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

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

September 10, 2008

Mr. Denis Brown
Shell Oil Products US
20945 S. Wilmington Ave.
Carson, CA 90810-1039

Subject: Fuel Leak Case No. RO0002524 and Geotracker Global ID T0600162519, Shell#13-5442, 809 East Stanley Boulevard, Livermore, CA 94550 – Case Closure

Dear Mr. Brown:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (http://geotracker.swrcb.ca.gov) and the Alameda County Environmental Health website (http://www.acgov.org/aceh/index.htm).

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Total petroleum hydrocarbons as gasoline remain in soil at concentrations up to 1,480 ppm.
- Xylenes remain in soil at concentrations up to 2.7 ppm.

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP and Toxics Program Manager

Enclosures:
1. Remedial Action Completion Certificate
2. Case Closure Summary

cc:

Ms. Cherie McCaulou
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Closure Unit (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Danielle Stefani (w/enc)
Livermore-Pleasanton Fire Department
3560 Nevada Street
Pleasanton, CA 94566

Cheryl Dizon, QIC 80201 (w/enc)
Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551

City of Livermore Planning Department (w/enc)
1052 South Livermore Avenue
Livermore, CA 94550

Richard Garlow (w/o enc)
Delta Environmental Consultants, Inc.
312 Piercy Road
San Jose, CA 95138

Jerry Wickham (w/orig enc), D. Drogos (w/enc), File (w/enc)

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REMEDIAL ACTION COMPLETION CERTIFICATION

September 10, 2008

Mr. Denis Brown
Shell Oil Products US
20945 S. Wilmington Ave.
Carson, CA 90810-1039

Subject: Fuel Leak Case No. RO0002524 and Geotracker Global ID T0600162519, Shell#13-5442, 809 East Stanley Boulevard, Livermore, CA 94550 – Case Closure

Dear Mr. Brown:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25296.10 of the Health and Safety Code. Please contact our office if you have any questions regarding this matter.

Sincerely,

Amu Levi
Director
Alameda County Environmental Health

CASE CLOSURE SUMMARY
LEAKING UNDERGROUND FUEL STORAGE TANK - LOCAL OVERSIGHT PROGRAM

I. AGENCY INFORMATION

Date: October 24, 2007

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Jerry Wickham	Title: Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Shell #13-5442		
Site Facility Address: 809 East Stanley Boulevard, Livermore, CA 94550		
RB Case No.: ---	Local Case No.: ---	LOP Case No.: RO0002524
URF Filing Date: 12/16/2002	Geotracker ID: T0600162519	APN: 99-256-8

Responsible Parties	Addresses	Phone Numbers
Denis Brown, Shell Oil Products US	20945 S. Wilmington Avenue, Carson, CA 90810	707-865-0251

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
1 and 2	8,000 gallons	Gasoline	Removed	10/10/1986
3	10,000 gallons	Gasoline	Removed	10/10/1986
4	550 gallons	Waste Oil	Removed	10/10/1986
Piping			Removed	10/10/1986

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown. No holes, cracks, or other signs of failure were observed in the tanks during removal.	
Site characterization complete? Yes	Date Approved By Oversight Agency: -----

Monitoring wells installed? Yes	Number: 4	Proper screened interval? See Considerations and Variances
Highest GW Depth Below Ground Surface: 17 feet bgs	Lowest Depth: 25 feet bgs	Flow Direction: North Northwest
Most Sensitive Current Use: Drinking water source.		

Summary of Production Wells in Vicinity: The nearest active water supply well is California Water Service municipal well 14-01 (3S/2E-08P02M), located approximately 1,700 feet north northwest (downgradient) of the site. California Water Service Well 14-01 was installed in 1958 and is approximately 530 feet deep with screened intervals from 140 to 515 feet bgs. California Water Service municipal well 03-01 (3S/2E-08N02) is located approximately 1,700 feet east northeast (crossgradient) of the site. Based on the distances from the site and relatively low levels of groundwater contamination detected in monitoring wells at the site, these water supply wells are not expected to be receptors for the site. Two former irrigation wells with a "destroyed" status are located approximately 1,000 feet east of the site. Based on the cross gradient location and relatively low levels of groundwater contamination detected in monitoring wells at the site, the irrigation wells are not expected to be receptors for the site.

Are drinking water wells affected? No	Aquifer Name: Mocho II Subbasin of Livermore-Amador Basin
Is surface water affected? No	Nearest SW Name: Arroyo Mocho canal is approximately 300 feet southwest of the site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and Livermore-Pleasanton Fire Department

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	2 - 8,000 gallon tanks 1 – 10,000 gallon tank 1 - 550 gallon tank	Disposal destination not reported in December 4, 1986 Kaprealian Engineering soil sampling report	10/11/1986
Piping	Not reported	Disposal destination not reported in December 4, 1986 Kaprealian Engineering soil sampling report	10/11/1986
Free Product	---	--	--
Soil	---	--	--
Groundwater	---	--	--

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRAT No information available from tank removals IONS BEFORE AND AFTER CLEANUP
(Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	1,480	1,480	<50	<50
TPH (Diesel)	NA	NA	NA	NA
Oil and Grease	NA	NA	NA	NA
Benzene	0.031	0.031	<0.5	<0.5
Toluene	<0.002	<0.002	<0.5	<0.5
Ethylbenzene	1.79	1.79	<0.5	<0.5
Xylenes	2.7	2.7	0.93	0.93
Heavy Metals	NA	NA	NA	NA
MTBE	<0.5	<0.5	3.6(1)	<0.5(1)
Other (8240/8270)	<50	<50	NA	NA

(1) MTBE was detected at a maximum concentration of 3.6 ppb in the initial groundwater sample collected from well MW-3 but was not detected during the last seven sampling events in MW-3 from January 2004 to November 2006. TBA was detected at a concentration of 1,000 ppb in groundwater from well MW-1 on January 10, 2006 but was not detected at concentrations greater than 5 ppb during the other 10 sampling events. No other fuel oxygenates or lead scavengers were detected at reporting limits ranging from 2 to 5 ppb.

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

The four monitoring wells at the site are screened from 32.5 to 47. 5 feet bgs. Since static water levels have ranged from approximately 17 to 25 feet bgs, the screened intervals for the wells are not located across the water table to sample shallow groundwater. However, the highest concentrations of fuel hydrocarbons detected in soil were detected in soil samples collected from 35 to 40 feet bgs. Therefore, the monitoring wells appear to be screened within the zone with the highest concentrations of fuel hydrocarbons in soil. In addition, grab groundwater samples were collected from first encountered groundwater in five soil borings advanced adjacent to likely contaminant sources. TPH as gasoline, benzene, toluene, ethylbenzene, and fuel oxygenates were not detected in the grab groundwater samples. Xylenes were detected in the grab groundwater samples at concentrations ranging from 0.61 to 0.93 ppb.

Tert butyl alcohol (TBA) was detected at a concentration of 1,000 ppb in a groundwater sample collected from well MW-1 on January 10, 2006. TBA was not detected in a subsequent groundwater sample collected on November 7, 2006 and was not detected at a concentration greater than 5 ppb in 8 groundwater sampling events prior to January 2006. MTBE was not detected in groundwater samples collected from well MW-1 during the 14 sampling events from September 2001 to November 2006. Based on these results, the detection of 1,000 ppb of TBA during the January 10, 2006 sampling event appears to be anomalous and does not represent groundwater quality in the area of well MW-1.

The soil sample collected during the removal of the waste oil tank was not analyzed for metals, oil and grease, fuel oxygenates, or PCBs. Based on the absence of evidence of a release from the waste oil tank as indicated by analytical results below reporting limits for petroleum hydrocarbons and visual observations during tank removal, further investigation of the waste oil tank does not appear to be warranted.

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Hazardous Materials Specialist
Signature: Jerry Wickham	Date: 03/26/08
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature: Donna L. Drogos	Date: 03/26/08

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

Site History and Description of Corrective Actions:

The site is an active service station located at the intersection of East Stanley and Marietta Boulevards in Livermore, CA. The service station is bordered by commercial properties to the east, south, and west and by East Stanley Boulevard and an open area to the north. Prior to tank removal in November 1986, three soil borings were advanced adjacent to the gasoline USTs and one soil boring was advanced adjacent to the waste oil UST. TPH as gasoline and BTEX were not reported in soil samples collected between 4 and 20 feet bgs but an odor was observed in soil between depths of 27 to 35.5 feet bgs in the three borings adjacent to the fuel USTs.

Three gasoline USTs and one waste oil UST were removed from the southern portion of the site on November 10 and 11, 1986. TPH and BTEX were not detected in six soil samples collected during the tank removal. Following the November 1986 tank removal, three new gasoline USTs were installed in a new excavation in the northern portion of the site.

In September 2001, four groundwater monitoring wells were installed as part of Shell's Groundwater Assessment Program (GRASP). GRASP was a voluntary program by Shell to install groundwater at retail service stations that did not have active release cases but were in proximity to one or more public water supply wells. Groundwater was encountered in the monitoring well soil borings at depths of approximately 37 to 38 feet bgs. MTBE was the only analyte detected at a concentration of 3.6 micrograms per liter (µg/L) in the initial water sample collected from well MW-3. TPH as gasoline, BTEX, and fuel oxygenates were not detected in groundwater collected from the other three monitoring wells. The monitoring wells were sampled quarterly from July 2002 to November 2006. During the most recent sampling event on November 7, 2006, TPH as gasoline, BTEX, and fuel oxygenates were not detected in groundwater samples collected from the four monitoring wells.

On June 22 and 23, 2006, five soil borings (SB-1 through SB-5) were advanced in the areas of the new and former USTs, piping, and dispensers. Soil samples were collected at five-foot intervals from 10 feet bgs to the total depth of each soil boring. Grab groundwater samples were also collected from each of the soil borings. Soil boring SB-5 was advanced into the center of the former UST complex. TPH as gasoline was detected in soil samples collected from boring SB-5 at concentrations up to 1,480 ppm. Benzene and toluene were not detected in soil samples from boring SB-5 and ethylbenzene and xylenes were detected at maximum concentrations of 1.79 and 2.7 ppm, respectively. Fuel oxygenates and lead scavengers were not detected in soil samples from any of the five soil borings.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: None		
Should corrective action be reviewed if land use changes? No		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: ---	Number Retained: 4
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB: 3/26/08
Signature: Cherie McCaulou	Date: 3/28/08

