Approved

ENVIRONMENTAL RESOLUTIONS, INC.

TRANSMITTAL

OCT 15 2001

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 10, 2001
PROJECT NUMBER: 224803T8
SUBJECT: Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California.

FROM: Paul Blank
TITLE: Assistant Project Manager

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	October 9, 2001	Work Plan for Supplemental Soil Evaluation

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REMARKS: At the request of Phillips 66 Company (Phillips), 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.

Paul D. Blank

Paul D. Blank, Assistant Project Manager

cc: Mr. Dave DeWitt, Phillips
Ms. Jolanta Uchman, California Regional Water Quality Control Board – San Francisco Bay Region
ERI Project File 224803T8

ENVIRONMENTAL RESOLUTIONS, INC.

October 9, 2001
ERI 224803.W04

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

Subject: Work Plan for Supplemental Soil Evaluation, Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California.

Mr. DeWitt:

At the request of Phillips 66 Company (Phillips), Environmental Resolutions, Inc. (ERI) has prepared this *Work Plan for Supplemental Soil Evaluation* (Work Plan). The purpose of this Work Plan is to define the scope of work proposed to delineate the extent of residual hydrocarbons in vadose soil beneath the subject site. Phillips requested this information be collected to prepare a work plan for remedial excavation, to be implemented during property improvements scheduled to occur within the next few years.

The scope of work for the investigation includes:

- Obtaining a drilling permit from the Alameda County Public Works Agency (the County);
- Advancing on-site direct-push soil borings;
- Collecting soil samples from the borings for evaluation of subsurface conditions and potential laboratory analyses;
- Collecting groundwater samples from select borings;
- Abandoning the borings;
- Submitting select soil and groundwater samples for laboratory analysis of gasoline constituents;
- Interpreting the data;
- Preparing an isoconcentration map and cross-section diagrams depicting the distribution of residual hydrocarbons in vadose soil and the proposed area of remedial excavation; and,
- Preparing a *Supplemental Soil Evaluation Report and Work Plan for Remedial Excavation*.

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); and,
- Quarterly groundwater monitoring and sampling.

Laboratory analysis results of soil samples collected during previous environmental work indicate residual hydrocarbons beneath the site are generally delineated, but not defined on a small scale. The soil sample locations and analytical results of soil samples are provided in Attachment A. Analyses of groundwater samples collected during quarterly groundwater monitoring and sampling continue to detect dissolved hydrocarbons beneath and in the vicinity of the site. Dissolved hydrocarbon concentrations in groundwater are generally delineated in the downgradient direction of groundwater flow by well MW5. Cumulative groundwater monitoring and sampling data are provided in Attachment B.

PROPOSED WORK

The purpose of this proposed soil evaluation is to delineate the extent of residual hydrocarbon concentrations in vadose soil beneath the site. The specific tasks are summarized below. ERI and the drilling contractor will perform field work in general accordance with this Work Plan, and in accordance with ERI's Field Protocol (Attachment C) and a site-specific Health and Safety Plan.

ERI will:

- Prepare permit application(s) and obtain drilling permit(s) from the County to advance up to ten on-site direct-push soil borings.

- Obtain the services of a licensed well driller and observe the driller advance the borings utilizing direct-push technology. The borings will be advanced until groundwater is encountered. If a groundwater sample is to be collected from a particular boring, that boring will be advanced to approximately 2 feet below first-encountered groundwater. ERI anticipates groundwater to be encountered at approximately 5 to 9 feet below ground surface (bgs). The proposed boring locations are shown on Plate 2. The boring locations were selected based on field screening and analytical results of soil samples collected during previous investigations. The number and locations of the borings may vary based on conditions encountered in the field.

- Collect soil samples from the borings: 1) to classify soil type; 2) for field screening for volatile organic compounds (VOCs) with a photo-ionization detector (PID); and 3) for potential laboratory analyses to evaluate the extent of residual gasoline hydrocarbons in vadose soil.

- Collect groundwater samples from select borings using a Geoprobe®, Hydropunch®, or similar discrete groundwater sampling device for laboratory analyses.

- Abandon the borings by grouting to ground surface with a neat cement.

- Submit select soil and groundwater samples collected from the borings, based on field observations, to a California state-certified analytical laboratory under chain-of-custody protocol, for analysis of total petroleum hydrocarbons as gasoline (TPHg) using Environmental Protection Agency (EPA) Method 8015M, and benzene, toluene, ethylbenzene, total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) using EPA Method 8020. Samples with detected concentrations of MTBE using EPA Method 8020 will also be analyzed for MTBE using EPA Method 8260.

- Interpret field and laboratory data.

- Prepare an isoconcentration map, and cross-section diagrams, depicting residual hydrocarbon concentrations in vadose soil and outlining a proposed area of remedial excavation to be performed during property improvements scheduled to occur within the next two years.

- Prepare a *Supplemental Soil Evaluation Report and Work Plan for Remedial Excavation.*

Soil cuttings generated during direct-push sampling activities will be sampled, placed in sealed containers, properly labeled, and temporarily stored on site pending characterization and disposal coordination. Rinsate generated during decontamination of drilling equipment will be containerized, labeled, and temporarily stored on site pending disposal by Phillips.

