ERI

R0450

ENVIRONMENTAL RESOLUTIONS, INC.

Alameda County
MAR 12 2003
Environmental Health

TRANSMITTAL

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

DATE: March 5, 2003
PROJECT NUMBER: 224814T10
SUBJECT: Former 76 Service Station 0843, 1629 Webster Street, Alameda, California.

FROM: Mr. Robert A. Saur
TITLE: Project Manager

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	December 30, 2002	Remedial Excavation, Well Destruction and Installation of Backfill Well

THESE ARE TRANSMITTED as checked below:

[ ] For review and comment [ ] Approved as submitted [ ] Resubmit __ copies for approval

[ ] 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 ConocoPhillips Company (formerly Tosco Corporation), Environmental Resolutions, Inc. (ERI) is submitting a copy of the above-referenced document directly to your office. Please call me at (415) 382-3591 with questions or comments.

Robert A. Saur

Robert A. Saur, Project Manager

cc: Mr. Dave DeWitt, ConocoPhillips Company
Mr. George Leyva, California Regional Water Quality Control Board, San Francisco Bay Region
Mr. Sam Koka
ERI Project File 224814T10

ENVIRONMENTAL RESOLUTIONS, INC.

March 5, 2003
ERI 224814.R05

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

Subject: Remedial Excavation, Former 76 Service Station 0843, 1629 Webster Street, Alameda, California.

Mr. DeWitt:

At the request of ConocoPhillips Company (ConocoPhillips) (formerly Tosco Corporation), Environmental Resolutions, Inc. (ERI) performed a remedial excavation at the subject site. The purpose of the work was to remove the hydrocarbon-impacted soil, a potential secondary source of hydrocarbons to groundwater, in the vicinity of the former eastern dispenser island and monitoring well MW2, and to facilitate for the redevelopment of the property.

BACKGROUND

The site is located on the southwestern corner of Webster Street and Pacific Avenue in Alameda, California, as shown on the Site Vicinity Map (Plate 1). The locations of former underground storage tanks (USTs), former dispenser islands, existing groundwater monitoring wells, and other select site features are shown on the Generalized Site Plan (Plate 2). Properties in the vicinity of the site are occupied by residential and commercial developments.

Previous environmental work performed at the site has included:

- Removal of two 10,000-gallon gasoline USTs, one 550-gallon used-oil UST, product lines, and dispensers; and installation of a conductor casing within the former UST cavity backfill (ERI, September 15, 1998);
- Installation of four on-site groundwater monitoring wells (MW1 through MW4) (ERI, April 28, 1999);
- Installation of two off-site groundwater monitoring wells (MW5 and MW6) (ERI, March 7, 2000);
- An underground utility survey (ERI, April 4, 2001);
- An off-site supplemental soil and groundwater evaluation including the advancement of five direct-push soil borings (GP1 through GP5) (ERI, July 11, 2001);
- An on-site supplemental soil and groundwater evaluation including the advancement of twelve direct-push soil borings (GP6 through GP17) (ERI, February 27, 2002); and,
- Quarterly groundwater monitoring and sampling.

FIELD WORK

ERI previously submitted a *Work Plan for Remedial Excavation* (Work Plan), dated October 18, 2002, to the Alameda County Health Care Services Agency (the County). The County approved the Work Plan in a letter dated October 28, 2002 (Attachment A). As proposed in the Work Plan, ERI destroyed on-site groundwater monitoring well MW2, performed a remedial excavation in the vicinity of the former eastern dispenser island, and replaced destroyed monitoring well MW2. ERI obtained a well destruction permit from Alameda County Public Works Agency (Public Works) prior to performing the field work. A copy of the permit is provided in Attachment B. ERI performed field work in general accordance with ERI's Work Plan, a site-specific health and safety plan that was kept on site during field operations, and ERI's field protocol (Attachment C).

Destruction of MW2

On November 28, 2002, ERI observed Woodward Drilling Company (Woodward), of Rio Vista, California, destroy on-site groundwater monitoring well MW2. Monitoring well MW2 was destroyed by filling the well casing with Portland cement and applying an air pressure of 25 pounds per square inch (psi) for a period of five minutes to force grout through the slotted interval of the well casing, and into the annulus, and adjacent formation. Following the pressure grouting, the well box and top 2 feet of the well casing were removed and the remaining boring was filled with grout to surface grade.

Remedial Excavation

On December 4, 2002, ERI's representative observed Foy Kelley General Engineering (FKE), of Petaluma, California, excavate hydrocarbon-impacted soil in the vicinity of the former eastern dispenser island. Under direction from ERI's representative, FKE excavated a cavity measuring approximately 36 feet by 16 feet, to a depth of approximately 11.5 feet below ground surface (bgs). Groundwater was present at approximately 11 feet bgs. Subsequent to the excavation, ERI's representative collected soil samples from the northern, eastern, western, and southern sidewalls of the excavation at a depth approximately 10 feet bgs. In addition, ERI collected soil samples for geotechnical analysis from the northern and southern sidewalls of the excavation at approximately 6 feet bgs. The results of the geotechnical analysis and Chain-of-Custody records are provided in Attachment D. The excavation limits and soil sample locations are shown on Plate 2.

Installation of Backfill Well MW2A

On December 5, 2002, ERI's representative observed FKE install backfill groundwater monitoring well MW2A, in the approximate location of the destroyed MW2. Prior to backfilling the excavation, a 2-inch diameter closed-bottom slotted casing was placed vertically in the tank pit resting on the base of the excavation, approximately 11.5 feet bgs. During the excavation backfill activities, well MW2A was surrounded by backfill material to the ground surface. The location of well MW2A is shown on Plate 2. ERI contacted the Alameda County Public Works Agency (Public Works), prior to the well installation; Public Works indicated that a well permit is not required.

Backfill of Excavation

On December 5 and 6, 2002, ERI's representative observed FKE backfill the excavation. The excavation was backfilled with gravel from the total depth of the excavation to approximately 10 feet bgs and with Class II base from 10 feet bgs to ground surface. Wayne Ting & Associates, Inc., of Fremont, California, performed compaction testing of the backfill. A copy of the backfill and compaction report is provided in Attachment D.

Soil Samples

ERI submitted soil samples collected from the sidewalls to Sequoia Analytical Laboratories, Inc. (Sequoia), a California state-certified laboratory, under Chain-of-Custody protocol, for laboratory analysis and to PTS Laboratories, Inc. (PTS) in Santa Fe Springs, California, for geologic parameters. Soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg); benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) using the methods listed in Table 1. The laboratory analysis reports, geologic parameters report, and Chain-of-Custody records are provided in Attachment E.

WASTE DISPOSAL

Approximately 300 cubic yards of soil were generated during excavation activities at the site. Manley & Sons Trucking, Inc. of Sacramento, California, under direct contract to ConocoPhillips, transported the soil to the Forward, Inc. landfill in Manteca, California, for disposal. The soil disposal confirmation is provided 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 groundwater with respect to petroleum hydrocarbons and gasoline-related constituents.