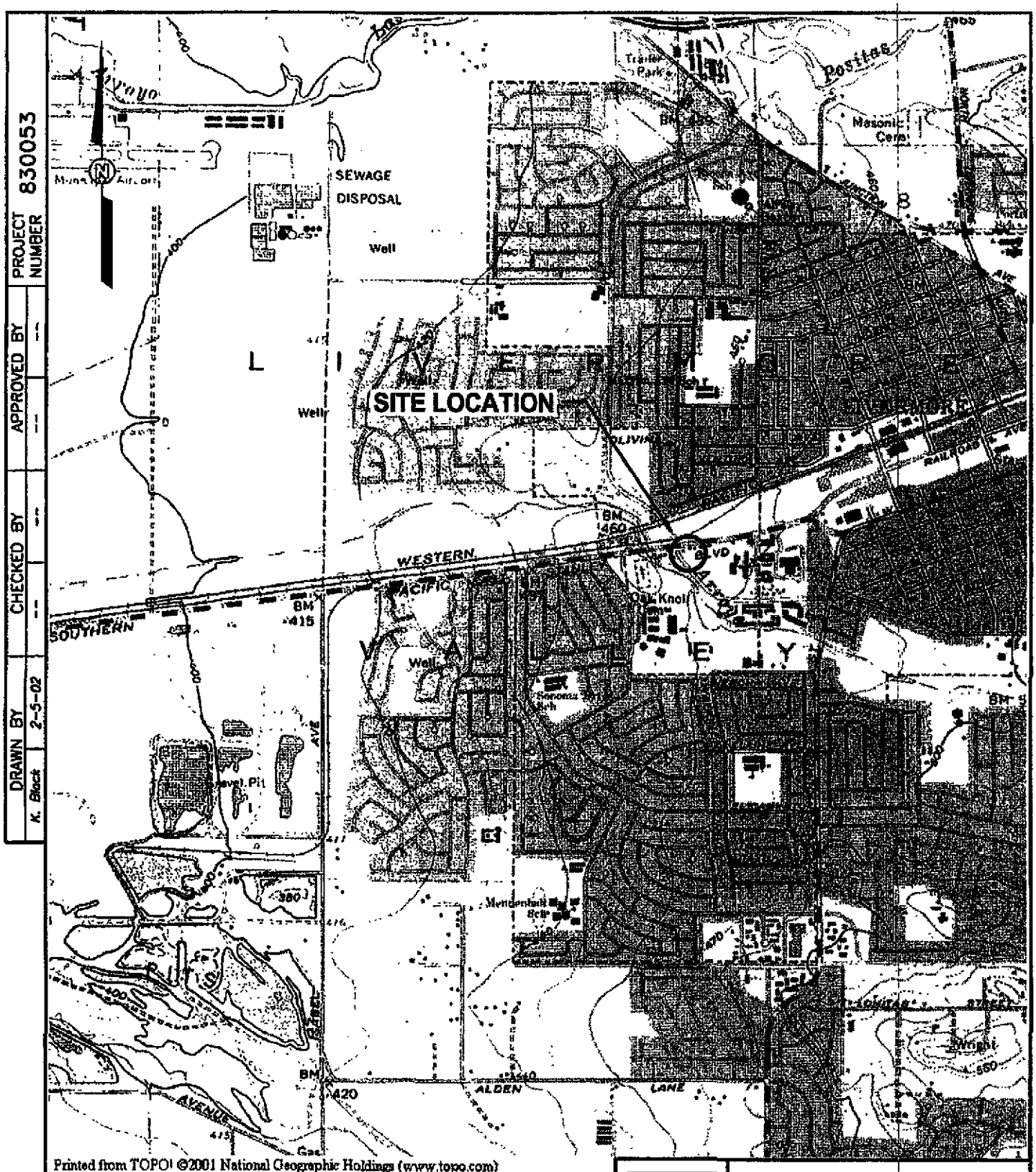
VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 03/28/08	Date of Well Decommissioning Report: 08/28/08	
All Monitoring Wells Decommissioned: (Yes) No	Number Decommissioned: 4	Number Retained: 0
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: None		
ACEH Concurrence - Signature: Jerry Wickham		Date: 09/10/08

Attachments:

1. Site Location Map (1 page)
2. Soil Plans and Soil Boring Location Maps (4 pages)
3. Groundwater Elevation Contour Map – November 7, 2006 and TPH-g, Benzene, and MTBE Concentration Maps – November 7, 2006
4. Soil Analytical Data
5. Groundwater Analytical Data
6. Boring Logs

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.



DRAWN BY	CHECKED BY	APPROVED BY	PROJECT NUMBER
K. Black 2-5-02	--	--	830053

SCALE

0 2,000 4,000 FEET

IT CORPORATION

SHELL OIL PRODUCTS US

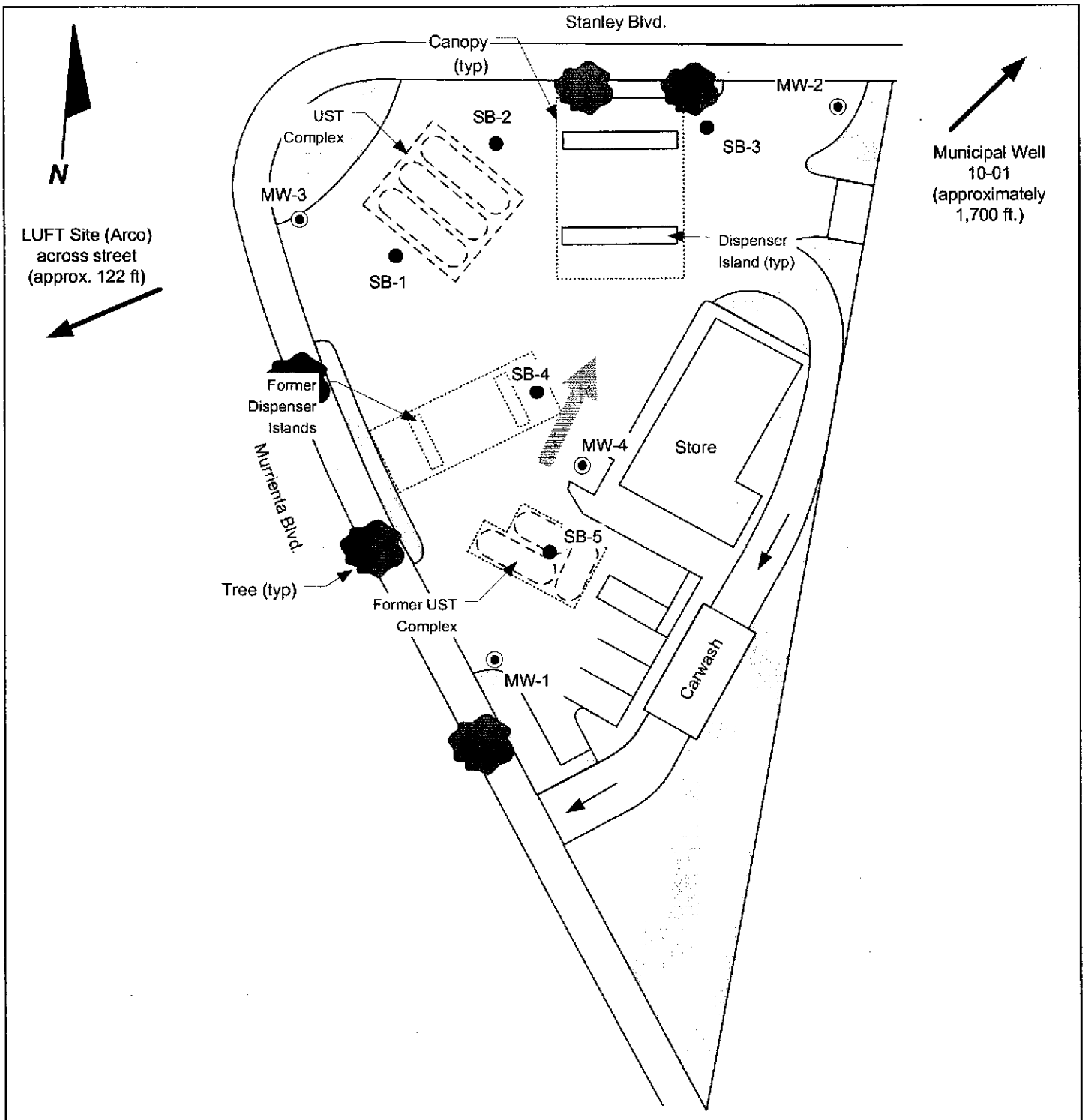
FIGURE 1

SITE LOCATION MAP

809 EAST STANLEY BLVD.
LIVERMORE, CALIFORNIA

N:\cad\DWG\GRASP\809EStanley\SiteLoc.dwg Thu, 21/Mar/02 09:09am kblack

ATTACHMENT 1



LEGEND

MW-1 ◉ **GROUNDWATER MONITORING WELL**

SB-1 ● **SOIL BORING**

GROUNDWATER FLOW DIRECTION

0 40 FT

APPROX. SCALE

FIGURE 2

SITE MAP

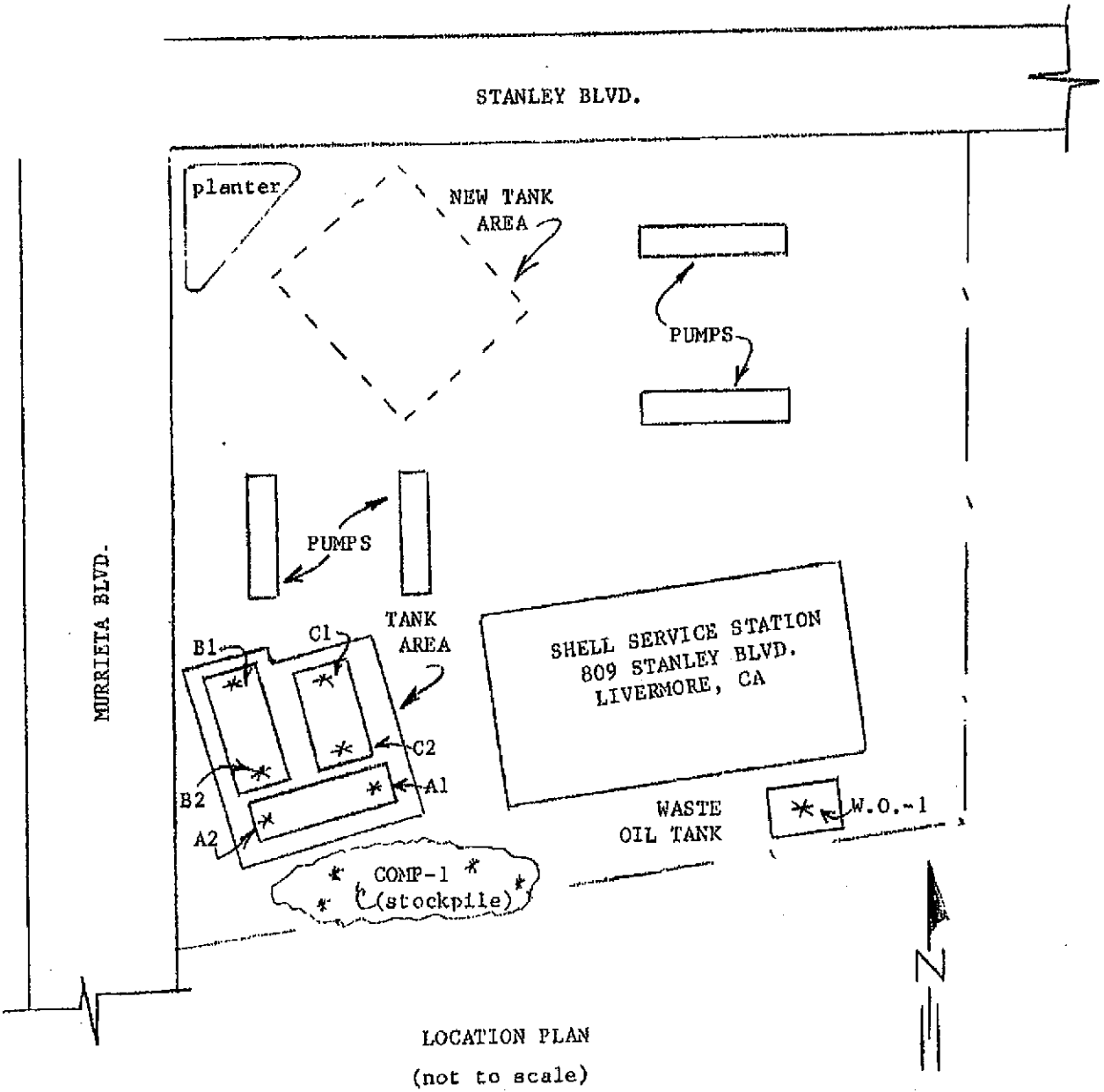
Shell-branded Service Station
809 East Stanley Ave.
Livermore, California

PROJECT NO. SJ80-9ST-1.2005	DRAWN BY JL 09./15/05
FILE NO. SJ8-09ST-1.2005	PREPARED BY HB
REVISION NO. 2	REVIEWED BY DA

Delta Environmental Consultants, Inc.

