

RO 651
CL



9911 11:19

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

TRANSMITTAL

TO: Mr. Barney Chan
ACHCSA
Dept. of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

DATE: December 16, 1992
PROJECT NUMBER: 69021.15
SUBJECT: ARCO Station 2107, 3310 Park
Boulevard, Oakland, California

FROM: Ms. Lou Leet
TITLE: Environmental Scientist

WE ARE SENDING YOU:

COPIES	DATED	NO.	DESCRIPTION
1	03/09/93	69021.15	Letter Report Quarterly Groundwater Monitoring Fourth Quarter 1992 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. Internal

THESE ARE TRANSMITTED as checked below:

- For review and comment Approved as submitted Resubmit ___ copies for approval
- As requested Approved as noted Submit ___ copies for distribution
- For approval Return for corrections Return ___ corrected prints
- For your files

REMARKS:

Per ARCO's request (Mr. Michael Whelan) copies of this report have been forwarded to you for your files.

Copies: 1 to RESNA project file no. 69021.15

9011 11/12 11/12

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

**LETTER REPORT
QUARTERLY GROUNDWATER MONITORING
Fourth Quarter 1992
at
ARCO Station 2107
3310 Park Boulevard
Oakland, California**

69021.15

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

March 9, 1993
0204MWHE
69021.15

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

Subject: Fourth Quarter 1992 Groundwater Monitoring Report for ARCO Station 2107,
3310 Park Boulevard, Oakland, California.

Mr. Whelan:

As requested by ARCO Products Company (ARCO), RESNA Industries Inc. (RESNA) prepared this letter report, which summarizes the results of fourth quarter 1992 groundwater monitoring performed by ARCO's contractor, EMCON Associates (EMCON) of San Jose, at the above-referenced site. The objectives of this quarterly groundwater monitoring are to evaluate changes in the groundwater flow direction and gradient, and changes in concentrations of petroleum hydrocarbons in the local groundwater associated with the former underground gasoline and waste-oil tanks at the site.

Field work performed during this quarter under the direction of EMCON included measuring depths to groundwater, subjectively analyzing groundwater for the presence of petroleum product, purging and subsequent sampling of groundwater monitoring wells MW-3 through MW-10 and RW-1 for laboratory analyses, and directing a State-certified laboratory to analyze the groundwater samples. Field procedures and acquisition of field data were performed under the direction of EMCON; warrant of their field data and evaluation of their field protocols are beyond RESNA's scope of work. RESNA's scope of work was limited to interpretation of field data, which included evaluating trends in the groundwater gradient, direction of groundwater flow, and gasoline hydrocarbon concentrations beneath the site.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

The operating Arco Station 2107 is located on the southwestern corner of the intersection of Park Boulevard and East 34th Street in Oakland, California, as shown on Site Vicinity Map, Plate 1.

The results of previous environmental investigations at the site are presented in the reports listed in the References section. The locations of the groundwater monitoring wells and pertinent site features are shown on the Generalized Site Plan, Plate 2.

Groundwater Sampling and Gradient Evaluation

Depth-to-water measurements (DTW) were performed by EMCON field personnel on October 31, November 11, and December 16, 1992. Quarterly sampling was performed by EMCON field personnel on November 11, 1992. The results of EMCON's field work, including DTW measurements and subjective analysis for the presence of product in the groundwater in wells MW-1 through MW-10 in October and November and in wells MW-1 through MW-10 and RW-1 in December, are presented on EMCON's Field Reports and Water Sample Field Data sheets. These data are included in Appendix A.

The DTW levels, wellhead elevations, groundwater elevations, and subjective observations of product in the groundwater from MW-1 through MW-10 and RW-1 for this quarter and previous quarterly groundwater monitoring at the site are summarized in Table 1, Cumulative Groundwater Monitoring Data. EMCON's DTW measurements were used to evaluate groundwater elevations. Evidence of product or sheen was not observed by EMCON's field personnel during this quarterly monitoring (see EMCON's Field Reports, Appendix A). The groundwater gradients interpreted from the October, November, and December 1992 data are shown on the Groundwater Gradient Maps, Plates 3 through 5. The average interpreted groundwater gradient and flow direction was less than approximately 0.1 ft/ft toward the northwest in October, November, and December. The groundwater gradient and flow direction for this quarter was generally consistent with previously interpreted data. Wells MW-1 and MW-2 were not used to interpret the groundwater gradient because they are constructed in the former tank pit backfill; groundwater recovery well RW-1 was not used because had not been surveyed due to ongoing construction and installation of a pump for the purpose of groundwater remediation. Well RW-1 will be surveyed in March 1993 and data collected from well RW-1 will be evaluated and referenced in future reports.

On November 11, 1992, groundwater monitoring wells MW-3 through MW-10 and RW-1 were purged and sampled for laboratory analyses by EMCON field personnel. Purge data sheets are presented in Appendix A.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

Laboratory Methods and Analyses

Water samples collected from wells MW-3 through MW-10 and RW-1 on November 11, 1992 were delivered by EMCON personnel under Chain-of-Custody protocol to Columbia Analytical Services, Inc. (California Department of Health Services Certification No. 1426). The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using modified Environmental Protection Agency (EPA) Methods 5030/8020/California DHS LUFT Method. In addition, water samples taken on November 11, 1992, from MW-3 through MW-5 and RW-1 were analyzed for total petroleum hydrocarbons as diesel (TPHd) using EPA Methods 3510/California DHS LUFT Method.

Results of these and previous water analyses are summarized in Table 2, Cumulative Results of Groundwater Laboratory Analyses--TPHg, TPHd, TOG, and BTEX, and Table 3, Cumulative Results of Laboratory Analyses--Base Neutral and Acid Extractables (BNAs), volatile organic compounds (VOCs), and Metals. The concentrations of TPHg and benzene in groundwater on November 11, 1992 are shown on TPHg Concentrations in Groundwater, Plate 6 and Benzene Concentrations in Groundwater, Plate 7. The Chain-of-Custody Records and Laboratory Analysis Reports are included in Appendix A.

Wells MW-5 and RW-1, located generally downgradient of the former underground storage tanks and service islands, continues to possess the highest concentrations of TPHg and BTEX. Concentrations of TPHg and BTEX in wells MW-4 and MW-5 have decreased since last quarter. The concentrations of TPHg and BTEX in wells MW-6 through MW-10 continue to be nondetectable. Reported concentrations of TPHd may be weathered gasoline. (Reportedly, diesel has not been stored on the site).

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

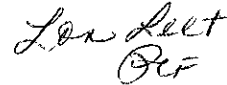
Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15


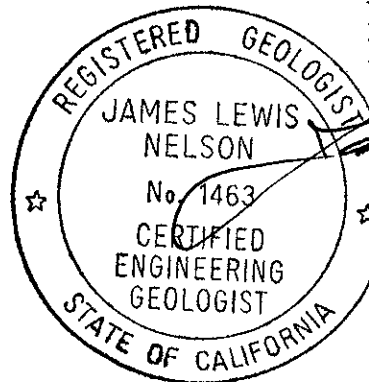
Mr. Richard Hiatt
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

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

Sincerely,
RESNA Industries Inc.



Lou Leet
Environmental Scientist



James L. Nelson
Certified Engineering
Geologist No. 1463

Enclosures: References

- Plate 1, Site Vicinity Map
- Plate 2, Generalized Site Plan
- Plate 3, Groundwater Gradient Map, October 31, 1992
- Plate 4, Groundwater Gradient Map, November 11, 1992
- Plate 5, Groundwater Gradient Map, December 16, 1992
- Plate 6, TPHg Concentrations in Groundwater, November 11, 1992
- Plate 7, Benzene Concentrations in Groundwater, November 11, 1992

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

Enclosures:
(continued)

Table 1, Cumulative Groundwater Monitoring Data

Table 2, Cumulative Results of Groundwater Laboratory Analyses--TPHg,
TPHd, TOG, and BTEX

Table 3, Cumulative Results of Groundwater Laboratory Analyses--BNAs,
VOCs, and Metals

Appendix A: EMCON's Field Reports-Depth to Water/Floating Product Survey Results,
Summary of Groundwater Monitoring Data, Certified Analytical Reports
with Chain of Custody, and Water Sample Field Data Sheets

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

REFERENCES

- Applied GeoSystems, February 1990. Work Plan for Subsurface Investigation. ARCO Station 2107, Oakland, California. AGS 69021-W.
- Applied GeoSystems, March 1990. Site Safety Plan for Subsurface Investigation. ARCO Station 2107, Oakland, California. AGS 69021-2S.
- Applied GeoSystems, December 14, 1990. Report Limited Subsurface Environmental Investigation. ARCO Station 2107, 3310 Park Boulevard Oakland, California. AGS 69021-3.
- Applied GeoSystems, January 29, 1991. Letter Report Quarterly Ground-Water Monitoring Fourth Quarter 1990 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. AGS 69021-4.
- Applied Geosystems, March 26, 1991. Letter Report Quarterly Ground-Water Monitoring First Quarter 1991 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. AGS 69021-4.
- Applied Geosystems, July 23, 1991. Letter Report Quarterly Ground-Water Monitoring Second Quarter 1991 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. AGS 69021-4.
- Clayton Environmental Consultants, Inc. 1987. Analytical Results of Four Soil Samples. #0134.
- Fletcher Construction Company. 1967. Atlantic Richfield Station #2107-A, 34th St. and Park Blvd., Oakland, California.
- Hugh M. O'Neil Company. 1967. New Station Site at Park Blvd. & 34th St., Oakland, California. Job No. 6761-C.
- RESNA, September 12, 1991. Letter Report Quarterly Groundwater Monitoring Third Quarter 1991 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. RESNA 69021.04.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

REFERENCES CITED
(continued)

- RESNA, December 30, 1991. Report Additional Subsurface Environmental Investigation and Pump Test at ARCO 2107, 3310 Park Boulevard, Oakland, California. RESNA 69021.05.
- RESNA, April 7, 1992. Letter Report Quarterly Groundwater Monitoring Fourth Quarter 1991 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. RESNA 69021-06.
- RESNA, April 13, 1992. Three To Work Plan For Additional Subsurface Investigation at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. RESNA 69021.10
- RESNA. April 8, 1992. Letter Report Quarterly Groundwater Monitoring First Quarter 1992 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. RESNA 69021-06.
- RESNA. October 1, 1992. Letter Report Quarterly Groundwater Monitoring Second Quarter 1992 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. RESNA 69021-06.
- RESNA. December 29, 1992. Letter Report Quarterly Groundwater Monitoring Third Quarter 1992 at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. RESNA 69021-06.
- RESNA. December 30, 1992. Report Subsurface Environmental Investigation at ARCO Station 2107, 3310 Park Boulevard, Oakland, California. RESNA 69021.10
- SCS Engineers. January 1987. Soil Sampling at Arco Station, Oakland, California. File No. 38612.00.
- SCS Engineers. February 1987. Water Sampling at Arco Station, Oakland, California. File No. 38612.00



Base: U.S. Geological Survey
 7.5-Minute Quadrangles
 Oakland West/East, California
 Photorevised 1980

LEGEND

○ = Site Location



Approximate Scale

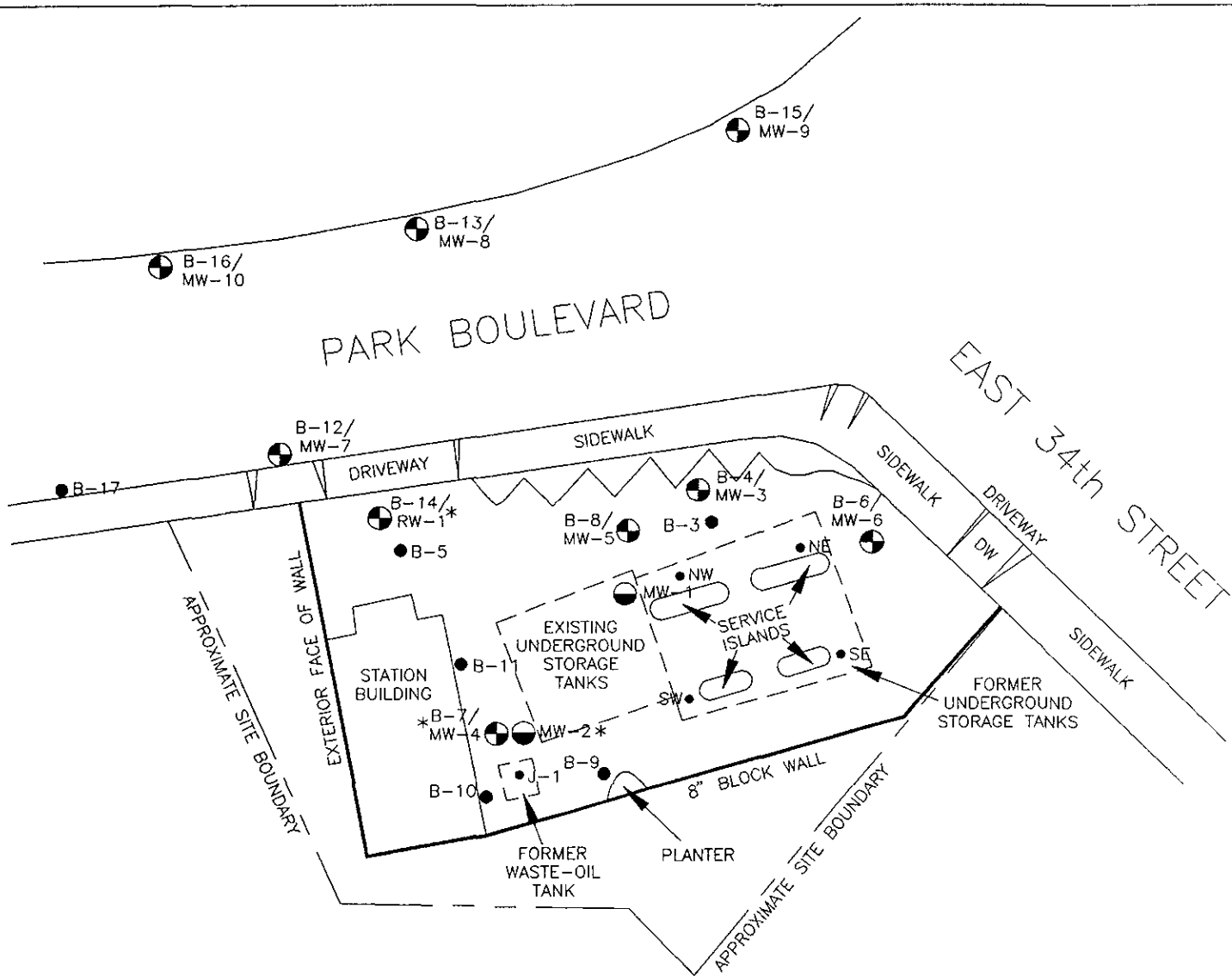


RESNA
 Working to Restore Nature

**SITE VICINITY MAP
 ARCO Station 2107
 3310 Park Boulevard
 Oakland, California**

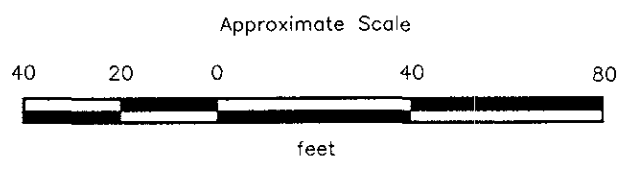
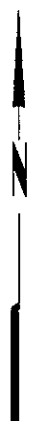
**PLATE
 1**

