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LETTER REPORT
QUARTERLY GROUNDWATER MONITORING
Third Quarter 1993
at
ARCO Station 2035
1001 San Pablo Avenue
Albany, California

69036.08

12/30/93

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December 30, 1993
3rdqtrqm
69036.08

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

Subject: Letter Report, Quarterly Groundwater Monitoring, Third Quarter 1993,
ARCO Station 2035, 1001 San Pablo Avenue, Albany, California.

Mr. Whelan:

As requested by ARCO Products Company (ARCO), RESNA Industries Inc. (RESNA) prepared this letter report which summarizes the results of the third quarter 1993 groundwater monitoring performed by ARCO's contractor, EMCON Associates (EMCON) of San Jose, at the above-referenced site. The scope of work for quarterly monitoring at this site was reduced from monthly monitoring (depth-to-water measurements and subjective analyses) and quarterly sampling, to quarterly monitoring and sampling as of September 1, 1993. The reduced monitoring is in response to a relatively stable groundwater gradient and flow direction.

The objectives of this quarterly groundwater monitoring event are to evaluate changes in the groundwater flow direction and gradient, and changes in concentrations of petroleum hydrocarbons in the local groundwater. The field work and laboratory analyses of groundwater samples during this quarter were performed under the direction of EMCON and included measuring depths to groundwater, subjectively analyzing groundwater for the presence of petroleum product, collecting groundwater samples from the wells 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; evaluation and warrant of their field data and field protocols is beyond RESNA's scope of work. RESNA's scope of work was limited to interpretation of field and laboratory analytical data, which included evaluating trends in reported hydrocarbon concentrations in the local groundwater, the groundwater gradient, and direction of groundwater flow beneath the site. The operating ARCO Station 2035 is located at the southeastern corner of the intersection of Marin and San Pablo Avenues in Albany, California, as shown on the Site Vicinity Map, Plate 1.

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

Groundwater Sampling and Gradient Evaluation

Depth-to-water levels (DTW) were measured by EMCON field personnel on July 27, and August 24, 1993. Quarterly sampling was performed by EMCON field personnel on August 24, 1993. The results of EMCON's field work on the site, including DTW levels and subjective analyses for the presence of product in the groundwater in MW-1 through MW-6, and RW-1 in July; and, MW-1 through MW-6, RW-1, and air-sparge wells AS-1 and AS-2 in August, are presented on EMCON's Field Reports. These data are included in Appendix A.

The DTW levels, wellhead elevations, groundwater elevations, and subjective observations of product in the groundwater for this quarter and previous groundwater monitoring at the site are summarized in Table 1, Cumulative Groundwater Monitoring Data. Recovery well RW-1, contained product sheen during the July monitoring event, and contained 0.05 foot of floating product during the August monitoring event. Visual evidence of floating product or product sheen was not noted in any other monitoring wells during this quarter. EMCON's DTW levels were used to evaluate the groundwater elevations. The groundwater gradients and flow directions evaluated for July and August 1993, are shown on the Groundwater Gradient Maps, Plates 3 and 4. The interpreted groundwater gradients were approximately 0.02 ft/ft for July, and approximately 0.01 ft/ft for August, with flow directions toward the west-southwest. These gradients and flow directions are generally consistent with those interpreted for previous quarters.

Groundwater monitoring wells MW-1 through MW-6, AS-1, and AS-2, were purged and sampled by EMCON field personnel on August 24, 1993. RW-1 was not sampled due to the presence of floating product. Field data collected during purging and sampling of the onsite wells are summarized in EMCON's Water Sample Field Data Sheets, included in Appendix A. Purge water generated during purging and sampling of the monitoring wells was transported to Gibson Environmental in Redwood City, California for recycling.

Laboratory Methods and Results

Under the direction of EMCON, water samples collected from the wells were analyzed by Columbia Analytical Services, Inc. (California Department of Health Services Certification No. 1426) for benzene, toluene, ethylbenzene, and total xylenes (BTEX), and for total petroleum hydrocarbons as gasoline (TPHg) using modified Environmental Protection

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Agency (EPA) Methods 5030/8020/California DHS LUFT Method. In addition, the water sample from groundwater monitoring well MW-3, located next to the former waste-oil tank pit was analyzed for total oil and grease (TOG) using Standard Method 5520 C and F. Results of these and previous water analyses are summarized in Table 2, Cumulative Results of Laboratory Analyses of Water Samples - TPHg and BTEX; and Table 3, Cumulative Results of Laboratory Analyses of Water Samples - TPHd, TOG, VOC, BNAs, PCB, and Metals. TPHg and benzene concentrations are shown on Plate 5, TPHg/Benzene Concentrations in Groundwater. The chain of custody records and laboratory analytical reports are included in Appendix A.

The following general trends were noted in reported TPHg and BTEX concentrations in groundwater from the monitoring wells at the site since the last quarterly monitoring event: concentrations decreased in wells MW-1 and MW-3; and remained nondetectable in MW-2, MW-4, MW-5, and MW-6. Air sparge wells AS-1 and AS-2 were sampled during this quarter as a one time event. The floating product or product sheen continued to be present in recovery well RW-1.

Product Removal

The floating product skimmer was inspected and floating product was measured in well RW-1 by EMCON field personnel on July 27, and August 24, 1993, and by RESNA field personnel on September 30, 1993. During the July monitoring event a product sheen was noted, during the August monitoring event 0.05 foot of product was noted, and during the September monitoring event 0.2 foot of product was noted. The results of skimmer inspections are presented on EMCON's Field Report, and on RESNA's Daily Field Report, which are included in Appendix A. Quantities of floating product recovered and thickness of floating product for this and previous quarters are presented in Table 4, Approximate Cumulative Product Recovered. The total cumulative recovered product from RW-1 is approximately 23 gallons.

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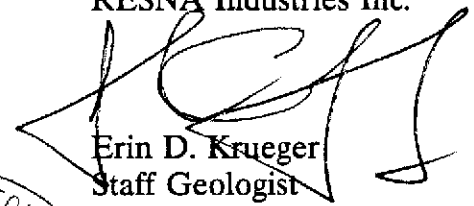
Copies of this report should be forwarded to:

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

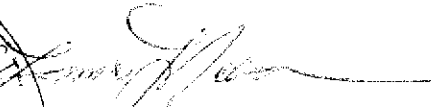
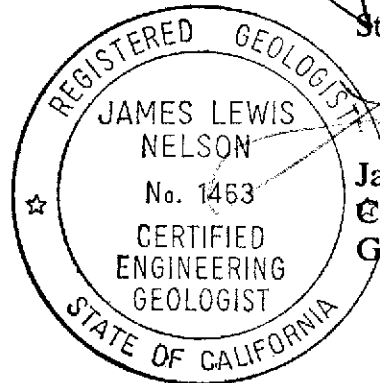
Mr. Richard Hiett
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

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
Certified Engineering
Geologist # 1463

REFERENCES

Applied GeoSystems. January 24, 1990. Limited Environmental Site Assessment at ARCO Station 2035. AGS 96036-1.

Department of Health Services, State of California. October 24, 1990. Summary of California Drinking Water Standards.

RESNA/Applied GeoSystems. April 29, 1991. Work Plan for Subsurface Investigations and Remediation at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. AGS 69036.02.

RESNA/Applied GeoSystems. April 29, 1991. Addendum One to Work Plan at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. AGS 69036.02

RESNA/Applied GeoSystems. June 24, 1991. Site Safety Plan for the ARCO Service Station 2035, 1001 San Pablo Avenue, Albany, California. AGS 69036.03S.

RESNA/Applied GeoSystems. September 11, 1991. Underground Gasoline-Storage Tank Removal and Replacement. AGS 69036.03.

RESNA/Applied GeoSystems. September 24, 1991. Addendum Two to Work Plan at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. AGS 69036.02

RESNA March 6, 1992. Subsurface Environmental Investigation and Pump Test at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.02.

RESNA May 4, 1992. Letter Report, Quarterly Groundwater Monitoring First Quarter 1992 at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.04

RESNA May 28, 1992. Addendum Three to Work Plan at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. AGS 69036.05

RESNA August 31, 1992. Letter Report, Quarterly Groundwater Monitoring Second Quarter 1992 at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.04

RESNA November 30, 1992. Letter Report, Quarterly Groundwater Monitoring Third Quarter 1992 at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.04