ATTACHMENT 2

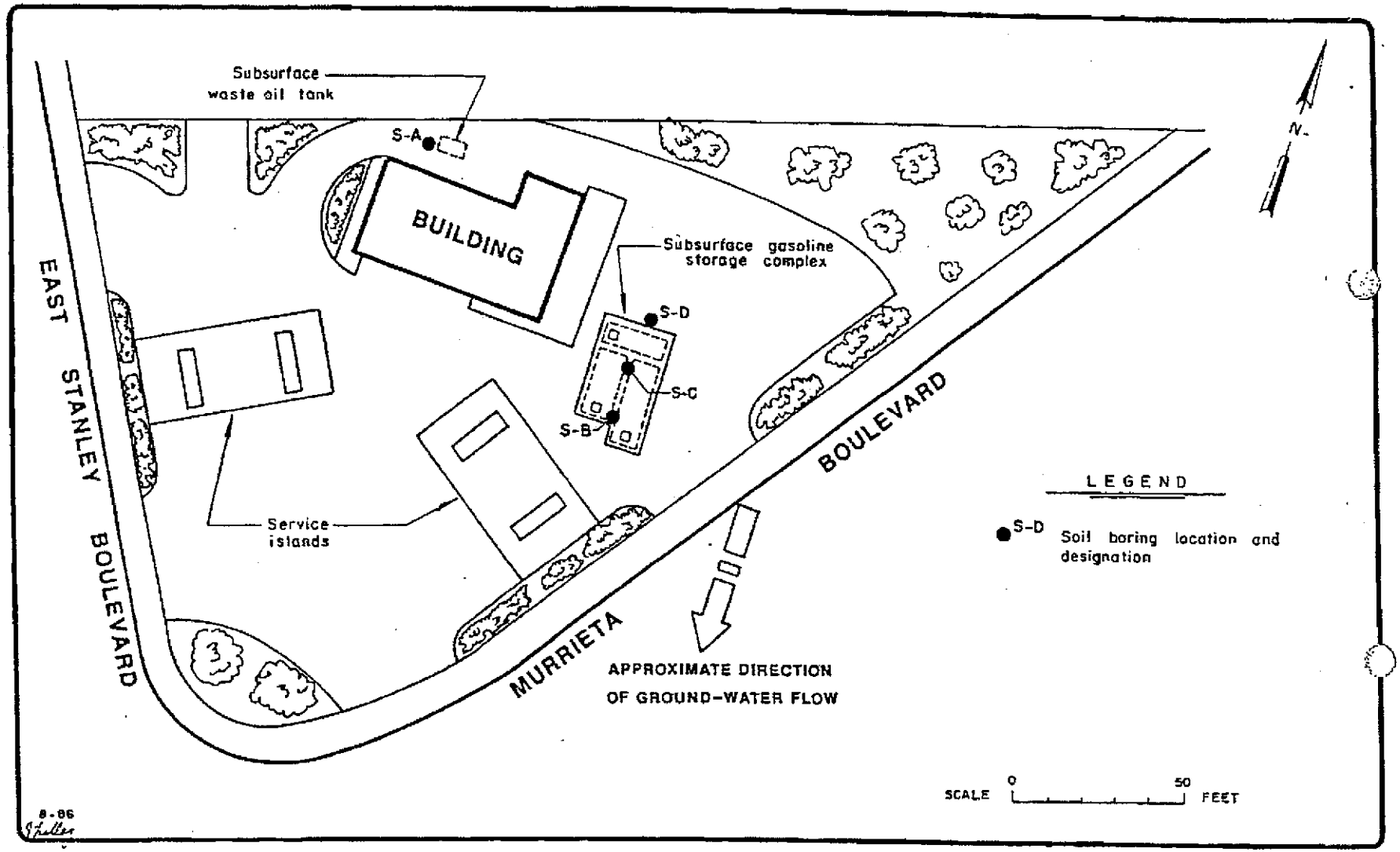
KAPREALIAN ENGINEERING, INC.
Consulting Engineers
535 Main Street
Martinez, Ca. 94553
(415) 372-5444



LOCATION PLAN

(not to scale)

* soil sample



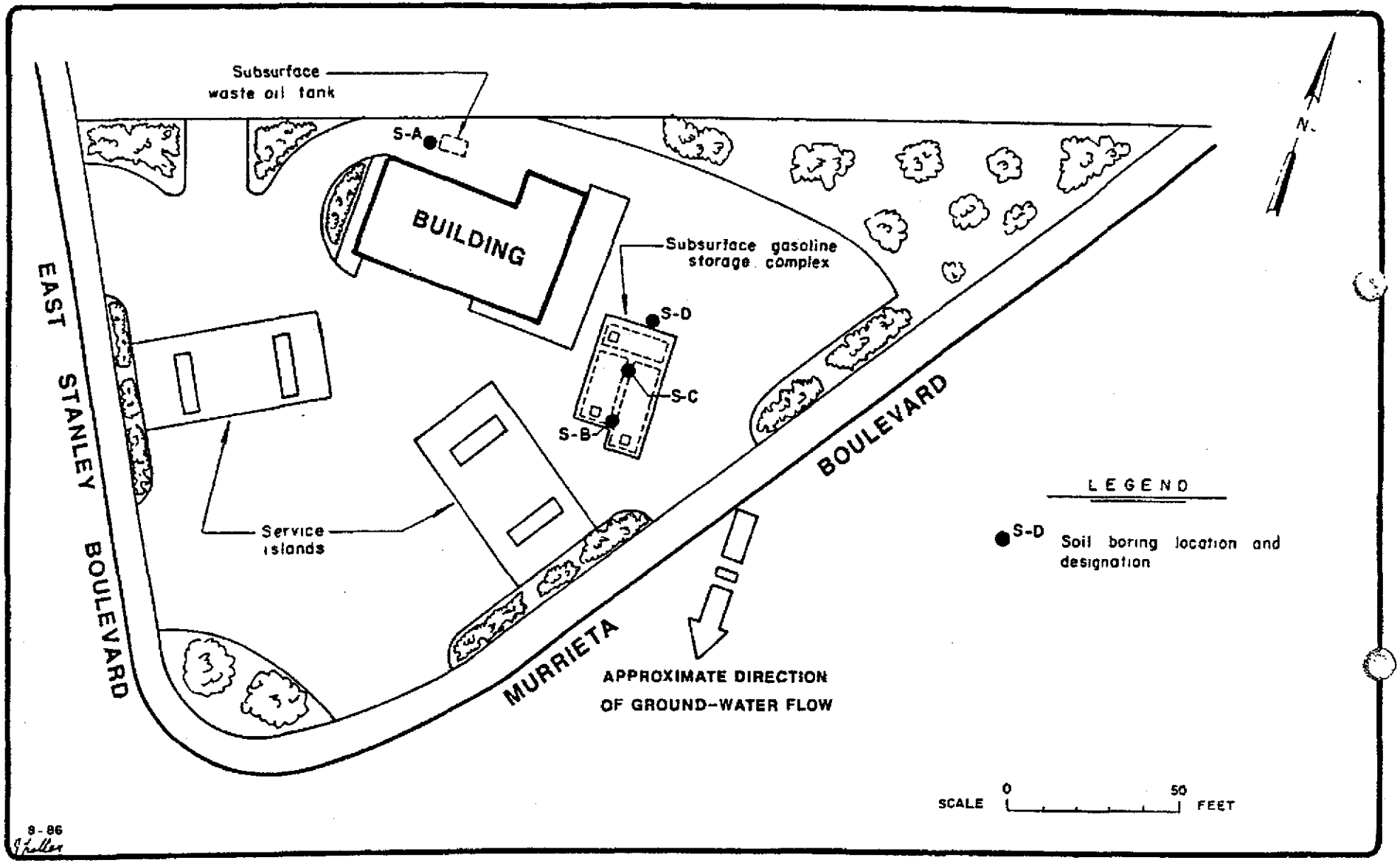
EMCON Associates

GETTLER-RYAN, INC.
SUBSURFACE HYDROGEOLOGIC INVESTIGATION
SHELL STATION, EAST STANLEY BLVD. AND MURRIETA BLVD.
LIVERMORE, CALIFORNIA

SITE PLAN

FIGURE 1

PROJECT NO. 800-70.01



9-86

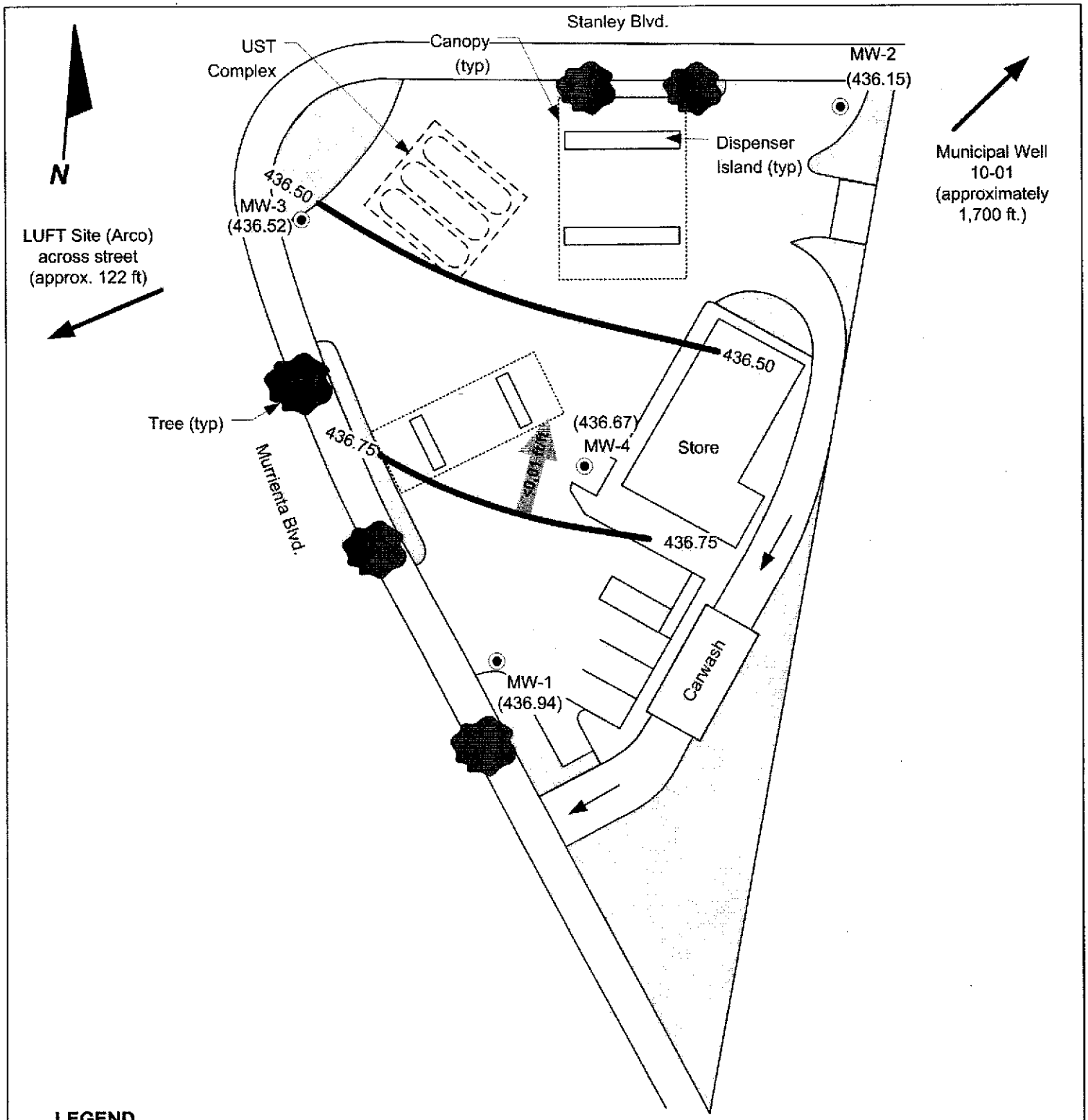
EMCON Associates

GETTLER-RYAN, INC.
SUBSURFACE HYDROGEOLOGIC INVESTIGATION
SHELL STATION, EAST STANLEY BLVD. AND MURRIETA BLVD.
LIVERMORE, CALIFORNIA

