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Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

LETTER REPORT
QUARTERLY GROUNDWATER MONITORING
Fourth Quarter 1993
at
ARCO Station 2185
9800 East 14th Street
Oakland, California

62026.04

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3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
FAX: (408) 264-2435

March 3, 1994

Mr. Michael Whelan
ARCO Products Company
P.O. Box 5811
San Mateo, California 94402

Subject: Letter Report, Quarterly Groundwater Monitoring
Fourth Quarter 1993
ARCO Station 2185
9800 East 14th Street, Oakland, California.

Mr. Whelan:

As requested by ARCO Products Company (ARCO), RESNA Industries Inc. (RESNA) presents this letter report summarizing the results of fourth quarter 1993 groundwater monitoring performed by EMCON Associates (EMCON) of San Jose, California at the above-referenced site (Plates 1 and 2). RESNA's scope of work was to interpret field and laboratory analytical data, which included evaluating trends in hydrocarbon concentrations in the local groundwater, the groundwater gradient, and direction of groundwater flow beneath the site. Evaluation and warrant of EMCON's field procedures, field data, and field protocols, is beyond RESNA's scope of work. Previous environmental work at the site is summarized in RESNA reports cited in the Reference section.

GROUNDWATER MONITORING

Field Work

EMCON field personnel were onsite October 11, November 16, and December 16, 1993, to measure depth-to-water (DTW) levels and perform subjective analysis for the presence

of product in groundwater in wells MW-1 through MW-7. Quarterly sampling was performed by EMCON field personnel on October 11, 1993.

Laboratory Analyses

Water samples were analyzed by Columbia Analytical Services, Inc., located in San Jose, California (Hazardous Waste Testing Laboratory Certification No. 1426) for benzene, toluene, ethylbenzene, and total xylenes (BTEX), and total petroleum hydrocarbons as gasoline (TPHg) using Environmental Protection Agency (EPA) Methods 5030/8020/California DHS LUFT Method. The Chain of Custody Records and Laboratory Analysis Reports are included in Appendix A.

Results of Groundwater Monitoring

Groundwater elevations rose an average of about 0.90 foot in wells MW-1 through MW-7 since the last quarter. Evidence of floating product or product sheen was not noted in any of the wells during this quarter. Based on DTW data from October, November, and December, groundwater is interpreted to flow toward the southwest with an average gradient of approximately 0.005 ft/ft (Plates 3 through 5). Groundwater monitoring data from this and previous quarters is presented in Table 1. The results of EMCON's field work on the site are presented in Appendix A.

The following trends in hydrocarbon concentrations have been identified since the last quarter: concentrations have generally decreased in wells MW-2, MW-3, MW-5, MW-6, and MW-7; and, have remained not detected in wells MW-1 and MW-4 (Plate 6). The laboratory continues to report that the TPHg chromatograph pattern in groundwater from offsite monitoring well MW-7 did not match the typical gasoline fingerprint. Based on historical aerial photo data, it appears that the property adjoining well MW-7 (currently a Big-O Tire Store) may have previously been a gasoline service station. Cumulative analytical results of water samples are presented in Table 2.

Previous and Future Work

Fourth Quarter 1993

- Submitted Report of Findings, Initial Offsite and Additional Onsite Subsurface Investigation and Aquifer Pumping Test, to ARCO and regulatory agencies.

- Submitted Letter Report, Quarterly Groundwater Monitoring, Third Quarter 1993, to ARCO and regulatory agencies.

- Received letter of response from Barney Chan of the Alameda County Health Care Services Agency regarding the Report of Findings, Initial Offsite and Additional Onsite Subsurface Investigation and Aquifer Pumping Test.

- Performed Fourth Quarter 1993 Groundwater Monitoring.

First Quarter 1994

- Prepare a Work Plan addressing Mr. Chan's letter and outlining the next phase of work to be performed at the site.

- Submit Letter Report, Quarterly Groundwater Monitoring, Fourth Quarter 1993, to ARCO and regulatory agencies.

- Upon Work Plan approval, begin next phase of work.

- Perform First Quarter 1994 Groundwater Monitoring.

Reporting Requirements

RESNA recommends that copies of this report be forwarded to:

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Mr. Richard Hiett
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Ms. Joan Curtis
City of Oakland
Engineering Services Department
1330 Broadway, 2nd Floor
Oakland, California 94612
(1 report per year, per encroachment permit)

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If you have any questions or comments, please call us at (408) 264-7723.

Sincerely,
RESNA Industries Inc.

Erin D. Krueger
Staff Geologist

James L. Nelson, C.E.G. 1463
Certified Engineering Geologist

REGISTERED GEOLOGIST
JAMES LEWIS NELSON
No. 1463
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Enclosures: References

Plate 1, Site Vicinity Map
Plate 2, Generalized Site Plan
Plate 3, Groundwater Gradient Map, October 11, 1993
Plate 4, Groundwater Gradient Map, November 16, 1993
Plate 5, Groundwater Gradient Map, December 16, 1993
Plate 6, TPHg/Benzene Concentrations in Groundwater, October 11, 1993

Table 1, Cumulative Groundwater Monitoring Data
Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples

Appendix A: EMCON's Field Reports, EMCON's Water Sample Field Data Sheets, and Certified Analytical Reports with Chain of Custody Record

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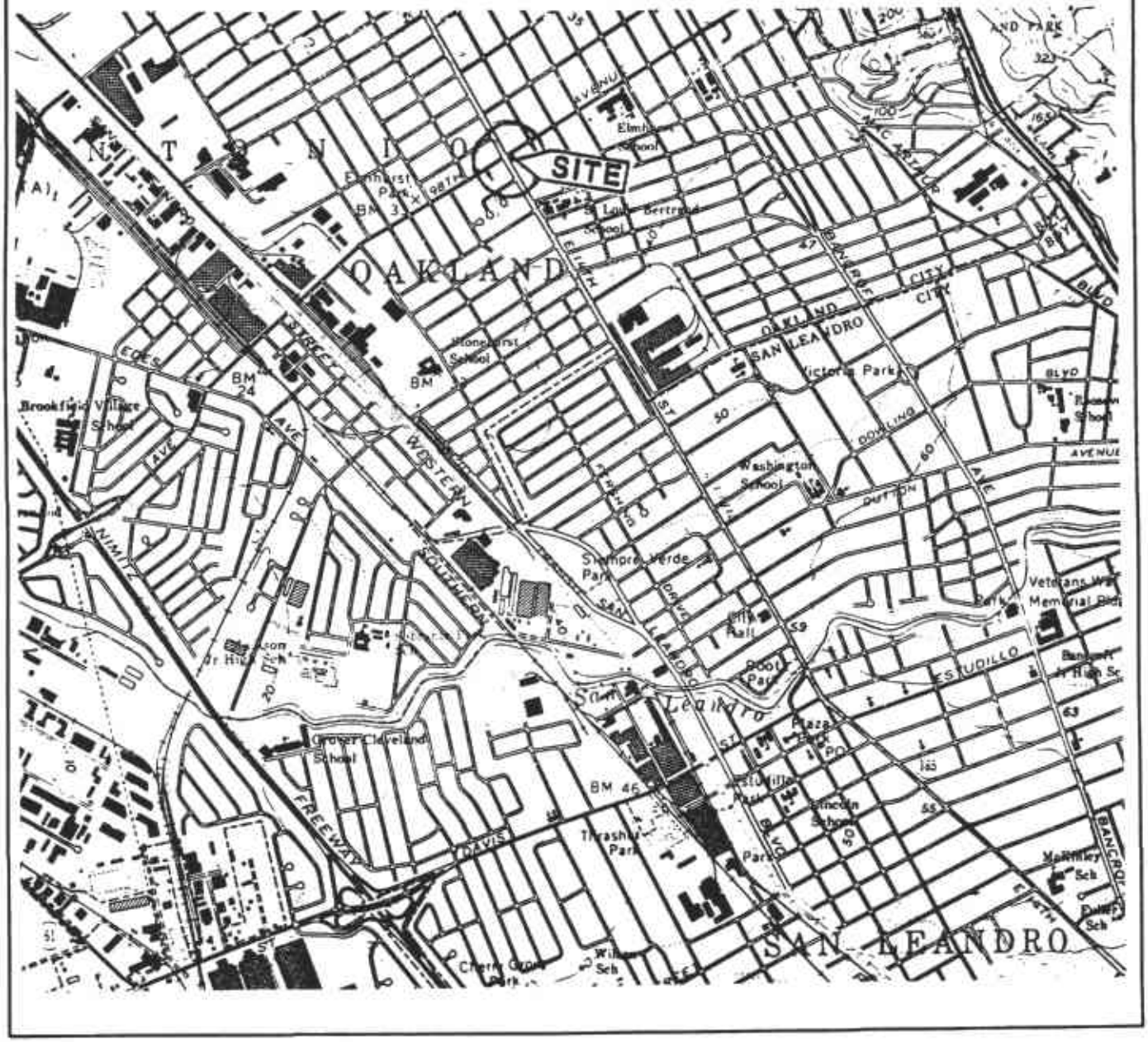
REFERENCES

