RO-450

ERI

ENVIRONMENTAL RESOLUTIONS, INC.

Alameda County
OCT 24 2002
Environmental Health

TRANSMITTAL

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

DATE: October 22, 2002
PROJECT NUMBER: 224814T10
SUBJECT: Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California.

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

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	October 18, 2002	Work Plan for Remedial Excavation

THESE ARE TRANSMITTED as checked below:

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[X] For your files	[ ] For distribution to regulatory agencies	

REMARKS: At the request of Tosco Corporation (Tosco), a subsidiary of Phillips Petroleum Company, Environmental Resolutions, Inc. (ERI) is forwarding a copy of the above-referenced document directly to your office. Please call me at (415) 382-5988 with any questions or comments.

Robert A. Saur

Robert A. Saur, Project Manager

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

ENVIRONMENTAL RESOLUTIONS, INC.

October 18, 2002
ERI 224814.W05

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

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

Mr. DeWitt:

At the request of Tosco Corporation (Tosco), a subsidiary of Phillips Petroleum Company, Environmental Resolutions, Inc. (ERI) has prepared this Work Plan describing the proposed scope of work to perform remedial excavation of hydrocarbon impacted soil at the subject site. The purpose of the work is to remove the hydrocarbon impacted soil, a potential secondary source of hydrocarbons to groundwater, in the vicinity of the former eastern dispenser island and monitoring well MW2, and to facilitate for the redevelopment of the property.

BACKGROUND

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

Previous environmental work performed at the site has included:

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

Analytical results of soil samples collected during previous environmental work indicate residual hydrocarbons are delineated beneath the site. The soil sample locations and analytical results of soil samples collected are provided in Attachment A. Analyses of groundwater samples collected during quarterly groundwater monitoring and sampling continue to detect dissolved hydrocarbons in monitoring well MW2. Based on laboratory analyses of groundwater samples collected from soil borings GP15 and GP16 the extent of dissolved hydrocarbons to the south (upgradient) of MW2 has been defined. Cumulative results of groundwater monitoring and sampling data are provided in Attachment B.

PROPOSED WORK

The limited excavation is proposed to remove the hydrocarbon impacted soil, a potential secondary source of hydrocarbons to groundwater, in the vicinity of the former eastern dispenser island and monitoring well MW2, and to facilitate for the redevelopment of the property. ERI will perform field work in accordance with ERI's standard field protocol (Attachment C) and ERI's site-specific health and safety plan. ERI will perform the following tasks:

- Prepare a permit application and obtain a permit from the City of Alameda (the City) to perform an excavation.

- Prepare a permit application and obtain a permit from the Alameda County Public Works Agency (the County) to destroy groundwater monitoring well MW2 and reinstall monitoring well MW2 during the backfill activities.

- Obtain the services of a licensed well driller and observe the driller destroy monitoring well MW2. Monitoring well MW2 will be destroyed by filling the well casing with Portland cement and applying an air pressure of 25 pounds per square inch (psi) for a period of five minutes to force grout through the slotted interval of the well casing, and into the annulus, and adjacent formation. The well box will be removed during the excavation activities.

- Observe a licensed excavation contractor, under direct contract to Tosco, perform the remedial excavation. The location of the excavation was selected based on the cumulative results of soil and groundwater analyses, sediments underlying the site, and the direction of groundwater flow. Based on this information, ERI suspects that the residual source of hydrocarbons is in the vicinity of the former eastern dispenser island, between well MW2 and borings GP15 and GP16 (Plate 2). ERI proposes an excavation area of approximately 15 feet by 30 feet in the vicinity of MW2 and the former eastern dispenser island, as shown on Plate 2. The excavation will be advanced to a minimum depth of 8 feet below ground surface, or one foot below groundwater, whichever is deeper. The excavation will not be extended beyond the property boundary, and will not be completed in such a manner as to adversely impact roads, sidewalks, or adjacent structures.

- Collect samples of native soil for submittal to PTS Laboratories, Inc. (PTS) in Santa Fe Springs, California, for analyses of geotechnical and geologic parameters.

- Stockpile and cover soil removed during the excavation on site pending receipt of the soil analytical results and subsequent disposal and/or recycling by Tosco.

- At the completion of the excavation activities, ERI personnel will collect confirmation soil samples from the sidewalls of the excavation. ERI personnel will also collect composite soil samples (four brass sleeves per 100 cubic yards) from the stockpiled soil for characterization for disposal.

- Observe the Tosco contractor backfill the excavation with clean pea gravel to one foot above static groundwater, lay a filter fabric, and backfill with a Class II base from the filter fabric to the ground surface. The Tosco contractor will be responsible for compaction and testing (as necessary).

- Observe the Tosco contractor install a monitoring well on the northern end of the excavation in the vicinity of former monitoring well MW2 during backfilling operations. The monitoring well will replace destroyed monitoring well MW2. According to the County, a C-57 drilling license is not required for this well installation.

- Submit soil samples to a California state-certified laboratory, under Chain-of-Custody protocol, for analysis of total petroleum hydrocarbons as gasoline (TPHg); benzene, toluene, ethylbenzene and total xylenes (BTEX); and methyl tertiary butyl ether (MTBE) using Environmental Protection Agency (EPA) Method 8260B.

- Submit a composite soil sample collected from stockpiled soil generated during excavation activities to a California state-certified laboratory, under Chain-of-Custody protocol, for analysis of TPHg, BTEX, and MTBE using the laboratory methods listed previously, and total lead using EPA Method 6010.

- Interpret the field and laboratory data and prepare a report summarizing the findings.

SCHEDULE OF OPERATIONS

ERI is prepared to implement this proposed work upon regulatory approval of this Work Plan and obtaining the appropriate permits.

DOCUMENT DISTRIBUTION

ERI recommends copies of this Work Plan be forwarded to:

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

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

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

Sincerely,
Environmental Resolutions, Inc.

Robert A. Saur
Project Manager

John B. Bobbitt
R.G. 4313

Attachments: References

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

Attachment A: Soil Sample Locations and Analytical Results
Attachment B: Cumulative Groundwater Monitoring and Sampling Data
Attachment C: Field Protocol