PROJECT 69021.15



EXPLANATION

- B-11 ● = Soil boring
(RESNA, 04/90, 05/91, and 06/92, and 10/92)
- B-16/
MW-10 ◐ = Groundwater monitoring well
(RESNA, 04/90, 07/90, 08/91, and 06/92)
- B-16/
RW-1 ◐ = Groundwater recovery well
(RESNA, 10/92)
- MW-2 ◐ = Tank pit observation well
(S.C.S. Engineers, 01/87)
- J-1 ● = Soil sample
(S.C.S. Engineers, 01/87)
- * = Well was not surveyed,
location is approximate



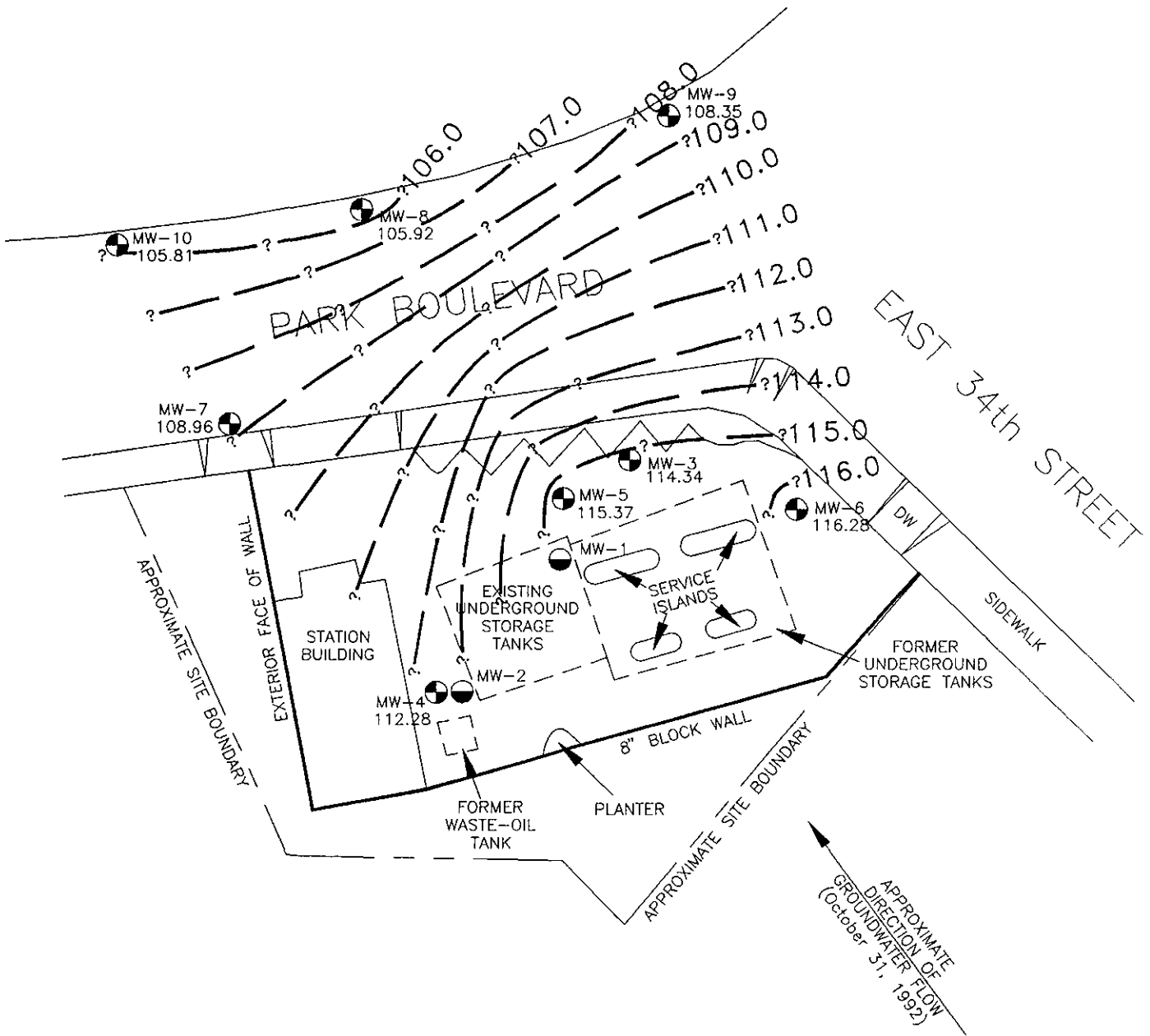
SOURCE: Modified from plan supplied by John E. Koch, Land Surveyor, July 27, 1992.



**GENERALIZED SITE PLAN
ARCO Station 2107
3310 Park Boulevard
Oakland, California**

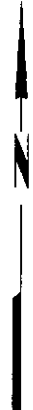
**PLATE
2**

PROJECT 69021.15 69021-15

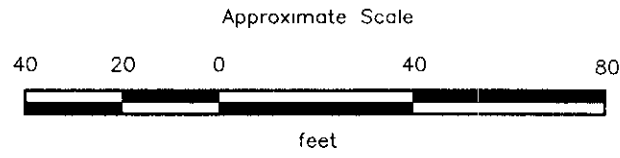


EXPLANATION

- 116.0 = Line of equal elevation of groundwater in feet above mean sea level (MSL)
- 116.28 = Elevation of groundwater in feet above MSL, October 31, 1992
- MW-10 = Groundwater monitoring well (RESNA, 04/90, 07/90, 08/91, and 06/92)
- MW-2 = Tank pit observation well (S.C.S. Engineers, 01/87)



APPROXIMATE DIRECTION OF GROUNDWATER FLOW (October 31, 1992)



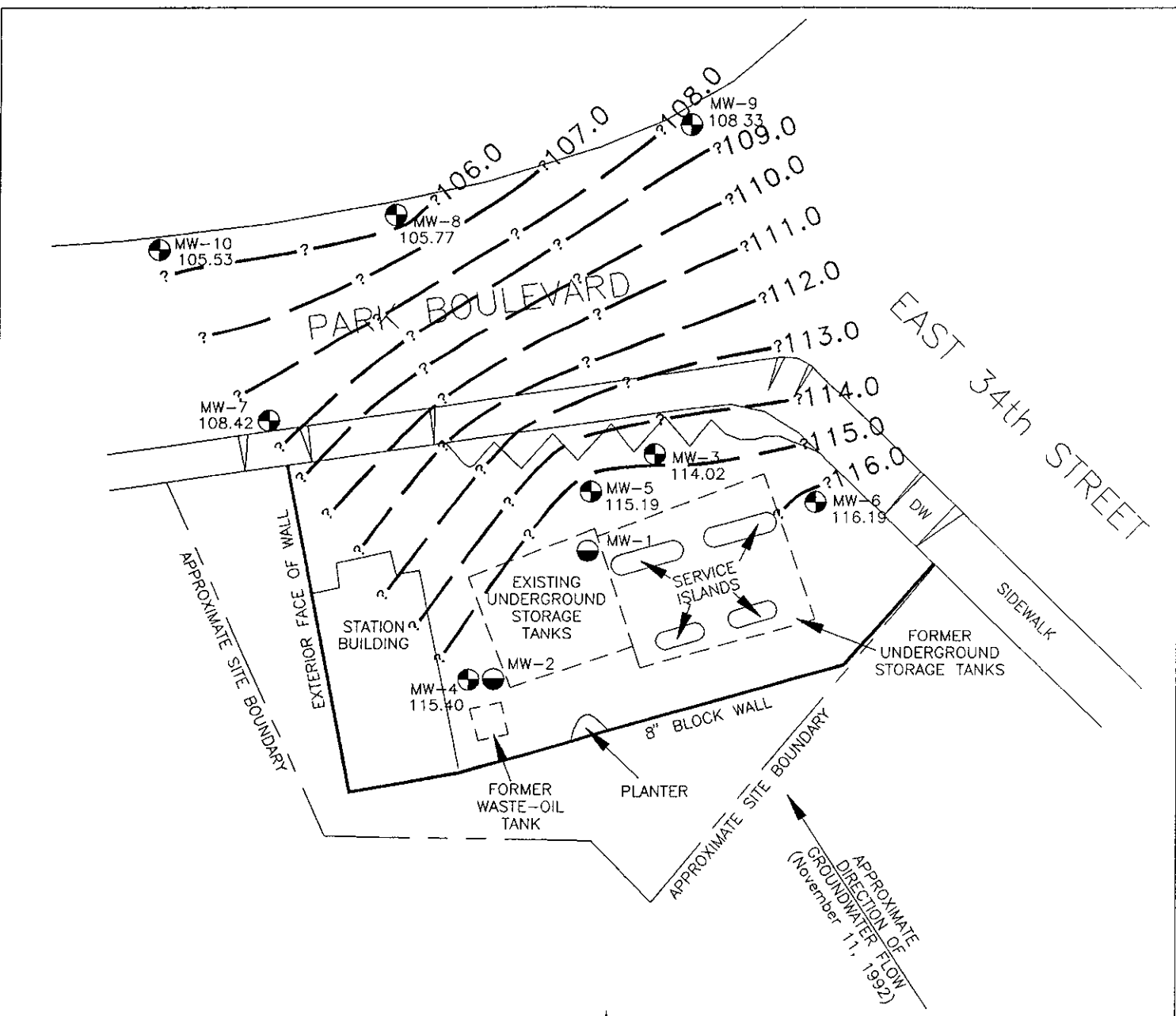
SOURCE: Modified from plan supplied by John E. Koch, Land Surveyor, July 27, 1992.



GROUNDWATER GRADIENT MAP
ARCO Station 2107
3310 Park Boulevard
Oakland, California

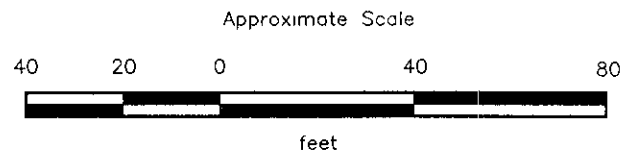
PLATE
3

PROJECT 69021.15 90211504



EXPLANATION

- 116.0 = Line of equal elevation of groundwater in feet above mean sea level (MSL)
- 116.19 = Elevation of groundwater in feet above MSL, November 11, 1992
- MW-10 = Groundwater monitoring well (RESNA, 04/90, 07/90, 08/91, and 06/92)
- MW-2 = Tank pit observation well (S.C.S. Engineers, 01/87)