RESNA Industries Inc., October 12, 1993. Report of Findings, Initial Offsite and Additional Onsite Subsurface Investigation and Aquifer Pumping Test. RESNA 62026.02

RESNA Industries Inc., November 3, 1993. Letter Report, Quarterly Groundwater Monitoring, Third Quarter 1993. RESNA 62026.04



Source: U.S. Geological Survey
7.5–Minute Quadrangle
San Leandro, California
Photorevised 1980

N

Approximate Scale
2000 1000 0 2000
feet

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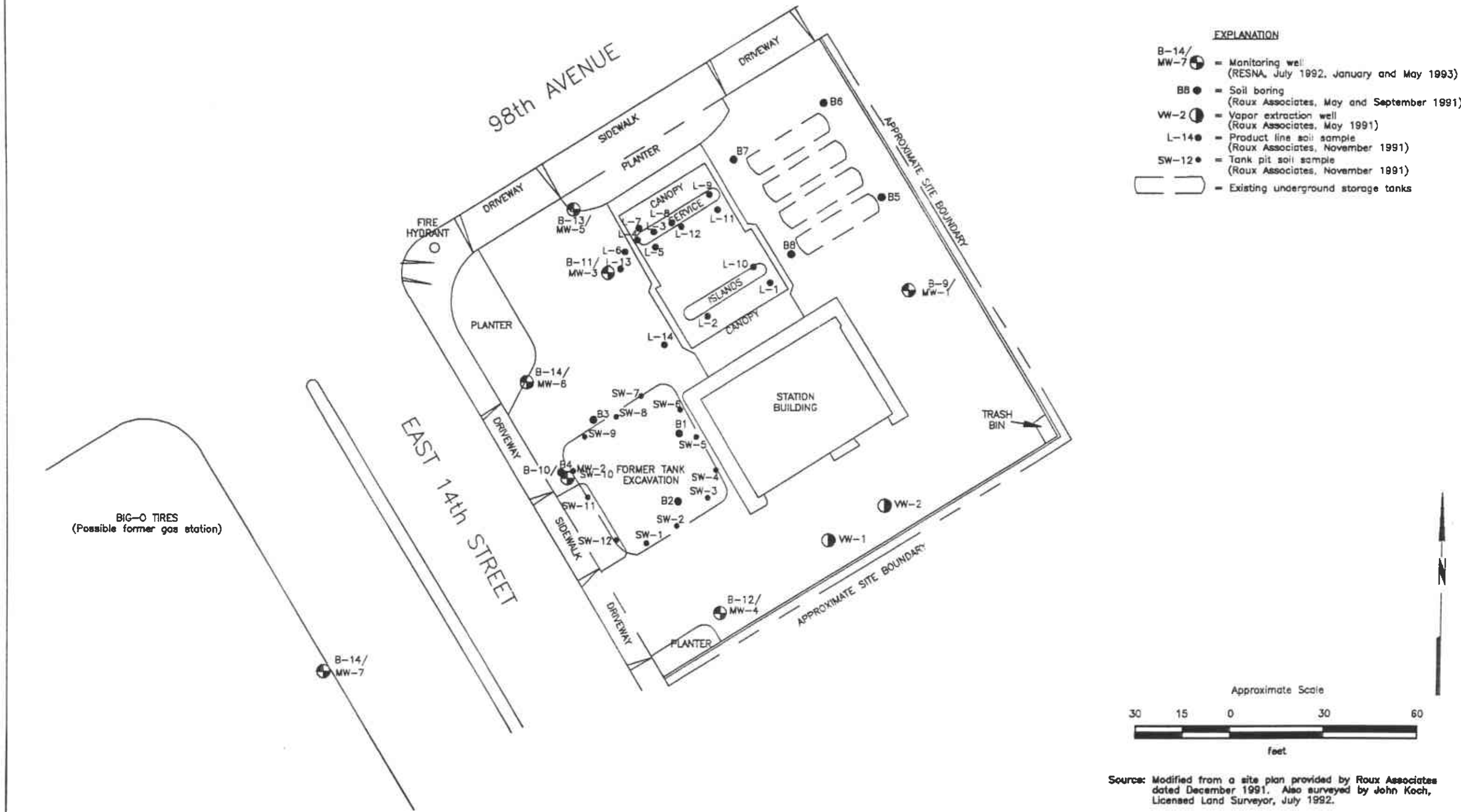
PROJECT 62026.04

SITE VICINITY MAP
ARCO Station 2185
9800 East 14th Street
San Leandro, California

PLATE
1



EXPLANATION

- B-14/ MW-7 = Monitoring well (RESNA, July 1992, January and May 1993)
- B8 = Soil boring (Roux Associates, May and September 1991)
- VW-2 = Vapor extraction well (Roux Associates, May 1991)
- L-14 = Product line soil sample (Roux Associates, November 1991)
- SW-12 = Tank pit soil sample (Roux Associates, November 1991)
- = Existing underground storage tanks

Source: Modified from a site plan provided by Roux Associates dated December 1991. Also surveyed by John Koch, Licensed Land Surveyor, July 1992.

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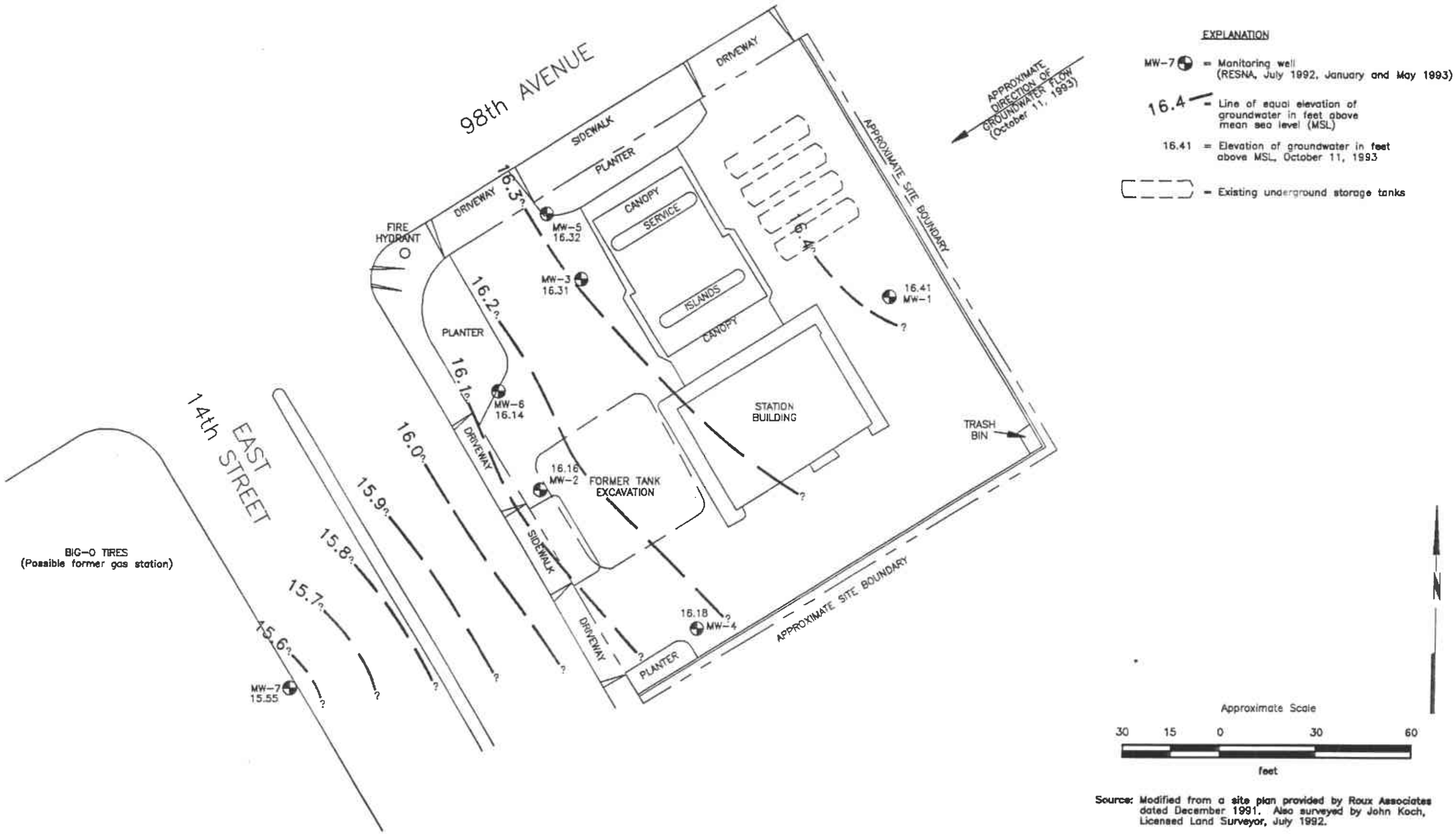
GENERALIZED SITE PLAN
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 2