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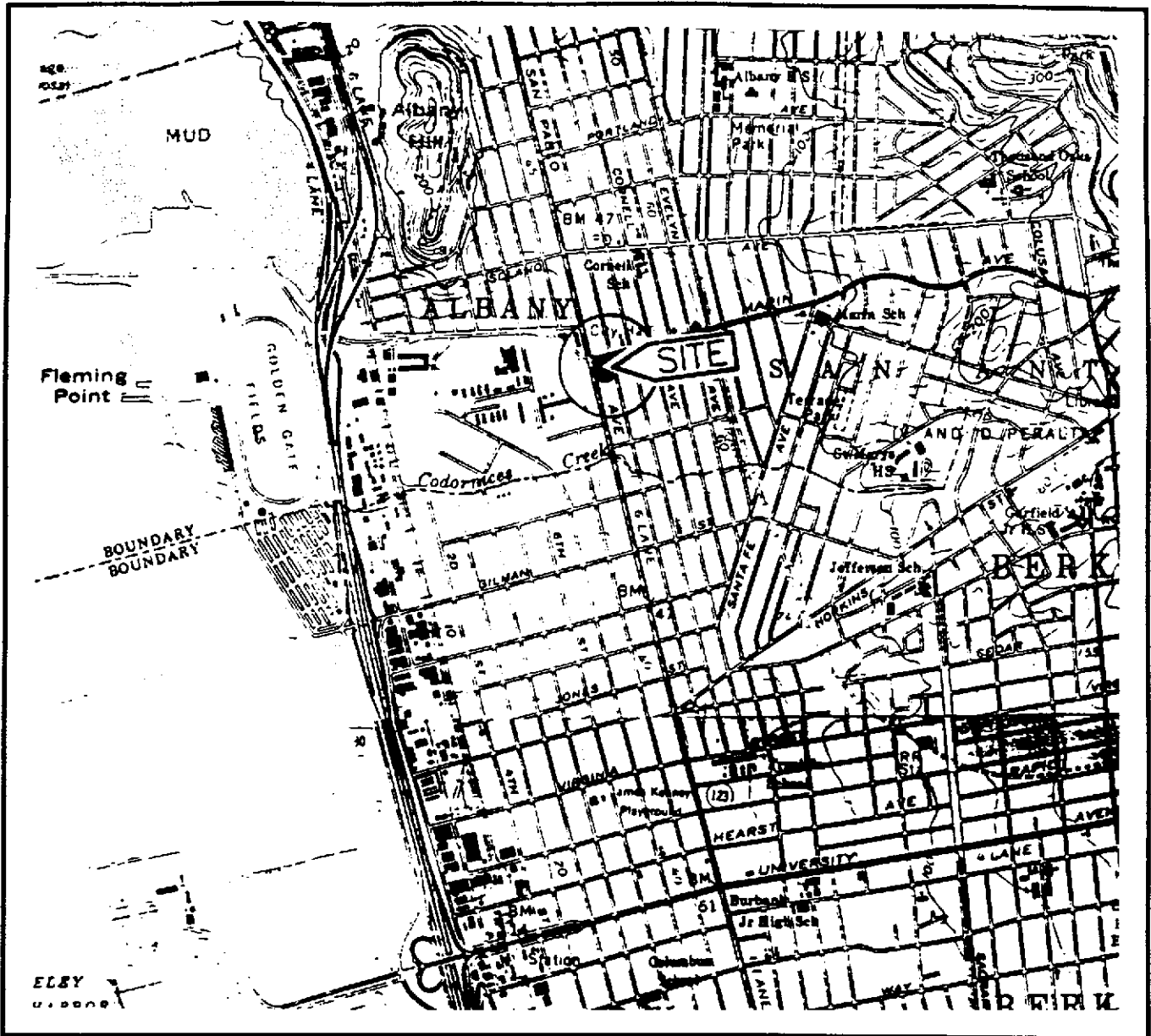
REFERENCES

RESNA November 30, 1992. Additional Subsurface Environmental Investigation and Vapor Extraction Test at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.05

RESNA March 16, 1993. Letter Report, Quarterly Groundwater Monitoring Fourth Quarter 1992 at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.04

RESNA April 29, 1993. Letter Report, Quarterly Groundwater Monitoring First Quarter 1993 at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.08

RESNA July 20, 1993. Letter Report, Quarterly Groundwater Monitoring Second Quarter 1993 at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.08