REFERENCES

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

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

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

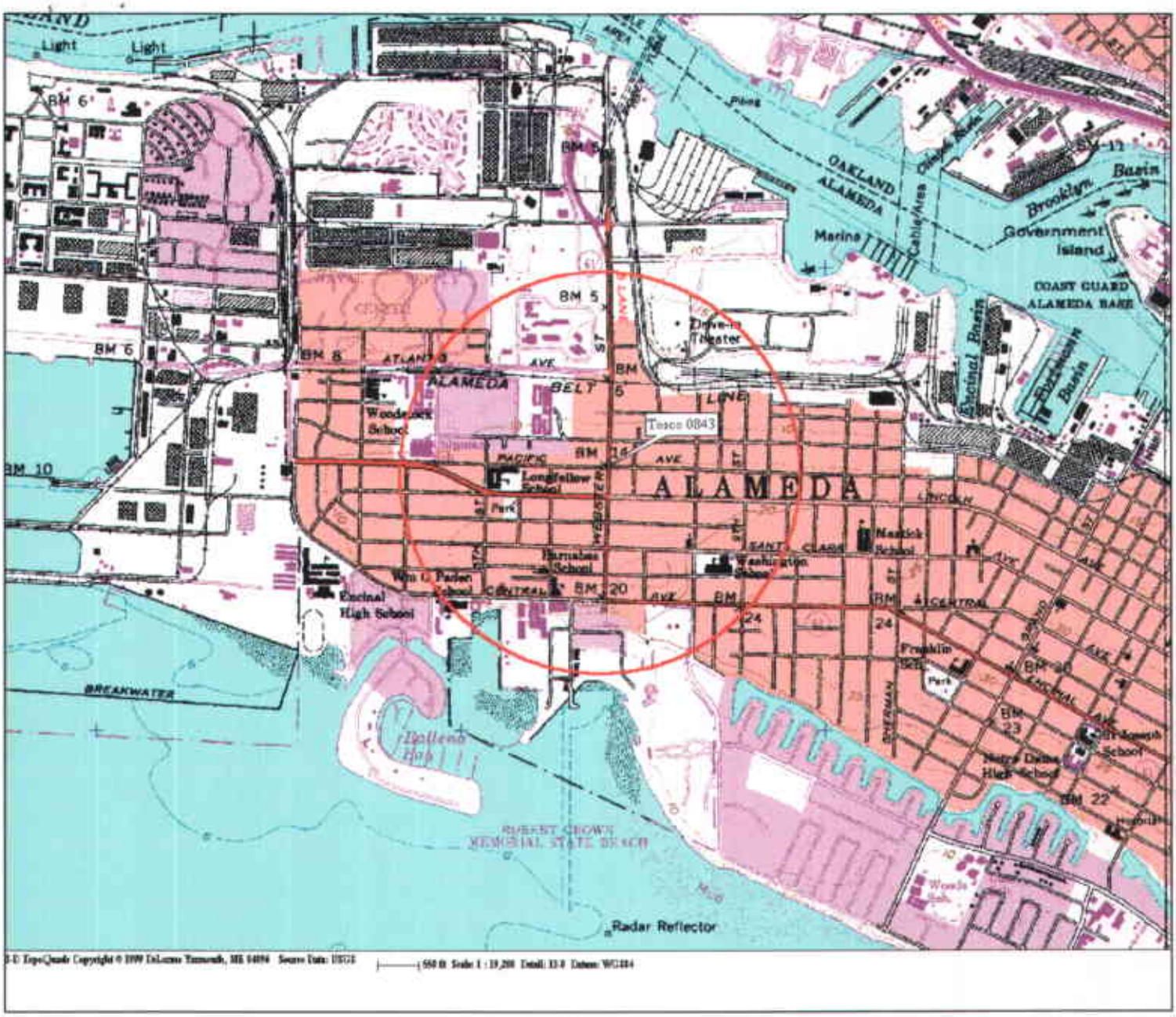
Environmental Resolutions, Inc. April 2, 2001. Underground Utility Survey and Work Plan for Supplemental Evaluation of Soil and Groundwater, Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224803.W03.

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

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

Gettler-Ryan, Inc. July22, 2002. Second Quarter Event of June 7, 2002 – Groundwater Monitoring and Sampling Report, Former Tosco 76 Service Station #0843, 1629 Webster Street, Alameda, California. G-R Job #180203.

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



EXPLANATION

1/2–mile radius circle

N

APPROXIMATE SCALE

0 0.5 1 mile

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

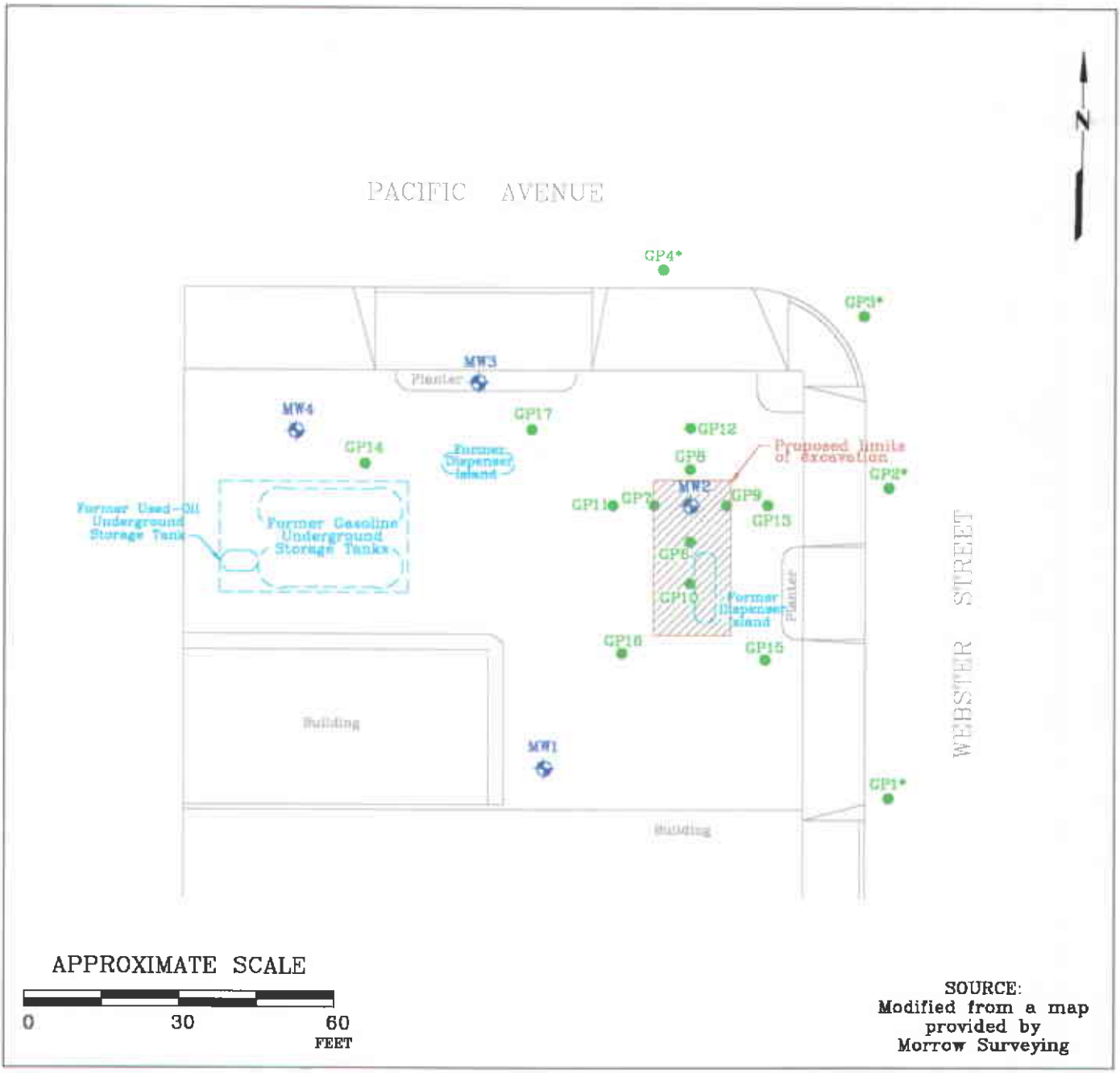
ERI ENVIRONMENTAL RESOLUTIONS, INC.