SITE PLAN

FIGURE 1

PROJECT NO. 800-70 01



LEGEND

MW-1 ◉ **GROUNDWATER MONITORING WELL**

(436.94) **GROUNDWATER ELEVATION (FEET-MSL), 11/7/06**

436.50 **GROUNDWATER ELEVATION CONTOUR**

APPROXIMATE GROUNDWATER FLOW DIRECTION AND GRADIENT

0 40 FT

APPROX. SCALE

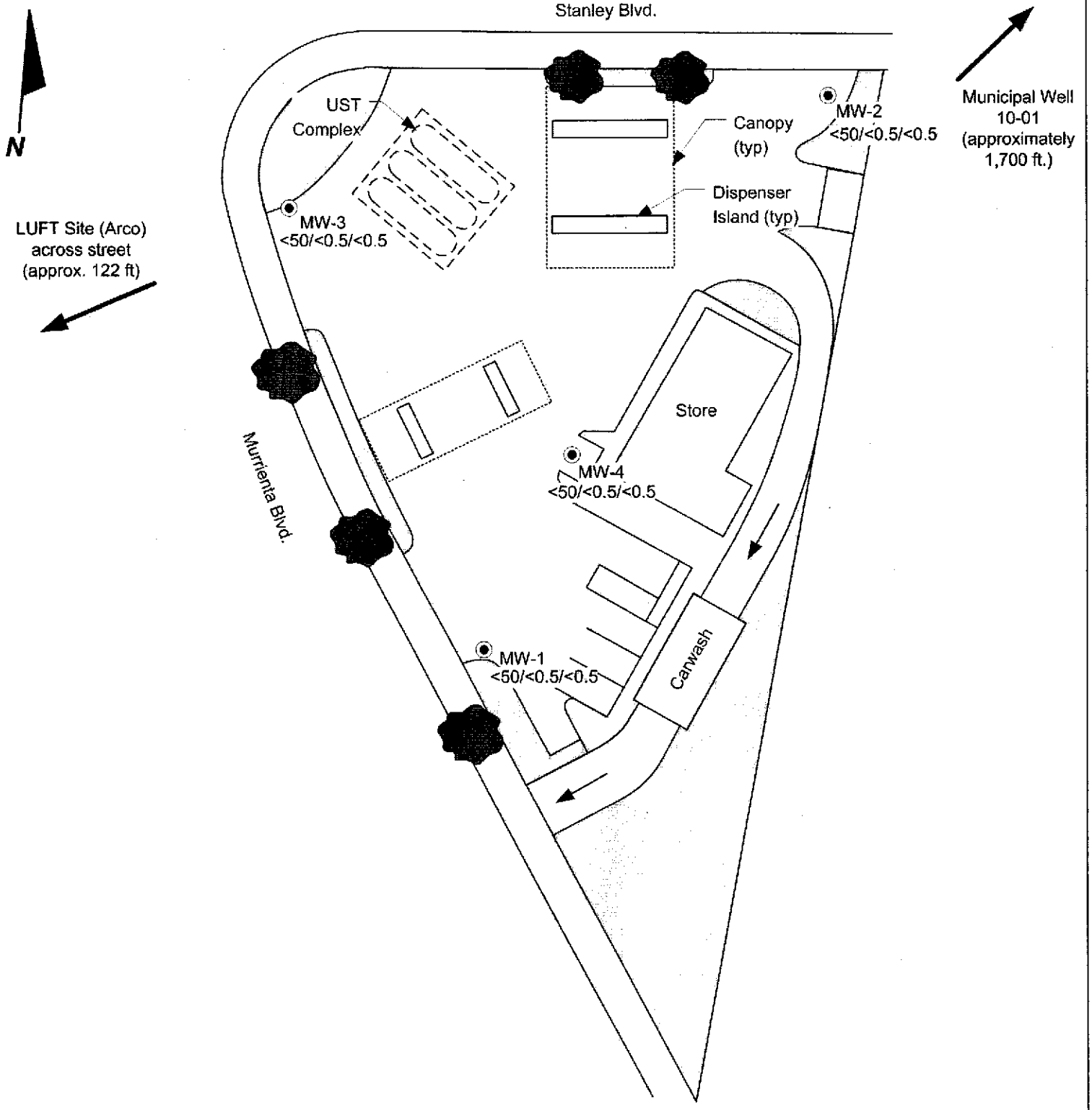
FIGURE 2

GROUNDWATER ELEVATION CONTOUR MAP, NOVEMBER 7, 2006

Shell-branded Service Station
809 East Stanley Ave.
Livermore, California

PROJECT NO. SJ80-9ST-1.2006	DRAWN BY BH 8/29/06
FILE NO. SJ8-09ST-1.2006	PRE
REVISION NO. 1	REV

ATTACHMENT 3



0 40 FT

APPROX. SCALE

LEGEND

MW-1 ◉ **GROUNDWATER MONITORING WELL**

<50/<0.5/<0.5 **TPH-G/BENZENE/MTBE CONCENTRATIONS IN GROUNDWATER (ug/l), 11/7/06**

FIGURE 3

TPH-G, BENZENE, AND MTBE CONCENTRATIONS MAP, NOVEMBER 7, 2006

Shell-branded Service Station

809 East Stanley Ave.

Livermore, California

PROJECT NO. SJ80-9ST-1.2006	DRAWN BY BH 08/29/06
FILE NO. SJ8-09ST-1.2006	PREPARED BY HB
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

Table 1
Summary of Soil Analytical Data
Shell Service Station
809 E Stanley Blvd., Livermore, California

Sample Designation	Date Sampled	Depth (feet)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylene (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	1,2 -DCA (mg/kg)	EDB (mg/kg)	Ethanol (mg/kg)
SB 1 @ 5'	6/19/2006	5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 1 @ 10'	6/22/2006	10	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 1 @ 15'	6/22/2006	15	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 1 @ 20'	6/22/2006	20	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 1 @ 25'	6/22/2006	25	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 1 @ 30'	6/22/2006	30	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 1 @ 35'	6/22/2006	35	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 1 @ 40'	6/22/2006	40	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 2 @ 5'	6/19/2006	5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 2 @ 10'	6/22/2006	10	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 2 @ 15'	6/22/2006	15	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 2 @ 20'	6/22/2006	20	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 2 @ 24.5'	6/22/2006	24.5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 2 @ 35'	6/22/2006	35	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 2 @ 40'	6/22/2006	40	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 3 @ 5'	6/19/2006	5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 3 @ 10'	6/22/2006	10	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 3 @ 15'	6/22/2006	15	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 3 @ 20'	6/22/2006	20	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 3 @ 24.5'	6/22/2006	24.5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 3 @ 29.5'	6/22/2006	29.5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 3 @ 35'	6/22/2006	35	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 3 @ 40'	6/22/2006	40	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 4 @ 5'	6/19/2006	5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 4 @ 9.5'	6/23/2006	9.5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 4 @ 15'	6/23/2006	15	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 4 @ 20'	6/23/2006	20	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 4 @ 25'	6/23/2006	25	ND<0.1	**0.0314**	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 4 @ 30'	6/23/2006	30	**0.160**	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 4 @ 35'	6/23/2006	35	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 4 @ 40'	6/23/2006	40	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 5'	6/19/2006	5	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 10'	6/23/2006	10	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 20'	6/23/2006	20	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 25'	6/23/2006	25	**0.126**	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2

ATTACHMENT 4

Table 1
Summary of Soil Analytical Data
Shell Service Station
809 E Stanley Blvd., Livermore, California

Sample Designation	Date Sampled	Depth (feet)	TPH-G (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylene (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)	1,2 -DCA (mg/kg)	EDB (mg/kg)	Ethanol (mg/kg)
SB 5 @ 30'	6/23/2006	30	**0.281**	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 35'	6/23/2006	35	**1,480**	ND<0.002	ND<0.002	**1.79**	**2.70**	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 40'	6/23/2006	40	**391**	ND<0.002	ND<0.002	**0.00618**	**0.0310**	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 43.5'	6/23/2006	43.5	**380**	ND<0.002	ND<0.002	**0.0178**	**0.0315**	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 50'	6/23/2006	50	**15.7**	ND<0.002	ND<0.002	**0.0407**	**0.0808**	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 55'	6/23/2006	55	**2.33**	ND<0.002	ND<0.002	**0.00563**	**0.00676**	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 60'	6/23/2006	60	ND<0.1	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 65'	6/23/2006	65	**0.321**	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2
SB 5 @ 68.5'	6/23/2006	68.5	**3.02**	ND<0.002	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.002	ND<0.005	ND<0.002	ND<0.05	ND<0.002	ND<0.002	ND<0.2

Notes:
mg/kg = milligrams per kilogram
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = Tert amy-methyl ether
TBA = tert-Butyl alchohol
1,2 - DCA = 1, 2 dichloroethane
EDB = 1, 2 Dibromoethane

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Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Data Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110591

Sample Description
Soil, A-1
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

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Arthur G. Burton
Laboratory Director

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Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110592

Sample Description
Soil, A-2
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

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Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110593

Sample Description
Soil, B-1
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

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Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110594

Sample Description
Soil, B-2
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

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Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110595

Sample Description
Soil, C-1
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

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Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110596

Sample Description
Soil, C-2
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

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Date Sampled: 11/10/86
Date Received: 11/11/86
Date Reported: 11/12/86

Sample Number
6110581

Sample Description
Shell - Livermore, Soil
Comp. #1

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

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Date Sampled: 11/13/86
Date Received: 11/13/86
Date Reported: 11/20/86

Sample Number	Sample Description	Detection Limit ppm	Total Hydrocarbons as Gasoline ppm
6110770	Shell - Livermore, Soil W.O. #1	1.0	< 1.0

NOTE: Analysis was performed using EPA methods 5020 and 8015.

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Date Sampled: 11/13/86
Date Received: 11/13/86
Date Extracted: 11/17/86
Date Reported: 11/20/86

Sample Number
6110770

Sample Description
Shell - Livermore,
Soil W.O. #1

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS
results in ppb

Acrolein	< 10,000	trans-1,2-Dichloroethene	< 50
Acrylonitrile	< 10,000	1,2-Dichloropropane	< 50
Benzene	< 50	1,3-Dichloropropene	< 50
Bromomethane	< 50	Ethylbenzene	< 50
Bromodichloromethane	< 50	Methylene chloride	< 50
Bromoform	< 50	1,1,2,2-Tetrachloroethane	< 50
Carbon tetrachloride	< 50	Tetrachloroethene	< 50
Chlorobenzene	< 50	1,1,1-Trichloroethane	< 50
Chloroethane	< 50	1,1,2-Trichloroethane	< 50
2-Chloroethylvinyl ether	< 50	Trichloroethene	< 50
Chloroform	< 50	Toluene	< 50
Chloromethane	< 50	Vinyl chloride	< 50
Dibromochloromethane	< 50	1,2-Dichlorobenzene	< 50
1,1-Dichloroethane	< 50	1,3-Dichlorobenzene	< 50
1,2-Dichloroethane	< 50	1,4-Dichlorobenzene	< 50
1,1-Dichloroethene	< 50		

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Laboratory Director

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NOTE: Methods 8010 & 8020 of the EPA were used for this analysis.