Source: Modified from a site plan provided by Roux Associates dated December 1991. Also surveyed by John Koch, Licensed Land Surveyor, July 1992.

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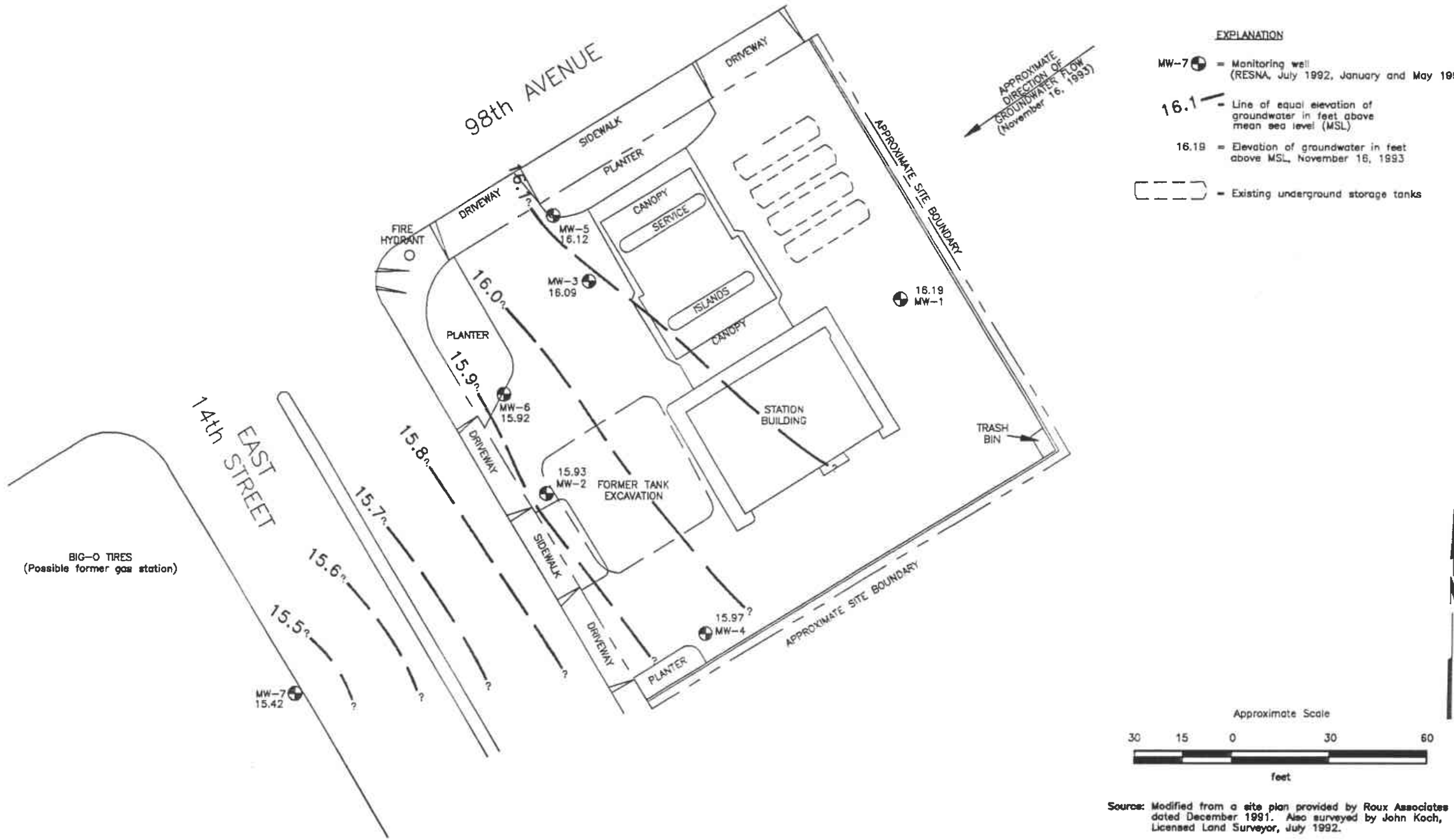
PROJECT 62026.04 62026404

GROUNDWATER GRADIENT MAP
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
3



Source: Modified from a site plan provided by Roux Associates dated December 1991. Also surveyed by John Koch, Licensed Land Surveyor, July 1992.

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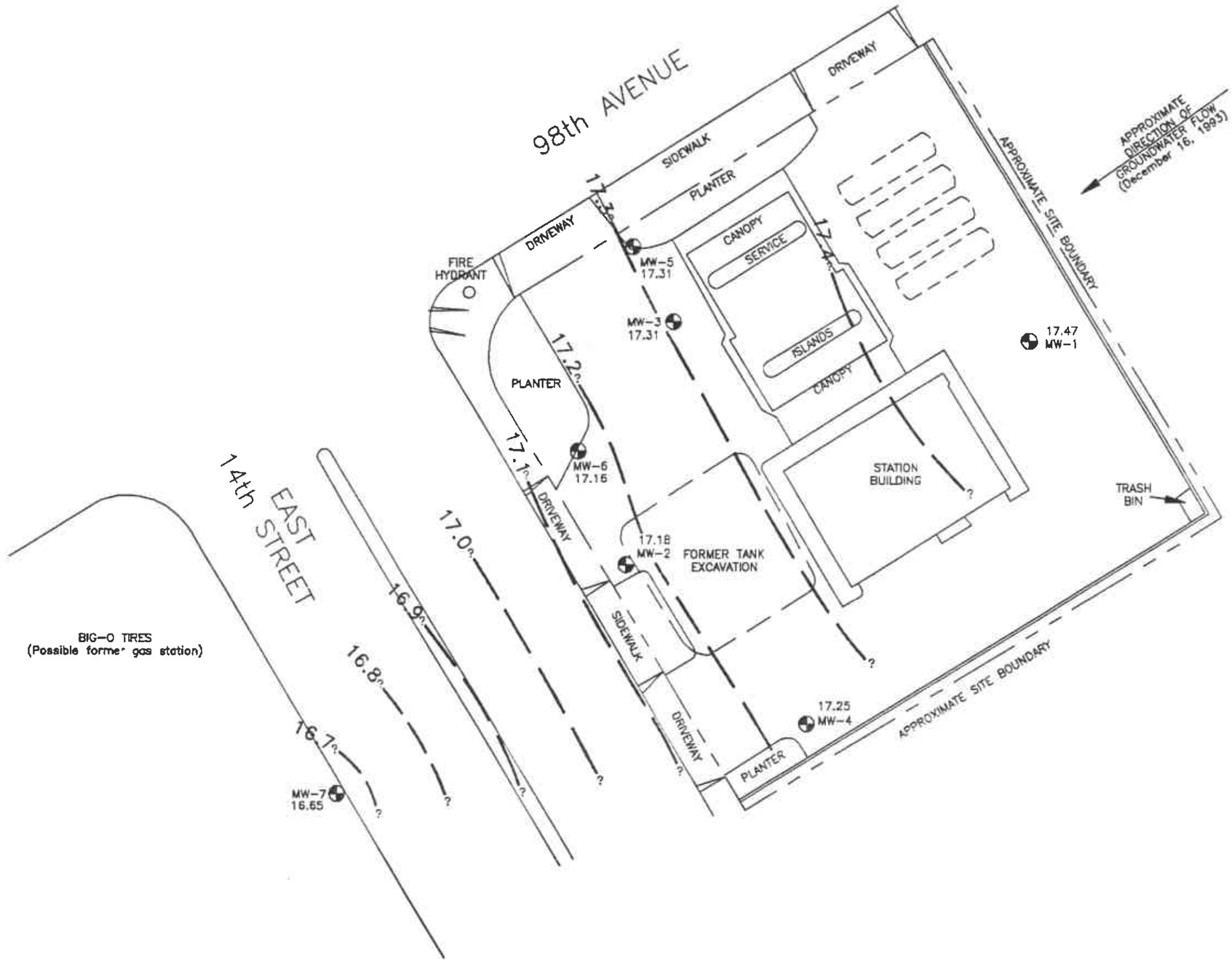
GROUNDWATER GRADIENT MAP
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
4