SCHEDULE OF OPERATIONS

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

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

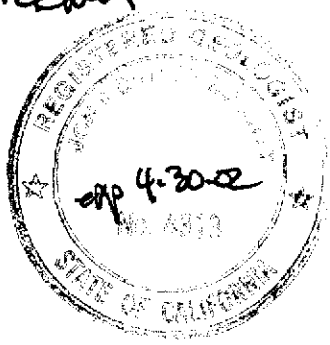
Ms. Jolanta Uchman
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Please call Mr. Paul Blank, ERI's project manager for this site, at (415) 382-5988, with any questions regarding this Work Plan.

Sincerely,
Environmental Resolutions, Inc.

Paul D. Blank
Assistant 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.

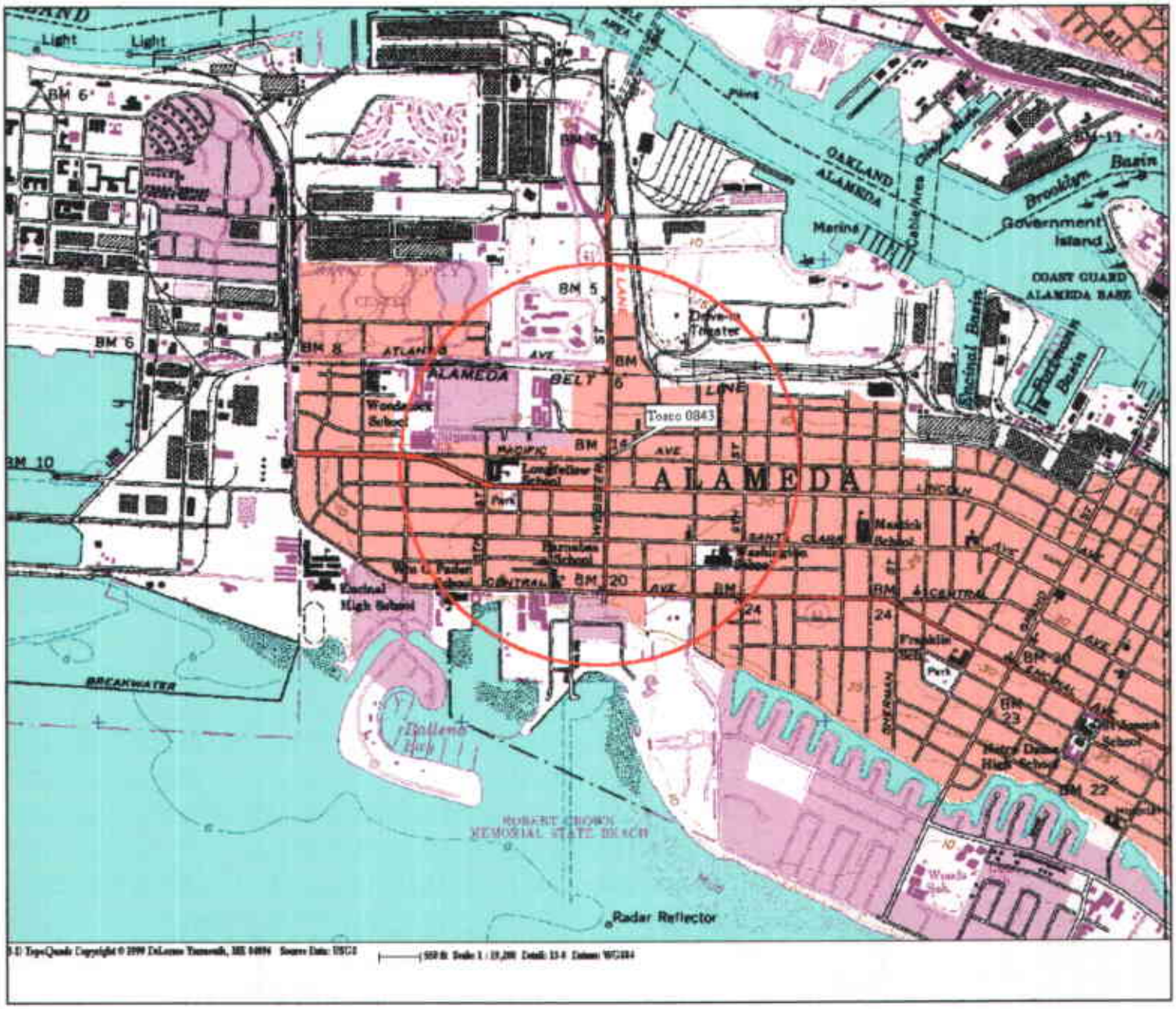
Environmental Resolutions, Inc. March 7, 2000. Supplemental Evaluation of Groundwater at Former Tosco 76 Service Station 0843, 1629 Webster Street, Alameda, California. ERI 224803.R02.

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.