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

LEGEND

○ = Site Location

Approximate Scale

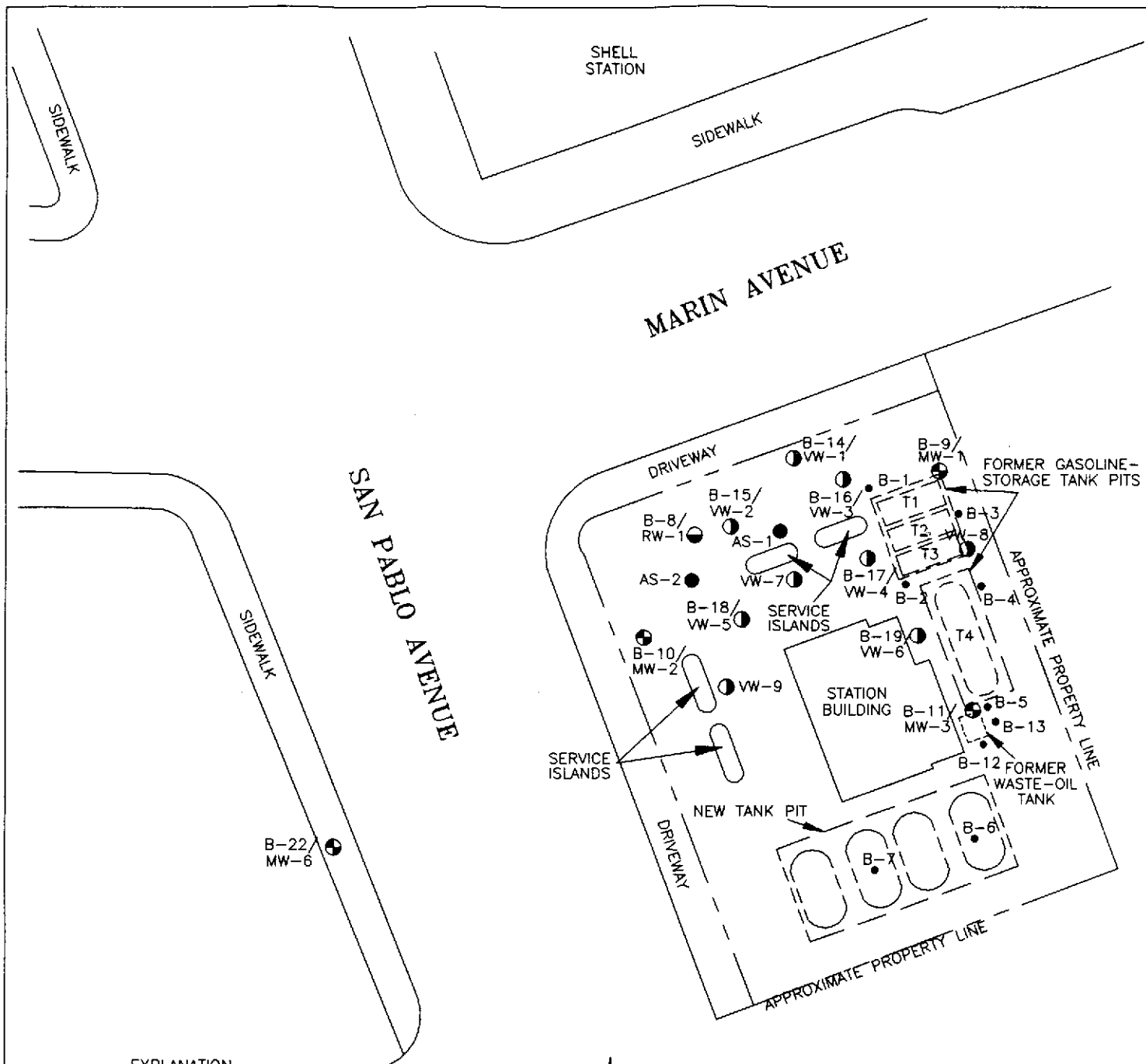


RESNA
 Working to Restore Nature

SITE VICINITY MAP
 ARCO Station 2035
 1001 San Pablo Avenue
 Albany, California

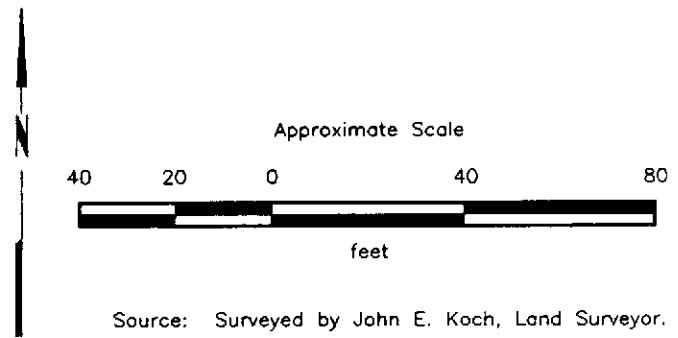
PLATE
 1

PROJECT 69036.08



EXPLANATION

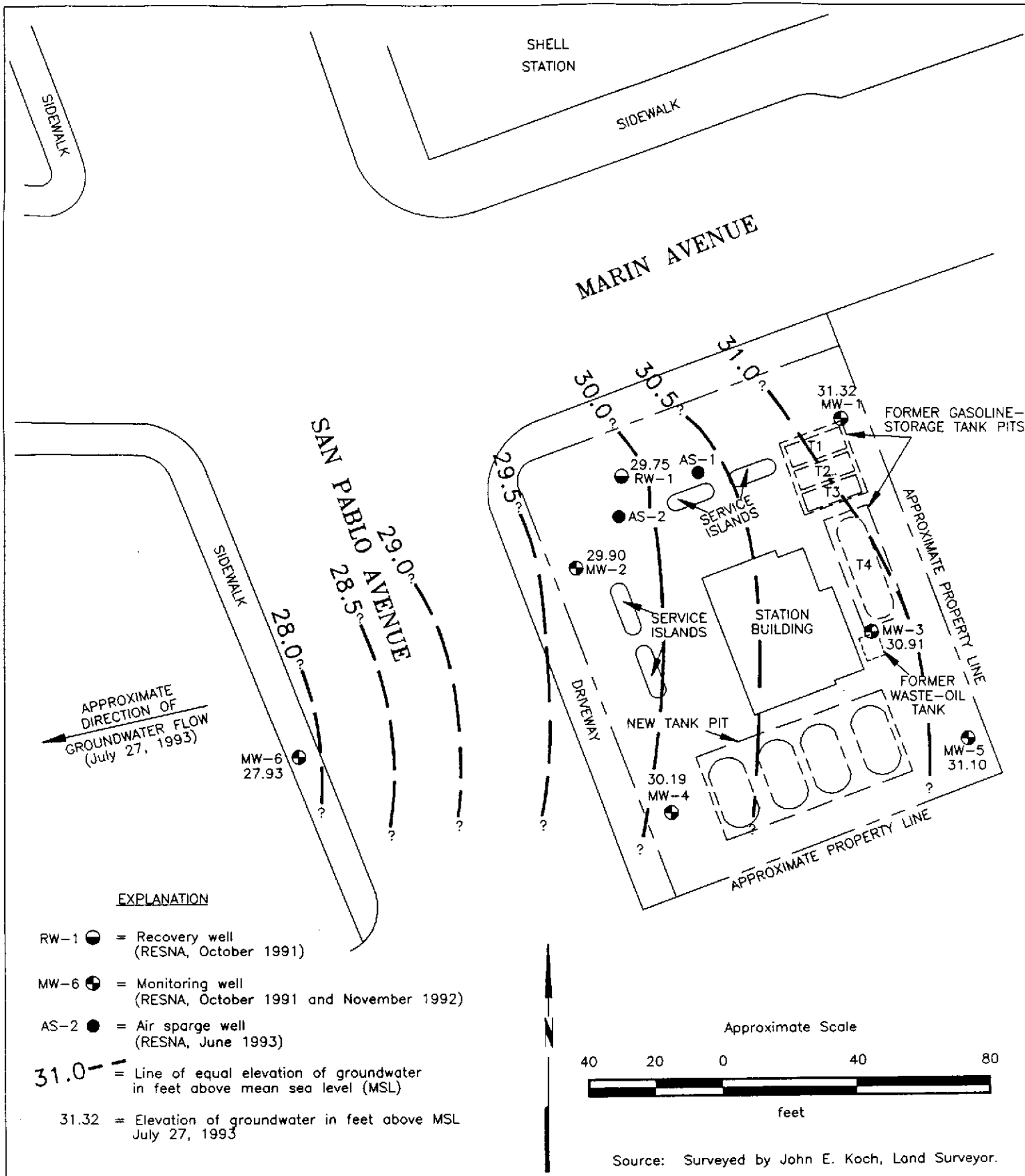
- B-19/
VW-6 ● = Boring/vapor extraction well
(RESNA, August 1992 and June 1993)
- B-8/
RW-1 ● = Boring/recovery well
(Exceltech, October 1991)
- B-22/
MW-6 ● = Boring/monitoring well
(Exceltech, October 1991)
- AS-2 ● = Air sparge well
(RESNA, June 1993)
- B-13 ● = Soil boring
(RESNA, August 1989, June 1991, and August 1992)



GENERALIZED SITE PLAN
ARCO Station 2035
1001 San Pablo Avenue
Albany, California

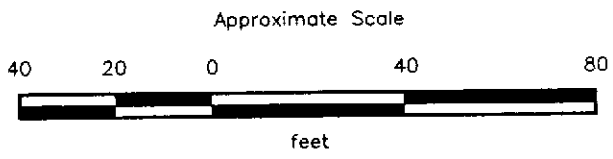
PLATE
2

PROJECT 69036.08 69036-80



EXPLANATION

- RW-1 ● = Recovery well (RESNA, October 1991)
- MW-6 ● = Monitoring well (RESNA, October 1991 and November 1992)
- AS-2 ● = Air sparge well (RESNA, June 1993)
- 31.0 - = Line of equal elevation of groundwater in feet above mean sea level (MSL)
- 31.32 = Elevation of groundwater in feet above MSL July 27, 1993



Source: Surveyed by John E. Koch, Land Surveyor.

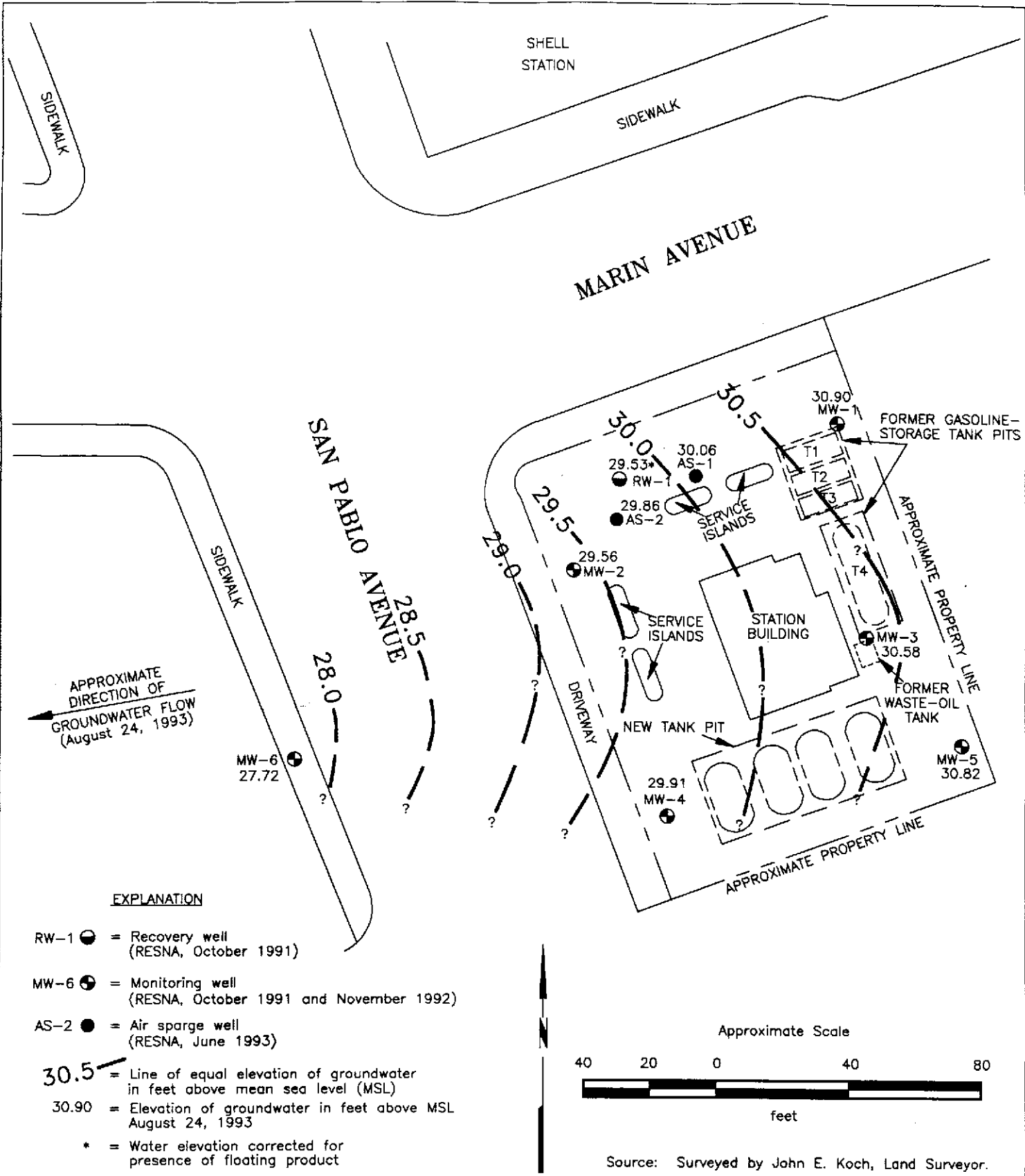
RESNA
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GROUNDWATER GRADIENT MAP
ARCO Station 2035
1001 San Pablo Avenue
Albany, California

PLATE
3



EXPLANATION

- RW-1 ● = Recovery well (RESNA, October 1991)
- MW-6 ● = Monitoring well (RESNA, October 1991 and November 1992)
- AS-2 ● = Air sparge well (RESNA, June 1993)
- 30.5 — = Line of equal elevation of groundwater in feet above mean sea level (MSL)
- 30.90 = Elevation of groundwater in feet above MSL August 24, 1993
- * = Water elevation corrected for presence of floating product

Source: Surveyed by John E. Koch, Land Surveyor.