EXPLANATION

MW-7 = Monitoring well (RESNA, July 1992, January and May 1993)

17.4 = Line of equal elevation of groundwater in feet above mean sea level (MSL)

17.47 = Elevation of groundwater in feet above MSL, December 16, 1993

= Existing underground storage tanks

Source: Modified from a site plan provided by Roux Associates dated December 1991. Also surveyed by John Koch, Licensed Land Surveyor, July 1992.

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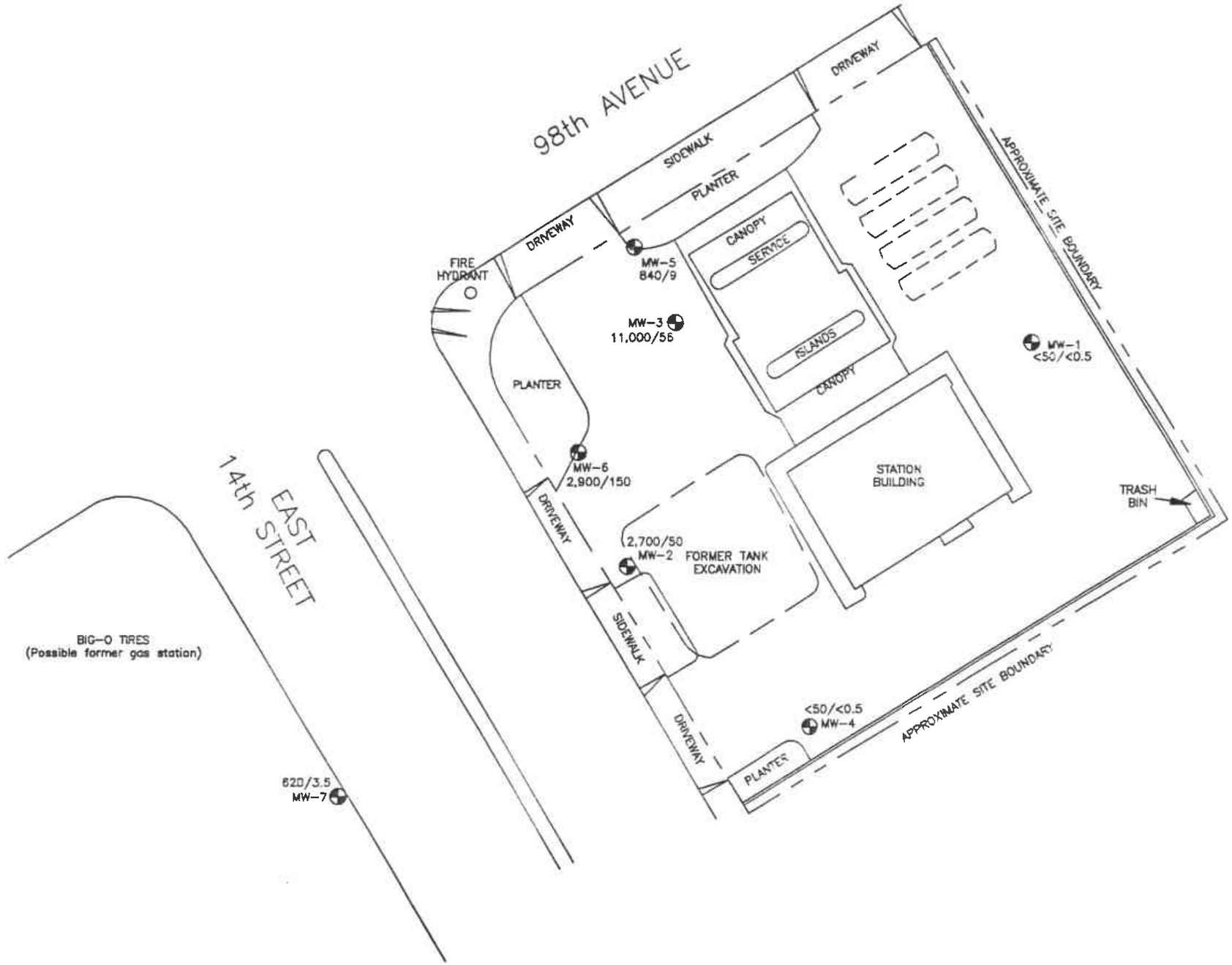
GROUNDWATER GRADIENT MAP
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE 5



EXPLANATION

MW-7 ⊕ = Monitoring well (RESNA, July 1992, January and May 1993)

11,000/56 = Concentrations of TPHg/benzene in groundwater in parts per billion, October 11, 1993

= Existing underground storage tanks

N

Approximate Scale

30 15 0 30 60

feet

Source: Modified from a site plan provided by Roux Associates dated December 1991. Also surveyed by John Koch, Licensed Land Surveyor, July 1992.

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TPHg/BENZENE CONCENTRATIONS
IN GROUNDWATER
ARCO Station 2185
9800 East 14th Street
Oakland, California

PLATE
6

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2185
Oakland, California
(page 1 of 3)

Date Well Measured	Well Elevation	Depth to Water	Water Elevation	Floating Product
MW-1				
07-24-92	29.15	13.38	15.77	None
08-26-92		13.92	15.23	None
09-22-92		14.18	14.97	None
10-19-92		14.52	14.63	None
11-23-92		14.54	14.61	None
12-16-92		12.20	16.95	None
01-14-93		9.32	19.83	None
02-26-93		9.38	19.77	None
03-26-93		10.04	19.11	None
04-09-93		10.50	18.65	None
05-19-93		11.26	17.89	None
06-17-93		11.53	17.62	None
07-28-93		12.00	17.15	None
08-23-93		12.31	16.84	None
09-28-93		12.60	16.55	None
10-11-93		12.74	16.41	None
11-16-93		12.96	16.19	None
12-16-93		11.68	17.47	None
MW-2				
07-24-92	28.47	12.95	15.52	None
08-26-92		13.55	14.92	None
09-22-92		13.78	14.69	None
10-19-92		14.09	14.38	None
11-23-92		14.06	14.41	None
12-16-92		11.70	16.77	None
01-14-93		8.87	19.60	None
02-26-93		8.98	19.49	None
03-26-93		9.57	18.90	None
04-09-93		10.02	18.45	None
05-19-93		10.81	17.66	None
06-17-93		11.08	17.39	None
07-28-93		11.60	16.87	None
08-23-93		11.90	16.57	None
09-28-93		12.17	16.30	None
10-11-93		12.31	16.16	None
11-16-63		12.54	15.93	Sheen
12-16-93		11.29	17.18	None

