

TRANSMITTAL

TO: Mr. Scott Seery
ACHCSA
80 Swan Way, Room 200
Oakland, California 94621

DATE: December 29, 1992
PROJECT NUMBER: 60006.03
SUBJECT: ARCO Station 6041,
7249 Village Parkway, Dublin, California

FROM: Erin McLucas
TITLE: Staff Geologist

WE ARE SENDING YOU:

COPIES	DATED	NO.	DESCRIPTION
1	12/29/92	60006.03	Final - Letter Report Quarterly Groundwater Monitoring Third Quarter 1992 at ARCO Station 6041, 7249 Village Parkway, Dublin, California.

THESE ARE TRANSMITTED as checked below:

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

REMARKS:

Per ARCO's request (Mr. Michael Whelan) this report has been forwarded to you for your review.

Copies: 1 to RESNA project file no. 60006.03

October 12, 1992

92 OCT 14 PM 12:55

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:

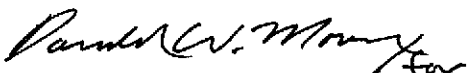
Please find attached, Quarterly Summary Reports (QSRs) for ARCO Products Company Service Stations in Alameda County. The QSRs summarize activities conducted by ARCO at the respective sites during the third quarter of 1992; also included are projected site activities for the fourth quarter of 1992 and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

ARCO is planning the next comprehensive QSR submittal for ARCO sites on January 15, 1993. Please do not hesitate to contact us with any questions regarding this submittal.

Sincerely yours,



Kyle A. Christie
Environmental Engineer

Attachments: ARCO Facility QSRs

UST LEAK Date of Last Current
SITE UPDATE Review/Update June 29, 1992 Date September 25, 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
Regional Board Regional Water Quality Control Board - San Francisco Bay Area

LEAD STAFF PERSON ACHCSA-Scott Seery

CASE TYPE

_____ Undetermined _____ Soil Only X Groundwater _____ Drinking Water

STATUS (Date indicates when case moved into status)

_____	No Action Taken	
<u> X </u>	Leak Being Confirmed	Date 9/26/90
<u> X </u>	Preliminary Site Assessment Workplan Submitted	Date 8/22/91
<u> X </u>	Preliminary Site Assessment Underway	Date 9/91
_____	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 was removed. No further work necessary in area of former waste-oil tank (soil samples nondetectable). In response to a reported fuel spill, soil samples were collected on 9/26/90. Drilled borings B-1 through B-3 and installed groundwater wells MW-1 through MW-3 on 9/16/92.

RECENT ACTIVITIES/FINDINGS:

Last Quarter Activities: Monthly groundwater monitoring and quarterly groundwater sampling were performed. The First Quarter 1992 Quarterly Groundwater Monitoring Report was submitted.

Current Quarter Activities: Monthly groundwater monitoring and quarterly groundwater sampling were performed. The Second Quarter 1992 Quarterly Groundwater Monitoring Report was submitted. Drafted work plan for initial offsite and additional onsite subsurface investigation. Obtained permits for offsite wells.

ANTICIPATED ACTIVITIES:

Next Quarter Activities: Continue monthly groundwater monitoring and quarterly sampling. Submit workplan for next phase investigation to regulatory agencies and initiate additional subsurface investigation. Offsite portion of work on hold pending review of nearby UST sites.

Reports documenting the site's history are listed on page 2.

REPORTDATECONSULTANT

Work Plan
60006.04

9/29/92

RESNA

Letter Report Second Quarter 1992 Groundwater
Monitoring
60006.03

9/30/92

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 Investigations
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-Limited
Subsurface Investigation Related
to the Removal of Waste-Oil Tank
at ARCO Station 6041
60006.01

9/19/90

Applied GeoSystems



Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
Fax: (408) 264-2345

LETTER REPORT
QUARTERLY GROUNDWATER MONITORING
Third Quarter 1992
at
ARCO Station 6041
7249 Village Parkway
Dublin, California

60006.03

reviewed
1/4/93
SDS



3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
Fax: (408) 264-2345

December 29, 1992
11061WHE
60006.03

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

Subject: Third Quarter 1992 Groundwater Monitoring Report for ARCO Station 6041,
7249 Village Parkway, Dublin, California.

Mr. Whelan:

As requested by ARCO Products Company (ARCO), this letter report summarizes the results of third 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 depths-to-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.