DOCUMENT DISTRIBUTION

ERI recommends that signed copies of this report be forwarded to:

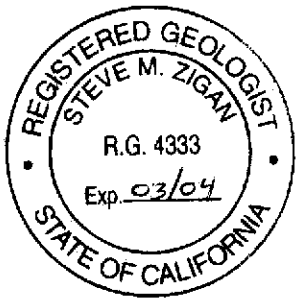
Ms. Eva Chu
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Mr. George Leyva
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Mr. Sam Koka
650 Pacific Avenue
Alameda, California 94501

Please call Mr. Robert A. Saur, ERI's project manager for this site, at (415) 382-3591 with questions regarding this report.

Sincerely,
Environmental Resolutions, Inc.



Anne Wettstone
Staff Geologist

Steve M. Zigan
R.G. 4333
H.G. 133

Attachments: References

Table 1: Results of Laboratory Analyses of Soil Samples

Plate 1: Site Vicinity Map
Plate 2: Generalized Site Plan

Attachment A: Regulatory Correspondence
Attachment B: Permit
Attachment C: Field Protocol
Attachment D: Backfill and Compaction Report
Attachment E: Laboratory Analysis Reports, Geologic Parameter Report, and Chain-of-Custody Records
Attachment F: Soil Disposal Documentation

REFERENCES

Environmental Resolutions, Inc. September 15, 1998. Underground Storage Tank, Associated Piping, and Dispenser Removal at Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224832.R01.

Environmental Resolutions, Inc. April 28, 1999. Evaluation of Soil and Groundwater at Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224803.R01.

Environmental Resolutions, Inc. March 7, 2000. Supplemental Evaluation of Groundwater at Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224803.R02.

Environmental Resolutions, Inc. April 2, 2001. Underground Utility Survey and Work Plan for Supplemental Evaluation of Soil and Groundwater, Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224803.W03.

Environmental Resolutions, Inc. July 11, 2001. Supplemental Evaluation of Soil and Groundwater, Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224803.R03.

Environmental Resolutions, Inc. February 27, 2002. Supplemental Evaluation of Soil and Groundwater, Former Tosco Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224803.R04.

Environmental Resolutions, Inc. October 18, 2002. Work Plan for Remedial Excavation, Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224814.W05.

United States Geological Survey (USGS). 1980. 7.5-Minute Topographic Quadrangle Map, Oakland West, California.

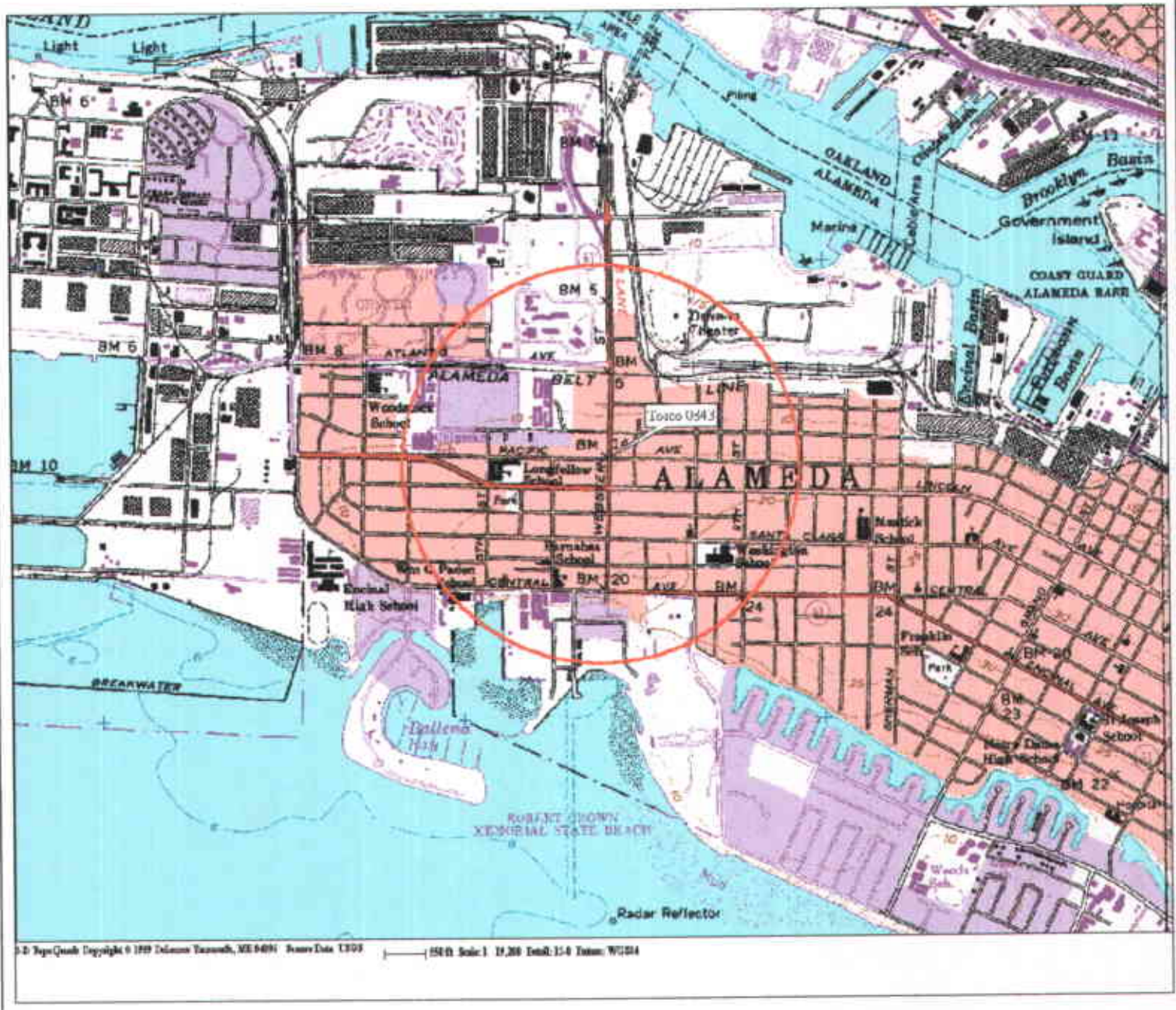
Wayne Ting & Associates, Inc. December 6, 2002. Report of Testing and Observation Services During Tank Backfill and Compaction, 1629 Webster Street, Alameda, California.

TABLE 1
RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES
Former 76 Service Station 0843
1629 Webster Street
Alameda, California

Sample Designation	Plate 2 Call Out	Depth (feet bgs)	Date Sampled	TPHg	B	T	E	X	MTBE
				<.....ppm.....					
Soil Boring Samples									
S-10-EX1N	A	10	12/04/02	<50	<0.25	<0.25	0.73	4.9	<0.25
S-10-EX1S	B	10	12/04/02	<1.0	<0.0050	<0.0050	<0.0053	<0.010	<0.0050
S-10-EX1W	C	10	12/04/02	<1,000	<0.25	4.1	20	120	<0.25
S-10-EX1E	D	10	12/04/02	<50	<0.25	1.2	0.34	0.82	0.36

Notes:

S-10-EX1N = Soil sample-depth-excavation sample location.
TPHg = Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8260B.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B.
MTBE = Methyl tertiary butyl ether analyzed using EPA Method 8260B.
bgs = Below ground surface.
ppm = Parts per million.
ND = Not detected at or above the laboratory reporting limit.



EXPLANATION

1/2-mile radius circle

N

APPROXIMATE SCALE

0 0.5 1 mile

SOURCE:
Modified from a map provided by DeLorme 3-D TopoQuads

ENVIRONMENTAL RESOLUTIONS, INC.