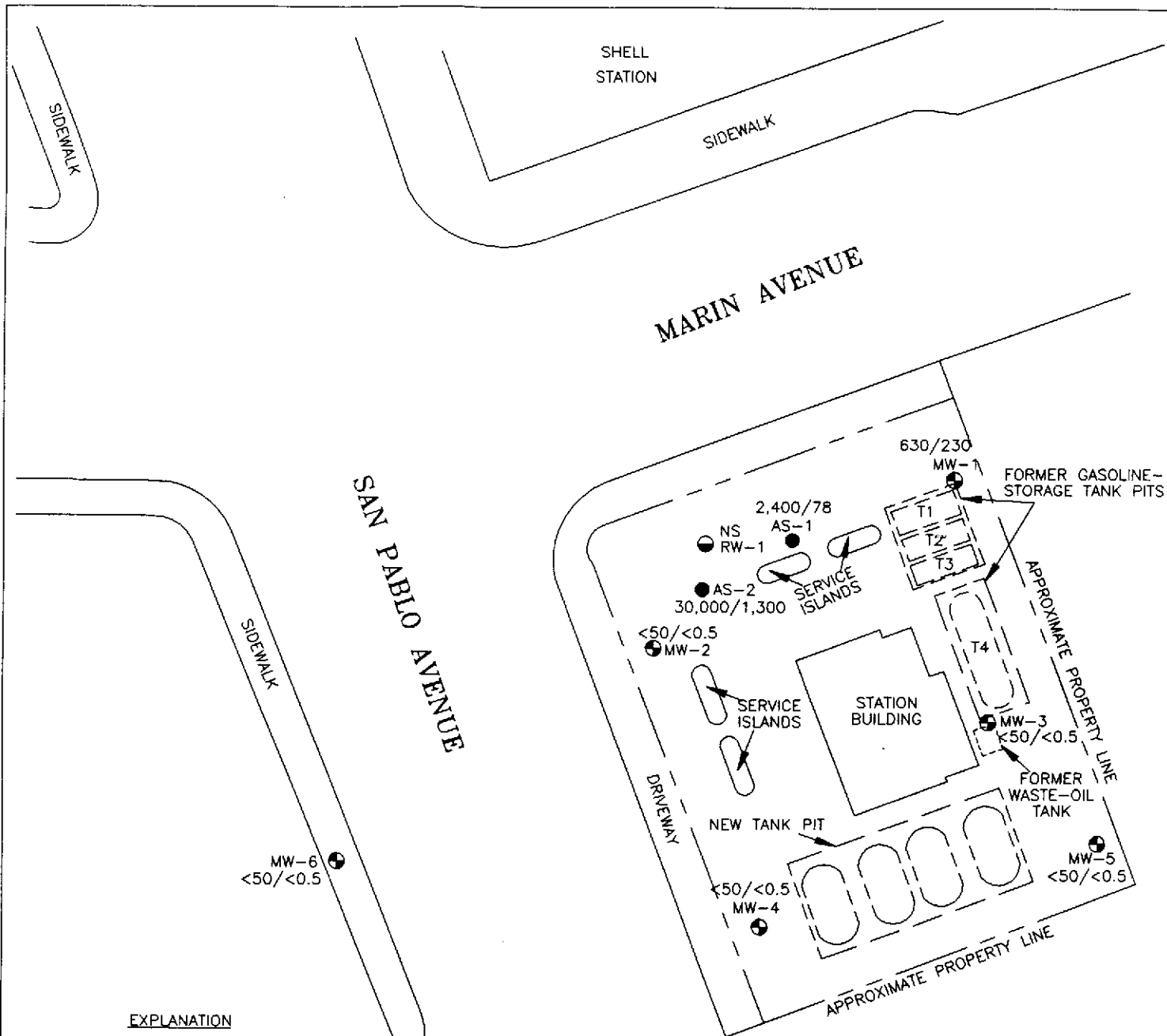


GROUNDWATER GRADIENT MAP
ARCO Station 2035
1001 San Pablo Avenue
Albany, California

PLATE
4

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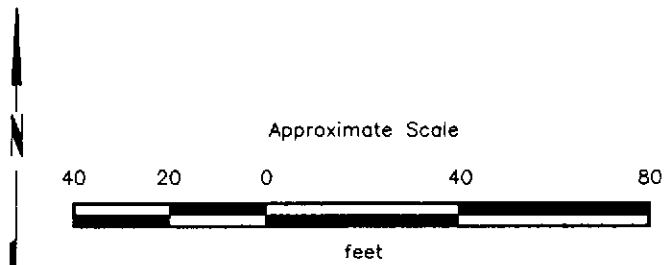


EXPLANATION

- RW-1 ● = Recovery well (RESNA, October 1991)
- MW-6 ● = Monitoring well (RESNA, October 1991 and November 1992)
- AS-2 ● = Air sparge well (RESNA, June 1993)

30,000/1,300 = Concentration of TPHg/Benzene in groundwater, in parts per billion, August 24, 1993

NS = Not sampled due to floating product



Source: Surveyed by John E. Koch, Land Surveyor.



**TPHg/BENZENE CONCENTRATIONS
IN GROUNDWATER
ARCO Station 2035
1001 San Pablo Avenue
Albany, California**

PLATE

5

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2035
Albany, California
(Page 1 of 4)

Well Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Evidence of Product
<u>MW-1</u>				
10/29/91	41.41	11.86	29.55	None
11/07/91		10.94	30.47	None
11/14/91		10.97	30.44	None
01/19/92		10.06	31.35	None
02/19/92		8.65	32.76	None
03/19/92		8.33	33.08	None
04/21/92		9.32	32.09	None
05/12/92		9.82	31.59	None
06/12/92		10.50	30.91	None
07/15/92		10.69	30.72	None
08/07/92		10.53	30.88	None
09/08/92		11.04	30.37	None
10/26/92		11.24	30.17	None
11/23/92		10.90	30.51	None
12/16/92		9.40	32.01	None
01/13/93		7.73	33.68	None
02/22/93		7.56	33.85	None
03/25/93		8.48	32.93	None
04/13/93		8.91	32.50	None
05/22/93		9.68	31.73	None
06/17/93		9.68	31.73	None
07/27/93		10.09	31.32	None
08/24/93		10.51	30.90	None
<u>MW-2</u>				
10/29/91	40.38	11.10	29.28	None
11/07/91		11.20	29.18	None
11/14/91		11.21	29.17	None
01/19/92		10.44	29.94	None
02/19/92		8.70	31.68	None
03/19/92		8.84	31.54	None
04/21/92		9.80	30.58	None
05/12/92		10.29	30.09	None
06/12/92		10.95	29.43	None
07/15/92		11.15	29.23	None
08/07/92		11.01	29.37	None
09/08/92		11.41	28.97	None
10/26/92		11.60	28.78	None
11/23/92		7.31	33.07	None
12/16/92		9.82	30.56	None
01/13/93		8.25	32.13	None

See notes on Page 4 of 4.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2035
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(Page 2 of 4)

<u>Well</u> <u>Date</u>	<u>Elevation</u> <u>of Wellhead</u>	<u>Depth</u> <u>to Water</u>	<u>Elevation</u> <u>of Groundwater</u>	<u>Evidence of</u> <u>Product</u>
<u>MW-2 (cont.)</u>				
02/22/93		8.25	32.13	None
03/25/93		8.82	31.56	None
04/13/93		9.30	31.08	None
05/22/93		10.57	29.81	None
06/17/93		10.25	30.13	None
07/27/93		10.48	29.90	None
08/24/93		10.82	29.56	None
<u>MW-3</u>				
10/29/91	41.44	11.62	29.82	None
11/07/91		11.52	29.92	None
11/14/91		11.50	29.94	None
01/19/92		10.56	30.88	None
02/19/92		9.52	31.92	None
03/19/92		9.01	32.43	None
04/21/92		9.70	31.74	None
05/12/92		10.29	31.15	None
06/12/92		11.26	30.18	None
07/15/92		11.28	30.16	None
08/07/92		11.15	30.29	None
09/08/92		11.70	29.74	None
10/26/92		12.15	29.29	None
11/23/92		12.55	28.89	None
12/16/92		10.15	31.29	None
01/13/93		9.12	32.32	None
02/22/93		8.18	33.26	None
03/25/93		8.57	32.87	None
04/13/93		9.55	31.89	None
05/22/93		10.56	30.88	None
06/17/93		10.41	30.70	None
07/27/93		10.53	30.91	None
08/24/93		10.86	30.58	None
<u>MW-4</u>				
01/13/93	40.33	8.05	32.28	None
02/22/93		7.58	32.75	None
03/25/93		8.27	32.06	None
04/13/93		8.54	31.79	None
05/22/93		9.52	30.81	None
06/17/93		9.53	30.80	None
07/27/93		10.14	30.19	None
08/24/93		10.42	29.91	None

See notes on Page 4 of 4.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2035
Albany, California
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Well Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Evidence of Product
<u>MW-5</u>				
01/13/93	41.84	8.22	33.62	None
02/22/93		7.92	33.92	None
03/25/93		8.67	33.17	None
04/13/93		9.18	32.66	None
05/22/93		10.12	31.72	None
06/17/93		10.03	31.81	None
07/27/93		10.74	31.10	None
08/24/93		11.02	30.82	None
<u>MW-6</u>				
01/13/93	40.13	9.84	30.29	None
02/22/93		9.94	30.19	None
03/25/93		10.68	29.45	None
04/13/93		11.12	29.01	None
05/22/93		11.74	28.39	None
06/17/93		11.75	28.38	None
07/27/93		12.20	27.93	None
08/24/93		12.41	27.72	None
<u>RW-1</u>				
10/29/91	40.33	10.85	29.48	Sheen
11/07/91		11.97	28.36	0.01
11/14/91		11.03	29.30	0.01
01/19/92		10.22*	30.11*	3.26
02/19/92		8.49*	31.84*	2.14
03/19/92		8.50*	31.83*	0.50
04/21/92		9.68*	30.65	0.03
05/12/92	40.33	10.47	29.86	Product not measured
06/12/92		11.41	28.92	Product not measured
07/15/92		11.35	28.98	None
08/07/92		10.80*	29.53*	0.02
09/08/92		10.80*	29.53*	0.62
10/26/92		11.42*	28.91*	0.04
11/23/92		10.94	29.39	Sheen
12/16/92		9.78*	30.55*	0.51
01/13/93		8.35	31.98	Product in skimmer
02/22/93		7.94*	32.39*	0.01
03/25/93		8.81	31.52	None
04/13/93		9.67**	NC**	Product not measured

See notes on Page 4 of 4.

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TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2035
Albany, California
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Well Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Evidence of Product
<u>RW-1 cont.</u>				
05/22/93		10.04	30.29	Sheen
06/17/93		10.26*	30.07*	0.01 in bailer
07/27/93		10.58	29.75	Sheen
08/24/93		10.80*	29.53*	0.05
<u>AS-1</u>				
08/24/93	41.03	10.97	30.06	None
<u>AS-2</u>				
08/24/93	40.31	10.45	29.86	None

Depth-to-water measurements in feet below the top of the well casing.

*Adjusted water level due to product. The recorded thickness of the floating product was multiplied by 0.80 to obtain an approximate value for the displacement of water by the floating product. This approximate displacement value was then subtracted from the measured depth to water to obtain a calculated depth to water. These calculated groundwater depths were subtracted from surveyed wellhead elevations to obtain the adjusted groundwater elevations.