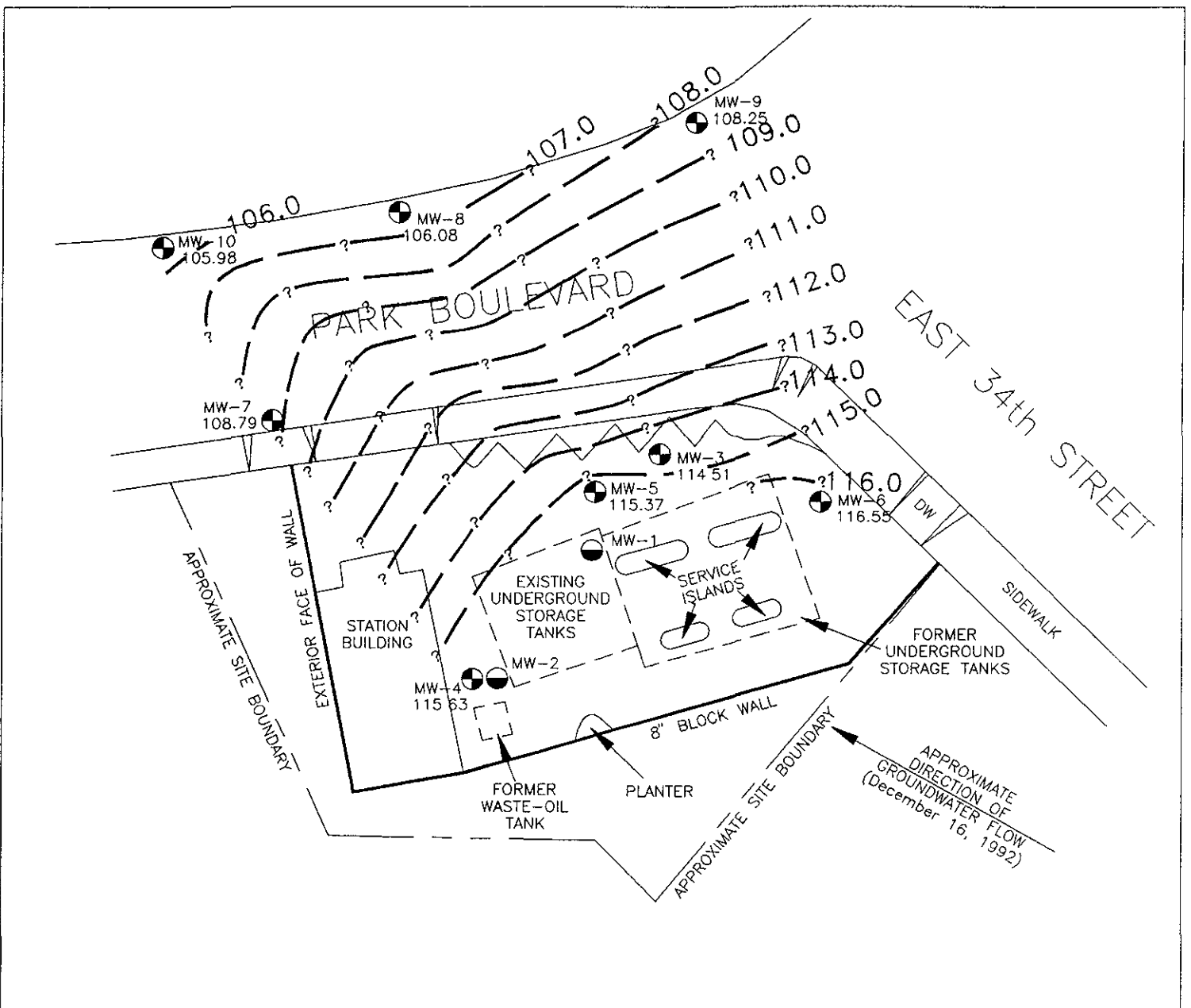
SOURCE. Modified from plan supplied by John E Koch, Land Surveyor, July 27, 1992.



GROUNDWATER GRADIENT MAP
ARCO Station 2107
3310 Park Boulevard
Oakland, California

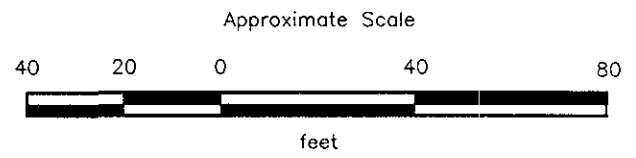
PLATE
4

PROJECT **69021.15** 690211504



EXPLANATION

- 116.0 = Line of equal elevation of groundwater in feet above mean sea level (MSL)
- 116.55 = Elevation of groundwater in feet above MSL, December 16, 1992
- RW-1* = This well was not used to interpret the groundwater gradient because it has not been surveyed.
- MW-10 ● = Groundwater monitoring well (RESNA, 04/90, 07/90, 08/91, and 06/92)
- MW-2 ● = Tank pit observation well (S.C.S. Engineers, 01/87)



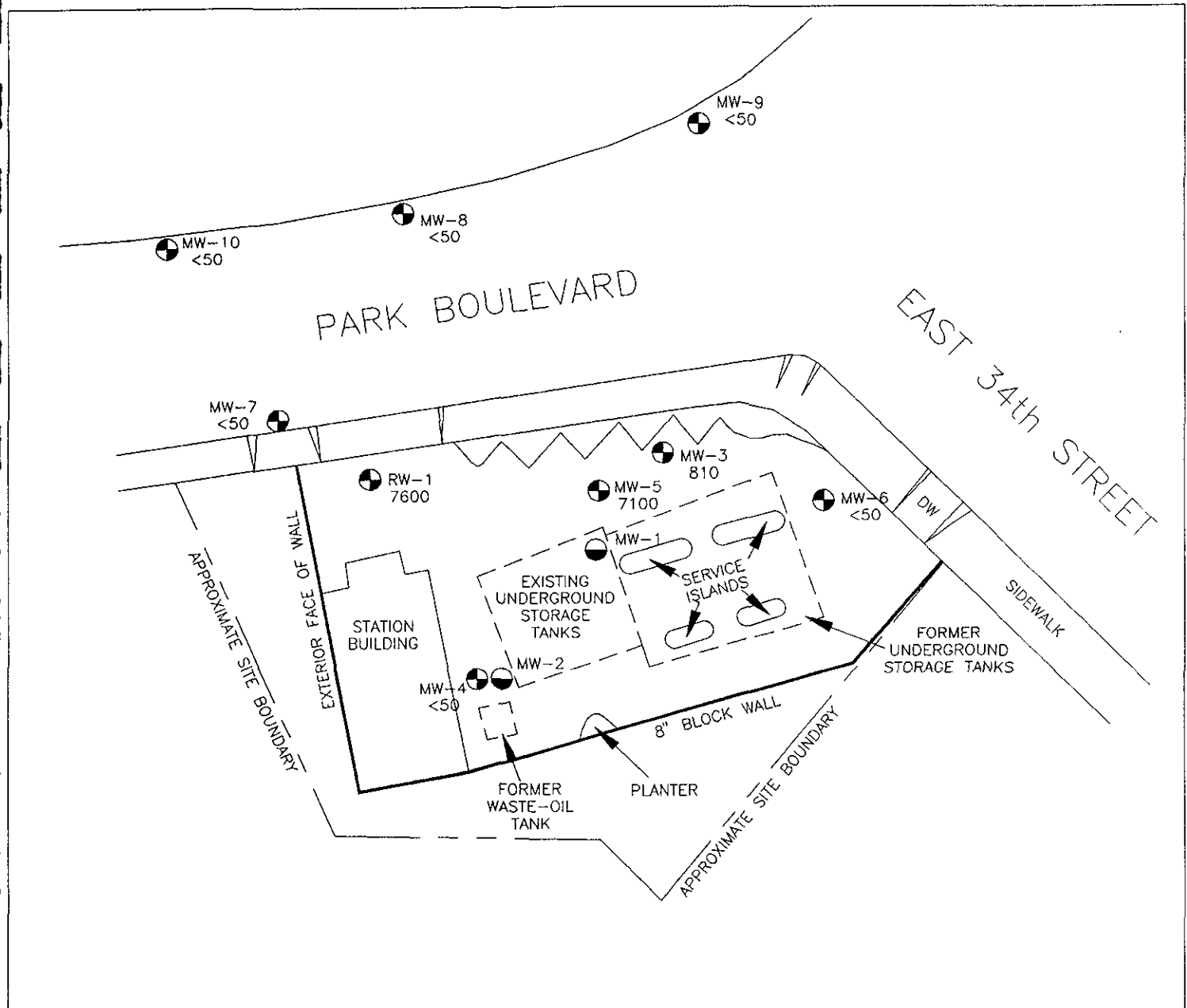
SOURCE: Modified from plan supplied by John E. Koch, Land Surveyor, July 27, 1992



GROUNDWATER GRADIENT MAP
ARCO Station 2107
3310 Park Boulevard
Oakland, California

PLATE
5

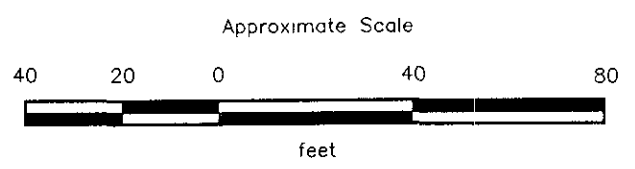
PROJECT 69021.15 90211504



EXPLANATION

7600 = Concentration of TPHg in groundwater in ppb, November 11, 1992

- RW-1 = Groundwater recovery well (RESNA, 10/92)
- MW-10 = Groundwater monitoring well (RESNA, 04/90, 07/90, 08/91, and 06/92)
- MW-2 = Tank pit observation well (S.C.S. Engineers, 01/87)



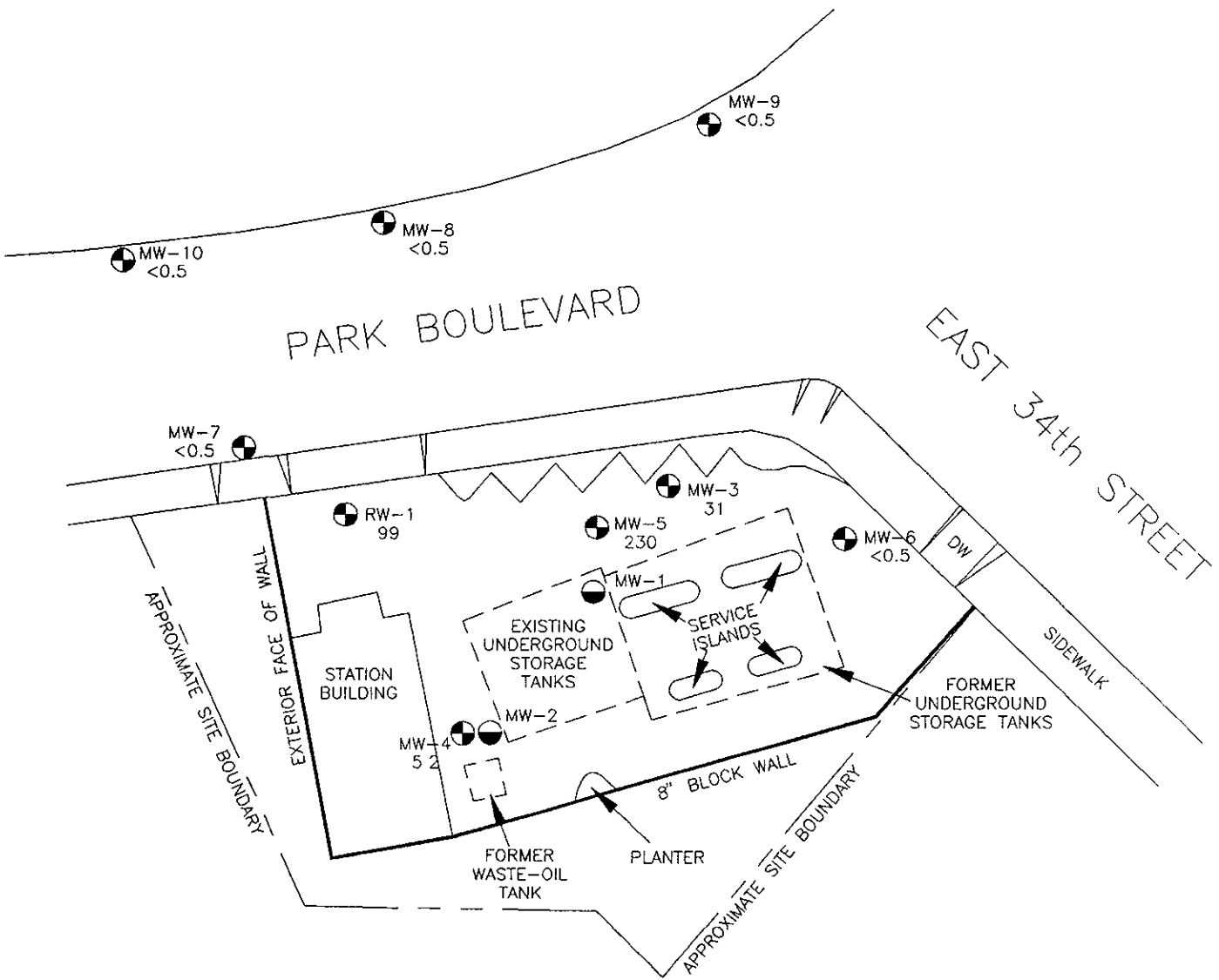
SOURCE: Modified from plan supplied by John E. Koch, Land Surveyor, July 27, 1992



PROJECT 69021.15 50211504


**TPHg CONCENTRATIONS
IN GROUNDWATER
ARCO Station 2107
3310 Park Boulevard
Oakland, California**


**PLATE
6**




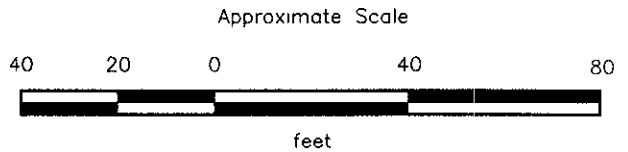
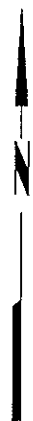
EXPLANATION

230 = Concentration of benzene in groundwater in ppb, November 11, 1992

RW-1  = Groundwater recovery well (RESNA, 10/92)

MW-10  = Groundwater monitoring well (RESNA, 04/90, 07/90, 08/91, and 06/92)

MW-2  = Tank pit observation well (S.C.S. Engineers, 01/87)



SOURCE: Modified from plan supplied by John E. Koch, Land Surveyor, July 27, 1992.



