

3315 Almaden Expressway, Suite 34

San Jose, CA 95118 Phone: (408) 264-7723 FAX: (408) 264-2435

## TRANSMITTAL

TO: Mr. Scott Seery

Alameda County Health Care Services

80 Swan Way, Room 200

Oakland, California 94621

**DATE:** April 2, 1993

PROJECT NUMBER: 60006.05 SUBJECT: ARCO Station 6041,

7249 Village Parkway, Dublin

FROM: Barbara Sieminski

TITLE: Assistant Project Geologist

WE ARE SENDING YOU:

COPIES	DATED	NO.	DESCRIPTION							
1	4/2/93	60006.05	Final - Letter Report Quarterly Groundwater Monitoring, Fourth Quarter 1992 for the above subject site.							

## THESE ARE TRANSMITTED as checked below:

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

REMARKS: cc: Mr. Michael Whelan, ARCO Products Company

Mr. Richard Hiett, RWQCB, San Francisco Bay Region

Mr. Joel Coffman, RESNA Industries Inc.

Copies: 1 to RESNA project file no. 60006.05

93,33174 33 500

January 13, 1993

Ms. Susan Hugo Alameda County Department of Environmental Health 80 Swan Way Oakland, California 94621

## ARCO Products Company Facilities in Alameda County

Dear Ms. Hugo:

Please find attached, Quarterly Summary Reports (QSRs) for ARCO Products Company Service Stations in Alameda County. The QSRs summarize activities conducted by ARCO at the respective sites during the fourth quarter of 1992; also included are projected site activities for the first quarter of 1993 and a bibliography of reports submitted for each location.

The QSRs are classified by city and address within Alameda County. We are submitting this document and attached QSRs as agreed. Please note that we are forwarding copies of the QSRs to the Regional Water Quality Control Board (RWQCB).

Please note that ARCO Products Company has reviewed the RWQCB's February 19, 1991 printout of ARCO fuel leak sites. We have evaluated each site with respect to ARCO's responsibility for investigation, monitoring, and/or remediation. Those locations for which ARCO is not responsible were listed and described in the QSR package delivered to you on July 15, 1991. The attached QSRs therefore represent only those locations for which ARCO is responsible. Please do not hesitate to contact us with any questions regarding this submittal.

Sincerely yours,

Kyle A. Christie

Environmental Engineer

Paraul Move

Attachments:

ARCO Facility QSRs

UST LEAK Date of Last SITE UPDATE Review/Update September 25, 1992	Current Date December 28, 1992
SITE IDENTIFICATION	
Name ARCO Products Company 6041	Case No.
Address 7249 Village Parkway	
Street Number Street	
Dublin	
City	ZIP Code
County Alameda	Substance Gasoline
Local Agency Alameda County Health Care Services Agency	<del></del>
Regional Board Regional Water Quality Control Board - San Francisco Bay Area	
LEAD STAFF PERSON ACHCSA-Scott Seery	
CASE TYPE	
Undetermined Soil OnlyX Groundw	vater Drinking Water
STATUS (Date indicates when case moved into status)	
No Action Taken	
X Leak Being Confirmed	Date <u>9/26/90</u>
X Preliminary Site Assessment Workplan Submitted	Date 8/22/91
X Preliminary Site Assessment Underway	Date <u>9/91</u>
Pollution Characterization	Date
Remediation Plan	Date
Remedial Action Underway	Date
Post Remedial Action Monitoring	Date
Case Referred to Regional Board	Date
Case Referred to Dept. of Health Services	Date
Case Closed	Date
COMMENTS/MILESTONES:  Waste-oil tank removed from site in June 1990; approximately 20 cubic yards of soil warea of former waste-oil tank (soil samples nondetectable). In response to a reporter 9/26/90. Drilled borings (B-1-B-3) and installed groundwater wells (MW-1-MW-3) on 9/16 (MW-4 through MW-6) and four vapor extraction wells (VW-1-VW-4) on 10/26-27/92.	d fuel spill, soil samples were collected on 6/92. Installed three onsite monitoring wells
RECENT ACTIVITIES/FINDINGS: Last Quarter Activities: Monthly groundwater monitoring and quarterly groundwater sam 1992 Quarterly Groundwater Monitoring Report was submitted. Submitted drafted Work Subsurface Investigation on 9/29/92. Obtained permits for offsite wells.	npling were performed. The Second Quarter Plan for Initial Offsite and Additional Onsite
Current Quarter Activities: Monthly groundwater monitoring and quarterly groundwater Quarter 1992 Quarterly Groundwater Monitoring Report to regulatory agencies. Drilled & 4-MW-6) and four vapor extraction wells (VW-1-VW-4) on 10/26-27/92. Developed & surv VET on 11/10/92. Initiated preparation of Additional Onsite Subsurface Investigation 6	installed three onsite monitoring wells (MW- reyed wells MW-4 through MW-6. Performed
ANTICIPATED ACTIVITIES:	
Next Quarter Activities: Continue monthly groundwater monitoring and quarterly samplinvestigation & VET Report to regulatory agencies. Install recovery well & perform purpending review of nearby UST sites.	pling. Submit Additional Onsite Subsurface mping test. Offsite portion of work on hold
Reports documenting the site's history are listed on page 2.	

USTARCO.FRM/12/90/ssj

REPORT	DATE	CONSULTANT
Letter Report Third Quarter 1992 Groundwater Monitoring 60006.03	12/31/92	RESNA
Letter Report Second Quarter 1992 Groundwater Monitoring 60006.03	9/30/92	RESNA
Work Plan for Initial Offsite & Additional Onsite Subsurface Investigation 60006.04	9/29/92	RESNA
Letter Report First Quarter 1992 Groundwater Monitoring 60006.03	5/1/92	RESNA
Letter Report Fourth Quarter 1991 Groundwater Monitoring Report 60006.03	3/7/92	RESNA
Work Plan for Subsurface Investigation and Remediation at ARCO 6041 60006.02	8/22/91	RESNA/Applied GeoSystems
Addendum One to Work Plan Subsurface Investigation at ARCO Station 6041 60006.02	8/22/91	RESNA/Applied GeoSystems
Letter Report-Umited Subsurface Investigation Related to the Removal of Waste-Oil Tank at ARCO Station 6041 60006.01	9/19/90	Applied GeoSystems



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

# LETTER REPORT QUARTERLY GROUNDWATER MONITORING Fourth Quarter 1992 at ARCO Station 6041

7249 Village Parkway Dublin, California

60006.05

April 1993



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

> April 2, 1993 0325MWHE 60006.05

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

Subject:

Fourth Quarter 1992 Groundwater Monitoring Report for ARCO Station

6041, 7249 Village Parkway, Dublin, California.

Mr. Whelan:

As requested by ARCO Products Company (ARCO), RESNA Industries Inc. (RESNA) has prepared this letter report which summarizes the results of fourth quarter 1992 groundwater monitoring performed by ARCO's contractor, EMCON Associates (EMCON) of San Jose, California, 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 previously detected 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 depthto-water (DTW) levels, 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 direction of EMCON; evaluation and warrant of their field data and field protocols is beyond RESNA Industries Inc.'s (RESNA's) scope of work. RESNA's scope of work was limited to interpretation of field and laboratory analyses data, which included evaluating trends in reported hydrocarbon concentrations in the local groundwater, the groundwater gradient, and flow direction beneath the site.

The operating ARCO Station 6041 is located in the northern corner of the intersection of Village Parkway and Amador Valley Boulevard in a commercial and residential area at 7249 Village Parkway, in Dublin, California. The site location is shown on the Site Vicinity Map, Plate 1.



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

## **Groundwater Sampling and Gradient Evaluation**

DTW levels were measured in groundwater monitoring wells MW-1 through MW-3 by RESNA field personnel on October 26, 1992, and in groundwater monitoring wells MW-1 through MW-6 by EMCON field personnel on November 10 and December 14, 1992. At the request of Mr. Scott Seery of Alameda County Health Care Services Agency (ACHCSA) the November monitoring of the wells at the ARCO site was coordinated with monitoring of the wells at three other sites located at the intersection of Village Parkway and Amador Boulevard (BP, former Shell, and Unocal Stations) to obtain more complete data for gradient evaluation. Quarterly sampling was performed by EMCON field personnel on November 10, 1992. The results of RESNA's and EMCON's field work on the site, including DTW levels and subjective analyses for the presence of product in the groundwater in onsite wells are presented on RESNA's and EMCON's Field Reports, and EMCON's Summary of Groundwater Monitoring Data. These data are included in Appendix A.

The DTW levels, wellhead elevations, groundwater elevations, and subjective observations of product in the groundwater from wells at the subject site for this and previous quarters are summarized in Table 1, Cumulative Groundwater Monitoring Data. DTW levels, wellhead elevations and groundwater elevations for groundwater monitoring wells at BP, former Shell, and Unocal Stations are reported in Table 2, Groundwater Monitoring Data; BP, Former Shell, and Unocal Stations. Evidence of product or sheen was not observed during this quarter in any of the wells at the ARCO site (see RESNA's and EMCON's Field Reports, Appendix A). The groundwater gradient, interpreted from RESNA's DTW levels for October 1992, and EMCON's DTW levels for November and December 1992, was approximately 0.002 ft/ft. The flow direction fluctuated from the south-southeast in October, to east-southeast in November, and to east-northeast in December. measurements obtained on November 10, 1992, from wells located at BP, former Shell, and Unocal Stations were used to evaluate the gradient in the vicinity of ARCO Station 6041. The gradient in the vicinity of ARCO Station on November 10, 1992, was approximately 0.002 ft/ft toward east/southeast. This interpreted gradient is generally consistent with regional gradient direction. Plates 3 through 6, Groundwater Gradient Maps, are graphic interpretations of the groundwater elevations measured on October 26, November 10, and December 14, 1992. Plates 3 through 5 depict the groundwater gradient at the ARCO site, and Plate 6 depicts the groundwater gradient in the vicinity of the ARCO site.



