RESNA
Working To Restore Nature

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

TRANSMITTAL

DATE: May 10, 1993
PROJECT NO.: 69036.08

TO: Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

ATTENTION: Mr. Barney Chan

SUBJECT: ARCO Station No. 2035

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	4/29/93	First Quarter 1993 Groundwater Monitoring Report for ARCO Station No. 2035, 1001 San Pablo Avenue, Albany, California.

THESE ARE TRANSMITTED as checked below:

[ ] For review and comment [ ] As requested [√] For your files [ ] For approval

REMARKS:

James L. Nelson, C.E.G. 1463

RESNA
Working To Restore Nature

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

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

4/28/93

69036.08

RESNA
Working To Restore Nature

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

April 29, 1993
0402MWHE
69036.08

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

Subject: First Quarter 1993 Groundwater Monitoring Report for 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 first quarter 1993 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 waste-oil tank and former underground gasoline-storage tanks (USTs) at the site. 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.

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 January 13, February 22, and March 25, 1993. Quarterly sampling was performed by EMCON field personnel on January 13, 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, 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. A presence of floating product was noted in the product skimmer in RW-1 during the January monitoring event; 0.01 feet of floating product was observed on the surface of groundwater in this well during the February monitoring event; and no floating product was observed in RW-1 either on the surface of groundwater or in the product skimmer during the March monitoring event. Visual evidence of product or sheen was not noted in any other monitoring wells during this quarter. EMCON's DTW levels were used to evaluate the groundwater elevations. Groundwater elevations increased an average of 1 foot since the last quarter. The groundwater gradients and flow directions evaluated for January, February and March are shown on the Groundwater Gradient Maps, Plates 3 through 5. The average interpreted groundwater gradient was approximately 0.02 ft/ft with flow directions toward the west-southwest in January, and toward the west in February and March. These gradients and flow directions are generally consistent with those interpreted for previous quarters.

Groundwater monitoring wells MW-1 through MW-6 were purged and sampled by EMCON field personnel on January 13, 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 total petroleum hydrocarbons as gasoline (TPHg) and for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using modified Environmental Protection 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, SVOC, PCB, and Metals. TPHg and benzene concentrations are shown on Plate 6, 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 hydrocarbon concentrations in groundwater from the monitoring wells at the site since the last quarterly monitoring event: concentrations of TPHg increased in well MW-1 (from 190 ppb to 430 ppb), and remained nondetectable in MW-2 and MW-3; concentrations of benzene increased in monitoring well MW-1 (from 68 ppb to 130 ppb) and MW-3 (from 0.6 ppb to 1.1 ppb), and remained nondetectable in MW-2. The floating product in recovery well RW-1 which was approximately 0.5 feet thick during last quarter decreased to a product sheen during this quarter. Trends could not be evaluated for groundwater monitoring wells MW-4 through MW-6 because these wells were not sampled during last quarter due to their recent installation.

Product Removal

The floating product skimmer was inspected and floating product was measured in well RW-1 by RESNA field personnel on January 19 and 29, February 11, and March 3, 11 and 23, 1993. Approximately 1 gallon of product was recovered from the skimmer in January. No measurable amount of floating product (except for product sheen) was detected in well RW-1 in February and March. The results of skimmer inspections are presented on RESNA's Field Reports, 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.

Conclusions

Groundwater at the site has been impacted by petroleum hydrocarbons. As indicated by Plate 6, TPHg/Benzene Concentrations in Groundwater, the greatest concentrations of petroleum hydrocarbons appear to be present in the vicinity of the former USTs in the northeastern portion of the site, and in the vicinity of RW-1, situated downgradient of the former tanks. The extent of petroleum hydrocarbons in the local groundwater has been delineated except north (crossgradient) of the site. Information on file with the ACHCSA indicates that a gasoline leak was detected at the property located north of the ARCO Station (presently owned and operated by Shell Oil Company) in 1989, and high concentrations of gasoline hydrocarbons had been detected in the soil (up to 1,900 ppm TPHg) and groundwater (up to 20,000 ppb TPHg) beneath this site and its southern vicinity. Based on this information and a local west-southwest flow direction, it appears the Shell site is a likely source of hydrocarbons in groundwater north of ARCO site and might be a secondary source of hydrocarbons detected beneath the northwestern portion of the ARCO site.

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

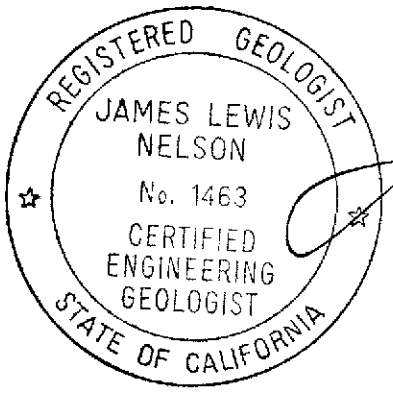
Mr. Richard Hiett
Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

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

Sincerely,
RESNA Industries Inc.

Barbara Sieminski

Barbara Sieminski
Assistant Project Geologist



James L. Nelson
Certified Engineering
Geologist # 1463

Enclosures: References
Plate 1, Site Vicinity Map
Plate 2, Generalized Site Plan
Plate 3, Groundwater Gradient Map, January 13, 1993
Plate 4, Groundwater Gradient Map, February 22, 1993
Plate 5, Groundwater Gradient Map, March 25, 1993
Plate 6, TPHg/Benzene Concentrations in Groundwater, January 13, 1993

Table 1, Cumulative Groundwater Monitoring Data
Table 2, Cumulative Results of Laboratory Analyses of Water Samples - TPHg and BTEX
Table 3, Cumulative Results of Laboratory Analyses of Water Samples - TPHd, TOG, VOC, SVOC, PCB and Metals
Table 4, Approximate Cumulative Product Recovered

Appendix A: EMCON's Field Reports; Summary of Groundwater Monitoring Data, Certified Analytical Reports with Chain-of-Custody, and Water Sample Field Data Sheets