**BENZENE CONCENTRATIONS
IN GROUNDWATER
ARCO Station 2107
3310 Park Boulevard
Oakland, California**

**PLATE
7**

PROJECT

69021.15

90211504

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2107
Oakland, California
(Page 1 of 7)

Well Date	Well Elevation	Depth to Water	Water Elevation	Floating Product
<u>MW-1</u>				
05/19/89		2.69	116.22	0.125
07/19/90	118.91	2.60	116.31	None
08/07/90		2.61	116.30	None
08/14/90		2.70	116.21	None
08/23/90		NM	NM	NM
08/28/90		NM	NM	NM
10/25/90		2.69	116.22	None
01/23/91		2.69	116.22	None
02/27/91		2.68	116.23	None
03/19/91		2.37	116.54	None
04/24/91		2.40	116.51	None
05/31/91		NM	NM	NM
06/12/91		1.38	117.53	NM
07/24/91		1.29	117.62	None
08/08/91		NM	NM	NM
09/13/91		NM	NM	NM
10/31/91		NM	NM	NM
11/20/91		NM	NM	NM
12/24/91		2.78	116.13	None
01/06/92		2.41	116.50	None
04/16/92	118.15	2.71	115.44	None
05/15/92		2.68	115.47	None
06/30/92		2.45	115.70	None
07/15/92		2.65	115.50	None
08/25/92		2.67	115.48	None
09/10/92		2.68	115.47	None
10/31/92		4.10	114.05	None
11/11/92		2.73	115.42	None
12/16/92		2.56	115.59	None
<u>MW-2</u>				
05/19/89		1.57	116.22	Sheen
07/19/90	117.79	1.49	116.30	None
08/07/90		1.50	116.29	None
08/14/90		1.57	116.22	None
08/23/90		NM	NM	NM
08/28/90		NM	NM	NM
10/25/90		1.55	116.24	None
01/23/91		1.56	116.23	None
02/27/91		1.55	116.24	None
03/19/91		1.25	116.54	None

See notes on page 7 of 7.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2107
Oakland, California
(Page 2 of 7)

Well Date	Well Elevation	Depth to Water	Water Elevation	Floating Product
<u>MW-2 continued</u>				
04/24/91		1.26	116.53	None
05/31/91		NM	NM	NM
06/12/91		1.31	116.48	None
07/24/91		1.24	116.55	None
08/08/91		NM	NM	NM
09/13/91		NM	NM	NM
10/31/91		NM	NM	NM
11/20/91		1.65	116.14	None
12/24/91		1.33	116.46	None
01/19/92		1.80	115.40	None
04/16/92	117.20	1.72	115.48	None
05/15/92		1.52	115.68	None
06/30/92		1.68	115.52	None
07/15/92		1.72	115.48	None
08/25/92		1.73	115.47	None
09/10/92		6.52	110.68	None
10/31/92		1.77	115.43	None
11/11/92		1.59	115.61	None
12/16/92				
<u>MW-3</u>				
07/19/90	117.85	3.27	114.58	None
08/07/90		3.39	114.46	None
08/14/90		3.41	114.44	None
08/23/90	117.85	3.47	114.38	None
08/28/90		3.49	114.36	None
10/25/90		3.57	114.28	None
01/23/91		3.74	114.11	None
02/27/91		3.75	114.10	None
03/19/91		3.33	114.52	None
04/24/91		3.35	114.50	None
05/31/91		3.52	114.33	None
06/12/91		3.58	114.27	None
07/24/91		3.66	114.19	None
08/08/91		3.56	114.29	None
09/13/91		3.68	114.17	None

See notes on page 7 of 7.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2107
Oakland, California
(Page 3 of 7)

<u>Well</u> Date	<u>Well</u> Elevation	<u>Depth to</u> Water	<u>Water</u> Elevation	<u>Floating</u> Product
<u>MW-3 (continued)</u>				
10/31/91		3.30	114.55	None
11/20/91		3.66	114.19	None
12/24/91		3.66	114.19	None
04/16/92		3.52	114.33	None
05/15/92		3.65	114.20	None
06/30/92		3.47	114.38	None
07/15/92		4.06	113.79	None
08/25/92		3.84	114.01	None
09/10/92		3.86	113.99	None
10/31/92		3.51	114.34	None
11/11/92		3.83	114.02	None
12/16/92		3.44	114.51	None
<u>MW-4</u>				
07/19/90		1.69	116.05	None
08/07/90	117.74	5.73	112.01	None
08/14/90		3.42	114.32	None
08/23/90		1.80	115.94	None
08/28/90		1.83	115.91	None
10/25/90		1.77	115.97	None
01/23/91		2.08	115.66	None
02/27/91		1.79	115.95	None
03/19/91		1.37	116.37	None
04/24/91		1.40	116.34	None
05/31/91		1.44	116.30	None
06/12/91		1.46	116.28	None
07/24/91		1.52	116.22	None
08/08/91		1.58	116.16	None
09/13/91		1.67	116.07	None
10/31/91		2.58	115.16	None
11/20/91		3.79	113.95	None
12/24/91		2.30	115.44	None
04-16-92		2.45	115.29	None
05/15/92		2.30	115.44	None
06/30/92		2.26	115.48	None
07/15/92		2.70	115.04	None
08/25/92		2.54	115.20	None

See notes on page 7 of 7.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2107
Oakland, California
(Page 4 of 7)

Well Date	Well Elevation	Depth to Water	Water Elevation	Floating Product
MW-4 (continued)				
09/10/92		2.47	115.27	None
10/31/92		5.46	112.28	None
11/11/92		2.34	115.40	None
12/16/92		2.11	115.63	None
MW-5				
07/19/90		1.90	116.10	None
08/07/90	118.00	1.94	116.06	None
08/14/90		1.96	116.04	Sheen
08/28/90		1.90	116.10	None
10/25/90		2.05	115.95	None
08/23/90		1.99	116.01	None
01/23/91		2.68	115.32	None
02/27/91	118.00	2.56	115.44	None
02/27/91		2.56	115.44	None
03/19/91		2.44	115.56	None
04/24/91		2.36	115.64	None
05/31/91		2.08	115.92	None
06/12/91		2.14	115.86	None
07/24/91		2.20	115.80	None
08/08/91		2.12	115.88	None
09/13/91		2.23	115.77	None
10/31/91		2.65	115.35	None
11/20/91		2.54	115.46	None
12/24/91		2.62	115.38	None
04/16/92		3.26	114.74	None
05/15/92		3.00	115.00	None
06/30/92		2.79	115.21	None
07/15/92		NM	NM	NM
08/25/92		2.82	115.18	None
09/10/92		2.81	115.19	None
10/31/92		2.63	115.37	None
11/11/92		2.81	115.19	None
12/16/92		2.63	115.37	None

See notes on page 7 of 7.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2107
Oakland, California
(Page 5 of 7)

<u>Well</u> Date	Well Elevation	Depth to Water	Water Elevation	Floating Product
<u>MW-6</u>				
07/19/90		4.23	116.65	None
08/07/90	120.88	4.67	112.01	None
08/14/90		4.39	114.32	None
08/23/90		4.35	115.94	None
08/28/90		4.34	115.91	None
10/25/90		4.34	115.97	None
01/23/91		4.46	115.66	None
02/27/91		4.76	116.12	None
06/12/91		4.14	116.74	None
07/24/91		4.22	116.66	None
08/08/91		4.60	116.28	None
03/19/91		4.56	116.32	None
04/24/91		4.28	116.60	None
05/03/91		4.17	116.71	None
09/13/91		4.27	116.61	None
10/31/91		4.25	116.63	None
11/20/91		4.30	116.58	None
12/24/91		4.25	116.63	None
04/16/92		4.58	116.30	None
05/15/92		4.61	116.27	None
06/30/92		4.52	116.36	None
07/15/92		4.80	116.08	None
08/25/92		4.73	116.15	None
09/10/92		4.69	116.19	None
10/31/92		4.60	116.28	None
11/11/92		4.69	116.19	None
12/16/92		4.33	116.55	None
<u>MW-7</u>				
09/13/91		5.00	108.12	None
10/31/91	113.12	5.00	108.12	None
11/20/91		5.24	107.88	None
12/24/91		5.27	107.85	None
04/16/92		4.88	108.24	None
07/15/92		4.90	108.22	None
08/25/92		NM	NM	NM
09/10/92		4.71	108.41	None
10/31/92		4.16	108.96	None
11/11/92		4.70	108.42	None
12/16/92		4.33	108.79	None

See notes on page 7 of 7.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2107
Oakland, California
(Page 6 of 7)

Well Date	Well Elevation	Depth to Water	Water Elevation	Floating Product
<u>MW-8</u>				
05/15/92		4.89	108.23	None
06/30/92		4.67	108.45	None
07/15/92		4.90	108.22	None
08/25/92		NM	NM	NM
09/10/92		4.71	108.41	None
09/13/91		9.12	105.62	None
10/31/91	114.74	9.42	105.32	None
11/20/91		10.00	104.74	None
12/24/91		10.02	104.72	None
04/16/92		9.10	105.64	None
05/15/92		8.92	105.82	None
06/30/92		8.83	105.91	None
07/15/92		9.15	105.59	None
08/25/92		8.92	105.82	None
09/10/92		8.87	105.87	None
10/31/92		8.82	105.92	None
11/11/92		8.97	105.77	None
12/16/92		8.66	106.08	None
<u>MW-9</u>				
06/30/92	117.72	9.51	108.21	None
07/15/92		10.07	107.65	None
08/25/92		9.91	107.81	None
09/10/92		9.85	107.87	None
10/31/92		9.37	108.35	None
11/11/92		9.39	108.33	None
12/16/92		9.47	108.25	None
<u>MW-10</u>				
06/30/92	112.43	9.50	102.93	None
07/15/92		6.75	105.68	None
08/25/92		6.83	105.60	None
09/10/92		6.81	105.62	None
10/31/92		6.62	105.81	None
11/11/92		6.90	105.53	None
12/16/92		6.45	105.98	None

See notes on page 7 of 7.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2107
Oakland, California
(Page 7 of 7)

<u>Well</u> Date	Well Elevation	Depth to Water	Water Elevation	Floating Product
<u>RW-1</u> 11/11/92	not surveyed	3.33	—	None
12/16/92		2.81	—	None

NM = Not measured.
All measurements in feet.
Well elevation datum is mean sea level.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 2
CUMULATIVE RESULTS OF GROUNDWATER LABORATORY ANALYSES—TPHg, TPHd, TOG, and BTEX
ARCO Station 2107
Oakland, California
(Page 1 of 3)

Well Date	TPHg	TPHd	TOG	Benzene	Toluene	Ethylbenzene	Total xylenes
<u>MW-3</u>							
07/16/90	4,000	NA	NA	430	8.7	27	8.5
10/25/90	5,400	NA	NA	800	6.6	25	30
01/23/91	6,900	NA	NA	760	12.0	91	29
04/24/91	4,300	NA	NA	800	<120.0	<120	<120
07/24/91	3,400	NA	NA	620	<0.30	3.6	7.9
10/31/91	4,100	NA	NA	690	<6.0	<6.0	22
03/12/92	Not sampled-well inaccessible						
04/16/92	2,800	NA	NA	790	<10.0	21	<10.0
06/30/92	1,100	880*	NA	170	<2.5	<2.5	<2.5
09/10/92	790	NA	NA	44	<0.5	1.1	1.0
09/25/92	NA	3,300*	NA	NA	NA	NA	NA
11/11/92	810	510*	NA	31	<0.5	1.4	1.1
<u>MW-4</u>							
07/16/90	1,500	300	<5,000	100 (200)	8.3 (15)	4.7 (16)	12 (25)
10/25/90	390	<100	<5,000	28 (<4)	<0.5 (<4)	1.6 (<4)	1.4 (<4)
01/23/91	520	<100	<5,000	59 (59)	1.6 (<2)	0.7 (<2)	3.7 (<2)
04/24/91	260	NA	NA	87	<1.5	3.2	<1.5
07/24/91	56	NA	NA	3.9	0.41	<0.30	0.30
10/31/91	290	NA	NA	22	1.9	0.40	52
03/12/92	Not sampled-well inaccessible						
04/16/92	260	NA	NA	56	3.4	5.2	8.3
06/30/92	880	160*	NA	270	18	22	23
09/10/92	270	NA	NA	80	0.6	3.6	<0.5
09/25/92	NA	<50	NA	NA	NA	NA	NA
11/11/92	<50	<50	NA	5.2	<0.5	<0.5	<0.5
<u>MW-5</u>							
07/16/90	22,000	NA	NA	500	97	120	1,300
10/25/90	21,000	NA	NA	750	30	190	1,800
01/23/91	15,000	NA	NA	510	22	130	710
04/24/91	15,000	NA	NA	580	260	160	1,100
07/24/91	16,000	NA	NA	1,500	820	190	750
10/31/91	21,000	NA	NA	1,500	84	310	1,000
03/12/92	Not sampled-well inaccessible						
04/16/92	9,600	NA	NA	630	97	190	830
06/30/92	11,000	4,800*	NA	510	54	120	740

See notes on page 3 of 3.