Quarterly Groundwater Monitoring
ARCO Station 6041, Dublin, CA

Results of previous environmental investigations at the site are summarized in the reports listed in the references section of this report. 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 by EMCON field personnel on July 28, August 24, and September 9, 1992. Quarterly sampling was performed by EMCON field personnel on September 9, 1992. The results of EMCON's field work on the site, including DTW levels and subjective analysis for the presence of product in the groundwater in MW-1 through MW-3 are presented on 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 MW-1 through MW-3 for this and previous quarters at the site are summarized in Table 1, Cumulative Groundwater Monitoring Data. Evidence of product or sheen was not observed by EMCON's field personnel during this quarter (see Emcon's Field Reports, Appendix A). The groundwater gradients, interpreted from Emcon's DTW levels, for July, August and September 1992 are shown on the Groundwater Gradient Maps, Plates 3 through 5. The groundwater gradients were essentially flat (less than 0.01), with flow directions to the south-southeast in July, to the east in August, and to the east-northeast in September. The flow directions interpreted for this quarter varied from those interpreted for the last quarter.

Groundwater monitoring wells MW-1 through MW-3 were purged and sampled by EMCON field personnel on September 9, 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-3 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/DHS LUFT Methods. Concentrations of TPHg and benzene in the groundwater are shown on Plate 6, TPHg/Benzene Concentrations in Groundwater. The Chain of Custody Records and

Quarterly Groundwater Monitoring
ARCO Station 6041, Dublin, CA

Laboratory Analysis Reports are attached in Appendix A. Groundwater analytical results from this and previous quarters are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples.

Since last quarter the concentrations of TPHg and BTEX in groundwater monitoring well MW-1 decreased slightly, in well MW-2 decreased to nondetectable, and in well MW-3 increased.

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

Quarterly Groundwater Monitoring
ARCO Station 6041, Dublin, CA


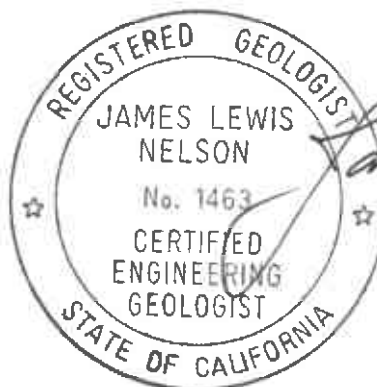
RESNA
Working To Restore Nature
December 29, 1992
60006.03

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

Sincerely,
RESNA Industries Inc.



Erin McLucas
Staff 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, July 28, 1992
Plate 4, Groundwater Gradient Map, August 24, 1992
Plate 5, Groundwater Gradient Map, September 9, 1992
Plate 6, TPHg Concentration in Groundwater, September 1992

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

Appendix A: EMCON's Field Reports (2), Depth To Water/Floating Product Survey Results, Summary of Groundwater Monitoring Data, Certified Analytical Reports with Chain of Custody, Water Sample Field Data Sheets

Monitoring Well Purge Water Disposal Form

Quarterly Groundwater Monitoring
ARCO Station 6041, Dublin, CA

REFERENCES

Alameda County Flood Control and Water Conservation District, Zone 7. January 16, 1991.
Fall 1990 groundwater Level Report.

Applied GeoSystems. September 19, 1990. Letter Report Limited Environmental Investigation Related to the Removal of Waste-Oil Tank at ARCO Station 6041, 7249 Village Parkway, Dublin, California. 60006-1.

California Department of Water Resources, 1974. Evaluation of Ground-Water Resources Engineering Livermore and Sunol Valleys; Bulletin No. 118-2, Appendix A.

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.