SITE VICINITY MAP

Former Tosco Service Station 0843
1629 Webster Street
Alameda, California

PROJECT NO. 2248

PLATE 1



FN 22480002

EXPLANATION

MW4 Groundwater Monitoring Well

GP17 Direct-Push Soil Boring

* Drilled on May 23, 2001

ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

FORMER TOSCO SERVICE STATION 0843
1629 Webster Street
Alameda, California

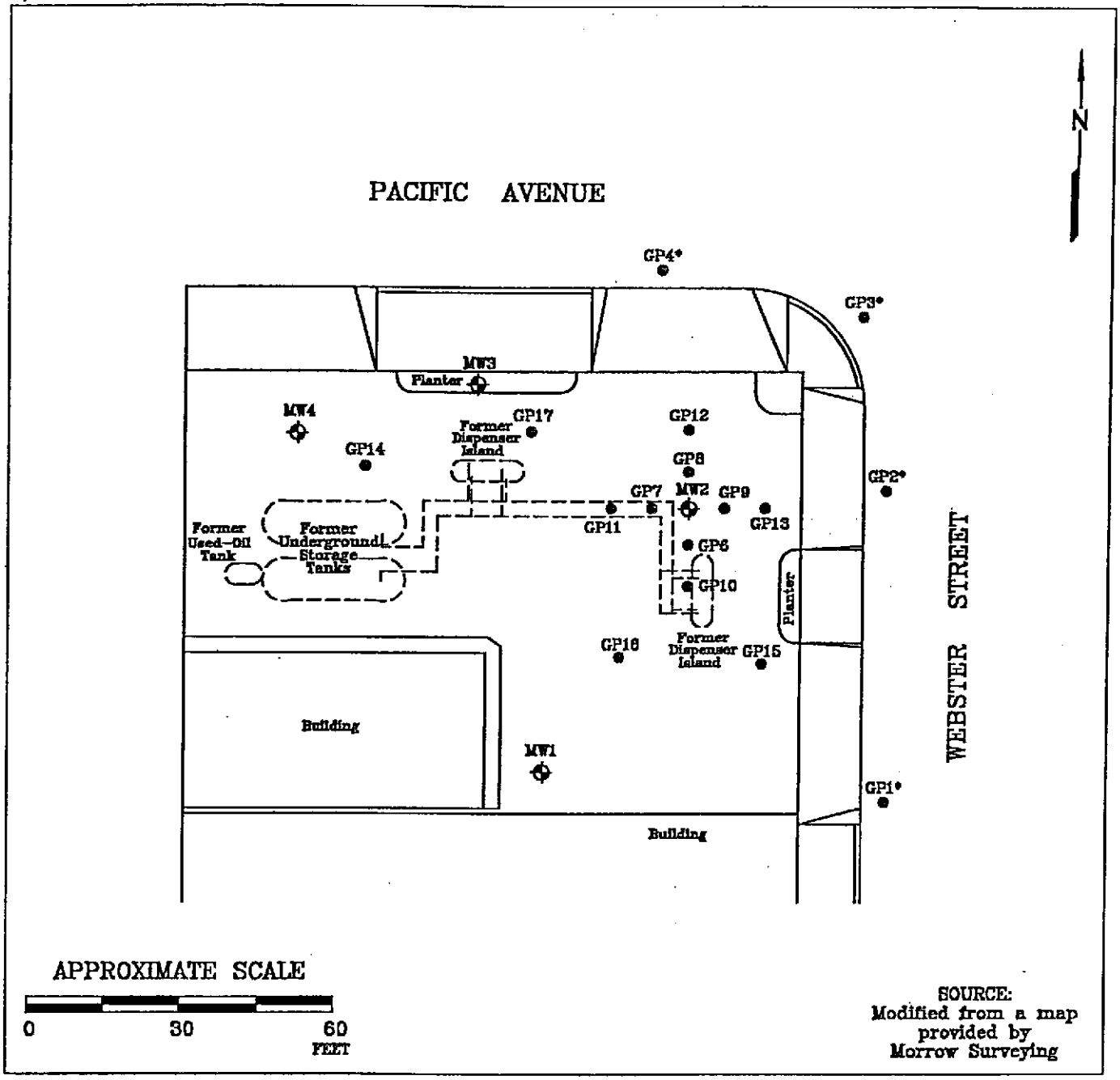
PROJECT NO. 2248

PLATE 2

February 7, 2002

ATTACHMENT A

SOIL SAMPLE LOCATIONS AND ANALYTICAL RESULTS



FN 22480002

EXPLANATION

MW4 ⊕ Groundwater Monitoring Well

GP17 ● Direct-Push Soil Boring

* Drilled on May 23, 2001

ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

FORMER TOSCO SERVICE STATION 0843
1629 Webster Street
Alameda, California

PROJECT NO. 2248

PLATE 2

February 7, 2002

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

Sample#	Plate 2 Callout	Depth	Date	TEPHd	TPPHg	B	T	E	X	TRPH	MTBE	SVOC's	HVOC's	Total Lead/ Soluble Lead
				<.....ppm (unless otherwise noted).....>										
Gasoline USTs														
S-8-T1N	C	8	6/17/98	NA	44	0.09	0.04	0.2	0.4	NA	280*	NA	NA	27/NA
S-5.5-T1E	F	5.5	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND*	NA	NA	NA
S-2-T1N	B	2	6/17/98	NA	ND	0.04	ND	0.08	0.08	NA	ND*	NA	NA	63/NA
S-5.5-T2S	D	5.5	6/17/98	NA	ND	ND	ND	ND	ND	ND	ND*	NA	NA	NA
S-6-T2E	E	6	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND*	NA	NA	NA
Used - Oil UST														
S-6-T3	A	6	6/17/98	ND**	ND	ND	ND	ND	ND	ND	ND*	ND	ND	21/NA
Product Lines and Dispensers														
S-3-D1	G	3	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-3-D2	H	3	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-4-D3	K	4	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-3.5-D4	L	3.5	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-3-P1	I	3	6/17/98	NA	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
S-3.5-P2	J	3.5	6/17/98	ND	ND	ND	ND	ND	ND	NA	ND	NA	NA	NA
Stockpiles														
SP-1-(1-4)	NA	NA	6/17/98	NA	1,700	3.6	57	21	170	NA	ND	NA	NA	42/NA
SP-2 -(1-4)	NA	NA	6/17/98	NA	460	0.7	4.6	3.5	36	NA	ND	NA	NA	64/2.4
SP-3-(1-4)	NA	NA	6/17/98	26	2	ND	0.18	0.005	0.046	1,193	ND	ND-2	ND	110/3.5
WATER														
S-8.5-TP	NA	8.5	6/17/98	NA	19,000	880	930	360	2,300	NA	1,300			

TABLE 1

RESULTS OF ANALYSIS OF SOIL AND GROUNDWATER SAMPLES

Former Tosco 76 Service Station 0843

1629 Webster Street

Alameda, California

Notes:

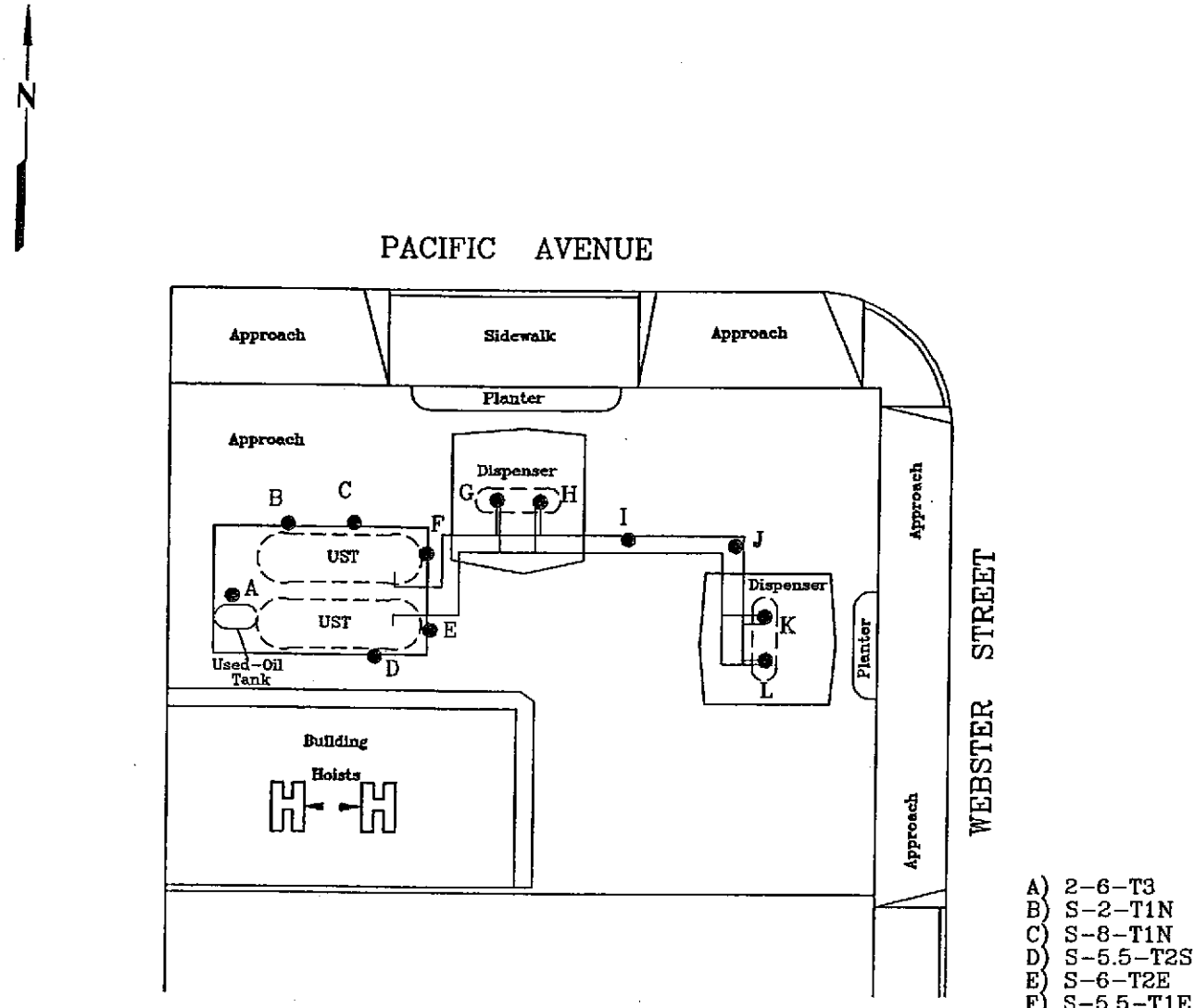
Soil Samples reported in parts per million (ppm) unless otherwise noted

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

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

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

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



FN 22480002

EXPLANATION

L● Sample Location

S-3.5-D4 – Dispenser D4
Sample Depth
Soil

APPROXIMATE SCALE

0 30 60
FEET

SOURCE:
Modified from a map provided by TOSCO

ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

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

PROJECT NO.
2248

PLATE
2
June 24, 1998

TABLE 1
ANALYTICAL RESULTS of SOIL SAMPLES
Former Tosco 76 Service Station 0843
1629 Webster Street
Alameda, California

Sample Number	Plate Call-out	Date Sampled	TPPHg	MTBE	B	T	E	X	Lead
			<.....ppm.....>						
Soil - Borings									
S-10.5-B1	MW1	3/2/99	ND	ND	ND	ND	ND	ND	ND
S-10.5-B2	MW2	3/2/99	ND	0.561	0.0295	0.0658	0.0359	0.119	ND
S-10.5-B3	MW3	3/2/99	ND	ND	ND	ND	ND	ND	ND
S-10.5-B4	MW4	3/2/99	ND	0.109	ND	ND	ND	ND	ND
Soil-Stockpiles									
Comp SP1-(1-4)	----	3/2/99	ND	0.0108	ND	0.00351	ND	0.0304	29

Notes:

ppm	=	Parts per million.
S-10.5-B1	=	Soil Sample-depth in feet-Boring 1.
Comp SP1-(1-4)	=	Stock Pile 1, 1 through 4 composite samples.
TPPHg	=	Total purgeable petroleum hydrocarbons as gasoline analyzed using EPA method 8015/8020 modifi
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA method 8015/8020 modified.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA method 8015/8020 modified .
Lead	=	Lead analyzed using EPA method 6010 A.
ND	=	Not detected at or above laboratory reporting limit.
Plate call out	=	MW1 (Monitoring Well 1).
---	=	Not applicable.

TABLE 1
RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES
Former Tosco 76 Service Station 0843
1629 Webster Street
Alameda, California
(Page 1 of 1)

Sample Designation	Depth (feet bgs)	Date Sampled	TPHg	B	T	E	X	MTBE	Lead
			<.....ppm.....>						
Soil Boring Samples									
S-4-GP1	4	05/23/01	ND	ND	ND	ND	ND	ND/ND*	NA
S-5-GP2	5	05/23/01	ND	ND	ND	ND	ND	ND/ND*	NA
S-10-GP2	10	05/23/01	ND	ND	ND	ND	ND	ND/ND*	NA
S-5-GP3	5	05/23/01	ND	ND	ND	ND	0.011	ND/ND*	NA
S-5-GP4	5	05/23/01	ND	ND	ND	ND	ND	ND/ND*	NA
S-4-GP5	4	05/23/01	ND	ND	ND	ND	ND	ND/ND*	NA
S-10-GP5	10	05/23/01	ND	ND	ND	ND	ND	0.18/ND*	NA
Soil Stockpile Sample									
S-SP1-(1-4)	NA	05/23/01	1.2	0.0065	ND	0.013	0.079	ND	1.1

Notes:

S-4-GP1	= Soil sample-depth-boring number.
S-SP1-(1-4)	= Composited stockpiled soil sample-stockpile number-sample sleeve numbers.
TPHg	= Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015M.
BTEX	= Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.
MTBE	= Methyl tertiary butyl ether analyzed using EPA Method 8020.
Lead	= Total lead analyzed using EPA Method 6010A.
bgs	= Below ground surface.
ppm	= Parts per million.
ND	= Not detected at or above the laboratory reporting limit.
NA	= Not applicable/Not Analyzed.
*	= MTBE confirmed using EPA Method 8260A.