Gettler-Ryan, Inc. July 5, 2001. Second Quarter Event of May 23, 2001 - 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

APPROXIMATE SCALE

0 0.5 1 mile

N

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

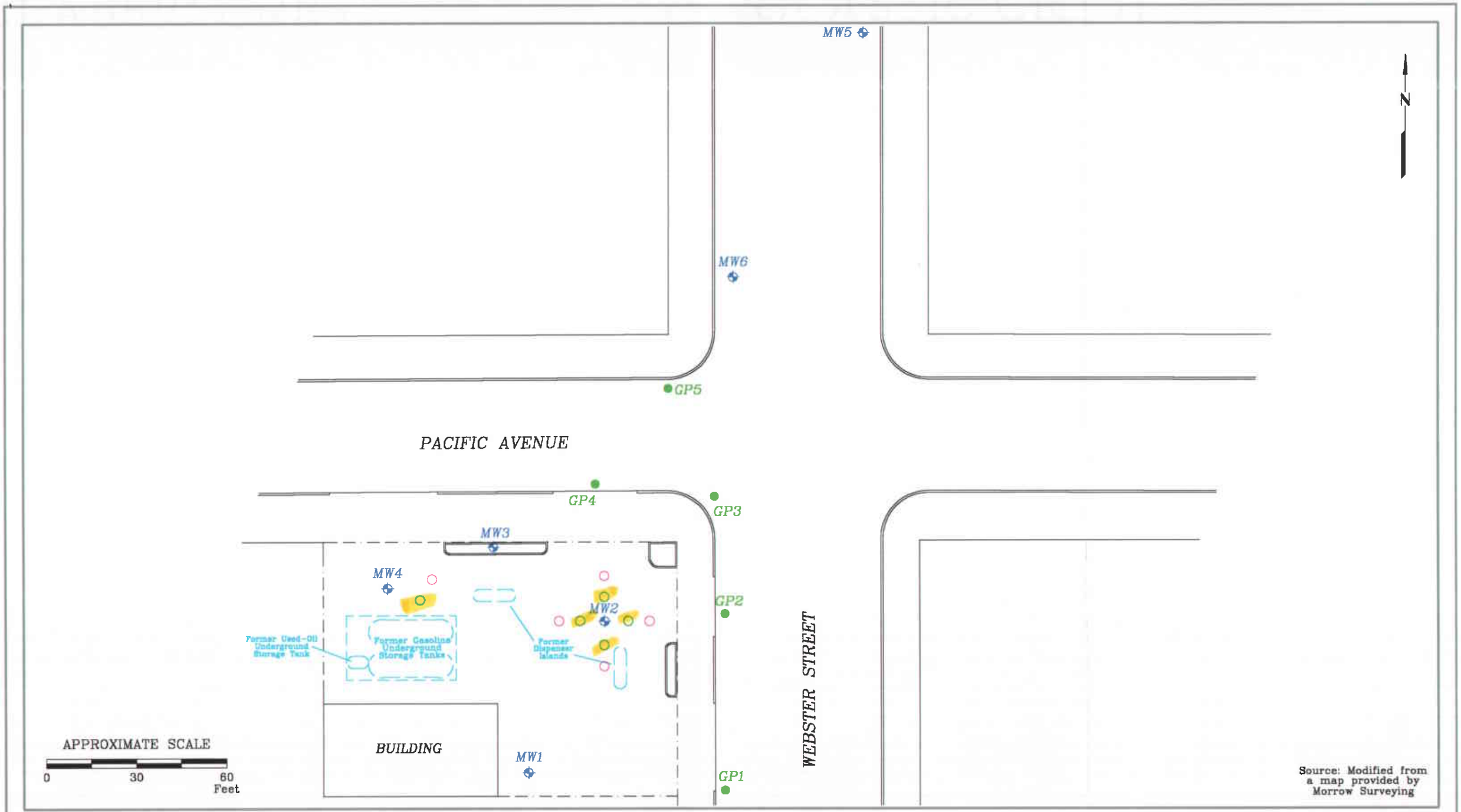
ENVIRONMENTAL RESOLUTIONS, INC.

SITE VICINITY MAP

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

PROJECT NO. 2248

PLATE 1



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ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

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

EXPLANATION

- MW6 — Groundwater Monitoring Well
- GP5 — Direct-Push Soil Boring
- Proposed Direct-Push Soil Boring
- Proposed Contingency Direct-Push Soil Boring

PROJECT NO. 2248

PLATE 2

July 9, 2001

ATTACHMENT A

SOIL SAMPLE LOCATIONS AND ANALYTICAL RESULTS

TABLE 1

RESULTS OF ANALYSIS OF SOIL AND GROUNDWATER SAMPLES

Former Tosco 76 Service Station 0843

1629 Webster Street

Alameda, California

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 I

RESULTS OF ANALYSIS OF SOIL AND GROUNDWATER SAMPLES

Former Tosco 76 Service Station 0843

1629 Webster Street

Alameda, California

Notes:

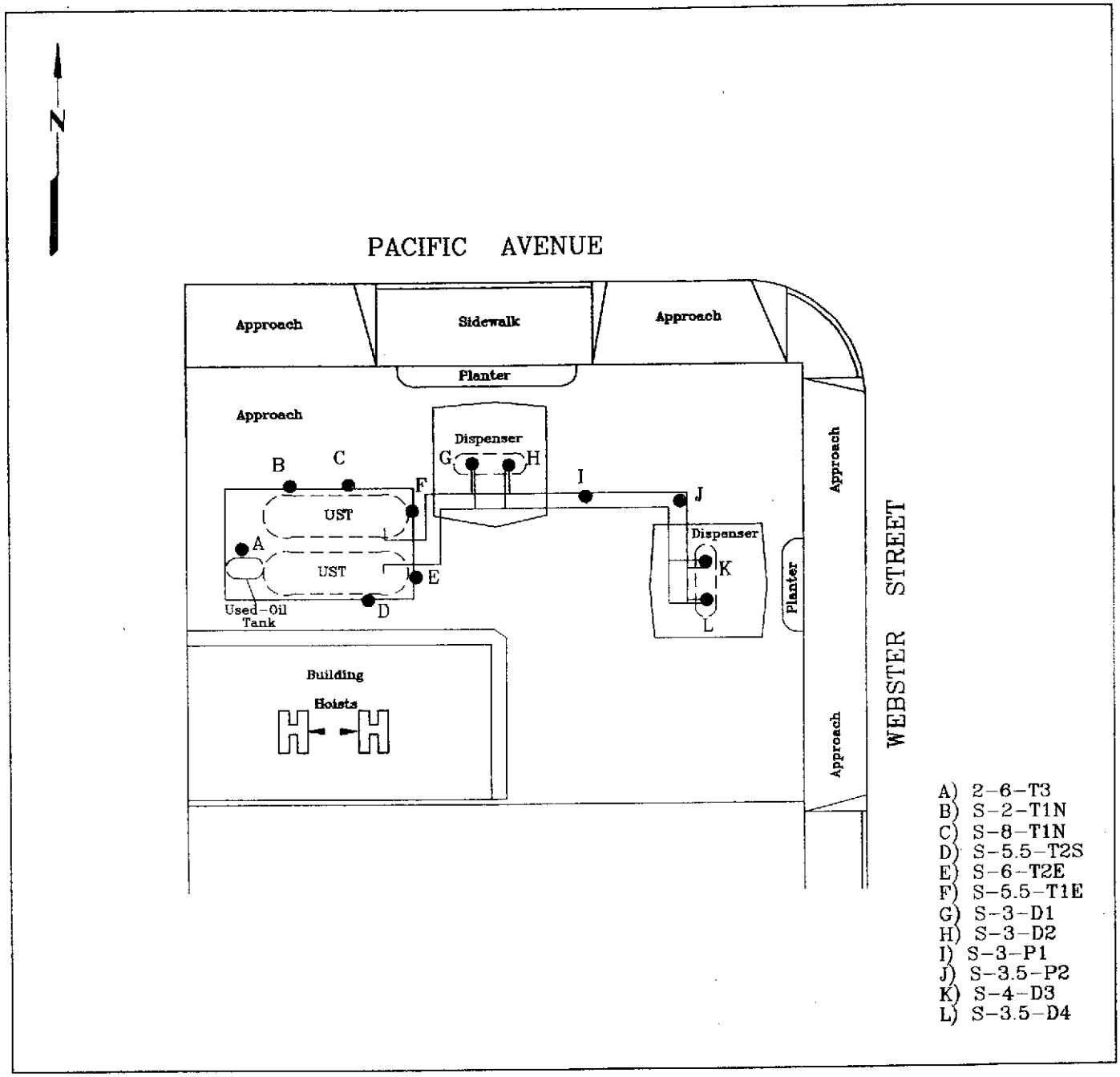
Soil Samples reported in parts per million (ppm) unless otherwise noted

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 method 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

ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

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

PROJECT NO. 2248

PLATE 2

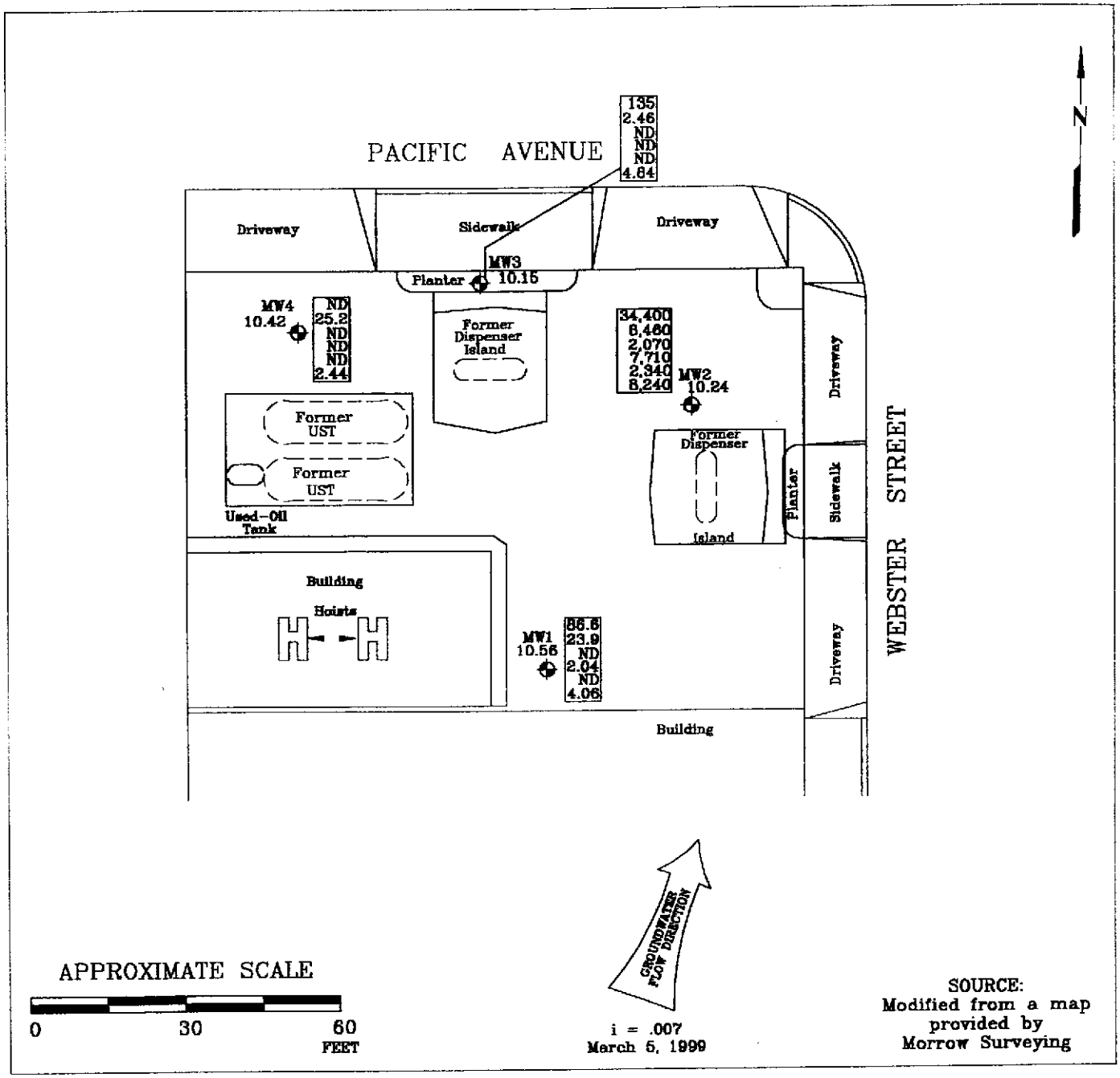
June 24, 1998

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.



FN 22480002

EXPLANATION

MW4 ⊕ Groundwater Monitoring Well

10.42 Groundwater elevation in feet above mean sea level

i = Intrepreted Groundwater Gradient

Groundwater Concentrations in ug/L
Sampled March 5, 1999

34,400	Total Purgeable Petroleum Hydrocarbons as gasoline
8,460	Methyl Tertiary Butyl Ether
2,070	Benzene
7,710	Toluene
2,340	Ethylbenzene
8,240	Total Xylenes
<	Less Than the Stated Laboratory Detection Limit
ug/L	Micrograms per Liter

ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

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

PROJECT NO. 2248

PLATE 2

March 17, 1999

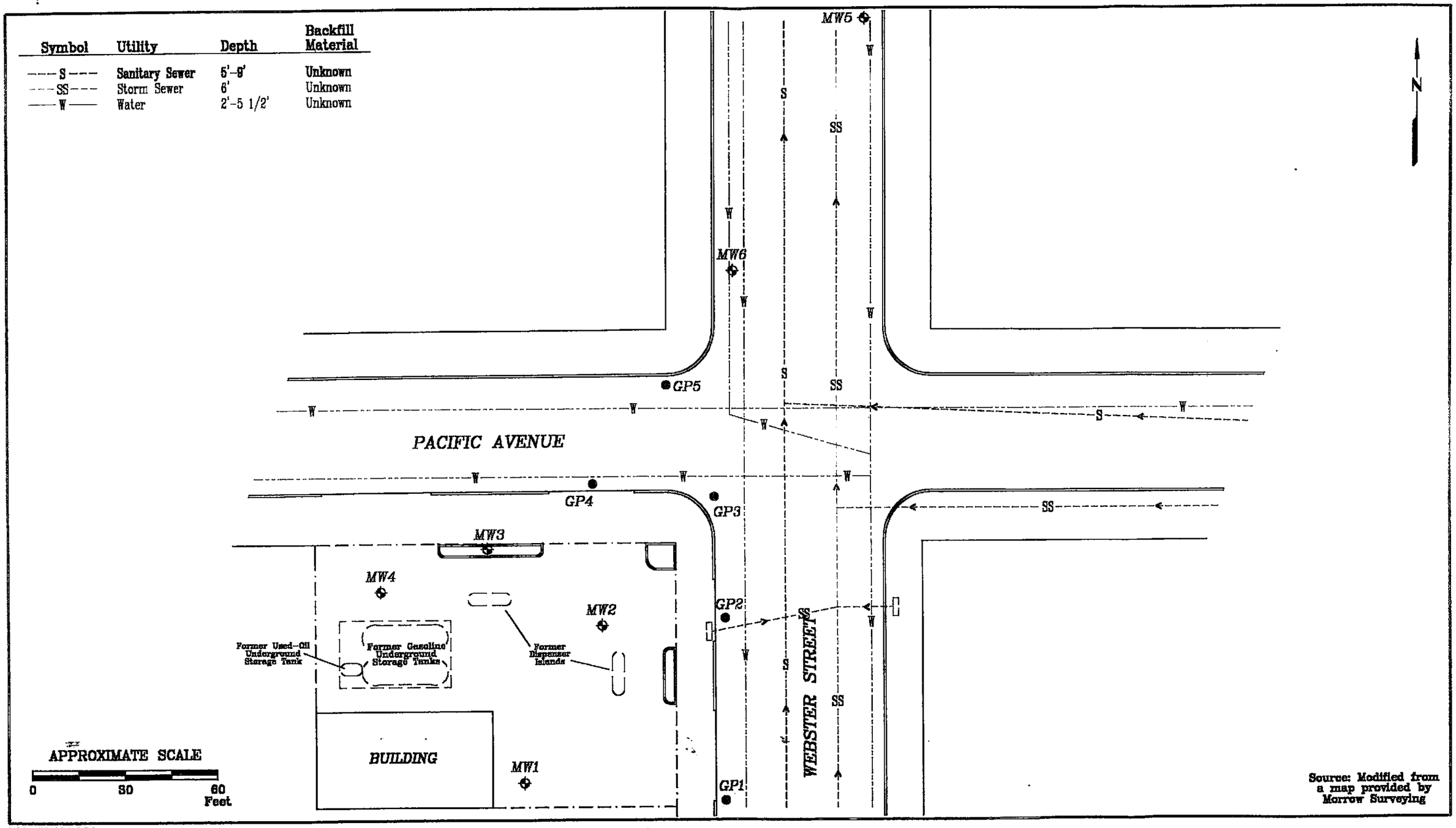
TABLE 1
RESULTS OF LABORATORY ANALYSES OF SOIL SAMPLES
Former Tosco 76 Service Station 0843
1629 Webster Street
Alameda, California

Sample Designation	Depth (feet bgs)	Date Sampled	TPHg	B	T	E	X	MTBE	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.

Symbol	Utility	Depth	Backfill Material
---S---	Sanitary Sewer	5'-9'	Unknown
---SS---	Storm Sewer	6'	Unknown
---W---	Water	2'-5 1/2'	Unknown



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ERI ENVIRONMENTAL RESOLUTIONS, INC.