Quarterly Groundwater Monitoring
 ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
 69021.15

TABLE 2
 CUMULATIVE RESULTS OF GROUNDWATER LABORATORY ANALYSES—TPHg, TPHd, TOG, and BTEX
 ARCO Station 2107
 Oakland, California
 (Page 2 of 3)

Well Date	TPHg	TPHd	TOG	Benzene	Toluene	Ethylbenzene	Total xylenes
<u>MW-5 (continued)</u>							
09/10/92	8,200	NA	NA	210	14	54	170
09/25/92	NA	570*	NA	NA	NA	NA	NA
11/11/92	7,100	3,700*	NA	230	<10**	62	87
<u>MW-6</u>							
07/16/90	<20	NA	NA	<0.5	<0.5	<0.5	<0.5
10/25/90	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
01/23/91	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
04/24/91	<30	NA	NA	<0.30	<0.30	<0.30	<0.30
07/24/91	<30	NA	NA	<0.30	<0.30	<0.30	<0.30
10/31/91	<30	NA	NA	<0.30	<0.30	<0.30	<0.30
03/12/92	Not sampled—well inaccessible						
04/16/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
06/30/92	<50	<50	NA	<0.5	<0.5	<0.5	<0.5
09/10/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
11/11/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
<u>MW-7</u>							
08/29/91	<30	130	NA	0.73	1.1	<0.30	<0.30
10/31/91	44	NA	NA	1.4	<0.30	0.63	1.3
03/12/92	Not sampled—well inaccessible						
04/16/92	74	<50	NA	21	<0.5	0.7	1.3
06/30/92	<50	<50	NA	<0.5	<0.5	<0.5	<0.5
09/10/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
11/11/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
<u>MW-8</u>							
08/29/91	<30	<50	NA	<0.30	<0.30	<0.30	<0.30
10/31/91	<30	NA	NA	1.2	<0.30	0.48	0.95
03/12/92	Not sampled—well inaccessible						
04/16/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
06/30/92	<50	<50	NA	<0.5	<0.5	<0.5	<0.5
09/10/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
11/11/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
<u>MW-9</u>							
06/30/92	<50	<50	NA	<0.5	<0.5	<0.5	<0.5
09/10/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
11/11/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5

See notes on page 3 of 3.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 2
CUMULATIVE RESULTS OF GROUNDWATER LABORATORY ANALYSES--TPHg, TPHd, TOG, and BTEX
ARCO Station 2107
Oakland, California
(Page 3 of 3)

Well Date	TPHg	TPHd	TOG	Benzene	Toluene	Ethylbenzene	Total xylenes
<u>MW-10</u>							
06/30/92	<50	<50	NA	<0.5	<0.5	<0.5	<0.5
09/10/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
11/11/92	<50	NA	NA	<0.5	<0.5	<0.5	<0.5
<u>RW-1</u>							
11/11/92	7,600	3,100*	NA	99	30	440	1,300
MCLs	--	--	--	1	--	680	1,750
DWAL	--	--	--	--	100	--	--

Results are in parts per billion (ppb) and:

- BTEX: The volatile gasoline constituents benzene, toluene, ethylbenzene, and total xylenes.
- NA: Not analyzed.
- TPHg: Total petroleum hydrocarbons as gasoline.
- TPHd: Total petroleum hydrocarbons as diesel.
- TOG: Total petroleum as oil and grease.
- (): BTEX results analyzed as VOCs by EPA method 624.
- <: Less than the laboratory detection limit (nondetectable).
- *: Sample reported to contain a lower boiling point hydrocarbon mixture quantitated as diesel. The chromatogram reportedly did not match the typical diesel fingerprint.
- ** : Raised method reporting limit due to high analyte concentration requiring sample dilution.
- MCLs: State recommended Maximum Contaminant Level.
- DWAL: Department of Water Resources Action Level.

Quarterly Groundwater Monitoring
ARCO Station 2107, 3310 Park Boulevard, Oakland, CA

March 9, 1993
69021.15

TABLE 3
CUMULATIVE RESULTS OF GROUNDWATER LABORATORY ANALYSES--BNAs, VOCs, and Metals
ARCO Station 2107
Oakland, California

Well Date	BNAs	VOCs	Cadmium	Chromium	Lead	Zinc
MW-4 07/16/90	ND	ND	<0.02	<0.01	<0.02	<0.01

Results in parts per million (ppm).

BNAs: Base neutral and acid extractables including polynuclear aromatics, concentrations are below the laboratory reporting limits (<10 ppb) for all compounds tested.

ND: Results below detection levels, which were analyte specific.

APPENDIX A

**EMCON'S FIELD REPORT DEPTH TO WATER/FLOATING PRODUCT
SURVEY RESULTS,SUMMARY OF GROUNDWATER MONITORING
DATA, CERTIFIED ANALYTICAL REPORTS WITH CHAIN OF
CUSTODY, AND WATER SAMPLE FIELD DATA SHEETS**

0902115



EMCON
ASSOCIATES
Consultants in Wastes
Management and
Environmental Control

REGISTERED

JAN 1993

RESNA
2/1/93

Date December 18, 1992

Project OG70-022.01

To:
Mr. Joel Coffman
RESNA/ Applied Geosystems
3315 Almaden Expressway, Suite 34
San Jose, California 95118

We are enclosing:

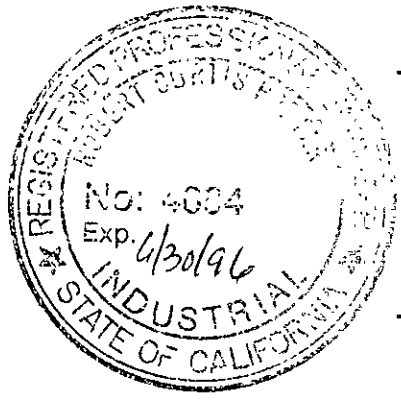
Copies	Description
<u>1</u>	<u>Depth To Water/Floating Product Survey Results</u>
	<u>December 1992 monthly water level survey, ARCO</u>
	<u>station 2107, 3310 Park Boulevard, Oakland, CA.</u>

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) 453-2266.

Reviewed by:



Jim Butera *JB*

Robert Porter
Robert Porter, Senior Project Engineer



FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 0G70-022.01

STATION ADDRESS : 3310 Park Boulevard, Oakland, CA

DATE : 12-16-92

ARCO STATION # : 2107

FIELD TECHNICIAN : IAN GRAHAM

DAY : WEDNESDAY

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-6	OK	YES	NO	3259	OK	4.33	4.33	ND	NR	17.7	—
2	MW-7	OK	YES	YES	3259	OK	4.33	4.33	ND	NR	24.1	—
3	MW-8	OK	YES	YES	3259	OK	8.66	8.66	ND	NR	20.6	—
4	MW-9	OK	YES	YES	3259	OK	9.47	9.47	ND	NR	29.2	MUSHY AT BOTTOM (SEDIMENT)
5	MW-10	OK	YES	YES	3259	OK	6.45	6.45	ND	NR	24.7	WATER IN BOX
6	RW-1	OK	YES	NO	3259	OK	2.81	2.81	2.80	.01	23.9	25-30 GAL. PURGED TO GET TO LASING (CRACKED SLIP CAP)
7	MW-4	OK	YES	NO	3259	OK	2.11	2.11	ND	NR	15.0	—
8	MW-3	OK	YES	NO	3259	OK	3.44	3.44	ND	NR	7.8	—
9	MW-5	OK	YES	NO	3259	OK	2.63	2.63	ND	NR	12.0	SHOEN ON WATER WATER IN BOX
10	MW-2	OK	YES	NO	3259	OK	1.59	1.59	ND	NR	11.8	—
11	MW-1	OK	YES	NO	3259	OK	2.56	2.56	ND	NR	10.5	✓

SURVEY POINTS ARE TOP OF WELL CASINGS

69021.10
69021.15



RECEIVED
DEC 4 - 1992
RESNA
SAN JOSE

Date December 3, 1992
Project OG70-022.01

To:
Mr. Joel Coffman
RESNA/ Applied Geosystems
3315 Almaden Expressway, Suite 34
San Jose, California 95118

We are enclosing:

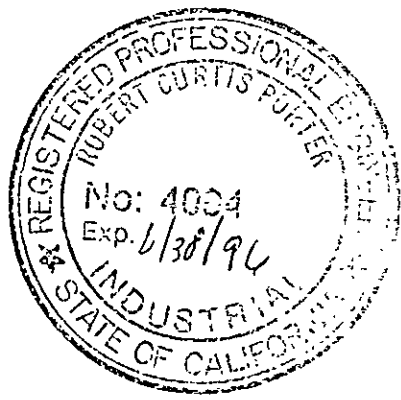
Copies	Description
<u>1</u>	<u>Depth To Water / Floating Product Survey Results</u>
<u>1</u>	<u>Summary of Groundwater Monitoring Data</u>
<u>1</u>	<u>Certified Analytical Reports with Chain-of-Custody</u>
<u>9</u>	<u>Water Sample Field Data Sheets</u>

For your: X Information Sent by: X Mail

Comments:

Enclosed are the data from the fourth quarter 1992 monitoring event at ARCO service station 2107, 3310 Park Boulevard, Oakland, California. Groundwater monitoring is conducted consistent with applicable regulatory guidelines. Please call if you have any questions: (408) 453-2266.

Reviewed by:



Jim Butera *JB*

Robert Porter
Robert Porter, Senior Project Engineer.



**FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY**

PROJECT # : 0G70-022.01

STATION ADDRESS : 3310 Park Boulevard, Oakland, CA

DATE : 11-11-92

ARCO STATION # : 2107

FIELD TECHNICIAN : K REICHELDERFER

DAY : WEDNESDAY

Djw 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-6	OK	YES*	OK	3259	OK	4.69	4.69	ND	NA	17.7	* ONE HEX BOLT MISSING	
2	MW-7	OK	YES	NO	3259	OK	3.33 (4.70)	3.33 (4.70)	ND	NA	23.9	21.0	—
3	MW-8	OK	YES	NO	3259	OK	8.97	8.97	ND	NA	20.6	—	
4	MW-9	OK	YES	NO	3259	OK	9.39	9.39	ND	NA	29.2	—	
5	MW-10	OK	YES	NO	3259	OK	6.90	6.90	ND	NA	24.4	—	
6	RW-1	OK	YES	NO	NA	SEAL CAP	3.33	3.33	ND	NA	23.9	WATER IN BOX; TOP OF CASING CHIPPED, UNEVEN	
7	MW-4	OK	YES*	OK	3259	OK	2.34	2.34	ND	NA	15.0	* ONE HEX BOLT MISSING	
8	MW-3	OK	YES*	OK	3259	OK	3.83	3.83	ND	NA	7.8	* ONE HEX BOLT MISSING, LOCK WAS UNLOCKED	
9	MW-5	OK	NO	OK	3259	OK	2.81	2.81	ND	NA	12.0	ONE HEX BOLT HOLDS A CHIPPED OFF PIECE OF THE LID DOWN, WHILE THE OTHER IS MISSING	
10	MW-2	OK	YES	NO	NO LOCK	OK	1.77	1.77	ND	NA	11.8	—	
11	MW-1	OK	YES	NO	3259	OK	2.73	2.73	ND	NA	10.5	—	

SURVEY POINTS ARE TOP OF WELL CASINGS

Summary of Groundwater Monitoring Data
 Fourth Quarter 1992
 ARCO Service Station 2107
 3310 Park Boulevard, Oakland, California
 micrograms per liter ($\mu\text{g/l}$) 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)	TPH Diesel (ppb)
MW-3(7)	11/11/92	3.83	ND. ²	810.	31.	<0.5	1.4	1.1	510.
MW-4(14)	11/11/92	2.34	ND.	<50.	5.2	<0.5	<0.5	<0.5	<50.
MW-5(11)	11/11/92	2.81	ND.	7,100.	230.	<10.	62.	87.	3,700.
MW-6(17)	11/11/92	4.69	ND.	<50	<0.5	<0.5	<0.5	<0.5	NR. ³
MW-7(24)	11/11/92	4.70	ND.	<50	<0.5	<0.5	<0.5	<0.5	NR.
MW-8(20)	11/11/92	8.97	ND.	<50	<0.5	<0.5	<0.5	<0.5	NR.
MW-9(29)	11/11/92	9.39	ND	<50	<0.5	<0.5	<0.5	<0.5	NR.
MW-10(24)	11/11/92	6.90	ND	<50	<0.5	<0.5	<0.5	<0.5	NR.
RW-1(23)	11/11/92	3.33	ND	7,600.	99.	30.	440.	1,300.	3,100.
FB-14 ⁴	11/11/92	NA. ⁵	NA.	<50	<0.5	<0.5	<0.5	<0.5	NR.

1. TPH. = Total petroleum hydrocarbons
 2. ND. = Not detected
 3. NR. = Not required, well not sampled for listed parameter
 4. FB. = Field blank
 5. NA. = Not applicable



November 25, 1992

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

Re: EMCON Project No. 0G70-022.01
Arco Facility No. 2107

Dear Mr. Butera:

Enclosed are the results of the water samples submitted to our lab on November 11, 1992. For your reference, our service request number for this work is SJ92-1419.

All analyses were performed in accordance with the laboratory's quality assurance program.

Please call if you have any questions.

Respectfully submitted:

COLUMBIA ANALYTICAL SERVICES, INC.

Carol J Klein for
Keoni A. Murphy
Laboratory Manager

Annelise Jade Bazar
Annelise J. Bazar
Regional QA Coordinator

KAM/ajb

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-022.01
ARCO Facility No. 2107
Sample Matrix: Water

Date Received: 11/11/92
Date Extracted: 11/18/92
Date Analyzed: 11/18/92
Work Order No.: SJ92-1419

TPH as Diesel
EPA Method 3510/California DHS LUFT Method
 $\mu\text{g/L}$ (ppb)

<u>Sample Name</u>	<u>MRL</u>	<u>TPH as Diesel</u>
MW-4 (14)	50	ND
MW-3 (7)	50	510. *
MW-5 (11)	50	3,700. *
RW-1 (23)	50	3,100. *
Method Blank	50	ND

MRL Method Reporting Limit

TPH Total Petroleum Hydrocarbons

ND None Detected at or above the method reporting limit

* The sample contains a lower boiling point hydrocarbon mixture quantitated as diesel. The chromatogram does not match the typical diesel fingerprint.