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

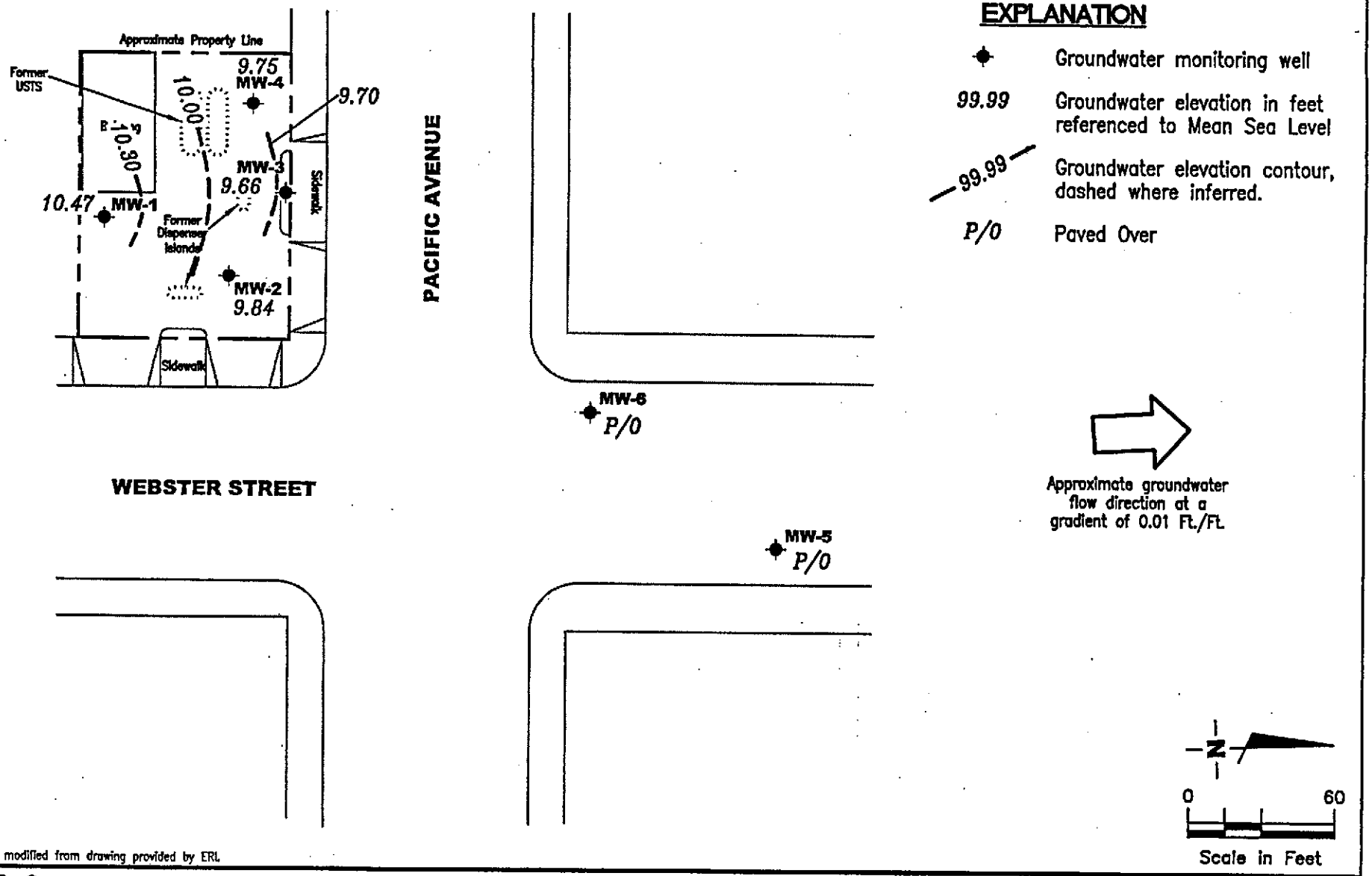
Sample Designation	Depth (feet bgs)	Date Sampled	TPHg	B	T	E	X	MTBE
			<.....ppm.....>					
Soil Boring Samples								
S-6.5-GP6	6.5	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6.5-GP7	6.5	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6-GP8	6	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6-GP9	6	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6.5-GP10	6.5	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6.5-GP11	6.5	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6-GP12	6	12/04/01	<1.0	<0.0050	<0.0050	0.010	0.015	<0.050
S-12-GP12	12	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6.5-GP13	6.5	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-12-GP13	12	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-7-GP14	7	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6-GP15	6	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-16-GP15	16	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6.5-GP16	6.5	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-12-GP16	12	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
S-6.5-GP17	6.5	12/04/01	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050

Notes:

S-6.5-GP6 = Soil sample-depth-boring number.
TPHg = Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015M.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.
MTBE = Methyl tertiary butyl ether analyzed using EPA Method 8020.
bgs = Below ground surface.
ppm = Parts per million.
< = Less than dthe stated laboratory reporting limit.

ATTACHMENT B

CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA



Source: Figure modified from drawing provided by ERL

GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568 (925) 551-7555

POTENTIOMETRIC MAP
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

FIGURE
1

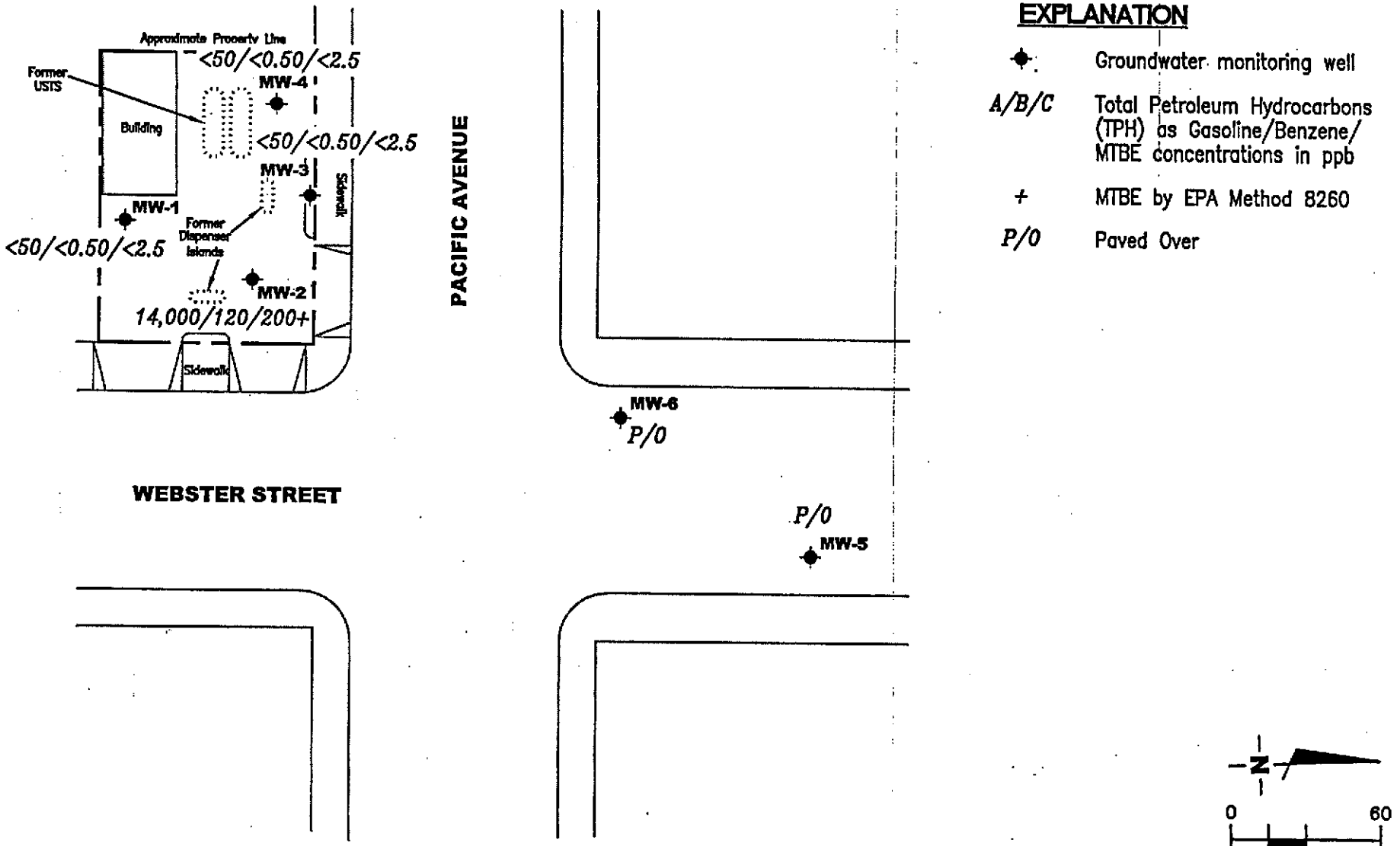
PROJECT NUMBER
180203

REVIEWED BY

DATE
June 7, 2002

REVISED DATE

FILE NAME: P:\Enviro\TOSCO\0843\Q02-0843.DWG | Layout Tab: Pot2



Source: Figure modified from drawing provided by ERI.

