Eva Chu
RO434

TRC
Customer-Focused Solutions

December 22, 2003

Project No. 41-0362-04

Tesoro Refining and Marketing Company
3450 South 344th Way, Suite 100
Auburn, WA 98001-5931

ATTN: MR. JEFFREY BAKER

SITE: TESORO STATION 67076
1619 WEST FIRST STREET
LIVERMORE, CALIFORNIA

RE: MONITORING WELL INSTALLATION REPORT

Dear Mr. Baker:

TRC submits this Monitoring Well Installation Report for Tesoro Station 67076, located at 1619 West First Street, in Livermore, California. This work was performed in accordance with Alameda County Dept. of Health Services and California Regional Water Quality Control Board San Francisco Bay Region requirements and the Well Installation Work Plan created by Doulos Environmental Inc. dated April 17, 2001.

If you have any questions regarding this report, please call me at (925) 688-1200.

Sincerely,
TRC

for
Mark Trevor
Senior Staff Geologist

Enclosures

5052 Commercial Circle • Concord, California 94520-1248
Telephone 925-688-1200 • Fax 925-688-0388

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MONITORING WELL INSTALLATION REPORT

Tesoro Station 67076
Livermore, California

Prepared For:

Tesoro Refining and Marketing Company

By:

TRC
5052 Commercial Circle
Concord, California 94520

December 2003

TRC
Customer-Focused Solutions

MONITORING WELL INSTALLATION REPORT

December 22, 2003

Tesoro Station 67076
1619 West First Street
Livermore, California

TRC Project No. 41-036204

Prepared For:

Tesoro Refining and Marketing Company
3450 South 344th Way, Suite 100
Auburn, WA 98001-5931

By:

for
Mark Trevor
Staff Geologist

Amy Wilson, P.E.
Senior Project Engineer

TRC
5052 Commercial Circle
Concord, California
(925) 688-1200

TABLE OF CONTENTS

1.0 INTRODUCTION

On behalf of Tesoro Refining and Marketing Company (Tesoro), TRC submits this Monitoring Well Installation Report for Tesoro Station 67076, located at 1619 West First Street, in Livermore, California (Figure 1). Alameda County Dept. of Health Services and California Regional Water Quality Control Board San Francisco Bay Region requirements and the Well Installation Work Plan created by Doulos Environmental Inc. dated April 17, 2001.

The purpose of the report is to determine the lateral extent of petroleum hydrocarbons. This report documents the results from the installation of three on-site monitoring wells.

2.0 SITE DESCRIPTION

Geography

The site is located within a commercial district at the intersection of First Street and South P Street in Livermore, California (Figure 2). The elevation at the site is approximately 480 feet above mean sea level.

Present Site Use

The site is currently an active retail service station. Ultramar, formerly Beacon Oil Company, sold the station in May 2002 to Tesoro Refining and Marketing Company. In December 2002 Tesoro sold the property to Green Valley LLC, but retained responsibility for the cleanup.

Adjacent Properties

The adjacent properties are principally utilized for commercial purposes. Surrounding properties include a Fosters Freeze Restaurant to the west, a Hollywood Video to the north, a Safeway to the east, and a residence to the south (Doulos, 2001).

Geology

The site is located in the lowland area at the center of Livermore. It is underlain by Quaternary alluvial deposits that consist of unconsolidated gravel, sand, silt, and clay.

Hydrogeology

Prior to field activity, there were seven groundwater monitoring wells at the site. The depth to groundwater measured at these wells in June 2003 ranged from 31 to 34 fbg. The pattern of groundwater flow regionally and beneath the site is toward the west with a gradient of 0.002 foot per foot (TRC,2003).

3.0 SITE ASSESSMENT ACTIVITIES

3.1 PRE-FIELD ACTIVITIES

Well installation permit applications were filed with the Alameda County Flood Control and Water Conservation District prior to drilling activities. An encroachment permit was obtained from the City of Livermore. Additionally, a right of entry agreement was established with the property owner. Copies of the permits are provided in Appendix A. Underground Service Alert (USA) was contacted a minimum of two days before field activities to identify the locations of underground utilities relative to the proposed drilling locations.

3.2 DRILLING AND SOIL SAMPLING

On September 2, 2003 a truck-mounted, hollow-stem auger drill rig equipped with 8-inch hollow stem augers was used to drill and construct three groundwater monitoring wells (MW-8, MW-9 and MW-10) to an approximate depth of 45 feet below grade (fbg). The locations of the monitoring wells are shown on Figure 2.

Soil samples for soil characterization were collected at 5-foot depth intervals for all monitoring wells. All samples were collected by advancing a split-spoon sampler, equipped with brass sleeves, into the soil beyond the tip of the augers. Each soil sample was screened on-site with a portable photoionization detector (PID). Copies of the boring logs are provided in Appendix B. A description of general field procedures is provided in Appendix C.

Two soil samples were collected from MW-8, MW-9 and MW-10 for laboratory analysis. The two soil samples for each site were appropriately preserved under chain-of-custody protocol to ensure continuous record of sample possession, and submitted to a state-certified laboratory for the following analysis:

- total petroleum hydrocarbons as gasoline (TPH-G) using EPA Method 8260B
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX), using EPA Method 8260B
- methyl tertiary butyl ether (MTBE) using EPA method 8260B

Laboratory analytical results for soil are shown in Table 1.

3.3 MONITORING WELL INSTALLATION

Each well was completed with 2-inch diameter polyvinyl chloride (PVC) riser and screen (0.020-inch slot). MW-8, MW-9 and MW-10 were completed to 45 fbg. The annular space around each well screen was filled with a filter pack composed of #3 Monterey sand. The sand filter pack extended two feet above the slotted screen interval. A 3-foot thick bentonite seal was placed above the filter pack and a cement grout seal was then placed above the bentonite seal to the ground surface. The wells were completed flush to the ground surface using water tight, traffic-rated well boxes.

The monitoring wells were developed on September 5, 2003, by a combination of surging and bailing. Prior to the well development, the depth to water was measured in each well using an electronic water level sounder. The wells were then surged by moving a surge block repeatedly up and down within the water column. The saturated zone was surged, two feet at a time, for a total of two minutes at each 2-foot interval. The wells were then bailed using a two-inch diameter steel bailer. Approximately 54 gallons of water was removed from the wells and temporarily stored on site in DOT-approved 55-gallon drums.

3.4 GROUNDWATER SAMPLING

Monitoring wells MW-8, MW-9 and MW-10 were subsequently sampled on September 5, 2003. Prior to sampling, an electronic water level sounder was used to gauge the groundwater level from the top of the PVC casing, in each new well. A minimum of three well volumes was purged from each well, using an electric submersible pump. The generated purge water was temporarily stored on site in DOT-approved 55-gallon drums. During purging, the water quality parameters of temperature, pH, and specific conductivity were monitored after each well volume was removed.

Water samples were collected using a disposable polyethylene bailer. The samples were appropriately preserved, and submitted to a state-certified laboratory under chain-of-custody protocol to be analyzed for the following:

- TPH-G using EPA Method 8260B
- BTEX using EPA Method 8260B
- MTBE using EPA Method 8260B

Laboratory analytical results for groundwater are shown in Table 2.

3.5 LABORATORY ANALYTICAL RESULTS

This section discusses the analytical results of soil and groundwater samples collected during drilling and sampling activities. Analytical results of soil and groundwater samples are presented in Tables 1 and 2, respectively. Copies of the laboratory analytical reports and chain-of-custody documentation are provided in Appendix D.

Soil Results

TPH-G, BTEX and MTBE were not detected in any of the soil samples collected from monitoring wells MW-8, MW-9 and MW-10. In all cases, the samples were collected from approximately 10 and 30 fbg.

Groundwater Results

TPH-G, BTEX and MTBE were not detected in the groundwater samples collected from monitoring wells MW-8 and MW-10.

At MW-9 MTBE was detected at 10 micrograms per liter and TPH-g was detected at 3,400 micrograms per liter. BTEX was also detected at MW-9. The distribution of dissolved-phase hydrocarbons in groundwater at the new wells is shown in Figure 3.

3.6 WASTE DISPOSAL

Purge water, soil cuttings and equipment rinsate generated during drilling and sampling activities were temporarily stored onsite in DOT-approved 55-gallon drums pending transportation to an approved waste disposal facility.

3.7 MONITORING WELL SURVEY

Monitoring wells MW-8, MW-9 and MW-10 were surveyed by a California licensed professional surveyor on October 3, 2003. Survey results are provided in Appendix E.

4.0 CONCLUSIONS

Based on the data obtained during this investigation, the following conclusions are made:

- The groundwater concentrations of MTBE, TPH-g and benzene in well MW-9 are consistent with findings from previous quarterly groundwater monitoring events: An area of relatively high hydrocarbon concentrations exists northwest of the site.

5.0 RECOMENDATIONS

Based on the information obtained and data reviewed, TRC makes the following recommendations:

- Add wells MW-8, MW-9 and MW-10 to the quarterly monitoring and sampling program.