RESNA's Field Reports

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

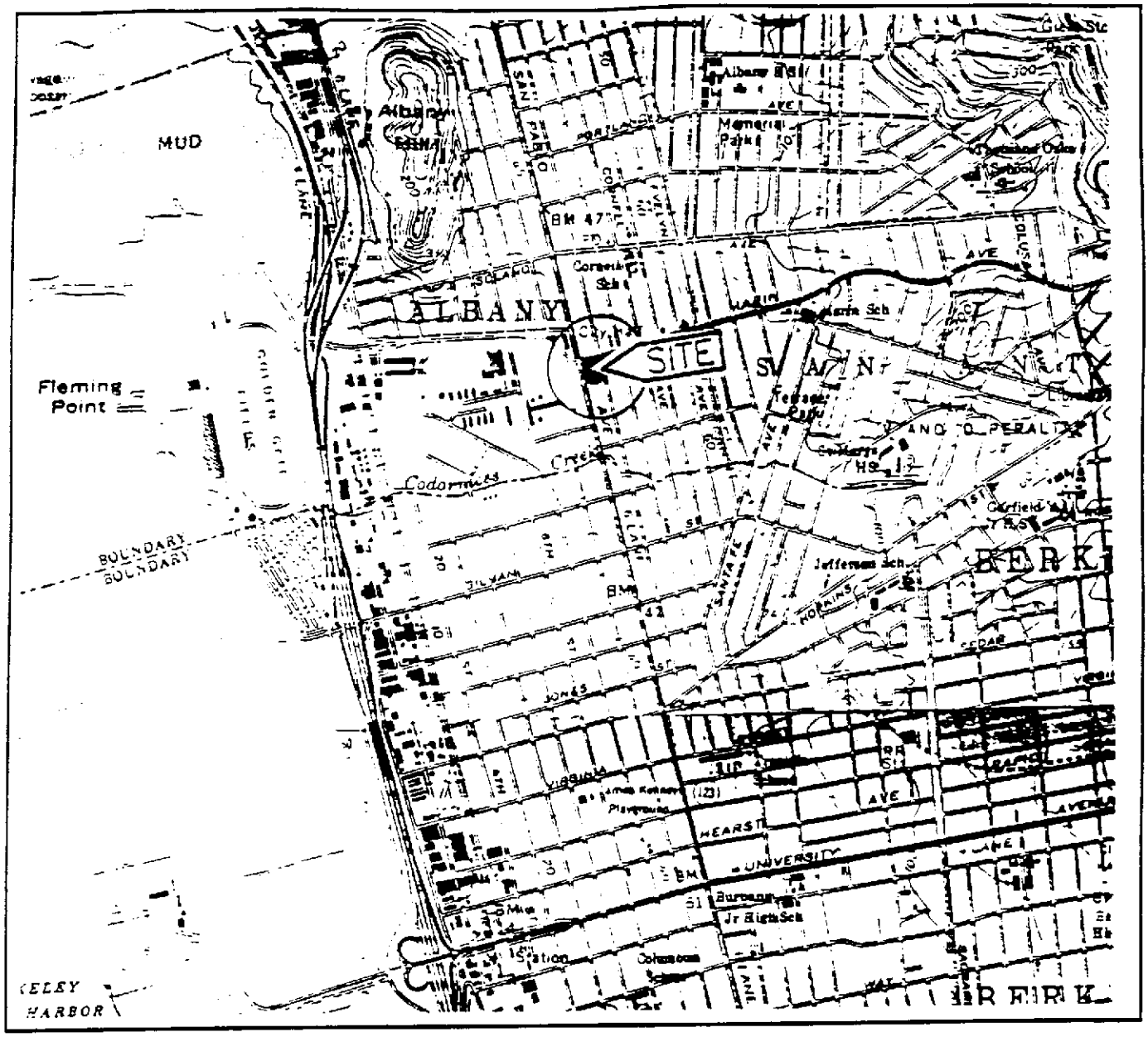
RESNA August 31, 1992. Letter Report, Quarterly Groundwater Monitoring Second Quarter 1992 at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California. 69036.04

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

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



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

LEGEND

= Site Location

Approximate Scale

2000 1000 0 2000 4000

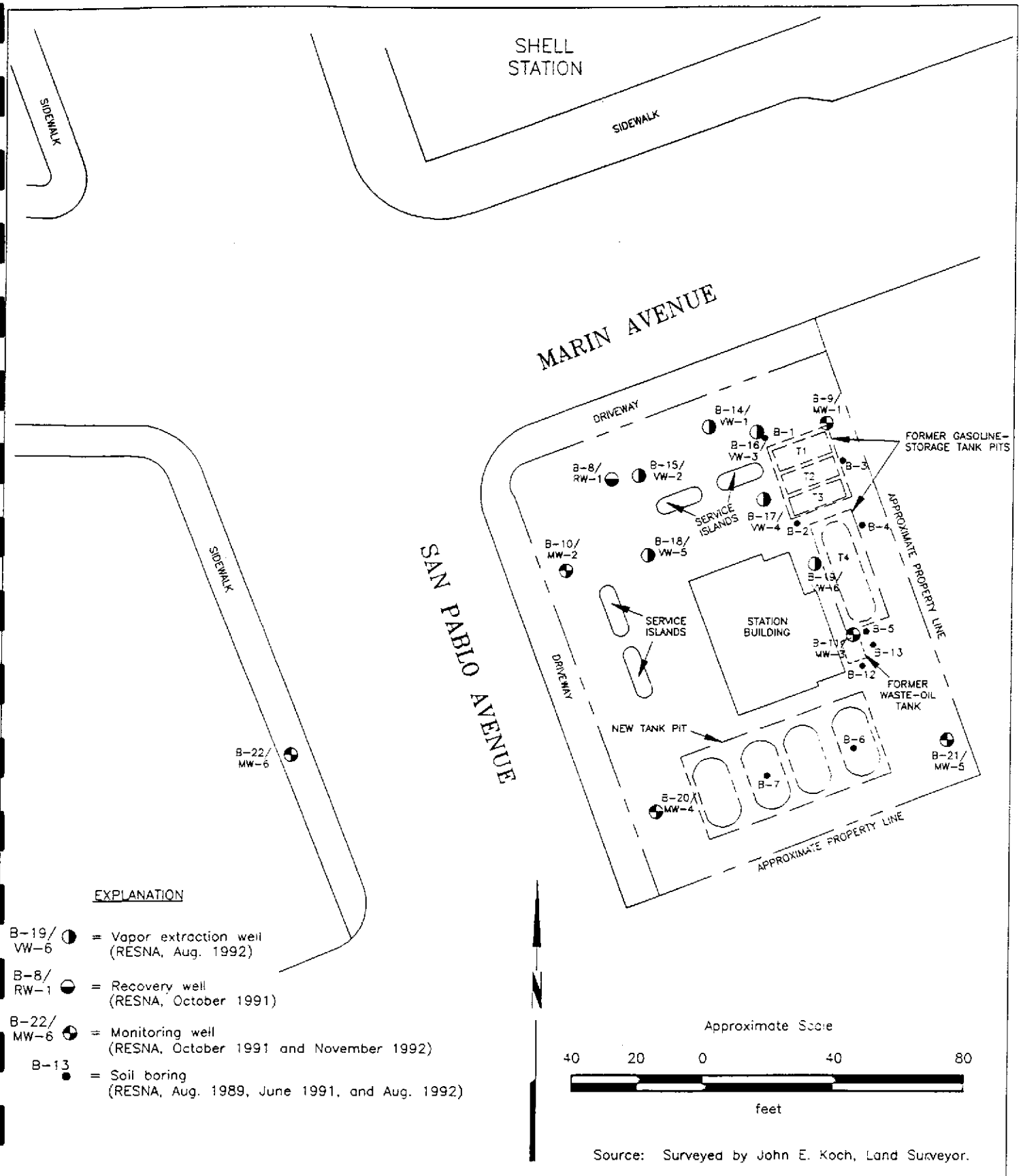
feet

RESNA
Working to Restore Nature

PROJECT 69036.08

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

PLATE
1



EXPLANATION

B-19/VW-6 = Vapor extraction well (RESNA, Aug. 1992)

B-8/RW-1 = Recovery well (RESNA, October 1991)

B-22/MW-6 = Monitoring well (RESNA, October 1991 and November 1992)

B-13 = Soil boring (RESNA, Aug. 1989, June 1991, and Aug. 1992)

