

ENVIRONMENTAL RESOLUTIONS, INC.

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TRANSMITTAL

TO: Ms. Eva Chu
Alameda County Department
of Environmental Health Services
1131 Harbor Bay Parkway, #250
Alameda, California 94502-6577

DATE: September 15, 1998
PROJECT NUMBER: 224832T1
SUBJECT: Tosco 76 Service Station 0843
1629 Webster Street, Alameda, California

FROM: Glenn L. Matteucci
TITLE: Assistant Project Manager

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	September 15, 1998	Underground Storage Tank and Associated Piping and Dispenser Replacement

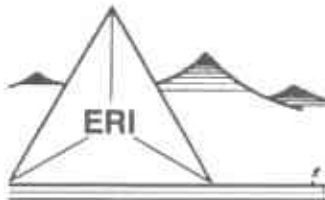
THESE ARE TRANSMITTED as checked below:

- 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
- For your files For distribution to regulatory agencies

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

Glenn L. Matteucci, Assistant Project Manager

cc: Ms. Tina Berry, Tosco Marketing Company
1 to ERI project file 224832T1



ENVIRONMENTAL RESOLUTIONS, INC.

September 15, 1998
ERI 224832.R01

Ms. Tina Berry
Tosco Marketing Company
2000 Crow Canyon Place, Suite 400
San Ramon, California 94583

Subject: Underground Storage Tank, Associated Piping, and Dispenser Removal at Former
Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California.

Ms. Berry:

At the request of Tosco Marketing Company (Tosco), Environmental Resolutions, Inc. (ERI) performed an environmental investigation at the subject site in conjunction with the removal of one used-oil underground storage tank (UST), two gasoline USTs, associated piping, and dispensers. Tosco requested ERI to conduct the investigation to evaluate soil conditions beneath the site.

BACKGROUND

The site is 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 USTs, dispenser islands, and other selected site features are shown on the Generalized Site Plan (Plate 2). Properties in the vicinity of the site are occupied by commercial and residential developments.

FIELD WORK

ERI performed field work at the site on June 17, 1998, in accordance with ERI's Field Procedures (Attachment A) and Site Safety Plan. Field work and soil sampling are discussed below.

Removal of Gasoline USTs

On ~~June 17~~, 1998, ERI's representative observed John's Excavation (JE) of Santa Rosa, California remove two 10,000-gallon single-wall steel gasoline USTs. Ms. Eva Chu of Alameda County Department of Environmental Health Services (ACDEHS) and Mr. Steve McKinley of the City of Alameda Fire Department (CAFD) observed the UST removal. Groundwater was observed at approximately 8.5 feet below ground surface (ft bgs) in the UST cavity. Inspection of each tank upon removal revealed that the USTs exhibited some pitting, but were intact and had no visible holes or cracks. Trident Truckline (Trident) of Hayward, California, transported the tanks to Ecology Control Industries (ECI) Richmond, California facility for recycling.

Under the direction of Ms. Chu of ACDEHS, ERI's representative collected five samples of native soil from the north, south, and east sidewalls of the UST cavity at approximately 2 to 8 ft bgs. ERI's representative also collected a sample of groundwater from the UST cavity. Soil sample locations are shown on Plate 2.

Removal of Used-Oil UST

On June 17, 1998, ERI's representative observed JE remove the one 550-gallon single-wall steel used-oil UST. Ms. Chu of ACDEHS and Mr. McKinley of CAFD observed UST removal. Inspection of the tank upon removal revealed two holes measuring approximately $\frac{3}{4}$ " in diameter near the fill port and deep pitting on the center bottom portion of the UST. Trident transported the tank to the ECI Richmond, California facility for recycling.

Under the direction of Ms. Chu, ERI's representative collected one sample of native soil from approximately 6 ft bgs from the north sidewall of the used-oil UST cavity. The soil sample location is shown on Plate 2.

Removal of Product Lines and Dispensers

JE removed product piping and dispensers prior to arrival of an ERI or ACDEHS representative on-site. Product lines consisted of 2-inch diameter single-wall fiberglass pipe. ERI's representative collected native soil samples from beneath each dispenser (D1 through D4) and beneath former product lines at angled connections and at 20 foot intervals at approximately 3 to 3.5 ft bgs. Soil sample locations are shown on Plate 2.

LABORATORY ANALYSES AND RESULTS

ERI submitted soil samples to Columbia Analytical Services (CAS [California Certification #1426]) of San Jose, California for analysis. The laboratory analyses, methods of testing, and analytical results are summarized in Table 1. Copies of the Chain of Custody Records and laboratory reports are included in Attachment B.

Gasoline UST Soil Samples

Residual total purgeable petroleum hydrocarbons as gasoline (TPPHg) and methyl tertiary butyl ether (MTBE) were not detected at or above laboratory method detection limits in soil samples collected from the sidewalls of the gasoline UST cavity except for 44 parts per million (ppm) TPPHg and 260 ppm MTBE detected in the sample collected from the sidewall on the north side of tank T1 at 8 ft bgs. Total lead was also detected in samples collected from the sidewall on the north side of tank T1 ranging from 27 ppm to 63 ppm.

Used-Oil UST Soil Sample

Residual hydrocarbons were not detected at or above the laboratory method detection limits in the native soil sample collected from the used-oil UST cavity. Total lead was detected in the used-oil UST cavity sample at 21 ppm.

Dispenser and Product Line Soil Samples

TPPHg and MTBE were not detected at or above laboratory method detection limits in soil samples collected beneath product lines and dispensers.

UST Cavity Groundwater Sample

Dissolved TPPHg, MTBE, and benzene were detected in the groundwater sample collected from the UST cavity at 19,000 parts per billion (ppb), 1,300 ppb, and 880 ppb, respectively.

SAMPLING AND DISPOSAL OF SOIL

JE excavated approximately 338 tons of soil and backfill from the UST cavity and product line trenches during UST removal. ERI's representative collected three composite soil samples (four brass sleeves) from the stockpile for laboratory analyses. Results of laboratory analyses are shown in Table 1.

At Tosco's request, Manley Trucking of Sacramento, California transported and disposed of the stockpiled soil at Forward Landfill in Manteca, California. The disposal documentation is attached (Attachment C).

FORMER TANK CAVITY CONDUCTOR CASING INSTALLATION

Upon authorization from Alameda County Public Works Agency (ACPWA), Tosco installed a conductor casing within the former UST cavity backfill. The ACPWA conductor casing "well" installation permit is provided in Attachment D. The purpose of this conductor casing is to accommodate possible periodic groundwater sampling and/or groundwater extraction. The approximate location of the conductor casing is shown on Plate 2.

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 with respect to 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.

ERI recommends copies of this report be forwarded to:

Ms. Eva Chu
Alameda County Department of Environmental Health Services
1131 Harbor Bay Parkway, #250
Alameda, California 94502-6577

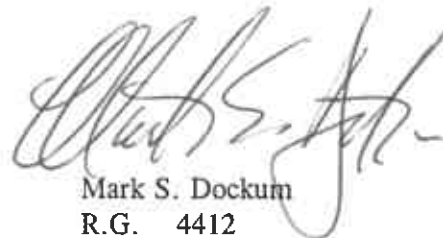
Ms. Jolanta Uchman
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Please call me at (415) 382-5994 with any questions regarding the information in this report.

Sincerely,
Environmental Resolutions, Inc.



Glenn L. Matteucci
Assistant Project Manager



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

Attachments: Table 1: Results of Analysis of Soil and Groundwater Samples

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

Attachment A: Field Procedures
Attachment B: Laboratory Analyses and Chain of Custody Records
Attachment C: Stockpile Disposal Documentation
Attachment D: Conductor Casing "Well" Installation Permit

TABLE 1
RESULTS OF ANALYSIS OF SOIL AND GROUNDWATER SAMPLES
 Former Tosco 76 Service Station 0843
 1629 Webster Street
 Alameda, California
 (Page 1 of 2)

Sample#	Plate 2 Callout	Depth	Date	TEPHd	TPPHg	B	T	E	X	TRPH	ME	SVOC's	HVOC's	Total Lead/ Soluble Lead
..... ppm (unless otherwise noted)														

Gasoline USTs

S-8-T1N	C	8	6/17/98	NA	44	0.09	0.04	0.2	0.4	NA	ND*	NA	NA	27/NA
S-5.5-T1E	F	5.5	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND*	NA	NA	NA
S-2-T1N	B	2	6/17/98	NA	ND	0.04	ND	0.08	0.08	NA	ND*	NA	NA	63/NA
S-5.5-T2S	D	5.5	6/17/98	NA	ND	ND	ND	ND	ND	ND	ND*	NA	NA	NA
S-6-T2E	E	6	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND*	NA	NA	NA

Used - Oil UST

S-6-T3	A	6	6/17/98	ND**	ND	ND	ND	ND	ND	ND	ND*	ND	ND	21/NA
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Product Lines and Dispensers

S-3-D1	G	3	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-3-D2	H	3	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-4-D3	K	4	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-3.5-D4	L	3.5	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-3-P1	I	3	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-3.5-P2	J	3.5	6/17/98	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA

Stockpiles

SP-1-(1-4)	NA	NA	6/17/98	NA	1,700	3.6	57	21	170	NA	ND	NA	NA	42/NA
SP-2-(1-4)	NA	NA	6/17/98	NA	460	0.7	4.6	3.5	36	NA	ND	NA	NA	64/2.4
SP-3-(1-4)	NA	NA	6/17/98	26	2	ND	0.18	0.005	0.046	1,193	ND	ND-2	ND	110/3.5

WATER

S-8.5-TP	NA	8.5	6/17/98	NA	10,000	ND	930	360	2,300	NA	1,700	NA	NA	NA
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ppb

TABLE 1
 RESULTS OF ANALYSIS OF SOIL AND GROUNDWATER SAMPLES
 Former Tosco 76 Service Station 0843
 1629 Webster Street
 Alameda, California
 (Page 2 of 2)

Notes:

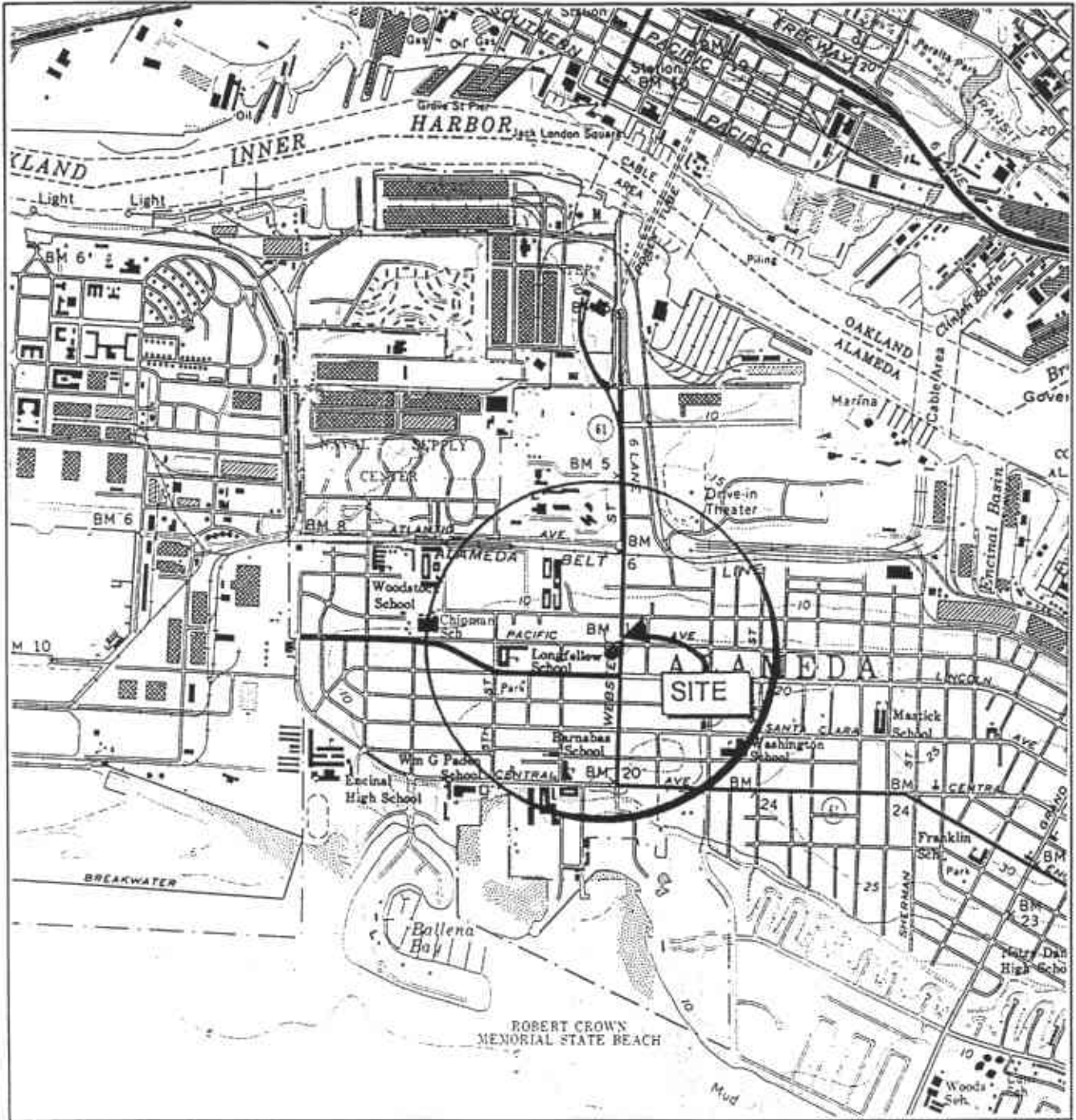
Soil Samples reported in parts per million (ppm) unless otherwise noted

Water Samples reported in parts per billion (ppb) unless otherwise noted

S-8-T1N	=	Soil-depth-Tank T1 North
D4	=	Dispenser #4
PL	=	Product Line
TEPHd	=	Total extractable petroleum hydrocarbons as diesel analyzed using EPA method 8015
TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 8015
BTEX	=	Benzene, toluene, ethylbenzene, total xylenes analyzed using EPA method 8020
TRPH	=	Total recoverable petroleum hydrocarbon analyzed using EPA method 5520 E&F
MTBE	=	Methyl tertiary butyl ether analyzed using EPA method 8020
*	=	MTBE analyzed using EPA method 8260
SVOCs	=	Semivolatile organic compounds analyzed using EPA method 8270
HVOCs	=	Halogenated volatile organic compounds analyzed using EPA method 8010
Total Lead	=	Analyzed using EPA method 6010
Soluble Lead	=	Analyzed using the California Waste Extraction Test (WET)
ND	=	Not detected above laboratory method detection limits
NA	=	Not Applicable
**	=	Sample analyzed 7/17/98 for TEPHd after expiration of hold time

Sample SP-3-(1-4) ND for SVOCs except for Phenanthrene = 0.5 ppm, Fluoranthene = 0.3 ppm; Pyrene = 0.4 ppm, Cadmium = ND; Chromium = 23 ppm ; Nickel = 25 ppm; Zinc = 110 ppm

Sample S-6-T3 Analyzed For Cadmium = ND; Chromium = 26 ppm; nickel = 19 ppm ; Zinc = 33 using EPA method 6010 and MTBE = ND using EPA method 8260

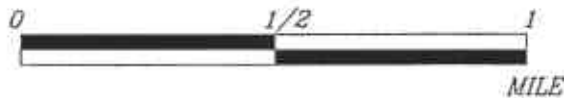


22480001

EXPLANATION



APPROXIMATE SCALE



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



PROJECT ERI 2248

SITE VICINITY MAP

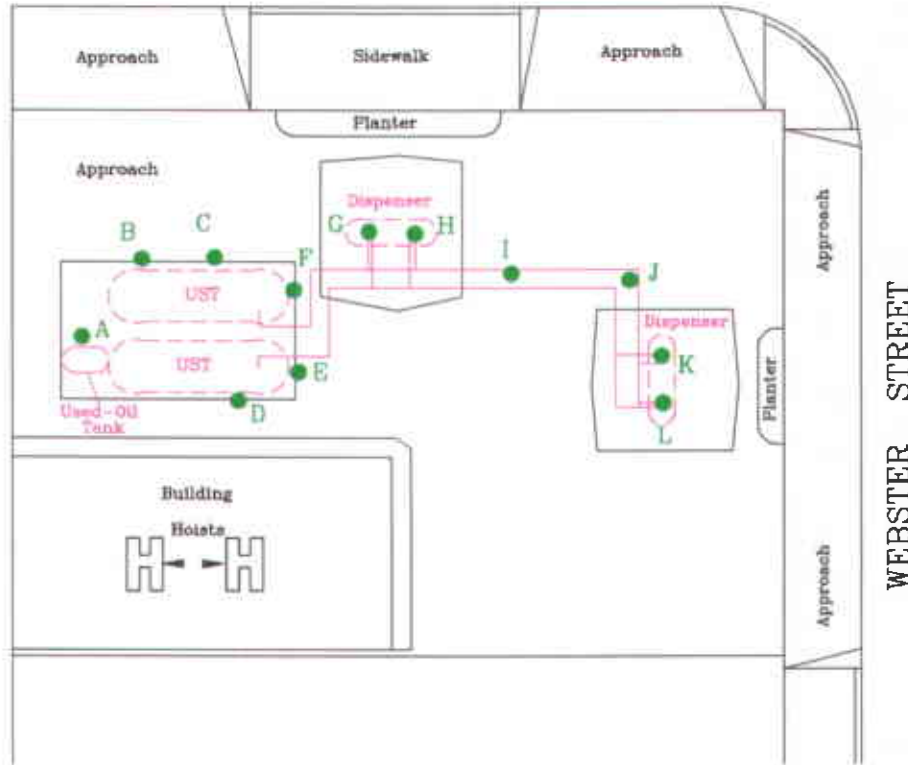
FORMER TOSCO 76 SERVICE STATION 0843
1629 Webster Street
Alameda, California

PLATE

1



PACIFIC AVENUE



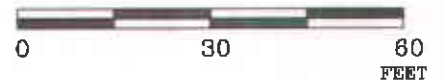
- A) 2-6-T3
- B) S-2-T1N
- C) S-8-T1N
- D) S-5.5-T2S
- E) S-6-T2E
- F) S-5.5-T1E
- G) S-3-D1
- H) S-3-D2
- I) S-3-P1
- J) S-3.5-P2
- K) S-4-D3
- L) S-3.5-D4

FN 22480002

EXPLANATION

- L ● Sample Location
- S-3.5-D4 - Dispenser D4
Sample Depth
Soil

APPROXIMATE SCALE



SOURCE:
Modified from a map
provided by
TOSCO



GENERALIZED SITE PLAN

TOSCO (UNION) 76 SERVICE STATION 0843
1629 Webster Street
Alameda, California

PROJECT NO.

2248

PLATE

2

June 24, 1998

ATTACHMENT A
FIELD PROCEDURES

FIELD PROCEDURES

Safety Plan

This plan describes the basic safety requirements for the subsurface environmental investigation related to monitoring the removal of underground storage tanks and excavation of soil at the site. The Site Safety Plan is applicable to personnel of ERI and to subcontractors of ERI. Personnel scheduled to work at the site were briefed on the contents of the Site Safety Plan before work began. A copy of the Site Safety Plan was kept at the work site and was available for reference by appropriate parties during work at the site. The geologist from ERI was the Site Safety Officer on site.

Sampling Under Former Dispensers, Product Lines, and Underground Storage Tanks

Soil samples were collected by driving a hand-operated percussion sampler fitted with a clean brass sleeve into the soil. The sleeve was removed from the sampler and sealed promptly with Teflon tape and plastic caps.

A photoionization detector (PID) was used to evaluate the presence of hydrocarbon vapors in soil samples. Field instruments such as the PID are useful for indicating relative levels of hydrocarbon vapors, but do not detect the concentration of hydrocarbons present with the same precision as laboratory analyses.

Sampling of Stockpiled Soil

These samples were collected and analyzed to characterize the soil for disposal. A PID was used to assist in selecting samples representative of the stockpile. Each of these soil samples was 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 was removed from the stockpile. Each sample sleeve was removed from the sampler and promptly sealed with Teflon tape and plastic caps. The sample was then labeled and placed in iced storage. Four samples were collected for approximately every 100 cubic yards of stockpiled soil; each group of four samples was composited into one soil sample by the analytical laboratory.

Sample Labeling and Handling

The soil samples selected for possible laboratory analysis were removed from the sampler and quickly sealed in their brass sleeves with Teflon tape and plastic caps. The respective sample containers were 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 were initiated in the field by the geologist and accompanied the samples to a laboratory certified by the State of California to perform the analyses requested.



June 29, 1998

Service Request No.: S9801605

Mr. Glenn Matteucci
Environmental Resolutions, Inc.
74 Digital Drive
Suite 6
Novato, CA 94949

RE: 0843 Alameda/224832T1

Dear Mr. Matteucci:

The following pages contain analytical results for sample(s) received by the laboratory on June 19, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

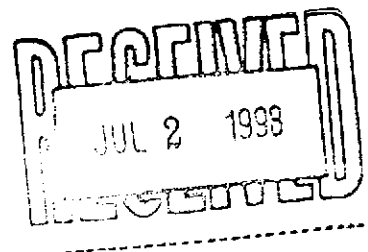
Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 21, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

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

Sincerely,

A handwritten signature in cursive script that reads "Bernadette T. Cox".

Bernadette T. Cox
Project Chemist



COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: TOSCO 08437224832TI
Sample Matrix: Soil

Service Request: K9804004
Date Collected: 6/17/98
Date Received: 6/19/98
Date Extracted: 6/26/98
Date Analyzed: 6/26/98

Oil and Grease, Non-Polar
SM 5520B/E/F
Units: mg/Kg (ppm)
As Received

Sample Name	Lab Code	MRL	Result
Comp SP-3-(1-4)	K9804004-001	100	1193
Method Blank	K980626-MB	100	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: 6/17/98
Date Received: 6/23/98

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Comp SP-3-(1-4)
Lab Code: L9802092-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
N-Nitrosodimethylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Aniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroethyl) Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,2-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,3-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,4-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroisopropyl) Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
N-Nitrosodi-n-propylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachloroethane	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Nitrobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Isophorone	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroethoxy)methane	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,2,4-Trichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Naphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chloroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorobutadiene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methylnaphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorocyclopentadiene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Chloronaphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dimethyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Acenaphthylene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Acenaphthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dibenzofuran	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dinitrotoluene	EPA 3550	8270	0.2	1	6/23/98	6/26/98	ND	
2,6-Dinitrotoluene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Diethyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chlorophenyl Phenyl Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Fluorene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
N-Nitrosodiphenylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Bromophenyl Phenyl Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorobenzene	EPA 3550	8270	0.2	1	6/23/98	6/26/98	ND	
Phenanthrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	0.5	
Anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Di-n-butyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	0.3	
Pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	0.4	
Butyl Benzyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3,3'-Dichlorobenzidine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benz(a)anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-ethylhexyl) Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Chrysene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: 6/17/98
Date Received: 6/23/98

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Comp SP-3-(1-4)
Lab Code: L9802092-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Di-n-octyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(b)fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(k)fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(a)pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Indeno(1,2,3-cd)pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dibenz(a,h)anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(g,h,i)perylene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pyridine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Phenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Chlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzyl Alcohol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3- and 4-Methylphenol Coelution	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Nitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dimethylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzoic Acid	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chloro-3-methylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4,6-Trichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4,5-Trichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dinitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Nitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methyl-4,6-dinitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pentachlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: NA
Date Received: NA

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Method Blank
Lab Code: L980623-MB
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
N-Nitrosodimethylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Aniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroethyl) Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,2-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,3-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,4-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroisopropyl) Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
N-Nitrosodi-n-propylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachloroethane	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Nitrobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Isophorone	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroethoxy)methane	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,2,4-Trichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Naphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chloroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorobutadiene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methylnaphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorocyclopentadiene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Chloronaphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dimethyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Acenaphthylene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Acenaphthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dibenzofuran	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dinitrotoluene	EPA 3550	8270	0.2	1	6/23/98	6/26/98	ND	
2,6-Dinitrotoluene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Diethyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chlorophenyl Phenyl Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Fluorene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
N-Nitrosodiphenylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Bromophenyl Phenyl Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorobenzene	EPA 3550	8270	0.2	1	6/23/98	6/26/98	ND	
Phenanthrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Di-n-butyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Butyl Benzyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3,3'-Dichlorobenzidine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benz(a)anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-ethylhexyl) Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Chrysene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: NA
Date Received: NA

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Method Blank
Lab Code: L980623-MB
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Di-n-octyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(b)fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(k)fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(a)pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Indeno(1,2,3-cd)pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dibenz(a,h)anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(g,h,i)perylene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pyridine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Phenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Chlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzyl Alcohol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3- and 4-Methylphenol Coelution	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Nitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dimethylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzoic Acid	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chloro-3-methylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4,6-Trichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4,5-Trichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dinitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Nitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methyl-4,6-dinitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pentachlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

Halogenated Volatile Organic Compounds

Sample Name: Comp SP-3-(1-4)
Lab Code: S9801605-015
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
Chloromethane	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
Vinyl Chloride	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromomethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Methylene Chloride	EPA 5030	8010	0.5	1	6/25/98	6/25/98	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1-Dichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chloroform	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Carbon Tetrachloride	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,2-Dichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,2-Dichloropropane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromodichloromethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	0.5	1	6/25/98	6/25/98	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Dibromochloromethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chlorobenzene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromoform	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,3-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
1,4-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
1,2-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA

Halogenated Volatile Organic Compounds

Sample Name: Method Blank
 Lab Code: S980625-SB1
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
Chloromethane	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
Vinyl Chloride	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromomethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Methylene Chloride	EPA 5030	8010	0.5	1	6/25/98	6/25/98	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1-Dichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chloroform	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Carbon Tetrachloride	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,2-Dichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,2-Dichloropropane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromodichloromethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	0.5	1	6/25/98	6/25/98	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Dibromochloromethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chlorobenzene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromoform	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,3-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
1,4-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
1,2-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

TPH as Diesel

Prep Method: LUFT
Analysis Method: California DHS LUFT
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Comp SP-3-(1-4)	S9801605-015	1	1	6/22/98	6/25/98	26	D5,1
Method Blank	S980622-MB	1	1	6/22/98	6/23/98	ND	

D5, 1 The sample contained 150 ppm of a heavy oil.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

BTEX, MTBE and TPH as Gasoline

Sample Name: Comp SP-1-(1-4)
Lab Code: S9801605-013
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA:LUFT	1	50	6/22/98	6/24/98	1700	
Benzene	EPA 5030	8020	0.005	50	6/22/98	6/24/98	3.6	
Toluene	EPA 5030	8020	0.005	50	6/22/98	6/24/98	57	
Ethylbenzene	EPA 5030	8020	0.005	50	6/22/98	6/24/98	21	
Xylenes, Total	EPA 5030	8020	0.005	50	6/22/98	6/24/98	170	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	50	6/22/98	6/24/98	<2.5	C1

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

BTEX, MTBE and TPH as Gasoline

Sample Name: Comp SP-2-(1-4)
Lab Code: S9801605-014
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUIT	1	25	6/22/98	6/24/98	460	
Benzene	EPA 5030	8020	0.005	25	6/22/98	6/24/98	0.7	
Toluene	EPA 5030	8020	0.005	25	6/22/98	6/24/98	4.6	
Ethylbenzene	EPA 5030	8020	0.005	25	6/22/98	6/24/98	3.5	
Xylenes, Total	EPA 5030	8020	0.005	25	6/22/98	6/24/98	36	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	25	6/22/98	6/24/98	<1.2	CI

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

BTEX, MTBE and TPH as Gasoline

Sample Name: Comp SP-3-(1-4)
Lab Code: S9801605-015
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/22/98	6/24/98	2	
Benzene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	0.18	
Ethylbenzene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	0.005	
Xylenes, Total	EPA 5030	8020	0.005	1	6/22/98	6/24/98	0.046	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/22/98	6/24/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
Lab Code: S980622-SB1
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA-LUFT	1	1	6/22/98	6/24/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/22/98	6/24/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

Total Metals

Sample Name: Comp SP-3-(1-4)
Lab Code: S9801605-015
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep	Analysis	MRL	Dilution	Date	Date	Result	Result Notes
	Method	Method		Factor	Prepared	Analyzed		
Cadmium	EPA 3050BM	6010A	0.5	1	6/24/98	6/24/98	ND	
Chromium	EPA 3050BM	6010A	1	1	6/24/98	6/24/98	23	
Lead	EPA 3050BM	6010A	5	1	6/24/98	6/24/98	110	
Nickel	EPA 3050BM	6010A	2	1	6/24/98	6/24/98	25	
Zinc	EPA 3050BM	6010A	2	1	6/24/98	6/24/98	110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
 Project: 0848 Alameda/224832T1
 Sample Matrix: Soil

Service Request: S9801605
 Date Collected: NA
 Date Received: NA

Total Metals

Sample Name: Method Blank
 Lab Code: S980624-MB
 Test Notes:

Units: mg/Kg (ppm)
 Basis: Wet

Analyte	Prep	Analysis	MRL	Dilution	Date	Date	Result	Result	Notes
	Method	Method							
Cadmium	EPA 3050BM	6010A	0.5	1	6/24/98	6/24/98	ND		
Chromium	EPA 3050BM	6010A	1	1	6/24/98	6/24/98	ND		
Lead	EPA 3050BM	6010A	5	1	6/24/98	6/24/98	ND		
Nickel	EPA 3050BM	6010A	2	1	6/24/98	6/24/98	ND		
Zinc	EPA 3050BM	6010A	2	1	6/24/98	6/24/98	ND		

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds

Prep Method: EPA 3550
Analysis Method: 8270

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Test Notes	P e r c e n t R e c o v e r y					TPH
			2FP	PHLD6	TBP	NBZ	FBP	
S9801605-015	L9802092-001		67	81	78	87	78	96
Method Blank	L980623-MB		66	83	72	88	83	116

CAS Acceptance Limits: 25-121 24-113 19-122 23-120 30-115 18-137

2FP 2-Fluorophenol
 PHLD6 Phenol-D6
 TBP 2,4,6-Tribromophenol
 NBZ Nitrobenzene-D5
 FBP 2-Fluorobiphenyl
 TPH Terphenyl-D14

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA
Date Extracted: 6/25/98
Date Analyzed: NA

Surrogate Recovery Summary
Halogenated Volatile Organic Compounds

Prep Method: EPA 5030
Analysis Method: 8010

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 4-Bromofluorobenzene
Comp SP-3-(1-4)	S9801605-015		110
Method Blank	S980625-SB1		105

CAS Acceptance Limits: 74-125

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
TPH as Diesel

Prep Method: LUFT
Analysis Method: California DHS LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery p-Terphenyl
Comp SP-3-(1-1)	S9801605-015		70
Method Blank	S980622-MB		60

CAS Acceptance Limits: 41-140

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
 BTEX and TPH as Gasoline

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

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
Comp SP-1-(1-4)	S9801605-013		97	97
Comp SP-2-(1-4)	S9801605-014		118	112
Comp SP-3-(1-4)	S9801605-015		71	93
Method Blank	S980622-SB1		72	88

CAS Acceptance Limits: 51-137 51-137

5418011000 (1000)
UNOCAL

76

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

- 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

Consultant Company: ENVIRONMENTAL RESOLUTIONS, INC Project Name: 224832T1
 Address: 74 DIGITAL DR, SUITE 6 UNOCAL Project Manager: TINA BERRY
 City: NOVATO State: CA Zip Code: 94949 AFE #:
 Telephone: (415) 382-9105 FAX #: 382-1856 Site #, City, State: #0843 ALAMEDA, CA
 Report To: GLENN MATTEUCCI Sampler: SUE SHALLENBERGER QC Data: Level D (Standard) Level C Level B Level A

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours
 CODE: Misc. Detect. Eval. Remed. Demol. Closure

Analyses Requested
 Drinking Water
 Waste Water
 Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPPHg 8015	BTEX 8020	MTBE 8020	TTLc Pb 8010	TEPHd 8015	TRPH 5520	SVOCs 8270	HVOCs 8010	TTLc Pb, Cr, Ni, Cd, Zn 6010	Comments
1. SP-1-(1-4) (13)	6/17/98 1415	SOIL	4	SLEEVE	14, 15, 16, 17	X	X	X	X	X	X	X	X	X	
2. SP-2-(1-4) (14)	1430		4		18, 19, 20, 21	X	X	X	X	X	X	X	X	X	
3. SP-3-(1-4) (15)	1445	SS	4	SS	22, 23, 24, 25	X	X	X	X	X	X	X	X	X	
4.					NU										
5.															
6.															
7.															
8.															
9.															
10.															

Relinquished By: Sue Shallenberger Date: 6/18 Time: 1:35 Received By: [Signature] Date: 6/18 Time: 1:35
 Relinquished By: [Signature] Date: 6/18 Time: 2:35 Received By: VPS Date: _____ Time: _____
 Relinquished By: _____ Date: _____ Time: _____ Received By Lab: _____ Date: _____ Time: _____

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment (Overnight) UPS Page 3 of 3

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



July 2, 1998

Service Request No.: S9801606

Mr. Glenn Matteucci
ENVIRONMENTAL RESOLUTIONS, INC.
74 Digital Dr.
Suite 6
Novato, CA 94949

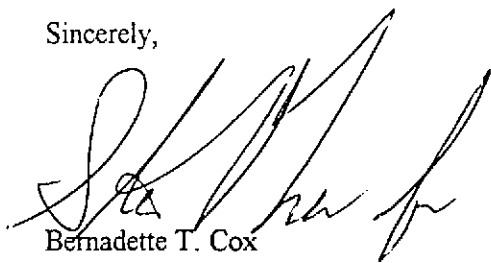
Dear Mr. Matteucci:

The following pages contain analytical results for sample(s) received by the laboratory on June 18, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

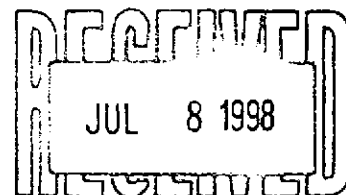
Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 44, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

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

Sincerely,



Bernadette T. Cox
Project Chemist



COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: TOSCO 0843/224832TI
Sample Matrix: Soil

Service Request: K9804005
Date Collected: 6/17/98
Date Received: 6/19/98
Date Extracted: 6/26/98
Date Analyzed: 6/26/98

Oil and Grease, Non-Polar
SM 5520B/E/F
Units: mg/Kg (ppm)
As Received Basis

Sample Name	Lab Code	MRL	Result
S-6-T3	K9804005-001	100	ND
Method Blank	K980626-MB	100	ND

X

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

Total Metals

Sample Name: S-6-T3
Lab Code: S9801606-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Cadmium	EPA 3050BM	6010A	0.5	1	6/29/98	6/30/98	ND	
Chromium	EPA 3050BM	6010A	1	1	6/29/98	6/30/98	26	
Lead	EPA 3050BM	6010A	5	1	6/29/98	6/30/98	21	
Nickel	EPA 3050BM	6010A	2	1	6/29/98	6/30/98	19	
Zinc	EPA 3050BM	6010A	2	1	6/29/98	6/30/98	33	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA

Total Metals

Sample Name: Method Blank
Lab Code: S9806/29-MB
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Cadmium	EPA 3050BM	6010A	0.5	1	6/29/98	6/30/98	ND	
Chromium	EPA 3050BM	6010A	1	1	6/29/98	6/30/98	ND	
Lead	EPA 3050BM	6010A	5	1	6/29/98	6/30/98	ND	
Nickel	EPA 3050BM	6010A	2	1	6/29/98	6/30/98	ND	
Zinc	EPA 3050BM	6010A	2	1	6/29/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

Total Metals
Lead

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

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
S-8-TIN	S9801606-004	5	1	6/29/98	6/30/98	27	
S-2-TIN	S9801606-006	5	1	6/29/98	6/30/98	63	
Method Blank	S980629-MB	5	1	6/29/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832T1
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX and TPH as Gasoline

Sample Name: S-6-T3
Lab Code: S9801606-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/29/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/29/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/29/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/29/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/29/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX and TPH as Gasoline

Sample Name: S-5.5-T2S
Lab Code: S9801606-002
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/29/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/29/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/29/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/29/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/29/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX and TPH as Gasoline

Sample Name: S-6-T2E
Lab Code: S9801606-003
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/30/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	

Final Report

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

606

TPH as Gasoline

Units: mg/Kg (ppm)
Basis: Wet

Units: mg/Kg (ppm)
Basis: Wet ; (ppm)

MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes	Date Extracted	Date Analyzed	Result	Result Notes	Result Notes
1	2.5	6/26/98	6/29/98	44		6/26/98	6/30/98	ND		
0.005	2.5	6/26/98	6/29/98	0.09		6/26/98	6/30/98	ND		
0.005	2.5	6/26/98	6/29/98	0.04		6/26/98	6/30/98	ND		
0.005	2.5	6/26/98	6/29/98	0.2		6/26/98	6/30/98	ND		
0.005	2.5	6/26/98	6/29/98	0.4		6/26/98	6/30/98	ND		

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Water

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX and TPH as Gasoline

Sample Name: W-8.5-TP
Lab Code: S9801606-013
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	20	NA	6/22/98	19000	
Benzene	EPA 5030	8020	0.5	20	NA	6/22/98	880	
Toluene	EPA 5030	8020	0.5	20	NA	6/22/98	930	
Ethylbenzene	EPA 5030	8020	0.5	20	NA	6/22/98	360	
Xylenes, Total	EPA 5030	8020	0.5	20	NA	6/22/98	2300	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Water

Service Request: S9801606
Date Collected: NA
Date Received: NA

BTEX and TPH as Gasoline

Sample Name: Method Blank
Lab Code: S980622-WB1
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	50	1	NA	6/22/98	ND	
Benzene	EPA 5030	8020	0.5	1	NA	6/22/98	ND	
Toluene	EPA 5030	8020	0.5	1	NA	6/22/98	ND	
Ethylbenzene	EPA 5030	8020	0.5	1	NA	6/22/98	ND	
Xylenes, Total	EPA 5030	8020	0.5	1	NA	6/22/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX, MTBE and TPH as Gasoline

Sample Name: S-2-T1N
Lab Code: S9801606-006
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	2.5	6/26/98	6/29/98	<2.5	CI
Benzene	EPA 5030	8020	0.005	2.5	6/26/98	6/29/98	0.04	
Toluene	EPA 5030	8020	0.005	2.5	6/26/98	6/29/98	<0.012	CI
Ethylbenzene	EPA 5030	8020	0.005	2.5	6/26/98	6/29/98	0.08	
Xylenes, Total	EPA 5030	8020	0.005	2.5	6/26/98	6/29/98	0.08	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	2.5	6/26/98	6/29/98	<0.12	CI

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX, MTBE and TPH as Gasoline

Sample Name: S-3-D1
Lab Code: S9801606-007
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/30/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/26/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX, MTBE and TPH as Gasoline

Sample Name: S-3-D2
Lab Code: S9801606-008
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/30/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/26/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX, MTBE and TPH as Gasoline

Sample Name: S-3-P1
Lab Code: S9801606-009
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/30/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/26/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX, MTBE and TPH as Gasoline

Sample Name: S-3.5-P2
Lab Code: S9801606-010
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/30/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/26/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX, MTBE and TPH as Gasoline

Sample Name: S-4-D3
Lab Code: S9801606-011
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/30/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/26/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

BTEX, MTBE and TPH as Gasoline

Sample Name: S-3.5-D4
Lab Code: S9801606-012
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/30/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/30/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/26/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
Lab Code: S980626-SB1
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/26/98	6/26/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/26/98	6/26/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/26/98	6/26/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/26/98	6/26/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/26/98	6/26/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/26/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: S-6-T3
Lab Code: S9801606-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
N-Nitrosodimethylamine	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Aniline	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Bis(2-chloroethyl) Ether	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Phenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Chlorophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
1,3-Dichlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
1,4-Dichlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
1,2-Dichlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzyl Alcohol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Bis(2-chloroisopropyl) Ether	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Methylphenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Hexachloroethane	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
N-Nitrosodi-n-propylamine	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
3- and 4-Methylphenol*	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Nitrobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Isophorone	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Nitrophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,4-Dimethylphenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Bis(2-chloroethoxy)methane	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,4-Dichlorophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzoic Acid	3550	8270B	2	1	6/23/98	7/1/98	ND	
1,2,4-Trichlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Naphthalene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Chloroaniline	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Hexachlorobutadiene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Chloro-3-methylphenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Methylnaphthalene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Hexachlorocyclopentadiene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,4,6-Trichlorophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,4,5-Trichlorophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Chloronaphthalene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Nitroaniline	3550	8270B	2	1	6/23/98	7/1/98	ND	
Acenaphthylene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Dimethyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,6-Dinitrotoluene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Acenaphthene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
3-Nitroaniline	3550	8270B	2	1	6/23/98	7/1/98	ND	
2,4-Dinitrophenol	3550	8270B	2	1	6/23/98	7/1/98	ND	
Dibenzofuran	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Nitrophenol	3550	8270B	2	1	6/23/98	7/1/98	ND	
2,4-Dinitrotoluene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Fluorene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Chlorophenyl Phenyl Ether	3550	8270B	0.3	1	6/23/98	7/1/98	ND	

* Quantified as 4-methylphenol.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: S-6-T3
Lab Code: S9801606-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Diethyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Nitroaniline	3550	8270B	2	1	6/23/98	7/1/98	ND	
2-Methyl-4,6-dinitrophenol	3550	8270B	2	1	6/23/98	7/1/98	ND	
N-Nitrosodiphenylamine	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Bromophenyl Phenyl Ether	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Hexachlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Pentachlorophenol	3550	8270B	2	1	6/23/98	7/1/98	ND	
Phenanthrene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Anthracene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Di-n-butyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Fluoranthene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Pyrene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Butylbenzyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
3,3'-Dichlorobenzidine	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benz(a)anthracene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Chrysene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Bis(2-ethylhexyl) Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Di-n-octyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzo(b)fluoranthene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzo(k)fluoranthene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzo(a)pyrene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Indeno(1,2,3-cd)pyrene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Dibenz(a,h)anthracene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzo(g,h,i)perylene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	

* Quantified as 4-methylphenol.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Method Blank
Lab Code: S980623-SB1
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
N-Nitrosodimethylamine	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Aniline	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Bis(2-chloroethyl) Ether	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Phenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Chlorophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
1,3-Dichlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
1,4-Dichlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
1,2-Dichlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzyl Alcohol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Bis(2-chloroisopropyl) Ether	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Methylphenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Hexachloroethane	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
N-Nitrosodi-n-propylamine	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
3- and 4-Methylphenol*	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Nitrobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Isophorone	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Nitrophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,4-Dimethylphenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Bis(2-chloroethoxy)methane	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,4-Dichlorophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzoic Acid	3550	8270B	2	1	6/23/98	7/1/98	ND	
1,2,4-Trichlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Naphthalene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Chloroaniline	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Hexachlorobutadiene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Chloro-3-methylphenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Methylnaphthalene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Hexachlorocyclopentadiene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,4,6-Trichlorophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,4,5-Trichlorophenol	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Chloronaphthalene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2-Nitroaniline	3550	8270B	2	1	6/23/98	7/1/98	ND	
Acenaphthylene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Dimethyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
2,6-Dinitrotoluene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Acenaphthene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
3-Nitroaniline	3550	8270B	2	1	6/23/98	7/1/98	ND	
2,4-Dinitrophenol	3550	8270B	2	1	6/23/98	7/1/98	ND	
Dibenzofuran	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Nitrophenol	3550	8270B	2	1	6/23/98	7/1/98	ND	
2,4-Dinitrotoluene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Fluorene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Chlorophenyl Phenyl Ether	3550	8270B	0.3	1	6/23/98	7/1/98	ND	

* Quantified as 4-methylphenol.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Method Blank
Lab Code: S980623-SB1
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Diethyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Nitroaniline	3550	8270B	2	1	6/23/98	7/1/98	ND	
2-Methyl-4,6-dinitrophenol	3550	8270B	2	1	6/23/98	7/1/98	ND	
N-Nitrosodiphenylamine	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
4-Bromophenyl Phenyl Ether	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Hexachlorobenzene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Pentachlorophenol	3550	8270B	2	1	6/23/98	7/1/98	ND	
Phenanthrene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Anthracene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Di-n-butyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Fluoranthene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Pyrene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Butylbenzyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
3,3'-Dichlorobenzidine	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benz(a)anthracene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Chrysene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Bis(2-ethylhexyl) Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Di-n-octyl Phthalate	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzo(b)fluoranthene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzo(k)fluoranthene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzo(a)pyrene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Indeno(1,2,3-cd)pyrene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Dibenz(a,h)anthracene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	
Benzo(g,h,i)perylene	3550	8270B	0.3	1	6/23/98	7/1/98	ND	

* Quantified as 4-methylphenol.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

Halogenated Volatile Organic Compounds

Sample Name: S-6-T3
Lab Code: S9801606-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	
Chloromethane	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	
Vinyl Chloride	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Bromomethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Chloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1-Dichloroethene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Methylene Chloride	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1-Dichloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Chloroform	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Carbon Tetrachloride	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,2-Dichloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,2-Dichloropropane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Bromodichloromethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	0.5	1	6/24/98	6/24/98	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Dibromochloromethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Chlorobenzene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Bromoform	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,3-Dichlorobenzene	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	
1,4-Dichlorobenzene	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	
1,2-Dichlorobenzene	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA

Halogenated Volatile Organic Compounds

Sample Name: Method Blank **Units:** mg/Kg (ppm)
Lab Code: S980624-SB1 **Basis:** Wet
Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	
Chloromethane	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	
Vinyl Chloride	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Bromomethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Chloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1-Dichloroethene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Methylene Chloride	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1-Dichloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Chloroform	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Carbon Tetrachloride	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,2-Dichloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,2-Dichloropropane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Bromodichloromethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	0.5	1	6/24/98	6/24/98	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Dibromochloromethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Chlorobenzene	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
Bromoform	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.05	1	6/24/98	6/24/98	ND	
1,3-Dichlorobenzene	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	
1,4-Dichlorobenzene	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	
1,2-Dichlorobenzene	EPA 5030	8010	0.1	1	6/24/98	6/24/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

EPA Method 8260
Volatile Organic Compounds

Sample Name: S-5.5-T2S
Lab Code: S9801606-002
Test Notes:

Units: ug/Kg (ppb)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Methyl tert-Butyl Ether	NONE	8260	5	1	6/29/98	6/29/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

EPA Method 8260
Volatile Organic Compounds

Sample Name: S-6-T2E
Lab Code: S9801606-003
Test Notes:

Units: ug/Kg (ppb)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Methyl tert-Butyl Ether	NONE	8260	5	1	6/29/98	6/29/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

EPA Method 8260
Volatile Organic Compounds

Sample Name: S-8-T1N
Lab Code: S9801606-004
Test Notes:

Units: ug/Kg (ppb)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Methyl tert-Butyl Ether	NONE	8260	5	5	6/29/98	6/29/98	280	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

EPA Method 8260
Volatile Organic Compounds

Sample Name: S-5.5-T1E
Lab Code: S9801606-005
Test Notes:

Units: ug/Kg (ppb)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Methyl tert-Butyl Ether	NONE	8260	9	1	6/29/98	6/30/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

EPA Method 8260
Volatile Organic Compounds

Sample Name: S-2-T1N
Lab Code: S9801606-006
Test Notes: M1

Units: ug/Kg (ppb)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Methyl tert-Butyl Ether	NONE	8260	5	2	6/29/98	6/30/98	<10	

M1

The MRL was elevated because of matrix interferences.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA

EPA Method 8260
Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: S980629-SB1
Test Notes:

Units: ug/Kg (ppb)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Methyl tert-Butyl Ether	NONE	8260	5	1	6/29/98	6/29/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Water

Service Request: S9801606
Date Collected: 6/17/98
Date Received: 6/18/98

EPA Method 8260
Volatile Organic Compounds

Sample Name: W-8.5-TP
Lab Code: S9801606-013
Test Notes:

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Methyl tert-Butyl Ether	NONE	8260	0.5	20	NA	6/30/98	1300	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:
Project:
Sample Matrix:

TOSCO
224832II
Water

Service Request: S9801606
Date Collected: NA
Date Received: NA

EPA Method 8260
Volatile Organic Compounds

Sample Name:
Lab Code:
Test Notes:

Method Blank
S980629-WB2

Units: ug/L (ppb)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Methyl tert-Butyl Ether	NONE	8260	0.5	1	NA	6/29/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

**Surrogate Recovery Summary
 BTEX and TPH as Gasoline**

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

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
S-6-T3	S9801606-001		122	94
S-5.5-T2S	S9801606-002		104	89
S-6-T2E	S9801606-003		97	92
S-8-T1N	S9801606-004		102	128
S-5.5-T1E	S9801606-005		93	90
Method Blank	S980626-SB1		80	89

CAS Acceptance Limits: 51-137 51-137

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Water

Service Request: S9801606
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX and TPH as Gasoline

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

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
W-8.5-TP	S9801606-013		95	111
Method Blank	S980622-WB1		97	98

CAS Acceptance Limits: 69-116 69-116

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 224832II
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

**Surrogate Recovery Summary
 BTEX and TPH as Gasoline**

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

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
S-2-TIN	S9801606-006		98	104
S-3-D1	S9801606-007		95	89
S-3-D2	S9801606-008		99	87
S-3-P1	S9801606-009		90	85
S-3.5-P2	S9801606-010		88	89
S-4-D3	S9801606-011		97	91
S-3.5-D4	S9801606-012		98	88
Method Blank	S980626-SB1		80	89
				<.012

CAS Acceptance Limits: 51-137 51-137

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
 Project: 224832TI
 Sample Matrix: Soil

Service Request: S9801606
 Date Collected: NA
 Date Received: NA
 Date Extracted: NA
 Date Analyzed: NA

Surrogate Recovery Summary
 Base Neutral/Acid Semivolatile Organic Compounds

Prep Method: 3550
 Analysis Method: 8270B

Units: mg/Kg (ppm)
 Basis: NA

Sample Name	Lab Code	Test Notes	2FP	P e r c e n t R e c o v e r y				TPH
				PHL	NBZ	FBP	TBP	
S-6-T3	S9801606-001		88	77	72	73	102	87
Method Blank	S980623-SB1		86	71	75	64	98	88

CAS Acceptance Limits: 25-121 24-113 19-122 23-128 30-115 18-137

2FP 2-Fluorophenol
 PHL Phenol-D6
 NBZ Nitrobenzene-D5
 FBP 2-Fluorobiphenyl
 TBP 2,4,6-Tribromophenol
 TPH Terphenyl-D14

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 224832TI
Sample Matrix: Soil

Service Request: S9801606
Date Collected: NA
Date Received: NA
Date Extracted: 6/24/98
Date Analyzed: NA

Surrogate Recovery Summary
Halogenated Volatile Organic Compounds

Prep Method: EPA 5030
Analysis Method: 8010

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 4-Bromofluorobenzene
S-6-T3	S9801606-001		106
Method Blank	S980624-SB1		102

CAS Acceptance Limits: 74-125

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
 Project: 224832TI
 Sample Matrix: Soil

Service Request: S9801606
 Date Collected: NA
 Date Received: NA
 Date Extracted: NA
 Date Analyzed: NA

Surrogate Recovery Summary
 Volatile Organic Compounds

Prep Method: NONE
 Analysis Method: 8260

Units: PERCENT
 Basis: NA

Sample Name	Lab Code	Test Notes	P e r c e n t R e c o v e r y		
			Dibromofluoromethane	Toluene-D8	4-Bromofluorobenzene
S-5.5-T2S	S9801606-002		110	102	89
S-6-T2E	S9801606-003		110	100	88
S-8-T1N	S9801606-004		113	102	97
S-5.5-T1E	S9801606-005		108	102	99
S-2-T1N	S9801606-006		108	97	99
Method Blank	S980629-SB1		106	100	90

EPA Acceptance Limits: 80-120 81-117 74-121

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
 Project: 224832TI
 Sample Matrix: Water

Service Request: S9801606
 Date Collected: NA
 Date Received: NA
 Date Extracted: NA
 Date Analyzed: NA

Surrogate Recovery Summary
 Volatile Organic Compounds

Prep Method: NONE
 Analysis Method: 8260

Units: PERCENT
 Basis: NA

Sample Name	Lab Code	Test Notes	P e r c e n t R e c o v e r y		
			Pentafluorobenzene	Toluene-D8	4-Bromofluorobenzene
W-8.5-TP	S9801606-013		113	104	99
Method Blank	S980629-WB2		105	103	90

CAS Acceptance Limits: 82-119 88-112 86-114

Consultant Company: ENVIRONMENTAL RESOLUTIONS, INC Project Name: 224832T1
 Address: 74 DIGITAL DR, SUITE 6 UNOCAL Project Manager: TINA BERRY
 City: NOVATO State: CA Zip Code: 94949 AFE #:
 Telephone: (415) 382-9105 FAX #: 382-1856 Site #, City, State: # 0843 ALAMEDA, CA
 Report To: GLENN MATTEUCCI Sampler: SUE SHALLENBERGER QC Data: Level D (Standard) Level C Level B Level A

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours
 CODE: Misc. Detect. Eval. Remed. Demol. Closure

Drinking Water
 Waste Water
 Other
 Analyses Requested:

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH _g 8015	BTEX 8020	TRPH 5520	HNOCs 8010	SVOCs 8270	TTL _g Cd Cr Ni Mn Pb 6010	TTL _g Pb 6010	MTBE 8260	MTBE 8020	Comments
1. S-6-T3	6/17/98 11:00	SOIL	1	SLEEVE	1	X	X	X	X	X	X	X	X	X	
2. S-5.5-T2S	1130		1		2	X	X	X	X	X	X	X	X	X	
3. S-6-T2E	1135		1		3	X	X	X	X	X	X	X	X	X	
4. S-8-TIN	1200		1		4	X	X	X	X	X	X	X	X	X	
5. S-5.5-T1E	1210		1		5	X	X	X	X	X	X	X	X	X	
6. S-2-TIN	1215		1		6	X	X	X	X	X	X	X	X	X	
7. S-3-D1	1240		1		7	X	X	X	X	X	X	X	X	X	
8. S-3-D2	1245		1		8	X	X	X	X	X	X	X	X	X	
9. S-3-P1	1255		1		9	X	X	X	X	X	X	X	X	X	
10. S-3.5-P2	1300		1	SS	10	X	X	X	X	X	X	X	X	X	

Relinquished By: <u>Sue Shallenberger</u>	Date: <u>6-18-98</u>	Time: <u>1:35</u>	Received By: <u>[Signature]</u>	Date: <u>6-18</u>	Time: <u>1:35</u>
Relinquished By: <u>[Signature]</u>	Date: <u>6/18</u>	Time: <u>2:35</u>	Received By: <u>UPS</u>	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date:	Time:

Were Samples Received in Good Condition? Yes No
 Samples on Ice? Yes No
 Method of Shipment CAS CORRIER + UPS Page 1 of B2

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

Consultant Company: ENVIRONMENTAL RESOLUTIONS, INC Project Name: 224832T1
 Address: 74 DIGITAL DR, SUITE 6 UNOCAL Project Manager: TINA BERRY
 City: NOVATO State: CA Zip Code: 94949 AFE #:
 Telephone: (415) 382-9105 FAX #: 382-1856 Site #, City, State: # 0843 ALAMEDA, CA
 Report To: GLENN MATTEUCCI Sampler: SUE SHALLENBERGER QC Data: Level D (Standard) Level C Level B Level A

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours
 CODE: Misc. Detect. Eval. Remed. Demol. Closure
 Drinking Water Waste Water Other
 Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPPHg 8015	BTEX 8020	MTBE 8260	MTBE 8020	Comments
1. S-4-D3	6/17/98 13:05	SOIL	1	SLEEVE	11	X	X	X		
2. S-3.5-D4	13:10		1		12	X	X	X		
3.										
4. W-8.5-TP	10:15	WATER	2	VOA	13	X	X	X		
5.										
6.										
7.										
8.										
9.										
10.										

Relinquished By: <u>Sue Shallenberger</u>	Date: <u>6/18/98</u>	Time: <u>1:35</u>	Received By: <u>[Signature]</u>	Date: <u>6-18</u>	Time: <u>1:35</u>
Relinquished By: <u>[Signature]</u>	Date: <u>6/18</u>	Time: <u>2:35</u>	Received By: <u>UPS</u>	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date:	Time:

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment Courier / UPS Page 2 of 2

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



July 1, 1998

Service Request No.: S9801605

Mr. Glenn Matteucci
Environmental Resolutions, Inc.
74 Digital Drive
Suite 6
Novato, CA 94949

RE: 0843 Alameda/224832T1

Dear Mr. Matteucci:

Enclosed is the revised analytical report for samples received by the laboratory on June 19, 1998. Per my conversation with Ms. Sue Shallenberger on July 1, I have included the Lead results for the "SP-1 and SP-2" stockpiles, that were not in the original report, on page 15. I am sorry for the inconvenience this has caused you.

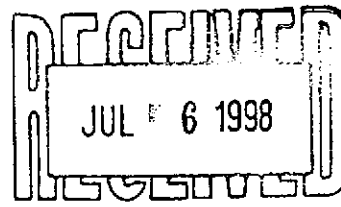
Please replace the original report with the enclosed.

Feel free to call me if you have anymore concerns.

Sincerely,

A handwritten signature in cursive script that reads "Bernadette T. Cox". The signature is written in dark ink and is positioned above the typed name.

Bernadette T. Cox
Project Chemist





July 1, 1998

Service Request No.: S9801605

Mr. Glenn Matteucci
Environmental Resolutions, Inc.
74 Digital Drive
Suite 6
Novato, CA 94949

RE: 0843 Alameda/224832T1

Dear Mr. Matteucci:

The following pages contain analytical results for sample(s) received by the laboratory on June 19, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 22, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

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

Sincerely,

A handwritten signature in cursive script that reads "Bernadette T. Cox". The signature is written in dark ink and is positioned above the typed name.

Bernadette T. Cox
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: TOSCO 0843/224832TI
Sample Matrix: Soil

Service Request: K9804004
Date Collected: 6/17/98
Date Received: 6/19/98
Date Extracted: 6/26/98
Date Analyzed: 6/26/98

Oil and Grease, Non-Polar
SM 5520B/E/F
Units: mg/Kg (ppm)
As Received

Sample Name	Lab Code	MRL	Result
Comp SP-3-(1-4)	K9804004-001	100	1193
Method Blank	K980626-MB	100	ND

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: 6/17/98
Date Received: 6/23/98

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Comp SP-3-(1-4)
Lab Code: L9802092-001
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
N-Nitrosodimethylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Aniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroethyl) Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,2-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,3-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,4-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroisopropyl) Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
N-Nitrosodi-n-propylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachloroethane	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Nitrobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Isophorone	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroethoxy)methane	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,2,4-Trichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Naphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chloroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorobutadiene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methylnaphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorocyclopentadiene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Chloronaphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dimethyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Acenaphthylene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Acenaphthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dibenzofuran	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dinitrotoluene	EPA 3550	8270	0.2	1	6/23/98	6/26/98	ND	
2,6-Dinitrotoluene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Diethyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chlorophenyl Phenyl Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Fluorene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
N-Nitrosodiphenylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Bromophenyl Phenyl Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorobenzene	EPA 3550	8270	0.2	1	6/23/98	6/26/98	ND	
Phenanthrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	0.5	
Anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Di-n-butyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	0.3	
Pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	0.4	
Butyl Benzyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3,3'-Dichlorobenzidine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benz(a)anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-ethylhexyl) Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Chrysene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: 6/17/98
Date Received: 6/23/98

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Comp SP-3-(1-4) Units: mg/Kg (ppm)
Lab Code: L9802092-001 Basis: Wet
Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Di-n-octyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(b)fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(k)fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(a)pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Indeno(1,2,3-cd)pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dibenz(a,h)anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(g,h,i)perylene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pyridine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Phenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Chlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzyl Alcohol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3- and 4-Methylphenol Coelution	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Nitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dimethylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzoic Acid	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chloro-3-methylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4,6-Trichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4,5-Trichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dinitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Nitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methyl-4,6-dinitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pentachlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: NA
Date Received: NA

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Method Blank
Lab Code: L980623-MB
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
N-Nitrosodimethylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Aniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroethyl) Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,2-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,3-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,4-Dichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroisopropyl) Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
N-Nitrosodi-n-propylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachloroethane	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Nitrobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Isophorone	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-chloroethoxy)methane	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
1,2,4-Trichlorobenzene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Naphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chloroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorobutadiene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methylnaphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorocyclopentadiene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Chloronaphthalene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dimethyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Acenaphthylene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Acenaphthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dibenzofuran	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dinitrotoluene	EPA 3550	8270	0.2	1	6/23/98	6/26/98	ND	
2,6-Dinitrotoluene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Diethyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chlorophenyl Phenyl Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Fluorene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Nitroaniline	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
N-Nitrosodiphenylamine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Bromophenyl Phenyl Ether	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Hexachlorobenzene	EPA 3550	8270	0.2	1	6/23/98	6/26/98	ND	
Phenanthrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Di-n-butyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Butyl Benzyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3,3'-Dichlorobenzidine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benz(a)anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Bis(2-ethylhexyl) Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Chrysene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: NA
Date Received: NA

Base Neutral/Acid Semivolatile Organic Compounds

Sample Name: Method Blank
Lab Code: L980623-MB
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Di-n-octyl Phthalate	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(b)fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(k)fluoranthene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(a)pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Indeno(1,2,3-cd)pyrene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Dibenz(a,h)anthracene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzo(g,h,i)perylene	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pyridine	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Phenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Chlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzyl Alcohol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
3- and 4-Methylphenol Coelution	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Nitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dimethylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Benzoic Acid	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Chloro-3-methylphenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4,6-Trichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4,5-Trichlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2,4-Dinitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
4-Nitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
2-Methyl-4,6-dinitrophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	
Pentachlorophenol	EPA 3550	8270	0.3	1	6/23/98	6/26/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

Halogenated Volatile Organic Compounds

Sample Name: Comp SP-3-(1-4)
Lab Code: S9801605-015
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
Chloromethane	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
Vinyl Chloride	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromomethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Methylene Chloride	EPA 5030	8010	0.5	1	6/25/98	6/25/98	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1-Dichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chloroform	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Carbon Tetrachloride	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,2-Dichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,2-Dichloropropane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromodichloromethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	0.5	1	6/25/98	6/25/98	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Dibromochloromethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chlorobenzene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromoform	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,3-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
1,4-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
1,2-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA

Halogenated Volatile Organic Compounds

Sample Name: Method Blank Units: mg/Kg (ppm)
Lab Code: S980625-SB1 Basis: Wet
Test Notes:

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Dichlorodifluoromethane (CFC 12)	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
Chloromethane	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
Vinyl Chloride	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromomethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichlorofluoromethane (CFC 11)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichlorotrifluoroethane (CFC 113)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Methylene Chloride	EPA 5030	8010	0.5	1	6/25/98	6/25/98	ND	
trans-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
cis-1,2-Dichloroethene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1-Dichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chloroform	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,1-Trichloroethane (TCA)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Carbon Tetrachloride	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,2-Dichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Trichloroethene (TCE)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,2-Dichloropropane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromodichloromethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
2-Chloroethyl Vinyl Ether	EPA 5030	8010	0.5	1	6/25/98	6/25/98	ND	
trans-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
cis-1,3-Dichloropropene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,2-Trichloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Tetrachloroethene (PCE)	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Dibromochloromethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Chlorobenzene	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
Bromoform	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,1,2,2-Tetrachloroethane	EPA 5030	8010	0.05	1	6/25/98	6/25/98	ND	
1,3-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
1,4-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	
1,2-Dichlorobenzene	EPA 5030	8010	0.1	1	6/25/98	6/25/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

TPH as Diesel

Prep Method: LUFT
Analysis Method: California DHS LUFT
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Comp SP-3-(1-4)	S9801605-015	1	1	6/22/98	6/25/98	26	D5,1
Method Blank	S980622-MB	1	1	6/22/98	6/23/98	ND	

D5, 1

The sample contained 150 ppm of a heavy oil.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

BTEX, MTBE and TPH as Gasoline

Sample Name: Comp SP-1-(1-4)
Lab Code: S9801605-013
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	50	6/22/98	6/24/98	1700	
Benzene	EPA 5030	8020	0.005	50	6/22/98	6/24/98	3.6	
Toluene	EPA 5030	8020	0.005	50	6/22/98	6/24/98	57	
Ethylbenzene	EPA 5030	8020	0.005	50	6/22/98	6/24/98	21	
Xylenes, Total	EPA 5030	8020	0.005	50	6/22/98	6/24/98	170	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	50	6/22/98	6/24/98	<2.5	C1

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

BTEX, MTBE and TPH as Gasoline

Sample Name: Comp SP-2-(1-4)
Lab Code: S9801605-014
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	25	6/22/98	6/24/98	460	
Benzene	EPA 5030	8020	0.005	25	6/22/98	6/24/98	0.7	
Toluene	EPA 5030	8020	0.005	25	6/22/98	6/24/98	4.6	
Ethylbenzene	EPA 5030	8020	0.005	25	6/22/98	6/24/98	3.5	
Xylenes, Total	EPA 5030	8020	0.005	25	6/22/98	6/24/98	36	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	25	6/22/98	6/24/98	<1.2	C1

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

BTEX, MTBE and TPH as Gasoline

Sample Name: Comp SP-3-(1-4)
Lab Code: S9801605-015
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/22/98	6/24/98	2	
Benzene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	0.18	
Ethylbenzene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	0.005	
Xylenes, Total	EPA 5030	8020	0.005	1	6/22/98	6/24/98	0.046	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/22/98	6/24/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA

BTEX, MTBE and TPH as Gasoline

Sample Name: Method Blank
Lab Code: S980622-SB1
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	EPA 5030	CA/LUFT	1	1	6/22/98	6/24/98	ND	
Benzene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Toluene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Ethylbenzene	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Xylenes, Total	EPA 5030	8020	0.005	1	6/22/98	6/24/98	ND	
Methyl-tert-butyl ether	EPA 5030	8020	0.05	1	6/22/98	6/24/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

Total Metals
Lead

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

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Comp SP-1-(1-4)	S9801605-013	5	1	6/24/98	6/24/98	42	
Comp SP-2-(1-4)	S9801605-014	5	1	6/24/98	6/24/98	64	
Method Blank	S980624-MB	5	1	6/24/98	6/24/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: 6/17/98
Date Received: 6/19/98

Total Metals

Sample Name: Comp SP-3-(1-4)
Lab Code: S9801605-015
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Cadmium	EPA 3050BM	6010A	0.5	1	6/24/98	6/24/98	ND	
Chromium	EPA 3050BM	6010A	1	1	6/24/98	6/24/98	23	
Lead	EPA 3050BM	6010A	5	1	6/24/98	6/24/98	110	
Nickel	EPA 3050BM	6010A	2	1	6/24/98	6/24/98	25	
Zinc	EPA 3050BM	6010A	2	1	6/24/98	6/24/98	110	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TQSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA

Total Metals

Sample Name: Method Blank
Lab Code: S980624-MB
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Analyte	Prep	Analysis	MRL	Dilution	Date	Date	Result	Result Notes
	Method	Method		Factor	Prepared	Analyzed		
Cadmium	EPA 3050BM	6010A	0.5	1	6/24/98	6/24/98	ND	
Chromium	EPA 3050BM	6010A	1	1	6/24/98	6/24/98	ND	
Lead	EPA 3050BM	6010A	5	1	6/24/98	6/24/98	ND	
Nickel	EPA 3050BM	6010A	2	1	6/24/98	6/24/98	ND	
Zinc	EPA 3050BM	6010A	2	1	6/24/98	6/24/98	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: Unocal-Alameda/0843
Sample Matrix: Soil

Service Request: L9802092
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Base Neutral/Acid Semivolatile Organic Compounds

Prep Method: EPA 3550
Analysis Method: 8270

Units: PERCENT
Basis: Wet

Sample Name	Lab Code	Test Notes	P e r c e n t R e c o v e r y					TPH
			2FP	PHLD6	TBP	NBZ	FBP	
S9801605-015	L9802092-001		67	81	78	87	78	96
Method Blank	L980623-MB		66	83	72	88	83	116

CAS Acceptance Limits: 25-121 24-113 19-122 23-120 30-115 18-137

2FP 2-Fluorophenol
 PHLD6 Phenol-D6
 TBP 2,4,6-Tribromophenol
 NBZ Nitrobenzene-D5
 FBP 2-Fluorobiphenyl
 TPH Terphenyl-D14

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA
Date Extracted: 6/25/98
Date Analyzed: NA

Surrogate Recovery Summary
Halogenated Volatile Organic Compounds

Prep Method: EPA 5030
Analysis Method: 8010

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery 4-Bromofluorobenzene
Comp SP-3-(1-4)	S9801605-015		110
Method Blank	S980625-SB1		105

CAS Acceptance Limits: 74-125

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
TPH as Diesel

Prep Method: LUFT
Analysis Method: California DHS LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery p-Terphenyl
Comp SP-3-(1-4)	S9801605-015		70
Method Blank	S980622-MB		60

CAS Acceptance Limits: 41-140

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: TOSCO
Project: 0843 Alameda/224832T1
Sample Matrix: Soil

Service Request: S9801605
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
BTEX and TPH as Gasoline

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

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
Comp SP-1-(1-4)	S9801605-013		97	97
Comp SP-2-(1-4)	S9801605-014		118	112
Comp SP-3-(1-4)	S9801605-015		71	93
Method Blank	S980622-SB1		72	88

CAS Acceptance Limits: 51-137 51-137



July 24, 1998

Service Request No.: S9801898

Mr. Glenn Matteucci
Environmental Resolutions, Inc.
74 Digital Drive
Suite 6
Novato, CA. 94949

RE: 224832T1

Dear Mr. Matteucci:

The following pages contain analytical results for sample(s) received by the laboratory on June 18, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

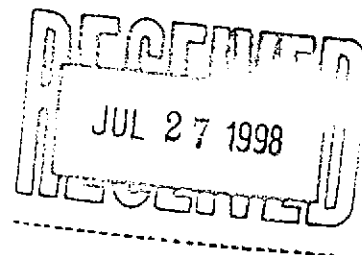
Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 5, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

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

Sincerely,

A handwritten signature in cursive script that reads "Bernadette T. Cox".

Bernadette T. Cox
Project Chemist



COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Resolutions, Inc.
Project: 224832T1
Sample Matrix: Soil

Service Request: S9801898
Date Collected: 7/17/98
Date Received: 7/17/98

TPH as Diesel

Prep Method: LUFT
Analysis Method: California DHS LUFT
Test Notes:

Units: mg/Kg (ppm)
Basis: Wet

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
S-6-T3	S9801898-001	1	1	7/20/98	7/22/98	ND	D5
Method Blank	S980720-MB	1	1	7/20/98	7/20/98	ND	

D5

Sample contains 29 ppm of a heavy oil.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Resolutions, Inc.
Project: 224832T1
Sample Matrix: Soil

Service Request: S9801898
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
TPH as Diesel

Prep Method: LUFT
Analysis Method: California DHS LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery p-Terphenyl
S-6-T3	S9801898-001		48
Method Blank	S980720-MB		70

CAS Acceptance Limits:

41-140

PAGE 02

COLUMBIA ANALYTICAL

ERINovato Office

07/20/98 MON 14:03 FAX 1 415 382 1858

07/19/1998 13:14 4384375356

Consultant Company: ENVIRONMENTAL RESOLUTIONS, INC Project Name: 224832T1
 Address: 74 DIGITAL DR, SUITE 6 UNOCAL Project Manager: TINA BERRY
 City: NOVATO State: CA Zip Code: 94949 AFE #:
 Telephone: (415) 382-9105 FAX #: 382-1856 Site #, City, State: # 0843 ALAMEDA, CA
 Report To: GLINN MATTEUCCI Sampler: SUE SHALLENBERGER AOC Data: Level D (Standard) Level C Level B Level A

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours
 CODE: Misc. Detect. Eval. Remed. Demol. Closure

Drinking Water
 Waste Water
 Other
 Analyses Requested:

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPHs 8015	BTEX 8020	TRPH 5520	HVOCs 8010	SVOCs 8270	TTLCC 6010	TTLCP 6010	MTBE 8260	MTBE 8020	Comments
1. S-6-T3	6/17/98 11:00	SOIL	1	SLEEVE	1	X	X	X	X	X	X	X	X	X	- analyze for TPH diesel for sample S-6-T3
2. S-5.5-T2S	1130		1		2	X	X	X	X	X	X	X	X	X	per Glenn Matteucci 07/14/98 BTE
3. S-6-T2E	1135		1		3	X	X	X	X	X	X	X	X	X	- sample in post hold time
4. S-8-TIN	1200		1		4	X	X	X	X	X	X	X	X	X	
5. S-5.5-TIE	1210		1		5	X	X	X	X	X	X	X	X	X	
6. S-2-TIN	1215		1		6	X	X	X	X	X	X	X	X	X	
7. S-3-D1	1240		1		7	X	X	X	X	X	X	X	X	X	
8. S-3-D2	1245		1		8	X	X	X	X	X	X	X	X	X	
9. S-3-P1	1255		1		9	X	X	X	X	X	X	X	X	X	
10. S-3.5-P2	1300		1	SS	10	X	X	X	X	X	X	X	X	X	

Relinquished By: <u>Sue Shallenberger</u>	Date: <u>6-18-98</u> Time: <u>1:35</u>	Received By: <u>[Signature]</u>	Date: <u>6-18</u> Time: <u>1:35</u>
Relinquished By: <u>[Signature]</u>	Date: <u>6/18</u> Time: <u>2:35</u>	Received By: <u>UPS</u>	Date: Time:
Relinquished By:	Date: Time:	Received By Lab:	Date: Time:

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment CAS Carrier + UPS Page L of B2

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 76

680 Chesapeake Drive • Redwood City, CA 94061 • (415) 364-6600
 819 Striker Ave., Suite 8 • Sacramento, CA 95834 • (916) 921-9600
 404 N. Wiget Lane • Walnut Creek, CA 94598 • (510) 988-9600

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

Consultant Company: ENVIRONMENTAL RESOLUTIONS, INC Project Name: 224832T1
 Address: 74 DIGITAL DR, SUITE 6 UNOCAL Project Manager: TINA BERRY
 City: NOVATO State: CA Zip Code: 94949 AFE #:
 Telephone: (415) 382-9105 FAX #: 382-1856 Site #, City, State: # 0843 ALAMEDA, CA
 Report To: GLENN MATTEUCCI Sampler: SUE SHALLENBERGER QC Data: Level D (Standard) Level C Level B Level A

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours
 CODE: Misc. Detect. Eval. Remed. Demol. Closure
 Drinking Water Waste Water Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	Analyses Requested				Comments
						TPPHs 8015	BTEX 8020	MTBE 8260	MTBE 8020	
1. S-4-D3	6/17/98 13:05	SOIL	1	SLEEVE	11	X	X	X		
2. S-3.5-D4	13:10		1		12	X	X	X		
3.										
4. W-8.5-TP	10:15	WATER	2	VOA	13	X	X	X		
5.										
6.										
7.										
8.										
9.										
10.										

Relinquished By: <u>Sue Shallenberger</u>	Date: <u>6/18/98</u>	Time: <u>1:35</u>	Received By: <u>[Signature]</u>	Date: <u>6-18</u>	Time: <u>1:35</u>
Relinquished By: <u>[Signature]</u>	Date: <u>6/18</u>	Time: <u>2:35</u>	Received By: <u>UPS</u>	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab:	Date:	Time:

Were Samples Received in Good Condition? Yes No
 Samples on Ice? Yes No
 Method of Shipment Courier/UPS
 Page 2 of 32

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

2 PGS



COLUMBIA ANALYTICAL SERVICES FACSIMILE TRANSMITTAL COVER PAGE

DATE: 07/20/98

FAX NO.: (415) 382-1852

TO: Glenn Matteucci

COMPANY: _____

FROM: Bernadette Cox

MESSAGE: UNOCAL site # 0843 Alameda

Per your request on 07/16/98, we are analyzing sample "S-6-T3" for TPH on diesel even if past hold time. Please initial and date this cover letter and CDC to confirm your request for additional analysis.

Sorry,
I forgot to
send this.
[Signature]

Thanks,
[Signature]

NUMBER OF PAGES (INCLUDING COVER PAGE):

(2)

408
437-2400

IMPORTANT NOTE:

The documents accompanying this transmission may contain information which is legally privileged and/or confidential. The information is intended only for the use of the individual or entity named above. If you are not the intended recipient, or the person responsible for delivering it to the intended recipient, you are hereby notified that any disclosure, copying, distribution, or use of any of the information contained in this transmission is strictly **PROHIBITED**. If you have received this transmission in error, please immediately notify us by telephone and mail the original transmission to us. Thank you for your cooperation and assistance.

Consultant Company: ENVIRONMENTAL RESOLUTIONS, INC Project Name: 224832T1
 Address: 74 DIGITAL DR, SUITE 6 UNOCAL Project Manager: TINA BERRY
 City: NOVATO State: CA Zip Code: 94949 AFE #:
 Telephone: (415) 382-9105 FAX #: 382-1856 Site #, City, State: # 0843 ALAMEDA, CA
 Report To: GLENN MATTEUCCI Sampler: SUE SHALLENBERGER QC Data: Level D (Standard) Level C Level B Level A

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours
 CODE: Misc. Detect. Eval. Remed. Demol. Closure

Analyses Requested
 Drinking Water
 Waste Water
 Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPH _g 8015	BTEX 8020	TRPH 5529	HNOC's 8010	SVOC's 8270	TTL Cd, Cr, Ni, Pb 6010	TTL Pb 6010	MTBE 8260	MTBE 8020	Comments
1. S-6-T3	6/17/98 11:00	SOIL	1	SLEEVE	1	X	X	X	X	X	X	X	X	X	
2. S-5.5-T2S	1130		1		2	X	X	X	X	X	X	X	X	X	
3. S-6-T2E	1135		1		3	X	X	X	X	X	X	X	X	X	
4. S-8-TIN	1200		1		4	X	X	X	X	X	X	X	X	X	
5. S-5.5-T1E	1210		1		5	X	X	X	X	X	X	X	X	X	
6. S-2-TIN	1215		1		6	X	X	X	X	X	X	X	X	X	
7. S-3-D1	1240		1		7	X	X	X	X	X	X	X	X	X	
8. S-3-D2	1245		1		8	X	X	X	X	X	X	X	X	X	
9. S-3-P1	1255		1		9	X	X	X	X	X	X	X	X	X	
10. S-3.5-P2	1300		1	SS	10	X	X	X	X	X	X	X	X	X	

Relinquished By: Sue Shallenberger Date: 6-18-98 Time: 1:35 Received By: [Signature] Date: 6-18 Time: 1:35
 Relinquished By: [Signature] Date: 6/18 Time: 2:35 Received By: UAS Date: Time:

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM



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

SERVICE REQUEST NO. 59801898 P.O.# _____ PAGE _____ OF _____

PROJECT NAME 224832T1
 PROJECT MGR. Glenn Matteucci

PRESERVATIVE	ANALYSIS REQUESTED													
	HCl	HCl	HCl	NP	NP	NP	HCl	HCl	HNO ₃	NP	H ₂ SO ₄	H ₂ SO ₄	H ₂ SO ₄	NaOH

Pink - Client

Yellow - Laboratory

White - Laboratory



July 6, 1998

Service Request No.: S9801756

Glenn Matteucci
ENVIRONMENTAL RESOLUTIONS, INC.
74 Digital Drive, Ste. 6
Novato, CA 94949

RE: 843 ALAMEDA/224832T1

Dear Mr. Matteucci:

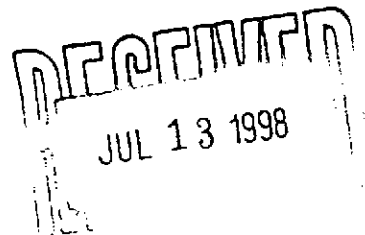
The following pages contain analytical results for sample(s) received by the laboratory on June 18, 1998. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

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

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

Sincerely,

Steven L. Green
Project Chemist



COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 843 ALAMEDA/224832T1
Sample Matrix: Soil

Service Request: S9801756
Date Collected: 6/17/98
Date Received: 6/18/98
Date STLC Performed:

Metals
Soluble Threshold Limit Concentration (STLC)

Sample Name: Comp SP-2-(1-4) Units: mg/L (ppm)
Lab Code: S9801756-009 Basis: NA
Test Notes:

Analyte	Prep Method	Analysis Method	MRL	STLC Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Lead	EPA 3005	6010A	0.5	5	10	7/6/98	7/6/98	2.4	

* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 843 ALAMEDA/224832T1
Sample Matrix: Soil

Service Request: S9801756
Date Collected: 6/17/98
Date Received: 6/18/98
Date STLC Performed:

Metals

Soluble Threshold Limit Concentration (STLC)

Sample Name: Comp SP-3-(1-4)
Lab Code: S9801756-010
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	STLC Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Lead	EPA 3005	6010A	0.5	5	10	7/6/98	7/6/98	3.5	

State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3,
Section 66261.24 and Article 5, Section 66261.126, Appendix II.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: TOSCO
Project: 843 ALAMEDA/224832T1
Sample Matrix: Soil

Service Request: S9801756
Date Collected: NA
Date Received: NA
Date STLC Performed:

Metals

Soluble Threshold Limit Concentration (STLC)

Sample Name: Method Blank
Lab Code: S9807/6/98-MB
Test Notes:

Units: mg/L (ppm)
Basis: NA

Analyte	Prep Method	Analysis Method	MRL	STLC Limits*	Dilution Factor	Date Prepared	Date Analyzed	Result	Result Notes
Lead	EPA 3005	6010A	0.5	5	1	7/6/98	7/6/98	ND	

* State of California Code of Regulations, Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24 and Article 5, Section 66261.126, Appendix II.



1-800-695-7222

TOSCO

Tosco Site Number 224832T1
 Tosco Site Address _____
 Tosco Contact (Name) Tina Berry
 (Phone) _____
 Tosco Project Code # _____
 Laboratory Name CAS
 Laboratory Work Order _____
 AWO _____

Consultant Project Number _____
 Consultant Name Environmental Resolutions, Inc.
 Address 74 Digital Dr. Suite 6 Novato, CA 94947
 Project Contact (Name) Glenn Mattucci
 (Phone) 415-382-9105 (Fax) 415-382-1856
 Sample Collected By (Name) _____
 Collection Date _____ Signature _____
 Method of Shipment _____

Sample ID Number	Lab Sample Number	Number of Containers	MATRIX		TYPE	Sample Date	Sample Time	Sample Preservation	Analyses To Be Performed											Remarks
			S=Soil W=Water A=Air C=Charcoal	G=Grab C=Composite D=Discrete					BTEX + TPH GAS (8021/602 + 8015 modified)	TPH (8015 modified) _FC GAS DIESEL OIL	BTEX + MTBE (8021/602) (8260)	Oil and Grease (5520) (413.1) (413.2)	Purgeable Halocarbons (8021) (601)	Purgeable Aromatics (8021) (602)	Volatile Organics (8260) (624)	Semi Volatile Organics (8270) (625)	Total Lead	TRPH (418.1)	MTBE Confirmation (8260)	
SP-2-(1-4)	1-4	4	S	C	C	6/17/98													X	Additional analyses requested 7/1/98 by Sue Shallenberger Samples originally rec'd 6/18/98 under SR# 59801605
SP-3-(1-4)	5-8	4	S	C	C	↓													X	

Special Instructions/Comments:
 Deliverable Requirements: Tier I Tier II Tier III

LAB USE ONLY:
 Condition of Sample _____ Custody Seals _____
 Temperature Received _____ Storage Location _____
 Notes _____

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time

ANALYSIS TAT (Circle Choice)
 STANDARD - 10 Business Days
 RUSH TAT - Surcharges Apply
 5 Days
 72 Hours
 48 Hours *Oue: 7/6/98*
 24 Hours

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: _____

238/01

Consultant Company: ENVIRONMENTAL RESOLUTIONS, INC Project Name: 224832T1
 Address: 74 DIGITAL DR, SUITE 6 UNOCAL Project Manager: TINA BERRY
 City: NOVATO State: CA Zip Code: 94949 AFE #:
 Telephone: (415) 382-9105 FAX #: 382-1856 Site #, City, State: #0843 ALAMEDA, CA
 Report To: GLENN MATTEUCCI Sampler: SUE SHALLENBERGER QC Data: Level D (Standard) Level C Level B Level A

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours
 CODE: Misc. Detect. Eval. Remed. Demol. Closure

Analyses Requested
 Drinking Water
 Waste Water
 Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	TPPHg 8015	BTEX 8020	MTBE 8020	TTLc Pb 8015	TRPH 8015	SVOCs 8270	HVOCs 8010	TTLc Pb 8015	STLC 8015	Comments
1. SP-1-(1-4) (4)	6/17/98 1415	SOIL	4	SLEEVE	14, 15, 16, 17	X	X	X	X	X	X	X	X	X	
2. SP-2-(1-4) (4)	1430		4		18, 19, 20, 21	X	X	X	X	X	X	X	X	X	
3. SP-3-(1-4) (5)	1445	SS	4	SS	22, 23, 24, 25	X	X	X	X	X	X	X	X	X	
4.															
5.															
6.															
7.															
8.															
9.															
10.															

Relinquished By: Sue Shallenberger Date: 6/18 Time: 1:35 Received By: [Signature] Date: 6/18 Time: 1:35
 Relinquished By: [Signature] Date: 6/18 Time: 2:35 Received By: [Signature] Date: Time:
 Relinquished By: Date: Time: Received By Lab: Date: Time:

Were Samples Received in Good Condition? Yes No Samples on Ice? Yes No Method of Shipment: UPS Page 2 of 2

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

ATTACHMENT C
STOCKPILE DISPOSAL DOCUMENTATION

DISPOSAL CONFIRMATION

Consultant: ERI

Contact: GLEN MATEUCCI

Phone/Fax: (510) 277-2311 FAX(510) 277-2309

Client: TOSCO MARKETING - TINA BERRY

Station #/Wic #: STATION #: 0843

Site Address: 1629 WEBSTER STREET

City/State: ALAMEDA, CA

Estimated YD/Ton: 400 YARDS

Actual YD/Ton: 337.53 TONS

Disposal Facility: FORWARD LANDFILL

Disposal Date: JUNE 26, 1998

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

7343



FORWARD
INCORPORATED

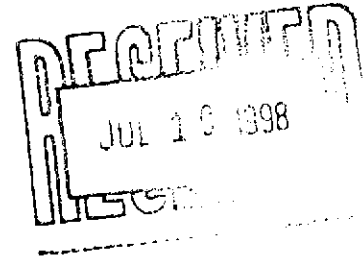
2248321
P.O. Box 6336
1145 W. Charter Way • Stockton, CA 92506
(209) 466-4482 • (800) 204-4242 • FAX (209) 466-1067

June 16, 1998

Environmental Resolutions
74 Digital Drive, Suite 6
Novato, CA 94949

Attn: Glenn Matteucci

Re: Approval No. 713422
Contaminated Soil w/Gasoline
Fmr. Tosco (Union 76) #0843, 1629 Webster Street, Alameda



Dear Mr. Matteucci:

FORWARD INC. is pleased to inform you that the approximately 500 tons of Contaminated Soil w/Gasoline from the referenced site has been approved for acceptance at our Manteca, California Landfill as a Class 2 waste. This approval has been based on the information provided in the waste profile and associated materials submitted on behalf of Tosco Marketing Company (Generator). Acceptance of the waste is subject to regulatory requirements, and is also subject to the "Terms and Conditions" agreed to and signed by Generator in the waste profile.

Your approval number for this project will be 713422. This number should be used in all scheduling and correspondence with **FORWARD, INC.** regarding this waste profile.


This profile shall remain in effect until December 31, 1998, or until any significant changes in the waste stream occur. At that time, **FORWARD, INC.** will re-evaluate the profile, and current analytical data and requirements will be reviewed.

Please schedule all waste shipments with the Landfill (209-982-4298) at least 24 hours in advance. The landfills hours of operation are Monday through Friday 6:00 am to 4:30 pm for soil, 6:00 am to 3:00 pm for all other waste types.

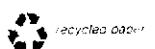
Thank you for the opportunity to be of service. Should you have any questions, please do not hesitate to contact me or our Customer Service at (800) 204-4242.

Sincerely,

FORWARD, INC.


Brad J. Bonner
Sales Manager

BJB/sr





FORWARD
INCORPORATED

22983211
P.O. Box 6336
1145 W. Charter Way • Stockton, CA 92506
(209) 466-4482 • (800) 204-4242 • FAX (209) 466-1067

June 16, 1998

Environmental Resolutions
74 Digital Drive, Suite 6
Novato, CA 94949

Attn: Glenn Matteucci

Re: Approval No. 713522
Contaminated Soil w/Used Oil
Former Tosco (union 76) #0843 1629 Webster Street

Dear Mr. Matteucci:

FORWARD INC. is pleased to inform you that the approximately 60 tons of Contaminated Soil w/Used Oil from the referenced site has been approved for acceptance at our Manteca, California Landfill as a Class 2 waste. This approval has been based on the information provided in the waste profile and associated materials submitted on behalf of Tosco Marketing Company (Generator). Acceptance of the waste is subject to regulatory requirements, and is also subject to the "Terms and Conditions" agreed to and signed by Generator in the waste profile.

Your approval number for this project will be 713522. This number should be used in all scheduling and correspondence with **FORWARD, INC.** regarding this waste profile.

This profile shall remain in effect until December 31, 1998, or until any significant changes in the waste stream occur. At that time, **FORWARD, INC.** will re-evaluate the profile, and current analytical data and requirements will be reviewed.

Please schedule all waste shipments with the Landfill (209-982-4298) at least 24 hours in advance. The landfills hours of operation are Monday through Friday 6:00 am to 4:30 pm for soil, 6:00 am to 3:00 pm for all other waste types.

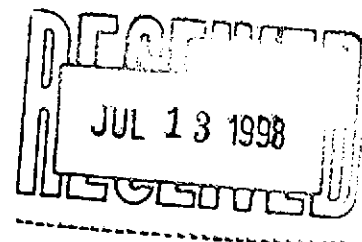
Thank you for the opportunity to be of service. Should you have any questions, please do not hesitate to contact me or our Customer Service at (800) 204-4242.

Sincerely,

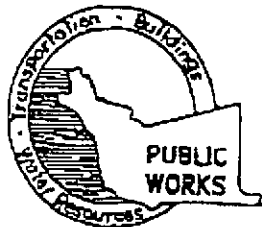
FORWARD, INC.

Brad J. Bonner
Sales Manager

BJB/sr



ATTACHMENT D
CONDUCTOR CASING "WELL"
INSTALLATION 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

FOR OFFICE USE

LOCATION OF PROJECT 1629 WEBSTER ST
ALAMEDA, CA

PERMIT NUMBER 98WR249

WELL NUMBER _____

APN _____

California Coordinates Source OAKLAND WEST 7.5 MIN QUADRANGLE
ft. Accuracy ± ft.

N 37° 46' 32" W 122° 16' 33" W
APN 7 W

PERMIT CONDITIONS

Circled Permit Requirements Apply

CLIENT

Name TOSCO MARKETING COMPANY
Address 2000 CROW CANYON Phone (510) 277-2321
City SAN RAMON, CA Zip 94583

APPLICANT

Name ENVIRONMENTAL RESOLUTIONS, INC
Address 74 DIGITAL DR, SUITE 415 Phone (415) 382-1856
City NOVATO, CA Zip 94949

TYPE OF PROJECT CONDUCTOR CASING

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

PROPOSED WATER SUPPLY WELL USE EXTRACTION OF

New Domestic Replacement Domestic TANK PIT
Municipal Irrigation
Industrial Other _____ GROUNDWATER

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 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.

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 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 cuttings.

E. CATHODIC

Fill hole above anode zone with concrete placed by tremie

F. WELL DESTRUCTION

See attached.

G. SPECIAL CONDITIONS

DRILLING METHOD: NONE

Mud Rotary Air Rotary Auger
Cable Other

DRILLER'S LICENSE NO. _____

WELL PROJECTS

Drill Hole Diameter _____ in. Maximum _____
Casing Diameter 4 in. Depth 12 ft.
Surface Seal Depth 3 ft. Number 1

GEOTECHNICAL PROJECTS

Number of Borings _____ Maximum _____
Hole Diameter _____ in. Depth _____ ft.

ESTIMATED STARTING DATE 6/22/98

ESTIMATED COMPLETION DATE 6/22/98

APPROVED _____

DATE 6/19/98

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

APPLICANT'S SIGNATURE Susan Shallenberger DATE 6/18/98