6.0 REFERENCES

Doulos Environmental, 2001, *Workplan for Additional Subsurface Assessment Activities,* Beacon Station Number 3604, 1619 West First Street, Livermore California.

TRC, 2003, *Second Quarter2003 Groundwater Monitoring Report,* Tesoro 67076, 1619 West First Street, Livermore California.

Table 1
Summary of Soil Chemical Analysis
Tesoro 67076 - Livermore

Soil Sample	Date	Sample Depth (feet)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)
MW-8	09/02/03	5.5	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050
		30	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050
MW-9	09/03/03	10.0	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050
		30	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050
MW-10	09/02/03	5.0	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050
		30	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050

NOTES:

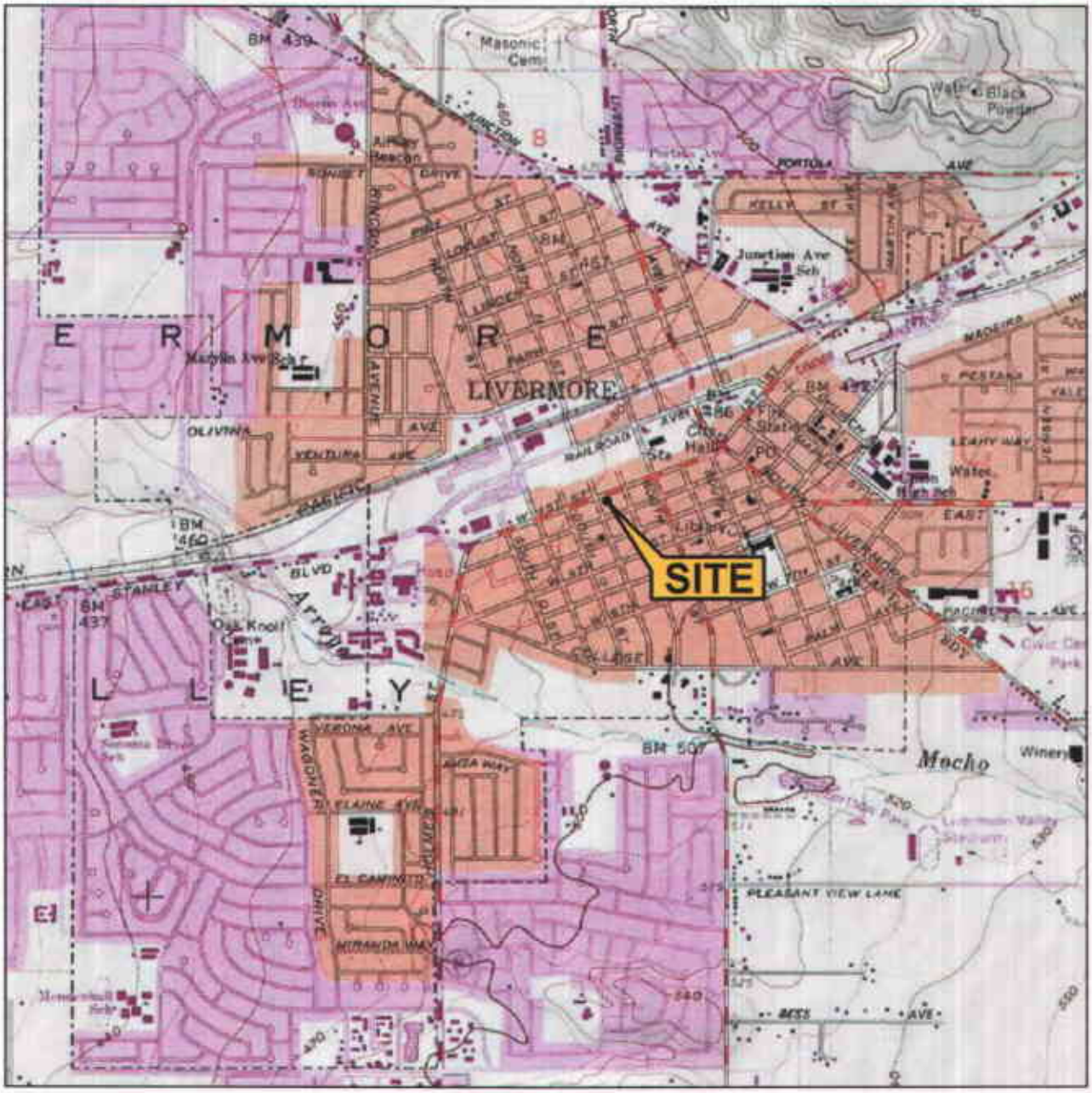
TPH-G = total petroleum hydrocarbons as gasoline
MTBE = methyl tert butyl ether
DIPE= DI isopropyl ether
ETBE= Ethyl-t-butyl ether
TAME= Tert-amyl methyl ether
mg/kg = milligrams per kilogram
ND = not detected at or above the stated method detection limit

Table 2
Summary of Groundwater Sample Analysis
Tesoro 67076 - Livermore

Sample ID	Date	Depth to Water (feet)	TPH-G (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)
MW-8	09/05/03	32.00	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW- 9	09/05/03	32.00	3,400	23.0	1.5	110.0	10.0	10
MW-10	09/05/03	32.00	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

NOTES:

TPH-G = total petroleum hydrocarbons as gasoline
MTBE = Methyl tert butyl ether
ETBE = Ethyl-t-butyl ether
DIPE = Di-isopropyl ether
TAME = Tert-amyl methyl ether
µg/l = micrograms per liter
ND = not detected at or above the stated method detection limit



1 MILE 3/4 1/2 1/4 0 1 MILE

SCALE 1 : 24,000

N

SOURCE:
United States Geological Survey
7.5 Minute Topographic Maps:
Livermore Quadrangle

VICINITY MAP

Tesoro Station No. 67076
(Former Beacon Station No. 3604)
1619 West First Street
Livermore, California

TRC

FIGURE 1

MW-9

SAFEWAY
PARKING
LOT

MW-8

HOLLYWOOD
VIDEO

MW-5

MW-10

MW-6

SOUTH P STREET

FIRST STREET

ADOBE PET
HOSPITAL

FOSTERS
FREEZE
RESTAURANT

MW-7

N

DRIVEWAY

DRIVEWAY

MW-2

MW-3

MW-4

VW-2

FORMER
USTs

DISPENSER
ISLANDS

CANOPY

DRIVEWAY

AIR/WATER

VW-3

VW-1

APPROXIMATE SCALE (FEET)

0 40 80

MW-1

STATION
BUILDING

TRASH

EXISTING
USTs

FORMER
WASTE OIL
TANK

RESIDENCE

LEGEND

Property line

Groundwater monitoring well

Vapor extraction well

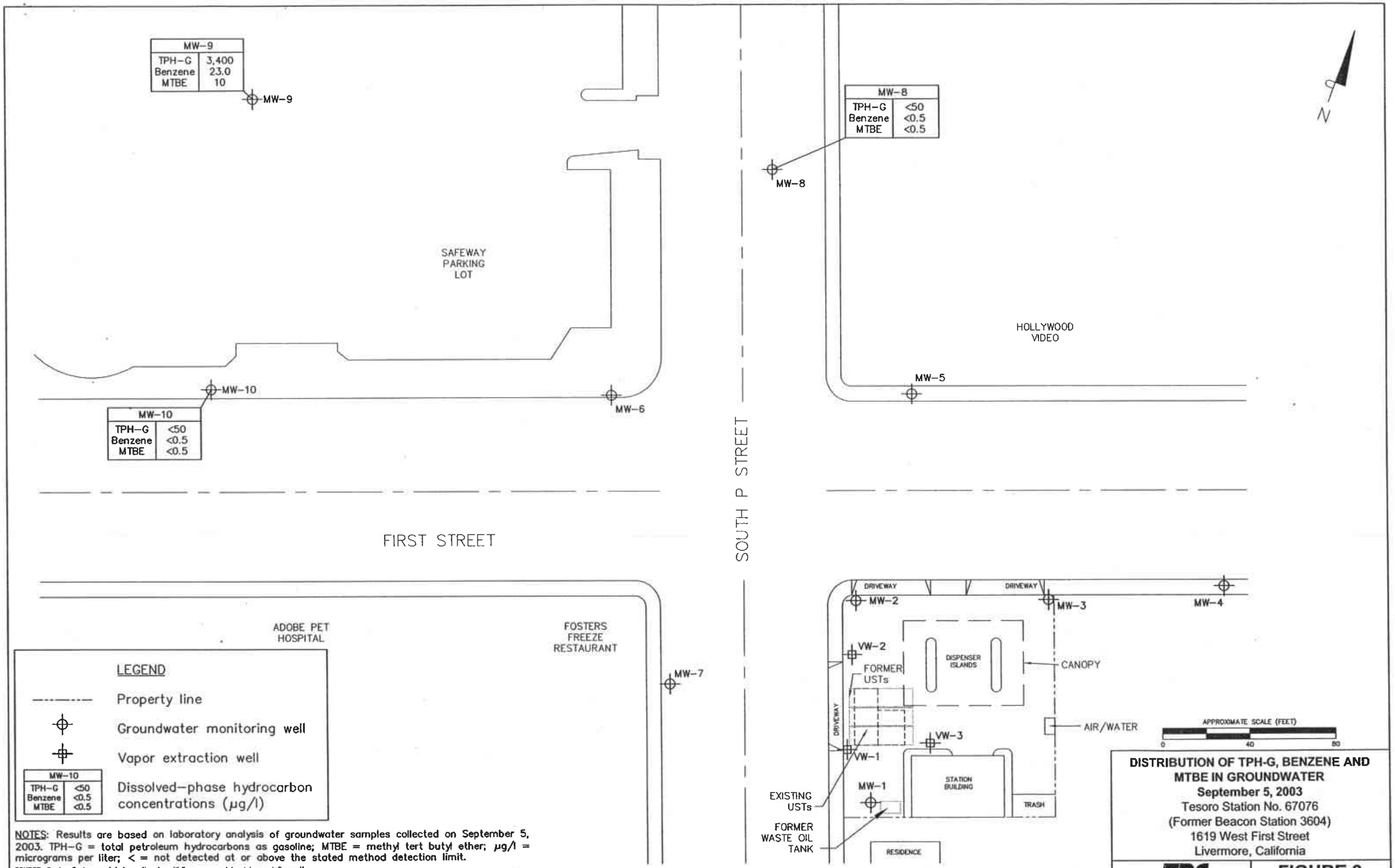
SOURCE: Doulos Environmental, Inc. site plan. Wells resurveyed by Advanced Geomatic Engineering on 1/22/02. MW-8, MW-9, MW-10 installed on September 2, 2003.