See notes on page 3 of 3

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2185
Oakland, California
(page 2 of 3)

Date Well Measured	Well Elevation	Depth to Water	Water Elevation	Floating Product
MW-3				
07-24-92	28.57	12.90	15.67	Sheen
08-26-92		13.51	15.06	None
09-22-92		13.73	14.84	None
10-19-92		14.04	14.53	None
11-23-92		14.02	14.55	None
12-16-92		11.73	16.84	None
01-14-93		9.17	19.40	None
02-26-93		9.30	19.27	None
03-26-93		9.83	18.74	None
04-09-93		10.22	18.35	None
05-19-93		10.91	17.66	None
06-17-93		10.74	17.83	None
07-28-93		11.60	16.97	None
08-23-93		11.93	16.64	None
09-28-93		12.13	16.44	None
10-11-93		12.26	16.31	None
11-16-93		12.48	16.09	None
12-16-93		11.26	17.31	None
MW-4				
07-24-92	29.21	13.68	15.53	None
08-26-92		14.12	15.09	None
09-22-92		14.46	14.75	None
10-19-92		14.74	14.47	None
11-23-92		14.75	14.46	None
12-16-92		12.45	16.76	None
01-14-93		9.46	19.75	None
02-26-93		9.54	19.67	None
03-26-93		10.19	19.02	None
04-09-93		10.67	18.54	None
05-19-93		11.52	17.69	None
06-17-93		11.79	17.42	None
07-28-93		12.30	16.91	None
08-23-93		12.60	16.61	None
09-28-93		12.88	16.33	None
10-11-93		13.03	16.18	None
11-16-93		13.24	15.97	None
12-16-93		11.96	17.25	None

See notes on page 3 of 3

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2185
Oakland, California
(page 3 of 3)

Date Well Measured	Well Elevation	Depth to Water	Water Elevation	Floating Product
MW-5				
02-26-93	28.12	9.00	19.12	None
03-26-93		9.41	18.71	None
04-09-93		9.80	18.32	None
05-19-93		10.50	17.62	None
06-17-93		10.73	17.39	None
07-28-93		11.15	16.97	None
08-23-93		11.43	16.69	None
09-28-93		11.66	16.46	None
10-11-93		11.80	16.32	None
11-16-93		12.00	16.12	None
12-16-93		10.81	17.31	None
MW-6				
02-26-93	27.79	8.47	19.32	None
03-26-93		9.07	18.72	None
04-09-93		9.53	18.26	None
05-19-93		10.23	17.56	None
06-17-93		10.51	17.28	None
07-28-93		10.98	16.81	None
08-23-93		11.28	16.51	None
09-28-93		11.50	16.29	None
10-11-93		11.65	16.14	None
11-16-93		11.87	15.92	None
12-16-93		10.63	17.16	None
MW-7				
07-28-93	27.88	11.67	16.21	None
08-23-93		12.00	15.88	None
09-28-93		12.17	15.71	None
10-11-93		12.33	15.55	None
11-16-93		12.46	15.42	None
12-16-93		11.23	16.65	None

All measurements in feet.
Well Elevation if top-of-casing (TOC) in feet above mean sea level (msl).
Depth-to-Water (DTW) is measured in feet below TOC
Groundwater Elevation = TOC - DTW
Floating Product = Subjective evidence of floating product noted.
Wells MW-1 through MW-4 surveyed on July 23, 1992, wells MW-5 through MW-7 surveyed on May 11, 1993 (Benchmark #24/D, near the corner of 98th Avenue [5' feet west of west curb] and East 14th Street [7' feet east of the south curb] in Oakland).

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TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF
GROUNDWATER SAMPLES
ARCO Station 2185
Oakland, California
(Page 1 of 2)

Well	TPHg	B	T	E	X
MW-1					
07-24-92	<50	<0.5	<0.5	<0.5	<0.5
10-19-92	<50	<0.5	<0.5	<0.5	<0.5
01-14-93	<50	<0.5	<0.5	<0.5	<0.5
04-09-93	<50	<0.5	<0.5	<0.5	<0.5
08-23-93	<50	<0.5	<0.5	<0.5	<0.5
10-11-93	<50	<0.5	<0.5	<0.5	<0.5
MW-2					
07-24-92	5,900	510	<10*	370	430
10-19-92	4,100	110	<10*	100	62
01-14-93	12,000	700	10	720	680
04-09-93	8,400	220	<10*	480	320
08-23-93	3,700	89	<5*	230	150
10-11-93	2,700	50	<2.5*	<140	68
MW-3					
07-24-92		Not sampled -- sheen			
10-19-92	42,000	740	1,100	1,500	5,700
01-14-93	44,000	1,100	840	2,200	9,600
04-09-93	21,000	33	69	350	1,600
08-23-93	13,000	63	21	530	1,300
10-11-93	11,000	56	13	530	1,200
MW-4					
07-24-92	<50	<0.5	<0.5	<0.5	<0.5
10-19-92	<50	<0.5	<0.5	<0.5	<0.5
01-14-93	<50	<0.5	<0.5	<0.5	<0.5
04-09-93	<50	<0.5	<0.5	<0.5	<0.5
08-23-93	<50	<0.5	<0.5	<0.5	<0.5
10-11-93	<50	<0.5	<0.5	<0.5	<0.5
MW-5					
02-11-93	9,300	620	<50*	890	2,200
04-09-93	960	29	<1*	100	96
08-23-93	2,700	50	<2.5*	260	250
10-11-93	840	9	<1*	87	41

See notes on page 2 of 2

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TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF
GROUNDWATER SAMPLES
ARCO Station 2185
Oakland, California
(Page 2 of 2)

Well	TPHg	B	T	E	X
MW-6					
02-11-93	4,800	630	<10*	490	460
04-09-93	13,000	880	<10*	1,000	1,000
08-23-93	6,300	390	<20*	450	390
10-11-93	2,900	150	3.4	190	140
MW-7					
05-14-93	350	0.83	<0.50	<0.50	<0.50
08-23-93	630**	7.3	<1*	<1*	<1*
10-11-93	620**	3.5	<0.5	<0.5	<0.5
MCL	—	1.0	—	680	1,750
DWAL	—	—	100	—	—

Results in parts per billion (ppb).
TPHg = Total petroleum hydrocarbons as gasoline using EPA Method 5030/8020/DHS LUFT.
B = benzene, T = toluene, E = ethylbenzene, X = total xylenes using EPA Method 5030/8020/DHS LUFT
< = Below indicated laboratory detection limits.
* = Laboratory raised Method Reporting Limit (MRL) due to high analyte concentration requiring sample dilution.
** = According to the laboratory, the sample contains components eluting in the gasoline range that were quantitated as gasoline. The chromatogram does not match the typical gasoline fingerprint.
MCL = State Maximum Contaminant Level (California Department of Health Services, October 1990).
DWAL = State Recommended Drinking Water Action Level (California Department of Health Services, October 1990).

APPENDIX A

EMCON'S FIELD REPORTS, WATER SAMPLE FIELD DATA SHEETS, AND CERTIFIED ANALYTICAL REPORTS WITH CHAIN OF CUSTODY RECORD

EMCON Associates
1921 Ringwood Avenue • San Jose, California 95131-1721 • **(408) 453-7300** • Fax (408) 437-9526

Date October 26, 1993
Project 0G70-054.01

To:
Mr. John Young
RESNA
3315 Almaden Expressway, Suite 34
San Jose, California 95118

RECEIVED
OCT 29 1993
RESNA
SAN JOSE

We are enclosing:

Copies	Description
1	Depth To Water / Floating Product Survey Results
1	Summary of Groundwater Monitoring Data
1	Certified Analytical Reports with Chain-of-Custody
6	Water Sample Field Data Sheets

For your: X Information Sent by: X Mail

Comments:

Enclosed are the data from the fourth quarter 1993 monitoring event at ARCO service station 2185, 9800 East 14th Street, Oakland, California. Groundwater monitoring is conducted consistent with applicable regulatory guidelines. Please call if you have any questions: (408) 453-2266.