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
 Project: EMCON Project No. 0G70-022.01
 ARCO Facility No. 2107

Date Received: 11/11/92
 Work Order No.: SJ92-1419
 Sample Matrix: Water

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

Sample Name: MW-3 (7) MW-4 (14) MW-5 (11)
 Date Analyzed: 11/19/92 11/19/92 11/20/92

<u>Analyte</u>	<u>MRL</u>	<u>MW-3 (7)</u>	<u>MW-4 (14)</u>	<u>MW-5 (11)</u>
Benzene	0.5	31.	5.2	230.
Toluene	0.5	ND	ND	<10. *
Ethylbenzene	0.5	1.4	ND	62.
Total Xylenes	0.5	1.1	ND	87.
TPH as Gasoline	50	810.	ND	7,100.

TPH Total Petroleum Hydrocarbons
 MRL Method Reporting Limit
 ND None Detected at or above the method reporting limit
 * Raised MRL due to high analyte concentration requiring sample dilution.

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-022.01
ARCO Facility No. 2107

Date Received: 11/11/92
Work Order No.: SJ92-1419
Sample Matrix: Water

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
 $\mu\text{g/L}$ (ppb)

Sample Name: MW-6 (17) MW-7 (24) MW-8 (20)
Date Analyzed: 11/18/92 11/18/92 11/18/92

<u>Analyte</u>	<u>MRL</u>			
Benzene	0.5	ND	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	ND	ND	ND

TPH Total Petroleum Hydrocarbons
MRL Method Reporting Limit
ND None Detected at or above the method reporting limit

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
 Project: EMCON Project No. OG70-022.01
 ARCO Facility No. 2107

Date Received: 11/11/92
 Work Order No.: SJ92-1419
 Sample Matrix: Water

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

Sample Name:	<u>MW-9 (29)</u>	<u>MW-10 (24)</u>	<u>FB-1</u>
Date Analyzed:	11/18/92	11/18/92	11/23/92

<u>Analyte</u>	<u>MRL</u>			
Benzene	0.5	ND	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	ND	ND	ND

TPH Total Petroleum Hydrocarbons
 MRL Method Reporting Limit
 ND None Detected at or above the method reporting limit

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-022.01
ARCO Facility No. 2107

Date Received: 11/11/92
Work Order No.: SJ92-1419
Sample Matrix: Water

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
 $\mu\text{g/L}$ (ppb)

Sample Name: RW-1 (23) Method Blank Method Blank
Date Analyzed: 11/19/92 11/18/92 11/19/92

<u>Analyte</u>	<u>MRL</u>			
Benzene	0.5	99.	ND	ND
Toluene	0.5	30.	ND	ND
Ethylbenzene	0.5	440.	ND	ND
Total Xylenes	0.5	1,300.	ND	ND
TPH as Gasoline	50	7,600.	ND	ND

TPH Total Petroleum Hydrocarbons
MRL Method Reporting Limit
ND None Detected at or above the method reporting limit

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-022.01
ARCO Facility No. 2107

Date Received: 11/11/92
Work Order No.: SJ92-1419
Sample Matrix: Water

BTEX and TPH as Gasoline
EPA Methods 5030/8020/California DHS LUFT Method
 $\mu\text{g/L}$ (ppb)

Sample Name: Method Blank Method Blank
Date Analyzed: 11/20/92 11/23/92

<u>Analyte</u>	<u>MRL</u>		
Benzene	0.5	ND	ND
Toluene	0.5	ND	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	ND	ND
TPH as Gasoline	50	ND	ND

TPH Total Petroleum Hydrocarbons
MRL Method Reporting Limit
ND None Detected at or above the method reporting limit

Approved by: Carol Klein Date: 11-25-92

APPENDIX A
LABORATORY QC RESULTS

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-022.01
ARCO Facility No. 2107

Date Received: 11/11/92
Work Order No.: SJ92-1419
Sample Matrix: Water

Initial Calibration Verification
TPH as Diesel
EPA Methods 3510/DHS LUFT Method
mg/L (ppm)

Date Analyzed: 11/18/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
TPH as Diesel	1,000.	1,065.	107.	90-110

TPH Total Petroleum Hydrocarbons

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-022.01
ARCO Facility No. 2107

Date Received: 11/11/92
Work Order No.: SJ92-1419
Sample Matrix: Water

Surrogate Recovery Summary
TPH as Diesel
EPA Method 3510/DHS LUFT Method

<u>Sample Name</u>	<u>Date Analyzed</u>	<u>Percent Recovery</u> P-Terphenyl
MW-4 (14)	11/18/92	97.
MW-3 (7)	11/18/92	94.
MW-5 (11)	11/18/92	89.
RW-1 (23)	11/18/92	92.
MW-4 (14) MS	11/18/92	90.
MW-4 (14) DMS	11/18/92	92.
Method Blank	11/18/92	101.

CAS Acceptance Criteria 46-133

TPH Total Petroleum Hydrocarbons

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-022.01
ARCO Facility No. 2107

Date Received: 11/11/92
Work Order No.: SJ92-1419
Sample Matrix: Water

Matrix Spike/Duplicate Matrix Spike Summary
Total Petroleum Hydrocarbons as Diesel
EPA Method 3510/DHS LUFT Method
 $\mu\text{g/L}$ (ppb)

Sample Name: MW-4 (14)
Date Analyzed: 11/18/92

Percent Recovery

<u>Parameter</u>	<u>Spike Level</u>	<u>Sample Result</u>	<u>Spike Result</u>		<u>Percent Recovery</u>		<u>Acceptance Criteria</u>
			<u>MS</u>	<u>DMS</u>	<u>MS</u>	<u>DMS</u>	
Diesel	4,000.	ND	3,480.	3,840.	87.	96.	61-121

ND None Detected at or above the method reporting limit

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
 Project: EMCON Project No. 0G70-022.01
 ARCO Facility No. 2107

Date Received: 11/11/92
 Work Order No.: SJ92-1419

Initial Calibration Verification
 BTEX and TPH as Gasoline
 EPA Methods 5030/8020/DHS LUFT Method
 Nanograms

Date Analyzed: 11/18/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	249.	100.	85-115
Toluene	250.	263.	105.	85-115
Ethylbenzene	250.	258.	103.	85-115
Total Xylenes	750.	755.	101.	85-115
TPH as Gasoline	2,500.	2,278.	91.	90-110

Date Analyzed: 11/19/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	257.	103.	85-115
Toluene	250.	268.	107.	85-115
Ethylbenzene	250.	265.	106.	85-115
Total Xylenes	750.	777.	104.	85-115
TPH as Gasoline	2,500.	2,384.	95.	90-110

TPH Total Petroleum Hydrocarbons

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
 Project: EMCON Project No. 0G70-022.01
 ARCO Facility No. 2107

Date Received: 11/11/92
 Work Order No.: SJ92-1419

Initial Calibration Verification
 BTEX and TPH as Gasoline
 EPA Methods 5030/8020/DHS LUFT Method
 Nanograms

Date Analyzed: 11/20/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	255.	102.	85-115
Toluene	250.	268.	107.	85-115
Ethylbenzene	250.	260.	104.	85-115
Total Xylenes	750.	764.	102.	85-115
TPH as Gasoline	2,500.	2,390.	96.	90-110

Date Analyzed: 11/23/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	244.	98.	85-115
Toluene	250.	253.	101.	85-115
Ethylbenzene	250.	241.	96.	85-115
Total Xylenes	750.	707.	94.	85-115
TPH as Gasoline	2,500.	2,733.	109.	90-110

TPH Total Petroleum Hydrocarbons

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
 Project: EMCON Project No. 0G70-022.01
 ARCO Facility No. 2107

Date Received: 11/11/92
 Work Order No.: SJ92-1419
 Sample Matrix: Water

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

<u>Sample Name</u>	<u>Date Analyzed</u>	<u>Percent Recovery</u> <i>α,α,α-Trifluorotoluene</i>
MW-3 (7)	11/19/92	103.
MW-4 (14)	11/19/92	100.
MW-5 (11)	11/20/92	86.
MW-6 (17)	11/18/92	90.
MW-7 (24)	11/18/92	82.
MW-8 (20)	11/18/92	89.
MW-9 (29)	11/18/92	90.
MW-10 (24)	11/18/92	84.
FB-1	11/23/92	112.
RW-1 (23)	11/19/92	87.
MW-5 (11) MS	11/19/92	93.
MW-5 (11) DMS	11/19/92	89.
Method Blank	11/18/92	88.
Method Blank	11/19/92	101.
Method Blank	11/20/92	91.
Method Blank	11/23/92	91.

CAS Acceptance Criteria 70-130

TPH Total Petroleum Hydrocarbons

Approved by: Carol Klein Date: 11-25-92

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
 Project: EMCON Project No. 0G70-022.01
 ARCO Facility No. 2107

Date Received: 11/11/92
 Work Order No.: SJ92-1419
 Sample Matrix: Water

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

Sample Name: MW-5 (11)
 Date Analyzed: 11/19/92

Percent Recovery

Analyte	Spike Level	Sample Result	Spike Result		Percent Recovery		CAS Acceptance Criteria
			MS	DMS	MS	DMS	
Benzene	500.	230.	685.	720.	91.	98.	39-150
Toluene	500.	10.	476.	490.	93.	96.	46-148
Ethylbenzene	500.	62.	524.	561.	92.	100.	32-160

Approved by: Carol Klein Date: 11-25-92

APPENDIX B
CHAIN OF CUSTODY

ARCO Facility no. **2107** City (Facility) **OAKLAND** Project manager (Consultant) **JIM Butera**
 ARCO engineer **Kyle Christie** Telephone no (ARCO) **571-2434** Telephone no. (Consultant) **453-0719** Fax no. (Consultant) **453-0452**
 Consultant name **EMCON Associates** Address (Consultant) **1938 Junction Ave San Jose**

Laboratory name **CAS**
 Contract number **07077**

Sample I.D	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX 802/EPA 8020	BTEX/TPH EPA 1602/8020/8015	TPH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/>	Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/>	TPH EPA 418 1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCMP Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/>	SCM Metals EPA 6010/7000 TTLC <input type="checkbox"/> STLC <input type="checkbox"/>	Lead Org./DHS <input type="checkbox"/> Lead EPA 7420/7421 <input type="checkbox"/>	
			Soil	Water	Other	Ice	Acid														
MW-3(7)1-2		2		X		X	HCl	11-11-92	1303	X											
MW-4(14)3-4		2		X		X			1208	X											
MW-5(11)5-6		2		X		X			1320	X											
MW-6(17)7-8		2		X		X			1123	X											
MW-7(24)9-10		2		X		X			1316	X											
MW-8(20)11-12		2		X		X			1125	X											
MW-9(29)13-14		2		X		X			1041	X											
MW-10(24)15-16		2		X		X			1209	X											
FB-1 17-18		2		X		X			1415	X											
RW-1(23)14-20		2		X		X			1405	X											
MW-4(14)21-22		2		X		X	NP	11-11-92	1208		X										
MW-3(7)23-24		2		X		X	NP		1303		X										
MW-5(11)25-26		2		X		X	NP		1320		X										
RW-1(23)27-28		2		X		X	NP		1405		X										

Method of shipment **Sampler will deliver**

Special detection Limit/reporting **Lowest possible**

Special QA/QC **As normal**

Remarks **2-40ml HCl WATs**
Add 2-liter Glass NP
0670-02201

Lab number **592-1419**

Turnaround time
 Priority Rush 1 Business Day
 Rush 2 Business Days
 Expedited 5 Business Days
 Standard 10 Business Days

Condition of sample: **OK** Temperature received: **cool**
 Relinquished by sampler **Kyle Christie** Date **11-11-92** Time **1525** Received by _____
 Relinquished by _____ Date _____ Time _____ Received by _____
 Relinquished by _____ Date _____ Time _____ Received by laboratory **MA** Date **11-11-92** Time **1525**



WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON
ASSOCIATES

PROJECT NO: 0670-022.01

SAMPLE ID: MW-3 (7)

PURGED BY: K REICHELDERFER

CLIENT NAME: ARCO 2107

SAMPLED BY: ↓

LOCATION: 3310 PARK BLVD
OAKLAND, CA

TYPE: Ground Water Surface Water Treatment Effluent Other

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

CASING ELEVATION (feet/MSL):	<u>NR</u>	VOLUME IN CASING (gal.):	<u>2.59</u>
DEPTH TO WATER (feet):	<u>3.85</u>	CALCULATED PURGE (gal.):	<u>12.96</u>
DEPTH OF WELL (feet):	<u>7.8</u>	ACTUAL PURGE VOL (gal.):	<u>5.00</u>

DATE PURGED:	<u>11-11-92</u>	Start (2400 Hr)	<u>1240</u>	End (2400 Hr)	<u>1244</u>
DATE SAMPLED:	<u>11-11-92</u>	Start (2400 Hr)	<u>1303</u>	End (2400 Hr)	<u>1308</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1241</u>	<u>3.00</u>	<u>6.96</u>	<u>1403</u>	<u>65.6</u>	<u>LT BROWN</u>	<u>MODERATE</u>
<u>1244</u>	<u>WELL DRIED @ 5.00 GALLONS</u>					
<u>1311</u>	<u>RECHARGE</u>	<u>7.03</u>	<u>1374</u>	<u>68.9</u>	<u>LT BROWN</u>	<u>MODERATE</u>
D. O. (ppm):	<u>NR</u>	ODOR:	<u>MILD</u>		<u>NR</u>	<u>NR</u>