SITE PLAN

Tesoro Station No. 67076
(Former Beacon Station 3604)
1619 West First Street
Livermore, California

TRC

FIGURE 2



NOTES: Results are based on laboratory analysis of groundwater samples collected on September 5, 2003. TPH-G = total petroleum hydrocarbons as gasoline; MTBE = methyl tert butyl ether; µg/l = micrograms per liter; < = not detected at or above the stated method detection limit.

SOURCE: Doulos Environmental, Inc. site plan. Wells resurveyed by Advanced Geomatic Engineering on 1/22/02. MW-8, MW-9, MW-10 installed on September 2, 2003.

DISTRIBUTION OF TPH-G, BENZENE AND MTBE IN GROUNDWATER
September 5, 2003
Tesoro Station No. 67076
(Former Beacon Station 3604)
1619 West First Street
Livermore, California

TRC

FIGURE 3

APPENDIX A

DRILLING PERMITS AND ENCROACHMENT PERMIT

City of Livermore

Community Development Department
1052 S. Livermore Avenue
Livermore, CA 94550
(925) 960-4500

Encroachment
Permit No. EN030425
DevFrtlm

PERMIT TO DO WORK IN ACCORDANCE WITH CHAPTER 12.08 OF THE LIVERMORE MUNICIPAL CODE AND SPECIFICATIONS AS ADOPTED BY THE CITY OF LIVERMORE AND ANY SPECIAL REQUIREMENTS SHOWN OR LISTED HEREIN.

Permit Fee:	$27.00
Inspection Fee:	$23.00
Bond:	$0.00
Total:	*$50.00*

Applicant/Permittee:
Name: TRC
Address: 5052 COMMERCIAL CIRCLE
CONCORD CA, 94536
Phone: 925-688-1200

Contractor:
Name: RESONANT SONIC
Address: 220 N. EAST STREET
WOODLAND CA 95776
Phone: 530 668 2424

PLEASE READ THIS PERMIT CAREFULLY. KEEP IT AT THE WORK SITE. TO ARRANGE FOR AN INSPECTION, PHONE (925) 960-4500 AT LEAST 24 HOURS BEFORE YOU START WORK.

JOB LOCATION: ***East side "P" St. 50 feet N/O First St.***
DESCRIPTION OF WORK: ***Boring for ground water monitoring well. Well to be finished with an flush mounted utility box with traffic rated lid. Maintain an adequate saftey zone for pedestrian traffic.*** WORK TO BE CONDUCTED BETWEEN THE HOURS OF 9:00 A.M. & 3:00 PM

Length of Excavation: _ L.F. **Width:** 8 inches L.F. **Depth:** 100 feet L.F.

Attention is directed to the General Provisions printed on the reverse side of this permit and to the attached special requirements (to be determined as needed by the Engineering Division).

Prosecution of Work: All work authorized by the permit shall be performed in a workmanlike, diligent, and expeditious manner, and must be completed to the satisfaction of the Director of Public Works.

Liability and Damages: The permittee shall be responsible for all liability imposed by law for personal injury or property damage which may arise out of the work permitted and done by permittee under this permit, or which may arise out of the failure on the part of the permittee to perform his obligations under said permit in respect to maintenance and encroachment. The permittee shall protect and indemnify the City of Livermore, its officers and employees, and save them harmless in every way from all action at law for damage or injury to persons or property that may arise out of or be occasioned in any way because of his operations as provided in this permit.

Signature of Permittee:

By: _____

Date: 8/29/03

City Engineer

By: _____

Date of Issue: 8-29-03

Work Completed:

Date: _____

Inspector: _____

City of Livermore

Encroachment Permit No. EN030425

Community Development Department
1052 S. Livermore Avenue
Livermore, CA 94550
(925) 960-4500

SPECIAL REQUIREMENTS APPLICABLE TO WORK ASSOCIATED WITH

JOB LOCATION: East side "P" St. 50 feet N/O First St.

DESCRIPTION OF WORK: Boring for ground water monitoring well. Well to be finished with an flush mounted utility box with traffic rated lid. Maintain an adequate saftey zone for pedestrian traffic

1: Pedestrian access must be maintained at all times, including if necessary, escorting pedestrians through the work area.

2: See Attached Drawing/Plans

3: Contractor shall repair/replace all damaged curb, gutter and sidewalk damaged as a result of current work being completed per the City Livermore Standard Details.

4: No drilling is permitted in areas with bluestone paving

5: All lane closures/ traffic control shall be done per Cal Trans Standards.

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588-5127 VOICE (925) 484-2600 X235 FAX (925) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1619 West First St. Livermore, CA.

California Coordinates Source _____ Accuracy± _____ ft.
CCN _____ ft. CCE _____ ft.
APN 97-9-3-7

CLIENT
Name Tesoro Refining
Address 3450 South 344th Way Phone (925) 628-2480
City Auburn, WA Zip 98001

APPLICANT
Name TRC
Fax (925) 688-3300
Address 5052 Commerce Cir. Phone (925) 688-2436
City Concord Zip 94520

TYPE OF PROJECT:
Well Construction X
Well Destruction
Cathodic Protection
Geotechnical Investigation
Contamination Investigation
Other

PROPOSED WELL USE:
Domestic
Municipal
Industrial
Dewatering
Irrigation
Remediation
Groundwater Monitoring X
Other

DRILLING METHOD:
Mud Rotary
Cable Tool
Air Rotary
Direct Push
Hollow Stem Auger X
Other

DRILLING COMPANY Woodward Drilling Co
DRILLER'S LICENSE NO. 710079

WELL SPECIFICATIONS:
Drill Hole Diameter 4 in. Maximum
Casing Diameter 2 in. Depth 45 ft.
Surface Seal Depth 25 ft. Number 3

SOIL BORINGS:
Number of Borings _____ Maximum
Hole Diameter _____ in. Depth _____ ft.

ESTIMATED STARTING DATE 9/2/03
ESTIMATED COMPLETION DATE 9/3/03

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

APPLICANT'S SIGNATURE [signature] Date 8/22/03

ATTACH SITE PLAN OR SKETCH

FOR OFFICE USE

PERMIT NUMBER 23110
WELL NUMBER 3S/2E 17B74 - 17B76
APN 097 0009 003 07

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 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 diameter is four inches greater than the well casing diameter.
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.
3. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

(C.) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

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:, Submit to Zone 7 within 60 days after completion of permitted work the well installation report **including all soil and water laboratory analysis results.**