SITE VICINITY MAP

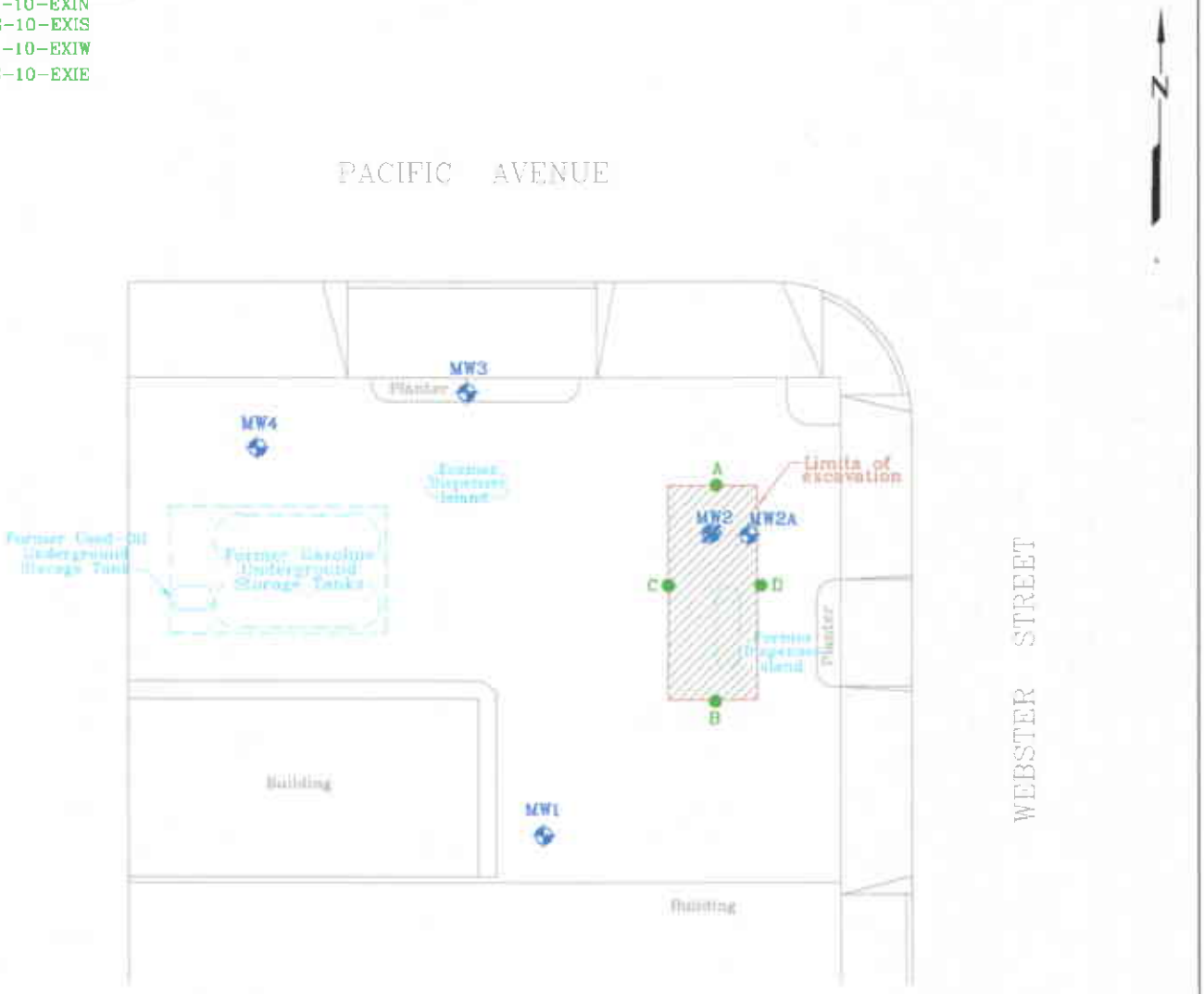
Former 76 Service Station 0843
1629 Webster Street
Alameda, California

PROJECT NO. 2248

PLATE 1

SOIL SAMPLES

A S-10-EXIN
B S-10-EXIS
C S-10-EXIW
D S-10-EXIE



APPROXIMATE SCALE

0 30 60 FEET

SOURCE: Modified from a map provided by Morrow Surveying

FN 22480002

EXPLANATION

MW4 Groundwater Monitoring Well

MW2 Destroyed Groundwater Monitoring Well

D Soil Sample

ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

FORMER 76 SERVICE STATION 0843
1629 Webster Street
Alameda, California

PROJECT NO. 2248

PLATE 2

February 7, 2002

ATTACHMENT A

REGULATORY CORRESPONDENCE

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
FAX (510) 337-9335

RO0000450

October 28, 2002

Mr. Dave DeWitt
Phillips 66 Company
2000 Crow Canyon Place, Ste 400
San Ramon, CA 94583

RE: Work Plan Approval for 1629 Webster Street, Alameda, CA

Dear Mr. DeWitt:

I have completed review of Environmental Resolutions, Inc.'s October 2002 *Work Plan for Remedial Excavation* prepared for the above referenced site. The proposal to excavate hydrocarbon-impacted soil in the vicinity of the former eastern dispenser island and monitoring well MW2 is acceptable. Field work should commence within 45 days of the date of this letter, or by December 16, 2002 (when depth to groundwater is lowest). Please provide 72 hours advance notice of field activities.

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

eva chu
Hazardous Materials Specialist

c: Robert Saur
ERI
73 Digital Drive, Suite 100
Novato, CA 94949-5791

BP-Tosco#0843-7

ATTACHMENT B

PERMIT

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5591 MARLON MAGALLANES/FRANK CODD (510) 670-5781
FAX (510)782-1939
James Yoo 510-670-6633

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Former Tosco 76 Service Station 0843
1429 Webster St.
Alameda, CA

CLIENT
Name Tosco Corporation
Address 2000 Crow Canyon Pl. Phone 925-277-2384
City San Ramon CA 94583 Zip 94583

APPLICANT
Name Environmental Resolutions Inc. Fax 415-382-1856
Address 73 Digital Dr. Ste 100 Phone 415-382-3591
City Novato Zip 94949

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 NAME Woodward Drilling Co.
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. Owner's Well Number MW2

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

ESTIMATED STARTING DATE 11/27/02
ESTIMATED COMPLETION DATE 11/25/02

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

APPLICANT'S SIGNATURE Rob Sauer DATE 11/25/02
PLEASE PRINT NAME Rob Sauer

FOR OFFICE USE
PERMIT NUMBER WO2-1153
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. 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 original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. 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 by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION — PG#1 Attached
See attached requirements for destruction of shallow wells. Send a map of work site. A different permit application is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 11-26-02

Rev. 6 -5-00

ATTACHMENT C

FIELD PROTOCOL

FIELD PROTOCOL

Safety Plan

The Site Safety Plan (SSP) describes the basic safety requirements for the subsurface environmental investigation related to monitoring and excavation of soil at the site. The SSP is applicable to personnel of ERI and to subcontractors of ERI. Personnel scheduled to work at the site are briefed on the contents of the SSP before work began. A copy of the SSP is kept at the work site and is available for reference by appropriate parties during work at the site. ERI's representative is the Site Safety Officer on site.