GETTLER - RYAN INC.
6747 Sierra Ct., Suite J
Dublin, CA 94568
(925) 551-7555

CONCENTRATION MAP
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

FIGURE
2

PROJECT NUMBER
180203

REVIEWED BY

DATE
June 7, 2002

REVISED DATE

FILE NAME: P:\Enviro\TOSCO\0843\Q02-0843.dwg | Layout Tab: Con2

Table 1

Groundwater Monitoring Data and Analytical Results
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-1									
16.18	03/05/99[1]	--	--	86.6[3]	ND	2.04	ND	4.06	23.9[2]
	06/03/99	6.24	9.94	ND	ND	ND	ND	ND	ND/ND[2]
	09/02/99	7.19	8.99	ND	ND	ND	ND	ND	ND/ND[2]
	12/14/99	8.07	8.11	ND	ND	ND	ND	ND	ND
	03/14/00	5.47	10.71	ND	ND	ND	ND	ND	ND
	05/31/00	6.22	9.96	ND	ND	ND	ND	ND	ND
	08/29/00	6.82	9.36	ND	ND	ND	ND	ND	ND
	12/01/00	7.54	8.64	ND	ND	ND	ND	ND	ND
	03/17/01	5.73	10.45	ND	ND	ND	ND	ND	ND
	05/23/01	6.43	9.75	ND	ND	ND	ND	ND	ND
	09/24/01	7.12	9.06	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	12/10/01	6.89	9.29	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	03/11/02	5.61	10.57	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	06/07/02	**5.71**	**10.47**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**
MW-2	03/05/99[1]	--	--	34,400	2,070	7,710	2,340	8,240	8,460[2]
15.57	06/03/99	5.96	9.61	51,200[4]	1,820	7,570	2,510	7,320	6,460/8,800[2]
	09/02/99	6.85	8.72	17,000[5]	1,000	3,100	1,400	3,700	4,000/3,720[2]
	12/14/99	7.65	7.92	83,000[5]	3,000	22,000	4,500	17,000	9,100/11,000[2]
	03/14/00	5.26	10.31	31,000[5]	1,600	4,600	2,300	7,300	5,700/8,700[2]
	05/31/00	5.60	9.97	9,970[5]	598	1,030	487	2,060	2,500/1,670[2]
	08/29/00	6.35	9.22	7,900[5]	390	1,500	280	1,900	1,800/1,300[2]
	12/01/00	7.06	8.51	87,500[5]	1,860	17,400	5,590	19,400	6,220/3,790[2]
	03/17/01	5.98	9.59	4,310[5]	371	59.0	280	682	321/433[2]
	05/23/01	6.97	8.60	45,400[5]	374	4,490	2,790	10,900	[7]ND/406[2]
	09/24/01	7.56	8.01	76,000[3]	430	13,000	4,700	18,000	<2,000/480[2]
	12/10/01	6.52	9.05	82,000[3]	320	9,100	4,400	16,000	<2,500/270[2]
	03/11/02	5.51	10.06	14,000[3]	75	1,400	1,100	3,600	<250/150[2]
	06/07/02	**5.73**	**9.84**	**14,000**	**120**	**1,200**	**1,400**	**4,700**	**540/200[2]**

Table 1

Groundwater Monitoring Data and Analytical Results
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID/ TOC*(ft.)	DATE	DTW (ft.)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-3	03/05/99[1]	--	--	135[3]	ND	ND	ND	4.84	2.46[2]
15.11	06/03/99	5.57	9.54	ND	ND	ND	ND	ND	5.23/12.7[2]
	09/02/99	6.50	8.61	ND	ND	ND	ND	ND	13/11.0[2]
	12/14/99	7.28	7.83	ND	ND	ND	ND	ND	ND
	03/14/00	4.87	10.24	ND	ND	ND	ND	ND	7.2/6.3[2]
	05/31/00	5.58	9.53	ND	ND	ND	ND	ND	ND
	08/29/00	6.06	9.05	ND	ND	ND	ND	ND	ND
	12/01/00	6.76	8.35	ND	ND	ND	ND	ND	ND
	03/17/01	5.09	10.02	ND	ND	ND	ND	ND	ND
	05/23/01	5.72	9.39	ND	ND	ND	ND	ND	ND
	09/24/01	6.34	8.77	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	12/10/01	6.31	8.80	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	03/11/02	5.15	9.96	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	06/07/02	**5.45**	**9.66**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**
			-.30						
MW-4	03/05/99[1]	--	--	ND	ND	ND	ND	2.44	25.2[2]
15.17	06/03/99	5.45	9.72	ND	ND	ND	ND	ND	ND/3.96[2]
	09/02/99	6.48	8.69	ND	ND	ND	ND	ND	23/27.0[2]
	12/14/99	7.27	7.90	ND	ND	ND	ND	ND	200/270[2]
	03/14/00	4.67	10.50	ND	ND	ND	ND	ND	46/49[2]
	05/31/00	5.48	9.69	ND	ND	ND	ND	ND	ND
	08/29/00	6.10	9.07	ND	ND	ND	ND	ND	6.1/3.2[2]
	12/01/00	6.79	8.38	ND	ND	ND	ND	ND	152/101[2]
	03/17/01	5.01	10.16	ND	ND	ND	ND	ND	ND
	05/23/01	5.78	9.39	ND	ND	ND	ND	ND	ND
	09/24/01	6.42	8.75	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	12/10/01	6.41	8.76	<50	<0.50	<0.50	<0.50	<0.50	1,700/1,300[2]
	03/11/02	5.05	10.12	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	06/07/02	**5.42**	**9.75**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**<2.5**
			-.37						