Jim Butera JB

Reviewed by:

10/30/96

Robert Porter, Senior Project Engineer.

FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 0G70-054.01 STATION ADDRESS : 9800 East 14th Street, Oakland DATE : 10-11-93

ARCO STATION # : 2185 FIELD TECHNICIAN : L. PATH DAY : monday

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-1	ok	15/16	ok	3259	cracked	12.74	12.74	ND	ND	23.6	Lwc cracked
2	MW-4	ok	15/16	ok	3259	ok	13.03	13.03	ND	ND	23.8	
3	MW-7	ok	15/16	ok	3259	ok	12.33	12.33	ND	ND	25.3	Replaced Dolphin lock w/ 3259
4	MW-5	ok	15/16	ok	3259	ok	11.80	11.80	ND	ND	26.8	—
5	MW-2	ok	15/16	ok	3259	ok	12.31	12.31	ND	ND	23.6	—
6	MW-6	ok	15/16	ok	3259	ok	11.65	11.65	ND	ND	27.8	—
7	MW-3	ok	15/16	ok	3259	ok	12.26	12.26	ND	ND	23.3	—

SURVEY POINTS ARE TOP OF WELL CASINGS

Summary of Groundwater Monitoring Data
Fourth Quarter 1993
ARCO Service Station 2185
9800 East 14th Street, Oakland, California
micrograms per liter (µg/l) or parts per billion (ppb)

Well ID and Sample Depth	Sampling Date	Depth To Water (feet)	Floating Product Thickness (feet)	TPH[1] as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)
MW-1(20)	10/11/93	12.74	ND.[2]	<50.	<0.5	<0.5	<0.5	<0.5
MW-2(22)	10/11/93	12.31	ND.	2,700.	50.	<2.5	<140.	68.
MW-3(22)	10/11/93	12.26	ND.	11,000.	56.	13.	530.	1,200.
MW-4(22)	10/11/93	13.03	ND.	<50.	<0.5	<0.5	<0.5	<0.5
MW-5(25)	10/11/93	11.80	ND.	840.	9.	<1.	87.	41.
MW-6(26)	10/11/93	11.65	ND.	2,900.	150.	3.4	190.	140.
MW-7(24)	10/11/93	12.33	ND.	620.	3.5	<0.5	<0.5	<0.5

1. TPH. = Total petroleum hydrocarbons
2. ND. = Not detected

Columbia Analytical Services inc.

October 25, 1993 Service Request No. SJ93-1258

Jim Butera
EMCON Associates
1921 Ringwood Avenue
San Jose, CA 95131

Re: **EMCON Project No. 0G70-054.01**
ARCO Facility No. 2185

Dear Mr. Butera:

Attached are the results of the water samples submitted to our lab on October 11, 1993. For your reference, these analyses have been assigned our service request number SJ93-1258.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and CAS is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions.

Respectfully submitted:

COLUMBIA ANALYTICAL SERVICES, INC.

Keoni A. Murphy
Laboratory Manager

Annelise J. Bazar
Regional QA Coordinator

KAM/kmh

1921 Ringwood Avenue • San Jose, California 95131 • Telephone 408/437-2400 • Fax 408/437-9356

Acronyms

ASTM	American Society for Testing and Materials
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NR	Not Requested
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON Associates	**Date Received:**	10/11/93
Project:	EMCON Project No. 0G70-054.01	**Service Request No.:**	SJ93-1258
	ARCO Facility No. 2185	**Sample Matrix:**	Water

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
µg/L (ppb)

Sample Name:		MW-1 (20)	MW-2 (22)	MW-3 (22)
Date Analyzed:		10/14/93	10/14/93	10/14/93
Analyte	**MRL**			
Benzene	0.5	ND	50.	56.
Toluene	0.5	ND	<2.5 *	13.
Ethylbenzene	0.5	ND	<140.	530.
Total Xylenes	0.5	ND	68.	1,200.
TPH as Gasoline	50	ND	2,700.	11,000.

Sample Name:		MW-4 (22)	MW-5 (25)	MW-6 (26)
Date Analyzed:		10/14/93	10/14/93	10/18/93
Analyte	**MRL**			
Benzene	0.5	ND	9.	150.
Toluene	0.5	ND	<1. *	3.4
Ethylbenzene	0.5	ND	87.	190.
Total Xylenes	0.5	ND	41.	140.
TPH as Gasoline	50	ND	840.	2,900.

* Raised MRL due to high analyte concentration requiring sample dilution.

Approved by: Leonard Murphy Date: October 25, 1993

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON Associates	**Date Received:**	10/11/93
Project:	EMCON Project No. 0G70-054.01	**Service Request No.:**	SJ93-1258
	ARCO Facility No. 2185	**Sample Matrix:**	Water

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
µg/L (ppb)

Sample Name:	MW-7 (24)	Method Blank	Method Blank
Date Analyzed:	10/14/93	10/14/93	10/18/93

Analyte	MRL			
Benzene	0.5	3.5	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
TPH as Gasoline	50	620. *	ND	ND

* The sample contains components eluting in the gasoline range that were quantitated as gasoline. The chromatogram does not match the typical gasoline fingerprint.

Approved by: Kenneth Murphy Date: October 25, 1993

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON Associates	**Date Received:**	10/11/93
Project:	EMCON Project No. 0G70-054.01	**Service Request No.:**	SJ93-1258
	ARCO Facility No. 2185	**Sample Matrix:**	Water

Surrogate Recovery Summary
BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method

Sample Name	Date Analyzed	Percent Recovery α,α,α-Trifluorotoluene
MW-1 (20)	10/14/93	87.
MW-2 (22)	10/14/93	111.
MW-3 (22)	10/14/93	94.
MW-4 (22)	10/14/93	86.
MW-5 (25)	10/14/93	91.
MW-6 (26)	10/18/93	102.
MW-7 (24)	10/14/93	92.
MW-1 (20) MS	10/14/93	87.
MW-1 (20) DMS	10/14/93	85.
Method Blank	10/14/93	87.
Method Blank	10/18/93	85.
CAS Acceptance Criteria		70-130

Approved by: Kevin A. Murphy Date: October 25, 1993

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-054.01
ARCO Facility No. 2185

Date Received: 10/11/93
Service Request No.: SJ93-1258

Initial Calibration Verification
BTEX and TPH as Gasoline
EPA Methods 5030/8020/DHS LUFT Method
µg/L (ppb)

Date Analyzed: 10/14/93

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Criteria
Benzene	25.	26.0	104.	85-115
Toluene	25.	26.4	106.	85-115
Ethylbenzene	25.	26.2	105.	85-115
Total Xylenes	75.	81.7	109.	85-115
TPH as Gasoline	250.	240.	96.	90-110

Approved by: Keenan Murphy Date: October 25, 1993

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON Associates	**Date Received:**	10/11/93
Project:	EMCON Project No. 0G70-054.01	**Service Request No.:**	SJ93-1258
	ARCO Facility No. 2185	**Sample Matrix:**	Water

Matrix Spike/Duplicate Matrix Spike Summary
BTE
EPA Methods 5030/8020
µg/L (ppb)

Sample Name: MW-1 (20)
Date Analyzed: 10/14/93

Analyte	Spike Level	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Criteria
Benzene	25.	ND	26.7	26.4	107.	106.	76-122
Toluene	25.	ND	26.9	26.4	108.	106.	75-127
Ethylbenzene	25.	ND	26.8	26.3	107.	105.	70-135

Approved by: Kevin A Murphy Date: October 25, 1993

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ARCO Products Company
Division of AtlanticRichfieldCompany

Chain of Custody

Task Order No. EMC-93-5

ARCO Facility no. 2185	City (Facility) OAKLAND	Project manager (Consultant) JIM Butera	Laboratory name CAS
ARCO engineer Kyle Christie	Telephone no. (ARCO) 371-2434	Telephone no. (Consultant) 453-7300	Fax no. (Consultant) 453 0452
Consultant name ENCEN	Address (Consultant) 1921 Ringwood Avenue San Jose		Contract number 07077