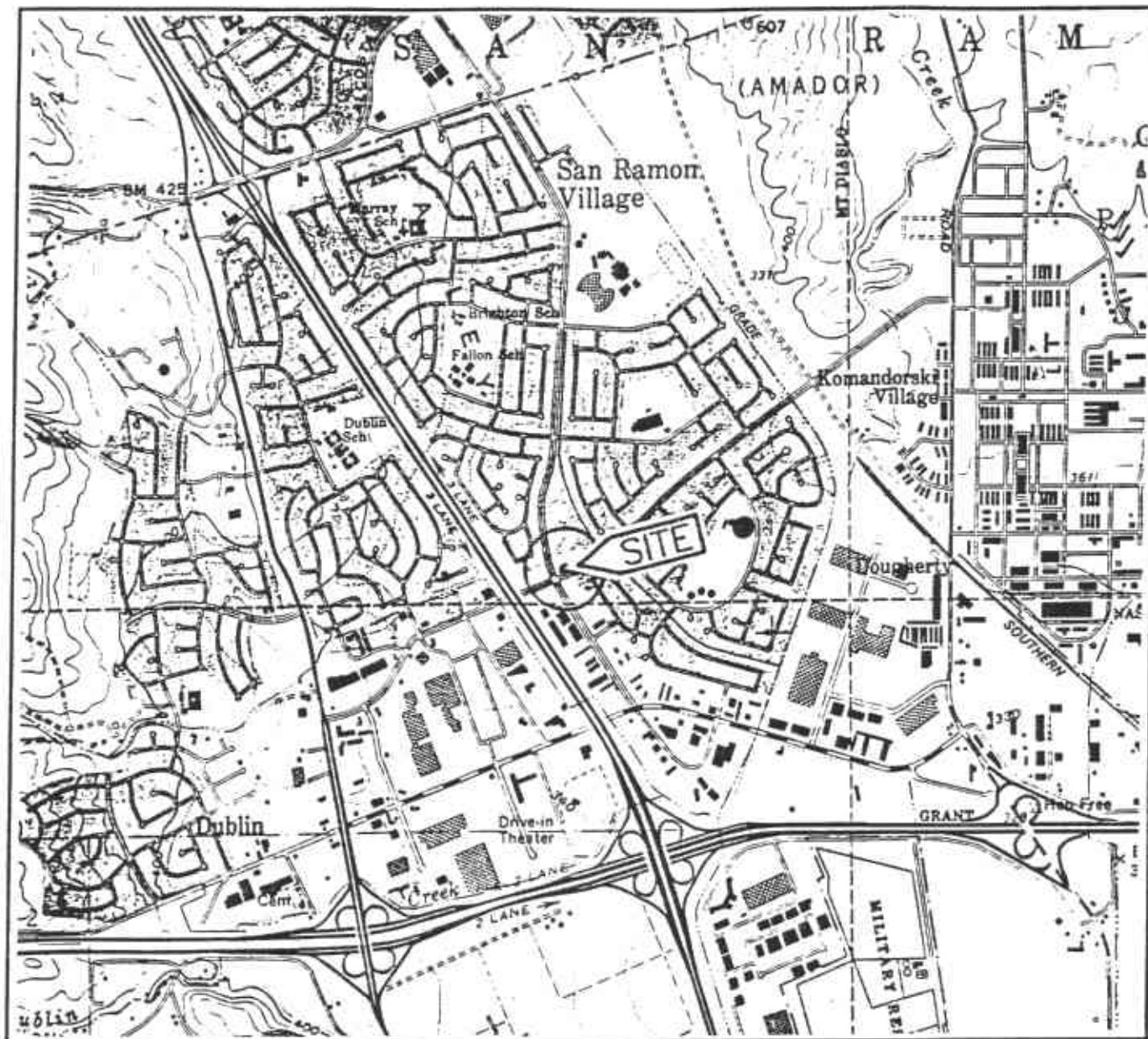
RESNA. February 12, 1992. Subsurface Environmental Investigation at ARCO Station 6041, 7249 Village Parkway, Dublin, California. 60006.02

RESNA. March 7, 1992. Letter Report, Quarterly Groundwater Monitoring, Fourth Quarter 1992 at ARCO Station, 6041, 7249 Village Parkway, Dublin, California. 60006.03

RESNA. May 1, 1992. Letter Report, Quarterly Groundwater Monitoring, First Quarter 1992 at ARCO Station, 6041, 7249 Village Parkway, Dublin, California. 60006.03

RESNA. September 25, 1992. Letter Report, Quarterly Groundwater Monitoring, Second Quarter 1992 at ARCO Station 6041, 7249 Village Parkway, Dublin, California. 60006.03.