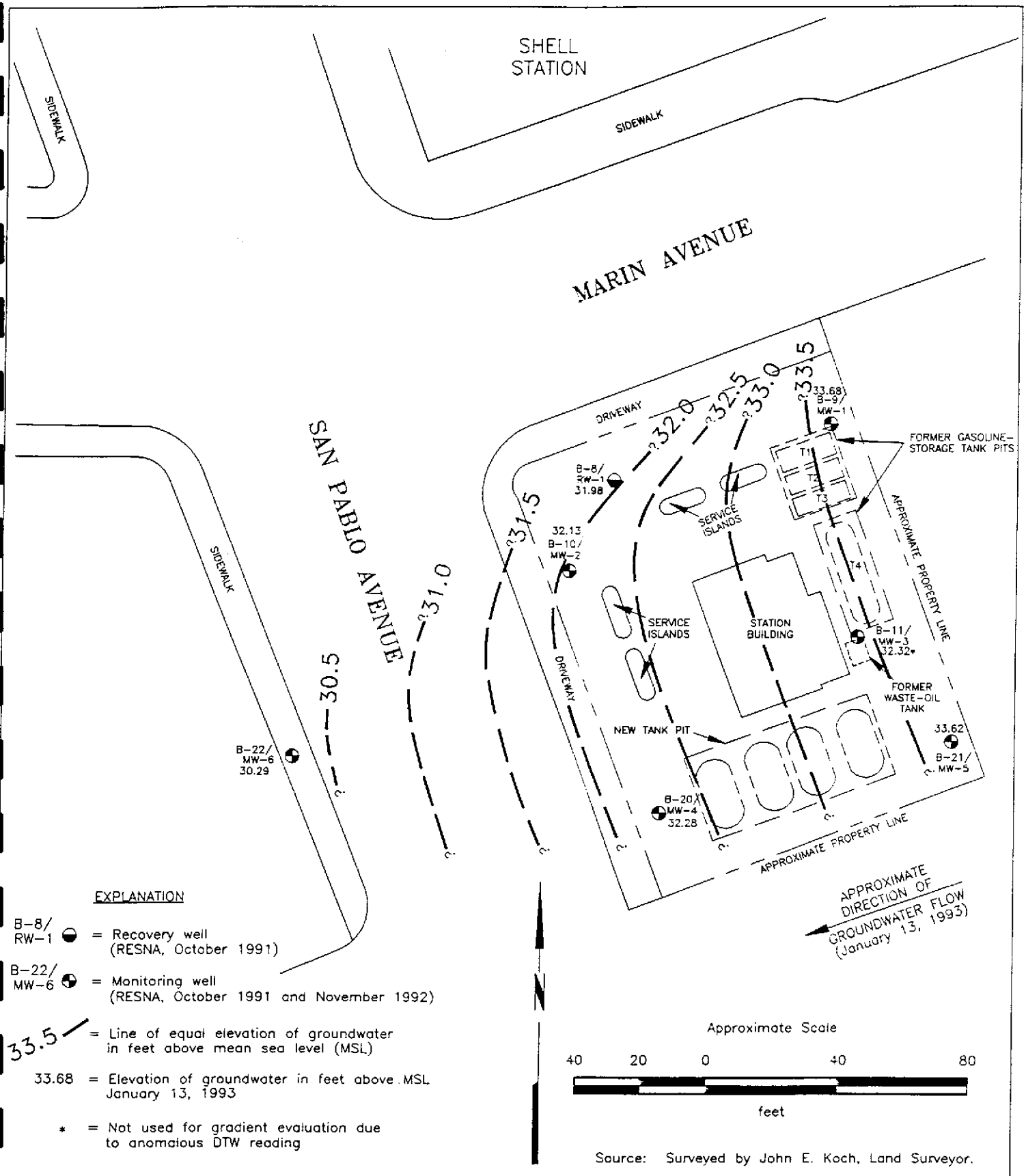
Source: Surveyed by John E. Koch, Land Surveyor.

RESNA
Working to Restore Nature

PROJECT 69036.08 690368SP

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

PLATE
2



EXPLANATION

B-8/RW-1 = Recovery well (RESNA, October 1991)

B-22/MW-6 = Monitoring well (RESNA, October 1991 and November 1992)

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

33.68 = Elevation of groundwater in feet above MSL January 13, 1993

* = Not used for gradient evaluation due to anomalous DTW reading

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

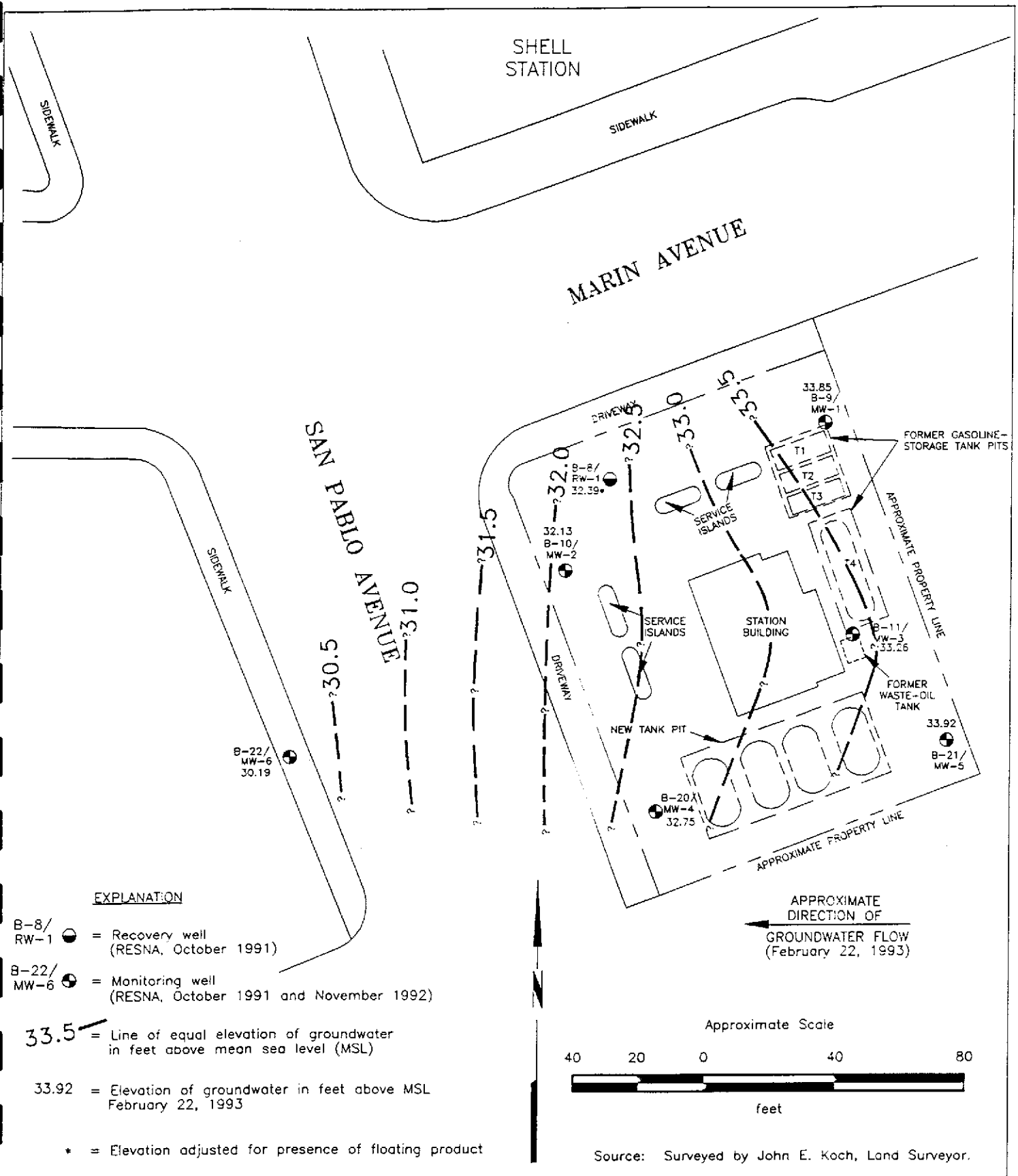
RESNA
Working to Restore Nature

PROJECT 69036.08 690368GW

GROUNDWATER GRADIENT MAP

ARCO Station 2035
1001 San Pablo Avenue
Albany, California

PLATE 3



EXPLANATION

B-8/RW-1 = Recovery well (RESNA, October 1991)

B-22/MW-6 = Monitoring well (RESNA, October 1991 and November 1992)