**Well contained product of unknown thickness. Groundwater elevation could not be corrected, therefore it was not used in gradient evaluation.

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TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF WATER SAMPLES - TPHg and BTEX
ARCO Station 2035
Albany, California
(Page 1 of 2)

WELL DATE	TPHg	B	T	E	X
<u>MW-1</u>					
10/29/91	620	76	69	15	60
03/19/92	6,500	2,600	89	42	290
06/12/92	2,900	1,100	2.5	21	15
09/08/92	820	350	<5*	<5*	<5*
10/26/92	190	68	<0.5	0.6	<0.5
01/13/93	430	130	5.3	5.0	9.0
04/13/93	5,300	2,100	<20*	63	36
08/24/93	630	230	<2.5*	3.1	3.3
<u>MW-2</u>					
10/29/91	<60	2.4	4.6	0.48	2.3
03/19/92	<50	6.8	0.9	<0.5	1.1
06/12/92	<50	<0.5	<0.5	<0.5	<0.5
09/08/92	<50	<0.5	<0.5	<0.5	<0.5
10/26/92	<50	<0.5	<0.5	<0.5	<0.5
01/13/93	<50	<0.5	<0.5	<0.5	<0.5
04/13/93	<50	<0.5	<0.5	<0.5	<0.5
08/24/93	<50	<0.5	<0.5	<0.5	<0.5
<u>MW-3</u>					
10/29/91	32	2.1	2.8	0.35	1.8
03/19/92	2,100	780	8.8	16	58
06/12/92	720	210	<2.5*	23	4.0
09/08/92	<50	5.3	<0.5	<0.5	<0.5
10/26/92	<50	0.6	<0.5	<0.5	<0.5
01/13/93	<50	1.1	<0.5	<0.5	<0.5
04/13/93	68	13	<0.5	1.6	1.1
08/24/93	<50	<0.5	<0.5	<0.5	<0.5
<u>MW-4</u>					
01/13/93	<50	<0.5	1.3	<0.5	1.6
04/13/93	<50	<0.5	<0.5	<0.5	<0.5
08/24/93	<50	<0.5	<0.5	<0.5	<0.5
<u>MW-5</u>					
01/13/93	<50	<0.5	<0.5	<0.5	<0.5
04/13/93	<50	<0.5	<0.5	<0.5	<0.5
08/24/93	<50	<0.5	<0.5	<0.5	<0.5

See notes on Page 2 of 2

Quarterly Groundwater Monitoring
ARCO Station 2035, Albany, California

December 30, 1993
69036.08

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF WATER SAMPLES - TPHg and BTEX
ARCO Station 2035
Albany, California
(Page 2 of 2)

WELL DATE	TPHg	B	T	E	X
<u>MW-6</u>					
01/13/93	<50	<0.5	<0.5	<0.5	<0.5
04/13/93	<50	<0.5	<0.5	<0.5	<0.5
08/24/93	<50	<0.5	<0.5	<0.5	<0.5
<u>RW-1</u>					
10/29/91		Not sampled--sheen			
03/19/92		Not sampled--floating product			
06/12/92		Not sampled--floating product			
09/08/92		Not sampled--floating product			
10/23/92		Not sampled--floating product			
01/13/93		Not sampled--floating product in skimmer			
04/13/93		Not sampled--floating product			
08/24/93		Not sampled--floating product			
<u>AS-1</u>					
08/24/93	2,400	78	87	52	370
<u>AS-2</u>					
08/24/93	30,000	1,300	2,800	980	5,900
MCL:	---	1	---	680	1,750
DWAL:	---	---	100	---	---

Results in parts per billion (ppb).
 TPHg: Total petroleum hydrocarbons as gasoline using EPA Method 5030/8015/8020.
 B: benzene, T: toluene, E: ethylbenzene, X: total xylenes isomers
 BTEX: Analyzed using EPA Method 5030/8015/8020.
 <: Results reported below the laboratory detection limit.
 *: Laboratory Raised Methods Reporting Limit (MRL) due to high analyte concentration requiring sample dilution.
 MCL: State Maximum Contaminant Level (October 1990).
 DWAL: State Drinking Water Action Level (October 1990).

Quarterly Groundwater Monitoring
ARCO Station 2035, Albany, California

December 30, 1993
69036.08

TABLE 3
CUMULATIVE RESULTS OF LABORATORY ANALYSES OF WATER SAMPLES
- TPHd, TOG, VOC, BNAs, PCB and Metals
ARCO Station 2035
Albany, California

WELL DATE	TPHd	TOG	VOC	BNAs	PCB	Cd	Cr	Pb	Ni	Zn
<u>MW-3</u>										
10/29/91	NA	<5,000	ND ^a	NA	NA	<10	<10	<5	<50	45
03/19/92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
06/12/92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
09/08/92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/26/92	<50	(600)[600]	ND ^b	NA	NA	NA	NA	NA	NA	NA
12/01/92	NA	NA	NA	ND ^c	ND ^d	NA	NA	NA	NA	NA
01/13/93	NA	(780)[1,100]	NA	NA	NA	NA	NA	NA	NA	NA
04/13/93	NA	(<0.5)[<0.5]	NA	NA	NA	NA	NA	NA	NA	NA
08/24/93	NA	(<0.5)[<0.5]	NA	NA	NA	NA	NA	NA	NA	NA
MCL:	--	--	--	--	--	10	50	50	--	--

Results in parts per billion (ppb).

- TPHd: Total petroleum hydrocarbons as diesel by EPA Method 3510/California DHS LUFT Method.
 TOG: Total oil and grease by Standard Method 5520B&F or 5520C (780) and 5520F [1.100].
 VOC: Volatile organic compounds by EPA Method 624.
 BNAs: Semivolatile organic compounds by EPA Method 3510/8270.
 PCB: Polychlorinated biphenyls by EPA Method 3510/8080.
 Cd: Cadmium by EPA Method 200.7.
 Cr: Chromium by EPA Method 200.7.
 Ni: Nickel by EPA Method 200.7.
 Zn: Zinc by EPA Method 200.7.
 Pb: Lead by EPA Method 3010.
 NA: Not analyzed.
 <: Results reported below the laboratory detection limit.
 ND: Not detected; detection limit varied according to analyte.
^a: All 37 compounds were nondetectable except for toluene (3.0 ppb).
^b: All 41 compounds analyzed were nondetectable.
^c: All 34 compounds analyzed were nondetectable.
^d: All 7 compounds analyzed were nondetectable.
 MCL: State Maximum Contaminant Level (October 1990).

Quarterly Groundwater Monitoring
ARCO Station 2035, Albany, California

December 30, 1993
69036.08

TABLE 4
APPROXIMATE CUMULATIVE PRODUCT RECOVERED
ARCO Station 2035
Albany, California

<u>Well</u> <u>Date</u>	<u>Product Thickness</u> <u>(feet)</u>	<u>Product Recovered</u> <u>(gallons)</u>
YEAR: 1992		
<u>RW-1</u>		
01/29/92	3.35	5.0
02/28/92	2.58	3.8
03/12/92	1.28	2.0
03/25/92	0.91	0.5
05/29/92	0.23	0.3
06/08/92	0.60	0.5
06/30/92	0.15	0.25
07/23/92	0.27	0.5
08/05/92	0.45	0.25
08/17/92	0.50	0.5
09/10/92	0.75	0.5
09/22/92	0.80	1.2
10/06/92	0.65	1.0
10/21/92	0.50	1.0
11/04/92	0.48	1.5
11/17/92	0.40	0.75
12/02/92	0.41	0.75
12/17/92	0.39	1.0
12/29/92	0.53	1.0
	1992 TOTAL:	22.30
YEAR: 1993		
<u>RW-1</u>		
01/19/93	0.01	0.5
01/29/93	0.01	0.5
02/11/93	sheen	0
03/03/93	sheen	0
03/11/93	sheen	0
03/23/93	sheen	0
04/07/93	sheen	0
04/22/93	sheen	0
05/06/93	sheen	0
06/21/93	sheen	0
07/27/93*	sheen	0
08/24/93*	0.5	0
09/30/93	0.2	0
	1993 TOTAL:	1.0
	TOTAL 1992 and 1993:	23.30

Product measured and bailed by RESNA personnel.

* = Product measured by EMCON personnel.