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Groundwater monitoring wells MW-1 through MW-6 were purged and sampled by EMCON field personnel on November 10, 1992. EMCON's water sample field data sheets are included in Appendix A. Purge water was removed from the site by a licensed hazardous waste hauler; the Monitoring Well Purge Water Disposal Form is also included in Appendix A.

### **Laboratory Methods and Analyses**

Water samples collected from the wells MW-1 through MW-6 were analyzed by Columbia Analytical Services, Inc., located in San Jose, California (Hazardous Waste Testing Laboratory Certification No. 1426), and analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using modified Environmental Protection Agency (EPA) Methods 5030/8020/California DHS LUFT Methods. Concentrations of TPHg and benzene in the groundwater are shown on Plate 7, TPHg Concentrations in Groundwater; and Plate 8, Benzene Concentrations in Groundwater. The Chain of Custody Records and Laboratory Analyses Reports are included in Appendix A. Groundwater analytical results from this and previous quarters are summarized in Table 3, Cumulative Results of Laboratory Analyses of Groundwater.

Since the last quarter, concentrations of TPHg and BTEX remained nondetectable in well MW-2, increased in MW-1, and decreased in MW-3. Trends could not be evaluated for wells MW-4 through MW-6 because these wells were installed in October 1992.

#### **Conclusions**

Groundwater in the shallow aquifer beneath the southern and southwestern portions of this site has been impacted by gasoline hydrocarbons. The extent of gasoline hydrocarbons in the groundwater appears to have been delineated to less than 50 ppb of TPHg beneath the northwestern, northern and eastern portions of the site. Based on our limited review of groundwater monitoring data from sites situated adjacent to and across from the ARCO site (Unocal, BP, and former Shell) it appears that the local groundwater has been impacted by gasoline sources from several sites situated upgradient and crossgradient of the ARCO site. Therefore, it appears that other generators in the vicinity and upgradient of the ARCO site should be responsible for evaluating the presence of gasoline hydrocarbons offsite.



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It is recommended that copies of this report be forwarded to:

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

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



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

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☆

Sincerely,

RESNA Industries Inc.

Barbara Sieminski

Assistant Project Geologist

JAMES LEWIS

NELSON No. 1463

CERTIFIED ENGINEERING GEOLOGIST E OF CAUFORNIA

James L. Nelson

¢ertified Engineering

Geologist 1463

Enclosures: References

Plate 1, Site Vicinity Map

Plate 2, Generalized Site Plan

Plate 3, Groundwater Gradient Map, October 26, 1992

Plate 4, Groundwater Gradient Map, November 10, 1992

Plate 5, Groundwater Gradient Map, December 14, 1992

Plate 6, Aerial Groundwater Gradient Map, November 10, 1992

Plate 7, TPHg Concentrations in Groundwater, November 10, 1992

Plate 8, Benzene Concentrations in Groundwater, November 10, 1992

Table 1, Cumulative Groundwater Monitoring Data

Table 2, Cumulative Groundwater Monitoring Data; BP, Former Shell, and Unocal Stations

Table 3, Cumulative Results of Laboratory Analyses of Groundwater Samples

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

RESNA's Field Report

Monitoring Well Purge Water Disposal Form



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#### REFERENCES

- Alameda County Flood Control and Water Conservation District, Zone 7. January 16, 1991.

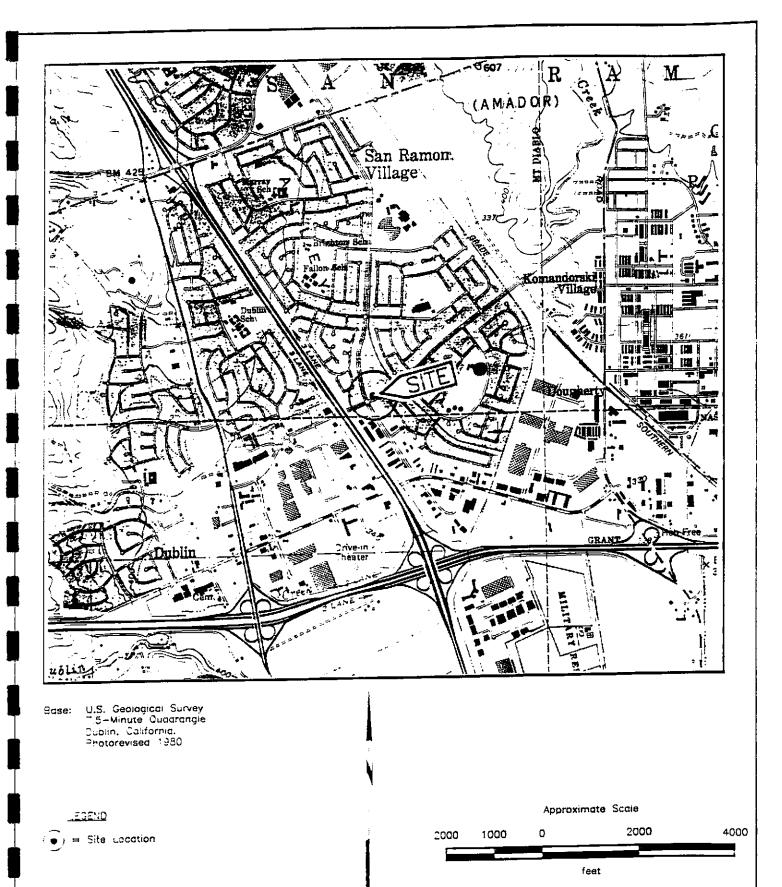
  Fall 1990 groundwater Level Report.
- Applied GeoSystems. September 19, 1990. <u>Letter Report Limited Environmental Investigation Related to the Removal of Waste-Oil Tank at ARCO Station 6041, 7249 Village Parkway, Dublin, California</u>. 60006-1.
- California Department of Water Resources, 1974. <u>Evaluation of Ground-Water Resources</u>
  <u>Engineering Livermore and Sunol Valleys:</u> Bulletin No. 118-2, Appendix A.
- Department of Health Services, State of California. October 24, 1990. <u>Summary of California Drinking Water Standards.</u>
- RESNA. August 22, 1991. Work Plan for Subsurface Investigation and Remediation at ARCO Station 6041, 7249 Village Parkway, Dublin, California. 60006.02.
- RESNA. August 22, 1991. Addendum One to Work Plan for Subsurface Investigation and Remediation at ARCO Station 6041, 7249 Village Parkway, Dublin, California, 60006.02.
- RESNA. August 30, 1991. Site Safety Plan. 60006.02S.
- RESNA. February 12, 1992. Subsurface Environmental Investigation at ARCO Station 6041, 7249 Village Parkway, Dublin, California. 60006.02
- RESNA. March 7, 1992. <u>Letter Report, Quarterly Groundwater Monitoring, Fourth Quarter 1992 at ARCO Station, 6041, 7249 Village Parkway, Dublin, California</u>. 60006.03
- RESNA. May 1, 1992. <u>Letter Report, Quarterly Groundwater Monitoring, First Quarter 1992 at ARCO Station, 6041, 7249 Village Parkway, Dublin, California</u>. 60006.03
- RESNA. September 25, 1992. <u>Letter Report, Quarterly Groundwater Monitoring, Second Quarter 1992 at ARCO Station, 6041, 7249 Village Parkway, Dublin, California</u>. 60006.03



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## REFERENCES

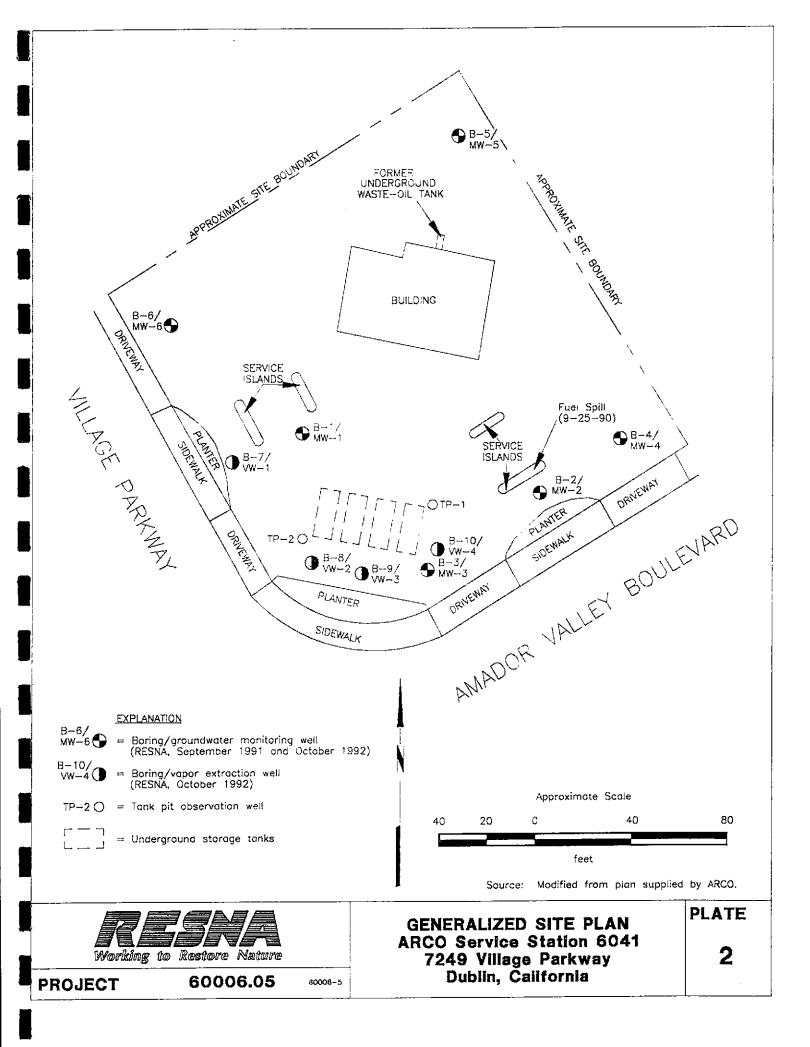
- RESNA. September 29, 1992. Work Plan for Initial Offsite and Additional Onsite Subsurface Investigations at ARCO Station 6041, 7249 Village Parkway, Dublin, California, 60006.04
- RESNA. December 29, 1992. <u>Letter Report, Ouarterly Groundwater Monitoring, Third Quarter 1992 at ARCO Station, 6041, 7249 Village Parkway, Dublin, California.</u> 60006.03

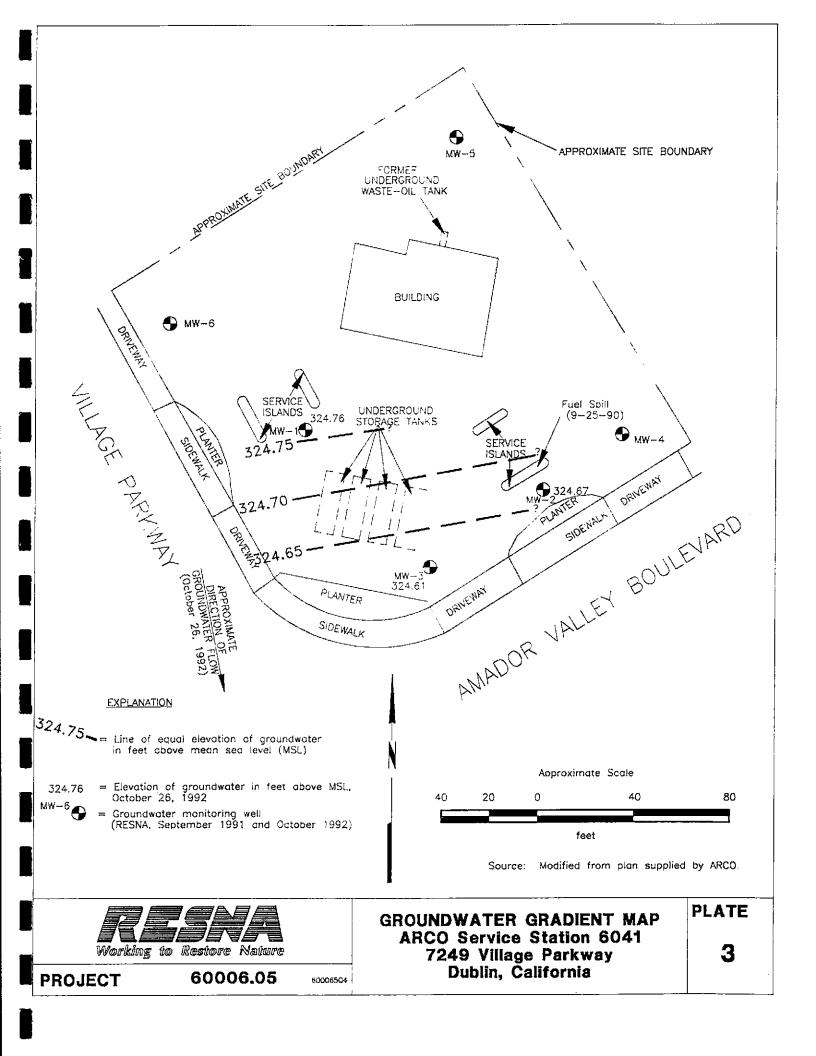


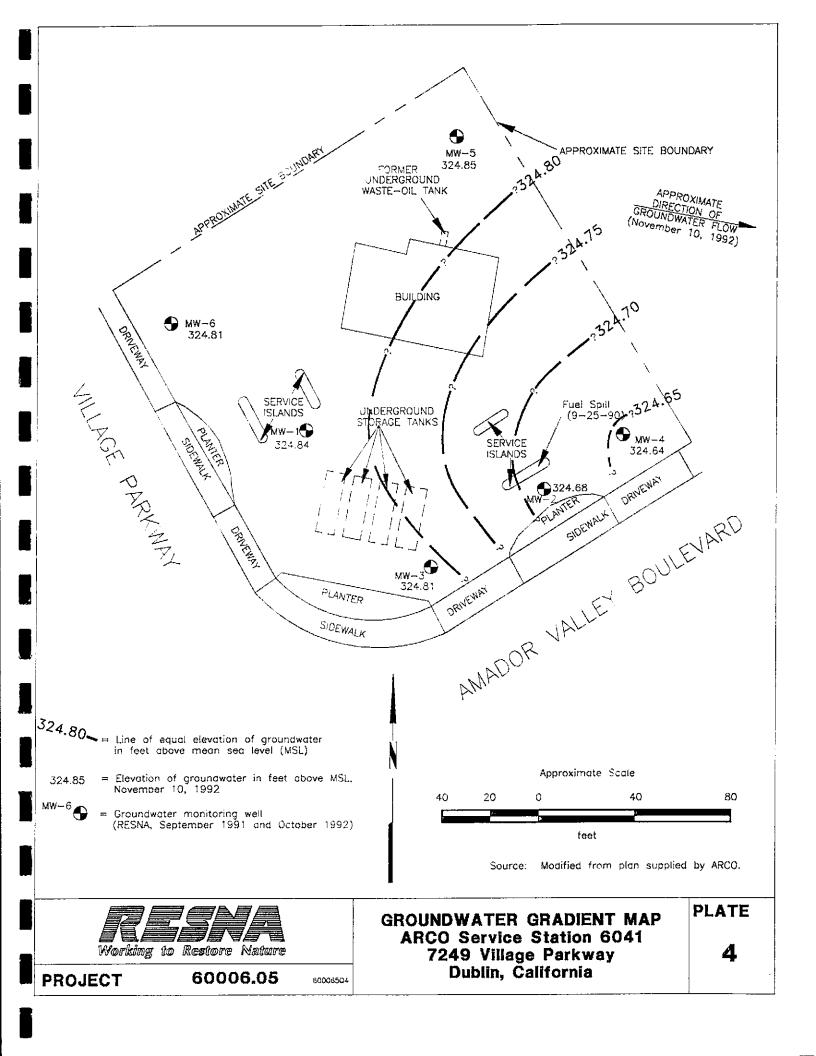
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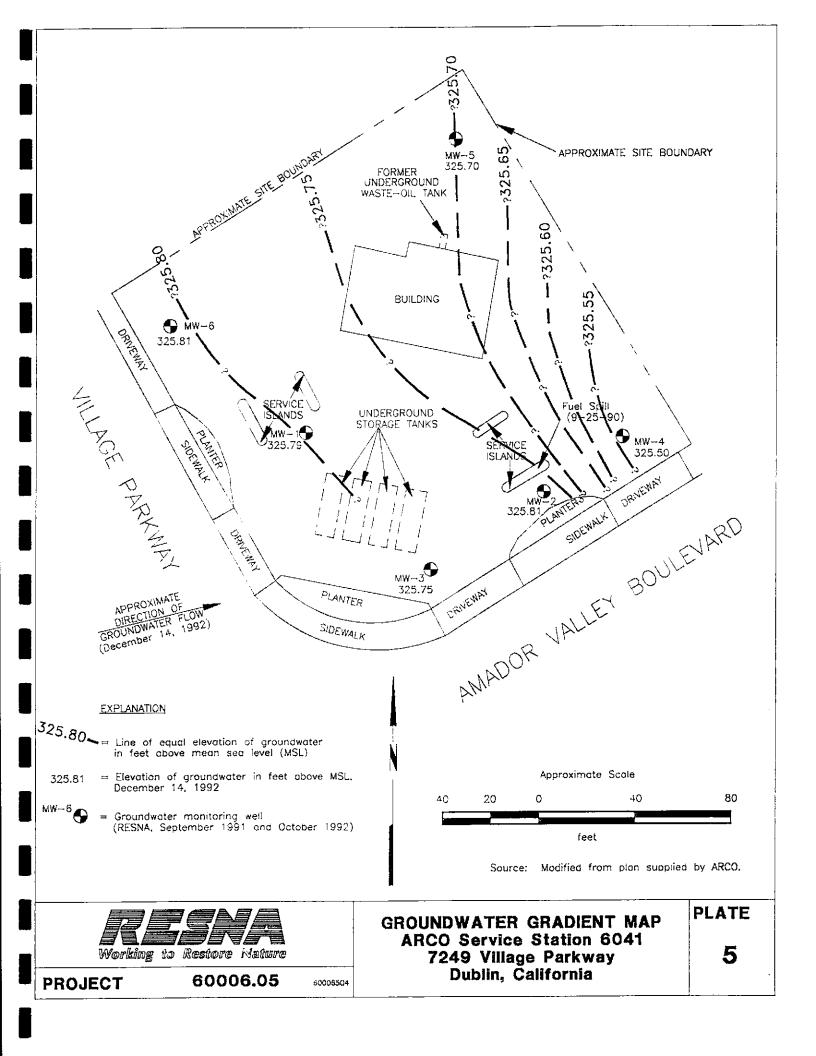
SITE VICINITY MAP ARCO Service Station 6041 7249 Village Parkway Dublin, California PLATE