Table 1

Groundwater Monitoring Data and Analytical Results

Former Tosco 76 Service Station #0843

1629 Webster Street

Alameda, California

WELL ID/ TOC* (ft.)	DATE	DTW (ft.)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
MW-5	12/14/99	6.45	6.89	ND	ND	ND	ND	ND	3.5/3.8[2]
13.34	03/14/00	4.46	8.88	ND	ND	ND	ND	ND	ND
	05/31/00	5.18	8.16	ND	ND	ND	ND	ND	ND
	08/29/00	5.46	7.88	ND	ND	ND	ND	ND	ND
	12/01/00	5.95	7.39	ND	ND	ND	ND	ND	ND
	03/17/01	5.36	7.98	ND	ND	ND	ND	ND	ND
	05/23/01	5.09	8.25	ND	ND	ND	ND	ND	ND
	09/24/01	5.58	7.76	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	12/10/01	5.51	7.83	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	03/11/02	4.70	8.64	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	06/07/02	INACCESSIBLE - PAVED OVER			--	--	--	--	--
MW-6	12/14/99	6.64	7.44	ND	ND	ND	ND	ND	11,000/18,000[2]
14.08	03/14/00	4.72	9.36	ND[7]	ND[7]	ND[7]	ND[7]	ND[7]	19,000/21,000[2,6]
	05/31/00	5.28	8.80	ND[7]	ND[7]	ND[7]	ND[7]	ND[7]	13,200
	08/29/00	5.39	8.69	ND	ND	ND	ND	ND	270/400[2]
	12/01/00	6.11	7.97	ND	ND	ND	ND	ND	6,330/3,640[2]
	03/17/01	6.02	8.06	18,700[5]	2,950	989	1,040	3,000	10,200/11,500[2]
	05/23/01	5.82	8.26	ND[7]	ND[7]	ND[7]	ND[7]	ND[7]	4,660[8]
	09/24/01[10]	6.59	7.49	<50	<0.50	<0.50	<0.50	<0.50	160/190[9]
	12/10/01	6.50	7.58	<50	<0.50	<0.50	<0.50	<0.50	3,200/2,400[2]
	03/11/02	4.81	9.27	<50	<0.50	<0.50	<0.50	<0.50	92/120[2]
	06/07/02	INACCESSIBLE - PAVED OVER			--	--	--	--	--
Trip Blank	03/05/99[1]	--	--	ND	ND	ND	ND	ND	ND[2]
TB-LB	06/03/99	--	--	ND	ND	ND	ND	ND	ND
	09/02/99	--	--	ND	ND	ND	ND	ND	ND
	12/14/99	--	--	ND	ND	ND	ND	ND	ND
	03/14/00	--	--	ND	ND	ND	ND	ND	ND
	05/31/00	--	--	ND	ND	ND	ND	ND	ND

Groundwater Monitoring Data and Analytical Results
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID/ TOC* (ft.)	DATE	DTW (ft.)	GWE (msl)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	MTBE (ppb)
TB-LB (cont)	08/29/00	--	--	ND	ND	ND	ND	ND	ND
	12/01/00	--	--	ND	ND	ND	ND	ND	ND
	03/17/01	--	--	ND	ND	ND	ND	ND	ND
	05/23/01	--	--	ND	ND	ND	ND	ND	ND
	09/24/01	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	12/10/01	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	03/11/02	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0
	06/07/02	--	--	<50	<0.50	<0.50	<0.50	<0.50	<2.5

Table 1
Groundwater Monitoring Data and Analytical Results
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

EXPLANATIONS:

Groundwater monitoring data and laboratory analytical results prior to June 3, 1999, were compiled from reports prepared by ERI, Inc.

TOC = Top of Casing
(ft.) = Feet
DTW = Depth to Water
GWE = Groundwater Elevation
(msl) = Mean sea level
TPH-G = Total Petroleum Hydrocarbons as Gasoline

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether

(ppb) = Parts per billion
ND = Not Detected
– = Not Measured/Not Analyzed

* TOC elevations are based on USC&GS Benchmark WEB PAC - 1947 - R 1951; (Elevation = 14.054 feet).

1 B,T,E,X by EPA Method 8260.
2 MTBE by EPA Method 8260.
3 Laboratory report indicates weathered gasoline C6-C12.
4 Laboratory report indicates chromatogram pattern C6-C12.
5 Laboratory report indicates gasoline C6-C12.
6 Laboratory report indicates sample was analyzed 03/28/00 but required reanalysis at a dilution. The dilution was analyzed outside of the EPA recommended holding time.
7 Detection limit raised. Refer to analytical reports.
8 Laboratory did not perform analysis for MTBE by EPA Method 8260 as requested on the Chain of Custody for 8020 MTBE hits.
9 MTBE by EPA Method 8260 was analyzed past the EPA recommended holding time.
10 Due to laboratory error, MW-6 was not analyzed within the EPA recommended holding time.

Groundwater Analytical Results - Oxygenate Compounds
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-1	09/02/99	ND	ND	ND	ND	ND	ND	--	--
MW-2	09/02/99	ND[1]	ND[1]	3,720	ND[1]	ND[1]	ND[1]	--	--
	12/14/99	ND[1]	ND[1]	11,000	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	03/14/00	ND[1]	1,300	8,700	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	05/31/00	ND[1]	ND[1]	1,670	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	08/29/00	ND	250	1,300	ND	ND	ND	ND	ND
	12/01/00	ND[1]	ND[1]	3,790	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	03/17/01	ND[1]	ND[1]	433	14.8	ND[1]	ND[1]	ND[1]	ND[1]
	05/23/01	ND[1]	ND[1]	406	ND[1]	ND[1]	ND[1]	ND[1]	ND[1]
	09/24/01	<50,000	<5,000	480	<100	<100	<100	<100	<100
	12/10/01	<12,000	<500	270	<25	<25	<25	<25	<25
	03/11/02	<5,000	<1,000	150	<20	<20	<20	<20	<20
	06/07/02	<2,000	<1,000	200	<25	<25	<25	<25	<25
MW-3	09/02/99	ND	ND	11.0	ND	ND	ND	--	--
	03/14/00	--	--	6.3	--	--	--	--	--
MW-4	09/02/99	ND	ND	27.0	ND	ND	ND	--	--
	12/14/99	--	--	270	--	--	--	--	--
	03/14/00	--	--	49	--	--	--	--	--
	08/29/00	--	--	3.2	--	--	--	--	--
	12/10/01	<7,100	<290	1,300	<14	<14	<14	<14	<14
MW-5	12/14/99	--	--	3.8	--	--	--	--	--

Table 2

Groundwater Analytical Results - Oxygenate Compounds

Former Tosco 76 Service Station #0843

1629 Webster Street

Alameda, California

WELL ID	DATE	ETHANOL (ppb)	TBA (ppb)	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	1,2-DCA (ppb)	EDB (ppb)
MW-6	12/14/99	--	--	18,000	--	--	--	--	--
	03/14/00	--	--	21,000[2]	--	--	--	--	--
	08/29/00	--	--	400	--	--	--	--	--
	03/17/01	ND[1]	ND[1]	11,500	ND[1]	ND[1]	ND[1]	219	ND[1]
	05/23/01[3]	--	--	--	--	--	--	--	--
	09/24/01[4]	<1,000	<100	190	<2.0	<2.0	<2.0	<2.0	<2.0
	12/10/01	<12,000	<500	2,400	<25	<25	<25	<25	<25
	03/11/02	<500	<100	120	<2.0	<2.0	<2.0	<2.0	<2.0

Groundwater Analytical Results - Oxygenate Compounds
Former Tosco 76 Service Station #0843
1629 Webster Street
Alameda, California

EXPLANATIONS:

TBA = Tertiary butyl alcohol
MTBE = Methyl tertiary butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tertiary butyl ether
TAME = Tertiary amyl methyl ether
1,2-DCA = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
(ppb) = Parts per billion
-- = Not Analyzed
ND = Not Detected

1 Detection limit raised. Refer to analytical reports.
2 Laboratory report indicates sample was analyzed 03/28/00 but required reanalysis at a dilution. The dilution was analyzed outside of the EPA recommended holding time.
3 Laboratory did not perform analyzsis for oxygenates as requested on the Chain of Custody, on all 8020 MTBE hits.
4 Laboratory report indicates sample was analyzed past the EPA recommended holding time.