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



Base: U.S. Geological Survey
7.5-Minute Quadrangle
Dublin, California
Photorevised 1980

LEGEND

● = Site Location



Approximate Scale



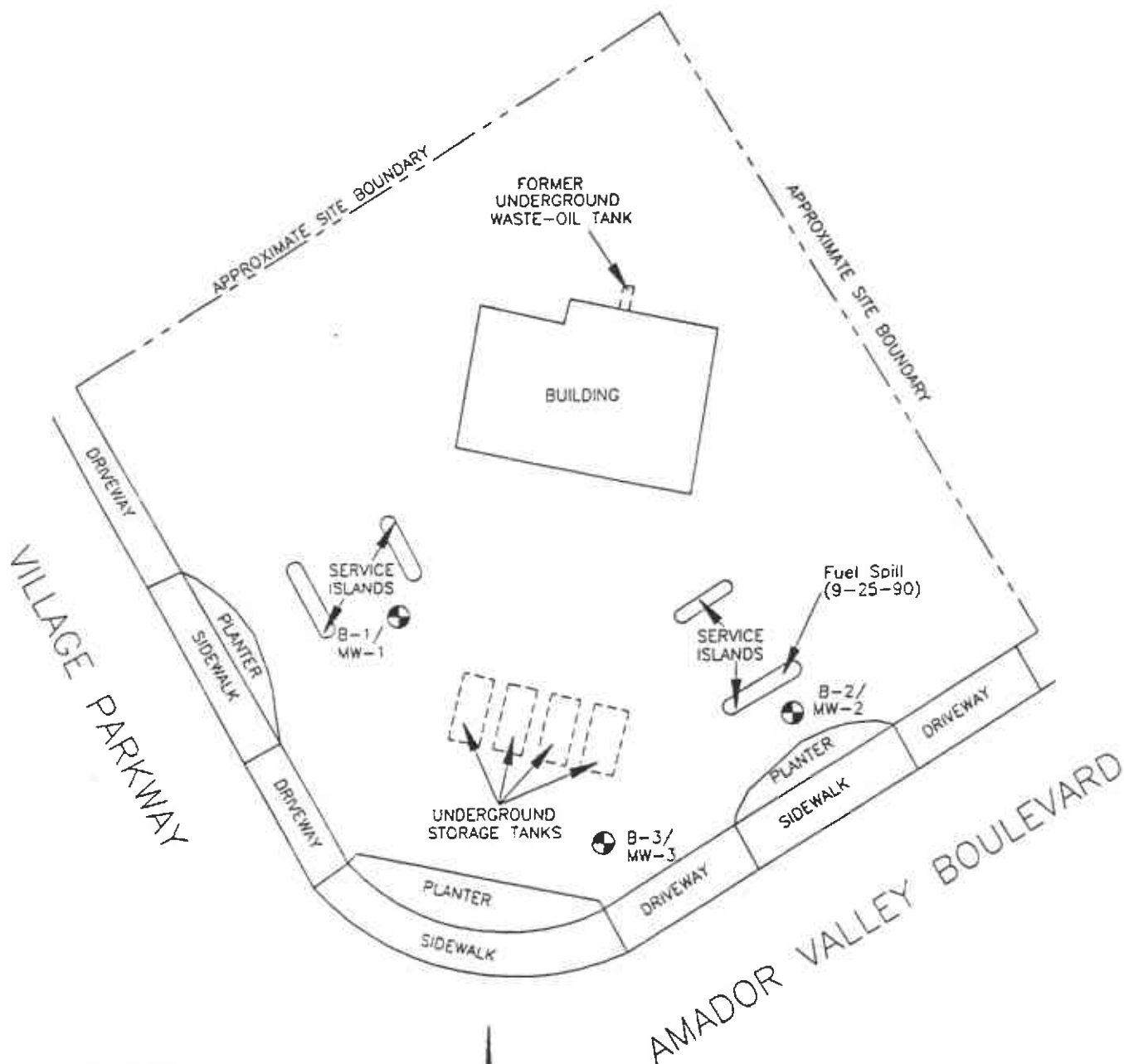
RESNA

PROJECT 60006.03

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

PLATE

1



EXPLANATION

B-3/
MW-3 = Boring/groundwater monitoring well
(RESNA, Sept. 1991)

Source: Modified from plan supplied by ARCO.