Approved [signature] Wyman Hong Date 8/25/03

APPENDIX B

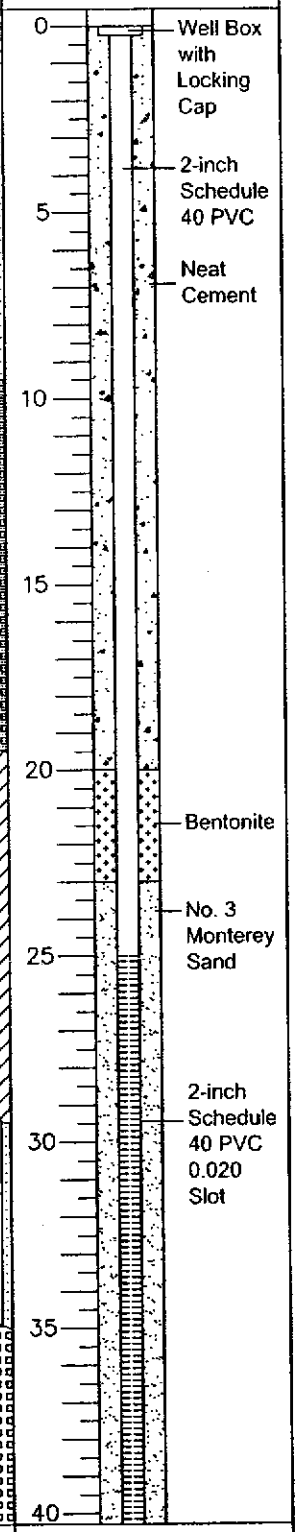
GEOLOGIC BORING LOGS
AND
WELL CONSTRUCTION DIAGRAMS

PROJECT NO.: 41-0362-04	DATE DRILLED: 9/2/03	NORTHING: NA
LOCATION: Tesoro 67076	LOGGED BY: J. Hunter	EASTING: NA
1619 West First St.	APPROVED BY: D. Padgett, RG	TOP OF CASING ELEVATION: 471.34 feet
Livermore, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 8-inch Hollow-Stem Auger
SAMPLER TYPE: 2-inch Split Spoon
TOTAL DEPTH: 45.0 feet
DEPTH TO WATER: 32.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hole clearance to 5 fbg.		
0	16 20 22	1.5/ 1.5		5	GRAVELLY SAND (SW): Grayish brown (10YR 5/2), 60% fine to coarse sand, 40% rounded gravel, very dense, damp.	SW	
0	50	0.5/ 1.5		10	SANDY GRAVEL (GW): Grayish brown (10YR 5/2), 30% fine to coarse sand, 70% rounded gravel, very dense, dry.	GW	
NA	50	0.5/ 1.5		15			
0	7 7 15	1.5/ 1.5		20	SILTY CLAY (CL): Brown (10YR 5/3), 30% silt, 50% clay, 20% rounded gravel, very stiff, dry.	CL	
0	10 11 20	1.5/ 1.5		25	- @ 25': no gravel.		
0	17 21 35	1.5/ 1.5		30	SILTY SAND (SM): Yellowish brown (10YR 5/4), 30% silt, 70% fine sand, very dense, moist.	SM ▽	
0	25 50	1.0/ 1.5		35	SANDY GRAVEL (GP): Yellowish brown (10YR 5/4), 40% fine to coarse sand, 60% rounded gravel, very dense, wet.	GP	
				40			

WELL CONSTRUCTION DETAIL



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MONITORING WELL INSTALLATION LOG

MW-8
PAGE 1 OF 2

PROJECT NO.: 41-0362-04
LOCATION: Tesoro 67076
1619 West First St.
Livermore, California

DATE DRILLED: 9/2/03
LOGGED BY: J. Hunter
APPROVED BY: D. Padgett, RG
DRILLING CO.: Woodward Drilling

NORTHING: NA
EASTING: NA
TOP OF CASING ELEVATION: 471.34 feet

DRILLING METHOD: 8-inch Hollow-Stem Auger
SAMPLER TYPE: 2-inch Split Spoon
TOTAL DEPTH: 45.0 feet
DEPTH TO WATER: 32.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY	WELL CONSTRUCTION DETAIL
NA	50	0.5/1.5		40	SANDY GRAVEL (GP) (continued), wet.	GP		2-inch Schedule 40 PVC 0.020 Slot; No. 3 Monterey Sand; End Cap
				45				
				50				
				55				
				60				
				65				
				70				
				75				
				80				

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MONITORING WELL INSTALLATION LOG

MW-8

PROJECT NO.: 41-0362-04
LOCATION: Tesoro 67076
1619 West First St.
Livermore, California

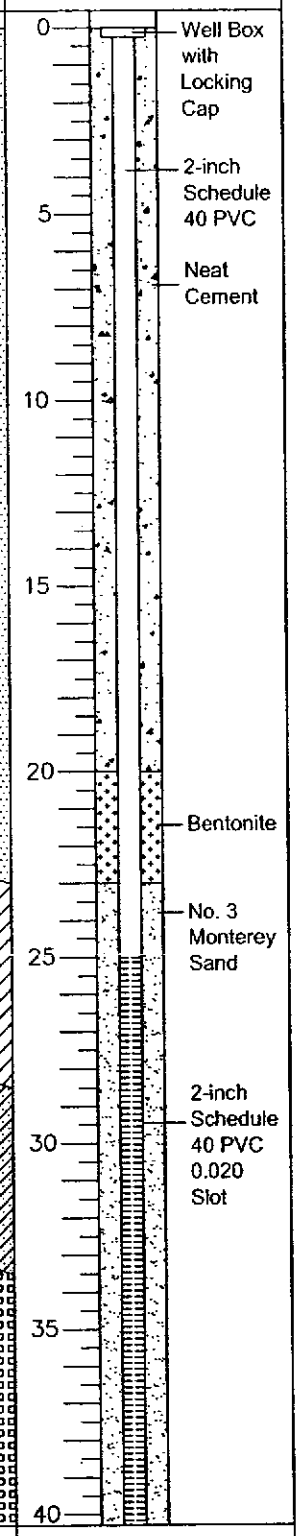
DATE DRILLED: 9/3/03
LOGGED BY: J. Hunter
APPROVED BY: D. Padgett, RG
DRILLING CO.: Woodward Drilling

NORTHING: NA
EASTING: NA
TOP OF CASING ELEVATION: 470.93 feet

DRILLING METHOD: 8-inch Hollow-Stem Auger
SAMPLER TYPE: 2-inch Split Spoon
TOTAL DEPTH: 45.0 feet
DEPTH TO WATER: 31.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hole clearance to 5 fbg. GRAVELLY SAND (SW): Grayish brown (10YR 5/2), 60% fine to coarse sand, 40% rounded gravel, very dense, dry.		
0	50	0.0/ 1.5		5			
0	50	0.5/ 1.5		10		SW	
0	23 50	1.0/ 1.5		15			
0	50	0.5/ 1.5		20			
					SILTY CLAY WITH GRAVEL (CL): Yellowish brown (10YR 5/4), 30% silt, 50% clay, 20% gravel, hard, damp.		
0	50	0.5/ 1.5		25		CL	
					CLAYEY SAND (SC): Yellowish brown (10YR 5/4), 30% silt/clay, 70% fine sand, medium dense, moist to wet.		
0	4 5 10	1.5/ 1.5		30		SC ▽	
					GRAVELLY SAND WITH CLAY (GP): 15% clay, 45% fine to coarse sand, 40% gravel, very dense, wet.		
3.7	50	0.5/ 1.5		35		GP	
				40			

WELL CONSTRUCTION DETAIL



TRC

MONITORING WELL INSTALLATION LOG

MW-9

PROJECT NO.: 41-0362-04	DATE DRILLED: 9/3/03	NORTHING: NA
LOCATION: Tesoro 67076	LOGGED BY: J. Hunter	EASTING: NA
1619 West First St.	APPROVED BY: D. Padgett, RG	TOP OF CASING ELEVATION: 470.93 feet
Livermore, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 8-inch Hollow-Stem Auger
SAMPLER TYPE: 2-inch Split Spoon
TOTAL DEPTH: 45.0 feet
DEPTH TO WATER: 31.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY	WELL CONSTRUCTION DETAIL
9.6	22 50	1.0/ 1.5		40	GRAVELLY SAND WITH CLAY (GP) (continued).	GP		2-inch Schedule 40 PVC 0.020 Slot; No. 3 Monterey Sand; End Cap
				45				
				50				
				55				
				60				
				65				
				70				
				75				
				80				