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

33.92 = Elevation of groundwater in feet above MSL February 22, 1993

* = Elevation adjusted for presence of floating product

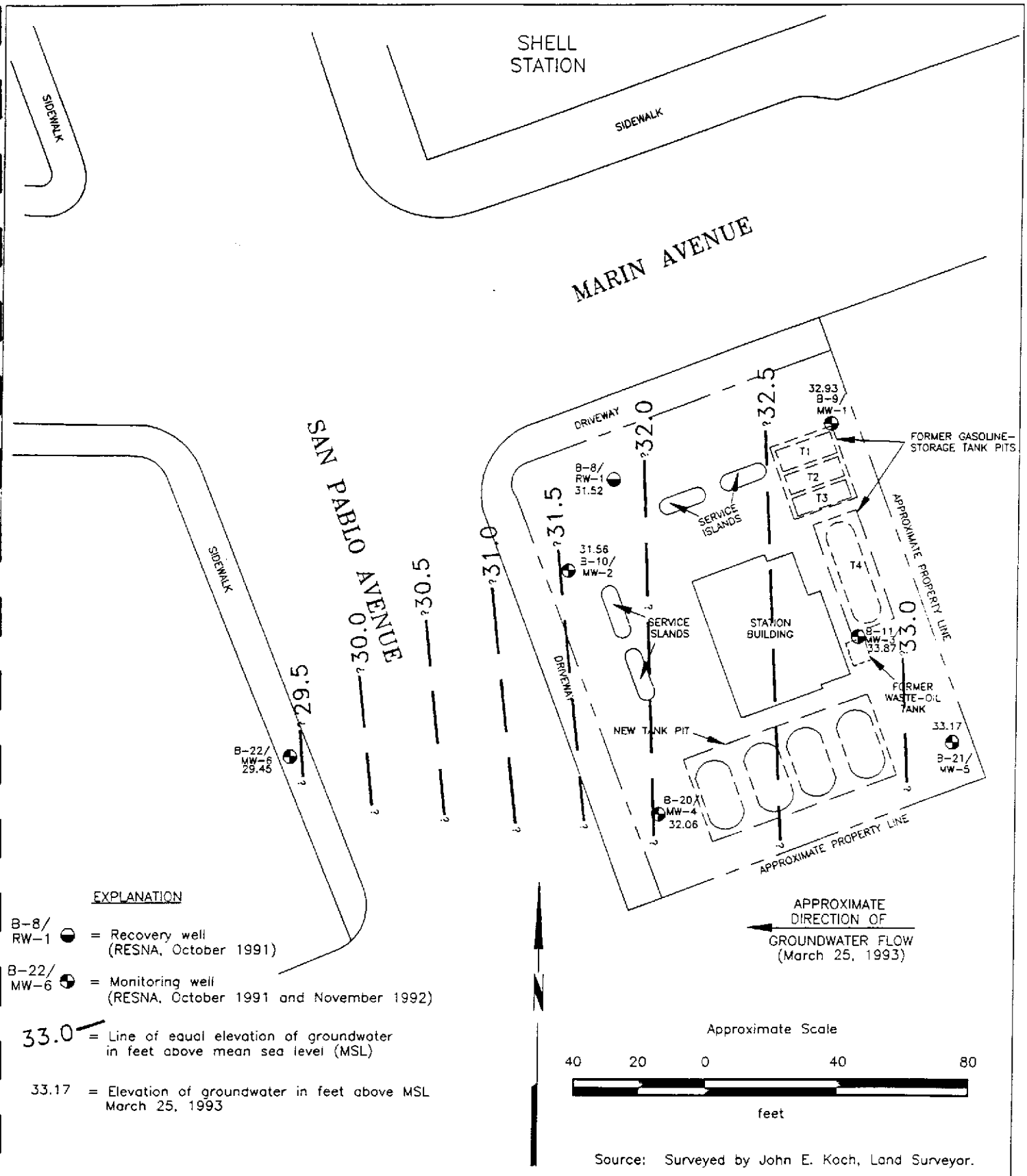
Source: Surveyed by John E. Koch, Land Surveyor.

RESNA
Working to Restore Nature

PROJECT 69036.08 690368GW

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

PLATE 4



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

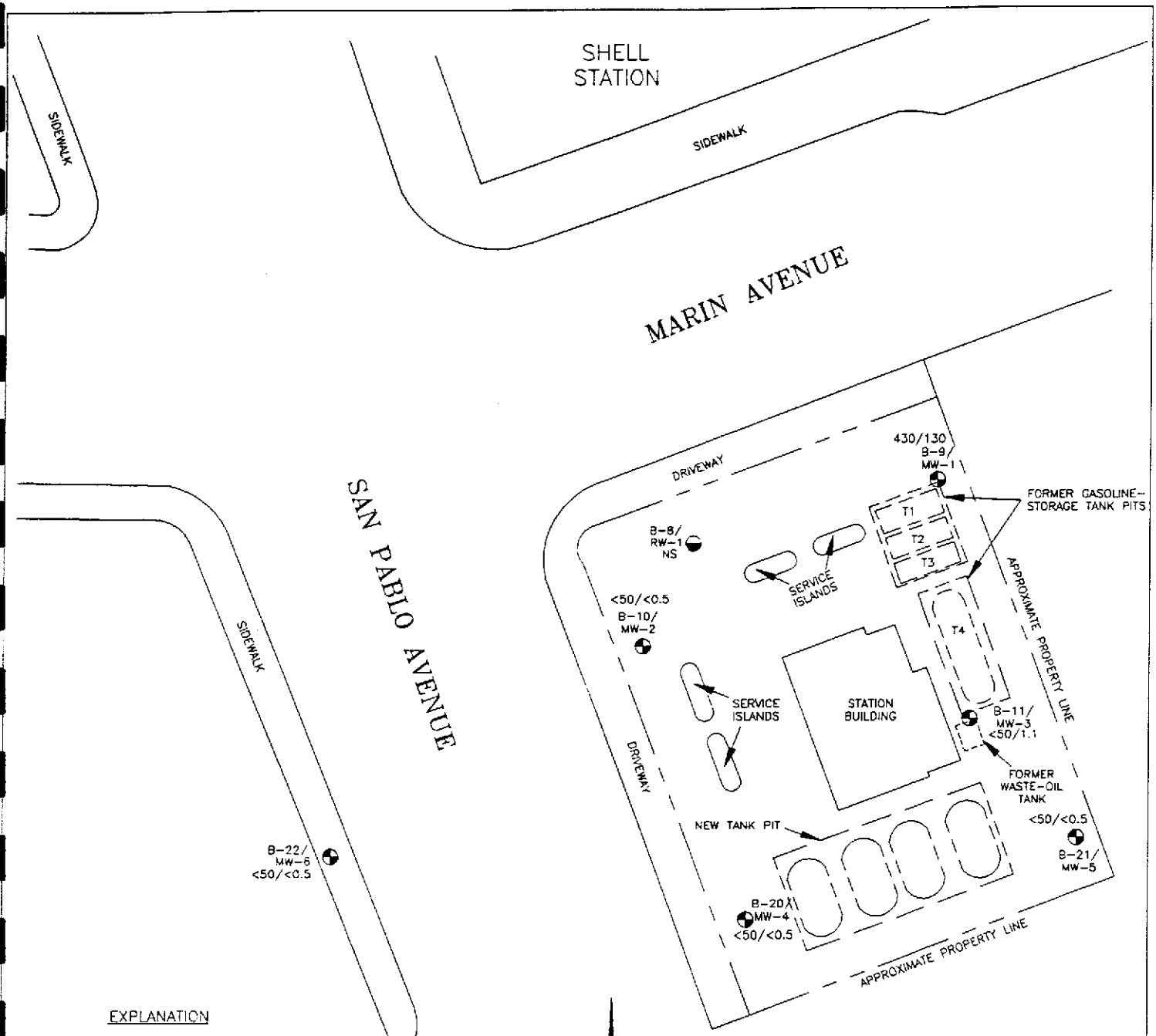
RESNA
Working to Restore Nature

PROJECT 69036.08 69036BGW

GROUNDWATER GRADIENT MAP

ARCO Station 2035
1001 San Pablo Avenue
Albany, California

PLATE
5



EXPLANATION

B-8/RW-1 = Recovery well (RESNA, October 1991)

B-22/MW-6 = Monitoring well (RESNA, October 1991 and November 1992)

430/130 = Concentration of TPHg/Benzene in groundwater, in ppb, January 13, 1993

NS = Not sampled due to floating product

N

Approximate Scale

40 20 0 40 80

feet

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

RESNA
Working to Restore Nature

PROJECT 69036.08 6903680W

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

PLATE 6

RESNA
Working To Restore Nature

Quarterly Groundwater Monitoring
ARCO Station 2035, Albany, California

April 29, 1993
69036.08

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2035
Albany, California
(Page 1 of 3)

Well / Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Evidence of Product
MW-1				
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
MW-2				
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
02/22/93		8.25	32.13	None
03/25/93		8.82	31.56	None

See notes on Page 3 of 3.