Table 2
Summary of Grab Groundwater Analytical Data
Shell Service Station
809 East Stanley Boulevard, Livermore, California

Sample Designation	Date Sampled	TPH-G (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylene (ug/l)	MTBE (ug/l)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	1,2 -DCA (ug/l)	EDB (ug/l)	Ethanol (ug/l)
SB-1	6/22/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	ND<0.5	ND<0.5	ND<50
SB-2	6/22/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	ND<0.5	ND<0.5	ND<50
SB-3	6/22/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	ND<0.5	ND<0.5	ND<50
SB-4	6/23/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	**0.930**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	ND<0.5	ND<0.5	ND<50
SB-5	6/23/2006	ND<50	ND<0.5	ND<0.5	ND<0.5	**0.610**	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	ND<0.5	ND<0.5	ND<50

Notes:
ug/l = milligrams per kilogram
TPH-G = Total petroleum hydrocarbons as gasoline
MTBE = Methyl tert-butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = Tert amy-methyl ether
TBA = tert-Butyl alchohol
1,2 - DCA = 1, 2 dichloroethane
EDB = 1, 2 Dibromoethane

ATTACHMENT 5

WELL CONCENTRATIONS
Shell-branded Service Station
809 East Stanley Boulevard
Livermore, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-1	09/25/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-1	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	455.49	20.06	435.43
MW-1	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	455.49	19.71	435.78
MW-1	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	455.49	18.05	437.44
MW-1	04/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	455.49	17.57	437.92
MW-1	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	455.49	18.76	436.73
MW-1	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	5.0	455.49	20.01	435.48
MW-1	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	455.49	16.58	438.91
MW-1	07/27/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	455.49	19.43	436.06
MW-1	01/06/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	455.49	17.20	438.29
MW-1	07/20/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	455.49	17.69	437.80
MW-1	01/10/2006	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1,000	455.49	16.03	439.46
MW-1	07/28/2006	<50.0	<0.500	<0.500	<0.500	<0.500	<0.500	NA	NA	NA	NA	455.49	19.51	435.98
MW-1	**11/07/2006**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.0**	**<0.500**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**455.49**	**18.55**	**436.94**
MW-2	09/25/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-2	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.84	20.40	434.44
MW-2	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.84	20.17	434.67
MW-2	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.84	18.30	436.54
MW-2	04/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	454.84	17.93	436.91
MW-2	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	454.84	19.01	435.83
MW-2	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	454.84	20.36	434.48
MW-2	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	454.84	16.99	437.85
MW-2	07/27/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	454.84	19.64	435.20
MW-2	01/06/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	454.84	17.60	437.24
MW-2	07/20/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	454.84	17.90	436.94

WELL CONCENTRATIONS
Shell-branded Service Station
809 East Stanley Boulevard
Livermore, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-2	01/10/2006	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	24	454.84	16.27	438.57
MW-2	07/28/2006	<50.0	<0.500	<0.500	<0.500	<0.500	<0.500	NA	NA	NA	NA	454.84	19.59	435.25
MW-2	**11/07/2006**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.0**	**<0.500**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**454.84**	**18.69**	**436.15**
MW-3	09/25/2001	NA	<0.50	<0.50	<0.50	<0.50	3.6	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-3	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.87	19.95	434.92
MW-3	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	0.83	<2.0	<2.0	<2.0	<50	454.87	19.63	435.24
MW-3	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	454.87	17.90	436.97
MW-3	04/21/2003	<50	<0.50	<0.50	<0.50	<1.0	0.71	<2.0	<2.0	<2.0	<5.0	454.87	17.45	437.42
MW-3	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	0.69	<2.0	<2.0	<2.0	<5.0	454.87	18.69	436.18
MW-3	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	0.64	<2.0	<2.0	<2.0	<5.0	454.87	19.90	434.97
MW-3	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	454.87	16.50	438.37
MW-3	07/27/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	454.87	19.31	435.56
MW-3	01/06/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	454.87	17.15	437.72
MW-3	07/20/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	454.87	17.53	437.34
MW-3	01/10/2006	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	454.87	15.94	438.93
MW-3	07/28/2006	<50.0	<0.500	<0.500	<0.500	<0.500	<0.500	NA	NA	NA	NA	454.87	19.33	435.54
MW-3	**11/07/2006**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.0**	**<0.500**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**454.87**	**18.35**	**436.52**
MW-4	09/25/2001	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	NA	NA	NA
MW-4	07/09/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	456.24	21.15	435.09
MW-4	10/25/2002	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	456.24	20.85	435.39
MW-4	01/24/2003	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.0	<2.0	<2.0	<50	456.24	19.15	437.09
MW-4	04/21/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	456.24	18.65	437.59
MW-4	07/17/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	456.24	19.87	436.37
MW-4	10/20/2003	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	456.24	21.12	435.12

WELL CONCENTRATIONS
Shell-branded Service Station
809 East Stanley Boulevard
Livermore, CA

Well ID	Date	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE 8260 (ug/L)	DIPE (ug/l)	ETBE (ug/l)	TAME (ug/l)	TBA (ug/l)	TOC (MSL)	Depth to Water (ft.)	GW Elevation (MSL)
MW-4	01/13/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	456.24	17.65	438.59
MW-4	07/27/2004	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	456.24	20.50	435.74
MW-4	01/06/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	<2.0	<2.0	<2.0	<5.0	456.24	18.29	437.95
MW-4	07/20/2005	<50	<0.50	<0.50	<0.50	<1.0	<0.50	NA	NA	NA	NA	456.24	18.73	437.51
MW-4	01/10/2006	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	456.24	17.08	439.16
MW-4	07/28/2006	<50.0	<0.500	<0.500	<0.500	<0.500	<0.500	NA	NA	NA	NA	456.24	20.55	435.69
MW-4	**11/07/2006**	**<50**	**<0.500**	**<0.500**	**<0.500**	**<1.0**	**<0.500**	**<2.0**	**<2.0**	**<2.0**	**<5.0**	**456.24**	**19.57**	**436.67**

Abbreviations:
TPPH = Total petroleum hydrocarbons as gasoline by EPA Method 8260B.
BTEX = Benzene, toluene, ethylbenzene, xylenes by EPA Method 8260B.
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether, analyzed by EPA Method 8260B
ETBE = Ethyl tertiary butyl ether, analyzed by EPA Method 8260B
TAME = Tertiary amyl methyl ether, analyzed by EPA Method 8260B
TBA = Tertiary butyl alcohol or tertiary butanol, analyzed by EPA Method 8260B
TOC = Top of Casing Elevation
GW = Groundwater
ug/L = Parts per billion
MSL = Mean sea level
ft. = Feet
<n = Below detection limit
NA = Not applicable

Notes:
Survey data provided by KHM Environmental Management, Inc.

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-1
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 1 of 2
Driller:	Gregg	Date Drilled:	6/19-22/06	Location Map
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map
Sampling Method:	Split Spoon	Hole Depth:	40'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
								AF	4" asphalt, 4-5" baserock
					1			SC	**Clayey SAND**: brown, 30-40% fines, trace gravels up to 1" b-axis diameter
					2				
					3				(gravel content varies from trace to up to 25% with b-axis diameters up to 2", large cobbles interspersed up to 6' b-axis diameter)
					4				
Grout		moist	1	air knifed & hand augered	5				
					6				
					7				
					8			SC	**Clayey SAND with Gravel**: brown, med. dense, 0-5% fines, well graded, 30-40% gravels up to 2" dia.
		moist	1.7	11	9				
				11					
				12	10			CL	**Lean CLAY with Sand**: light brown, hard, med. plasticity, 15-25% fine grained sands
					11				
					12				
					13				
				6	14				
		moist	1.7	12					
				1	15				
					16				
					17				
	18.5' ▽	2:38p			18				
	▽	2:33p		12	19			CL	**Sandy Lean CLAY**: light brown, hard, high plasticity, 25-35%, fine grained sands
	19.2'	moist	0.4	12					
				15	20			SC	**Clayey SAND w/Gravel**

ATTACHMENT 6

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-1	
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 2 of 2	
Driller:	Gregg	Date Drilled:	6/19-22/06	Location Map	
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
Sampling Method:	Split Spoon	Hole Depth:	40'		
Casing Type:	NA	Well Diameter:	NA		
Slot Size:	NA	Well Depth:	NA		
Gravel Pack:	NA	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion: Backfill / Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
	20.7' ▽	3:23p					SC	**Clayey SAND with Gravel**: brown, dense, 0-5% fines,
	21.0' ▽	3:13p			21			well graded, coarse grained, 25-35% gravels up to 1.5" dia.
					22			
				9				
		wet	0.9	19	23			
				28	24			
Grout					25			
					26			
					27			
					28			
				10				
		moist	0.4	12	29			(10-20% gravels up to 0.5" dia.)
				28	30		CL	**Sandy Lean CLAY**: light brown, med. plasticity, 25-35%
								fine grained sands, trace gravels up to 0.5" dia.
					31			
					32			
					33			
				16	34			
		moist	0.1	35				
				45	35			
					36			
					37			
					38			
				8	39			(35-45% fine grained sands)
		moist	0.5	37				
				43	40			Bottom of boring at 40 ft bg

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-2
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 1 of 2
Driller:	Gregg	Date Drilled:	6/19-22/06	Location Map
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map
Sampling Method:	Split Spoon	Hole Depth:	40'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout				air knifed & hand augered			AF	~4" asphalt, 4-5" baserock
					1		SC	**Clayey SAND with Gravel**: dark brown, 30-40% fines, 10-20% gravels up to 2" b-axis dia.
					2			
					3			(occasional cobbles up to 6" b-axis diameter)
					4			
		moist	3.3		5			
					6			
					7			
					8			
				5	9		CL	**Lean CLAY**: dark brown, stiff, medium plasticity, 5-15% fine grained sands
		moist	1	5				
				10	10			
					11			
					12			
					13			
				5	14		CL	**Lean CLAY with Sand**: light brown, very stiff, 15-25% fine grained sands, medium plasticity
		moist	0.8	8				
				12	15			
					16			
					17			
					18			
	18.8' ▽ 11:30a	wet	0.4	13	19		SC	**Clayey SAND with Gravel**: brown, dense, 5-15% fines, 20-30% gravels up to 2" diameter, sand is well graded
				25				
				25	20			

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-2	
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 2 of 2	
Driller:	Gregg	Date Drilled:	6/19-22/06	Location Map	
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
Sampling Method:	Split Spoon	Hole Depth:	40'		
Casing Type:	NA	Well Diameter:	NA		
Slot Size:	NA	Well Depth:	NA		
Gravel Pack:	NA	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
								SC	**Clayey SAND with Gravel** (cont.)
					21				
					22				
	23.2' ▽	12:34			23				
	24.2' ▽	12:28 wet	0.5	17 28 37	24			SC	**Clayey SAND with Gravel**: brown, very dense, 5-15% fines, well graded, coarse grained, 10-20% gravels up to 1" diameter
Grout	25.8' ▽	12:23			25				
					26				
					27				
					28				
				15 32 40	29				(No Recovery)
					30				
					31				
					32				
					33				
		moist	0.4	17 27 45	34			CL	**Lean CLAY**: light brown, med. plasticity, 5-15% fine grained sands
					35				
					36				
					37				
					38				
		moist	0.3	24 50 54	39				(trace gravels)
					40				Bottom of boring at 40 ft bg

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-3	
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 1 of 2	
Driller:	Gregg	Date Drilled:	6/19-22/06	Location Map	
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
Sampling Method:	Split Spoon	Hole Depth:	40'		
Casing Type:	NA	Well Diameter:	NA		
Slot Size:	NA	Well Depth:	NA		
Gravel Pack:	NA	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout				air knifed & hand augered	1			AF	~4-5" asphalt, 4-5" baserock
								SC	**Clayey SAND**: brown, 30-40% fines, 5-15% gravels up to 2" dia.
					2			AF	~3" concrete
								SC	lots of cobbles and large gravels from ~2' bg to 7' bg
					3				
					4				
								GC	**Clayey GRAVEL with Sand**: brown, 5-15% fines, 25-35%
		moist	0.9		5				fine to coarse grained sands, gravels up to 2" dia., large
					6				cobbles up to 6" b-axis dia.
								SC	**Clayey SAND with gravel**: brown, 5-15% fines, 20-30%
					7				gravels and cobbles up to 6" b-axis dia.
					8				
				17	9				
		moist	0.8	17					
				21	10				(dense, 15-25% fines, coarse grained sands, 5-15% gravels up to 2" dia.)
					11				
					12				
					13				
				10	14				
		moist	1.6	25					(very dense)
				30	15				
					16				
					17				
	18.1' ▽	9:15a			18				
				12	19				
		wet	0.4	20					(20-30% gravels up to 2" diameter)
				28	20				