TRC

MONITORING WELL INSTALLATION LOG

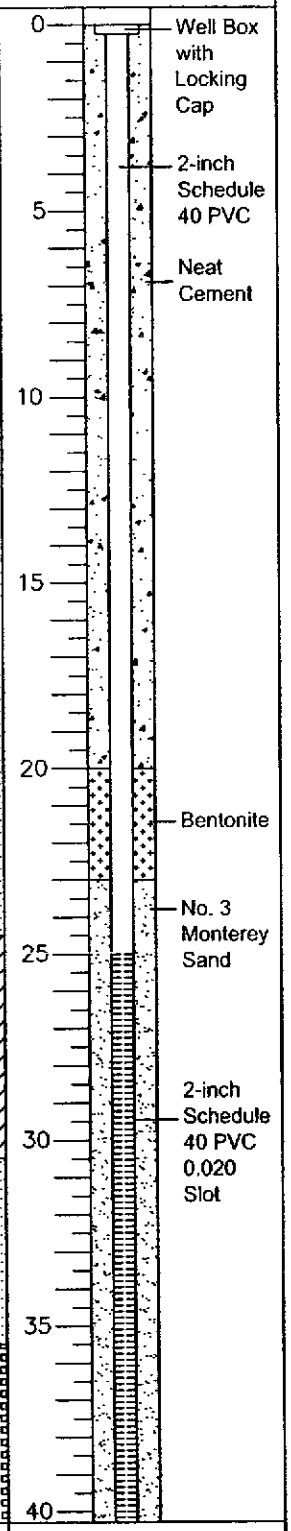
MW-9

PROJECT NO.: 41-0362-04	DATE DRILLED: 9/2/03	NORTHING: NA
LOCATION: Tesoro 67076	LOGGED BY: J. Hunter	EASTING: NA
1619 West First St.	APPROVED BY: D. Padgett, RG	TOP OF CASING ELEVATION: 471.79 feet
Livermore, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 8-inch Hollow-Stem Auger
SAMPLER TYPE: 2-inch Split Spoon
TOTAL DEPTH: 45.0 feet
DEPTH TO WATER: 32.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Hole clearance to 5 fbg.		
NA	15 20 25	0.5/ 1.5		5	GRAVELLY SAND (SW): Grayish brown (10YR 5/2), 60% fine to coarse sand, 40% rounded gravel, very dense, dry.		
NA	50	0.5/ 1.5		10		SW	
	50	0.5/ 1.5		15			
	39 50	1.0/ 1.5		20			
	35 50	1.0/ 1.5		25	SILTY CLAY WITH GRAVEL (CL): Brown (10YR 5/3), 30% silt, 50% clay, 20% rounded gravel, hard, damp.	CL	
	35 50	1.0/ 1.5		30	CLAYEY SAND WITH GRAVEL (SM): Yellowish brown (10YR 5/3), 20% clay, 50% fine to coarse sand, 30% rounded gravel, very dense, moist.	SM	
	39 50	1.0/ 1.5		35	SANDY GRAVEL (GP): Yellowish brown (10YR 5/3), trace clay, 30% fine to coarse sand, 70% gravel, very dense, wet.	GP	
				40			

WELL CONSTRUCTION DETAIL



TRC

MONITORING WELL INSTALLATION LOG

MW-10

PROJECT NO.: 41-0362-04	DATE DRILLED: 9/2/03	NORTHING: NA
LOCATION: Tesoro 67076	LOGGED BY: J. Hunter	EASTING: NA
1619 West First St.	APPROVED BY: D. Padgett, RG	TOP OF CASING ELEVATION: 471.79 feet
Livermore, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 8-inch Hollow-Stem Auger
SAMPLER TYPE: 2-inch Split Spoon
TOTAL DEPTH: 45.0 feet
DEPTH TO WATER: 32.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY	WELL CONSTRUCTION DETAIL
	31 50	1.0/ 1.5		40	SANDY GRAVEL (GP) (continued).	GP		2-inch Schedule 40 PVC 0.020 Slot; No. 3 Monterey Sand; End Cap
				45				
				50				
				55				
				60				
				65				
				70				
				75				
				80				

TRC

MONITORING WELL INSTALLATION LOG

MW-10
PAGE 2 OF 2

APPENDIX C

GENERAL FIELD PROCEDURES

GENERAL FIELD PROCEDURES

A description of the general field procedures used during site investigation and monitoring activities is presented below. For an overview of protocol, refer to the appropriate section(s).

DRILLING AND SOIL SAMPLING

Soil borings are drilled using continuous-flight, hollow-stem augers. Borings that are not completed as monitoring wells are grouted to within 5 feet of the ground surface with a cement/bentonite slurry. The remaining 5 feet is filled with concrete.

Soil samples are obtained for soil description, field hydrocarbon vapor screening, and possible laboratory analysis. Soil samples are retrieved from the borings by one of two methods: 1) continuously, using a 5-foot-long, continuous-core barrel sampler advanced into the soil with the lead auger; sample tubes are driven into the core with a mallet, or 2) at 2.5- or 5-foot intervals, using a standard split-spoon sampler lined with four 1.5-inch-diameter stainless steel or brass sample inserts. The split-spoon sampler is driven approximately 18 inches beyond the lead auger with a 140-pound hammer dropped from a height of 30 inches.

For hand auger borings and hand-held, power-driven auger borings, soil samples are retrieved using a hand-driven slide hammer lined with a 1.5-inch-diameter stainless steel sample tube.

During drilling activities, soil adjacent to the laboratory sample is screened for combustible vapors using a combustible gas indicator (CGI) or equivalent field instrument. For each hydrocarbon vapor screening event, a 6-inch-long by 2.5-inch-diameter sample insert is filled approximately 1/3 full with the soil sample, capped at both ends, and shaken. The probe is then inserted through a small opening in the cap, and a reading is taken after approximately 15 seconds and recorded on the boring log. The remaining soil recovered is removed from the sample insert or sampler, and described in accordance with the Unified Soil Classification System. For each sampling interval, field estimates of soil type, density/consistency, moisture, color, and grading are recorded on the boring logs.

SOIL SAMPLE HANDLING

Upon retrieval, soil samples are immediately removed from the sampler, sealed with Teflon sheeting and polyurethane caps, and wrapped with tape. Each sample is labeled with the project number, boring/well number, sample depth, geologist's initials, and date of collection. After the samples have been labeled and documented in the chain of custody record, they are placed in a cooler with ice at approximately 4 degrees Celsius (□C) prior to and during transport to a state-certified laboratory for analysis. Samples

not selected for immediate analysis may be transported in a cooler with ice and archived in a frostless refrigerator at approximately 4□C for possible future testing.

MONITORING WELL INSTALLATION

Monitoring wells are constructed of 4-inch-diameter, flush-threaded Schedule 40 PVC blank and screened (0.020-inch slot size) casing. Where possible, the screened interval will extend at least 10 feet above, and 10 to 20 feet below, the top of the groundwater table. The annular space surrounding the screened casing is backfilled with No. 3 Monterey sand (filter pack) to approximately 2 feet above the top of the screened section.

During well construction, the filter pack is completed by surging with a rig-mounted surge block. A 3-foot-thick bentonite annular seal is placed above the filter pack. The remaining annular space is grouted with Portland cement and/or bentonite grout to the surface. Utility access boxes are installed slightly above grade. Locking, watertight caps are installed to prevent unauthorized access to the well, and limit infiltration of surface fluids.

FLUID LEVEL MONITORING

Fluid levels are monitored in the wells using an electronic interface probe with conductance sensors. The presence of liquid-phase hydrocarbons is verified using a hydrocarbon-reactive paste. The depth to liquid-phase hydrocarbons and water is measured relative to the well box top or top of casing. Well boxes or casing elevations are surveyed to within 0.02 foot relative to a county or city bench mark.

GROUNDWATER PURGING AND SAMPLING

Groundwater monitoring wells are purged and sampled in accordance with standard regulatory protocol. Typically, monitoring wells that contain no liquid-phase hydrocarbons are purged of groundwater prior to sampling so that fluids sampled are representative of fluids within the formation. Temperature, pH, and specific conductance are typically measured after each well casing volume has been removed. Purging is considered complete when these parameters vary less than 10% from the previous readings, or when four casing volumes of fluid have been removed. Samples are collected without further purging if the well does not recharge within 2 hours to 80% of its volume before purging.

The purged water is either pumped directly into a licensed vacuum truck or temporarily stored in labeled drums prior to transport to an appropriate treatment or recycling facility. If an automatic recovery system (ARS) is operating at the site, purged water may be pumped into the ARS for treatment.

Groundwater samples are collected by lowering a 1.5-inch-diameter, bottom-fill, disposable polyethylene bailer just below the static water level in the well. The samples are carefully transferred from the check-valve-equipped bailer to 1-liter and 40-milliliter

glass containers. The sample containers are filled to zero headspace and fitted with Teflon-sealed caps. Each sample is labeled with the project number, well number, sample date, and sampler's initials. Samples remain chilled at approximately 4□C prior to analysis by a state-certified laboratory.

CHAIN OF CUSTODY PROTOCOL

Chain of custody protocol is followed for all soil and groundwater samples selected for laboratory analysis. The chain of custody form(s) accompanies the samples from the sampling locality to the laboratory, providing a continuous record of possession prior to analysis.

DECONTAMINATION

Drilling and Soil Sampling

Drilling equipment is decontaminated by steam cleaning before being brought onsite. The augers are also steam cleaned before each new boring is commenced. Prior to use, the sampler and sampling tubes are brush-scrubbed in a Liqui-nox and potable water solution and rinsed twice in clean potable water. Sampling equipment and tubes are also decontaminated before each sample is collected to avoid cross-contamination between borings.

Groundwater Sampling

Purging and sampling equipment that could contact well fluids is either dedicated to a particular well or cleaned prior to each use in a Liqui-nox solution followed by two tap water rinses.