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2035
Albany, California
(Page 2 of 3)

Well Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Evidence of Product
MW-3				
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
MW-4				
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
MW-5				
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
MW-6				
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
RW-1				
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

See notes on Page 3 of 3.

RESNA
Working To Restore Nature

Quarterly Groundwater Monitoring
ARCO Station 2035, Albany, California

April 29, 1993
69036.08

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 2035
Albany, California
(Page 3 of 3)

Well Date	Elevation of Wellhead	Depth to Water	Elevation of Groundwater	Evidence of Product
RW-1 cont.				
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

Wellhead Elevation based on benchmark (B1198): A standard Bronze Disk in the sidewalk 0.8' behind the face of curb on the northerly side of Marin Avenue 6' +/- westerly of the curb return at the northeast corner of Marin Avenue and San Pablo Avenue at an elevation of 40.426 feet above mean sea level, City of Albany, California.

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.

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
MW-1					
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
MW-2					
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
MW-3					
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
MW-4					
01/13/93	<50	<0.5	1.3	<0.5	1.6
MW-5					
01/13/93	<50	<0.5	<0.5	<0.5	<0.5
MW-6					
01/13/93	<50	<0.5	<0.5	<0.5	<0.5
RW-1					
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				
MCL:	—	1	—	680	1,750
DWAL:	—	—	100	—	—

See notes on Page 2 of 2

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

Results in parts per billion (ppb).

TPHg:	Total petroleum hydrocarbons as gasoline by EPA Method 5030/8015/8020.
B: benzene, T: toluene, E: ethylbenzene, X: total xylenes isomers	
BTEX:	Analyzed by 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

April 29, 1993
69036.08

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

WELL DATE	TPHd	TOG	VOC	SVOC	PCB	Cd	Cr	Pb	Ni	Zn
MW-3										
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
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.
SVOC: 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).

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

Well Date	Product Thickness (feet)	Product Recovered (gallons)
YEAR: 1992		
RW-1		
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		
RW-1		
01/19/92	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
	1993 TOTAL:	0.5
	TOTAL 1992 and 1993:	23.3

Product measured and bailed by RESNA personnel.

APPENDIX A
EMCON'S FIELD REPORTS;
SUMMARY OF GROUNDWATER MONITORING DATA,
CERTIFIED ANALYTICAL REPORTS WITH CHAIN-OF-CUSTODY, AND
WATER SAMPLE FIELD DATA SHEETS

RESNA'S FIELD REPORTS

EMCON
ASSOCIATES
Consultants in Wastes Management and Environmental Control

FEB [illegible] 1993

Date February 4, 1993
Project 0G70-017.01

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

We are enclosing:

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

For your: X Information Sent by: X Mail

Comments:

Enclosed are the data from the first 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.

Jim Butera JB

Reviewed by:

REGISTERED PROFESSIONAL ENGINEER
ROBERT CURTIS PORTER
No: 4084
Exp. 4/30/96
INDUSTRIAL
STATE OF CALIFORNIA

Robert Porter, Senior Project Engineer.

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

FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : 0G70-017.01 STATION ADDRESS : 1001 San Pablo Ave. Albany, CA DATE : 1-13-93

ARCO STATION # : 2035 FIELD TECHNICIAN : REICHELDERFER / GALLEGOS 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-4	OK	YES	OK	3259	OK	8.05	8.05	ND	NA	25.1	—
2	MW-5	OK	YES	OK	DOLPHIN	OK	8.22	8.22	ND	NA	24.3	—
3	MW-6	OK	YES	OK	DOLPHIN	OK	9.84	9.84	ND	NA	24.3	—
4	MW-2	OK	YES	OK	3259	OK	8.25	8.25	ND	NA	28.7	—
5	MW-3	OK	YES	OK	3259	OK	9.12	9.12	ND	NA	33.0	—
6	MW-1	OK	YES	OK	3259	BAD	7.73	7.73	ND	NA	29.6	REPLACED LWC
7	RW-1	OK	YES	OK	3259	BAD	8.35	8.35	*NA	*NA	NA	*SKIMMER CONTAINS PRODUCT • METAL L.W.C. DOES NOT SEAL CORRECTLY — • NEEDS NEW L.W.C. • WATER IN BOX, @ CASING LEVEL

SURVEY POINTS ARE TOP OF WELL CASINGS

Summary of Groundwater Monitoring Data
First 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)	Hydro-carbons IR (ppm)*	Total Oil and Grease (ppm)*
MW-1(29)	01/13/93	7.73	ND.[2]	430.	130.	5.3	5.0	9.0	NR.[3]	NR.
MW-2(28)	01/13/93	8.25	ND.	<50.	<0.5	<0.5	<0.5	<0.5	NR.	NR.
MW-3(33)	01/13/93	9.12	ND.	<50.	1.1	<0.5	<0.5	<0.5	1.10	0.78
MW-4(25)	01/13/93	8.05	ND.	<50.	<0.5	1.3	<0.5	1.6	NR.	NR.
MW-5(24)	01/13/93	8.22	ND.	<50.	<0.5	<0.5	<0.5	<0.5	NR.	NR.
MW-6(24)	01/13/93	9.84	ND.	<50.	<0.5	<0.5	<0.5	<0.5	NR.	NR.
RW-1	01/13/93	11.45	FP.[4]	FP.	FP.	FP.	FP.	FP.	NR.	NR.
FB-1[5]	01/13/93	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 analized for the above listed parameter
4. FP. = Floating product; well was not sampled due to detection of floating product
5. FB. = Field blank
6. NA. = Not applicable
* = Reported as parts-per-million

Columbia Analytical Services, Inc.

January 27, 1993

Service Request No. SJ93-0050

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 January 14, 1993. For your reference, these analyses have been assigned our service request number SJ93-0050.