Method of shipment: sampler will deliver

Special detection Limit/reporting: lowest Possible

Special QA/QC: AS normal

Remarks: 2-40 ml HCl VOA's

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH GAS EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐
MW-1(20)	1-2	2		X		X	HCl	10-11-93	1100		X									
MW-2(22)	3-4	2		↓		↓	↓	↓	1305		X									
MW-3(22)	5-6	2							1415		X									
MW-4(22)	7-8	2							1130		X									
MW-5(25)	9-10	2							1225		X									
MW-6(26)	11-12	2							1235		X									
MW-7(24)	13-14	2							1155		X									

Lab number: SJ93-1258

Turnaround time

- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days X

Condition of sample: Ok

Temperature received: 0001

	Date	Time	
Relinquished by sampler: Lee Putz	10-11-93	1620	Received by
Relinquished by			Received by
Relinquished by			Received by laboratory: [signature]

Date: 10-11-93 Time: 1620

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant

APPC 3292 (2-91)

WATER SAMPLE FIELD DATA SHEET

Rev. 2. 5/91

EMCON ASSOCIATES

PROJECT NO: 0570-054.01 | SAMPLE ID: MW-1 (20)

PURGED BY: L. RATH | CLIENT NAME: ARCO 2185

SAMPLED BY: L. RATH | LOCATION: 9500 E 14 St Oak (A)

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 X 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	7.08
DEPTH TO WATER (feet):	12.75	CALCULATED PURGE (gal.):	21.26
DEPTH OF WELL (feet):	23.6	ACTUAL PURGE VOL. (gal.):	22.0

DATE PURGED: 10-11-93 Start (2400 Hr) 1042 End (2400 Hr) 1054

DATE SAMPLED: 10-11-93 Start (2400 Hr) 1100 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1047	7	6.60	641	70.9	Brown	Heavy
1050	14	6.58	550	70.5	↓	↓
1054	22	6.61	554	70.4	↓	↓

D. O. (ppm): NR ODOR: None NR (COBALT 0 - 100) NR (NTU 0 - 200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
___ Centrifugal Pump	X Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: ___

Meter Calibration: Date: 10-11-93 Time: 0959 Meter Serial #: 9011 Temperature °F: 69.9

(EC 1000 1021 / 1000) (DI ___) (pH 7 7.04 / 7.00) (pH 10 10.18 / 10.00) (pH 4 4.00 / ___)

Location of previous calibration: ___

Signature: Lee Rath Reviewed By: JB Page 1 of 7

Rev. 2. 5/91

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 0570-054-01 SAMPLE ID: MW-2 (22)

PURGED BY: L. RATH CLIENT NAME: ARCO 2185

SAMPLED BY: L. RATH LOCATION: 9800 E 14 St Oak CA

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 X 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 7.37

DEPTH TO WATER (feet): 12.31 CALCULATED PURGE (gal.): 22.12

DEPTH OF WELL (feet): 23.6 ACTUAL PURGE VOL. (gal.): 23.0

DATE PURGED: 10-11-93 Start (2400 Hr) 1245 End (2400 Hr) 1259

DATE SAMPLED: 10-11-93 Start (2400 Hr) 1305 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1249	7	6.65	832	69.9	Gray	Hevy
1253	14	6.66	820	70.5		
1259	23	6.67	818	70.0		

D. O. (ppm): NR ODOR: Slight COLOR (COBALT 0 - 700): NR TURBIDITY (NTU 0 - 200): NR

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT

___ 2" Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Well Wizard™
___ Bailer (Teflon®)
X Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated
Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump
___ DDL Sampler
___ Dipper
___ Well Wizard™
X Bailer (Teflon®)
___ Bailer (Stainless Steel)
___ Submersible Pump
___ Dedicated
Other: ___

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: Spots of Product in well water

Meter Calibration: Date: 10-11-93 Time: 0959 Meter Serial #: 9011 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: MW-1

Signature: Jose Rather Reviewed By: JB Page 2 of 7

WATER SAMPLE FIELD DATA SHEET

Rev. 2. 5/91

EMCON ASSOCIATES

PROJECT NO: 0570-054-01 | SAMPLE ID: MW-3 (22)

PURGED BY: L. RATH | CLIENT NAME: ARCO 2185

SAMPLED BY: L. RATH | LOCATION: 9800 E 14 St Oak CA

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 X 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): NR | VOLUME IN CASING (gal.): 7.21

DEPTH TO WATER (feet): 12.25 | CALCULATED PURGE (gal.): 21.65

DEPTH OF WELL (feet): 23.3 | ACTUAL PURGE VOL. (gal.): 22.0

DATE PURGED: 10-11-93 | Start (2400 Hr) 1350 | End (2400 Hr) 1408

DATE SAMPLED: 10-11-93 | Start (2400 Hr) 1415 | End (2400 Hr) ___

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1355	7	6.61	611	68.9	Brown	Heavy
1400	14	6.62	625	68.8		
1408	22	6.65	630	68.7		

D. O. (ppm): NR | ODOR: Slight | COLOR (COBALT 0 - 100): NR | TURBIDITY (NTU 0 - 200): NR

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT

___ 2" Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Well Wizard™
___ Bailer (Teflon®)
X Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated
Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump
___ DDL Sampler
___ Dipper
___ Well Wizard™
X Bailer (Teflon®)
___ Bailer (Stainless Steel)
___ Submersible Pump
___ Dedicated
Other: ___

WELL INTEGRITY: OK | LOCK #: 3259

REMARKS: ___

Meter Calibration: Date: 10-11-93 Time: 0959 Meter Serial #: 9011 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___ pH 10 ___ / ___) (pH 4 ___ ___)

Location of previous calibration: MW-1

Signature: Lora Rath | Reviewed By: JB | Page 3 of 7

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0570-054.01 SAMPLE ID: MW-4 (22)

PURGED BY: L. RATH CLIENT NAME: ARCO 2185

SAMPLED BY: L. RATH LOCATION: 9800 E 14 St Oak CA

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 X 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 7.04

DEPTH TO WATER (feet): 13.02 CALCULATED PURGE (gal.): 21.12

DEPTH OF WELL (feet): 23.8 ACTUAL PURGE VOL. (gal.): 22.0

DATE PURGED: 10-11-93 Start (2400 Hr) 1115 End (2400 Hr) 1125

DATE SAMPLED: 10-11-93 Start (2400 Hr) 1130 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1117	7	6.58	618	70.5	Brown	Heavy
1121	14	6.56	610	700	↓	↓
1125	22	6.53	607	699	↓	↓

D. O. (ppm): NR ODOR: Mod. NR (COBALT 0 - 100) NR (NTU 0 - 200)

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
___ Centrifugal Pump	X Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: ___

Meter Calibration: Date: 10-11-93 Time: 0959 Meter Serial #: 9011 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: MW-1

Signature: Lee Rath Reviewed By: [illegible] Page 4 of 7

Rev. 2, 5/91

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 0570-054-01 SAMPLE ID: MW-5 (25)

PURGED BY: L. RATH CLIENT NAME: ARCO 2185

SAMPLED BY: L. RATH LOCATION: 9800 E 14 St Oak CA

TYPE: Ground Water X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ___ 3 ___ 4 X 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	9.76
DEPTH TO WATER (feet):	11.85	CALCULATED PURGE (gal.):	29.30
DEPTH OF WELL (feet):	26.8	ACTUAL PURGE VOL. (gal.):	30.0

DATE PURGED: 10-11-93 Start (2400 Hr) 1200 End (2400 Hr) 1218

DATE SAMPLED: 10-11-93 Start (2400 Hr) 1225 End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1206	10	6.81	510	67.6	Brown	Heavy
1214	20	6.74	546	66.9		
1218	30	6.76	550	66.8		

D. O. (ppm): NR ODOR: None COLOR (COBALT 0 - 100): NR TURBIDITY (NTU 0 - 200): NR

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
___ Centrifugal Pump	X Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other: ___	