GENERALIZED SITE PLAN

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

EXPLANATION

MW6 ⊕ Groundwater Monitoring Well

GP5 ● Direct-Push Soil Boring

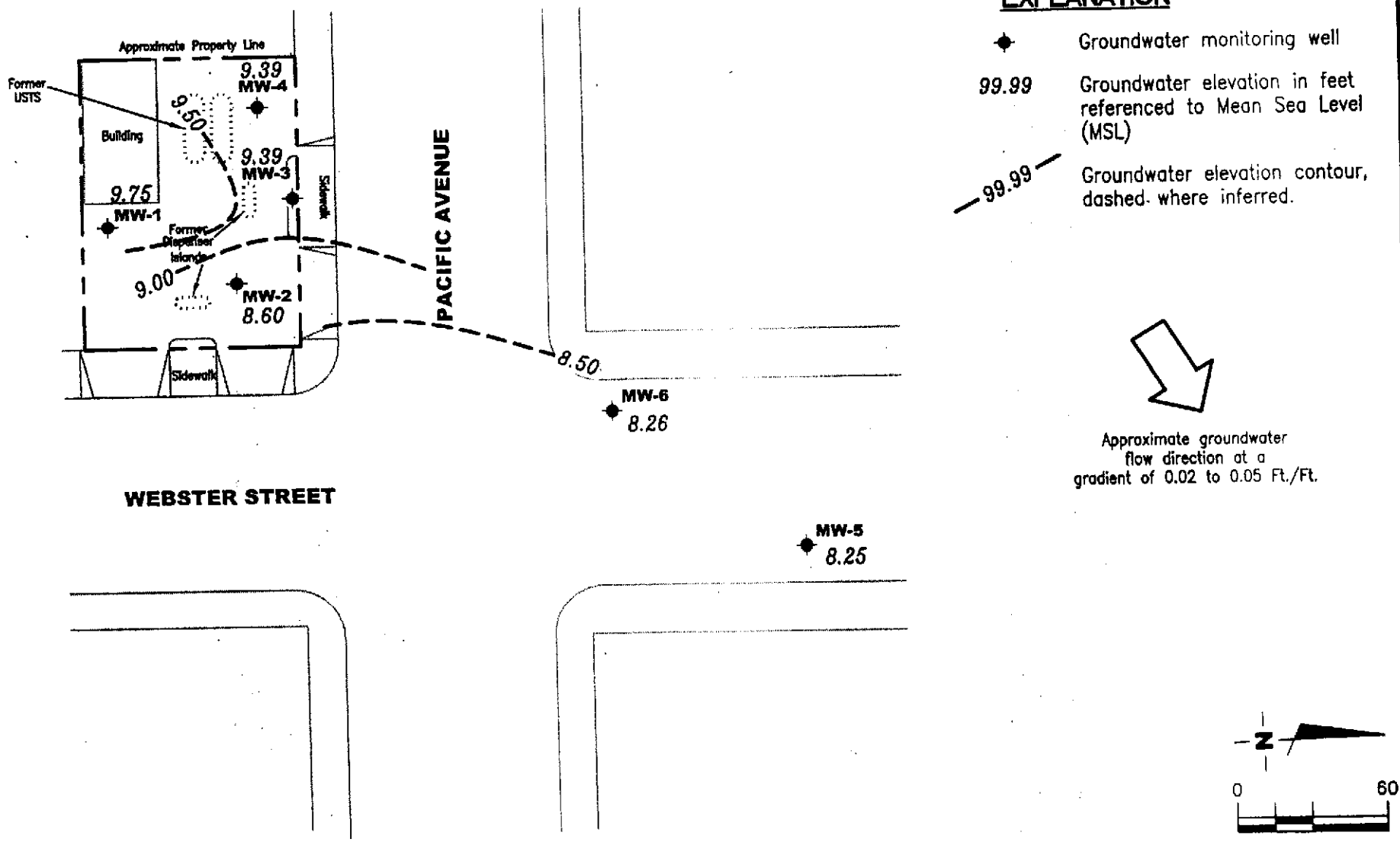
PROJECT NO. 2248

PLATE 2

July 8, 2001

ATTACHMENT B

CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA (GRI, JULY 5, 2001)



Source: Figure modified from drawing provided by ERI.

FIGURE 1

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

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

PROJECT NUMBER	REVIEWED BY	DATE	REVISED DATE
180203		May 23, 2001	

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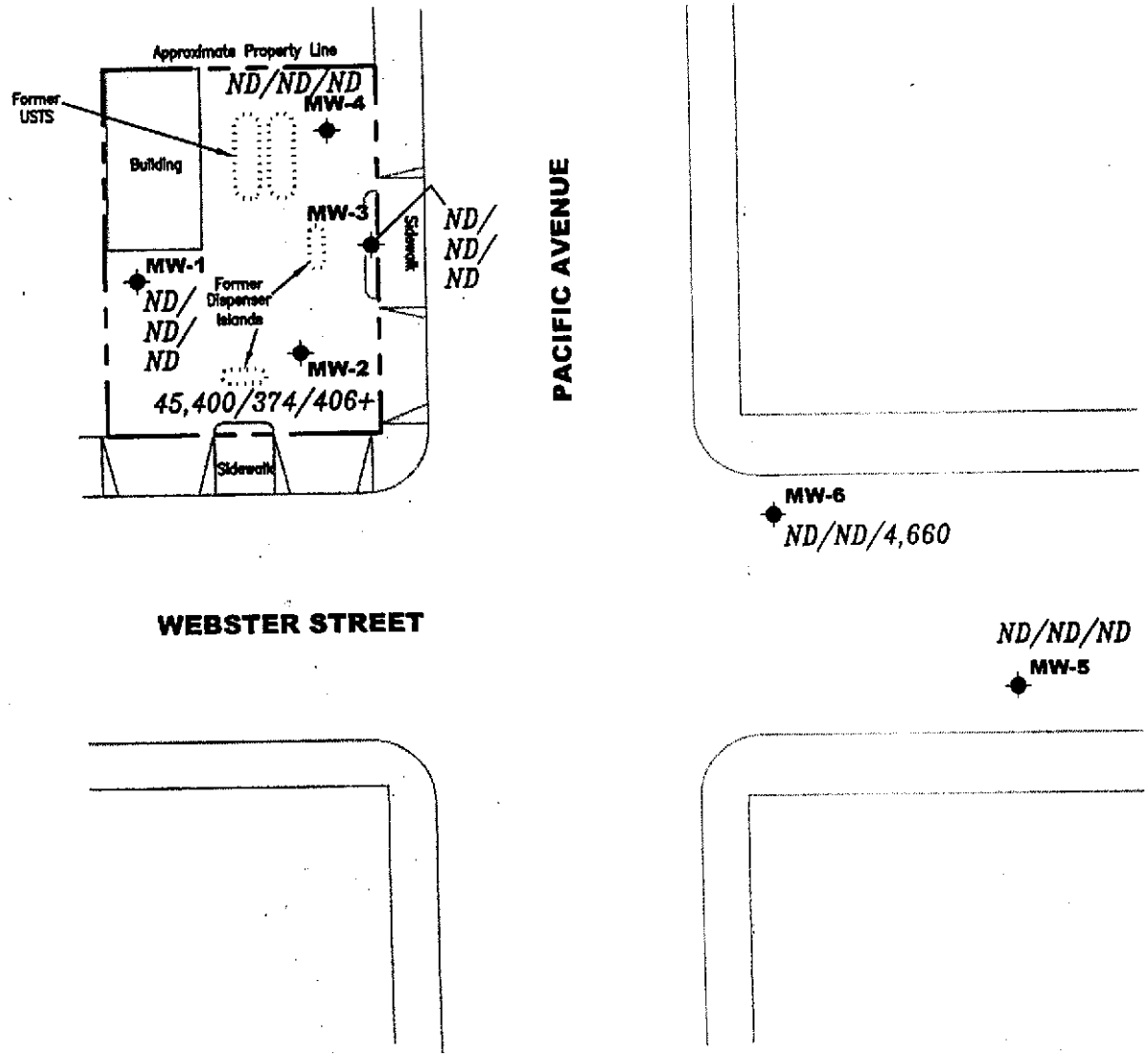