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/kt

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON Associates	**Date Received:**	01/14/93
Project:	EMCON Project No. 0G70-017.01	**Service Request No.:**	SJ93-0050
	Arco Facility No. 2035	**Sample Matrix:**	Water

Inorganic Parameters[1]
mg/L (ppm)

Sample Name:		MW-3 (33)	Method Blank
Date Sampled:		01/13/93	
Analyte	**Method**	**MRL**	
Total Oil and Grease	SM 5520C	0.5	0.78	ND
Hydrocarbons, IR	SM 5520F	0.5	1.10	ND

MRL Method Reporting Limit
ND None Detected at or above the method reporting limit
SM *Standard Methods for the Examination of Water and Wastewater*, 17th Ed., 1989
[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: Kevin Murphy Date: January 27, 1993

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON Associates	**Date Received:**	01/14/93
Project:	EMCON Project No. 0G70-017.01	**Service Request No.:**	SJ93-0050
	ARCO Facility No. 2035	**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 (33)
Date Analyzed:		01/21/93	01/20/93	01/20/93
Analyte	**MRL**			
Benzene	0.5	130.	ND	1.1
Toluene	0.5	5.3	ND	ND
Ethylbenzene	0.5	5.0	ND	ND
Total Xylenes	0.5	9.0	ND	ND
TPH as Gasoline	50	430.	ND	ND

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

Approved by: Edward Murphy Date: January 27, 1993

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON Associates	**Date Received:**	01/14/93
Project:	EMCON Project No. 0G70-017.01	**Service Request No.:**	SJ93-0050
	ARCO Facility No. 2035	**Sample Matrix:**	Water

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

Sample Name:		MW-4 (25)	MW-5 (24)	MW-6 (24)
Date Analyzed:		01/20/93	01/21/93	01/20/93
Analyte	**MRL**			
Benzene	0.5	ND	ND	ND
Toluene	0.5	1.3	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	1.6	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: Kevin A Murphy Date: January 27, 1993

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

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	EMCON Associates	**Date Received:**	01/14/93
Project:	EMCON Project No. 0G70-017.01	**Service Request No.:**	SJ93-0050
	ARCO Facility No. 2035	**Sample Matrix:**	Water

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

Sample Name:		FB-1	Method Blank	Method Blank
Date Analyzed:		01/20/93	01/20/93	01/21/93
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

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

Approved by: Kathleen Murphy Date: January 27, 1993

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

APPENDIX A

LABORATORY QC RESULTS

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON Associates	**Date Received:**	01/14/93
Project:	EMCON Project No. 0G70-017.01	**Service Request No.:**	SJ93-0050
	ARCO Facility No. 2035	**Sample Matrix:**	Water

Continuing Calibration Summary
Inorganics
SM5520
mg/L

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Criteria
Total Oil and Grease	4.0	3.42	78.	56-151

SM *Standard Methods for the Examination of Water and Wastewater,* 17th Ed., 1989

Approved by: Keeun A Murphy Date: January 23, 1993

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

Date Received: 01/14/93
Service Request No.: SJ93-0050
Sample Matrix: Water

Matrix Spike Summary
Total Recoverable Petroleum Hydrocarbons
SM5520
mg/L (ppm)

Sample Name: MW-3 (33)

Spike Level	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Criteria
6.15	1.10	5.72	5.56	75.	73.	56-151

SM *Standard Methods for the Examination of Water and Wastewater,* 17th Ed., 1989

Approved by: Keenan Murphy Date: January 27, 1993

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

Date Received: 01/14/93
Service Request No.: SJ93-0050

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

Date Analyzed: 01/20/93

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Criteria
Benzene	250.	244.	98.	85-115
Toluene	250.	252.	101.	85-115
Ethylbenzene	250.	232.	93.	85-115
Total Xylenes	750.	684.	91.	85-115
TPH as Gasoline	2,500.	2,708.	108.	90-110

Date Analyzed: 01/21/93

Analyte	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Criteria
Benzene	250.	252.	101.	85-115
Toluene	250.	258.	103.	85-115
Ethylbenzene	250.	239.	96.	85-115
Total Xylenes	750.	687.	92.	85-115
TPH as Gasoline	2,500.	2,273.	91.	90-110

TPH Total Petroleum Hydrocarbons

Approved by: Karen Murphy Date: January 27, 1993

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON Associates	**Date Received:**	01/14/93
Project:	EMCON Project No. 0G70-017.01	**Service Request No.:**	SJ93-0050
	ARCO Facility No. 2035	**Sample Matrix:**	Water

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

Sample Name	Date Analyzed	Percent Recovery α,α,α-Trifluorotoluene
MW-1 (29)	01/21/93	105.
MW-2 (28)	01/20/93	109.
MW-3 (33)	01/20/93	109.
MW-4 (25)	01/20/93	110.
MW-5 (24)	01/21/93	104.
MW-6 (24)	01/20/93	107.
FB-1	01/20/93	109.
MW-2 (28) MS	01/20/93	113.
MW-2 (28) DMS	01/20/93	113.
Method Blank	01/20/93	102.
Method Blank	01/21/93	104.
CAS Acceptance Criteria		70-130

TPH Total Petroleum Hydrocarbons

Approved by: Kevin Murphy Date: January 27, 1993

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

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	EMCON Associates	**Date Received:**	01/14/93
Project:	EMCON Project No. 0G70-017.01	**Service Request No.:**	SJ93-0050
	ARCO Facility No. 2035	**Sample Matrix:**	Water

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

Sample Name: MW-2 (28)
Date Analyzed: 01/20/93

			Spike Result		Percent Recovery		CAS Acceptance
Analyte	Spike Level	Sample Result	MS	DMS	MS	DMS	Criteria
Benzene	25.	ND	25.2	25.4	101.	102.	39-150
Toluene	25.	ND	25.1	25.3	100.	101.	46-148
Ethylbenzene	25.	ND	24.5	24.5	98.	98.	32-160

ND None Detected at or above the method reporting limit

Approved by: _____ Date: January 27, 1993

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

APPENDIX B

CHAIN OF CUSTODY

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

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. EMCGC-92-1

Chain of Custody

ARCO Facility no. 2035	City (Facility) Albany	Project manager (Consultant) JIM BUTERA	Laboratory name CAS
ARCO engineer Kyle Christie	Telephone no. (ARCO) 415 571-2434	Telephone no. (Consultant) 453-0719	Fax no. (Consultant) 453-0452
Consultant name EMCON Associates	Address (Consultant) 1938 Junction Ave San Jose		Contract number 07077

Method of shipment: sampler will deliver

Special detection Limit/reporting: Lowest Possible

Special QA/QC: As Normal

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH GAS EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	3520 C&F Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ Semi VOA ☐ VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
MW-1 (29')	1-2	2		X		X	HCl	1-13-93	1512		X											
MW-2 (28')	3-4	2		X		X	HCl		1355		X											
MW-3 (33')	5-6	6		X		X	HCl		1429		X		X									
MW-4 (25')	7-8	2		X		X	HCl		1225		X											
MW-5 (24')	9-10	2		X		X	HCl		1250		X											
MW-6 (24')	11-12	2		X		X	HCl		1320		X											
RW-1 (—)		2		X		X	HCl		—		X	no Sample	Product In well									
FB-1	BM	2		X		X	HCl	▼	1340		X											

Remarks: 2-40 ml HCl VOA's; 4-Liter HCl GLASS OG-70-01701 IR added per J. Butera H.F. 1-14-93

17

Lab number: SJ93-0050

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: Manuel L. Gallegos	Date: 1-14-93	Time: 0958	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by laboratory:	Date: 1-14-93	Time: 10:00

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

APPC-3292 (2-91)

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0670-017.01 SAMPLE ID: MW-1 (29)

PURGED BY: REICHELDERFER/GALLEGOS CLIENT NAME: ARCO 2035

SAMPLED BY: ↓ LOCATION: 1001 SAN PABLO AVE ALBANY, CA

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

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

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	14.90
DEPTH TO WATER (feet):	7.56	CALCULATED PURGE (gal.):	43 20
DEPTH OF WELL (feet):	29.6	ACTUAL PURGE VOL. (gal.):	43.50

DATE PURGED: 1-13-93 Start (2400 Hr) 1453 End (2400 Hr) 1505

DATE SAMPLED: 1-13-93 Start (2400 Hr) 1512 End (2400 Hr) 1514

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1456	14.50	6.92	578	64.7	CLOUDY	LIGHT
1500	29.00	6.85	772	65.1	↓	↓
1505	43.50	6.94	778	66.1		