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES
Former Tosco 76 Service Station 0843
1629 Webster Street
Alameda, California

Sample Designation	Depth (feet bgs)	Date Sampled	TPHg	B	T	E	X	MTBE
			<.....ppb.....>					
W-10-GP1	10	05/23/01	ND	ND	ND	ND	ND	3.7/3.7*
W-10-GP2	10	05/23/01	ND	1.1	0.67	ND	ND	ND/ND*
W-9-GP3	9	05/23/01	ND	1.2	ND	0.55	3.9	ND/2.1*
W-6-GP4	6	05/23/01	ND	0.70	ND	ND	0.011	96/72*
W-10-GP5	10	05/23/01	2,100	39	16	ND	17	2,200/2,000*

Notes:

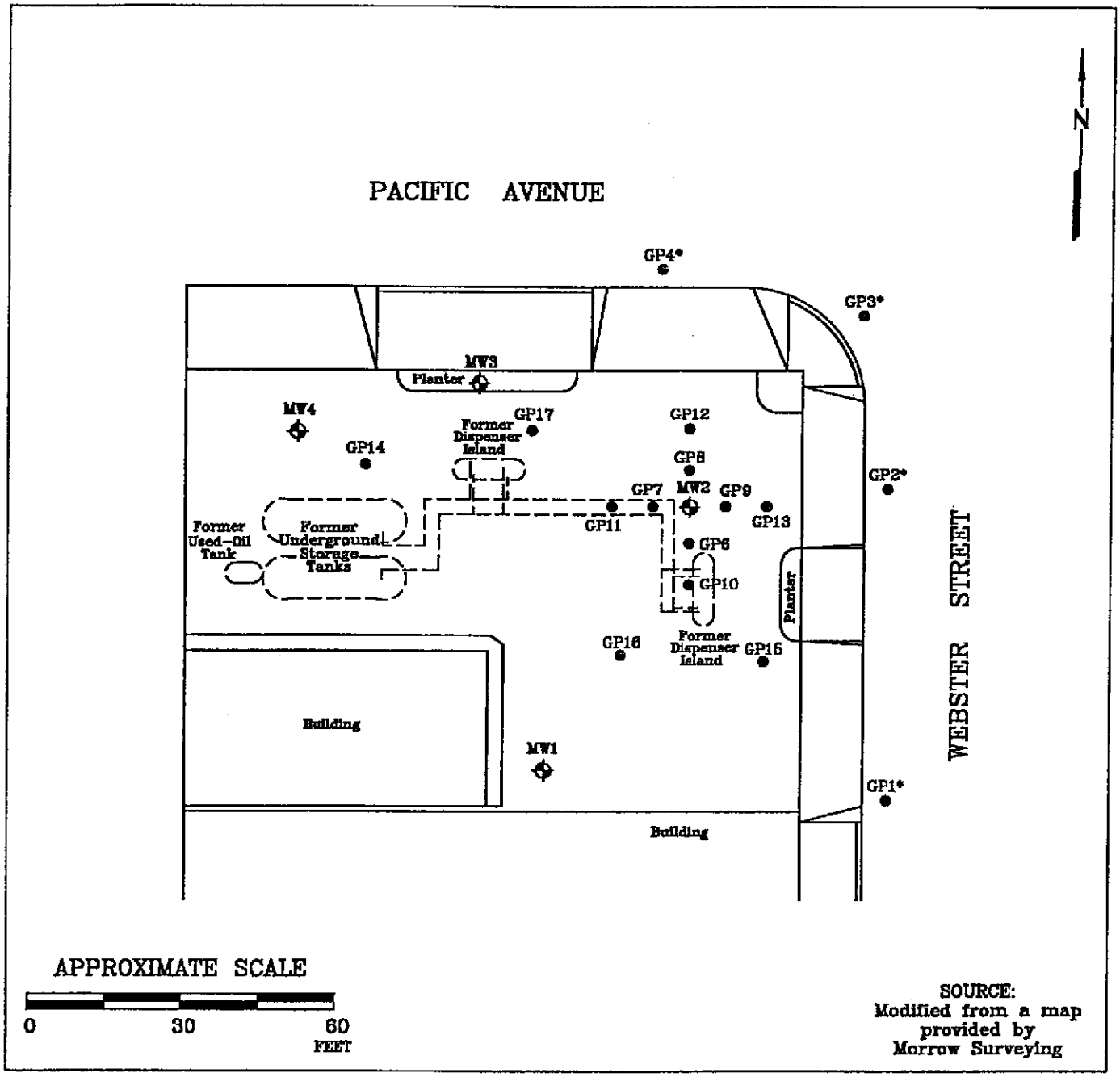
W-10-GP1 = Groundwater sample-depth-boring number.
TPHg = Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015M.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.
MTBE = Methyl tertiary butyl ether analyzed using EPA Method 8020.
bgs = Below ground surface.
ppb = Parts per billion.
ND = Not detected at or above the laboratory reporting limit.
* = MTBE confirmed using EPA Method 8260A.

TABLE 2
RESULTS OF LABORATORY ANALYSES OF GROUNDWATER SAMPLES
Former Tosco Service Station 0843
1629 Webster Street
Alameda, California
(Page 1 of 1)

Sample Designation	Depth (feet bgs)	Date Sampled	TPHg	B	T	E	X	MTBE
			<.....ppb.....>					
Soil Boring Samples								
W-7-GP14	7	12/04/01	<50	<0.50	<0.50	<0.50	<0.50	6.4/5.1a
W-7-GP15	7	12/04/01	<50	<0.50	<0.50	<0.50	<0.50	<2.5
W-7-GP16	7	12/04/01	<50	<0.50	<0.50	<0.50	<0.50	<2.5

Notes:

W-7-GP14 = Water sample-depth-boring number.
TPHg = Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015M.
BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8020.
MTBE = Methyl tertiary butyl ether analyzed using EPA Method 8020.
a = MTBE analyzed using EPA Method 8260B.
bgs = Below ground surface.
ppb = Parts per billion.
< = Less than the stated laboratory reporting limit.



FN 22480002

EXPLANATION

MW4 Groundwater Monitoring Well

GP17 Direct-Push Soil Boring

* Drilled on May 23, 2001

ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

FORMER TOSCO SERVICE STATION 0843
1629 Webster Street
Alameda, California

PROJECT NO. 2248

PLATE 2

February 7, 2002

ATTACHMENT C

FIELD PROTOCOL

FIELD PROTOCOL

Site Safety Plan

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

Sampling Sidewalls of Remedial Excavation Cavity

Soil samples will be collected from the sidewalls of excavation cavity by driving a hand-operated percussion sampler fitted with a clean brass sleeve into the soil after soil is brought up in a backhoe bucket. The sleeve will be removed from the sampler and sealed promptly with Teflon tape and plastic caps.

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

Sampling of Stockpiled Soil

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

Sample Labeling and Handling

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

Quality Assurance/Quality Control

The sampling and analysis procedures employed by ERI for groundwater sampling follow regulatory guidance documents for quality assurance/quality control (QA/QC). Quality control is maintained by site-specific field protocols and quality control checks performed by the laboratory. Laboratory and field handling of samples may be monitored by including QC samples for analysis. QC samples may

include any combination of the following. The number and types of QC samples are selected and analyzed on a project-specific basis.