APPENDIX A

**RESNA'S DAILY FIELD REPORT, EMCON'S FIELD REPORTS;
SUMMARY OF GROUNDWATER MONITORING DATA,
CERTIFIED ANALYTICAL REPORTS WITH CHAIN-OF-CUSTODY, AND
WATER SAMPLE FIELD DATA SHEETS**



EMCON Associates

1938 Junction Avenue • San Jose, California 95131-2102 • (408) 453-0719 • Fax (408) 453-0452

Date August 5, 1993
Project 0G70-017.01

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

We are enclosing:

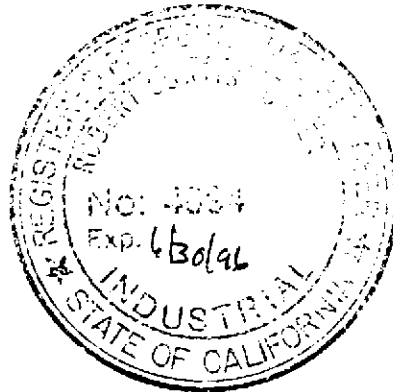
Copies	Description
<u>1</u>	<u>Depth To Water/Floating Product Survey Results</u>
<u> </u>	<u>July 1993 monthly water level survey, ARCO</u>
<u> </u>	<u>station 2035, 1001 San Pablo Avenue, Albany, CA</u>

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 # : 0G70-017.01

STATION ADDRESS : 1001 San Pablo Ave. Albany, CA

DATE : July 27, 1993

ARCO STATION # : 2035

FIELD TECHNICIAN : Tom Graham / Steve Hackett

DAY : Friday

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-2	bad	15/16"	ng	3259	yes	10.48	10.48	ND	ND	28.7	grout is needed around casing
2	MW-4	good	15/16"	ng	3259	yes	10.14	10.14	ND	ND	25.1	
3	MW-5	good	15/16"	ng	3000 3259	yes	10.74	10.74	ND	ND	24.3	installed new lock # 3259
4	MW-6	good	15/16"	ng	3000 3259	yes	12.20	12.20	ND	ND	24.3	installed new lock # 3259
5	MW-3	good	15/16"	ng	3259	yes	10.53	10.53	ND	ND	33.0	soft bottom
6	MW-1	good	15/16"	ng	3259	yes	10.09	10.09	ND	ND	29.7	
7	RW-1	good	15/16"	ng	none	Slip	10.58	10.58	ND	ND	25.6	strong color dirt seen observed on MIC picture

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 September 9, 1993
Project 0G70-017.01

To:
Mr. John Young
RESNA
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>7</u>	<u>Water Sample Field Data Sheets</u>

For your: X Information Sent by: X Mail

Comments:

Enclosed are the data from the third quarter 1993 monitoring event at ARCO service station 2035, 1001 San Pablo Avenue, Albany, 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 # : 0G70-017.01 STATION ADDRESS : 1001 San Pablo Ave. Albany, CA DATE : August 24, 1993

ARCO STATION # : 2035 FIELD TECHNICIAN : Horton/Butera/Williams 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)	DEPTH TO FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-2	bad	15/16	na	3259	yes	10.87	10.87	ND	ND	28.8	needs new lock
2	AS-1	good	9/16"	na	none	yes	10.97 10.64	10.97 10.64	ND	ND	30.5	grout needed around casing
3	AS-2	good	9/16"	na	none	yes	10.45	10.45	ND	ND	31.0	
4	RW-1	good	15/16	na	none	Slip	10.84	10.84	10.79	.05	25.0	skimmer inside well / 0.15 w/ skimmer
5	MW-4	good	15/16	na	3259	yes	10.47	10.47	ND	ND	25.0	no product in skimmer
6	MW-5	good	15/16	na	3259	yes	11.02	11.02	ND	ND	24.4	
7	MW-6	good	15/16	na	3259	yes	12.41	12.41	ND	ND	24.2	
8	MW-3	good	15/16	na	3259	yes	10.86	10.86	ND	ND	32.8	water in box
9	MW-1	good	15/16	na	3259	yes	10.51	10.51	ND	ND	29.6	needs new lock

SURVEY POINTS ARE TOP OF WELL CASINGS

Summary of Groundwater Monitoring Data
 Third Quarter 1993
 ARCO Service Station 2035
 1001 San Pablo Avenue, Albany, 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)	Hydrocarbons IR (ppm)*	Total Oil and Grease (ppm)*
MW-1(29)	08/24/93	10.51	ND. ²	630.	230.	<2.5	3.1	3.3	NR. ³	NR.
MW-2(28)	08/24/93	10.82	ND.	<50.	<0.5	<0.5	<0.5	<0.5	NR.	NR.
MW-3(32)	08/24/93	10.86	ND.	<50.	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW-4(25)	08/24/93	10.42	ND.	<50.	<0.5	<0.5	<0.5	<0.5	NR.	NR.
MW-5(24)	08/24/93	11.02	ND.	<50.	<0.5	<0.5	<0.5	<0.5	NR.	NR.
MW-6(24)	08/24/93	12.41	ND.	<50.	<0.5	<0.5	<0.5	<0.5	NR.	NR.
AS-1(30)	08/24/93	10.97	ND.	2,400.	78.	87.	52.	370.	NR.	NR.
AS-2(30)	08/24/93	10.45	ND.	30,000.	1,300.	2,800.	980.	5,900.	NR.	NR.
RW-1	08/24/93	10.84	0.05	FP. ⁴	FP.	FP.	FP.	FP.	NR.	NR.
FB-15	08/24/93	NA. ⁶	NA.	<50.	<0.5	<0.5	<0.5	<0.5	NR.	NR.

1. TPH. = Total petroleum hydrocarbons

2. ND. = Not detected

3. NR. = Not required, well was not analyzed for the above listed parameter

4. FP. = Floating product was detected in well, not sampled

5. FB. = Field blank

6. NA. = Not applicable

* = Reported as parts-per-million

**Columbia
Analytical
Services^{INC.}**

September 8, 1993

Service Request No. SJ93-1053

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

Re: **EMCON Project No. 0G70-017.01**
ARCO Facility No. 2035

Dear Mr. Butera:

Attached are the results of the water samples submitted to our lab on August 25, 1993. For your reference, these analyses have been assigned our service request number SJ93-1053.


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

COLUMBIA ANALYTICAL SERVICES, Inc.

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
Project: ARCO Project No. 0G70-017.01
ARCO Facility No. 2035

Date Received: 08/25/93
Service Request No.: SJ93-1053
Sample Matrix: Water

Inorganic Parameters¹
µg/mg (ppm)

Sample Name: MW-3 (32) Method Blank
Date Sampled: 08/24/93

<u>Analyte</u>	<u>EPA Method</u>	<u>MRL</u>		
Total Oil and Grease	SM 5520C	0.5	ND	ND
Hydrocarbons, IR	SM 5520F	0.5	ND	ND

¹ Unless otherwise noted, all analyses were performed within EPA recommended maximum holding times specified in *Test Methods for Evaluating Solid Waste*, (SW-846, 3rd Edition) and *Methods for Chemical Analysis of Water and Waste* (EPA-600/4-79-020, Revised March 1983).

Approved by: Kenneth Murphy Date: September 8, 1993

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
 Project: EMCON Project No. 0G70-017.01
 ARCO Facility No. 2035

Date Received: 08/25/93
 Service Request No.: SJ93-1053
 Sample Matrix: Water

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

Sample Name: MW-1 (29) MW-2 (28) MW-3 (32)
 Date Analyzed: 09/02/93 09/02/93 09/02/93

Analyte	MRL			
Benzene	0.5	230.	ND	ND
Toluene	0.5	<2.5 *	ND	ND
Ethylbenzene	0.5	3.1	ND	ND
Total Xylenes	0.5	3.3	ND	ND
TPH as Gasoline	50	630.	ND	ND

Sample Name: MW-4 (25) MW-5 (24) MW-6 (24)
 Date Analyzed: 09/02/93 09/02/93 09/02/93

Analyte	MRL			
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

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

Approved by: *Kenneth Murphy* Date: September 8, 1993

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: EMCON Associates
 Project: EMCON Project No. 0G70-017.01
 ARCO Facility No. 2035

Date Received: 08/25/93
 Service Request No.: SJ93-1053
 Sample Matrix: Water

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

Sample Name: AS-1 (30) AS-2 (30) FB-1
 Date Analyzed: 09/03/93 09/02/93 09/02/93 *

Analyte	MRL			
Benzene	0.5	78.	1,300.	ND
Toluene	0.5	87.	2,800.	ND
Ethylbenzene	0.5	52.	980.	ND
Total Xylenes	0.5	370.	5,900.	ND
TPH as Gasoline	50	2,400.	30,000.	ND

Sample Name: Method Blank Method Blank
 Date Analyzed: 09/02/93 09/03/93

Analyte	MRL		
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

* This sample was part of the analytical batch started on September 2, 1993. However, it was analyzed after midnight so the actual date analyzed is September 3, 1993.

Approved by: K. O. Murphy Date: September 6, 1993

APPENDIX A
LABORATORY QC RESULTS

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: EMCON Project No. OG70-017.01
Arco Facility No. 2035

Date Received: 08/25/93
Service Request No.: SJ93-1053
Sample Matrix: Water

Continuing Calibration Summary
Petroleum Hydrocarbons, IR
Method SM5520-F

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Hydrocarbon Mix	40	37.1	93.	90-110

Approved by:

Kenneth Murphy

Date:

September 8, 1993

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: EMCON Project No.0G70-017.01
ARCO Facility No. 2035

Date Received: 08/25/93
Service Request No.: SJ93-1053
Sample Matrix: Water

Matrix Spike Summary
Petroleum Hydrocarbons, IR
EPA Method SM5520-F
mg/L (ppm)

<u>Sample Name</u>	<u>Spike Level</u>	<u>Sample Result</u>	<u>Spike Result</u>		<u>Percent Recovery</u>		<u>CAS Acceptance Criteria</u>
			<u>MS</u>	<u>DMS</u>	<u>MS</u>	<u>DMS</u>	
Hydrocarbon Mix	8.0	1.2	9.3	8.9	101.	96.	56-151

Approved by: K. O. Murphy

Date: September 8, 1993

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
 Project: EMCON Project No. OG70-017.01
 ARCO Facility No. 2035

Date Received: 08/25/93
 Service Request No.: SJ93-1053
 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>a,a,a</i> -Trifluorotoluene
MW-1 (29)	09/02/93	87.
MW-2 (28)	09/02/93	88.
MW-3 (32)	09/02/93	85.
MW-4 (25)	09/02/93	88.
MW-5 (25)	09/02/93	89.
MW-6 (24)	09/02/93	89.
AS-1 (30)	09/03/93	95.
AS-2 (30)	09/02/93	85.
FB-1	09/02/93	85.
MW-2 (28) MS	09/02/93	93.
MW-2 (28) DMS	09/02/93	93.
Method Blank	09/02/93	87.
Method Blank	09/03/93	85.