D. O. (ppm): NR ODOR: ~~NONE~~ SLIGHT 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		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
X 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 #: 0464

REMARKS: ___

Meter Calibration: Date: 1-13-93 Time: 1200 Meter Serial #: 9203 Temperature °F: ___

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

Location of previous calibration: MW-4

Signature: Kevin Reichelderfer Reviewed By: JG Page 1 of 7

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0670-017.01 SAMPLE ID: MW-2 (28)

PURGED BY: REICHELDERFER/GALLEGOS CLIENT NAME: ARCO 2035

SAMPLED BY: ↓ LOCATION: 1001 SAN PABLO AVE ALBANY, CA

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

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

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	13.46
DEPTH TO WATER (feet):	8.10	CALCULATED PURGE (gal.):	40.38
DEPTH OF WELL (feet):	28.7	ACTUAL PURGE VOL. (gal.):	40.50

DATE PURGED: 1-13-93 Start (2400 Hr) 1340 End (2400 Hr) 1349

DATE SAMPLED: 1-13-93 Start (2400 Hr) 1355 End (2400 Hr) 1357

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1343	13.50	6.80	771	66.1	BROWN	MODERATE
1346	27.00	6.81	790	66.4	↓	↓
1349	40.50	6.73	798	67.0	↓	↓

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

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): FB-1 (1340)

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
X 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: ___

Meter Calibration: Date: 1-13-93 Time: 1200 Meter Serial #: 9203 Temperature °F: ___

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

Location of previous calibration: MW-4

Signature: Kevin Reichelderfer Reviewed By: AB Page 2 of 7

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0670-017.01 SAMPLE ID: MW-3(33)

PURGED BY: REICHELDERFER/GALLEGOS CLIENT NAME: ARCO 2035

SAMPLED BY: ↓ LOCATION: 1001 SAN PABLO AVE ALBANY, CA

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

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

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	15.58
DEPTH TO WATER (feet):	9.15	CALCULATED PURGE (gal.):	46.75
DEPTH OF WELL (feet):	33.0	ACTUAL PURGE VOL. (gal.):	47.00

DATE PURGED: 1-13-93 Start (2400 Hr) 1408 End (2400 Hr) 1420

DATE SAMPLED: 1-13-93 Start (2400 Hr) 1429 End (2400 Hr) 1438

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1411	16.00	6.90	766	63.4	BROWN	MODERATE
1414	32.00	6.89	809	64.0	↓	↓
1420	47.00	6.88	739	64.9	↓	HEAVY

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

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: ___

Meter Calibration: Date: 1-13-93 Time: 1200 Meter Serial #: 9203 Temperature °F: ___

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

Location of previous calibration: MW-4

Signature: [signature] Reviewed By: [signature] Page 3 of 7

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0670-017.01 SAMPLE ID: MW-4(25)

PURGED BY: REICHELDERFER/GALLEGOS CLIENT NAME: ARCO 2035

SAMPLED BY: ↓ LOCATION: 1001 SAN PABLO AVE ALBANY, CA

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

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

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	11.14
DEPTH TO WATER (feet):	8.05	CALCULATED PURGE (gal.):	33.42
DEPTH OF WELL (feet):	25.1	ACTUAL PURGE VOL. (gal.):	26.00

DATE PURGED: 1-13-93 Start (2400 Hr) 1200 End (2400 Hr) 1210

DATE SAMPLED: 1-13-93 Start (2400 Hr) 1225 End (2400 Hr) 1227

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1204	11.50	6.78	981	65.1	BROWN	HEAVY
1207	23.00	6.81	924	66.7	↓	↓
1210	WELL DRIED @ 26.00 GALLONS					
1228	RECHARGE	6.77	830	66.6	BROWN	HEAVY

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			SAMPLING EQUIPMENT		
___ 2" Bladder Pump	___ Bailer (Teflon®)		___ 2" Bladder Pump	X Bailer (Teflon®)	
X 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:
- 1210 WELL DRIED @ 26.00 GALLONS
- 1220 DTW 14.19
- HEAVY EXHAUST EMISSIONS FROM NEARBY CAR WHILE SAMPLING

Meter Calibration: Date: 1-13-93 Time: 1200 Meter Serial #: 9203 Temperature °F: 59.5

(EC 1000 974 / 1000) (DI 6.71) (pH 7 7.10 / 7.00) (pH 10 9.89 / 10.00) (pH 4 3.92 / ___)

Location of previous calibration: ___

Signature: Kevin Reichelderfer Reviewed By: JB Page 4 of 7

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0670-017.01 SAMPLE ID: MW-5 (24)

PURGED BY: REICHELDERFER/GALLEGOS CLIENT NAME: ARCO 2035

SAMPLED BY: ↓ LOCATION: 1001 SAN PABLO AVE ALBANY, CA

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

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

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	10,49
DEPTH TO WATER (feet):	8.24	CALCULATED PURGE (gal.):	31,48
DEPTH OF WELL (feet):	24.3	ACTUAL PURGE VOL. (gal.):	31,50

DATE PURGED: 1-13-93 Start (2400 Hr) 1232 End (2400 Hr) 1244

DATE SAMPLED: 1-13-93 Start (2400 Hr) 1250 End (2400 Hr) 1257

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1234	10,50	6,96	844	64,3	BROWN	HEAVY
1237	21,00	7,02	849	65,3	↓	↓
1244	31,50	7,04	774	65,4	↓	↓

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		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	X Bailer (Teflon®)
X 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 #: [illegible] DOLPHIN

REMARKS: ___

Meter Calibration: Date: 1-13-93 Time: 1200 Meter Serial #: 9203 Temperature °F: ___

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

Location of previous calibration: MW-4

Signature: Kevin Reichelderfer Reviewed By: JB Page 5 of 7

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: OG70-017.01 SAMPLE ID: MW-6(24)

PURGED BY: REICHELDERFER/GALLEGOS CLIENT NAME: ARCO 2035

SAMPLED BY: ↓ LOCATION: 1001 SAN PABLO AVE ALBANY, CA

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

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

CASING ELEVATION (feet/MSL):	NR	VOLUME IN CASING (gal.):	2.36
DEPTH TO WATER (feet):	9.84	CALCULATED PURGE (gal.):	7.09
DEPTH OF WELL (feet):	24.3	ACTUAL PURGE VOL. (gal.):	7.50

DATE PURGED: 1-13-93 Start (2400 Hr) 1310 End (2400 Hr) 1315

DATE SAMPLED: 1-13-93 Start (2400 Hr) 1320 End (2400 Hr) 1322

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1310	2.50	7.09	862	63.9	BROWN	HEAVY
1312	5.00	7.10	866	64.3		
1315	7.50	7.09	864	64.4	↓	↓

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		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	X Bailer (Teflon®)	___ 2" Bladder Pump	X 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 #: 3 DOLPHIN

REMARKS: ___

Meter Calibration: Date: 1-13-93 Time: 12:00 Meter Serial #: 9203 Temperature °F: ___

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

Location of previous calibration: MW-4

Signature: [signature] Reviewed By: GB Page 6 of 7

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0670-017.01 SAMPLE ID: RW-1

PURGED BY: REICHELDERFER/GALLEGOS CLIENT NAME: ARCO 2035

SAMPLED BY: ↓ LOCATION: 1001 SAN PABLO AVE ALBANY, CA

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

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

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

DEPTH TO WATER (feet): 8.35 CALCULATED PURGE (gal.): NA

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

DATE PURGED: 1-13-93 Start (2400 Hr) NA End (2400 Hr) NA

DATE SAMPLED: NA Start (2400 Hr) NA End (2400 Hr) NA

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
NO SAMPLE - PRODUCT IN WELL; SKIMMER CONTAINED PRODUCT						

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

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

PURGING EQUIPMENT		SAMPLING EQUIPMENT	
___ 2" Bladder Pump	___ Bailer (Teflon®)	___ 2" Bladder Pump	___ 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: NA		Other: NA	

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: METAL L.W.C. DOES NOT SEAL CORRECTLY; NEEDS NEW L.W.C.