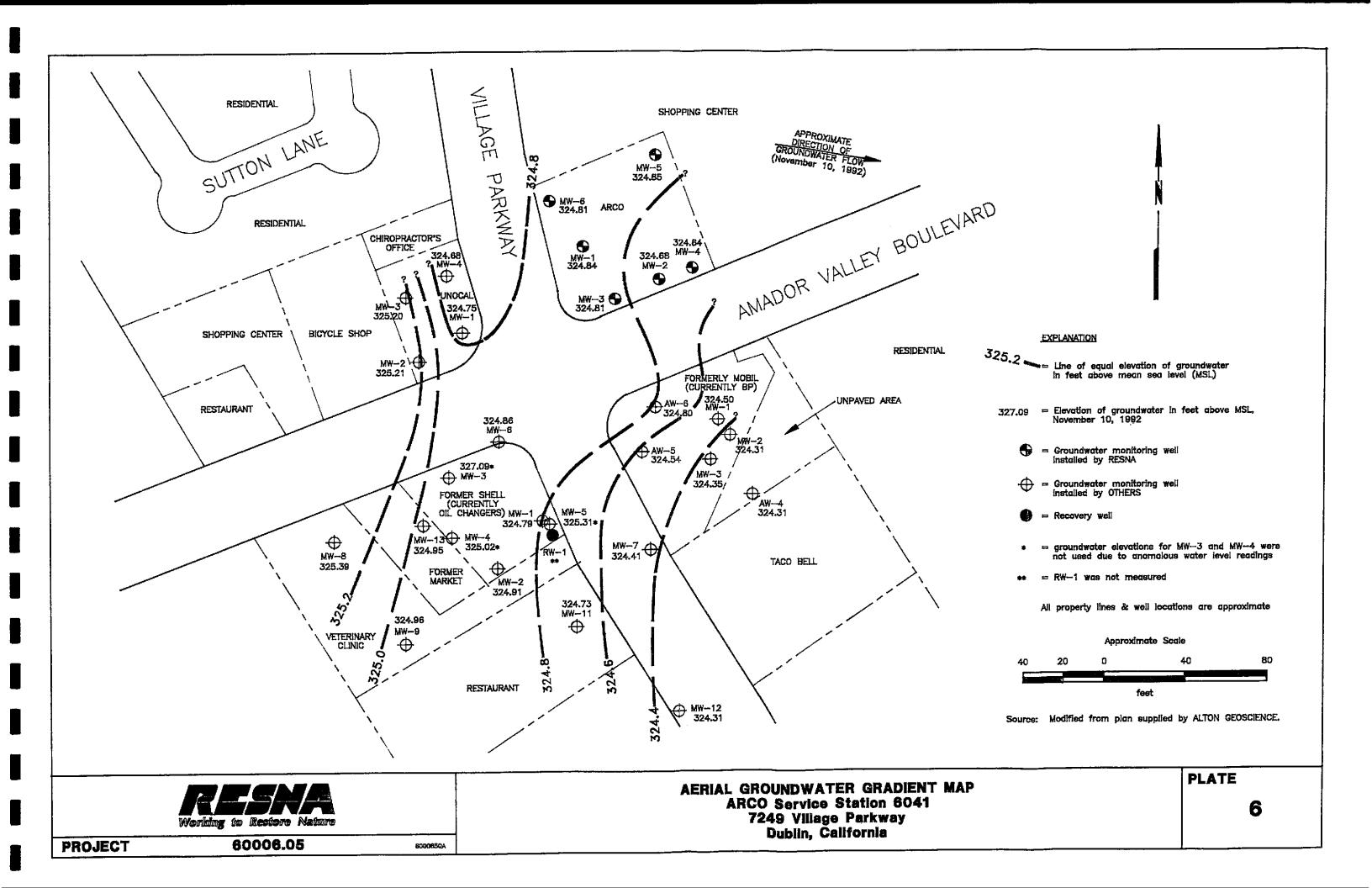
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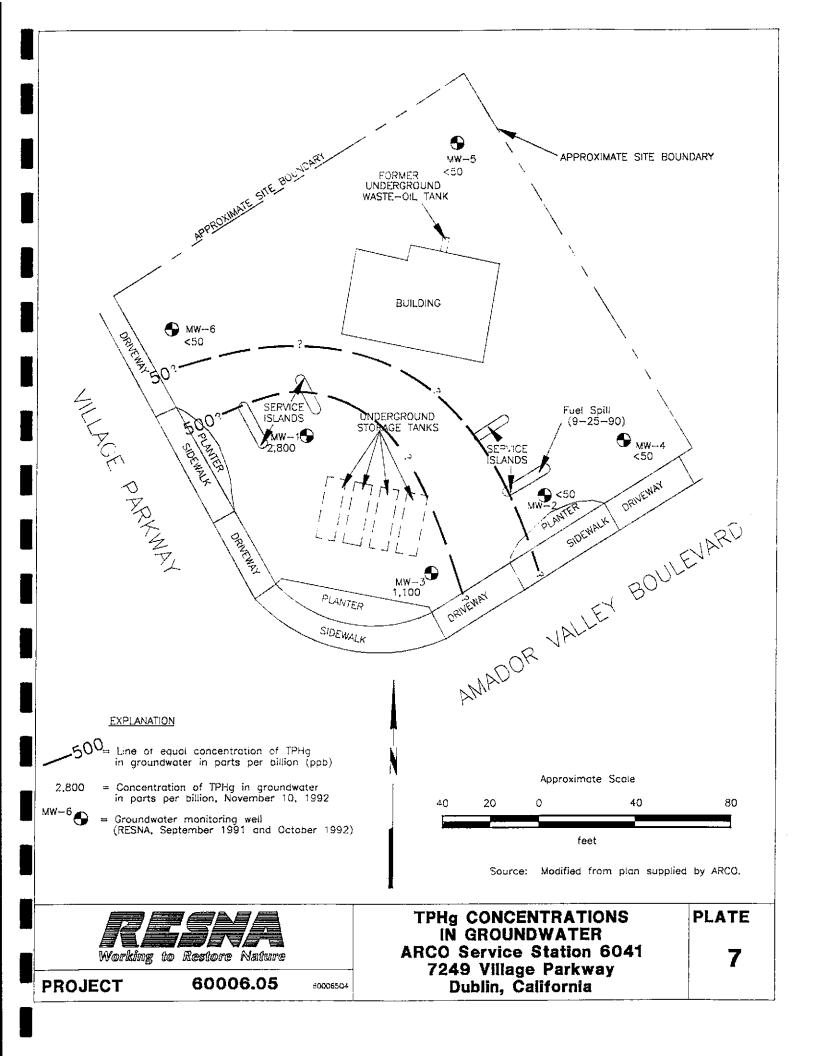


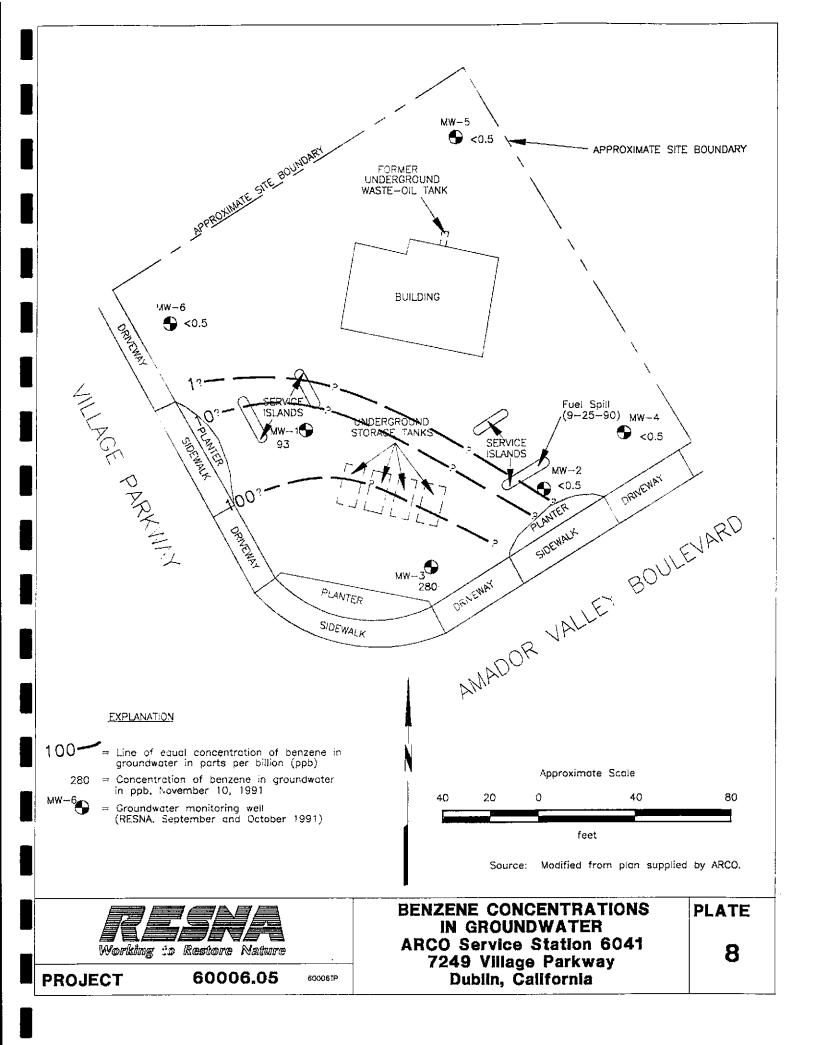














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## TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA ARCO Station 6041 Dublin, California (Page 1 of 2)

Date Measured	Well Elevation	Depth to Water	Water Elevation	Floating Product
MW-1	<del></del>			
09-20-91	336.56	11.20	325.36	None
10-22-91	25025	11.48	325.08	None
11-27-91		11.27	325.29	None
12-16-91		11.55	325.01	None
01-18-92		11.37	325.19	None
02-21-92		9.13	327.43	None
03-16-92		9.70	326.86	None
04-24-92		10.20	326.36	None
05-15-92		10.46	326.10	None
06-09-92		10.73	325.83	None
07-28-92		11.04	325.52	None
08-24-92		11.32	325.24	None
09-09-92		11.54	325.02	None
10-26-92		11.80	324.76	None
11-10-92		11.74	324.84	None
12-14-92		10.77	325.79	None
<u>MW-2</u>				
09-20-91	334.80	9.22	325.58	None
10-22-91		9.66	325.14	None
11-27-91		9.48	325.32	None
12-16-91		9.7 <b>6</b>	325.04	None
01-18-92		9.47	325.33	None
02-21-92		7.6 <b>2</b>	327.18	None
03-16-92		7.84	326.96	None
04-24-92		8.34	326.46	None
05-15-92		8.62	326.18	None
06-09-92		8.88	325.92	None
07-28-92		9.38	325.42	None
08-24-92		9.81	324.99	None
09-09-92		9.92	324.88	None
10-26-92		10.13	324.67	None
11-10-92		10.12	324.68	None
12-14-92		8.99	325.81	None
<u>MW-3</u>				
09-20-91	335.53	10.16	325.37	None
10-22-91		10.48	325.05	None
11-27-91		10.17	325.36	None
12-16-91		10.25	325.28	None

See notes on Page 2 of 2



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# TABLE 1 CUMULATIVE GROUNDWATER MONITORING DATA ARCO Station 6041 Dublin, California (Page 2 of 2)

Date Measured	Well Elevation	Depth to Water	Water Elevation	Floating Product
MW-3 cont.				
01-18-92	335.53	10.71	324.82	None
02-21-92		8.68	326.85	None
03-16-92		8.91	326.62	None
04-24-92		9.14	326.39	None
05-15-92		9.54	325,99	None
06-09-92		9.72	325.81	None
07-28-92		10.15	325.38	None
08-24-92		10.42	325.11	None
09-09-92		10.53	325.00	None
10-26-92		10.92	324.61	None
11-10-92		10.72	324.81	None
12-14-92		9.78	325.75	None
<u>MW-4</u>				
11-10-92	334.22	9.58	324.64	None
12-14-92		8.72	325.50	None
MW-5				
11-10-92	335.87	11.02	324.85	None
12-14-92		10.17	325.70	None
<u>MW-6</u>				
11-10-9 <b>2</b>	335.84	11.03	324.81	None
12-14-92		10.03	325.81	None

Measurements in feet.

Wells MW-1 through MW-3 surveyed on October 11, 1991. Wells MW-4 through MW-6 surveyed on November 12, 1992. Datum is City of Dublin = (USGS)



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## TABLE 2 GROUNDWATER MONITORING DATA BP Station 11116, 7197 Village Parkway, Former Shell Station, 7194 Amador Valley Boulevard, and Unocal Station, 7375 Amador Valley Boulevard,

Dublin, California (Page 1 of 2)

Date Measured	Well Elevation	Depth-to -Water	Water Elevation	
BP Station 1116				
<u>MW-1</u>				
11-10-92	335.17	10.67	324.50	
<u>MW-2</u>				
11-10-92	334.58	10.27	324.31	
<u>MW-3</u>				
11-10-92	335.13	10.78	324.35	
<u>AW-4</u>				
11-10-92	333.41	9.10	324.31	
<u>AW-5</u>				
11-10-92	334.81	10.27	324.54	
<u>AW-6</u>				
11-10-92	334.90	10.10	324.80	
Former Shell Station	ļ			
<u>MW-1</u>				
11-10-92	334.83	10.04	324.79	
<u>MW-2</u>				
11-10-92	336.96	12.05	324.91	
<u>MW-3</u>				
11-10-92	338.93	11.84	327.09	
<u>MW-4</u>				
11-10-92	337.14	12.12	325.02	
<u>MW-5</u>				
11-10-92	334.96	9.65	325.31	
<u>MW-6</u>	•			
11-10-92	335.42	10.56	324.86	

See Notes on Page 2 of 2.



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# TABLE 2 GROUNDWATER MONITORING DATA BP Station 11116, 7197 Village Parkway, Former Shell Station, 7194 Amador Valley Boulevard, and UNOCAL Station, 7375 Amador Valley Boulevard, Dublin, California

(Page 2 of 2)

Date Measured	Well Elevation	Depth-to -Water	Water Elevation	
Former Shell Station co	ont.			
11-10-92	333.23	8.82	324.41	
<u>MW-8</u> 11-10-92	335.80	10.41	325.39	
<u>MW-9</u> 11-10-92	334.57	9.61	324.96	
<u>MW-11</u> 11-10-92	334.20	9.47	324.73	
<u>MW-12</u> 11-10-92	332.53	8.32	324.31	
<u>MW-13</u> 11-10-92	335.64	10.69	324.95	
UNOCAL Station				
<u>MW-1</u> 11-10-92	336.72	11.97	324.75	
<u>MW-2</u> 11-10-92	337.36	12.15	325.21	
<u>MW-3</u> 11-10-92	337.53	12.33	325.20	
<u>MW-4</u> 11-10-92	337.00	12.32	324.68	

Measurements in feet.

Depth-to-water and wellhead elevation data obtained from Alisto Engineering Group.

Datum is City of Dublin = (USGS)



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## TABLE 3 CUMULATIVE RESULTS OF LABORATORY ANALYSES OF GROUNDWATER

ARCO Station 6041 Dublin, California (Page 1 of 1)

Well Date	ТРНg	Benzene	Toluene	Ethyl- Benzene	Total Xylenes
MW-1					. 4
09-20-91	410	28	36	4.3	89
12-16-91	840	50	50	3.9	12
03-16-92	780	22	12	45	22
06-09-92	700	8.8	15	16	18
09-09-92	400	5.4	8.4	4.6	6.7
11-10-92	2,800	93	56	190	390
MW-2					
09-20-91	130	6.6	0.96	1.4	1.5
12-16-91	83	0.96	< 030	< 0.30	< 0.30
03-16-92	430	130	<2.5*	37	5.0
06-09-92	120	3.7	<0.5	5.7	<0.5
09-09-92	<50	< 0.5	< 0.5	< 0.5	< 0.5
11-10-92	<50	< 0.5	<0.5	< 0.5	< 0.5
MW-3					
09-20-91	990	50	100	11	200
12-16-91	1,000	180	5.1	23	4.3
03-16-92	430	86	<1.0*	22	3.4
06-09-92	1,800	290	2.4	49	17
09-09-92	2,600	550	<5*	120	12
11-10-92	1,100	280	<5*	100	<5*
<u>MW-4</u>	·				
11-10-92	< 50	< 0.5	< 0.5	< 0.5	< 0.5
MW-5					
11-10-92	<50	< 0.5	< 0.5	< 0.5	< 0.5
<u>MW-6</u>					
11-10-92	<50	< 0.5	< 0.5	<0.5	<0.5
MCL		1	_	680	1,750
DWAL	_	_	100		

Results in parts per billion (ppb)

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 5030/8020/DHS LUFT Methods.

TPHg: Total petroleum hydrocarbons as gasoline (analyzed by EPA Method 5030/8020/DHS LUFT Methods).

MCL: Maximum contaminant level in drinking water (DHS, October 1990)

DWAL: Department of Health Services Recommended Drinking Water Action Level (DHS, October 1990).

Raised method reporting limit due to high analyte concentration requiring sample dilution, as reported by Columbia Analytical Services, Inc.

Sample Identification:

MW-3

## APPENDIX A

EMCON'S FIELD REPORTS,
SUMMARY OF GROUNDWATER MONITORING DATA,
CERTIFIED ANALYTICAL REPORTS WITH CHAIN OF CUSTODY,
WATER SAMPLE FIELD DATA SHEETS

**RESNA'S FIELD REPORT** 

MONITORING WELL PURGE WATER DISPOSAL FORM

6006.04



DEC 4 - 1992

RESNA CANDOSE

Consultants in Wastes  Management and				Date	<u>Dece</u>	mber 3, 199	2		
Environmental Control				Project	<u>0G70</u>	-035.01			
То:									
Mr. Joel Coffn			_ <del>_</del>						
RESNA App	lied Geosyste	ems							
3315 Almade									
<u>San Jose, Ca</u>	ilifornia 9511	18	<del></del>						
We are enclo	osin <b>g</b> :								
Copies	D	escriptio <b>n</b>							
1	Dept	th To Water /	Floating	Product	Survey	/ Results			
1	Sum	mary of Gro	undwate	r Monitor	ing Dat	la			
1	Cert	ified Analytic	al Repor	ts with C	hain-of	-Custody_			
6	Wate	er Sample Fi	eld Data	ld Data Sheets					
For your:	X In	formati <b>on</b>	Sent	b <b>y</b> :	<u> </u>	Mail			
Comments:									
		ta from the							
ARCO se	<u>ervice statio</u>	on 6041, 724	49 Villac	<u>je Parkw</u>	ay. D	<u>ublin. Calif</u>	<u>ornia.</u>		
<u>Groundw</u>	ater monitor	<u>ing is conduc</u>	cted con	<u>sistent w</u>	ith app	<u>licable regu</u>	latory		
guideline	s. Please ca	all if you have	e any qu	estions:	(408) 4	<u> 53-2266.</u>			
		TOTAL STATE			Jim	Butera //	3		
Reviewed by	RECOLOS NA	:: 4024 :: 4324 :: 42 <b>4</b> 6		(l		Kets			
	No.	QUSTAV	33/	Bened	t Porte	er, Senior Pr	oiect		
		OF CALIFOR	1	110001		gineer.	-,		

## FIELD REPORT DEPTH TO WATER/FLOATING PRODUCT SURVEY

PROJECT #: 0G70-035.01 STATION ADDRESS: 7249 Village Parkway, Dublin, CA DATE: 11-10-72

ARCO STATION #: 6041 FIELD TECHNICIAN: THE GRAHAM DAY: TURSDAY

)TW irder	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)		THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-4	OK	YES	YIES	3257	OK	9.58	9.58	N0	NR	14.5	
2	MW-5	٥٢	YES	YES	3259	OK	50.11	11.02	WD	NR	17.5	
3	MW-6	OK	YES	YES	3259	OK	11.03	11.03	NO	NiR	15.8	
4	MW-2	ok	YES	YES	32.59	or	10,12	10.12	22	NR	141	_
5	MW-1	OK	YES	YES	3259	OK	11.74	11.74	20	NX	17.6	_
6	MW-3	OK	YES	YES	3259	OK	10.72	10.72	120	NR	14.7	
				-								
			<del> </del>									
	<u> </u>	<del> </del>	<del> </del>									
		-	<del>                                     </del>									
		<u> </u>		-		<del> </del>		ļ				
		<del> </del>		-		1						
			<u> </u>			<u> </u>	DOWTO		1	1		

SURVEY POINTS ARE TOP OF WELL CASINGS

## Summary of Groundwater Monitoring Data Fourth Quarter 1992 ARCO Service Station 6041 7249 Village Parkway, Dublin, 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 <sup>1</sup> as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)
MW-1(16)	11/12/92	11.74	ND. <sup>2</sup>	2,800.	93.	56.	190.	390.
MW-2(13)	11/12/92	10.12	ND.	<b>&lt;</b> 50.	<0.5	<0.5	<0.5	<0.5
MW-3(13)	11/12/92	10.72	ND.	1,100.	280.	<b>&lt;</b> 5.	100.	<b>&lt;</b> 5.
MW-4(13)	11/12/92	9.58	ND.	<b>&lt;</b> 50.	<0.5	<0.5	<0.5	<0.5
MW-5(16)	11/12/92	11.02	ND.	<b>&lt;</b> 50.	<0.5	<0.5	<0.5	<0.5
MW-6(14)	11/12/92	11.03	ND.	<b>&lt;</b> 50.	<0.5	<0.5	<0.5	<0.5
FB-13	11/12/92	NA.4	NA.	<50	<0.5	<0.5	<0.5	<0.5

<sup>1.</sup> TPH. = Total petroleum hydrocarbons 2. ND. = Not detected

<sup>3.</sup> FB. = Field blank

<sup>4.</sup> NA. = Not applicable



November 30, 1992

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

Re:

EMCON Project No. 0G70-035.01

Arco Facility No. 6041

Dear Mr. Butera:

Enclosed are the results of the water samples submitted to our lab on November 11, 1992. For your reference, our service request number for this work is SJ92-1414.

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

Please call if you have any questions.

Respectfully submitted:

COLUMBIA ANALYTICAL SERVICES, INC.

Keoni A. Murphy

Laboratory Manager

Annelise Jale Baryan

Regional QA Coordinator

KAM/ajb

#### Analytical Report

Client:

EMCON Associates

Project:

EMCON Project No. 0G70-035.01

6041 ARCO Facility No.

Date Received: Work Order No.: SJ92-1414

11/11/92

Sample Matrix:

Water

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

Sample N		<u>MW-1 (16)</u>	MW-2 (13)	MW-3 (13)	
Date Anal		11/18/92	11/17/92	11/17/92 *	
Analyte	<u>MRL</u>				
Benzene	0.5	93.	ND	280.	
Toluene	0.5	56.	ND	<5. **	
Ethylbenzene	0.5	190.	ND	100.	
Total Xylenes	0.5	390.	ND	<5. **	
TPH as Gasoline	50	2,800.	ND	1,100.	

Total Petroleum Hydrocarbons **TPH** 

Method Reporting Limit MRL

None Detected at or above the method reporting limit ND

This sample was part of the analytical batch started on November 17, 1992. However, it was analyzed after midnight so the actual date analyzed is November 18, 1992.

Raised MRL due to high analyte concentration requiring sample dilution.

Date: 100xmber 30,1992\_

#### Analytical Report

Client:

**EMCON Associates** 

EMCON Project No. 0G70-035.01 Project:

6041 ARCO Facility No.

Date Received: Work Order No.:

11/11/92 SJ92-1414

Sample Matrix:

Water

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

Sample N Date Analy		MW-4 (13) 11/17/92 *	MW-5 (16) 11/17/92 *	<u>MW-6 (14)</u> 11/18/92	
Analyte	MRL				
Benzene Toluene Ethylbenzene Total Xylenes	0.5 0.5 0.5 0.5	ND ND ND	ИД ИД ИД ИД	00 00 00 00	
TPH as Gasoline	5 <b>0</b>	ND	ND	ND	

**TPH** 

Total Petroleum Hydrocarbons

MRL

Method Reporting Limit

ND

None Detected at or above the method reporting limit

This sample was part of the analytical batch started on November 17, 1992. However, it was analyzed after midnight so the actual date analyzed is November 18, 1992.

Approved by: Keourt Muylly

Date: November 30,

## Analytical Report

Client:

**EMCON Associates** 

Project:

EMCON Project No. 0G70-035.01

ARCO Facility No.

6041

Date Received:

11/11/92

Work Order No.:

SJ92-1414

Sample Matrix:

Water

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

	ole Name:	<u>FB-1</u>	Method Blank	Method Blank
	Analyzed:	11/17/92 *	11/17/92	11/18/92
Analyte	<u>MRL</u>			
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND

TPH

Total Petroleum Hydrocarbons

MRL

Method Reporting Limit

ND

None Detected at or above the method reporting limit

This sample was part of the analytical batch started on November 17, 1992. However, it was analyzed after midnight so the actual date analyzed is November 18, 1992.

Approved by: Leon Amundy Date: Movember 39/1992

#### QA/QC Report

Client:

**EMCON Associates** 

Project: EMCON Project No. 0G70-035.01

ARCO Facility No. 6041

Date Received: 11/11/92 Work Order No.: SJ92-1414

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

Date Analyzed:

11/17/92

Date Analyzed:  Analyte	11/17/92  True <u>Value</u>	<u>Resul<b>t</b></u>	Percent <u>Recovery</u>	CAS Percent Recovery Acceptance Criteria
Benzene Toluene Ethylbenzene Total Xylenes	250. 250. 250. 750.	258. 269. 258. 766.	103. 108. 103. 102.	85-115 85-115 85-115 85-115
TPH as Gasoline	2,500.	2,414.	97.	90-110

Date Analyzed:

11/18/92

Analyte	True <u>Value</u>	<u>Result</u>	Percent <u>Recovery</u>	Percent Recovery Acceptance <u>Criteria</u>
Benzene Toluene Ethylbenzene Total Xylenes	250. 250. 250. 750.	272. 275. 260. 741.	109. 110. 104. 99.	85-115 85-115 85-115 85-115
TPH as Gasoline	2,500.	2,467.	99.	90-110

TPH Total Petroleum Hydrocarbons

KedundMuymy Date: November 39,1992

CAS

#### QA/QC Report

Client:

EMCON Associates

Project:

EMCON Project No. 0G70-035.01

ARCO Facility No.

6041

Date Received:

11/11/92

Work Order No.: SJ92-1414 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 $a, a, a$ -Trifluorotoluene
MW-1 (16)	11/18/92	96.
MW-2 (13)	11/17/92	80.
MW-3 (13)	11/17/92	90.
MW-4 (13)	11/17/92	86.
MW-5 (16)	11/17/92	84.
MW-6 (14)	11/18/92	97.
FB-1	11/17/92	79.
MS	11/17/9 <b>2</b>	90.
DMS	11/17/9 <b>2</b>	9 <b>3</b> .
Method Blank	11/17/92	8 <b>4.</b>
Method Blank	11/18/92	8 <b>8</b> .
	CAS Acceptance Criteria	70-130

Total Petroleum Hydrocarbons TPH

Approved by: Thomas Mulphy Date: November 30,1992

#### QA/QC Report

Client:

**EMCON Associates** 

Project:

EMCON Project No. 0G70-035.01

ARCO Facility No.

6041

Date Received:

11/11/92

Work Order No.: SJ92-1414

Sample Matrix:

Water

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

Date Analyzed: 11/17/92

Percent Recovery

<u>Analyte</u>	Spik <b>e</b> <u>Lev<b>e</b>l</u>	Sample <u>Result</u>	Spike Result <u>MS DMS</u>	MS DMS	CAS Acceptance <u>Criteria</u>
TPH as Gasoline	5,000.	3,420.	7,970. 8,040.	91. 92.	70-130

Total Petroleum Hydrocarbons TPH

CourAMunty Date: November 30,1992

	Division	ucts (	Comp	ompany				Task Or	der No.	EN	ICC	-C-	-95	7-/								Chain of Custody
) Facili	y no.	6041	,	City (Fa	cility)	DUW	In			Project (Consu	manag	<del>ا</del> آ	TIN	1 6	J.F.	210	i					Laboratory name
) engin	eer /	Eyle.	ch	rish	ė.	<u> </u>	Telephon	371-24	121	Telepho	one no.	453	r-0	7:0	7	Fax	no.	n C	153	-045	52	CAS
ultent r	ame	EM	CON	Asse	XIA	TES	[[Rinoo]	Address (Consulta	nt) 19	38	Jι	nc.	ho	1	Auc		Sy	1	Jos	~		Contract numbers
				Matrix		i	rvation							ļ	ļ				00000			Method of shipment
Sample I.D.	Lab no.	Container no.	Soll	Water	Other	lce	Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEXTPH CHE EPA MEOZ/8070/8015	TPH Modified 8015 Gas □ Drese □	OH and Grease	TPH EPA (18.1/SM503E	EPA 601/8010	EPA 5243240	EPA 625/8270	TOLP Semi	CAN Needs EPA 8	Lead Org. DHS C		Gampler will deliver
(16	<del></del>	2		Х		χ	11/4	11-10-92	1422		X											Special detection Limit/reporting
2/13	<b>^</b> '	2		X		Χ	1X1		1338		X											- Lowest Possible
3/13	ىدى (	2		X		χ	1101		1450		Λ				!							YOSSIPIE
4/13	1.7.8	12		X		X	HC/		1047		X					<u> </u>						Special QA/QC
1/13	) ~	2		X		Χ	HCI		1222		X											As Alabara
1/14	\ <u>v</u>	2		Χ		Х	IK/		1248		人									ļ		Normal
	24	12		X		X	HC		1455	1	X											Remarks
	\ \frac{1}{2}																					2-40 ml HCl
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			<del>                                     </del>				<u> </u>															Lab number S 342-1414
	1																					Turnaround time
	1		-			1																Priority Rush 1 Business Day
illion (	t sampl	9:		-		04					perature	receiv	red:	(	1001	/						Aush
iquish	17	mpler					Date	-921	CSIZIM	Rec	eived by	•										2 Business Days
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iquisti	ed by						Date		Time	e Rec	eived by	( LL	CAL	L.			Date // -	11-	12	Time	15	Standard 10 Business Days

Cau 2	5/04
WATER SAMPLE FIELD DATA SHEET  PROJECT NO: 0670-035.01 SAMPLEID: MW-1 (16)	
NOCO # 10041	
77 An Milliance Pu	IJ
SAMPLED BY: TAN GRAHAM LOCATION: 12TH VILLHGIC IN	<u>,, ,</u>
TYPE: Ground Water X Surface Water Treatment Effluent Other	
CASING DIAMETER (inches): 2 3 4.\(\sum_{\text{\substack}} \) 4.5 6 Other	
CASING DIAMETER (INCHOS).	
CASING ELEVATION (feet/MSL): 100	
DEPTH TO WATER (feet): 11.75 CALCULATED FORISE (gam).	-
DEPTH OF WELL (feet): 17,6 ACTUAL PURGE VOL (gal.): 713	<u> </u>
Start (2400 Hr) 1400 End (2400 Hr) 1405	
T MATE PURGED.	-
DATE SAMPLED: Start (2400 Hr) Start (2400 Hr)	_
TIME VOLUME pH E.C. TEMPERATURE COLOR TURBIDIT	Y
(2400 Hr) (gal.) (units) (units) (units) (Units) (Units) (Units) (Units)	
1403 4.0 6.61 3000 511.1 1405 DRIED @ 7.5 GAL.	
1705	_
1420 RECHARGE 6.82 3020 706 11 11	_
NR NR NR	
D. O. (ppm): (COBALT 0 - 100) (NTU 0 - 200	0)
FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): NONE	
CALIDI ING COLUDACNIT	
POHGING ECOTEMENT	
2º Bladder Pump — Bailer (Terionia)	ed)
Submersible Pump	ľ
Submersible Pump Bailer (Stainless Steel) Upper Dedicated Well Wizard <sup>M</sup> Dedicated Dedicated	
Other:Other:	
WELL INTEGRITY: OK LOCK #: 32.57	
WELL INTEGRITY: OF	
REMARKS:	
Meter Calibration: Date: 11-10-92 Time: 105 Meter Serial #: 9105 Temperature °F:	
Meter Calibration: Date: 11-10-72 Time: 10/5 Meter Serial #	)
(EC 1000) (UI) (PH / / CH /)	
Location of previous calibration: MW-4  Reviewed By: Page of	6
Reviewed By: Page of	<u> </u>

WATER SAMPLE FIELD DATA SHEET	v. 2, 5/91
SAMPLE D: $MW - 2/(13)$	
THEON PURGED BY: IAN GLAHAM CHENT NAME: ARCO # 604	1
LOCATION: 7249 VILLAGE	PKWY
DODLIN, UP	•
TYPE: Ground Water X Surface Water Treatment Effluent Other	<del></del>
CASING DIAMETER (inches): 2 3 4\overline{\inches} 4.5 6 Other	
CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 2.61	
CALCULATED PURGE (gal.): 7370	<del></del>
ACTUAL PURGE VOL (gal.): 17.0	
3,73	·
DATE PURGED: 11-10-92 Start (2400 Hr) 1335 End (2400 Hr) 1335	
DATE SAMPLED: 11-10-92 Start (2400 Hr) 1338 End (2400 Hr) 1338	
THE VOLUME OH E.C. TEMPERATURE COLOR TUR	BIDITY
(2400 Hr) (gal.) (units) (unhos/cm 25° C) (°F) (visual) (vi	isual) HUY
1316 3,0 6.18 3670	
7320 109 4	
$\frac{1325}{120} = \frac{1}{120} = \frac$	
1300 190 3440 109.5	
NR NR	JR_
	0 - 200)
FIELD QC SAMPLES COLLECTED AT THIS WELL (Le. FB-1, XDUP-1): NONE	
CAMOUNG FOLLIDAENT	
PONGING COOPINENT	<b>D</b> )
2º Bladder Fullip — Committee Commit	
Centrifugal Pump Bailer (PVC) DDL Sampler Submersible Submersible Pump Bailer (Stainless Steel) Dtpper Submersible	Pump
Well Wizard™ Dedicated Well Wizard™ Dedicated	
Other: Curier:	
WELL INTEGRITY: OF LOCK #: 3259	
REMARKS:	, ,,,
Meter Calibration: Date: 11-10-97 Time: 1015 Meter Serial #: 9105 Temperature *F:	
(SC 1000 /)(DI)(pH 7/)(pH 10/)(pH 4/	·)
Consider Calibration AW 4	
Location of previous canada Reviewed By:	of <u>6</u>

Signature:

Reviewed By: \_\_\_\_\_\_\_ Page \_\_\_\_ 2 of \_\_\_\_6

WATER SAMPLE FIELD D	ATA SHEET Rev. 2. 5/9
PROJECT NO: 0670-035.01 SA	MPLEID: MW-3(13)
FMCON PURGED BY: TAN GRAHAM CLIEN	TNAME: ARCO # 6041
SAMPLED BY: TAN GRAHAM LO	CATION: 7249 VILLAGIE PKWI
	DUBLIN, CA,
TYPE: Ground Water X Surface Water Treatment Efflu	
CASING DIAMETER (inches): 2 3 4_X 4.5	6Other
CASING ELEVATION (feet/MSL): NR VOLUME II	v CASING (gal.): 2,59
DEPTH TO WATER (feet): 10.75 CALCULATI	ED PURGE (gal.): 12.95
DEPTH OF WELL (feet): 14.7 ACTUAL PL	JRGE VOL (gal.): 5,0
3,71	
DATE PURGED: 11-10-97 Start (2400 Hr) 1430	End (2400 Hr) 1435
DATE SAMPLED: 11-10-97 Start (2400 Hr) 1450	End (2400 Hr) 1450
TIME VOLUME OH E.C. TEMPER	
(2400 Hr) (gal.) (units) (jumhos/cm @ 25° C) (°	F) (Visual) (Visual) 4 LT, GLEY HEAVY
1435 370 111	@ 14,60
1435 WELL DEVED & 5,0 GAL, WIL	
1445 RECHARGE 6.67 2400 70.	4 11 11
AVE MONSOATE	NR NR
В. О. Фрил.	(COBALT 0 - 100) (NTU 0 - 200)
FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1):	FB-1
	SAMPLING EQUIPMENT
2° Bladder Pump —— Bailer (Teflon®) —— 2° Bladd	der Pump Bailer (Teflon-®)
Centrifugai Pump Bailer (PVC) DDL Sa	mpler Bailer (Stainless Stee)
Submersible Pump — Bailer (Stainless Steel) — Dipper	Submersible Pump
— Well Wizard™ — Dedicated — Well W	
Other: Other:	
WELL INTEGRITY: OK	LOCK #: 3257
REMARKS:	
HEMANAS.	

Meter Calibration: Date: 11-10-92 Time: 1015 (EC 1000 1010 / 1000 ) (DI 26.00 ) (PH 7 702	Meter Serial #: <u>9105</u> / <u>7,80</u> ) (pH 10 <u>9.98</u> / 10.00	Temperature °F: 71.0
Location of previous calibration:	Reviewed By:	Page <u>3</u> of <u>6</u>

WATER SAMPLE	FIELD DATA SHEET Rev. 2, 5/9
PROJECT NO: 0670-035.0	SAMPLE 10: MW-4(13)
EMCON PURGED BY: TAN GRAHIAM	70.40 11
SAMPLED BY: IAN GRAHAM	LOCATION: 7249 VILLAGIE PEWI
TYPE: Ground Water X Surface Water	DUBLIN, CA,
CASING DIAMETER (inches): 2 3	
CASING ELEVATION (feet/MSL): NR	VOLUME IN CASING (gal.): 3,22
DEPTH TO WATER (feet): 9.58	CALCULATED PURGE (gal.): 16.13
DEPTH OF WELL (feet): 14.5	ACTUAL PURGE VOL (gal.): 8,5
4,92	
DATE PURGED: 11-10-92 Start (240	00 Hr) 1022 End (2400 Hr) 1029
DATE SAMPLED: 11-10-92 Start (240	10.45
TIME VOLUME PH E.C	TEMPERATURE COLOR TURBIDITY
(2400 Hr) (gal.) (units) (umhos/cm	@ 25° C) (°F) (visual) (visual)
1029 7.0 6.99 5450	0 67.2 BROWN 11
WELL DRIED @ 8.5 GAL	ω/L @ 14.20
1045 RECHARL	<u> </u>
D. O. (ppm): NR ODOR:	NR NR
	(COBALT 0 - 100) (NTU 0 - 200)
FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. F	B-1, XDUP-1): NONE
PURGING EQUIPMENT	SAMPLING EQUIPMENT
2° Bladder Pump — Bailer (Teflon®)	2° Bladder Pump
Centrifugal Pump Bailer (PVC)	DDL Sampler Bailer (Stainless Steat)
Submersible Pump Bailer (Stainless Steel)	Dipper Submersible Pump
Well Wizard™ — Dedicated	— Well Wizard™ — Dedicated
Other:	Other:
WELL INTEGRITY: OK	LOCK#: 3259
REMARKS:	
11-12-a 101C .	Meter Serial #: 9105 Temperature °F: 60.9
Meter Calibration: Date: 11-10-97 Time: 1015	vieter benai #: Temperature r

(EC 1000 1062 / 1000 ) (DI 28,00 ) (PH 7 6.98 / 7.00 ) (PH 10 10.05 / 10.00) (PH 4 3.91 / \_\_\_\_)

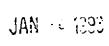
Reviewed By: .

MW-4

Location of previous calibration:

	عند المناه بالمناه المناه ا				
EMCON	PROJECT NO: OG70 PURGED BY: THE	-035.01	SAMPLE ID	: <u>MW-5</u> : <u>ARCO</u> # 1	0041
TYPE: Grou	SAMPLED BY: TAN  nd Water X Surface  ETER (inches): 2	GRAHAM  Waler Trea	LOCATION	DUBLIN,	CA,
CASING ELE	VATION (feet/MSL): N	R	VOLUME IN CASING CALCULATED PURG ACTUAL PURGE VO	G (gal.): 4	1,25
DATE PURG	SED: 11-10-92 ED: 11-10-92	Start (2400 Hr) Start (2400 Hr)	1202	End (2400 Hr) _ End (2400 Hr) _	225 1222
TIME (2400 Hr)   203   1206   1208	VOLUME pH (gal.) (gal.) 4.5 7.07  9.0 7.02  WELL DEIEN @	E.C. (umhos/cm@ 25° C 4360 4570 12,5 GAL W	TEMPERATURE (°F) 68 A 66.5	COLOR (visual) BEIGE BROWN	TURBIDITY (visual) HEAVY
1225 D. O. (ppm):		ODOR: NO	66.5	NR (COBALT 0 - 100)	NR (NTU 0 - 200)
2* Bladd Centrifuç Submers	gal Pump Bailer (PV	flon®) — C) — sinless Steel) —			(Stainless Steel) ersible Pump
WELL INTEGRI	TY: <u>OK</u>			LOCK#: 32	259
	on: Date: 11-18-92 Time:	lour	9105	Tomasti	
( EC 1000	vious calibration: MW-4	pH 7/	erial #:	) (pH 4	/)
, ~ cresticalities					

					Rev. 2, 5/91
W	ATER SA	MPLE FIE	LD DATA	SHEET	
PROJE	CT NO: 0G70	-035.01	SAMPLE ID:	MW-6	(A)
EMCON PURC	GED BY: INN	GRAHAM	CLIENT NAME:	ARCO #	6041
1 A CLAY 5 \$	LED BY: TAN		LOCATION:	7249 VIU	LAGIE PKWY
<u> </u>		·		DUBLIN,	, GA, i
TYPE: Ground Water		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	ment Effluent	Other	
CASING DIAMETER (inc	ches): 2	3 4X			er
CASING ELEVATION	(feet/MSL): NF	<u>۲</u> ۷	OLUME IN CASINO	3. (gal.): <u>-                                   </u>	<u>.13</u>
DEPTH TO WA	F t	02 0	ALCULATED PURG	šE (gal.):	2 101
DEPTH OF W	ELL (feet):IS	18 A	CTUAL PURGE VO	DL (gal.):[	6,0
	4.78				
DATE PURGED:	1-10-92	Start (2400 Hr)	1230	End (2400 Hr) .	1245
DATE SAMPLED:	1-10-92	Start (2400 Hr)	1248	End (2400 Hr) .	1248
		E.C.	TEMPERATURE	COLOR	TURBIDITY
(2400 Hr) (gal	l.) (units)	(µmhos/cm @ 25° C)	(°F) 70 <b>.</b> 9	(visual) Brown	(visual) Henyuy
1233 3,5		6220	70.9	OLOM:	N
1236 7.0	7.05	6190	69,2	11	- ''
1239 10.5	<del></del>	6210		<u></u>	71
1241 14.0	7.06	6330	<u>68.5</u>		<u> </u>
1245 16.0	<del></del>	6410	4010		
D. O. (ppm):	JR	ODOR: ND		(COBALT 0 - 100)	NR (NTU 0 - 200)
			NONE	(0.00.00.00.00.00)	
FIELD QC SAMPLES C	COLLECTED AT THIS	WELL (i.e. Po-1, XU			
PURGIN	IG EQUIPMENT			IG EQUIPMENT	
2º Bladder Pump	Bailer (Teff	101107	2" Bladder Pump	X Saile	r (Teffon®)
Centrifugal Pump	Bailer (PV)	c) —	DDL Sampler		r (Stainless Steel)
Submersible Pump	Bailer (Sta		Dipper		nersible Pump
— Well Wizard™ Other:	— Dedicated	Other	— Well Wizard™	Dedi	Caled
				<u></u>	2 ( 9
WELL INTEGRITY: OK					
REMARKS: LAST					
				* <del>************************************</del>	
			A . —		
Meter Calibration: Date:	11-10-92 Time:	1015 Meter Se	rial #:	Temperat	ure °F:
(EC 1000 -/	) (Dl) (r	H7/	) (pH 10/_	) (pH 4 _	/)
Location of previous calif	bration: MW-	4			
THE	>	O antique	ed By:	Page	6 of 6
Signature:		Heview	eu by		







December 18, 1992 Date 0G70-035.01 Project To: Mr. Joel Coffman RESNA/ Applied Geosystems 3315 Almaden Expressway, Suite 34 San Jose, California 95118 We are enclosing: Description Copies Depth To Water/Floating Product Survey Results December 1992 monthly water level survey, ARCO station 6041, 7249 Village Parkway, Dublin, CA Mail Sent by: Information For your: Х Comments: Monthly water level data for the above mentioned site are attached. Please call if you have any questions; (408) 453-2266. Jim Butera 🥦 Reviewed by: Robert Porter, Senior Project Engineer.

## FIELD REPORT DEPTH TO WATER/FLOATING PRODUCT SURVEY

PROJECT #: 0G70-035.01	STATION ADDRESS: 7249 Village Parkway, Dublin, CA	DATE: /3-74-/2
ARCO STATION #: 6041	FIELD TECHNICIAN: ATADLEK	DAY: Klonday
	TOTAL OFFICE PROPERTY OF CATALON	14(5)

		Well	Well			Locking	FIRST	SECOND	DEPTH TO		WELL	
WTO	WELL	Вох	Lid		<b>,</b>	Well	DEPTH TO	DEPTH TO	FLOATING	PRODUCT THICKNESS	TOTAL DEPTH	COMMENTS
Order	םו	Seal	Secure	Gasket	Lock	Сар	WATER (feet)	WATER (feet)	(feet)	(feet)	(feet)	COMMENTS
					_	<del> </del>		Y				
1	MW-4	OR	yes	DK	3259	OK	8,72	8.72	ND	ND	14.5	•
2	MW-5	OK	yes	DR	33-59	OK	10.16	10.18	ND	ND	17.5	
3	MW-6	OK	yes	OIC	3259	OK	10.03	10.03	ND	ND	15.8	had to wait 10 min for wat
4	MW-2	CK	105	OK	3259	OK	8.99	8.99	ND	ND	14.1	water in lox
5	MW-1	OR	yes	OK	3259	1	10:77	10,77	ND	ND	17.6	- &
6	мw-з	OK	759	DK	3259		9.78	9.78	ND	ND	14.7	
									·			
								1 4	14-6 -	water leve	el was n	along had to with
								7	W-Z			" ;
									7			
1												

SURVEY POINTS ARE TOP OF WELL CASINGS

DATE: 10/26/92)

SITE: ARCO 6041

**JOB:** 60006.05

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	DTP	DTW	TOT.	WAT. EL.		
HW-1	no	no				11.80				
MN-2	110	'no				10.13				
HN-3	yes	no				10.92				
			·							
PRODUCT REMOVED										
·										

<sup>\*</sup>PRODUCT LAST TIME

{TF1088-1}

## MONITORING WELL PURGE WATER TRANSPORT FORM

	GENERATOR IN	FORMATION							
	NAME:	ARCO PRODUC	TS						
	ADDRESS:	P.O. BOX 5811							
	CITY,STATE,ZIP:	SAN MATEO, C	A 94402 PHONE #: (415) 571-2434						
	DESCRIPTION OF WATER	: PURGE WATER GENERAT	Minge water generated during sampling or development of monitoring wells located at various						
			SITES. AUGER RIMSATE GENERATED DURING THE INSTALLATION OF MONITORING WELLS AT VARIOUS SITES. THE WATER MAY CONTAIN DISSOLVED HYDROCARBONS.						
				6/92					
	THE GENERATOR CERTIFIES THE		(Typed or printed full name & signature)	(Date)					
	AS DESCRIBED IS NON-HAZARDO			<del></del>					
	SITE INFORMAT	TION							
	STA#	JOB#	ADDRESS	GALS					
1	'A-6159	21390-PW	6140 GREENBACK LANE, CITRUS HEIGHTS, CA	75					
2	A-533 <b>5</b>	21395-PW	1500 CANYON RD., MORAGA, CA	77					
3	A-6135	21321-PW	3969 CAMERON PARK DR., CAMERON PARK, CA	95					
4	A-6059	21396-PW	2686 PLEASANT HILL RD., PLEASANT HILL, CA	23					
5	A-428	21397-PW	12890 SAN PABLO AVE., RICHMOND, CA	185					
6	A-1318	21347-PW	1745 SANTA ROSA BLVD., SANTA ROSA, CA	120					
7	A-2035	21439-DW	1001 SAN PABLO AVE., ALBANY, CA	. 218					
8	A-606	21334-PW	2320 EL CAMINO REAL, SANTA CLARA, CA	101					
9	A-4494	21183-PW	566 HEGENBERGER RD., OAKLAND, CA	70					
Po.	A-6041	-21327-PW	7249 VILLAGE PKWY., DUBLIN, CA	110					
11	A-5387	21379-DW	20200 HESPERIAN BLVD., SAN LORENZO, CA	167					
Ì				1,241					
<u> </u>	TRANSPORTER	INFORMATIO	ON .						
ł	IRANSFORTER								
•	NAME:	BALCH PETRO	LEUM	<del>,</del>					
ì	ADDRESS:	930 AMES AVE							
	CITY, STATE, ZIP:	MILPITAS, CA	95035 PHONE #: (408) 942-868	36					
)	TRUCK ID #:	102-PTRBLT	HOLOGIAL WILL	2-10-9-2					
			(Typed or printed full name & signature)	(Date)					
1	TSD FACILITY I	NFORMATIO	N						
	NAME:	GIBSON ENVIR	ONMENTAL	<del></del>					
	ADDRESS:	475 SEAPORT I	BLVD						
•	CITY,STATE,ZIP:	REDWOOD CIT	Y, CA 94063 PHONE #: (415) 368-55	11					
	RELEASE #:	11320	(Typed or printed full name & signature)	2-10-97_ (Date)					