Sampling of Soil Excavation Limits

Soil samples are collected by driving a hand-operated percussion sampler fitted with a clean brass sleeve into the soil. Soil samples are monitored with a photo-ionization device (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 collected with brass sleeves and 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 included in the final report.

Sampling of Stockpiled Soil

Stockpiled soil samples are collected and analyzed to characterize the soil for disposal. A PID is used to assist in selecting samples representative of the stockpile. Each of these soil samples is collected by driving a hand-operated percussion soil-sampling device lined with a clean brass sleeve into the soil after approximately 1 foot of soil is removed from the stockpile. Each sample sleeve is removed from the sampler and promptly sealed with Teflon® tape and plastic caps. The sample is then labeled and placed in iced storage. Four soil samples are collected for approximately every 100 cubic yards of stockpiled soil; each group of four samples is composited into one soil sample by the analytical laboratory.

Sample Labeling and Handling

The soil samples selected for possible laboratory analysis are removed from the sampler and quickly sealed in their brass sleeves with Teflon® tape and plastic caps. The respective sample containers are labeled in the field with the job number, sample location and depth, and date, and promptly placed in iced storage for transport to the laboratory. Chain-of-Custody Records are initiated in the field by the geologist and accompany the samples to a laboratory certified by the State of California to perform the analyses requested.

ATTACHMENT D

BACKFILL AND COMPACTION REPORT

WAYNE TING & ASSOCIATES, INC.
GEOTECHNICAL

Project No. 2018
6 December 2002

Mr. Robert Saur
Environmental Resolutions, Inc.
73 Digital Drive, Suite 100
Novato, CA 94949

Subject: **REPORT OF TESTING AND OBSERVATION SERVICES DURING TANK BACKFILL AND COMPACTION**
1629 Webster Street
Alameda, California

Dear Mr. Saur:

At your request, **Wayne Ting & Associates, Inc. (WTAI)** has provided testing and observation services during tank backfill operations at the subject site.

It is our understanding that backfill commenced upon placement of gravel into the tank to 10 feet below the ground surface and then backfill with recycled baserock. The baserock was placed in lifts not exceeding 8 inches in uncompacted thickness and compacted to at least 90 percent relative compaction. Relative compaction is based on the maximum dry density as determined by ASTM D1557-91 Laboratory Test Procedure. All laboratory and field density test results are summarized in the enclosed Tables I and II.

Should you have any questions relating to the contents of this letter, please contact our office at your convenience.

Very truly yours,

WAYNE TING & ASSOCIATES, INC.

Wayne Ting

Wayne L Ting, C.E.
Principal Engineer

REGISTERED PROFESSIONAL ENGINEER
WAYNE L. TING
No. C 46276
Exp: 12/31/06
CIVIL
STATE OF CALIFORNIA

Copies: 2 to Mr. Saur

TABLE I
Summary of Laboratory Test Results

Soil Type	Description	Max. Dry Density	Optimum Moisture
(4)	Recycled baserock	127.0 p.c.f.	8.5%

TABLE II
Summary of Field Density Test Results

Test No	Date of Test	Test Location	Approx. Elevation (feet)	Max Dry Density (pcf)	Test Dry Density (pcf)	Relative Compaction (%)	Required Minimum Compaction (%)	Curve No.	Remark
1	12/5/2002	pit	-10.0	127.0	115.6	91	90	1	
2	12/5/2002	pit	-10.0	127.0	115.4	91	90	1	
3	12/5/2002	pit	-8.0	127.0	117.2	92	90	1	
4	12/5/2002	pit	-8.0	127.0	116.4	92	90	1	
5	12/5/2002	pit	-6.0	127.0	118.4	93	90	1	
6	12/5/2002	pit	-6.0	127.0	113.9	90	90	1	
7	12/5/2002	pit	-5.0	127.0	116.8	92	90	1	
8	12/5/2002	pit	-5.0	127.0	116.4	92	90	1	
9	12/5/2002	pit	-3.0	127.0	114.0	90	90	1	
10	12/5/2002	pit	-3.0	127.0	114.7	90	90	1	
11	12/5/2002	pit	-2.0	127.0	118.9	94	90	1	
12	12/5/2002	pit	-2.0	127.0	114.9	90	90	1	
13	12/6/2002	pit	-1.0	127.0	117.9	93	90	1	
14	12/6/2002	pit	-1.0	127.0	116.6	92	90	1	
15	12/6/2002	pit	-0.5	127.0	115.8	91	90	1	
16	12/6/2002	pit	-0.5	127.0	116.6	92	90	1	

SG-Subgrade
FSG-Finish Subgrade
OG-Original Ground
***- Recompacted
AB-Aggregate Baserock
ASB-Aggregate Subbase
FAB-Finish Aggregate Baserock
FASB-Finish Aggregate Subbase

ATTACHMENT E

LABORATORY ANALYSIS REPORTS, GEOLOGIC PARAMETER REPORTS, AND CHAIN-OF-CUSTODY RECORDS

Sequoia Analytical

819 Striker Avenue, Suite 8
Sacramento, CA 95834
(916) 921-9600
FAX (916) 921-0100
www.sequoialabs.com

December 24 , 2002

Rob Saur
Environmental Resolutions Inc. (ERI)
73 Digital Dr., Ste. 100
Novato, CA 94949
RE: Tosco 0843, Alameda, CA / S212234

Enclosed are the results of analyses for samples received by the laboratory on 12/06/02. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Alan B. Kemp For Ron Chew
Client Services Representative

CA ELAP Certificate Number 1624

Sequoia Analytical

819 Striker Avenue, Suite 8
Sacramento, CA 95834
(916) 921-9600
FAX (916) 921-0100
www.sequolalabs.com

Environmental Resolutions Inc. (ERI)	Project: Tosco 0843, Alameda, CA	S212234
73 Digital Dr., Ste. 100	Project Number: N/A	**Reported:**
Novato CA, 94949	Project Manager: Rob Saur	12/24/02 12:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-10-EXIN	S212234-01	Soil	12/04/02 13:40	12/06/02 12:15
S-10-EXIS	S212234-02	Soil	12/04/02 13:45	12/06/02 12:15
S-10-EXIW	S212234-03	Soil	12/04/02 13:55	12/06/02 12:15
S-10-EXIE	S212234-04	Soil	12/04/02 13:35	12/06/02 12:15

Sequoia Analytical

819 Striker Avenue, Suite 8
Sacramento, CA 95834
(916) 921-9600
FAX (916) 921-0100
www.sequoialabs.com

Environmental Resolutions Inc. (ERI)	Project: Tosco 0843, Alameda, CA	S212234
73 Digital Dr., Ste. 100	Project Number: N/A	Reported:
Novato CA, 94949	Project Manager: Rob Saur	12/24/02 12:56