Meter Calibration: Date: ___ Time: ___ Meter Serial #: ___ Temperature °F: ___

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

Location of previous calibration: ___

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

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

Date February 25, 1993
Project 0G70-017.01

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

We are enclosing:

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

For your: X Information Sent by: X Mail

Comments:
Monthly water level data for the above mentioned site are attached. Please call if you have any questions: (408) 453-2266.

Reviewed by:

REGISTERED PROFESSIONAL ENGINEER ROBERT CURTIS PORTER No: 4034 Exp 4/30/96 INDUSTRIAL STATE OF CALIFORNIA

Jim Butera JB

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 : 2-22-93

ARCO STATION # : 2035 FIELD TECHNICIAN : L. RATH DAY : MONDAY

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-4	OK	YES	OK	2359	OK	7.58	7.58	NO	NO	25.1	—
2	MW-5	OK	YES	OK	Dolphin	OK	7.92	7.92	NO	NO	24.1	—
3	MW-6	OK	YES	OK	Dolphin	OK	4.94	4.94	NO	NO	24.3	—
4	MW-2	OK	YES	OK	2359	OK	8.25	8.25	NO	NO	28.7	—
5	MW-3	OK	YES	OK	2359	OK	8.18	8.18	NO	NO	33.0	—
6	MW-1	OK	YES	OK	2359	OK	7.56	7.56	NO	NO	29.6	~~29.6~~
7	RW-1	OK	YES	OK	Slip cap	Slip cap	7.95	7.95	7.94	0.01	25.1	Skimmer in well; skimmer valve was found open. Fluid in skimmer drained out while I was pulling it up. Valve is now closed

SURVEY POINTS ARE TOP OF WELL CASINGS

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

Date April 1, 1993
Project 0G70-017.01

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

We are enclosing:

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

For your: X Information Sent by: X Mail

Comments:
Monthly water level data for the above mentioned site are attached. Please call if you have any questions: (408) 453-2266.

Reviewed by:

REGISTERED PROFESSIONAL ENGINEER ROBERT CURTIS PORTER No: 4034 Exp. 6/30/96 INDUSTRIAL STATE OF CALIFORNIA

Jim Butera

Robert C 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 : 3-25-93

ARCO STATION # : 2035 FIELD TECHNICIAN : B. Stafford DAY : Thursday

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-4	ok	Yes	ok	3259	Yes	8.27	8.27	ND	ND	25.0	—
2	MW-5	ok	Yes	ok	Dolphin	Yes	8.67	8.67	ND	ND	24.3	—
3	MW-6	ok	Yes	ok	Dolphin	Yes	10.68	10.68	ND	ND	24.3	—
4	MW-2	ok	Yes	ok	3259	Yes	8.82	8.82	ND	ND	28.6	—
5	MW-3	ok	Yes	ok	3259	Yes	8.57	8.57	ND	ND	32.9	Slight odor
6	MW-1	ok	Yes	ok	3259	Yes	8.48	8.48	ND	ND	29.7	H2O in C. Box
7	RW-1	ok	Yes	ok	None	Slipcap	8.81	8.81	ND	ND	NR	skimmer in well. No Product V. Strong Odor

SURVEY POINTS ARE TOP OF WELL CASINGS

FIELD REPORT
SKIMMER INSPECTION/FLOATING PRODUCT REMOVAL

DATE: 1-19-93

SITE: 2R40 2035

ADDRESS: [illegible]

JOB #: 2036.02

FIELD TECHNICIAN: EC

WELL NO/ TIME	ODOR (OBS)	SHEEN (H,M,S-EMUL., COLOR)	PROD(FRESH (TRANSCLU-SCENT), DEGRADED(DK.BR.),ASPHALTINE(DK,VISCOUS)	WELL ELEV	DTP	DTW	TOT. DET.	WAT. EL.
MW-1	Strong		Degraded		8.42	8.43		

PRODUCT REMOVED: 0.5 gallon

Notes:

FIELD REPORT
SKIMMER INSPECTION/FLOATING PRODUCT REMOVAL

DATE: 1-29-93

SITE: ARCO 2031

ADDRESS: Albany

JOB #: 69036.18

FIELD TECHNICIAN: Rob

WELL NO/ TIME	ODOR (OBS)	SHEEN (H,M,S-EMUL., COLOR)	PROD(FRESH (TRANSCLU-SCENT), DEGRADED(DK.BR.),ASPHALTINE(DK,VISCOUS)	WELL ELEV	DTP	DTW	TOT. DET.	WAT. EL.
MW-1	Strong	—	Degraded		8.60	8.59		
			D. Black					

PRODUCT REMOVED: 0.5 gallons w SLIMMER

Approximately 12-13 gallons in drum of product

Notes:

FIELD REPORT
SKIMMER INSPECTION/FLOATING PRODUCT REMOVAL

DATE: 2-11-93

SITE: Arco 2185

ADDRESS: Albany

JOB #: 0902610

FIELD TECHNICIAN: [illegible]

WELL NO/ TIME	ODOR (OBS)	SHEEN (H,M,S-EMUL., COLOR)	PROD(FRESH (TRANSCLU-SCENT), DEGRADED(D K.BR.),AS-PHALTINE(D K,VISCOUS)	WELL ELEV	DTP	DTW	TOT. DET.	WAT. EL.
MW 1	Strong	Sheen	Gry/Degraded			8.20		

PRODUCT REMOVED:

Notes:

FIELD REPORT
SKIMMER INSPECTION/FLOATING PRODUCT REMOVAL

DATE: 3-2-93

SITE: [illegible]

ADDRESS: [illegible]

JOB #: 9036.12

FIELD TECHNICIAN: [illegible]

WELL NO/ TIME	ODOR (OBS)	SHEEN (H,M,S-EMUL.; COLOR)	PROD(FRESH (TRANSCLU-SCENT), DEGRADED(D K.BR.),AS-PHALTINE(D K,VISCOUS)	WELL ELEV	DTP	DTW	TOT. DET.	WAT. EL.
MW-1	Sheen Only					8.22		

PRODUCT REMOVED:

Notes:

FIELD REPORT
SKIMMER INSPECTION/FLOATING PRODUCT REMOVAL

DATE: 2-11-93

SITE: [illegible]

ADDRESS:

JOB #: 690[illegible]

FIELD TECHNICIAN: [illegible]

WELL NO/ TIME	ODOR (OBS)	SHEEN (H,M,S-EMUL., COLOR)	PROD(FRESH (TRANSCLU-SCENT), DEGRADED(DK.BR.),ASPHALTINE(DK,VISCOUS)	WELL ELEV	DTP	DTW	TOT. DET.	WAT. EL.
MW-1		Sheen	Only			8.73		
			Degraded	Gas.				

PRODUCT REMOVED:

Notes:

FIELD REPORT
SKIMMER INSPECTION/FLOATING PRODUCT REMOVAL

DATE: 3-23-93

SITE: [illegible]

ADDRESS: [illegible]

JOB #: 39026.12

FIELD TECHNICIAN: [illegible]

WELL NO/ TIME	ODOR (OBS)	SHEEN (H,M,S-EMUL., COLOR)	PROD(FRESH (TRANSCLU-SCENT), DEGRADED(DK.BR.),ASPHALTINE(DK,VISCOUS)	WELL ELEV	DTP	DTW	TOT. DET.	WAT. EL.
RW-1	Slight	only				9.45		

PRODUCT REMOVED:

Notes: