0.50	3.6
trans-1,2-Dichloroethene	0.50	N.D.
1,2-Dichloropropane	0.50	0.92
cis-1,3-Dichloropropene	0.50	N.D.
trans-1,3-Dichloropropene	0.50	N.D.
Methylene chloride	5.0	N.D.
1,1,2,2-Tetrachloroethane	0.50	N.D.
Tetrachloroethene	0.50	N.D.
1,1,1-Trichloroethane	0.50	N.D.
1,1,2-Trichloroethane	0.50	N.D.
Trichloroethene	0.50	N.D.
Trichlorofluoromethane	0.50	N.D.
Vinyl chloride	1.0	N.D.

Surrogates	Control Limit %		% Recovery
Dibromodifluoromethane	50	150	80
4-Bromofluorobenzene	50	150	101

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 20, 1999
73 Digital Dr, Ste 100	Sample Descript:	Water, W-9-MW1	Received:	Jul 20, 1999
Novato, CA 94949	Analysis Method:	EPA 8270	Extracted:	Jul 26, 1999
Attention: Glenn M.	Lab Number:	907-1433	Analyzed:	Aug 2, 1999
			Reported:	Aug 5, 1999

QC Batch Number: SP0726998270EXC

Instrument ID: GC/MS-1

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Acenaphthene	25	N.D.
Acenaphthylene	25	N.D.
Aniline	25	N.D.
Anthracene	25	N.D.
Benzidine	250	N.D.
Benzoic Acid	50	N.D.
Benzo(a)anthracene	25	N.D.
Benzo(b)fluoranthene	25	N.D.
Benzo(k)fluoranthene	25	N.D.
Benzo(g,h,i)perylene	25	N.D.
Benzo(a)pyrene	25	N.D.
Benzyl alcohol	**25**	**37**
Bis(2-chloroethoxy)methane	25	N.D.
Bis(2-chloroethyl)ether	25	N.D.
Bis(2-chloroisopropyl)ether	25	N.D.
Bis(2-ethylhexyl)phthalate	50	N.D.
4-Bromophenyl phenyl ether	25	N.D.
Butyl benzyl phthalate	25	N.D.
4-Chloroaniline	50	N.D.
2-Chloronaphthalene	25	N.D.
4-Chloro-3-methylphenol	25	N.D.
2-Chlorophenol	25	N.D.
4-Chlorophenyl phenyl ether	25	N.D.
Chrysene	25	N.D.
Dibenz(a,h)anthracene	25	N.D.
Dibenzofuran	25	N.D.
Di-N-butyl phthalate	50	N.D.
1,3-Dichlorobenzene	25	N.D.
1,4-Dichlorobenzene	25	N.D.
1,2-Dichlorobenzene	25	N.D.
3,3-Dichlorobenzidine	50	N.D.
2,4-Dichlorophenol	25	N.D.
Diethyl phthalate	25	N.D.
2,4-Dimethylphenol	**25**	**140**
Dimethyl phthalate	25	N.D.
4,6-Dinitro-2-methylphenol	50	N.D.
2,4-Dinitrophenol	50	N.D.
2,4-Dinitrotoluene	25	N.D.
2,6-Dinitrotoluene	25	N.D.
Di-N-octyl phthalate	25	N.D.
Fluoranthene	25	N.D.
Fluorene	25	N.D.

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 20, 1999
73 Digital Dr, Ste 100	Sample Descript:	Water, W-9-MW1	Received:	Jul 20, 1999
Novato, CA 94949	Analysis Method:	EPA 8270	Extracted:	Jul 26, 1999
Attention: Glenn M.	Lab Number:	907-1433	Analyzed:	Aug 2, 1999
			Reported:	Aug 5, 1999

QC Batch Number: SP0726998270EXC

Instrument ID: GC/MS-1

SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

Analyte	Detection Limit µg/L	Sample Results µg/L
Hexachlorobenzene	25	N.D.
Hexachlorobutadiene	25	N.D.
Hexachlorocyclopentadiene	50	N.D.
Hexachloroethane	25	N.D.
Indeno(1,2,3-cd)pyrene	25	N.D.
Isophorone	25	N.D.
2-Methylnaphthalene	**25**	**240**
2-Methylphenol	25	N.D.
4-Methylphenol	**25**	**27**
Naphthalene	**25**	**600**
2-Nitroaniline	50	N.D.
3-Nitroaniline	50	N.D.
4-Nitroaniline	50	N.D.
Nitrobenzene	25	N.D.
2-Nitrophenol	25	N.D.
4-Nitrophenol	50	N.D.
N-Nitrosodimethylamine	25	N.D.
N-Nitrosodiphenylamine	25	N.D.
N-Nitroso-di-N-propylamine	25	N.D.
Pentachlorophenol	50	N.D.
Phenanthrene	25	N.D.
Phenol	25	N.D.
Pyrene	25	N.D.
1,2,4-Trichlorobenzene	25	N.D.
2,4,5-Trichlorophenol	50	N.D.
2,4,6-Trichlorophenol	25	N.D.

Surrogates	Control Limit %		% Recovery
2-Fluorophenol	21	110	46
Phenol-d6	10	110	24
Nitrobenzene-d5	35	114	78
2-Fluorobiphenyl	43	116	80
2,4,6-Tribromophenol	10	123	88
p-Terphenyl-d14	33	141	90

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled:	Jul 20, 1999
73 Digital Dr, Ste 100	Sample Descript:	Water, W-6-MW2*	Received:	Jul 20, 1999
Novato, CA 94949	Analysis Method:	EPA 8260	Analyzed:	Aug 6, 1999
Attention: Glenn M.	Lab Number:	907-1432	Reported:	Aug 11, 1999

QC Batch Number:

Instrument ID:

MTBE by EPA 8260

Analyte	Detection Limit µg/L	Sample Results µg/L
Methyl t-Butyl Ether (MTBE)	2.0	11,000

Surrogates	Control Limit %		% Recovery
Dibromofluoromethane	50	150	102

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Please Note:
*Sample was analyzed after the EPA recommended holding time has elapsed.

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Liquid

QC Sample Group: 9071430-433

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC072999	GC072999	GC072999	GC072999
	802002A	802002A	802002A	802002A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	J. Minkel	J. Minkel	J. Minkel	J. Minkel
MS/MSD #:	9071431	9071431	9071431	9071431
Sample Conc.:	2.7 µg/L	N.D.	N.D.	7.1 µg/L
Prepared Date:	7/29/99	7/29/99	7/29/99	7/29/99
Analyzed Date:	7/29/99	7/29/99	7/29/99	7/29/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Result:	22	19	19	68
MS % Recovery:	97	95	95	102
Dup. Result:	20	17	14	45
MSD % Recov.:	87	85	70	75
RPD:	11	11	30	30
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	2LCS072999	2LCS072999	2LCS072999	2LCS072999
Prepared Date:	7/29/99	7/29/99	7/29/99	7/29/99
Analyzed Date:	7/29/99	7/29/99	7/29/99	7/29/99
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
LCS Result:	19	18	18	61
LCS % Recov.:	95	90	90	102

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

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Liquid

QC Sample Group: 9071430-433

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Diesel
QC Batch#:	GC073099	GC073099	GC073099	GC073099	SP072999
	802005A	802005A	802005A	802005A	8015EXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 3510
Analyst:	C. Westwater	C. Westwater	C. Westwater	C. Westwater	K. Grubb
MS/MSD #:	9071514	9071514	9071514	9071514	BLK072999
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/30/99	7/30/99	7/30/99	7/30/99	7/29/99
Analyzed Date:	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	HP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	500 µg/L
Result:	22	22	22	67	410
MS % Recovery:	110	110	110	112	82
Dup. Result:	20	21	20	64	360
MSD % Recov.:	100	105	100	107	72
RPD:	9.5	4.7	9.5	4.6	13
RPD Limit:	0-20	0-20	0-20	0-20	0-50
LCS #:	5LCS073099	5LCS073099	5LCS073099	5LCS073099	LCS072999
Prepared Date:	7/30/99	7/30/99	7/30/99	7/30/99	7/29/99
Analyzed Date:	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5	HP-3A
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	500 µg/L
LCS Result:	22	22	21	67	340
LCS % Recov.:	110	110	105	112	68
MS/MSD LCS Control Limits	70-130	70-130	70-130	70-130	60-140

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Liquid

QC Sample Group: 9071430-433

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Phenol	2-Chlorophenol	1,4-Dichloro benzene	N-Nitroso-Di-N-propylamine	1,2,4-Trichloro benzene	4-Chloro-3 Methylphenol
QC Batch#:	SP072699	SP072699	SP072699	SP072699	SP072699	SP072699
	8270EXC	8270EXC	8270EXC	8270EXC	8270EXC	8270EXC
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510
Analyst:	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz
MS/MSD #:	BLK072699C	BLK072699C	BLK072699C	BLK072699C	BLK072699C	BLK072699C
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99
Analyzed Date:	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99
Instrument I.D.#:	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1
Conc. Spiked:	150 µg/L	150 µg/L	100 µg/L	100 µg/L	100 µg/L	150 µg/L
Result:	44	98	68	79	75	110
MS % Recovery:	29	65	68	79	75	73
Dup. Result:	49	110	72	84	78	120
MSD % Recov.:	33	73	72	84	78	80
RPD:	11	12	5.7	6.1	3.9	8.7
RPD Limit:	0-30	0-30	0-30	0-30	0-30	0-30

LCS #:	LCS072699C	LCS072699C	LCS072699C	LCS072699C	LCS072699C	LCS072699C
Prepared Date:	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99
Analyzed Date:	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99
Instrument I.D.#:	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1
Conc. Spiked:	150 µg/L	150 µg/L	100 µg/L	100 µg/L	100 µg/L	150 µg/L
LCS Result:	49	110	77	89	85	120
LCS % Recov.:	33	73	77	89	85	80

MS/MSD LCS Control Limits	12-110	27-123	36-97	41-116	39-98	23-97

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

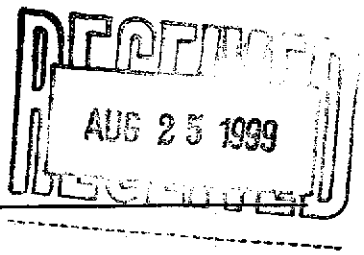
404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.	Client Project ID:	Tosco 76 SS#1156, Oakland	Sampled: Jul 20, 1999
73 Digital Dr, Ste 100	Sample Matrix:	Water	Received: Jul 20, 1999
Novato, CA 94949	Analysis Method:	EPA 3550/8015 Mod.	Reported: Aug 5, 1999
Attention: Glenn M.	First Sample #:	907-1433	

QC Batch Number: SP072999

8015EXA

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS



Analyte	Reporting Limit µg/L	Sample I.D. 907-1433 W-9-MW1
Extractable Hydrocarbons	50	16,000
Chromatogram Pattern:		Unidentified Hydrocarbons C9 - C24

Quality Control Data

Report Limit Multiplication Factor:	10
Date Extracted:	7/29/99
Date Analyzed:	7/31/99
Instrument Identification:	HP-3B

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
Project Manager

Please Note:
Revised report issued on 8/24/99.

9071430.ENR <2>

~~UNOCAL~~ TOSCO

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 364-9600
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600
☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865
☐ 18939 120th Ave., N.E. Suite 101 • Bothell, WA 98011 • (206) 481-9200
☐ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

223503T4

Consultant Company: ERI	Project Name: TOSCO 1156 9907369
Address: 73 Digital Drive, Suite 100	~~UNOCAL~~ TOSCO Project Manager: DAVE DEWITT
City: NOVATO State: CA Zip Code: 94949	~~SEE #:~~ 4276 Macarthur Blvd
Telephone: 415 382-9105 FAX #: 382-1856	Site #, City, State: OAKLAND, CA
Report To: Glenn M. Sampler: D. Crouse	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☒ 10 Work Days ☐ 5 Work Days ☐ 3 Work Days ☐ 2 Work Days ☐ 1 Work Day ☐ 2-8 Hours

☐ Drinking Water ☐ Waste Water ☐ Other

CODE: ☐ Misc. ☐ Detect. ☐ Eval. ☐ Remed. ☐ Demol. ☐ Closure

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	AC	TPHg 8015 mod	MTBE/BTEX 8020	TEPHd 8015 mod	TRPH 5520 E&F	HVOC's 8010	SVOC's 8270	MTBE 8260	Comments
1. W-9-MW3	7/20 1205	WATER	3	VOAs	9071430	X	X							
2. W-9-MW4	7/20 1222		3	VOAs	9071431	X	X							
3. W-6-MW2	7/20 1355		3	VOAs	9071432	X	X							
4. W-9-MW1	7/20 1245		4	Ambers	9071433			X	X					
5. W-9-MW1	7/20 1255		6	VOAs	↓ AA	X	X			X	X			
6.														
7.														
8.														
9.														
10.														

(1) THE SAMPLE EXHIBITING THE HIGHEST MTBE CONCENTRATION WITH 8020 SHOULD BE CONFIRMED WITH 8260

Relinquished By:	Date: 7/20/99 Time:	Received By:	Date: 7-20-99 Time: 1530
Relinquished By:	Date: 7-20-99 Time: 1630	Received By:	Date: 7-21 Time: 1450
Relinquished By:	Date: 7-21 Time:	Received By Lab:	Date: 7/21/99 Time: 1630

Were Samples Received in Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment _____ Page ___ of ___

To be completed upon receipt of report:
1) Were the analyses requested on the Chain of Custody reported? ☐ Yes ☐ No If no, what analyses are still needed? _____
2) Was the report issued within the requested turnaround time? ☐ Yes ☐ No If no, what was the turnaround time? _____

Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
Yellow - Laboratory
White - Laboratory

Sequoia Analytical

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Liquid
QC Sample Group: 9071430-433

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	Acenaphthene	4-Nitrophenol	2,4-Dinitro-toluene	Pentachloro-phenol	Pyrene
QC Batch#:	SP072699	SP072699	SP072699	SP072699	SP072699
	8270EXC	8270EXC	8270EXC	8270EXC	8270EXC
Analy. Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3510	EPA 3510	EPA 3510	EPA 3510	EPA 3510
Analyst:	L. Diaz	L. Diaz	L. Diaz	L. Diaz	L. Diaz
MS/MSD #:	BLK072699C	BLK072699C	BLK072699C	BLK072699C	BLK072699C
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99
Analyzed Date:	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99
Instrument I.D.#:	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1
Conc. Spiked:	100 µg/L	150 µg/L	100 µg/L	150 µg/L	100 µg/L
Result:	76	43	84	120	85
MS % Recovery:	76	29	84	80	85
Dup. Result:	77	46	84	120	84
MSD % Recov.:	77	31	84	80	84
RPD:	1.3	6.7	0.0	0.0	1.2
RPD Limit:	0-30	0-30	0-30	0-30	0-30

LCS #:	LCS072699C	LCS072699C	LCS072699C	LCS072699C	LCS072699C
Prepared Date:	7/26/99	7/26/99	7/26/99	7/26/99	7/26/99
Analyzed Date:	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99
Instrument I.D.#:	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1	GC/MS-1
Conc. Spiked:	100 µg/L	150 µg/L	100 µg/L	150 µg/L	100 µg/L
LCS Result:	85	47	91	130	93
LCS % Recov.:	85	31	91	87	93

MS/MSD LCS Control Limits	46-118	10-80	24-96	9-103	26-127

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

404 N. Wiget Lane
Walnut Creek, CA 94598
(925) 988-9600
FAX (925) 988-9673

Environmental Resolutions, Inc.
73 Digital Dr, Ste 100
Novato, CA 94949
Attention: Glenn M.

Client Project ID: Tosco 76 SS#1156, Oakland
Matrix: Liquid

QC Sample Group: 9071430-433

Reported: Aug 5, 1999

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene	MTBE	Oil & Grease
QC Batch#:	GC080399	GC080399	GC080399	MS080599	SP072799
	8010EXA	8010EXA	8010EXA	8260S2A	5520EXC
Analy. Method:	EPA 8010	EPA 8010	EPA 8010	EPA 8260	SM 5520
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	SM 5520
Analyst:	-	-	-	N. Nelson	N. VanSlambrook
MS/MSD #:	-	-	-	9071548	BLK072799C
Sample Conc.:	-	-	-	N.D.	N.D.
Prepared Date:	-	-	-	8/5/99	7/27/99
Analyzed Date:	-	-	-	8/6/99	7/27/99
Instrument I.D.#:	-	-	-	GC/MS-2	Manual
Conc. Spiked:	-	-	-	50 µg/L	100 mg/L
Result:	-	-	-	51	86
MS % Recovery:	-	-	-	102	86
Dup. Result:	-	-	-	57	89
MSD % Recov.:	-	-	-	114	89
RPD:	-	-	-	11	3.4
RPD Limit:	-	-	-	0-25	0-30

LCS #:	LCS080399	LCS080399	LCS080399	LCS080599	LCS072799C
Prepared Date:	8/3/99	8/3/99	8/3/99	8/5/99	7/27/99
Analyzed Date:	8/3/99	8/3/99	8/3/99	8/5/99	7/27/99
Instrument I.D.#:	HP-7	HP-7	HP-7	GC/MS-2	Manual
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	50 µg/L	100 mg/L
LCS Result:	24	22	20	55	86
LCS % Recov.:	120	110	100	110	86

MS/MSD LCS Control Limits	65-135	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL, #1271

Dimple Sharma
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

~~UNOCAL~~ TOSCO

☐ 680 Chesapeake Drive • Redwood City, CA 94063 • (650) 364-9600
☐ 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600
☐ 1455 McDowell Blvd. North, Suite D • Petaluma, CA 94954 • (707) 792-1865
☐ 18939 120th Ave., N.E. Suite 101 • Bothell, WA 98011 • (206) 481-9200
☐ East 11115 Montgomery, Suite B • Spokane, WA 99206 • (509) 924-9200
☐ 15055 S.W. Sequoia Pkwy, Suite 110 • Portland, OR 97222 • (503) 624-9800

223503T4

Consultant Company: ERI	Project Name: TOSCO 1156 9907369
Address: 73 Digital Drive, Suite 100	~~UNOCAL~~ TOSCO Project Manager: DAVE DEWITT
City: NOVATO State: CA Zip Code: 94949	~~SITE~~: 4276 Macarthur Blvd
Telephone: 415 382-9105 FAX #: 382-1856	Site #, City, State: OAKLAND, CA
Report To: Glenn M. Sampler: D. Crouse	QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☒ 10 Work Days ☐ 5 Work Days ☐ 3 Work Days ☐ 2 Work Days ☐ 1 Work Day ☐ 2-8 Hours

☐ Drinking Water ☐ Waste Water ☐ Other

CODE: ☐ Misc. ☐ Detect. ☐ Eval. ☐ Remed. ☐ Demol. ☐ Closure

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	AC	TPHg 8015 mod	MTBE 8020	BTEX 8020	TEPHd 8015 mod	TRPH 5520 E&F	HVOC's 8010	SVOC's 8270	MTBE 8260	Comments
1. W-9-MW3	7/20 1205	WATER	3	VOAS	9071430	X	X								
2. W-9-MW4	7/20 1222		3	VOAS	9071431	X	X								
3. W-6-MW2	7/20 1355		3	VOAS	9071432	X	X								
4. W-9-MW1	7/20 1245		4	Ambers	9071433			X	X						
5. W-9-MW1	7/20 1255		6	VOAS	↓ AA	X	X			X	X				
6.															
7.															
8.															
9.															
10.															

THE SAMPLE (1) EXHIBITING THE HIGHEST MTBE CONCENTRATION WITH 8020 SHALL BE CONFIRMED WITH 8260

Relinquished By:	Date: 7/20/99 Time:	Received By:	Date: 7-20-99 Time: 1530
Relinquished By:	Date: 7-20-99 Time: 1630	Received By:	Date: 7-21 Time: 1450
Relinquished By:	Date: 7-21 Time:	Received By Lab:	Date: 7/21/99 Time: 1650

Were Samples Received in Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment_____ Page ___ of ___

To be completed upon receipt of report:
1) Were the analyses requested on the Chain of Custody reported? ☐ Yes ☐ No If no, what analyses are still needed? _____
2) Was the report issued within the requested turnaround time? ☐ Yes ☐ No If no, what was the turnaround time? _____

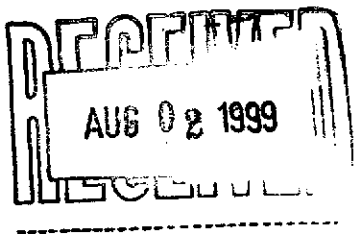
Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client
Yellow - Laboratory
White - Laboratory

PTS Laboratories, Inc.

Geotechnical Services

8100 Secura Way • Santa Fe Springs • CA 90670
Phone (562) 907-3607 • Fax (562) 907-3610



July 29, 1999

Mr. Glenn Matteucci
Environmental Resolutions
73 Digital Dr. Suite 100
Novato, CA 94949

Re: TOSCO 76SS # 1156/223503T4
PTS File: 29296

Dear Mr. Matteucci:

Enclosed are final data for samples submitted for analysis under your TOSCO 76SS Project # 1156/223503T4. Analyses were performed by applicable ASTM, EPA or API methodology. Samples will be retained for 30 days before disposal unless other arrangements are made.

We appreciate the opportunity to be of service and trust these data will prove beneficial in the development of this project. Please feel free to call myself or Larry Kunkel, District Manager, should you have any questions or require additional information.

Sincerely,

PTS Laboratories, Inc.

Rick Young
Project Manager

RY/vk

encl.

PHYSICAL PROPERTIES DATA

(METHODOLOGY: ASTM D2216, API RP40, EPA 9045, WALKLEY-BLACK)

PROJECT NAME: TOSCO 76SS #1156
PROJECT NO: 223503T4

SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENT. (1)	MOISTURE CONTENT (% wt)	DENSITY BULK (g/cc)	DENSITY GRAIN (g/cc)	EFFECTIVE POROSITY, % Vb	SOIL pH	TOTAL ORGANIC CARBON mg/kg	25.0 PSI CONFINING STRESS NATIVE STATE EFFECTIVE PERMEABILITY TO AIR (millidarcy)
S-25.5-B2	25.50	V	19.7	1.91	2.62	26.9	6.97	2250	1.70

(1) Sample Orientation: H = Horizontal; V = Vertical

Vb = Bulk Volume, cc
Pv = Pore Volume, cc
ND = Not Detected

PTS Laboratories, Inc.

Environmental Resolutions, Inc.
PTS File No: 29296

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D4464)

PROJECT NAME: Tosco 76 SS# 1156
PROJECT NO: 223503T4

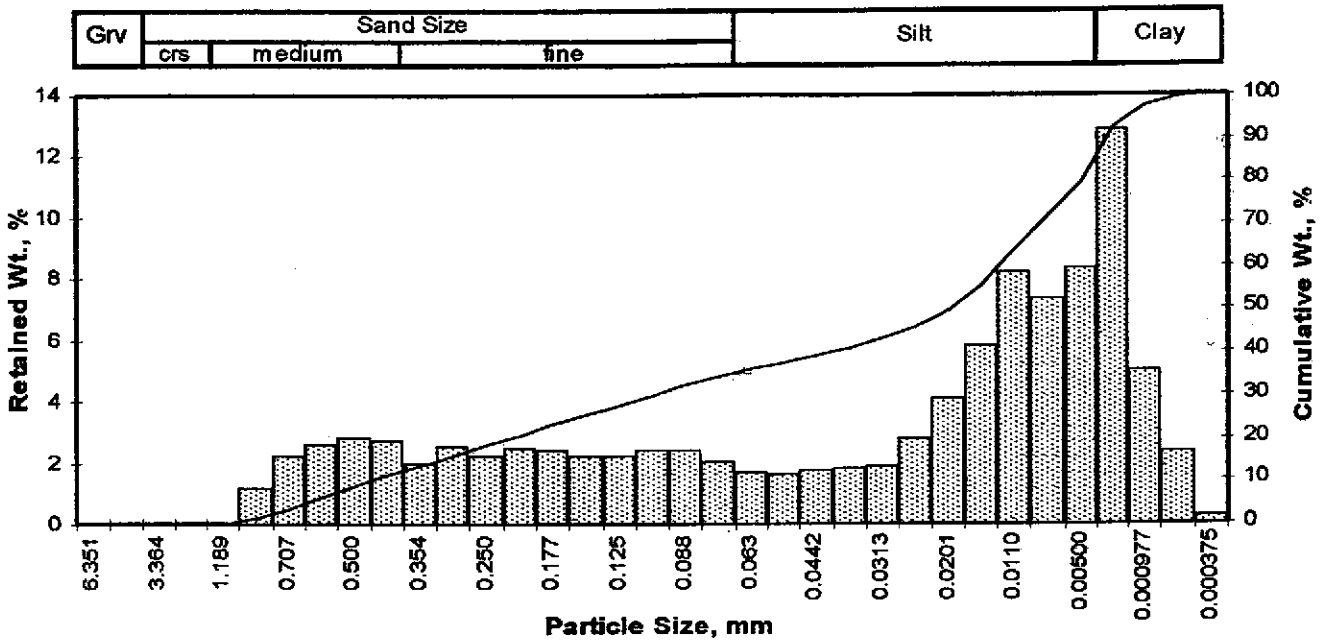
Sample ID	Depth, ft.	Description USCS/ASTM (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
S-25.5-B2	25.5	Fine sand	0.020	0.00	0.00	11.57	22.84	45.17	20.43	65.59

(1) based on Mean from Trask

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Environmental Resolutions, Inc.	**PTS File No:**	29296
Project:	Tosco 76 SS# 1156	**Sample ID:**	S-25.5-B2
Project No:	223503T4	**Depth, ft:**	25.50



Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.00	0.00	0.00
0.0331	0.841	0.25	20	1.16	1.16	1.16
0.0278	0.707	0.50	25	2.25	2.25	3.41
0.0234	0.595	0.75	30	2.56	2.56	5.97
0.0197	0.500	1.00	35	2.86	2.86	8.83
0.0166	0.420	1.25	40	2.74	2.74	11.57
0.0139	0.354	1.50	45	1.99	1.99	13.56
0.0117	0.297	1.75	50	2.50	2.50	16.06
0.0098	0.250	2.00	60	2.25	2.25	18.31
0.0083	0.210	2.25	70	2.45	2.45	20.76
0.0070	0.177	2.50	80	2.40	2.40	23.16
0.0059	0.149	2.75	100	2.22	2.22	25.38
0.0049	0.125	3.00	120	2.21	2.21	27.59
0.0041	0.105	3.25	140	2.41	2.41	30.00
0.0035	0.088	3.50	170	2.39	2.39	32.39
0.0029	0.074	3.75	200	2.02	2.02	34.41
0.0025	0.063	4.00	230	1.64	1.64	36.05
0.0021	0.053	4.25	270	1.58	1.58	37.63
0.00174	0.0442	4.50	325	1.72	1.72	39.35
0.00146	0.0372	4.75	400	1.79	1.79	41.14
0.00123	0.0313	5.00	450	1.83	1.83	42.97
0.000986	0.0250	5.32	500	2.80	2.80	45.77
0.000790	0.0201	5.64	635	4.09	4.09	49.86
0.000615	0.0156	6.00		5.82	5.82	55.67
0.000435	0.0110	6.50		8.23	8.23	63.90
0.000308	0.00781	7.00		7.36	7.36	71.26
0.000197	0.00500	7.65		8.31	8.31	79.57
0.000077	0.00195	9.00		12.88	12.88	92.45
0.000038	0.000977	10.00		4.97	4.97	97.42
0.000019	0.000488	11.00		2.34	2.34	99.76
0.000015	0.000375	11.38		0.24	0.24	100.00
TOTALS				100.01	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	0.66	0.0250	0.635
10	1.11	0.0183	0.464
16	1.74	0.0118	0.299
25	2.71	0.0060	0.153
40	4.59	0.0016	0.041
50	5.65	0.0008	0.020
60	6.26	0.0005	0.013
75	7.29	0.0003	0.006
84	8.11	0.0001	0.004
90	8.74	0.0001	0.002
95	9.51	0.0001	0.001

Measure	Trask	Inman	Folk-Ward
Median, phi	5.65	5.65	5.65
Median, in.	0.0008	0.0008	0.0008
Median, mm	0.020	0.020	0.020
Mean, phi	3.65	4.93	5.17
Mean, in.	0.0031	0.0013	0.0011
Mean, mm	0.080	0.033	0.028
Sorting	0.204	3.183	2.934
Skewness	1.569	-0.227	-0.177
Kurtosis	0.159	0.391	0.792
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	11.57
Fine Sand	200	22.84
Silt	>0.005 mm	45.17
Clay	<0.005 mm	20.43
	Total	100

Phone: (562) 907-3607
Fax: (562) 907-3610

DATE: PTS FILE# CHAIN OF CUSTODY RECORD PAGE OF

COMPANY: Environmental Resolutions, Inc.
ADDRESS: 23 Digital Drive, suite 100
PROJECT MANAGER: Colleen Matteucci
PROJECT NAME / PHONE NUMBER: Tosco 76 SS # 1156
PROJECT NUMBER / FAX NUMBER: 223503T4 382-1856 (415)
SITE LOCATION: 4276 MacArthur Blvd, OAKLAND
SAMPLER SIGNATURE:

ANALYSIS REQUEST

P0#:

SPECIAL HANDLING
24 HOURS 5 DAYS
72 HOURS NORMAL
OTHER

SAMPLE CONDITIONS
RECEIVED ON ICE YES/NO
SEALED YES/NO
OTHER YES/NO

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	PHYSICAL PROPERTIES PACKAGE, API RP40	MOISTURE CONTENT, ASTM D2216	POROSITY, API RP40	GRAIN DENSITY, API RP40	BULK DENSITY, API RP40	AIR PERMEABILITY, API RP40	SPECIFIC RETENTION/YELD ASTM D425	CATION EXCHANGE CAPACITY EPA 9080	SOIL pH, EPA 9045	GRAIN SIZE: DRY; 400 MESH	GRAIN SIZE: SIEVE & LASER	GRAIN SIZE: LASER; 1 MICRON	HYDRAULIC CONDUCTIVITY, EPA 9100, API RP40	TOC: WALKLEY-BLACK	HYDRAULIC CONDUCTIVITY PACKAGE	NUMBER OF SAMPLES	COMMENTS
S-25.5-B2	7/16	1225	25.5 ft		X	X		X	X			X			X		X			Attn Carol
S-25.5-B3	7/16	0809	25.5 ft																	Thanks

1. RELINQUISHED BY	2. RELINQUISHED BY	3. RELINQUISHED BY	4. RELINQUISHED BY
AWB 8146 3322 540			
COMPANY: FEDEX	COMPANY: PTS LAB.	COMPANY:	COMPANY:
DATE: 7/21/99 TIME: 1030	DATE: 7-21-99 TIME: 10130	DATE: TIME:	DATE: TIME:

PTS Laboratories, Inc.

Geotechnical Services

8100 Secura Way • Santa Fe Springs • CA 90670
Phone (562) 907-3607 • Fax (562) 907-3610

August 12, 1999

Mr. Glenn Mattuecci
Environmental Resolutions
73 Digital Dr. Suite 100
Novato, CA 94949

Re: Tosco 156
PTS File: 29323

Dear Mr. Matteucci:

Enclosed are final data for samples submitted for analysis under your TOSCO 1156 Project # 223503T4. Analyses were performed by applicable ASTM, EPA or API methodology. Samples will be retained for 30 days before disposal unless other arrangements are made.

We appreciate the opportunity to be of service and trust these data will prove beneficial in the development of this project. Please feel free to call myself or Larry Kunkel, District Manager, should you have any questions or require additional information.

Sincerely,

PTS Laboratories, Inc.

R. L. Young

Rick Young
Project Manager

RY/vk

encl.

PHYSICAL PROPERTIES DATA

(METHODOLOGY: ASTM D2216, API RP40, EPA 9045)

PROJECT NAME: TOSCO 1156
PROJECT NO: 223503T4

SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENT. (1)	MOISTURE CONTENT (% wt)	DENSITY BULK (g/cc)	DENSITY GRAIN (g/cc)	EFFECTIVE POROSITY, % Vb	SOIL pH	TOTAL ORGANIC CARBON mg/kg	25.0 PSI CONFINING STRESS NATIVE STATE EFFECTIVE PERMEABILITY TO AIR (millidarcy)
S-26-B2	N/A	V	14.2	1.79	2.64	32.5	7.2	< 100	48.7

(1) Sample Orientation: H = horizontal; V = vertical (2) Effective (Total) Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids (3) Water = 0.9981 g/cc; Hydrocarbon = 0.7500 g/cc (4) Native State = As received with pore fluids in place (5) Permeability to water and conductivity measured at saturated conditions Vb = Bulk Volume, cc; Pv = Pore Volume, cc; ND = Not Detected

PTS Laboratories, Inc.

ERI
PTS File No: 29323

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422)

PROJECT NAME: TOSCO 1156
PROJECT NO: 223503T4

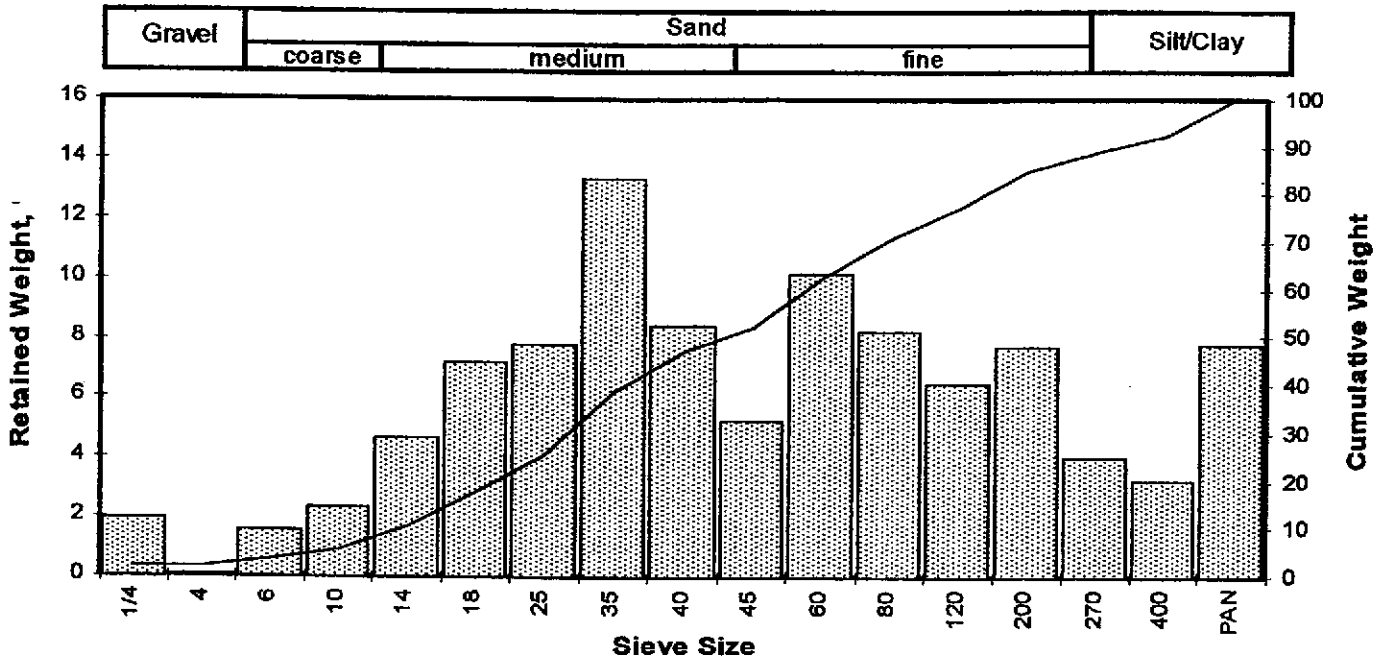
Sample ID	Depth, ft.	Description USCS/ASTM (1)	Median Grain Size, mm	Particle Size Distribution, wt. percent				
				Gravel	Sand Size			Silt/Clay
					Coarse	Medium	Fine	
S-26-132	26.0	Medium sand	0.383	1.91	3.89	41.39	37.84	14.98

(1) based on Mean fromTrask

PTS Laboratories, Inc.

Sieve Analysis Results - ASTM D422

Client:	ERI	**PTS File No:**	29323
Project:	TOSCO 1156	**Sample ID:**	S-26-132
Project No:	223503T4	**Depth, ft:**	26.0



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.34	1.91	1.91
0.1873	4.757	-2.25	4	0.00	0.00	1.91
0.1324	3.364	-1.75	6	0.28	1.58	3.49
0.0787	2.000	-1.00	10	0.41	2.31	5.80
0.0557	1.414	-0.50	14	0.83	4.67	10.47
0.0394	1.000	0.00	18	1.28	7.21	17.68
0.0278	0.707	0.50	25	1.38	7.77	25.45
0.0197	0.500	1.00	35	2.37	13.34	38.80
0.0166	0.420	1.25	40	1.49	8.39	47.18
0.0139	0.354	1.50	45	0.93	5.24	52.42
0.0098	0.250	2.00	60	1.81	10.19	62.61
0.0070	0.177	2.50	80	1.46	8.22	70.83
0.0049	0.125	3.00	120	1.15	6.48	77.31
0.0029	0.074	3.75	200	1.37	7.71	85.02
0.0021	0.053	4.25	270	0.71	4.00	89.02
0.0015	0.037	4.75	400	0.57	3.21	92.23
			PAN	1.38	7.77	100.00
TOTALS				17.76	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	inches	Millimeters
5	-1.26	0.0943	2.395
10	-0.55	0.0577	1.465
16	-0.12	0.0427	1.084
25	0.47	0.0284	0.721
40	1.04	0.0192	0.488
50	1.38	0.0151	0.383
60	1.87	0.0108	0.273
75	2.82	0.0056	0.141
84	3.65	0.0031	0.080
90	4.40	0.0019	0.047
95	3.06	0.0047	0.120

Measure	Trask	Inman	Folk-Ward
Median, phi	1.38	1.38	1.38
Median, in.	0.0151	0.0151	0.0151
Median, mm	0.383	0.383	0.383
Mean, phi	1.21	1.77	1.64
Mean, in.	0.0170	0.0116	0.0126
Mean, mm	0.431	0.294	0.321
Sorting	0.443	1.884	1.596
Skewness	0.834	0.203	-0.011
Kurtosis	0.205	0.146	0.753
Grain Size Description (ASTM-USCS Scale)		Medium sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	1.91
Coarse Sand	10	3.89
Medium Sand	40	41.39
Fine Sand	200	37.84
Silt/Clay	<200	14.98
	Total	100

Phone: (562) 907-3607 Fax: (562) 907-3610

CHAIN OF CUSTODY RECORD

DATE | PTS FILE# | PAGE 1 OF

COMPANY: ERI

ADDRESS: 73 Digital Drive, Suite 100

PROJECT MANAGER: Glenn Matteucci

PROJECT NAME: TOSCO 1156 | PHONE NUMBER: 415-382-9105

PROJECT NUMBER: 223503T4 | FAX NUMBER: 415-382-1856

SITE LOCATION: 4276 MacArthur Boulevard, OAKLAND

SAMPLER SIGNATURE: D. Crowe

P0#:

SPECIAL HANDLING: 24 HOURS / 72 HOURS / 5 DAYS / NORMAL / OTHER

SAMPLE CONDITIONS: RECEIVED ON ICE YES/NO; SEALED YES/NO; OTHER YES/NO

COMMENTS:

ANALYSIS REQUEST

SAMPLE ID NUMBER	DATE	TIME	DEPTH, FT	PHYSICAL PROPERTIES PACKAGE, API RP40	MOISTURE CONTENT, ASTM D2216	POROSITY, API RP40	GRAIN DENSITY, API RP40	BULK DENSITY, API RP40	AIR PERMEABILITY, API RP40	SPECIFIC RETENTION/YELD ASTM D425	CATION EXCHANGE CAPACITY EPA 9080	SOIL pH, EPA 9045	GRAIN SIZE: DRY; 400 MESH	GRAIN SIZE: SIEVE & LASER	GRAIN SIZE: LASER; 1 MICRON	HYDRAULIC CONDUCTIVITY, EPA 9100, API RP40	TOC: WALKLEY-BLACK	HYDRAULIC CONDUCTIVITY PACKAGE	NUMBER OF SAMPLES
S-26-B2	7/16/99	1225	26 feet		X	X		X	X			X		X			X		1

1. RELINQUISHED BY: Dylan Crowe | COMPANY: ERI | DATE: 7/28/99 | TIME:

2. RELINQUISHED BY | COMPANY | DATE | TIME

3. RELINQUISHED BY | COMPANY | DATE | TIME

4. RELINQUISHED BY | COMPANY | DATE | TIME

PTS Laboratories, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 907-3607 • Fax (562) 907-3610

ATTACHMENT F
STOCKPILE DISPOSAL DOCUMENTATION

DISPOSAL CONFIRMATION

Consultant:	E.R.I.
Contact:	DYLAN CROUSE
Phone/Fax:	(415) 382-4325 FAX (415) 382-1856
Client:	TOSCO - DAVE DEWITT
Station #/Wic #:	76 # 1156
Site Address:	4276 MAC ARTHUR BLVD.
City/State:	OAKLAND, CA
Estimated YD/Ton:	5 TONS
Actual YD/Ton:	1.72 TONS
Disposal Facility:	FORWARD LANDFILL
Disposal Date:	AUGUST 19, 1999
Contact:	BRAD BONNER
Phone #:	(800) 204-4242
Hauler:	MANLEY & SONS TRUCKING, INC.
Contact:	TIM A. MANLEY
Phone #:	(916) 381-6864
Fax #:	(916) 381-1573

Date & Time Faxed

8/25/99

9290

INVESTIGATION

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

01-1289

SHEET

NUMBER

WELL LOG

LOCAL DESIGNATION

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
282 - 306		Hard cement gravel				
306 - 307		Fine water gravel				
307 - 309		Soft yellow sandy clay				
309 - 323		Hard yellow clay				
323 - 330		Hard blue clay				

FOR FIELD COPIES USE ALTERNATE LINES