CAS Acceptance Criteria 70-130

Approved by: *K. O. Murphy* Date: *September 8, 1993*

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: EMCON Project No. 0G70-017.01
ARCO Facility No. 2035

Date Received: 08/25/93
Service Request No.: SJ93-1053

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

Date Analyzed: 09/02/93

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	25.	27.4	110.	85-115
Toluene	25.	27.2	109.	85-115
Ethylbenzene	25.	27.2	109.	85-115
Total Xylenes	75.	82.1	109.	85-115
TPH as Gasoline	250.	251.	100.	90-110

Approved by:

K. O. Murphy

Date:

September 8, 1993

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: EMCON Associates
Project: EMCON Project No. OG70-017.01
ARCO Facility No. 2035

Date Received: 08/25/93
Service Request No.: SJ93-1053
Sample Matrix: Water

Matrix Spike/Duplicate Matrix Spike Summary
TPH as Gasoline
EPA Methods 5030/California DHS LUFT Method
 $\mu\text{g/L}$ (ppb)

Sample Name: MW-2 (28)
Date Analyzed: 09/02/93

Percent Recovery

Analyte	Spike Level	Sample Result	Spike Result		Percent Recovery		CAS Acceptance Criteria
			MS	DMS	MS	DMS	
TPH as Gasoline	250.	ND	212.	222.	85.	89.	76-130

Approved by: Kom Murphy

Date: September 8, 1993

APPENDIX B
CHAIN OF CUSTODY

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. **EMC-93-5**

Chain of Custody

ARCO Facility no. **2035** City (Facility) **ALBANY** Project manager (Consultant) **JIM BUTERA** Laboratory name **CAS**
 ARCO engineer **KYLE CHARVATIK** Telephone no. (ARCO) **971-2434** Telephone no. (Consultant) **453-0719** Fax no. (Consultant) **453-0452** Contract number **07077**
 Consultant name **EMCON** Address (Consultant) **1938 Junction Avenue San Jose** Method of shipment **sampler will deliver**

Sample ID	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX/PA 8020	BTEX/TPH 802/8020/8015	TPH Modified 8015	Gas Diesel	4131	4132	TPH EPA 418 TSM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Sam	Metals VOA	CAM Metals EPA 6010/7000	TLC	S1TC	Lead Org/DHS	7420/7421
			Soil	Water	Other	Ice	Acid																			
M101(21)11-2	2	2	X			X	HCl	8/24/93	14:08	X																
M102(28)3-4	2	2						8/24/93	11:50	X																
M103(32)5-10	6	6						8/24/93	13:33	X																
M104(25)11-12	2	2						8/24/93	12:22	X																
M105(24)13-14	2	2						8/24/93	12:55	X																
M106(24)15-16	2	2						8/24/93	13:25	X																
M107(30)17-18	2	2						8/24/93	11:44	X																
M108(30)19-20	2	2						8/24/93	11:46	X																
Q101(-)	2	2								X																
FB-1	21-22	2	X				HCl	8/24/93	13:50	X																

Condition of sample: **OK** Temperature received: **COOL**

Relinquished by sampler **M. Charvatik** Date **8/25/93** Time **1:00** Received by **J. Butera**

Relinquished by **J. Butera** Date **8/25/93** Time **10:45** Received by **EMCON**

Relinquished by **J. Butera** Date **8/25/93** Time **10:45** Received by **J. Butera**

Remarks: **240ml HCl**
444 HCl
NO sample, well contained

Lab number: **5793-1053**

Priority Rush: **1 Business Day**

Turnaround time: **2 Business Days**

Standard: **10 Business Days**

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



WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: CG70-017.01 SAMPLE ID: MW-1(29)
 PURGED BY: Horton/Williams CLIENT NAME: ARCC # 2035
 SAMPLED BY: Horton/Williams LOCATION: Albany, 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.): 12.47
 DEPTH TO WATER (feet): 10.51 CALCULATED PURGE (gal.): 37.41
 DEPTH OF WELL (feet): 29.6 ACTUAL PURGE VOL. (gal.): 37.5

DATE PURGED: 8/24/93 Start (2400 Hr) 13:56 End (2400 Hr) 14:06
 DATE SAMPLED: 8/24/93 Start (2400 Hr) 14:08 End (2400 Hr) 14:10

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>13:59</u>	<u>17.5</u>	<u>6.62</u>	<u>773</u>	<u>70.0</u>	<u>Cloudy</u>	<u>Slight</u>
<u>14:02</u>	<u>25.0</u>	<u>6.45</u>	<u>789</u>	<u>68.9</u>	<u>Brown</u>	<u>Moderate</u>
<u>14:06</u>	<u>37.5</u>	<u>6.50</u>	<u>767</u>	<u>67.9</u>	<u>Brown</u>	<u>Heavily</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

D. O. (ppm): NR ODOR: slight _____
 (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: Water in box / needs new lock LOCK #: 3259

REMARKS: _____

Meter Calibration: Date: 8/24/93 Time: 11:00 Meter Serial #: 9209 Temperature °F: _____
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)
 Location of previous calibration: MW-2

Signature: [Signature] Reviewed By: [Signature] Page 1 of 9



EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

Rev. 2 5/91

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PROJECT NO: 0670-017-01
PURGED BY: J. Williams
SAMPLED BY: J. Williams

SAMPLE ID: MW-2
CLIENT NAME: ARCO 2035
LOCATION: 1001 SAN PABLO AVE - ALBANY, CA

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

CASING ELEVATION (feet/VMSL): NR VOLUME IN CASING (gal.): 11.74
DEPTH TO WATER (feet): 10.82 CALCULATED PURGE (gal.): 35.24
DEPTH OF WELL (feet): 28.8 ACTUAL PURGE VOL (gal.): 35.0

DATE PURGED: 08-24-93 Start (2400 Hr) 1124 End (2400 Hr) 1140
DATE SAMPLED: 08-24-93 Start (2400 Hr) 1148 End (2400 Hr) 1150

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	EC. ($\mu\text{mhos}/\text{cm} @ 25^\circ \text{C}$)	TEMPERATURE ($^\circ\text{F}$)	COLOR (visual)	TURBIDITY (visual)
<u>1128</u>	<u>12</u>	<u>6.54</u>	<u>783</u>	<u>68.6</u>	<u>BROWN</u>	<u>MUD</u>
<u>1136</u>	<u>24</u>	<u>6.54</u>	<u>786</u>	<u>68.6</u>	<u>11</u>	<u>11</u>
<u>1140</u>	<u>35</u>	<u>6.58</u>	<u>790</u>	<u>68.6</u>	<u>CLEAR</u>	<u>CLEAR</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

D. O. (ppm): NR ODOR: Slight _____
(CCBALT 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 $\text{\textcircled{c}}$) 2" Bladder Pump Bailer (Teflon $\text{\textcircled{c}}$)
 Centrifugal Pump Bailer (PVC) ODL Sampler Bailer (Stainless Steel)
 Submersible Pump Bailer (Stainless Steel) Dipper Submersible Pump
 Well Wizard TM Dedicated Well Wizard TM Dedicated
 Other: _____ Other: _____

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: _____

Meter Calibration: Date: 8-24-93 Time: 1100 Meter Serial #: 9010 Temperature $^\circ\text{F}$: 74.6
(EC: 000 1011 / 1000) (DI _____) (pH 7 708 / 7.00) (pH 10 10.02 / 10.00) (pH 4 4.00 / _____)

Location of previous calibration: _____

Signature: Joe White Reviewed By: JWB Page 2 of 9



EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

Rev. 2. 5/91

PROJECT NO: CG70-017.01 SAMPLE ID: MW-3(32)
 PURGED BY: Horton/Williams CLIENT NAME: ARCC # 2025
 SAMPLED BY: Horton/Williams LOCATION: Alhambra, 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.): 14.33
 DEPTH TO WATER (feet): 10.86 CALCULATED PURGE (gal.): 43.00
 DEPTH OF WELL (feet): 32.8 ACTUAL PURGE VOL. (gal.): 43.0

DATE PURGED: 8/24/93 Start (2400 Hr) 13:13 End (2400 Hr) 13:24
 DATE SAMPLED: 8/24/93 Start (2400 Hr) 13:33 End (2400 Hr) 13:35

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>13:16</u>	<u>14.5</u>	<u>6.54</u>	<u>704</u>	<u>68.2</u>	<u>Clayey</u>	<u>Slight</u>
<u>13:19</u>	<u>29.0</u>	<u>6.65</u>	<u>736</u>	<u>70.0</u>	<u>Brown</u>	<u>Heavy</u>
<u>13:24</u>	<u>43.0</u>	<u>6.74</u>	<u>675</u>	<u>69.9</u>	<u>Brown</u>	<u>Heavy</u>
_____	_____	_____	_____	_____	_____	_____

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

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): FB-1 (13:50)

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 : _____

Meter Calibration: Date: 8/24/93 Time: 11:00 Meter Serial #: 9010 Temperature °F: _____
9269
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-2
 Signature: [Signature] Reviewed By: [Signature] Page 3 of 9

WATER SAMPLE FIELD DATA SHEET



PROJECT NO: 0470-017-01
 PURGED BY: J.W. Williams
 SAMPLED BY: J.W. Williams

SAMPLE ID: MW-4(25)
 CLIENT NAME: ARCO 2035
 LOCATION: 1001 Shaw Patio Ave Albany Ga

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.): 9.52
 DEPTH TO WATER (feet): 10.42 CALCULATED PURGE (gal.): 28.57
 DEPTH OF WELL (feet): 25.0 ACTUAL PURGE VOL (gal.): 29.0