RESNA

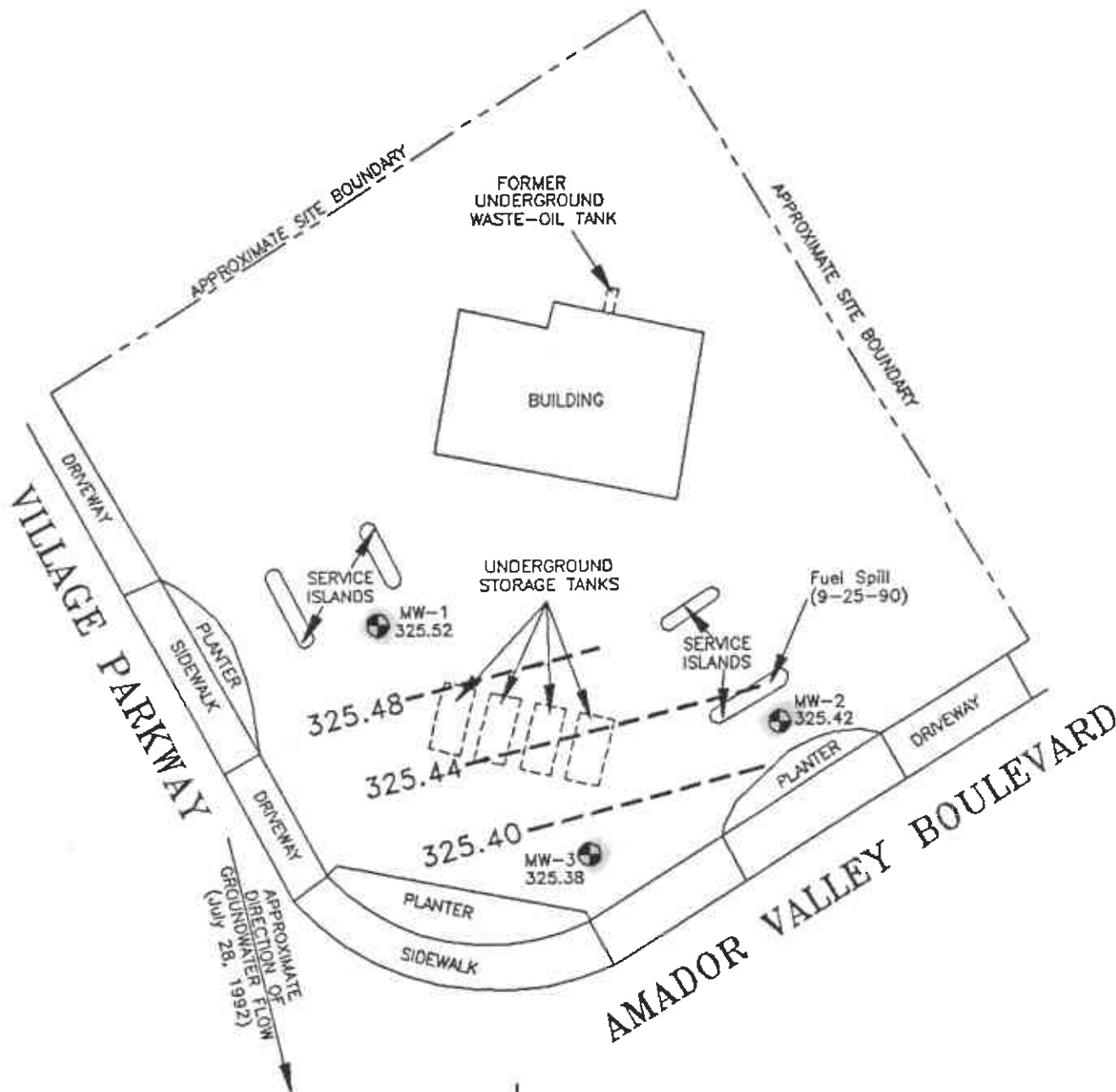
PROJECT

60006.03

GENERALIZED SITE PLAN
ARCO Service Station 6041
7249 Village Parkway
Dublin, California

PLATE

2



EXPLANATION

- MW-3 = Groundwater monitoring well (RESNA, September 1991)
- 325.48 = Line of equal elevation of groundwater in feet above mean sea level (MSL)
- 325.52 = Elevation of groundwater in feet above MSL, July 28, 1992

Approximate Scale



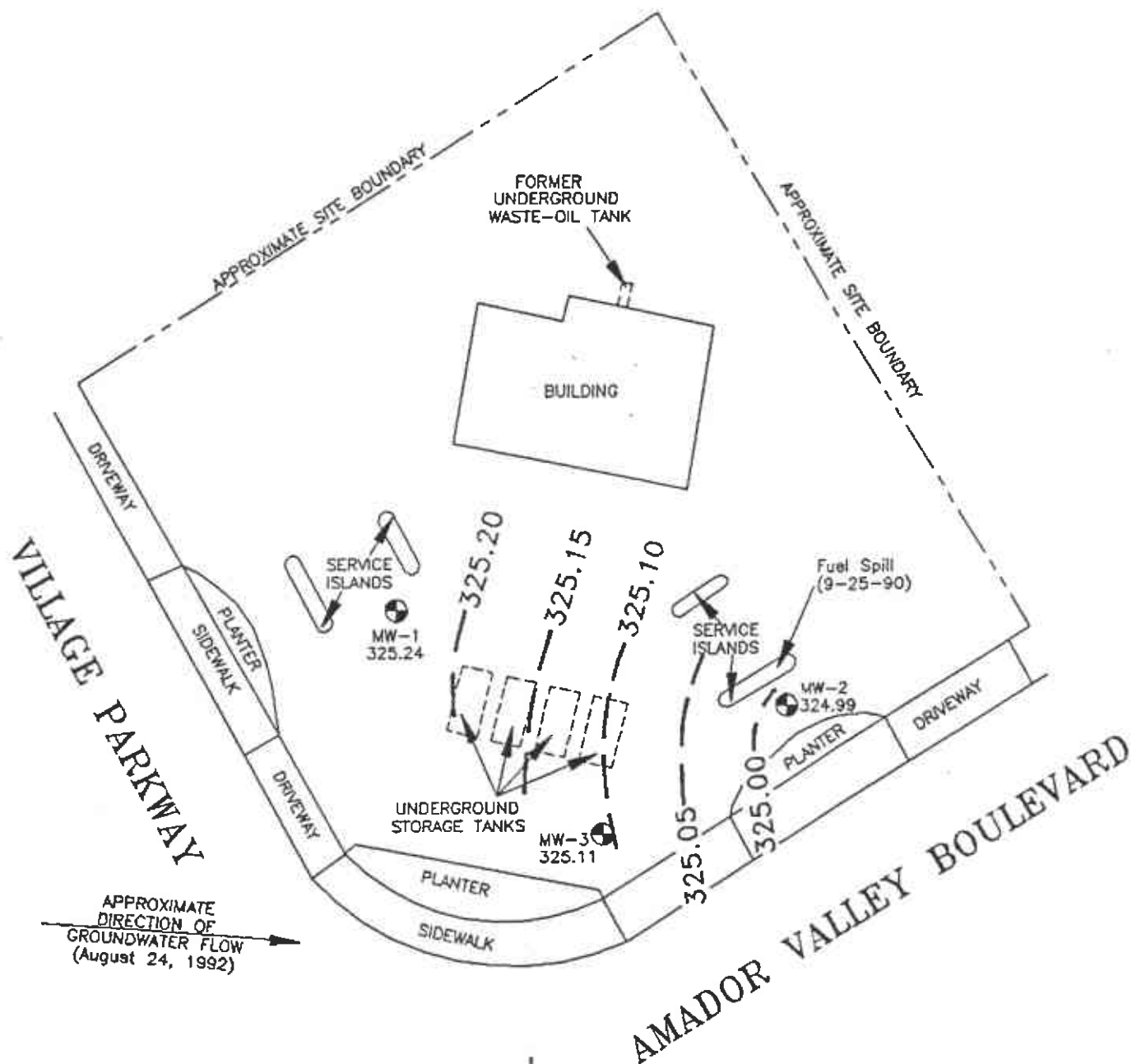
Source: Modified from plan supplied by ARCO.

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GROUNDWATER GRADIENT MAP
ARCO Service Station 6041
7249 Village Parkway
Dublin, California

PLATE
3

PROJECT 60006.03



EXPLANATION

MW-3 = Groundwater monitoring well (RESNA, September 1991)

---325.20 = Line of equal elevation of groundwater in feet above mean sea level (MSL)

325.24 = Elevation of groundwater in feet above MSL, August 24, 1992

Approximate Scale



Source: Modified from plan supplied by ARCO.