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

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
<input type="checkbox"/> 2" Bladder Pump	<input type="checkbox"/> Bailor (Teflon®)	<input type="checkbox"/> 2" Bladder Pump	<input checked="" type="checkbox"/> Bailor (Teflon®)
<input type="checkbox"/> Centrifugal Pump	<input checked="" type="checkbox"/> Bailor (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailor (Stainless Steel)
<input type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailor (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: ONE HEX BOLT MISSING FROM LID
1244 WELL DRIED @ 5.00 GALLONS
1259 DTW 5.21
LOCK WAS UNLOCKED

Meter Calibration: Date: 11-11-92 Time: 1056 Meter Serial #: 9203 Temperature °F: _____
(EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-6

Signature: Kevin Reichelderfer Reviewed By: JB Page 1 of 9



WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0670-022.01

SAMPLE ID: MW-4 (14)

PURGED BY: K REICHELDERFER

CLIENT NAME: ARCO 2107

SAMPLED BY: ↓

LOCATION: 3310 PARK BLVD OAKLAND, CA

TYPE: Ground Water Surface Water _____ Treatment Effluent _____ Other _____

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

CASING ELEVATION (feet/MSL): <u>NR</u>	VOLUME IN CASING (gal.): <u>8.30</u>
DEPTH TO WATER (feet): <u>2.35</u>	CALCULATED PURGE (gal.): <u>41.49</u>
DEPTH OF WELL (feet): <u>15.0</u>	ACTUAL PURGE VOL (gal.): <u>12.50</u>

DATE PURGED: <u>11-11-92</u>	Start (2400 Hr) <u>1146</u>	End (2400 Hr) <u>1153</u>
DATE SAMPLED: <u>11-11-92</u>	Start (2400 Hr) <u>1208</u>	End (2400 Hr) <u>1215</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1149</u>	<u>8.50</u>	<u>6.76</u>	<u>583</u>	<u>64.1</u>	<u>CLOUDY</u>	<u>LIGHT</u>
<u>1153</u>	<u>WELL DRIED @ 12.50 GALLONS</u>					
<u>1217</u>	<u>RECHARGE</u>	<u>6.91</u>	<u>654</u>	<u>60.8</u>	<u>CLOUDY</u>	<u>LIGHT</u>
D. O. (ppm): <u>NR</u>	ODOR: <u>NONE</u>				<u>NR</u>	<u>NR</u>
					(COBALT 0 - 100)	(NTU 0 - 200)

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

PURGING EQUIPMENT

SAMPLING EQUIPMENT

- | | | | |
|---|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump | <input type="checkbox"/> Bailer (Teflon®) | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailer (Teflon®) |
| <input type="checkbox"/> Centrifugal Pump | <input checked="" type="checkbox"/> Bailer (PVC) | <input type="checkbox"/> DDL Sampler | <input type="checkbox"/> Bailer (Stainless Steel) |
| <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (Stainless Steel) | <input type="checkbox"/> Dipper | <input type="checkbox"/> Submersible Pump |
| <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated | <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated |
| Other: _____ | | Other: _____ | |

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: ONE HEX BOLT MISSING ON LID
1153 WELL DRIED @ 12.50 GALLONS
1205 DTW 12.41

Meter Calibration: Date: 11-11-92 Time: 1056 Meter Serial #: 9203 Temperature °F: _____
(EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-6

Signature: K. Reichelderfer Reviewed By: JB Page 2 of 9



WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0670-022.01

SAMPLE ID: MW-5(11)

PURGED BY: K REICHELDERFER

CLIENT NAME: ARCO 2107

SAMPLED BY: ↓

LOCATION: 3310 PARK BLVD

OAKLAND, CA

TYPE: Ground Water Surface Water Treatment Effluent Other

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

CASING ELEVATION (feet/MSL):	<u>NR</u>	VOLUME IN CASING (gal.):	<u>6.00</u>
DEPTH TO WATER (feet):	<u>2.85</u>	CALCULATED PURGE (gal.):	<u>30.01</u>
DEPTH OF WELL (feet):	<u>12.0</u>	ACTUAL PURGE VOL (gal.):	<u>10.00</u>

DATE PURGED:	<u>11-11-92</u>	Start (2400 Hr)	<u>1252</u>	End (2400 Hr)	<u>1258</u>
DATE SAMPLED:	<u>11-11-92</u>	Start (2400 Hr)	<u>1320</u>	End (2400 Hr)	<u>1325</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1254</u>	<u>6.00</u>	<u>6.94</u>	<u>615</u>	<u>68.8</u>	<u>CLOUDY</u>	<u>LIGHT</u>
<u>1258</u>	<u>WELL DRIED @ 10.00 GALLONS</u>					
<u>1328</u>	<u>RECHARGE</u>	<u>6.79</u>	<u>688</u>	<u>69.2</u>	<u>CLOUDY</u>	<u>MODERATE</u>
D. O. (ppm):	<u>NR</u>	ODOR:	<u>STRONG</u>		<u>NR</u>	<u>NR</u>
					(COBALT 0 - 100)	(NTU 0 - 200)

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

PURGING EQUIPMENT

SAMPLING EQUIPMENT

- | | | | |
|---|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump | <input type="checkbox"/> Bailer (Teflon®) | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailer (Teflon®) |
| <input type="checkbox"/> Centrifugal Pump | <input checked="" type="checkbox"/> Bailer (PVC) | <input type="checkbox"/> DDL Sampler | <input type="checkbox"/> Bailer (Stainless Steel) |
| <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (Stainless Steel) | <input type="checkbox"/> Dipper | <input type="checkbox"/> Submersible Pump |
| <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated | <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated |
| Other: _____ | | Other: _____ | |

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: • ONE HEX BOLT HOLDS A CHIPPED OFF PIECE OF THE LID DOWN, WHILE THE OTHER BOLT IS MISSING → LID IS NOT BOLTED DOWN @ ALL
• 1258 WELL DRIED @ 10,00 GALLONS
• 1315 DTW 9.52

Meter Calibration: Date: 11-11-92 Time: 1056 Meter Serial #: 9203 Temperature °F: _____
(EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-6
Signature: Kevin Reichelderfer Reviewed By: JB Page 3 of 9



EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: CG70-022.01 SAMPLE ID: MW-6(17)
 PURGED BY: K REICHELDERFER CLIENT NAME: ARCO 2107
 SAMPLED BY: ↓ LOCATION: 3310 PARK BLVD
OAKLAND, CA

TYPE: Ground Water Surface Water Treatment Effluent Other

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

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 8.53
 DEPTH TO WATER (feet): 4.69 CALCULATED PURGE (gal.): 42.67
 DEPTH OF WELL (feet): 17.7 ACTUAL PURGE VOL (gal.): 14.00

DATE PURGED: 11-11-92 Start (2400 Hr) 1103 End (2400 Hr) 1112
 DATE SAMPLED: 11-11-92 Start (2400 Hr) 1123 End (2400 Hr) 1126

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	EC. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1107</u>	<u>9.00</u>	<u>6.55</u>	<u>496</u>	<u>67.8</u>	<u>LT BROWN</u>	<u>MODERATE</u>
<u>1112</u>	<u>WELL DRIED @</u>		<u>14.00 GALLONS</u>			
<u>1128</u>	<u>RECHARGE</u>	<u>6.44</u>	<u>483</u>	<u>67.5</u>	<u>CLOUDY</u>	<u>LIGHT</u>
D. O. (ppm):	<u>NR</u>	ODOR:	<u>NONE</u>		<u>NR</u>	<u>NR</u>
					(COBALT 0 - 100)	(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 Bailer (Teflon®)
 Centrifugal Pump 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: ONE HEX BOLT MISSING ON LID
1112 WELL DRIED @ 14.00 GALLONS
1120 DTW 1315

Meter Calibration: Date: 11-11-92 Time: 1056 Meter Serial #: 9203 Temperature °F: 58.4
 (EC 1000 1092 / 1000) (DI 28.9) (pH 7 6.96 / 7.00) (pH 10 10.01 / 10.00) (pH 4 3.99 /)

Location of previous calibration: _____

Signature: Kevin Reichelderfer Reviewed By: JB Page 4 of 9



EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 0674-033-01

SAMPLE ID: mw-7

PURGED BY: M. Gallagos

CLIENT NAME: ARCO = 2107

SAMPLED BY: M. Gallagos

LOCATION: DAKIAN, CA

TYPE: Ground Water Surface Water _____ Treatment Effluent _____ Other _____

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

CASING ELEVATION (feet/MSL): <u>NR</u>	VOLUME IN CASING (gal.): <u>12.166</u>
DEPTH TO WATER (feet): <u>47</u>	CALCULATED PURGE (gal.): <u>63.30</u>
DEPTH OF WELL (feet): <u>24.0</u>	ACTUAL PURGE VOL (gal.): <u>63.5</u>

DATE PURGED: <u>11-11-92</u>	Start (2400 Hr) <u>1254</u>	End (2400 Hr) <u>1308</u>
DATE SAMPLED: <u>11-11-92</u>	Start (2400 Hr) <u>1315</u>	End (2400 Hr) <u>1316</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1256</u>	<u>13.0</u>	<u>6.79</u>	<u>585</u>	<u>64.3</u>	<u>9 red</u>	<u>heavy</u>
<u>1258</u>	<u>26.0</u>	<u>6.70</u>	<u>591</u>	<u>65.7</u>	<u>"</u>	<u>"</u>
<u>1301</u>	<u>39.0</u>	<u>6.63</u>	<u>589</u>	<u>66.1</u>	<u>"</u>	<u>"</u>
<u>1304</u>	<u>52.0</u>	<u>6.59</u>	<u>586</u>	<u>65.9</u>	<u>"</u>	<u>"</u>
<u>1308</u>	<u>63.5</u>	<u>6.61</u>	<u>583</u>	<u>65.4</u>	<u>"</u>	<u>"</u>

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

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

PURGING EQUIPMENT

SAMPLING EQUIPMENT

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump | <input type="checkbox"/> Bailer (Teflon®) | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailer (Teflon®) |
| <input checked="" type="checkbox"/> Centrifugal Pump | <input type="checkbox"/> Bailer (PVC) | <input type="checkbox"/> DDL Sampler | <input type="checkbox"/> Bailer (Stainless Steel) |
| <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (Stainless Steel) | <input type="checkbox"/> Dipper | <input type="checkbox"/> Submersible Pump |
| <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated | <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated |
| Other: _____ | | Other: _____ | |

WELL INTEGRITY: Good LOCK #: 3259

REMARKS: All sample taken

Meter Calibration: Date: 11-11-92 Time: _____ Meter Serial #: 4972 Temperature °F: _____
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-9

Signature: M. Gallagos Reviewed By: JB Page 5 of 9



EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 0670-022-01
 PURGED BY: M. Gallegos
 SAMPLED BY: M. Gallegos

SAMPLE ID: MW-8
 CLIENT NAME: ARCO # 2107
 LOCATION: OAKLAND, CA.

TYPE: Ground Water Surface Water _____ Treatment Effluent _____ Other _____
 CASING DIAMETER (inches): 2 _____ 3 _____ 4 4.5 _____ 6 _____ Other _____

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 76.2
 DEPTH TO WATER (feet): 8.97 CALCULATED PURGE (gal.): 38.14
 DEPTH OF WELL (feet): 20.0 ACTUAL PURGE VOL. (gal.): 38.0
11.63

DATE PURGED: 11-11-92 Start (2400 Hr) 1104 End (2400 Hr) 1114
 DATE SAMPLED: 11-11-92 Start (2400 Hr) 1124 End (2400 Hr) 1125

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1106</u>	<u>8.0</u>	<u>6.54</u>	<u>871</u>	<u>70.0</u>	<u>BRN</u>	<u>heavy</u>
<u>1107</u>	<u>16.0</u>	<u>6.42</u>	<u>899</u>	<u>71.1</u>	<u>"</u>	<u>"</u>
<u>1109</u>	<u>24.0</u>	<u>6.45</u>	<u>905</u>	<u>71.2</u>	<u>"</u>	<u>"</u>
<u>1111</u>	<u>32.0</u>	<u>6.49</u>	<u>903</u>	<u>71.2</u>	<u>"</u>	<u>"</u>
<u>1114</u>	<u>38.0</u>	<u>6.51</u>	<u>897</u>	<u>70.4</u>	<u>"</u>	<u>"</u>

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

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

PURGING EQUIPMENT

SAMPLING EQUIPMENT

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump | <input type="checkbox"/> Bailor (Teflon®) | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailor (Teflon®) |
| <input checked="" type="checkbox"/> Centrifugal Pump | <input type="checkbox"/> Bailor (PVC) | <input type="checkbox"/> DDL Sampler | <input type="checkbox"/> Bailor (Stainless Steel) |
| <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailor (Stainless Steel) | <input type="checkbox"/> Dipper | <input type="checkbox"/> Submersible Pump |
| <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated | <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated |
| Other: _____ | | Other: _____ | |

WELL INTEGRITY: Good LOCK #: 3259

REMARKS: All samples taken

Meter Calibration: Date: 11-11-92 Time: _____ Meter Serial #: 4972 Temperature °F: _____
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: _____

Signature: M. Gallegos Reviewed By: JB Page 6 of 9



WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 0670-022-01
PURGED BY: M. Gallegos
SAMPLED BY: M Gallegos

SAMPLE ID: MW-9
CLIENT NAME: ARCO #2107
LOCATION: OAKLAND, CA.