Gasoline\BTEX\Oxygenates by EPA method 8260B

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S-10-EXIN (S212234-01) Soil Sampled: 12/04/02 13:40 Received: 12/06/02 12:15									**HT-RS**
Benzene	ND	0.25	mg/kg	50	2120306	12/18/02	12/19/02	EPA 8260B	
Toluene	ND	0.25	"	"	"	"	"	"	
Ethylbenzene	**0.73**	0.25	"	"	"	"	"	"	
Xylenes (total)	**4.9**	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.25	"	"	"	"	"	"	
Gasoline (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4		*76 %*	*60-140*		"	"	"	"	
Surrogate: Toluene-d8		*110 %*	*60-140*		"	"	"	"	
Surrogate: 4-BFB		*92 %*	*60-140*		"	"	"	"	
S-10-EXIS (S212234-02) Soil Sampled: 12/04/02 13:45 Received: 12/06/02 12:15									**HT-04**
Benzene	ND	0.0050	mg/kg	1	2120307	12/18/02	12/19/02	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.0050	"	"	"	"	"	"	
Gasoline (C6-C10)	ND	1.0	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4		*79 %*	*60-140*		"	"	"	"	
Surrogate: Toluene-d8		*114 %*	*60-140*		"	"	"	"	
Surrogate: 4-BFB		*92 %*	*60-140*		"	"	"	"	
S-10-EXIW (S212234-03) Soil Sampled: 12/04/02 13:55 Received: 12/06/02 12:15									
Benzene	ND	0.25	mg/kg	50	2120306	12/18/02	12/18/02	EPA 8260B	
Toluene	**4.1**	0.25	"	"	"	"	"	"	
Ethylbenzene	**20**	5.0	"	1000	"	"	12/19/02	"	HT-RS
Xylenes (total)	**120**	10	"	"	"	"	"	"	HT-RS
Methyl tert-butyl ether	ND	0.25	"	50	"	"	12/18/02	"	
Gasoline (C6-C10)	ND	1000	"	1000	"	"	12/19/02	"	HT-RS
Surrogate: 1,2-DCA-d4		*74 %*	*60-140*		"	"	*12/18/02*	"	
Surrogate: Toluene-d8		*108 %*	*60-140*		"	"	"	"	
Surrogate: 4-BFB		*87 %*	*60-140*		"	"	"	"	

Sequoia Analytical

819 Striker Avenue, Suite 8
Sacramento, CA 95834
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FAX (916) 921-0100
www.sequoialabs.com

Environmental Resolutions Inc. (ERI)	Project: Tosco 0843, Alameda, CA	S212234
73 Digital Dr., Ste. 100	Project Number: N/A	**Reported:**
Novato CA, 94949	Project Manager: Rob Saur	12/24/02 12:56

Gasoline\BTEX\Oxygenates by EPA method 8260B

Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S-10-EXIE (S212234-04) Soil Sampled: 12/04/02 13:35 Received: 12/06/02 12:15									
Benzene	ND	0.25	mg/kg	50	2120306	12/18/02	12/18/02	EPA 8260B	
Toluene	**1.2**	0.25	"	"	"	"	"	"	
Ethylbenzene	**0.34**	0.25	"	"	"	"	"	"	
Xylenes (total)	**0.82**	0.50	"	"	"	"	"	"	
Methyl tert-butyl ether	**0.36**	0.25	"	"	"	"	"	"	
Gasoline (C6-C10)	ND	50	"	"	"	"	"	"	
Surrogate: 1,2-DCA-d4		*75 %*	*60-140*		"	"	"	"	
Surrogate: Toluene-d8		*107 %*	*60-140*		"	"	"	"	
Surrogate: 4-BFB		*90 %*	*60-140*		"	"	"	"	

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Environmental Resolutions Inc. (ERI) 73 Digital Dr., Ste. 100 Novato CA, 94949	Project: Tosco 0843, Alameda, CA Project Number: N/A Project Manager: Rob Saur	S212234 Reported: 12/24/02 12:56

Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2120306 - EPA 5030B [MeOH]										
Blank (2120306-BLK1)				Prepared & Analyzed: 12/18/02						
Benzene	ND	0.25	mg/kg							
Toluene	ND	0.25	"							
Ethylbenzene	ND	0.25	"							
Xylenes (total)	ND	0.50	"							
Methyl tert-butyl ether	ND	0.25	"							
Gasoline (C6-C10)	ND	50	"							
Surrogate: 1,2-DCA-d4	*0.0396*		"	*0.0500*		*79*	*60-140*			
Surrogate: Toluene-d8	*0.0568*		"	*0.0500*		*114*	*60-140*			
Surrogate: 4-BFB	*0.0474*		"	*0.0500*		*95*	*60-140*			
Laboratory Control Sample (2120306-BS1)				Prepared & Analyzed: 12/18/02						
Benzene	0.0396	0.0050	mg/kg	0.0500		79	70-130			
Toluene	0.0499	0.0050	"	0.0500		100	70-130			
Methyl tert-butyl ether	0.0399	0.0050	"	0.0500		80	60-140			
Surrogate: 1,2-DCA-d4	*0.0425*		"	*0.0500*		*85*	*60-140*			
Surrogate: Toluene-d8	*0.0556*		"	*0.0500*		*111*	*60-140*			
Surrogate: 4-BFB	*0.0464*		"	*0.0500*		*93*	*60-140*			
Laboratory Control Sample Dup (2120306-BSD1)				Prepared & Analyzed: 12/18/02						
Benzene	0.0421	0.0050	mg/kg	0.0500		84	70-130	6	25	
Toluene	0.0513	0.0050	"	0.0500		103	70-130	3	25	
Methyl tert-butyl ether	0.0423	0.0050	"	0.0500		85	60-140	6	25	
Surrogate: 1,2-DCA-d4	*0.0418*		"	*0.0500*		*84*	*60-140*			
Surrogate: Toluene-d8	*0.0521*		"	*0.0500*		*104*	*60-140*			
Surrogate: 4-BFB	*0.0470*		"	*0.0500*		*94*	*60-140*			
Batch 2120307 - EPA 5030B [P/T]										
Blank (2120307-BLK1)				Prepared & Analyzed: 12/18/02						
Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Methyl tert-butyl ether	ND	0.0050	"							
Gasoline (C6-C10)	ND	1.0	"							
Surrogate: 1,2-DCA-d4	*0.0410*		"	*0.0500*		*82*	*60-140*			

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Environmental Resolutions Inc. (ERI)	Project: Tosco 0843, Alameda, CA	S212234
73 Digital Dr., Ste. 100	Project Number: N/A	Reported:
Novato CA, 94949	Project Manager: Rob Saur	12/24/02 12:56

Gasoline\BTEX\Oxygenates by EPA method 8260B - Quality Control
Sequoia Analytical - Sacramento

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2120307 - EPA 5030B [P/T]										
Blank (2120307-BLK1)				Prepared & Analyzed: 12/18/02						
Surrogate: Toluene-d8	*0.0542*		*mg/kg*	*0.0500*		*108*	*60-140*			
Surrogate: 4-BFB	*0.0464*		*"*	*0.0500*		*93*	*60-140*			
Laboratory Control Sample (2120307-BS1)				Prepared & Analyzed: 12/18/02						
Benzene	0.0204	0.0050	mg/kg	0.0272		75	70-130			
Toluene	0.164	0.0050	"	0.167		98	70-130			
Methyl tert-butyl ether	0.0322	0.0050	"	0.0448		72	60-140			
Gasoline (C6-C10)	2.11	1.0	"	2.20		96	70-130			
Surrogate: 1,2-DCA-d4	*0.0410*		*"*	*0.0500*		*82*	*60-140*			
Surrogate: Toluene-d8	*0.0550*		*"*	*0.0500*		*110*	*60-140*			
Surrogate: 4-BFB	*0.0485*		*"*	*0.0500*		*97*	*60-140*			
Matrix Spike (2120307-MS1)		Source: S212401-04		Prepared: 12/18/02 Analyzed: 12/19/02						
Benzene	0.0197	0.0050	mg/kg	0.0272	ND	72	60-140			
Toluene	0.161	0.0050	"	0.167	ND	96	60-140			
Methyl tert-butyl ether	0.0318	0.0050	"	0.0448	ND	71	60-140			
Gasoline (C6-C10)	2.05	1.0	"	2.20	ND	93	60-140			
Surrogate: 1,2-DCA-d4	*0.0391*		*"*	*0.0500*		*78*	*60-140*			
Surrogate: Toluene-d8	*0.0572*		*"*	*0.0500*		*114*	*60-140*			
Surrogate: 4-BFB	*0.0493*		*"*	*0.0500*		*99*	*60-140*			
Matrix Spike Dup (2120307-MSD1)		Source: S212401-04		Prepared: 12/18/02 Analyzed: 12/19/02						
Benzene	0.0197	0.0050	mg/kg	0.0272	ND	72	60-140	0	25	
Toluene	0.135	0.0050	"	0.167	ND	81	60-140	18	25	
Methyl tert-butyl ether	0.0459	0.0050	"	0.0448	ND	102	60-140	36	25	QR-02
Gasoline (C6-C10)	1.59	1.0	"	2.20	ND	72	60-140	25	25	
Surrogate: 1,2-DCA-d4	*0.0514*		*"*	*0.0500*		*103*	*60-140*			
Surrogate: Toluene-d8	*0.0524*		*"*	*0.0500*		*105*	*60-140*			
Surrogate: 4-BFB	*0.0476*		*"*	*0.0500*		*95*	*60-140*			

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Environmental Resolutions Inc. (ERI)	Project: Tosco 0843, Alameda, CA	S212234
73 Digital Dr., Ste. 100	Project Number: N/A	**Reported:**
Novato CA, 94949	Project Manager: Rob Saur	12/24/02 12:56

Notes and Definitions

HT-04	This sample was analyzed beyond the EPA recommended holding time. The results may still be useful for their intended purpose.
HT-RS	This sample was originally analyzed within the EPA recommended hold time. Re-analysis for confirmation or dilution was performed past the recommended hold time. The results may still be useful for their intended purpose.
QR-02	The RPD result exceeded the control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

№ 008164

TOSCO

☐ 885 Jarvis Drive • Morgan Hill, CA 95037 • (408) 776-9600 • FAX (408) 782-6308
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☐ 404 N. Wiget Lane • Walnut Creek, CA 94598 • (925) 988-9600 • FAX (925) 988-9673
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☐ 1551 Industrial Road • San Carlos, CA 94070 • (650) 232-9600 • FAX (650) 232-9612

Consultant Company: ERI	Tosco Engineer: DAVE DEWITT
Address: 73 DIGITAL DRIVE STE 100	Site #: 0843 T0600102263 Global ID #
City: NOVATO State: CA Zip Code: 94949	Site Address: 1629 WEBSTER STREET
Telephone: (415) 382-9105 Fax #: (415) 382-1856	City, State: ALAMEDA, CA
Report To: Rob Saur Sampler: ANNE WETTSTONE	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

Project Coding: 224814T10

Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	TPHg/BTEX/MTBE 8260B SINGLE ELN	TPH Diesel (8015)	TOG (418.1)	Oxygenates (6) 8260	Oxygenates (6)+ EDB 1, 2 DCA (8260)	Comments
1. S-10-EX1N	12/4/02 13:40	SOIL	1	SLEEVE	S210231-01	X					Please provide
2. S-10-EX1S	13:45	SOIL	1	SLEEVE	-02	X					EDF File
3. S-10-EX1W	13:55	SOIL	1	SLEEVE	-03	X					↓
4. S-10-EX1E	13:35	SOIL	1	SLEEVE	-04	X					
5.											
6.											
7.											
8.											
9.											
10.											

Relinquished By: Rob Saur	Date: 12/5/02	Time: 1230	Received By:	Date: 12/6/02	Time: 12:15
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: Monica Gregen	Date: 12/6/02	Time: 915

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: _____

White - Sequoia Yellow - Sequoia Pink - Client

PTS Laboratories
ENVIRONMENTAL SERVICES

January 3, 2003

Rob Saur
Environmental Resolutions
73 Digital Dr.
Novato, CA 94949

Re: TOSCO 0843
PTS File 32572

Dear Mr. Saur:

Enclosed are final data for samples submitted from TOSCO 0843, Project No. 224814T10. All 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 call me at (562) 907-3607 with any questions or if you require additional information.

Sincerely,
PTS Laboratories, Inc.

Larry Kunkel
District Manager

LAK:vk

Encl.

8100 Secura Way – Santa Fe Springs, CA 90670
Phone 562.907.3607 Fax 562.907.3610
www.ptsgeolabs.com

PHYSICAL PROPERTIES DATA

PROJECT NAME: Tosco 0843
PROJECT NO: 224814T10

METHODOLOGY:	ASTM D2216	API RP40	API RP40	ASTM D5084

SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENT. (1)	MOISTURE CONTENT (% wt)	DENSITY		POROSITY, %Vb (2)		25.0 PSI CONFINING STRESS	
				BULK (g/cc)	GRAIN (g/cc)	TOTAL	AIR FILLED	NATIVE STATE EFFECTIVE PERMEABILITY TO WATER (4,5) (millidarcy)	NATIVE STATE EFFECTIVE HYDRAULIC CONDUCTIVITY (4,5) (cm/s)
S-3-EX1N	3.0	V	8.7	1.55	2.67	42.1	28.5	299	2.88E-04
S-3-EX1S	3.0	V	6.2	1.50	2.67	43.9	34.5	404	3.91E-04

(1) Sample Orientation: H = horizontal; V = vertical (2) Total Porosity = no pore fluids in place; all interconnected pore channels; Air Filled = pore channels not occupied by pore fluids (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.

Enviromental Resolutions, Inc.
PTS File No: 32572

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D4464)

PROJECT NAME: Tosco 0843
PROJECT NO: 224814T10

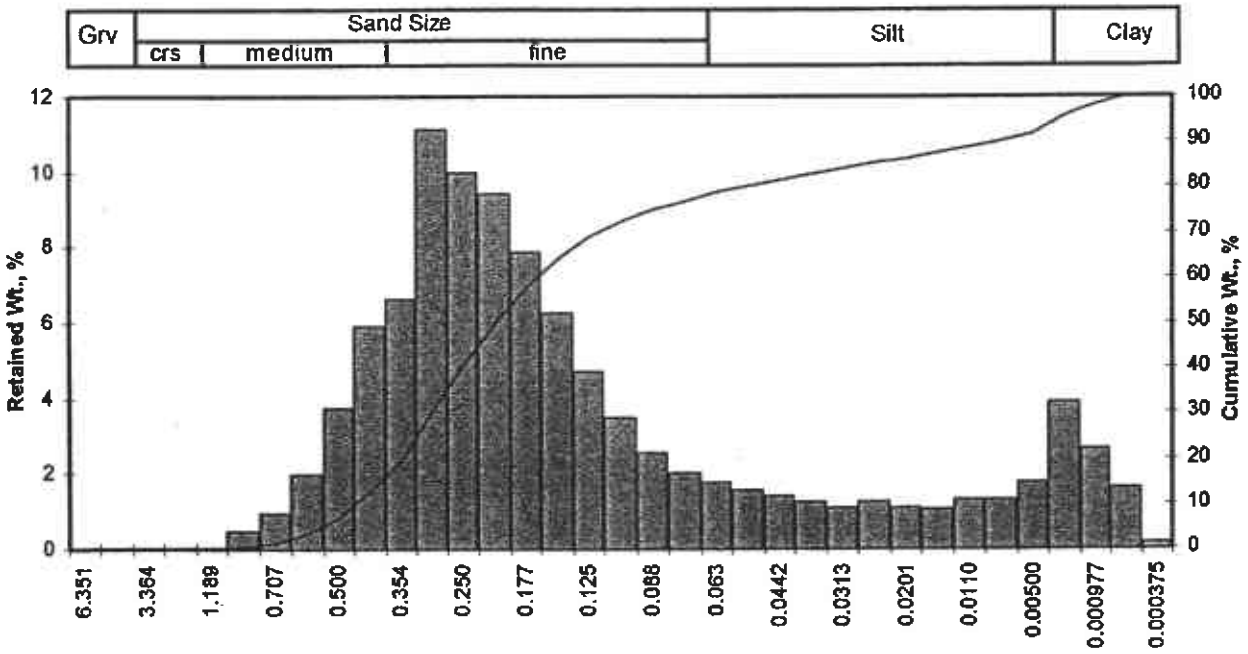
Sample ID	Depth, ft.	Description USCS/ASTM (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
S-3-EX1N	3.00	Fine sand	0.210	0.00	0.00	12.97	63.94	14.80	8.29	23.09
S-3-EX1S	3.00	Fine sand	0.241	0.00	0.00	17.72	63.32	11.74	7.22	18.95

(1) based on Mean from Trask

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Enviromental Resolutions, Inc.	**PTS File No:**	32572
Project:	Tosco 0843	**Sample ID:**	S-3-EX1N
Project No:	224814T10	**Depth, ft:**	3.00



Particle Size, mm

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	0.46	0.46	0.46
0.0278	0.707	0.50	25	0.95	0.95	1.41
0.0234	0.595	0.75	30	1.95	1.95	3.36
0.0197	0.500	1.00	35	3.70	3.70	7.07
0.0166	0.420	1.25	40	5.90	5.90	12.97
0.0139	0.354	1.50	45	6.60	6.60	19.57
0.0117	0.297	1.75	50	11.10	11.10	30.67
0.0098	0.250	2.00	60	10.00	10.00	40.67
0.0083	0.210	2.25	70	9.39	9.39	50.06
0.0070	0.177	2.50	80	7.87	7.87	57.93
0.0059	0.149	2.75	100	6.24	6.24	64.17
0.0049	0.125	3.00	120	4.70	4.70	68.88
0.0041	0.105	3.25	140	3.45	3.45	72.33
0.0035	0.088	3.50	170	2.55	2.55	74.88
0.0029	0.074	3.75	200	2.03	2.03	76.91
0.0025	0.063	4.00	230	1.76	1.76	78.67
0.0021	0.053	4.25	270	1.57	1.57	80.24
0.00174	0.0442	4.50	325	1.40	1.40	81.64
0.00146	0.0372	4.75	400	1.24	1.24	82.88
0.00123	0.0313	5.00	450	1.10	1.10	83.98
0.000986	0.0250	5.32	500	1.25	1.25	85.23
0.000790	0.0201	5.64	635	1.07	1.07	86.30
0.000615	0.0156	6.00		1.03	1.03	87.33
0.000435	0.0110	6.50		1.30	1.30	88.63
0.000308	0.00781	7.00		1.30	1.30	89.93
0.000197	0.00500	7.65		1.78	1.78	91.71
0.000077	0.00195	9.00		3.90	3.90	95.61
0.000038	0.000977	10.00		2.64	2.64	98.25
0.000019	0.000488	11.00		1.59	1.59	99.84
0.000015	0.000375	11.38		0.16	0.16	100.00
TOTALS				100.00	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	0.86	0.0217	0.551
10	1.12	0.0181	0.459
16	1.36	0.0153	0.388
25	1.62	0.0128	0.325
40	1.98	0.0100	0.253
50	2.25	0.0083	0.210
60	2.58	0.0066	0.167
75	3.52	0.0034	0.087
84	5.01	0.0012	0.031
90	7.03	0.0003	0.008
95	8.79	0.0001	0.002

Measure	Trask	Inman	Folk-Ward
Median, phi	2.25	2.25	2.25
Median, in.	0.0083	0.0083	0.0083
Median, mm	0.210	0.210	0.210
Mean, phi	2.28	3.19	2.87
Mean, in.	0.0081	0.0043	0.0054
Mean, mm	0.206	0.110	0.137
Sorting	1.927	1.820	2.111
Skewness	0.601	0.515	0.582
Kurtosis	0.263	1.177	1.716

Grain Size Description (ASTM-USCS Scale)	Fine sand (based on Mean from Trask)

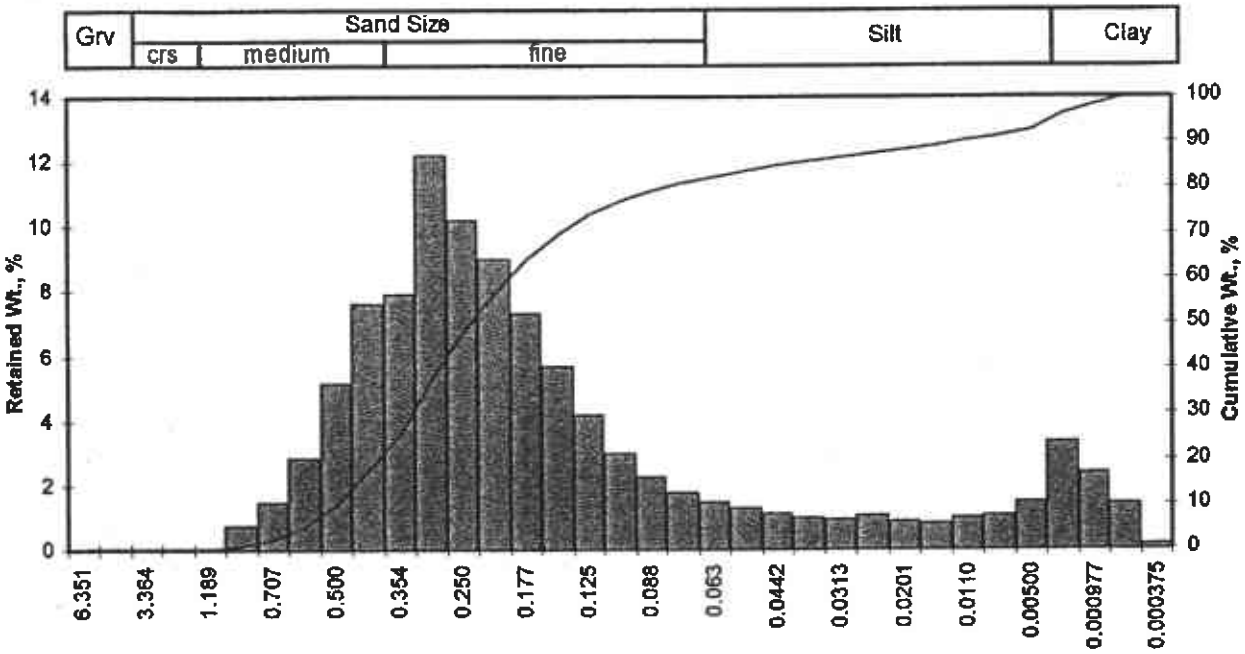
Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	12.97
Fine Sand	200	63.94
Silt	>0.005 mm	14.80
Clay	<0.005 mm	8.29
	Total	100