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: ___

Meter Calibration: Date: 10-11-93 Time: 0959 Meter Serial #: 9011 Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: MW-1

Signature: Lora Rath Reviewed By: JB Page 5 of 7

Rev. 2, 5/93

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 0570-054-01 | SAMPLE ID: MW-6 (26)

PURGED BY: L. RATH | CLIENT NAME: ARCO 2185

SAMPLED BY: L. RATH | LOCATION: 9800 E 14 St Oakland CA

TYPE: Ground Water X | Surface Water ___ | Treatment Effluent ___ | Other ___

CASING DIAMETER (inches): 2 ___ | 3 ___ | 4 X | 4.5 ___ | 6 ___ | Other ___

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	10.54
DEPTH TO WATER (feet):	11.66	CALCULATED PURGE (gal.):	31.63
DEPTH OF WELL (feet):	27.8	ACTUAL PURGE VOL. (gal.):	32.0

DATE PURGED: 10-11-93 | Start (2400 Hr) 1215 | End (2400 Hr) 1229

DATE SAMPLED: 10-11-93 | Start (2400 Hr) 1235 | End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1218	11	6.59	752	69.1	Brown	Heavy
1224	22	6.67	738	69.0	"	"
1229	32	6.60	741	69.0	"	"

D. O. (ppm): NR | ODOR: Slight | COLOR (COBALT 0 - 100): NR | TURBIDITY (NTU 0 - 200): NR

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT

___ 2" Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Well Wizard™
___ Bailer (Teflon®)
X Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated
Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump
___ DDL Sampler
___ Dipper
___ Well Wizard™
X Bailer (Teflon®)
___ Bailer (Stainless Steel)
___ Submersible Pump
___ Dedicated
Other: ___

WELL INTEGRITY: OK | LOCK #: 3259

REMARKS: ___

Meter Calibration: Date: 10-11-93 | Time: 0959 | Meter Serial #: 9011 | Temperature °F: ___

(EC 1000 ___ / ___) (DI ___) (pH 7 ___ ___) (pH 10 ___ / ___) (pH 4 ___ ___)

Location of previous calibration: MW-1

Signature: Lori Rath | Reviewed By: JB | Page 6 of 7

Rev. 2. 5/91

WATER SAMPLE FIELD DATA SHEET

EMCON ASSOCIATES

PROJECT NO: 0570-054-01 | SAMPLE ID: MW-7 (24)

PURGED BY: L. RATH | CLIENT NAME: ARCO 2185

SAMPLED BY: L. RATH | LOCATION: 9800 E 14 St Oak CA

TYPE: Ground Water X | Surface Water ___ | Treatment Effluent ___ | Other ___

CASING DIAMETER (inches): 2 X LR | 3 ___ | 4 LR | 4.5 ___ | 6 ___ | Other ___

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	2.11
DEPTH TO WATER (feet):	12.33	CALCULATED PURGE (gal.):	6.35
DEPTH OF WELL (feet):	25.3	ACTUAL PURGE VOL. (gal.):	7.0

DATE PURGED: 10-11-93 | Start (2400 Hr) 1138 | End (2400 Hr) 1148

DATE SAMPLED: 10-11-93 | Start (2400 Hr) 1155 | End (2400 Hr) —

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1142	2	6.63	694	68.8	Brown	Heavy
1145	4	6.56	695	68.9		
1148	7	6.60	694	69.1		

D. O. (ppm): NR | ODOR: NONE | COLOR (COBALT 0 - 100): NR | TURBIDITY (NTU 0 - 200): NR

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
___ Centrifugal Pump	X Bailer (PVC)	___ DDL Sampler	___ Bailer (Stainless Steel)
___ Submersible Pump	___ Bailer (Stainless Steel)	___ Dipper	___ Submersible Pump
___ Well Wizard™	___ Dedicated	___ Well Wizard™	___ Dedicated
Other: ___		Other ___	

WELL INTEGRITY: OK | LOCK #: 3259

REMARKS: ___

Meter Calibration: Date: 10-11-93 | Time: 0959 | Meter Serial #: 9011 | Temperature °F: ___

(EC 1000 ___ ___) (DI ___) (pH 7 ___ / ___) (pH 10 ___ / ___) (pH 4 ___ / ___)

Location of previous calibration: MW-1

Signature: Lora Rath | Reviewed By: [illegible] | Page 7 of 7

EMCON Associates
1921 Ringwood Avenue • San Jose, California 95131-1721 • **(408) 453-7300** • Fax (408) 437-9526

Date November 30, 1993
Project 0G70-054.01

To:
Mr. John Young
RESNA
3315 Almaden Expressway, Suite 34
San Jose, California 95118

We are enclosing:

Copies	Description
1	Depth To Water/Floating Product Survey Results
	November 1993 monthly water level survey, ARCO
	station 2185, 9800 East 14th Street, Oakland, CA

For your: X Information Sent by: X Mail

Comments:
Monthly water level data for the above mentioned site are attached. Please call if you have any questions: (408) 453-7300.

Reviewed by:

REGISTERED PROFESSIONAL ENGINEER
ROBERT CURTIS PORTER
No: 4004
Exp. 6/30/96
INDUSTRIAL
STATE OF CALIFORNIA

Jim Butera JB

Robert Porter, Senior Project Engineer.

FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 0G70-054.01 STATION ADDRESS : 9800 East 14th Street, Oakland DATE : November 16, 1993

ARCO STATION # : 2185 FIELD TECHNICIAN : Joe Williams/Steve Horton DAY : Tuesday

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	**MW-1**	good	15/16	na	3259	yes	12.96	12.96	ND	ND	23.6	—
2	**MW-4**	good	15/16	na	3259	yes	13.24	13.24	ND	ND	23.8	—
3	**MW-7**	good	15/16	na	3259	yes	12.46	12.46	ND	ND	25.3	—
4	**MW-5**	good	15/16	na	3259	yes	12.00	12.00	ND	ND	26.8	water in box
5	**MW-2**	good	15/16	na	3259	yes	12.54	12.54	ND	ND	23.6	strong odor / sheen
6	**MW-6**	good	15/16	na	3259	yes	11.87	11.87	ND	ND	27.8	strong odor
7	**MW-3**	good	15/16	na	3259	yes	12.48	12.48	ND	ND	23.3	strong odor

SURVEY POINTS ARE TOP OF WELL CASINGS

EMCON Associates
1921 Ringwood Avenue • San Jose, California 95131-1721 • **(408) 453-7300** • Fax (408) 437-9526

Date December 22, 1993
Project 0G70-054.01

To:
Mr. John Young
RESNA
3315 Almaden Expressway, Suite 34
San Jose, California 95118

We are enclosing:

Copies	Description
1	Depth To Water/Floating Product Survey Results
	December 1993 monthly water level survey, ARCO
	station 2185, 9800 East 14th Street, Oakland, CA

For your: X Information Sent by: X Mail

Comments:

Monthly water level data for the above mentioned site are attached. Please call if you have any questions: (408) 453-7300.

Reviewed by:

Jim Butera

Robert Porter, Senior Project Engineer.

FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 0G70-054.01 STATION ADDRESS : 9800 East 14th Street, Oakland DATE : 12/16/93

ARCO STATION # : 2185 FIELD TECHNICIAN : Sean C & Bob W. DAY : Thursday

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	**MW-1**	YES	15/16	OK	3259	OK	11.68	11.68	ND	ND	23.6	—
2	**MW-4**	YES	15/16	OK	3259	OK	11.96	11.96	ND	ND	23.8	NEED NEW CAP
3	**MW-7**	YES	15/16	OK	3259	OK	11.23	11.23	ND	ND	25.3	—
4	**MW-5**	YES	15/16	OK	3259	OK	10.81	10.81	ND	ND	26.8	—
5	**MW-2**	YES	15/16	OK	3259	OK	11.29	11.29	ND	ND	23.6	—
6	**MW-6**	YES	15/16	OK	3259	OK	10.63	10.63	ND	ND	27.8	—
7	**MW-3**	YES	15/16	OK	3259	OK	11.26	11.26	ND	ND	23.3	—

SURVEY POINTS ARE TOP OF WELL CASINGS