TYPE: Ground Water Surface Water Treatment Effluent Other
CASING DIAMETER (inches): 2 3 4 4.5 6 Other

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 3.23
DEPTH TO WATER (feet): 9.39 CALCULATED PURGE (gal.): 16.16
DEPTH OF WELL (feet): 29.2 ACTUAL PURGE VOL (gal.): 16.5
1981

DATE PURGED: 11-11-92 Start (2400 Hr) 1022 End (2400 Hr) 1031
DATE SAMPLED: 11-11-92 Start (2400 Hr) 1040 End (2400 Hr) 1041

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1024</u>	<u>3.5</u>	<u>6.39</u>	<u>1665</u>	<u>68.8</u>	<u>BRN</u>	<u>heavy</u>
<u>1025</u>	<u>7.0</u>	<u>6.54</u>	<u>1673</u>	<u>69.9</u>	<u>"</u>	<u>"</u>
<u>1027</u>	<u>10.5</u>	<u>6.56</u>	<u>1685</u>	<u>69.8</u>	<u>"</u>	<u>"</u>
<u>1029</u>	<u>14.0</u>	<u>6.54</u>	<u>1686</u>	<u>69.4</u>	<u>"</u>	<u>"</u>
<u>1031</u>	<u>16.5</u>	<u>6.56</u>	<u>1686</u>	<u>69.4</u>	<u>"</u>	<u>"</u>

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

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

PURGING EQUIPMENT

SAMPLING EQUIPMENT

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump | <input type="checkbox"/> Bailer (Teflon®) | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailer (Teflon®) |
| <input checked="" type="checkbox"/> Centrifugal Pump | <input checked="" type="checkbox"/> Bailer (PVE) | <input type="checkbox"/> DDL Sampler | <input type="checkbox"/> Bailer (Stainless Steel) |
| <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (Stainless Steel) | <input type="checkbox"/> Dipper | <input type="checkbox"/> Submersible Pump |
| <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated | <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated |
| Other: _____ | | Other: _____ | |

WELL INTEGRITY: Good LOCK #: 3259

REMARKS: all samples taken

Meter Calibration: Date: 11-11-92 Time: 1015 Meter Serial #: 4972 Temperature °F: 62.6
(EC 1000 994 / 1000) (DI _____) (pH 7 700 / 1700) (pH 10 10031 / 1000) (pH 4 4021 / _____)

Location of previous calibration: _____

Signature: [Signature] Reviewed By: JB Page 7 of 9

WATER SAMPLE FIELD DATA SHEET



EMCON ASSOCIATES

PROJECT NO: 0670-022-01
PURGED BY: M Gallegos
SAMPLED BY: M Gallegos

SAMPLE ID: MW-10
CLIENT NAME: ARCO # 2107
LOCATION: OAKLAND, CA.

TYPE: Ground Water Surface Water Treatment Effluent Other
CASING DIAMETER (Inches): 2.5 3 4 4.5 6 Other

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 2.85
DEPTH TO WATER (feet): 6.90 CALCULATED PURGE (gal.): 14.28
DEPTH OF WELL (feet): 24.4 ACTUAL PURGE VOL (gal.): 14.5

DATE PURGED: 11-11-92 Start (2400 Hr) 1153 End (2400 Hr) 1201
DATE SAMPLED: 11-11-92 Start (2400 Hr) 1208 End (2400 Hr) 1209

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1154</u>	<u>3.0</u>	<u>6.56</u>	<u>904</u>	<u>69.9</u>	<u>BRN</u>	<u>heavy</u>
<u>1156</u>	<u>6.0</u>	<u>6.44</u>	<u>921</u>	<u>71.3</u>	<u>"</u>	<u>"</u>
<u>1157</u>	<u>9.0</u>	<u>6.40</u>	<u>926</u>	<u>71.1</u>	<u>"</u>	<u>"</u>
<u>1159</u>	<u>12.0</u>	<u>6.40</u>	<u>924</u>	<u>70.8</u>	<u>"</u>	<u>"</u>
<u>1201</u>	<u>14.5</u>	<u>6.44</u>	<u>926</u>	<u>70.6</u>	<u>"</u>	<u>"</u>

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

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™
- Other: _____

SAMPLING EQUIPMENT

- 2' Bladder Pump
- DDL Sampler
- Dipper
- Well Wizard™
- Other: _____

WELL INTEGRITY: Good LOCK #: 3259

REMARKS: All samples taken

Meter Calibration: Date: 11-11-92 Time: _____ Meter Serial #: 4972 Temperature °F: _____
(EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: _____

Signature: [Signature] Reviewed By: JB Page 8 of 9



EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 0670-022.01

SAMPLE ID: RW-1 (23)

PURGED BY: REICHELDERFER/GALLEGOS

CLIENT NAME: ARCO 2107

SAMPLED BY: [Signature]

LOCATION: 3310 PARK BLVD
OAKLAND, CA

TYPE: Ground Water Surface Water Treatment Effluent Other

CASING DIAMETER (Inches): 2 3 4 4.5 6 Other

CASING ELEVATION (feet/MSL): <u>NR</u>	VOLUME IN CASING (gal.): <u>30.68</u>
DEPTH TO WATER (feet): <u>3.40</u>	CALCULATED PURGE (gal.): <u>153.41</u>
DEPTH OF WELL (feet): <u>23.9</u>	ACTUAL PURGE VOL (gal.): <u>43.00</u>

DATE PURGED: <u>11-11-92</u>	Start (2400 Hr) <u>1348</u>	End (2400 Hr) <u>1354</u>
DATE SAMPLED: <u>11-11-92</u>	Start (2400 Hr) <u>1405</u>	End (2400 Hr) <u>1409</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1351</u>	<u>31.00</u>	<u>7.18</u>	<u>613</u>	<u>66.7</u>	<u>CLOUDY</u>	<u>LIGHT</u>
<u>1354</u>	<u>WELL DRIED @ 43.00 GALLONS</u>					
<u>1409</u>	<u>RECHARGE</u>	<u>7.16</u>	<u>630</u>	<u>65.5</u>	<u>GREY</u>	<u>HEAVY</u>
D. O. (ppm): <u>NR</u>	ODOR: <u>STRONG</u>		D. O. (COBALT 0 - 100) <u>NR</u>		D. O. (NTU 0 - 200) <u>NR</u>	

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NR FB-1 @ 1415

PURGING EQUIPMENT

SAMPLING EQUIPMENT

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> 2" Bladder Pump | <input type="checkbox"/> Bailer (Teflon®) | <input type="checkbox"/> 2" Bladder Pump | <input checked="" type="checkbox"/> Bailer (Teflon®) |
| <input checked="" type="checkbox"/> Centrifugal Pump | <input type="checkbox"/> Bailer (PVC) | <input type="checkbox"/> DDL Sampler | <input type="checkbox"/> Bailer (Stainless Steel) |
| <input type="checkbox"/> Submersible Pump | <input type="checkbox"/> Bailer (Stainless Steel) | <input type="checkbox"/> Dipper | <input type="checkbox"/> Submersible Pump |
| <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated | <input type="checkbox"/> Well Wizard™ | <input type="checkbox"/> Dedicated |
| Other: _____ | | Other: _____ | |

WELL INTEGRITY: OK LOCK #: NA

REMARKS: WATER IN BOX; TOP OF CASING CHIPPED / UNEVEN
1405 DTW 21.37

Meter Calibration: Date: 11-11-92 Time: 1015 Meter Serial #: 4972 Temperature °F: _____

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

Location of previous calibration: MW-9

Signature: [Signature] Reviewed By: JB Page 9 of 9



EMCON
ASSOCIATES

Consultants in Wastes
Management and
Environmental Control

Date November 3, 1992

Project OG70-022.01

To:

Mr. Joel Coffman
RESNA/ Applied Geosystems
3315 Almaden Expressway, Suite 34
San Jose, California 95118

We are enclosing:

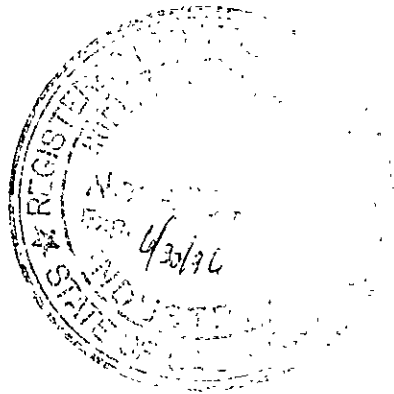
Copies	Description
<u>1</u>	<u>Depth To Water/Floating Product Survey Results</u>
<u> </u>	<u>October 1992 monthly water level survey, ARCO</u>
<u> </u>	<u>station 2107, 3310 Park Boulevard, Oakland, CA.</u>

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) 453-2266.

Reviewed by:



Jim Butera JB

Robert Porter
Robert Porter, Senior Project
Engineer



FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 0G70-022.01

STATION ADDRESS : 3310 Park Boulevard, Oakland, CA

DATE : 10-31-92

ARCO STATION # : 2107

FIELD TECHNICIAN : P. SCHAEFFER

DAY : SAT

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-6	FINE	YES	NONE	3259	YES	4.60	4.60	N.D	N.D	17.5	-
2	MW-7	FINE	YES	FINE	3259	YES	4.16	4.16	N.D	N.D	23.7	-
3	MW- 8 10	FINE	YES	FINE	3259	YES	6.62	6.62	N.D	N.D	20.4	-
4	MW-9	FINE	YES	FINE	3259	YES	9.37	9.37	N.D	N.D	29.0	-
5	MW- 10 8	FINE	YES	FINE	3259	YES	8.82	8.82	N.D	N.D	24.5	-
6	MW-4	FINE	YES	NONE	3259	YES	5.46	5.46	N.D	N.D	15.1	-
7	MW-3	FINE	YES	NONE	3259	YES	3.51	3.51	N.D	N.D	7.9	-
8	MW-5	FINE	YES	NONE	3259	YES	2.63	2.63	N.D	N.D	12.0	-
9	MW-2	FINE	YES	NONE	3259	YES	6.52	6.52	N.D	N.D	8.8	-
10	MW-1	FINE	YES	NONE	3269	YES	4.10	4.10	N.D	N.D	11.3	-

SURVEY POINTS ARE TOP OF WELL CASINGS

RECEIVED

SEP 21 1993

AL 20651

RESNA
Working To Restore Nature

DISTRICT AT
ALAMEDA COUNTY
CEPD

TRANSMITTAL

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

TO: Mr. Mark Thompson
Alameda County District
Attorney's Office
7677 Oakport Street, Room 400
Oakland, CA 94605

DATE: September 15, 1993
PROJECT NUMBER: 61026.02
SUBJECT: Site Status Updates
ARCO Various Station
PAGE No.: 1 of 2

FROM: John C. Young

WE ARE SENDING YOU:

COPIES DATED

DESCRIPTION

Site Status Update for ARCO Stations:

- | | | |
|---|--------|---|
| 1 | 9/2/93 | ARCO Station No. 601, 712 Lewelling Boulevard, San Leandro, California. |
| 1 | 9/2/93 | ARCO Station No. 6148, 5131 Shattuck Avenue, Oakland, California. |
| 1 | 9/2/93 | ARCO Station No. 6041, 7249 Village Parkway, Dublin, California. |
| 1 | 9/2/93 | ARCO Station No. 4494, 566 Hegenberger Road, Oakland, California. |
| 1 | 9/2/93 | ARCO Station No. 2185, 9800 East 14th Street, Oakland, California. |
| 1 | 9/2/93 | ARCO Station No. 1319, 365 Jackson Street, Hayward, California. |
| 1 | 9/2/93 | ARCO Station No. 362, 29900 Mission Boulevard, California. |
| 1 | 9/2/93 | ARCO Station No. 2107, 3310 Park Boulevard, Oakland, California. |
| 1 | 9/2/93 | ARCO Station No. 2035, 1001 San Pablo Avenue, Albany, California. |
| 1 | 9/2/93 | ARCO Station No. 771, 899 Rincon Avenue, Livermore, California. |

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

TRANSMITTAL

TO: Mr. Mark Thompson
Alameda County District
Attorney's Office
7677 Oakport Street, Room 400
Oakland, CA 94605

DATE: September 15, 1993
PROJECT NUMBER: 61026.02
SUBJECT: ARCO Various Station
PAGE No.: 2 of 2

FROM: John C. Young

WE ARE SENDING YOU:

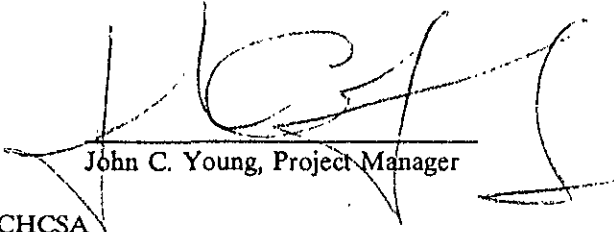
COPIES DATED	DESCRIPTION
	Site Status Update for ARCO Stations:
1 9/2/93	ARCO Station No. 374, 6407 Telegraph Avenue, Oakland, California.
1 9/2/93	ARCO Station No. 2152, 22141 Center Street, Castro Valley, California.
1 9/2/93	ARCO Station No. 276, 10600 MacArthur Boulevard, Oakland, California

THESE ARE TRANSMITTED as checked below:

- For review and comment Approved as submitted Resubmit ___ copies for approval
 As requested Approved as noted Submit ___ copies for distribution
 For approval Return for corrections Return ___ corrected prints
 For your files

REMARKS:

Copies: 1 to RESNA project file no. 61026.02


John C. Young, Project Manager

cc: Mr. Michael Whelan, ARCO Ms. Susan Hugo, ACHCSA
Mr. John Meck, ARCO Legal Mr. Scott Seery, ACHCSA
Mr. John Jang, RWQCB Mr. Eddy So, COHFD
Mr. Gary Grimm, RWQCB Mr. Hugh Murphy, COHFD
Ms. Eva Chu, ACHCSA Mr. Barney Chan, ACHCSA
Mr. Richard Hiatt, RWQCB Mr. Rob Weston, ACHCSA