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

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Enviromental Resolutions, Inc.	**PTS File No:**	32572
Project:	Tosco 0843	**Sample ID:**	S-3-EX1S
Project No:	224814T10	**Depth, ft:**	3.00



Opening		Phi of	U.S.	Sample	Increment	Cumulative
Inches	Millimeters	Screen	No.	Weight, grams	Weight, percent	Weight, 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	0.01	0.01	0.01
0.0331	0.841	0.25	20	0.73	0.73	0.74
0.0278	0.707	0.50	25	1.42	1.42	2.16
0.0234	0.595	0.75	30	2.85	2.85	5.01
0.0197	0.500	1.00	35	5.12	5.12	10.12
0.0166	0.420	1.25	40	7.60	7.60	17.72
0.0139	0.354	1.50	45	7.91	7.91	25.63
0.0117	0.297	1.75	50	12.20	12.20	37.83
0.0098	0.250	2.00	60	10.20	10.20	48.02
0.0083	0.210	2.25	70	8.97	8.97	56.99
0.0070	0.177	2.50	80	7.28	7.28	64.27
0.0059	0.149	2.75	100	5.66	5.66	69.93
0.0049	0.125	3.00	120	4.15	4.15	74.08
0.0041	0.105	3.25	140	2.98	2.98	77.06
0.0035	0.088	3.50	170	2.21	2.21	79.27
0.0029	0.074	3.75	200	1.78	1.78	81.05
0.0025	0.063	4.00	230	1.47	1.47	82.51
0.0021	0.053	4.25	270	1.24	1.24	83.75
0.00174	0.0442	4.50	325	1.07	1.07	84.82
0.00146	0.0372	4.75	400	0.98	0.98	85.80
0.00123	0.0313	5.00	450	0.89	0.89	86.69
0.000986	0.0250	5.32	500	1.00	1.00	87.69
0.000790	0.0201	5.64	635	0.85	0.85	88.54
0.000615	0.0156	6.00		0.80	0.80	89.34
0.000435	0.0110	6.50		0.99	0.99	90.33
0.000308	0.00781	7.00		1.01	1.01	91.34
0.000197	0.00500	7.65		1.44	1.44	92.78
0.000077	0.00195	9.00		3.34	3.34	96.12
0.000038	0.000977	10.00		2.34	2.34	98.46
0.000019	0.000488	11.00		1.40	1.40	99.86
0.000015	0.000375	11.38		0.14	0.14	100.00
TOTALS				100.00	100.00	100.00

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	0.75	0.0234	0.595
10	0.99	0.0198	0.502
16	1.19	0.0172	0.437
25	1.48	0.0141	0.358
40	1.80	0.0113	0.287
50	2.06	0.0095	0.241
60	2.35	0.0077	0.196
75	3.08	0.0047	0.118
84	4.31	0.0020	0.051
90	6.33	0.0005	0.012
95	8.55	0.0001	0.003

Measure	Trask	Inman	Folk-Ward
Median, phi	2.06	2.06	2.06
Median, in.	0.0095	0.0095	0.0095
Median, mm	0.241	0.241	0.241
Mean, phi	2.07	2.75	2.52
Mean, in.	0.0094	0.0059	0.0069
Mean, mm	0.238	0.149	0.175
Sorting	1.740	1.557	1.960
Skewness	0.856	0.447	0.556
Kurtosis	0.245	1.503	2.000
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	17.72
Fine Sand	200	63.32
Silt	>0.005 mm	11.74
Clay	<0.005 mm	7.22
	Total	100

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

DATE PTS FILE# 525 12 CHAIN OF CUSTODY RECORD PAGE OF

COMPANY: ENVIRONMENTAL RESOLUTIONS, INC.
ADDRESS: 73 DIGITAL DR STE 100 NOVATO, CA 94949
PROJECT MANAGER: ROB SAUR
PROJECT NAME: TOSCO 0843, ALAMEDA, CA
PHONE NUMBER: (415) 352-3571
PROJECT NUMBER: 224814T10
FAX NUMBER: (415) 382-1656
SITE LOCATION: 1629 WEBSTER ST. ALAMEDA, CA
SAMPLER SIGNATURE:

PO#

SPECIAL HANDLING
24 HOURS 5 DAYS
72 HOURS (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/YIELD 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	ATTERBERG LIMITS, ASTM D4318	TNRCC PROPERTIES PACKAGE	PERMEABILITY				NUMBER OF SAMPLES
S-3-EX1N	12/4/02	13:50	3		X	X		X						X	X	X					X				1
S-3-EX1S	12/4/02	13:30	3		X	X		X						X	X	X					X				1

1. RELINQUISHED BY	2. RECEIVED BY	3. RELINQUISHED BY	4. RECEIVED BY
COMPANY: ERI	COMPANY: PTS	COMPANY:	COMPANY:
DATE: 12/6/02 TIME: 14:00	DATE: 12/09/02 TIME: 12:30	DATE: TIME:	DATE: TIME:

★ PTS GeoLabs, Inc. • 8100 Secura Way • Santa Fe Springs, CA 90670 • Phone (562) 907-3607 • Fax (562) 907-3610
PTS GeoLabs, Inc. • 4342 W. 12th St. • Houston, TX 77055 • Phone (713) 680-9467 • Fax (713) 680-0763

ATTACHMENT F

SOIL DISPOSAL DOCUMENTATION

MANLEY & SONS TRUCKING, INC.
ROCK
SAND
DEAD
FILL DIRT
TOP SOIL
CA 009130
(916) 381-6864

Hazardous Waste Hauler (Registration #2843)

8896 Elder Creek Rd. • Sacramento, CA 95828 • FAX (916) 381-1573

Disposal Confirmation

Request for Transportation Received: 12/01/02

Consultant Information

Company:	Tosco
Contact:	Dave Dewitt
Phone:	925-277-2384
Fax:	925-277-2361

Site Information

Station #:	N/A
Street Address:	1629 Webster St.
City, State, ZIP:	Alameda, CA

Material Description:	Soil
Estimated Quantity:	300 Yards
Service Requested Date:	12/09/02

Disposal Facility:	Allied-BFI
Contact:	Griffith, Joe
Phone:	800-204-4242
Approval #:	904
Date of Disposal:	12/09 & 1 Load on 12/10
Actual Tonnage	292.83 Tons

Transporter:	Manley & Sons Trucking, Inc.
Contact:	Glenell Forbes
Phone:	916 381-6864
Fax:	916 381-1573
Invoice:	50385
Date of Invoice:	12/23/02