Source: Figure modified from drawing provided by ERI.

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
May 23, 2001

REVISED DATE

FILE NAME: P:\ENVIRO\TOSCO\0843\001-0843.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**
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]**
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

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 (cont)	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**
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**
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**
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]

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-6 (cont)	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]**
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
	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**

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.

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-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]**
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	--	--	--	--	--
MW-5	12/14/99	--	--	3.8	--	--	--	--	--
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]	--	--	--	--	--	--	--	--

Table 2

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

ANALYTICAL METHOD:

EPA Method 8260 for Oxygenate Compounds

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 analysis for oxygenates as requested on the Chain of Custody, on all 8020 MTBE hits.

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.

Soil Borings and Soil Sampling

Prior to drilling of borings, ERI acquires the necessary permits from the appropriate agency(ies). ERI contacts Underground Service Alert (USA) before drilling to help locate public utility lines at the site. ERI observes the driller clear boring locations to a depth of approximately 4 feet before drilling to reduce the risk of damaging underground structures.

Soil borings are drilled with a B-57 (or similar) drill rig equipped with hollow-stem augers. Auger flights and sampling equipment are steam-cleaned before use to minimize the possibility of crosshole contamination. The rinsate is containerized and stored on site. ERI coordinates the appropriate disposal or recycling of the rinsate with Phillips.

Drilling is performed under the observation of a field geologist, and the earth materials in the borings are identified using visual and manual methods, and classified as drilling progresses using the Unified Soil Classification System. Soil borings are advanced until groundwater is encountered, until refusal, or until the maximum extent of the drill rig is reached.

During drilling, soil samples are collected at 5-foot intervals, obvious changes in lithology, and just above the groundwater surface. Samples are collected with a California-modified, split-spoon sampler equipped with laboratory-cleaned brass sleeves. Samples are collected by advancing the auger to a point just above the sampling depth and driving the sampler into the soil. The sampler is driven 18 inches with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows required to drive the sampler each successive 6-inch interval is counted and recorded to give an indication of soil consistency.

Soil samples are monitored with a photoionization device (PID), which measures hydrocarbon concentrations in the ambient air or headspace above the soil sample. Field instruments such as the PID are useful for indicating relative levels of hydrocarbon vapors, but do not detect concentrations of hydrocarbons with the same precision as laboratory analyses. Soil samples selected for possible chemical analysis are sealed promptly with Teflon® tape and plastic caps. The samples are labeled and placed in iced storage for transport to the laboratory. Chain of Custody records are initiated by the geologist in the field, updated throughout handling of the samples, and sent with the samples to the laboratory. Copies of these records are included in the final report.

Cuttings generated during drilling are placed on plastic sheeting, covered, and left at the site. ERI coordinates the appropriate disposal or recycling of the cuttings with Phillips.

Hydropunch® Groundwater Sampling

ERI observes the driller push the Hydropunch® (or similar temporary discrete groundwater sampling well point) approximately 2 to 3 feet below the groundwater surface using a GeoProbe® (or similar direct-push rig). The point is then opened exposing a well screen to the formation. ERI collects a discrete groundwater sample for laboratory analysis using a stainless steel bailer cleaned with a laboratory-grade detergent and deionized water. Groundwater is transferred slowly from the bailer to laboratory-cleaned, 1-liter amber bottles and 40-milliliter glass volatile organic analysis vials (VOAs) for analyses by the laboratory. The VOAs contain hydrochloric acid as a preservative. The sampler checks to see if headspace is present. If headspace is present, the sampler collects more samples until none is present. Chain of Custody records are initiated in the field by the sampler, updated throughout handling of the samples, and sent along with the samples to the laboratory. Copies of these records are included in our final report.

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.

Trip Blanks – Trip blanks are prepared with organic-free water by the laboratory, and accompany sampling equipment to the project site. They are not opened. Trip blanks travel with the groundwater samples (collected from the project site) to the laboratory and verify that concentrations of analyzed chemical constituents are not being introduced into the samples during transportation.

Bailer Blanks – Bailer blanks are prepared at the project site immediately prior to sample collection using a new disposable bailer or a cleaned stainless steel bailer, and organic-free water. Bailer blanks accompany the groundwater samples (collected from the project site) to the laboratory and verify that concentrations of analyzed chemical constituents are not being introduced into the samples by the sampling equipment and/or methods used in the field.