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-3	
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 2 of 2	
Driller:	Gregg	Date Drilled:	6/19-22/06	Location Map	
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
Sampling Method:	Split Spoon	Hole Depth:	40'		
Casing Type:	NA	Well Diameter:	NA		
Slot Size:	NA	Well Depth:	NA		
Gravel Pack:	NA	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout						21			SC	**Clayey SAND with Gravel** (cont.)
						22				
						23				
					12	24				(very dense)
			wet	0.6	25					
					28	25				
						26				
						27				
						28				
					16	29				(25-35% gravels up to 2" dia.)
			wet	0.1	35					
					50	30				
						31				
						32				
						33				
					15	34				
			wet	1.3	30				CL	**Lean CLAY with Gravel**: brown, hard, high plasticity,
					40	35				5-15% sand, 10-20% gravels up to 1" dia.
						36				
						37				
						38				
					16	39			CL	**Lean CLAY with Sand**: brown, medium pasticity, 15-25%
			moist	0.4	35					sand, trace gravels
					36	40				Bottom of boring at 40 ft bg

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-4
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 1 of 2
Driller:	Gregg	Date Drilled:	6/19-23/06	Location Map
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map
Sampling Method:	Split Spoon	Hole Depth:	40'	
Casing Type:	NA	Well Diameter:	NA	
Slot Size:	NA	Well Depth:	NA	
Gravel Pack:	NA	Casing Stickup:	NA	
Elevation		Northing		Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
								AF	~4" asphalt, 4-5" of baserock
					1			SC	**Clayey SAND**: dark brown, 30-40% fines, trace gravels up to 2" b-axis diameter
					2				
					3				(gravel content varies from trace to 30%, gravels up to 3" b-axis and occasional cobbels up to 6" b-axis)
					4				
Grout		moist	8.8	air knifed & hand augered	5				
					6				
					7				(cobble layer @ 7' bg, cobbles up to 8" b-axis)
					8				
		dry	0.2	3 6 7	9				
					10			CL	**Lean CLAY with Sand**: brown, stiff, medium plasticity, 15-25% fine grained sands
					11				
					12				
					13				
		moist	0.3	7 12 14	14				(very stiff)
					15				
					16				
					17				
					18				
		moist	0.1	16 40 50/4	19			GC	**Clayey GRAVEL with Sand**: brown, very dense, 15-25% fines, 15-25% sand, gravels up to 2" diameter
	1:20pm				20				

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-4	
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 2 of 2	
Driller:	Gregg	Date Drilled:	6/19-23/06	Location Map	
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
Sampling Method:	Split Spoon	Hole Depth:	40'		
Casing Type:	NA	Well Diameter:	NA		
Slot Size:	NA	Well Depth:	NA		
Gravel Pack:	NA	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout								GC	**Clayey GRAVEL with Sand** (cont.)
					21				
					22				
					23				
	▽			13	24				(10-20% fines, 30-40% coarse grained sands)
	2:10p	moist	0.3	21					
				22	25				
					26				
					27				
					28				
				8	29			CL	**Lean CLAY with Sand**: brown, hard, med. plasticity,
		moist	1	12					15-25% fine grained sands, trace gravels up to 0.5" dia.
				21	30				
					31				
					32				
					33				
				14	34				
		moist	0.4	24					
				45	35				
					36				
					37				
					38				
				11	39				**Clayey SAND with Gravel**: brown, very dense, 10-20%
		moist	0.1	22				SC	fines, 15-25% gravel up to 0.5" dia.
				33	40				Bottom of boring at 40 ft bg

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-5	
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 1 of 4	
Driller:	Gregg	Date Drilled:	6/19-23/06	Location Map	
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
Sampling Method:	Split Spoon	Hole Depth:	40'		
Casing Type:	NA	Well Diameter:	NA		
Slot Size:	NA	Well Depth:	NA		
Gravel Pack:	NA	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout					0			AF	7" asphalt/concrete, ~5" baserock
					1				
					2			SC	**Clayey SAND**: brown, 30-40% fines, 5-15% gravels up to 2" b-axis dia.
					3				
				air knifed & hand augered	4				
		moist	0.8		5				
					6				
					7				
					8				
				10	9				
		moist	0.1	11					
				15	10				(25-35% fines)
					11				
					12				
					13				
				12	14				
		moist	0.9	12				GC	**Clayey GRAVEL with Sand**: brown, medium dense, 10-20% fines, 10-20% well graded sand, gravels up to 2" b-axis dia.
				18	15				
				11					
				11	16				
				15					
					17				
					18				
				16	19				
		moist	0.2	23					
				27	20				

Delta Environmental Consultants, Inc.						
	Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-5	
	Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 2 of 4	
	Driller:	Gregg	Date Drilled:	6/19-23/06	Location Map	
	Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
	Sampling Method:	Split Spoon	Hole Depth:	40'		
	Casing Type:	NA	Well Diameter:	NA		
	Slot Size:	NA	Well Depth:	NA		
	Gravel Pack:	NA	Casing Stickup:	NA		
	Elevation		Northing		Easting	

Well Completion: Backfill / Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample: Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
					21		GC	**Clayey GRAVEL with Sand** (cont.)
	9:20a ▽ 21.1'				22			
					23			
				6	24			
		wet	1	15				
				33	25			(dense)
Grout	9:55a ▽ 26.6'				26			
					27			
					28			
				12	29		CL	**Sandy Lean CLAY**: grey, hard, medium plasticity, 15-25% fine grained sands
		moist	1.7	17				
				40	30			
					31			
					32			
					33			
				18	34			(orangish brown w/mottled dsrk grey spots, trace gravels up to 0.5" dia.)
		moist	173	32				
				40	35			
					36			
					37			
					38			
				13	39		SC	**Clayey SAND with Gravel**: light brown, very dense, 20-30% fines, gravels up to 2" dia.
		wet	72.1	17				
				45	40			

Delta
Environmental Consultants, Inc.

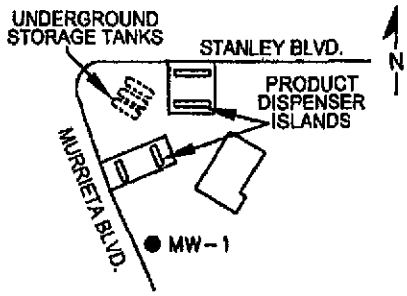
Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-5	
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 3 of 4	
Driller:	Gregg	Date Drilled:	6/19-23/06	Location Map	
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
Sampling Method:	Split Spoon	Hole Depth:	40'		
Casing Type:	NA	Well Diameter:	NA		
Slot Size:	NA	Well Depth:	NA		
Gravel Pack:	NA	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout								SC	**Clayey SAND with Gravel** (cont.)
					41				
					42				
					43				
		moist	11.6	32 36 50/4	44			CL	**Lean CLAY with Sand**: light brown, hard, medium plasticity, 15-25% fine grained sands
					45				
					46				
					47				
					48				
			49.5	30 50/4	49				
					50				
					51				
					52				
					53				
				50/4	54				(No Recovery)
		moist	7.4	40 50/4	55			CL	**Sandy Lean CLAY**: light brown, hard, medium plasticity, 25-35% fine grained sands
					56				
					57				
					58				
				23 50/6	59				
		moist	14.5		60				

Delta
Environmental Consultants, Inc.

Project No:	SJ80-9ST-1	Client:	Shell Oil Products US	Well No: SB-5	
Logged By:	Andy Persio	Location:	809 E. Stanley Blvd., Livermore	Page 4 of 4	
Driller:	Gregg	Date Drilled:	6/19-23/06	Location Map	
Drilling Method:	HSA	Hole Diameter:	6"	Please see site map	
Sampling Method:	Split Spoon	Hole Depth:	40'		
Casing Type:	NA	Well Diameter:	NA		
Slot Size:	NA	Well Depth:	NA		
Gravel Pack:	NA	Casing Stickup:	NA		
Elevation		Northing		Easting	

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Grout					61			CL	**Lean CLAY with Sand** (cont.)
					62				
					63				
				31	64				
		moist	2.1	50/5	65				(trace gravels up to 0.5")
					66				
					67				
					68				
		wet	14.5	13	69			GC	**Clayey GRAVEL with Sand**: light brown, very dense, 15-25% fines, 15-25% sands, gravels up to 2" dia.
				20					
				50/3	70				Bottom of boring at 70 ft bg
					71				
					72				
					73				
					74				
					75				
					76				
					77				
					78				
					79				
					80				



LOCATION MAP

IT CORPORATION

WELL NO. MW-1
PAGE 1 OF 3

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD: HSA
SAMPLING METHOD: CAL MOD
CASING TYPE: SCH 40 PVC
SLOT SIZE: 0.02"
GRAVEL PACK: NO.3

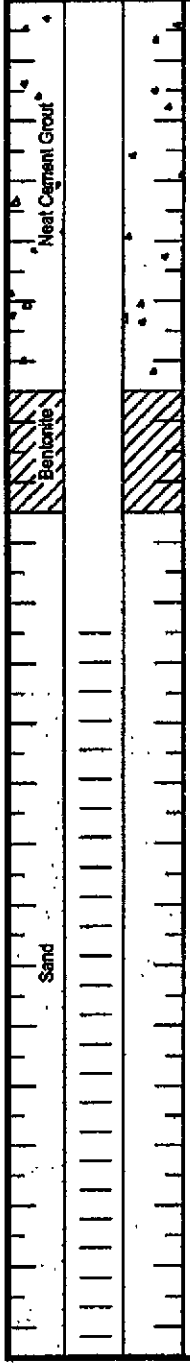
CLIENT: EQUIVA
DATE DRILLED: 9-21-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER: 8"
HOLE DEPTH: 47.5'
WELL DIAMETER: 2"
WELL DEPTH: 47.5'
CASING STICKUP: NA

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
	No	Dmp	0.0							Asphalt
									SW	GRAVELLY SAND: dark brown; 5-10% fines; 10% coarse gravel; 25-30% fine gravel; 25-30% medium to fine sand; 20-25% coarse sand; trace to 5% cobbles
					2					
					4					
	No	Mst	0.0	9					SW/SC	As above; fines increase with depth; loose to medium dense
	No	Mst	0.0	10						
				10	6					
	No	Mst		25						
	No	Mst	0.0	15						
	No	Mst		9						
	No	Mst/ Wet	0.0	5	8					
				5						
				4						
				3					SP	SAND: yellow-brown; 5-10% fines; 60% coarse sand; 25% fine gravel; 15% fine to medium sand; very loose
	No	Dmp	0.0	2	10					
	No			3						
	No	Dmp/Mst	0.0	3					CL	SILTY CLAY: medium brown; low plasticity; trace to 10% fine to medium sand; soft to firm
	No	Dmp		3						
	No	Dmp/Mst	0.0	5	12					
	No	Dmp/Mst		5						
	No	Dmp/Mst	0.0	3						
	No	Dmp/Mst		6						
				8	14					
				10						
	No	Dmp/Mst	0.0	3						
	No	Dmp/Mst		4						
	No	Dmp/Mst	0.0	7	16					
	No	Dmp/Mst		3						
	No	Dmp/Mst	0.0	4						
	No	Dmp/Mst		6						
	No	Dmp/Mst	0.0	2	18					
	No	Dmp/Mst		4						
	No	Dmp/Mst	0.0	7					CL	GRAVELLY SANDY CLAY: medium brown; low plasticity; 20% fine gravel; trace to 5% coarse gravel; 15% coarse sand; 5-10% fine to medium sand; firm to stiff
				9	20					
	No	Dmp/Mst	0.0	7						
	No	Dmp/Mst		12						
	No	Dmp/Mst	0.0	14					CL	SANDY SILTY CLAY: medium brown to gray-brown; low plasticity; 15-20% fine sand; trace to 10% coarse sand to fine gravel; firm to stiff
	No	Mst		5						
	No	Mst	0.0	8	22					

Neat Cement Grout

PROJECT NO: 830053 | CLIENT: EQUIVA
LOGGED BY: RMB | DATE DRILLED: 9-21-01
DRILLER: WDC | LOCATION: 809 EAST STANLEY BOULEVARD
DRILLING METHOD: | HOLE DIAMETER:
SAMPLING METHOD: | HOLE DEPTH:
CASING TYPE: | WELL DIAMETER:
SLOT SIZE: | WELL DEPTH:
GRAVEL PACK: | CASING STICKUP:

LOCATION MAP See page 1



DEPTH (FEET)	PRODUCT ODOR	MOISTURE CONTENT	RECOVERY	PENETRATION (BLOWS/ 6")	SOIL TYPE	LITHOLOGY/REMARKS
	No	Mst		8	CL	SILTY CLAY: medium to gray-brown; low plasticity; 15-20% fine sand; trace to 10% coarse sand to fine gravel; firm to stiff
	No	Mst		5		
	No	Mst	0.0	7		
	No	Mst		8		
24	No	Mst	0.0	10		
				6		
	No	Mst	0.0	5		
	No	Mst		9		
26	No	Mst	0.0	5		
	No	Mst		7		
	No	Mst	0.0	9		
	No	Mst		6		
28	No	Mst	0.0	7	CL	GRAVELLY SANDY CLAY: medium brown; low plasticity; 20-25% fine gravel; 20% fine to coarse sand; firm
	No	Mst		12		
	No	Mst	0.0	14	CL	SILTY SANDY CLAY: medium to gray-brown; low plasticity; 10-20% fine sand; trace to 10% coarse sand to fine gravel; soft to stiff
				3		
30	No	Mst	0.0	5		
	No	Mst		5		
	No	Mst	0.0	7		
	No	Mst		7		
32	No	Mst	0.0	7		
	No	Msl		10		
	No	Msl	0.0	3		
	No	Msl		5		
34	No	Mst	0.0	8		
	No	Mst		10		
	No	Mst	0.0	3		
	No	Mst		5		
36	No	Mst	0.0	9		
	No	Mst		4		
	No	Mst	0.0	4		
	No	Mst		6		
38	No	Sat	0.0	17	SC	CLAYEY SAND: light brown; 15-20% fines; 35-40% medium sand; 25% coarse sand; 20% fine sand; trace fine gravel; medium dense
	No	Sat		17		
	No	Sat	0.0	18	CL	GRAVELLY CLAY: dark brown; low plasticity; 10-15% fine gravel; trace coarse gravel; very stiff
	No	Mst		20		
40	No	Sat	0.0	15	SC	CLAYEY GRAVELLY SAND: medium yellow-brown; 25-40% fines; 20-25% fine gravel; 15-20% coarse sand; 25-30% medium to fine sand; trace to 10% coarse gravel; loose to medium dense
		Sat		17		
		Wet	0.0	21		
	No	Sat		12		
42	No	Sat	0.0	16		
	No	Wet		17		
	No	Sat	0.0	12		
	No	Wet		14		
44			0.0	17		

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: EQUIVA
DATE DRILLED: 9-21-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

LOCATION MAP See page 1

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Sand				17					SC	CLAYEY GRAVELLY SAND: medium yellow-brown; 25-40% fines; 20-25% fine gravel; 15-20% coarse sand; 25-30% medium to fine sand; trace to 10% coarse gravel; loose to medium dense
	No	Sat	0.0	24						
	No	Sat		7						
				12	46					
	No	Sat	0.0	21						SAND (46.5'): dark brown; 5% fines; 75% fine to medium sand; 20% coarse sand; loose
	No	Sat		8					SP	
	No	Sat		10					SW	SAND: grey-brown; 5% fines; 10% fine gravel; 40% coarse sand; 25% medium sand; 20% fine sand; loose
					48					BOTTOM OF HOLE=47.5'

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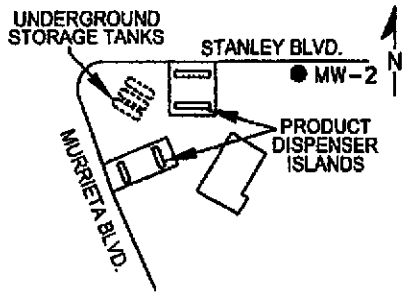

LOCATION MAP

IT CORPORATION

WELL NO. MW-2
PAGE 1 OF 3

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD: HSA
SAMPLING METHOD: CAL MOD
CASING TYPE: SCH 40 PVC
SLOT SIZE: 0.02"
GRAVEL PACK: NO.3

CLIENT: EQUIVA
DATE DRILLED: 9-24-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER: 8"
HOLE DEPTH: 47.5'
WELL DIAMETER: 2"
WELL DEPTH: 47.5'
CASING STICKUP: NA

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
									Asphalt
	No	Dmp	0.0					CL	GRAVELLY SANDY CLAY: medium brown; low plasticity; 15% coarse sand; 10-15% fine gravel; trace to 10% coarse gravel
					2				
								SC	GRAVELLY CLAYEY SAND: dark brown; 15-20% fines; 5-10% coarse gravel; 25% fine gravel; 20% medium to fine sand; 30% coarse sand; very loose
					4				
	No	Dry		4					
	No	Dmp		4	6				
	No	Dmp		5					
					8				
								CL	CLAY: dark brown; low plasticity; 5-10% coarse sand; 10% medium sand; firm
	No	Dmp	0.0	7	10				
	No	Dmp		5					
Neat Cement Grout	No	Dmp	0.0	4					
					12			CL	SILTY SANDY CLAY: yellowish-brown; low plasticity; 10-15% medium sand; trace to 10% coarse sand; 15 to 20% fine sand; firm
					14				
								SC	CLAYEY SAND: dark to medium brown; 25% fines; trace to 10% fine gravel; trace coarse gravel; 35% coarse sand; 25-30% medium sand; 5-10% fine sand; loose to medium dense
	No	Dmp	0.0	6					
	No	Dmp		7	16				
	No	Dmp	0.0	15					
					18				
	No	Dmp/Mst	0.0	11	20				
	No	Dmp/Mst		16					
	No	Dmp/Mst	0.0	22					
					22				

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PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: EQUIVA
DATE DRILLED: 9-24-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

LOCATION MAP See page 1

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT	RECOVERY	PENETRATION (BLOWS/ 6")	DEPTH (FEET)	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
	No	Mst/Wet	0.0	20	24		SC	CLAYEY SAND: dark to medium brown; 25% fines; trace to 10% fine gravel; trace coarse gravel; 35% coarse sand; 25-30% medium sand; 5-10% fine sand; loose to medium dense
	No	Mst/Wet		22				
Neat Cement Grout	No	Mst	0.0	23			CL	SILTY CLAY: medium brown to yellowish orange; low plasticity; 5-10% medium sand; trace to 5% coarse sand; soft to firm
					26			
					28			
Bentonite	No	Mst	0.0	3				
	No	Mst		4				
	No	Mst	0.0	5	30			
					32			
	No	Mst	0.0	3	34			As above
	No	Mst		3				
	No	Mst	0.0	5				
					36			
Sand					38			
	No	Wet	0.0	3				As above with thin (<1/2") interbedded sand lenses
	No	Wet		4				
	No	Wet	0.0	6	40 ▽			
					42		CL	SANDY CLAY: medium brown to orangish brown; low plasticity; 15-20% medium sand; 10-15% coarse sand; trace to 10% fine gravel; firm
	No	Sat	0.0	3	44			
	No	Sat		7				

IT CORPORATION

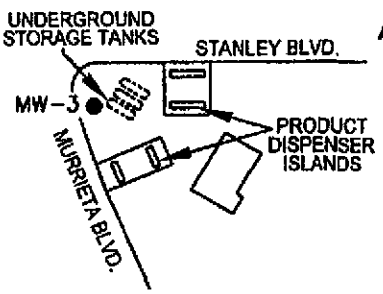
WELL NO. MW-2
PAGE 3 OF 3

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: EQUIVA
DATE DRILLED: 9-24-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

LOCATION MAP See page 1

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Sand	No	Sat		7					CL	CLAY: medium brown to orangish brown; low plasticity; 15-20% medium sand; 10-15% coarse sand; trace to 10% fine gravel; firm
	No	Sat	0.0	10	46					
					48					BOTTOM OF HOLE=47.5'



LOCATION MAP

IT CORPORATION

WELL NO. MW-3
PAGE 1 OF 3

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD: HSA
SAMPLING METHOD: CAL MOD
CASING TYPE: SCH 40 PVC
SLOT SIZE: 0.02"
GRAVEL PACK: NO.3

CLIENT: EQUIVA
DATE DRILLED: 9-24-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER: 8"
HOLE DEPTH: 47.5'
WELL DIAMETER: 2"
WELL DEPTH: 47.5'
CASING STICKUP: NA

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT	RECOVERY	PENETRATION (BLOWS/ 6")	DEPTH (FEET)	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
					0			Asphalt
	No	Dmp/Mst	0.0		2		SC	CLAYEY GRAVELLY SAND: dark brown; 35-40% fines; 30% fine to medium sand; 10-15% coarse sand; 15% fine gravel; trace to 10% coarse gravel
					4		SW/SC	GRAVELLY CLAYEY SAND: dark brown to gray brown; 10-15% fines; 25% coarse sand; 30% medium to fine sand; 20% fine gravel; 5-10% coarse gravel; loose to medium dense
	No	Dmp	0.0	14	6			
	No	Dmp	0.0	12				
	No	Dmp	0.0	12	8			
	No	Dmp	0.0	4				
	No	Dmp	0.0	7	10		CL	CLAY: dark brown; low plasticity; 10% medium sand; trace to 10% coarse sand; firm
	No	Dmp	0.0	8				
Neat Cement Grout					12		CL	SILTY SANDY CLAY: yellowish-brown; low plasticity; 10-15% medium sand; trace to 10% coarse sand; 15 to 20% fine sand; firm
	No	Dmp	0.0	4	14			
	No	Dmp	0.0	6				
	No	Dmp	0.0	6	16			
					18		SC	CLAYEY SAND: medium brown; 25-30% fines; 30% coarse sand; 25-30% fines; 30% coarse sand; 25-30% medium to fine sand; 5-10% fine gravel; trace to 10% coarse gravel; loose to medium dense
	No	Mst	0.0	5				
	No	Mst	0.0	11	20			
	No	Mst	0.0	14				
					22			

IT CORPORATION

WELL NO. MW-3
PAGE 2 OF 3

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: EQUIVA
DATE DRILLED: 9-24-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

LOCATION MAP See page 1

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Neat Cement Grout	No	Mst/Wet	0.0	5	24			SC	CLAYEY SAND: medium brown; 25-30% fines; 30% coarse sand; 25-30% medium to fine sand; 5-10% fine gravel; trace to 10% coarse gravel; loose to medium dense
	No	Mst/Wet	0.0	11					
	No	Mst/Wet	0.0	12	26				
								CL	SILTY SANDY CLAY: gray-brown; low plasticity; 15-20% fine sand; trace to 10% coarse sand; trace to 5% fine to coarse gravel; firm
Bentonite	No	Mst	0.0	4	28				
	No	Mst	0.0	4					
	No	Mst	0.0	5	30				
					32				
								CL	SILTY CLAY: orangish-yellowish brown; low plasticity; trace to 10% medium to coarse sand; trace to 15% fine sand; greenish gray mottling; firm
	No	Dmp	0.0	4	34				
	No	Dmp	0.0	5					
	No	Mst	0.0	5	36				
Sand					38				
	No	Dmp/Mst	0.0	3					As above
	No	Dmp/Mst	0.0	6					
	No	Dmp/Mst	0.0	7	40 ▽				
					42			SP	SAND: gray-brown; 5% fines; trace to 5% fine gravel; 30-35% medium sand; 25% fine sand; 35-40% coarse sand; well sorted; very loose
	No	Sat	0.0	4					CLAYEY GRAVELLY SAND (~44.3'): orange-brown; 30% fines; 5% coarse gravel; 10% fine gravel; 35-40% medium to fine sand; 15-20% coarse sand; loose
	No	Sat	0.0	6	44			SC	

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IT CORPORATION

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: EQUIVA
DATE DRILLED: 9-24-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

LOCATION MAP See page 1

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Sand	No	Sat	0.0	6					SC	CLAYEY GRAVELLY SAND: orange-brown; 30% fines; 5% coarse gravel; 10% fine gravel; 35-40% medium to fine sand; 15-20% coarse sand; loose
	No	Sat	0.0	13	46					
					48					BOTTOM OF HOLE=47.5'

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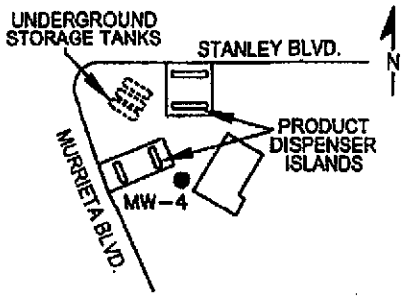

LOCATION MAP

IT CORPORATION

WELL NO. MW-4
PAGE 1 OF 3

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD: HSA
SAMPLING METHOD: CAL MOD
CASING TYPE: SCH 40 PVC
SLOT SIZE: 0.02"
GRAVEL PACK: NO.3

CLIENT: EQUIVA
DATE DRILLED: 9-25-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER: 8"
HOLE DEPTH: 47.5'
WELL DIAMETER: 2"
WELL DEPTH: 47.5'
CASING STICKUP: NA

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY / SAMPLE INTERVAL / GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
								Asphalt
	No	Dry	0.0		2		SC	CLAYEY GRAVELLY SAND: dark brown; 35-40% fines; 35% fine to medium sand; 10% coarse sand; 10-15% fine gravel; trace to 10% coarse gravel
					4		SW/SC	GRAVELLY SAND: dark brown; 5-10% fines; 30-35% medium to fine sand; 25% coarse sand; 25-30% fine gravel; 5% coarse gravel; trace cobbles; loose
	No	Dmp	0.0	7	6			
	No	Dmp	0.0	12				
	No	Dmp	0.0	13				
	No	Dmp	0.0	7	8			
	No	Dmp	0.0	5			CL	CLAY: dark brown; low plasticity; 10% medium sand; trace to 10% coarse sand; firm
	No	Dmp	0.0	3	10			
Neat Cement Grout					12		CL	SILTY SANDY CLAY: medium brown to yellowish brown; low plasticity; 15-20% fine sand; 10-15% medium sand; trace to 10% coarse sand; firm
	No	Dmp	0.0	3	14			
	No	Dmp	0.0	4				
	No	Dmp	0.0	7	16			
					18		SC	CLAYEY SAND: dark to medium brown; 25-30% fines; 30-35% fine to medium sand; 25-30% coarse sand; 5-10% fine gravel; trace to 5% coarse gravel; loose to medium dense
	No	Dmp/Mst	0.0	12				
	No	Dmp/Mst	0.0	21	20			
	No	Dmp/Mst	0.0	28				
					22			

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: EQUIVA
DATE DRILLED: 9-25-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

LOCATION MAP See page 1

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Neat Cement Grout	No	Mst	0.0	10	24			SC	CLAYEY SAND: dark to medium brown; 25-30% fines; 30-35% fine to medium sand; 25-30% coarse sand; 5-10% fine gravel; trace to 5% coarse gravel; loose to medium dense
	No	Mst	0.0	16					
	No	Mst	0.0	18	26				
									SILTY SANDY CLAY: gray-brown to medium brown; low plasticity; 5-15% fine sand; trace to 10% coarse sand to fine gravel; soft to firm
Bentonite	No	Mst	0.0	3	28				
	No	Mst	0.0	3					
	No	Mst	0.0	4	30				
					32				
	V.Slt	Dmp	0.0	3	34			CL	As above: green-gray mottling; possibly old contamination
	V.Slt	Dmp/Mst	0.0	7					
	No	Mst	0.0	7	36				
Sand					38				
	No	Mst	0.0	3					As above
	No	Mst/Wet	0.0	4					
	No	Wet	0.0	5	40				
					▽				
					42			SC	CLAYEY GRAVELLY SAND: orange-brown; 30% fines; 5% coarse gravel; 10% fine gravel; 30-35% medium to fine sand; 20-25% coarse sand; loose to medium dense
	No	Sat	0.0	8					
	No	Sat	0.0	14	44				

/ N:\Logs\830053\809Stanley\MW-4-2.dwg Tue, 26/Feb/02 12:07pm lwahlgren

IT CORPORATION

WELL NO. MW-4
PAGE 3 OF 3

PROJECT NO: 830053
LOGGED BY: RMB
DRILLER: WDC
DRILLING METHOD:
SAMPLING METHOD:
CASING TYPE:
SLOT SIZE:
GRAVEL PACK:

CLIENT: EQUIVA
DATE DRILLED: 9-25-01
LOCATION: 809 EAST STANLEY BOULEVARD
HOLE DIAMETER:
HOLE DEPTH:
WELL DIAMETER:
WELL DEPTH:
CASING STICKUP:

LOCATION MAP See page 1

WELL COMPLETION	PRODUCT ODOR	MOISTURE CONTENT		PENETRATION (BLOWS/ 6")	DEPTH (FEET)	RECOVERY	SAMPLE INTERVAL	GRAPHIC	SOIL TYPE	LITHOLOGY/REMARKS
Sand	No	Sat	0.0	14	46				SC	CLAYEY GRAVELLY SAND: orange-brown; 30% fines; 5% coarse gravel; 10% fine gravel; 30-35% medium to fine sand; 20-25% coarse sand; loose to medium dense
	No	Sat	0.0	19						
					48					BOTTOM OF HOLE=47.5'

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LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-70.01 BORING NO. S-C

PROJECT NAME Gettler-Ryan, Shell, E. Stanley & Murrieta, PAGE 1 OF 1

BY EBL DATE 8/11/86 Livermore SURFACE ELEV. 455'±

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				0			CONCRETE, SAND, and GRAVEL-FILL.
				5	1	SW	SAND-FILL: dark brown (10YR, 3/3): 10-20% fines; fine to medium sand; 10-15% coarse sand; loose; dry; no product odor.
		5		10	2		@ 8-1/2": grayish brown (2.5Y, 5/2); moist; no product odor.
	4.0	28			3	CH	CLAY; brown (10YR, 4/3); 10-20% fine sand; very stiff to hard; moist; no product odor.
	0.5	10		15	4	CL	CLAY; brown (10YR, 4/2); 10-20% fine sand; 5% fine to coarse gravel; moist; soft; no product odor.
		52		20	5	GC	CLAYEY GRAVEL; dark brown (10YR, 4/3); 40-50% fines; fine to coarse gravel; 10-15% fine sand; 10-20% medium to coarse sand; loose; wet; no product odor.
			▽	25		SC	CLAYEY SAND; dark gray (5Y, 4/1); 20-30% fines; fine sand; 10-15% medium to coarse sand; loose; wet; moderate product odor.
	2.5	18		30	6	CL	CLAY; brown (10YR, 4/3); 10-20% fine sand; very stiff; damp to wet; moderate product odor.
				35			BOTTOM OF BORING AT 31-1/2 FEET.
				40			

REMARKS

Drilled by 8-inch continuous-flight, hollow-stem auger; samples collected with 2-inch California modified split-spoon sampler. Boring backfilled with Bentonite to 30-1/2 feet; cuttings to 1 foot; concrete to surface.

PLATE C

LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-70.01 BORING NO. S-D

PROJECT NAME Gettler-Ryan, Shell, E. Stanley & Murrieta, PAGE 1 OF 1

BY EBL DATE 8/11/86 Livermore SURFACE ELEV. 455'±

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				0			ASPHALT, SAND, and GRAVEL-FILL.
						SW	SAND-FILL; brown (10YR, 3/3); 5-10% fines; medium to coarse sand; 20-25% fine to coarse gravel; loose; moist; no product odor.
				5	1		
	3.0	15		10	2	CH	CLAY; dark brown (10YR, 3/3); 10-15% fine sand; 5-10% medium to coarse sand; very stiff; moist; no product odor. @12 to 13-1/2': 10-20% fine sand; hard; occasional root fragments.
	4.0	32			3		
				15			
		60	▽		4	SC/SW	CLAYEY SAND, SAND-INTERBEDDED; dark brown (10YR, 3/3); CLAYEY SAND: 40-45% fines; fine sand; stiff; moist; SAND: 10-20% fines; 40-60% fine to coarse sand; 20-30% fine to coarse gravel; very dense; wet; no product odor.
				20			
						SC	
	2.5	55		25	5		
						CL	CLAYEY SAND; brown (10YR, 4/2); 30-40% fine sand; 5-10% coarse sand; 10-15% fine to medium gravel; very dense; moist; no product odor.
	1.5	20		30	6		CLAY; brown (10YR, 4/2); 10-20% fine sand; 5-10% coarse sand; stiff; moist; faint product odor.
							BOTTOM OF BORING AT 31-1/2 FEET.
				35			
				40			

REMARKS

Drilled by 8-inch continuous-flight, hollow-stem auger; samples collected with 2-inch California modified split-spoon sampler. Boring backfilled with Bentonite to 27-1/2 feet; concrete to 20 feet; cuttings to 1 foot; concrete to surface

PLATE D

LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-70.01 BORING NO. S-A

PROJECT NAME Gettler-Ryan, Shell, E. Stanley & Murrieta PAGE 1 OF 1

BY EBL DATE 8/11/86 Livermore SURFACE ELEV. 455' ±

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				0			ASPHALT, SAND, and GRAVEL-FILL.
						SM	SILTY SAND-FILL.
				5			
		43			1	SW	SAND; dark grayish brown (10YR, 3/2); 5-10% fines; fine to coarse sand; 5-10% fine to coarse gravel; dense; dry; no product odor.
				10			
		60 for 1 foot		15	2	CL	CLAY; dark grayish brown (10YR, 4/3); 20-30% fine sand; 20-30% medium to coarse sand; 5-10% fine gravel; firm; moist; no product odor.
		50 for6"		20	3	SC	CLAYEY SAND; light olive brown (2.5Y, 5/4); 10-20% fines; 30-40% fine sand; 15-30% medium to coarse sand; medium dense; dry; no product odor.
							BOTTOM OF BORING AT 19 FEET.
				25			
				30			
				35			
				40			

REMARKS

Drilled by 5-inch continuous-flight, solid-stem auger; samples collected with 2-inch California modified split-spoon sampler. Boring backfilled with cuttings to 1 foot; concrete to surface.

PLATE A

LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-70.01 BORING NO. S-B

PROJECT NAME Gettler-Ryan, Shell, E. Stanley & Murrieta, PAGE 1 OF 1

BY EBL DATE 8/11/86 Livermore SURFACE ELEV. 455'±

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
							CONCRETE, SAND, and GRAVEL-FILL.
						SM	SILTY SAND-FILL; dark grayish brown (10YR, 4/2); 10-20% fines; 15-25% medium to coarse sand; loose; dry; no product odor.
		6		5	1	SW	SAND-FILL; dark brown (10YR, 3/3); 10-15% fines; fine to medium sand; 5-10% coarse sand; loose; moist; no product odor.
	4.0	11		10	2	CH	@8-1/2': 10-20% fine to coarse gravel.
	4.5	38			3		CLAY; dark brown (10YR, 3/3); 10-20% fine sand; very stiff; moist; no product odor.
				15			@ 12': occasional root fragments; no product odor.
		65	K2	20	4	GC	CLAYEY GRAVEL; dark brown (10YR, 3/3); 40-50% fines; 50-60% coarse sand to coarse gravel; very dense; damp to wet; no product odor.
		75 for 1 foot		25	5		@ 24-1/2': brown (10YR,4/3); 40-50% fines; 10-20% fine to medium sand; 40-50% coarse sand to coarse gravel.
		28		30	6	SC	CLAYEY SAND; dark grayish brown (2.5Y, 4/2); 20-30% fines; 40-50% fine sand; 10-20% medium to coarse sand; trace gravel; medium dense; damp to wet; strong product odor; root holes.
	1.0	22		35	7	CL	CLAY; light olive brown (2.5Y, 5/6); 15-25% fine sand; firm to stiff; damp to wet; strong product odor; root holes and root fragments.
				40			BOTTOM OF BORING AT 35-1/2 FEET.

REMARKS

Drilled by 8-inch continuous-flight, hollow-stem auger; samples collected with 2-inch California modified split-spoon sampler. Boring backfilled with Bentonite to 33 feet, cuttings to 1 foot; concrete to surface.

PLATE B