DATE PURGED: 08-24-93 Start (2400 Hr) 17:01 End (2400 Hr) 17:20
 DATE SAMPLED: 08-24-93 Start (2400 Hr) 17:22 End (2400 Hr) 17:23

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	EC (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (Visual)	TURBIDITY (Visual)
<u>1209</u>	<u>10.0</u>	<u>6.21</u>	<u>528.400</u>	<u>72.8</u>	<u>BROWN</u>	<u>HEAVY</u>
<u>1215</u>	<u>19.5</u>	<u>6.29</u>	<u>566</u>	<u>72.3</u>	<u>11</u>	<u>11</u>
<u>1226</u>	<u>29.0</u>	<u>6.38</u>	<u>629</u>	<u>70.1</u>	<u>11</u>	<u>11</u>

D. O. (ppm): NR ODOR: W/OUT 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 Bailor (Teflon®) 2" Bladder Pump Bailor (Teflon®)
 Centrifugal Pump Bailor (PVC) DDL Sampler Bailor (Stainless Steel)
 Submersible Pump Bailor (Stainless Steel) Dipper Submersible Pump
 Well Wizard™ Decanted Well Wizard™ Decanted
 Other: _____

WELL INTEGRITY: OK LOCK #: 3759

REMARKS: _____

Meter Calibration: Date: 8/24/93 Time: 1100 Meter Serial #: 9010 Temperature °F: _____
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-3
 Signature: J.W. Williams Reviewed By: J.B. Page 4 of 9



WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: C670-017.01 SAMPLE ID: MW-5(24)
 PURGED BY: Horton/Williams CLIENT NAME: ARCC # 2025
 SAMPLED BY: Horton/Williams LOCATION: Alhambra, 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.): 8.74
 DEPTH TO WATER (feet): 11.02 CALCULATED PURGE (gal.): 26.22
 DEPTH OF WELL (feet): 24.4 ACTUAL PURGE VOL. (gal.): 26.5 21.0

DATE PURGED: 8/24/93 Start (2400 Hr) 12:41 End (2400 Hr) 12:49
 DATE SAMPLED: 8/24/93 Start (2400 Hr) 12:55 End (2400 Hr) 12:57

TIME (2400 Hr)	VOLUME (gal.)	pH (unit)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>12:44</u>	<u>9.0</u>	<u>6.73</u>	<u>561</u>	<u>69.7</u>	<u>Cloudy</u>	<u>Slight</u>
<u>12:47</u>	<u>18.0</u>	<u>6.34</u>	<u>573</u>	<u>68.9</u>	<u>Brown</u>	<u>Heavy</u>
<u>12:49</u>	<u>26.5</u>	<u>Well</u>	<u>Dried At</u>	<u>21.0 Gallons</u>		
<u>12:57</u>	<u>recharge</u>	<u>6.61</u>	<u>598</u>	<u>68.4</u>	<u>Brown</u>	<u>Heavy</u>

D. O. (ppm): NR ODOR: slight NR NR
 (COBALT 0 - 100) (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: _____

_____ Bailer (Teflon Ⓢ)
 _____ Bailer (PVC)
 _____ Bailer (Stainless Steel)
 _____ Dedicated

SAMPLING EQUIPMENT

_____ 2" Bladder Pump Bailer (Teflon Ⓢ)
 _____ DDL Sampler
 _____ Dipper
 _____ Well Wizard™
 _____ Bailer (Stainless Steel)
 _____ Submersible Pump
 _____ Dedicated

WELL INTEGRITY: Good LOCK #: 3259

REMARKS: _____

Meter Calibration: Date: 8/24/93 Time: 11:00 Meter Serial #: 9010 9269 Temperature °F: _____
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)
 Location of previous calibration: MW-2

Signature: [Signature] Reviewed By: [Signature] Page 5 of 9



WATER SAMPLE FIELD DATA SHEET

Rev. 2. 5/91

PROJECT NO: CG70-017.01 SAMPLE ID: MW-E (24)
 PURGED BY: Horton/Williams CLIENT NAME: ARCO # 2025
 SAMPLED BY: Horton/Williams LOCATION: Alhambra, 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.): 1.97
 DEPTH TO WATER (feet): 12.41 CALCULATED PURGE (gal.): 5.77
 DEPTH OF WELL (feet): 24.2 ACTUAL PURGE VOL. (gal.): 6.0

DATE PURGED: <u>8/24/93</u>	Start (2400 Hr) <u>1300</u>	End (2400 Hr) <u>1320</u>
DATE SAMPLED: <u>8/24/93</u>	Start (2400 Hr) <u>1325</u>	End (2400 Hr) _____

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1310</u>	<u>2.0</u>	<u>7.00</u>	<u>782</u>	<u>71.0</u>	<u>BROWN</u>	<u>HEAVY</u>
<u>1315</u>	<u>4.0</u>	<u>6.92</u>	<u>771</u>	<u>71.1</u>	<u>"</u>	<u>"</u>
<u>1320</u>	<u>6.0</u>	<u>6.93</u>	<u>770</u>	<u>71.0</u>	<u>"</u>	<u>"</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

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

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

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: Good LOCK #: 3259

REMARKS: _____

Meter Calibration: Date: 8/24/93 Time: 11:12 Meter Serial #: 9208 Temperature °F: _____
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: AS-1
 Signature: [Signature] Reviewed By: [Signature] Page 6 of 9



EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: CG70-017 01 SAMPLE ID: RW-1
 PURGED BY: Horton/Williams CLIENT NAME: ARCC # 2035
 SAMPLED BY: Horton/Williams LOCATION: Alhambra, 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.): NA
 DEPTH TO WATER (feet): 10.84 CALCULATED PURGE (gal.): NA
 DEPTH OF WELL (feet): 25.0 ACTUAL PURGE VOL. (gal.): NA

DATE PURGED: 8/24/93 Start (2400 Hr) NA End (2400 Hr) NR
 DATE SAMPLED: 8/24/93 Start (2400 Hr) _____ End (2400 Hr) _____

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>No Sample Well Contained Product</u>						
			<u>0.05</u>			<u>2</u>
D. O. (ppm):	<u>NR</u>	ODOR:			<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 5) | <input type="checkbox"/> 2" Bladder Pump | <input type="checkbox"/> Bailer (Teflon 3) |
| <input 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 : _____

Meter Calibration: Date: 8/24/93 Time: _____ Meter Serial #: 9208 Temperature °F: _____
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: _____

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



EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: OG70-017.01

SAMPLE ID: AS-1(30)

PURGED BY: Horton/Williams CLIENT NAME: ARCO # 2035

SAMPLED BY: Horton/Williams LOCATION: Albany, 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>3.18</u>
DEPTH TO WATER (feet): <u>10.97</u>	CALCULATED PURGE (gal.): <u>9.56</u>
DEPTH OF WELL (feet): <u>30.5</u>	ACTUAL PURGE VOL. (gal.): <u>10.660</u>

DATE PURGED: <u>8/24/93</u>	Start (2400 Hr) <u>11:20</u>	End (2400 Hr) <u>11:29</u>
DATE SAMPLED: <u>8/24/93</u>	Start (2400 Hr) <u>11:44</u>	End (2400 Hr) <u>—</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>11:26</u>	<u>3.5</u>	<u>6.68</u>	<u>777</u>	<u>71.1</u>	<u>BROWN</u>	<u>HEAVY</u>
<u>—</u>	<u>7.0</u>	<u>dry at 6.0 gallons</u>				
<u>—</u>	<u>16.0</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>11:44</u>	<u>Recharge</u>	<u>7.06</u>	<u>762</u>	<u>67.8</u>	<u>BROWN</u>	<u>HEAVY</u>
D. O. (ppm): <u>NR</u>		ODOR: <u>MOD</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): _____

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: Good LOCK #: 3259

REMARKS: well dried at 6.0 gallons and took samples waited for recharge

Meter Calibration: Date: 8/24/93 Time: 11:12 Meter Serial #: 9208 Temperature °F: 87.4
 (EC 1000 1025 / 1000) (DI _____) (pH 7 7.01 / 7.00) (pH 10 10.04 / 10.00) (pH 4 4.07 / _____)
 Location of previous calibration: _____

Signature: Neil Horton Reviewed By: JB Page 8 of 9



EMCON ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

Rev. 2. 5/91

PROJECT NO: CG70-017 01 SAMPLE ID: AS-2(30)
 PURGED BY: Horton/Williams CLIENT NAME: ARCO # 2025
 SAMPLED BY: Horton/Williams LOCATION: Albany, 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.): 3.35
 DEPTH TO WATER (feet): 10.45 CALCULATED PURGE (gal.): 10.06
 DEPTH OF WELL (feet): 31.0 ACTUAL PURGE VOL. (gal.): 10.5 4.0

DATE PURGED: 8/24/92 Start (2400 Hr) 11:26 End (2400 Hr) 11:34
 DATE SAMPLED: 8/24/92 Start (2400 Hr) 11:46 End (2400 Hr) 11:47

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>11:30</u>	<u>3.5</u>	<u>7.01</u>	<u>909</u>	<u>70.5</u>	<u>Brown</u>	<u>Heavy</u>
<u>11:34</u>	<u>7.0</u>	<u>Well Dried At 4.0 Gallons</u>				
<u>11:47</u>	<u>recharge 10.5</u>	<u>7.10</u>	<u>850</u>	<u>70.2</u>	<u>Brown</u>	<u>Heavy</u>

D. O. (ppm): NR ODOR: slight 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"/> 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: Good LOCK #: 3259

REMARKS: _____

Meter Calibration: Date: 8/24/92 Time: 11:12 Meter Serial #: 9209 Temperature °F: _____
 (EC 1000 _____ / _____) (DI _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: AS-1

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