APPENDIX D

LABORATORY REPORTS

KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Mark Trevor
TRC Alton Geoscience
5052 Commercial Circle
Concord, CA 94520

Subject : 6 Soil Samples and 3 Water Samples
Project Name : Beacon #3604 (Former)
Project Number : 41036204 TA07

Dear Mr. Trevor,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Jeff Dahl

KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW8-5.5** Matrix : Soil Lab Number : 34832-01

Sample Date :9/2/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methanol	**< 0.20**	0.20	mg/Kg	EPA 8260B	9/13/2003
Ethanol	**< 0.010**	0.010	mg/Kg	EPA 8260B	9/13/2003
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	9/13/2003
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	9/13/2003
4-Bromofluorobenzene (Surr)	99.8		% Recovery	EPA 8260B	9/13/2003

Approved By: Jeff Dahl

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW8-30** Matrix : Soil Lab Number : 34832-06
Sample Date :9/2/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methanol	**< 0.20**	0.20	mg/Kg	EPA 8260B	9/13/2003
Ethanol	**< 0.010**	0.010	mg/Kg	EPA 8260B	9/13/2003
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	9/13/2003
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	9/13/2003
4-Bromofluorobenzene (Surr)	99.5		% Recovery	EPA 8260B	9/13/2003

Approved By: Jeff Dahl

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KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW9-10** Matrix : Soil Lab Number : 34832-09
Sample Date :9/3/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methanol	**< 0.20**	0.20	mg/Kg	EPA 8260B	9/13/2003
Ethanol	**< 0.010**	0.010	mg/Kg	EPA 8260B	9/13/2003
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	9/13/2003
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	9/13/2003
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	9/13/2003

Approved By: Jeff Dahl

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KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW9-30** Matrix : Soil Lab Number : 34832-13
Sample Date :9/3/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methanol	**< 0.20**	0.20	mg/Kg	EPA 8260B	9/13/2003
Ethanol	**< 0.010**	0.010	mg/Kg	EPA 8260B	9/13/2003
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	9/13/2003
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	9/13/2003
4-Bromofluorobenzene (Surr)	99.1		% Recovery	EPA 8260B	9/13/2003

Approved By: Jeff Dahl

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KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW10-5** Matrix : Soil Lab Number : 34832-16
Sample Date :9/2/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/14/2003
Methanol	**< 0.20**	0.20	mg/Kg	EPA 8260B	9/14/2003
Ethanol	**< 0.010**	0.010	mg/Kg	EPA 8260B	9/14/2003
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	9/14/2003
Toluene - d8 (Surr)	102		% Recovery	EPA 8260B	9/14/2003
4-Bromofluorobenzene (Surr)	98.2		% Recovery	EPA 8260B	9/14/2003

Approved By: Jeff Dahl

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KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW10-30** Matrix : Soil Lab Number : 34832-21
Sample Date :9/2/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/13/2003
Methanol	**< 0.20**	0.20	mg/Kg	EPA 8260B	9/13/2003
Ethanol	**< 0.010**	0.010	mg/Kg	EPA 8260B	9/13/2003
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	9/13/2003
Toluene - d8 (Surr)	101		% Recovery	EPA 8260B	9/13/2003
4-Bromofluorobenzene (Surr)	101		% Recovery	EPA 8260B	9/13/2003

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KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW-8** Matrix : Water Lab Number : 34832-24
Sample Date :9/5/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	9/10/2003
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	9/10/2003
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	9/10/2003
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	9/10/2003

Approved By: Jeff Dahl

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KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW-9** Matrix : Water Lab Number : 34832-25

Sample Date :9/5/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**23**	0.50	ug/L	EPA 8260B	9/10/2003
Toluene	**1.5**	0.50	ug/L	EPA 8260B	9/10/2003
Ethylbenzene	**110**	0.50	ug/L	EPA 8260B	9/10/2003
Total Xylenes	**10**	0.50	ug/L	EPA 8260B	9/10/2003
Methyl-t-butyl ether (MTBE)	**10**	0.50	ug/L	EPA 8260B	9/10/2003
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	9/10/2003
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	9/10/2003
TPH as Gasoline	**3400**	50	ug/L	EPA 8260B	9/10/2003
Toluene - d8 (Surr)	106		% Recovery	EPA 8260B	9/10/2003
4-Bromofluorobenzene (Surr)	107		% Recovery	EPA 8260B	9/10/2003

Approved By: Jeff Dahl

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

Report Number : 34832
Date : 9/15/2003

Project Name : **Beacon #3604 (Former)**
Project Number : **41036204 TA07**

Sample : **MW-10** Matrix : Water Lab Number : 34832-26

Sample Date :9/5/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	9/11/2003
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	9/11/2003
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	9/11/2003
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	9/11/2003
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	9/11/2003
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	9/11/2003
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	9/11/2003
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	9/11/2003
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	9/11/2003
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	9/11/2003
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	9/11/2003
4-Bromofluorobenzene (Surr)	104		% Recovery	EPA 8260B	9/11/2003

Approved By: Jeff Dahl

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 34832

Date : 9/15/2003

QC Report : Method Blank Data

Project Name : **Beacon #3604 (Former)**

Project Number : **41036204 TA07**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Diisopropyl ether (DIPE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Ethyl-t-butyl ether (ETBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Tert-amyl methyl ether (TAME)	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/12/2003
Methanol	< 0.20	0.20	mg/Kg	EPA 8260B	9/12/2003
Ethanol	< 0.010	0.010	mg/Kg	EPA 8260B	9/12/2003
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	9/12/2003
Toluene - d8 (Surr)	100		%	EPA 8260B	9/12/2003
4-Bromofluorobenzene (Surr)	99.8		%	EPA 8260B	9/12/2003
Benzene	< 0.50	0.50	ug/L	EPA 8260B	9/10/2003
Toluene	< 0.50	0.50	ug/L	EPA 8260B	9/10/2003
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	9/10/2003
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	9/10/2003
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	9/10/2003
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	9/10/2003
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	9/10/2003
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	9/10/2003
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	9/10/2003
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	9/10/2003
Toluene - d8 (Surr)	104		%	EPA 8260B	9/10/2003
4-Bromofluorobenzene (Surr)	107		%	EPA 8260B	9/10/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	9/11/2003
Toluene	< 0.50	0.50	ug/L	EPA 8260B	9/11/2003
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	9/11/2003
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	9/11/2003
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	9/11/2003
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	9/11/2003
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	9/11/2003
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	9/11/2003
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	9/11/2003
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	9/11/2003
Toluene - d8 (Surr)	104		%	EPA 8260B	9/11/2003
4-Bromofluorobenzene (Surr)	102		%	EPA 8260B	9/11/2003

Approved By: Jeff Dahl

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 34832

Date : 9/15/2003

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **Beacon #3604 (Former)**

Project Number : **41036204 TA07**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	34836-06	<0.0050	0.0400	0.0400	0.0342	0.0342	mg/Kg	EPA 8260B	9/12/03	85.4	85.6	0.205	70-130	25
Toluene	34836-06	<0.0050	0.0400	0.0400	0.0322	0.0320	mg/Kg	EPA 8260B	9/12/03	80.5	80.1	0.467	70-130	25
Tert-Butanol	34836-06	<0.0050	0.200	0.200	0.181	0.180	mg/Kg	EPA 8260B	9/12/03	90.5	89.9	0.676	70-130	25
Methyl-t-Butyl Ether	34836-06	<0.0050	0.0400	0.0400	0.0368	0.0366	mg/Kg	EPA 8260B	9/12/03	92.1	91.6	0.490	70-130	25
Benzene	34828-02	<0.50	40.0	40.0	38.4	37.5	ug/L	EPA 8260B	9/10/03	96.0	93.8	2.32	70-130	25
Toluene	34828-02	<0.50	40.0	40.0	41.0	40.1	ug/L	EPA 8260B	9/10/03	102	100	2.29	70-130	25
Tert-Butanol	34828-02	<5.0	200	200	188	196	ug/L	EPA 8260B	9/10/03	94.1	98.3	4.33	70-130	25
Methyl-t-Butyl Ether	34828-02	1.6	40.0	40.0	44.5	42.3	ug/L	EPA 8260B	9/10/03	107	102	5.22	70-130	25
Benzene	34832-26	<0.50	40.0	40.0	39.2	38.9	ug/L	EPA 8260B	9/11/03	98.1	97.2	0.845	70-130	25
Toluene	34832-26	<0.50	40.0	40.0	41.2	40.4	ug/L	EPA 8260B	9/11/03	103	101	1.84	70-130	25
Tert-Butanol	34832-26	<5.0	200	200	194	196	ug/L	EPA 8260B	9/11/03	97.3	98.2	0.957	70-130	25
Methyl-t-Butyl Ether	34832-26	<0.50	40.0	40.0	40.0	40.7	ug/L	EPA 8260B	9/11/03	100	102	1.71	70-130	25

Approved By: Jeff Dahl

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 34832

Date : 9/15/2003

QC Report : Laboratory Control Sample (LCS)

Project Name : **Beacon #3604 (Former)**

Project Number : **41036204 TA07**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	0.0386	mg/Kg	EPA 8260B	9/12/03	90.1	70-130
Toluene	0.0386	mg/Kg	EPA 8260B	9/12/03	90.8	70-130
Tert-Butanol	0.193	mg/Kg	EPA 8260B	9/12/03	88.1	70-130
Methyl-t-Butyl Ether	0.0386	mg/Kg	EPA 8260B	9/12/03	90.9	70-130
Benzene	40.0	ug/L	EPA 8260B	9/10/03	94.1	70-130
Toluene	40.0	ug/L	EPA 8260B	9/10/03	108	70-130
Tert-Butanol	200	ug/L	EPA 8260B	9/10/03	98.4	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	9/10/03	92.6	70-130
Benzene	40.0	ug/L	EPA 8260B	9/11/03	94.0	70-130
Toluene	40.0	ug/L	EPA 8260B	9/11/03	105	70-130
Tert-Butanol	200	ug/L	EPA 8260B	9/11/03	93.6	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	9/11/03	90.9	70-130

Approved By: Jeff Dahl

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

KIFF ANALYTICAL LLC

2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Lab No. 34832 Page 1 of 3

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): ~~Jennifer Sedlacek~~ Mark, Trevor w/ PDF

California EDF Report? ☐ Yes ☐ No

Company/Address: TRC 5052 Commercial Circle Concord, CA 94520

Recommended but not mandatory to complete this section:
Sampling Company Log Code:

Phone No.: (925) 688-1200 FAX No.: (925) 688-0388

Global ID:

Project Number: 411036204 TA07 P.O. No:

EDF Deliverable To (Email Address):

Project Name: Beacon # 3604 (Former)

Sampler Signature:

Project Address: 1619 W. First St. Livermore, CA

Sample Designation	Sampling: Date	Sampling: Time	Container: 40 ml VOA	Container: SLEEVE	Preservative: HCl	Preservative: HNO_3	Preservative: ICE	Preservative: NONE	Matrix: WATER	Matrix: SOIL	BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2) TOTAL (X) W.E.T. (X)	TAT: 12 hr/24 hr/48 hr/72 hr (5 day)	For Lab Use Only
MW8-5.5	9/2/03	1030		X				X		X							X								01
MW8-10	↓	1035		↓				↓		↓															02
MW8-15		1038																							03
MW8-20		1043																							04
MW8-25		1049																							05
MW8-30		1055															X								06
MW8-35		1105																							07
MW8-40	↓	1115		↓				↓		↓															08
MW9-10	9/3/03	0857															X								09
MW9-15	↓	0903		↓				↓		↓															10

Relinquished by:	Date	Time	Received by:
	9/3/03	1310	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	090903	0856	Michelle Woodworth (KIFF Analytical)

Remarks: Hold all samples w/ no analysis requested

Bill to: Rob Donavan (Tesoro)

Distribution: White - Lab, Yellow - File, Pink - Originator

Forms/coc 121001.fh9

KIFF ANALYTICAL LLC

2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Lab No. 34832 Page 2 of 3

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): ~~Jonathan Scheiner~~ Mark Trevor w/ PDF
California EDF Report? ☐ Yes ☐ No
Company/Address: TRC 5052 Commercial Circle Concord, CA 94520
Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Phone No.: (925) 688-1200 FAX No.: (925) 688-0388
Global ID:
Project Number: 410362.04 TA07 P.O. No:
EDF Deliverable To (Email Address):
Project Name: Bacon # 3804
Sampler Signature:
Project Address: 1614 W. First St. Livermore, CA

Sample Designation	Sampling: Date	Sampling: Time	Container: 40 ml VOA	Container: SLEEVE	Preservative: HCl	Preservative: HNO_3	Preservative: ICE	Preservative: NONE	Matrix: WATER	Matrix: SOIL	BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2)	TOTAL (X)	W.E.T. (X)	TAT: 12 hr / 24 hr / 48 hr / 72 hr / 1 wk	For Lab Use Only
MW9-20	9/3/03	0908		X				X		X																	11
MW9-25		0914																									12
MW9-30		0922															X										13
MW9-35		0928																									14
MW9-40		0939																									15
MW10-5	9/2/03	1337															X										16
MW10-10		1343																									17
MW10-15		1347																									18
MW10-20		1352																									19
MW10-25		1358																									20

Relinquished by:	Date	Time	Received by:
[signature]	9/3/03	1310	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	090903	0836	Michelle Woodworth / Kiff Analytical

Remarks: Hold all samples w/ no analysis requested

Bill to: Rob Donavan (Tesoro)

Distribution: White - Lab, Yellow - File, Pink - Originator

Forms/coc_121001.fh9

KIFF ANALYTICAL LLC

2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Lab No. 34832 Page 3 of 3

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): [redacted] Mark Trevor (w/ PDF)
Company/Address: TRC / 5052 Commercial Circle Concord, CA 94520
Phone No.: (925) 688-1200 FAX No.: (925) 688-0388
Project Number: 410362.04 T807 P.O. No:
Project Name: Beacon #3604
Project Address: 1619 W. First St. Livermore, CA

California EDF Report? ☐ Yes ☐ No
Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Global ID:
EDF Deliverable To (Email Address):
Sampler Signature: [redacted]

Sample Designation	Sampling Date	Sampling Time	Container: 40 ml VOA	Container: SLEEVE	Preservative: HCl	Preservative: HNO_3	Preservative: ICE	Preservative: NONE	Matrix: WATER	Matrix: SOIL	Analysis Request: BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2) TOTAL (X) W.E.T. (X)	LUFT Metals	TAT: 12 hr/24 hr/48 hr/72 hr/1 wk	For Lab Use Only
MW10 - 30	9/2/03	1404		X				X		X							X									21
MW10 - 35	↓	1410		↓				↓		↓																22
MW10 - 40	↓	1420		↓				↓		↓																23
MW-8	9/5/03	1000	X		X				X							X										24
MW-9	↓	1500	X		X				X							X										25
MW-10	↓	14:30	X		X				X							X										26

Relinquished by:	Date	Time	Received by:
[redacted]	9/3/03	1310	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	090903	0836	Michelle Woodworth / Kiff Analytical

Remarks: Hold all samples w/ no analysis requested.

Bill to: Rob Donavan (Tesoro)

Distribution: White - Lab, Yellow - File, Pink - Originator

Forms/coc 124001.fh9

KIFF ANALYTICAL LLC

Report Number : 34831
Date : 9/13/2003

Mark Trevor
TRC Alton Geoscience
5052 Commercial Circle
Concord, CA 94520

Subject : 1 Soil Sample
Project Name : Beacon #3604
Project Number : 41036204-TA07

Dear Mr. Trevor,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Jeff Dahl

KIFF ANALYTICAL LLC

Report Number : 34831
Date : 9/13/2003

Project Name : **Beacon #3604**
Project Number : **41036204-TA07**

Sample : **CS-1** Matrix : Soil Lab Number : 34831-01
Sample Date :9/3/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/12/2003
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/12/2003
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/12/2003
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/12/2003
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	9/12/2003
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	9/12/2003
Toluene - d8 (Surr)	104		% Recovery	EPA 8260B	9/12/2003
4-Bromofluorobenzene (Surr)	99.9		% Recovery	EPA 8260B	9/12/2003

Approved By: Jeff Dahl

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 34831

Date : 9/13/2003

QC Report : Method Blank Data

Project Name : **Beacon #3604**

Project Number : **41036204-TA07**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/10/2003
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/10/2003
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/10/2003
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/10/2003
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	9/10/2003
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	9/10/2003
Toluene - d8 (Surr)	101		%	EPA 8260B	9/10/2003
4-Bromofluorobenzene (Surr)	100		%	EPA 8260B	9/10/2003

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Jeff Dahl

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 34831

Date : 9/13/2003

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **Beacon #3604**

Project Number : **41036204-TA07**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	34835-02	<0.0050	0.0399	0.0398	0.0360	0.0367	mg/Kg	EPA 8260B	9/9/03	90.1	92.2	2.36	70-130	25
Toluene	34835-02	<0.0050	0.0399	0.0398	0.0372	0.0381	mg/Kg	EPA 8260B	9/9/03	93.1	95.7	2.73	70-130	25
Tert-Butanol	34835-02	<0.0050	0.200	0.199	0.174	0.185	mg/Kg	EPA 8260B	9/9/03	87.4	92.7	5.89	70-130	25
Methyl-t-Butyl Ether	34835-02	<0.0050	0.0399	0.0398	0.0369	0.0375	mg/Kg	EPA 8260B	9/9/03	92.5	94.1	1.74	70-130	25

Approved By: Jeff Dahl

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 34831

Date : 9/13/2003

QC Report : Laboratory Control Sample (LCS)

Project Name : **Beacon #3604**

Project Number : **41036204-TA07**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	0.0398	mg/Kg	EPA 8260B	9/9/03	88.4	70-130
Toluene	0.0398	mg/Kg	EPA 8260B	9/9/03	91.5	70-130
Tert-Butanol	0.199	mg/Kg	EPA 8260B	9/9/03	83.3	70-130
Methyl-t-Butyl Ether	0.0398	mg/Kg	EPA 8260B	9/9/03	89.2	70-130

Approved By: Jeff Dahl

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Calscience
Environmental
Laboratories, Inc.

September 16, 2003

Joel Kiff
Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Subject: **Calscience Work Order No.:** **03-09-0506**
Client Reference: **Beacon #3604**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 9/10/2003 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager

Michael J. Crisostomo
Quality Assurance Manager

Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: 09/10/03
Work Order No: 03-09-0506
Preparation: EPA 3050B
Method: EPA 6010B

Project: Beacon #3604

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
CS-1	**03-09-0506-1**	**09/03/03**	**Solid**	**09/10/03**	**09/11/03**	**030910L06**

Parameter	Result	RL	DF	Qual	Units
Lead	5.75	0.50	1		mg/kg

Method Blank	097-01-002-4,699	N/A	Solid	09/10/03	09/10/03	030910L06

Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.500	1		mg/kg

RL - Reporting Limit . DF - Dilution Factor . Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Date Received: 09/10/03
Work Order No: 03-09-0506
Preparation: EPA 3050B
Method: EPA 6010B

Project: Beacon #3604

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
03-09-0507-4	Solid	ICP 3300	09/10/03	09/11/03	030910S06

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	101	101	75-125	0	0-20	

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95616-6593

Project: Beacon #3604

Date Received: 09/10/03
Work Order No: 03-09-0506
Preparation: EPA 3050B
Method: EPA 6010B

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-4,699	Solid	ICP 3300	09/10/03	030910-I-06	030910L06

Parameter	Conc Added	Conc Recovered	%Rec	%Rec CL	Qualifiers
Lead	50.0	49.8	100	80-120	

Calscience Environmental Laboratories, Inc.

GLOSSARY OF TERMS AND QUALIFIERS

Work Order Number: 03-09-0506

Qualifier	Definition
ND	Not detected at indicated reporting limit.

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 03-09-0506

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Kiff DATE: 9-10-03

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

_____ Chilled, cooler with temperature blank provided.
_____ Chilled, cooler without temperature blank.
_____ Chilled and placed in cooler with wet ice.
_____ Ambient and placed in cooler with wet ice.
_____ Ambient temperature.
_____ °C Temperature blank.

LABORATORY (Other than Calscience Courier):

6 °C Temperature blank.
6 °C IR thermometer.
_____ Ambient temperature.

Initial: AK

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: ✓ No (Not Intact) : _____ Not Applicable (N/A): _____

Initial: AK

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers for analyses requested	✓		
Proper preservation noted on sample label(s)			✓
VOA vial(s) free of headspace			✓
Tedlar bag(s) free of condensation			✓

Initial: AK

COMMENTS:

KIFF ANALYTICAL LLC

2795 Second Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Cal Science Environmental
7440 Lincoln Way
Garden Grove, CA 92841
714-895-5494

09-0506

Lab No. _____ Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Joel Kiff	Geotracker COELT EDD REPORT? ___ YES _X_ NO
Company/Address: Kiff Analytical, LLC	Sampling Company Log Code:
Phone No.: / FAX No.:	Global ID:
Project Number: 41036204-TA07 / P.O. No.: 34831	EDF Deliverable to (Email Address):
Project Name: Beacon #3604	E-mail address: inbox@kiffanalytical.com
Project Address:	

Sample Designation	Sampling Date	Sampling Time	Container: Glass Jar	Container: Poly	Container: Amber	Container: Sleeve	Container:	Preservative: HCl	Preservative: HNO3	Preservative: ICE	Preservative: NONE	Preservative: Na2S2O3	Matrix: WATER	Matrix: SOIL	Matrix:	Analysis Request: Total Lead							Analysis Request: September 16, 2003	For Lab Use Only
CS-1	9/3/2003	10:00	1							X	X			X		X							X	

Relinquished by: Dan Te - Kiff Analytical	Date 9/10/03	Time 1900	Received by: California Overnight	Remarks:
Relinquished by:	Date	Time	Received by:	
Relinquished by: CAL OVERNIGHT	Date 9/10/03	Time 1000	Received by Laboratory: Cindy Thoden	Bill to:

KIFF ANALYTICAL LLC

2795 2nd Street, Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4808

Lab No. 34831 Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): ~~Jennifer Sedlacek~~ Mark Trevor w/ PDF
Company/Address: TRC / 5052 Commercial Circle
Phone No.: (925) 688-1200
FAX No.: (925) 688-0388
Project Number: 410362.04-TA07
P.O. No:
Project Name: Beacon #3804
Project Address: 1819 W. First St. Livermore

California EDF Report? ☐ Yes ☐ No
Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Global ID:
EDF Deliverable To (Email Address):
Sampler Signature:

Sample Designation	Sampling Date	Sampling Time	Container: 40 ml VOA	Container: SLEEVE	Preservative: HCl	Preservative: HNO_3	Preservative: ICE	Preservative: NONE	Matrix: WATER	Matrix: SOIL	Analysis Request: BTEX (8021B)	BTEX/TPH Gas/MTBE (8021B/M8015)	TPH as Diesel (M8015)	TPH as Motor Oil (M8015)	TPH Gas/BTEX/MTBE (8260B)	5 Oxygenates/TPH Gas/BTEX (8260B)	7 Oxygenates/TPH Gas/BTEX (8260B)	5 Oxygenates (8260B)	7 Oxygenates (8260B)	Lead Scav. (1,2 DCA & 1,2 EDB - 8260B)	EPA 8260B (Full List)	Volatile Halocarbons (EPA 8260B)	Lead (7421/239.2)	TOTAL (X) W.E.T. (X)	TAT: 12 hr/24 hr/48 hr/72 hr/(1 wk)	For Lab Use Only
CS-1	9/3/03	1000		X				X		X					X								X			01

Relinquished by: [signature] Date 9/4/03 Time 0800 Received by:
Relinquished by: Date Time Received by:
Relinquished by: Date 090903 Time 0836 Received by Laboratory: [signature] / Kiff Analytical

Remarks:
CS-1: Composite Sample

PDF to Mark Trevor → mtrevor@trcsolutions.com

Bill to: Rob Donavan (Tesoro)

Distribution: White - Lab, Yellow - File, Pink - Originator

Forms/coc 121001.fh9

ANALYTICAL METHODS

All analyses were performed by a state-certified laboratory in accordance with the following methods:

Sample Analysis	Soil	Water
as Gasoline (TPH-G)	Total Petroleum Hydrocarbons EPA Method 8260B	EPA Method 8260B
and Total Xylenes (BTEX)	Benzene, Toluene, Ethylbenzene, EPA Method 8260B	EPA Method 8260B
methyl Ether (TAME)	Oxygenates: Methyl Tertiary Butyl Ether (MTBE), tertiary Butanol, di-isopropyl alcohol (DIPE), ethyl tertiary butyl Ether (ETBE), and tertiary amyl EPA Method 8260B	EPA Method 8260B

OFFICIAL LABORATORY REPORTS AND QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) REPORTS

Official laboratory and QA/QC reports are provided by the state-certified laboratory performing the analyses. The QA/QC reports for samples from each group of analyses completed for a single gas chromatograph calibration are provided.

CHAIN OF CUSTODY PROTOCOL

Chain of Custody protocol was followed for all samples selected for laboratory analysis. The Chain of Custody form(s) accompanies the samples from the sampling locality to the laboratory, providing a continuous record of possession prior to analysis.

APPENDIX E

MONITORING WELL SURVEY INFORMATION

Virgil Chavez Land Surveying
312 Georgia Street, Suite 225
Vallejo, California 94590-5907
(707) 553-2476 • Fax (707) 553-8698

October 13, 2003
Project No.: 2141-10

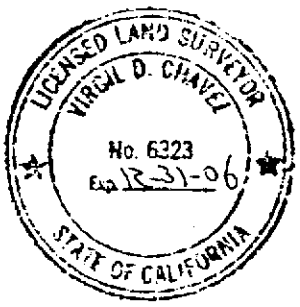
Mark Trevor
TRC
5052 Commercial Circle
Concord, CA 94520

Subject: Monitoring Well Survey
Beacon Station No. 3604
1619 West First Street
Livermore, CA

Dear Mark:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was completed on October 3, 2003. The benchmark for this survey was a standard City of Livermore survey monument at First and Q Streets. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83). Benchmark Elevation = 469.246 feet (NGVD 29).

Latitude	Longitude	Northing	Easting	Elev.	Desc.
				471.92	RIM MW-8
37.6797617	-121.7762283	2072497.20	6192347.91	471.34	TOC MW-8
				471.51	RIM MW-9
37.6795940	-121.7770436	2072439.34	6192111.14	470.93	TOC MW-9
				472.23	RIM MW-10
37.6793333	-121.7769727	2072344.14	6192130.37	471.79	TOC MW-10



Sincerely,

Virgil D. Chavez, PLS 6323