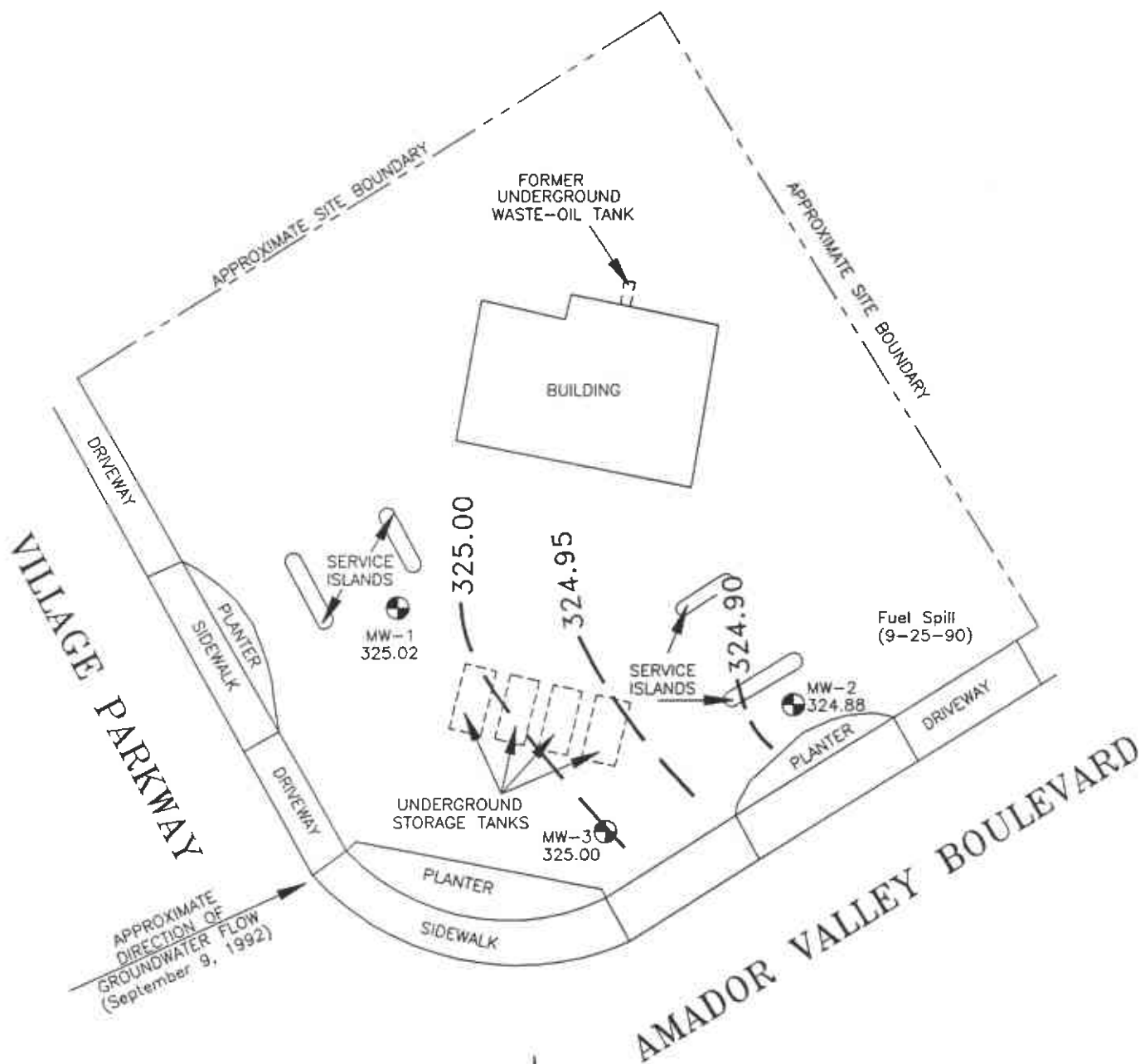
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PROJECT 60006.03


GROUNDWATER GRADIENT MAP
ARCO Service Station 6041
7249 Village Parkway
Dublin, California

PLATE

4



EXPLANATION

MW-3  = Groundwater monitoring well (RESNA, September 1991)

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

325.02 = Elevation of groundwater in feet above MSL, September 9, 1992

Approximate Scale

40 20 0 40 80

feet

Source: Modified from plan supplied by ARCO.

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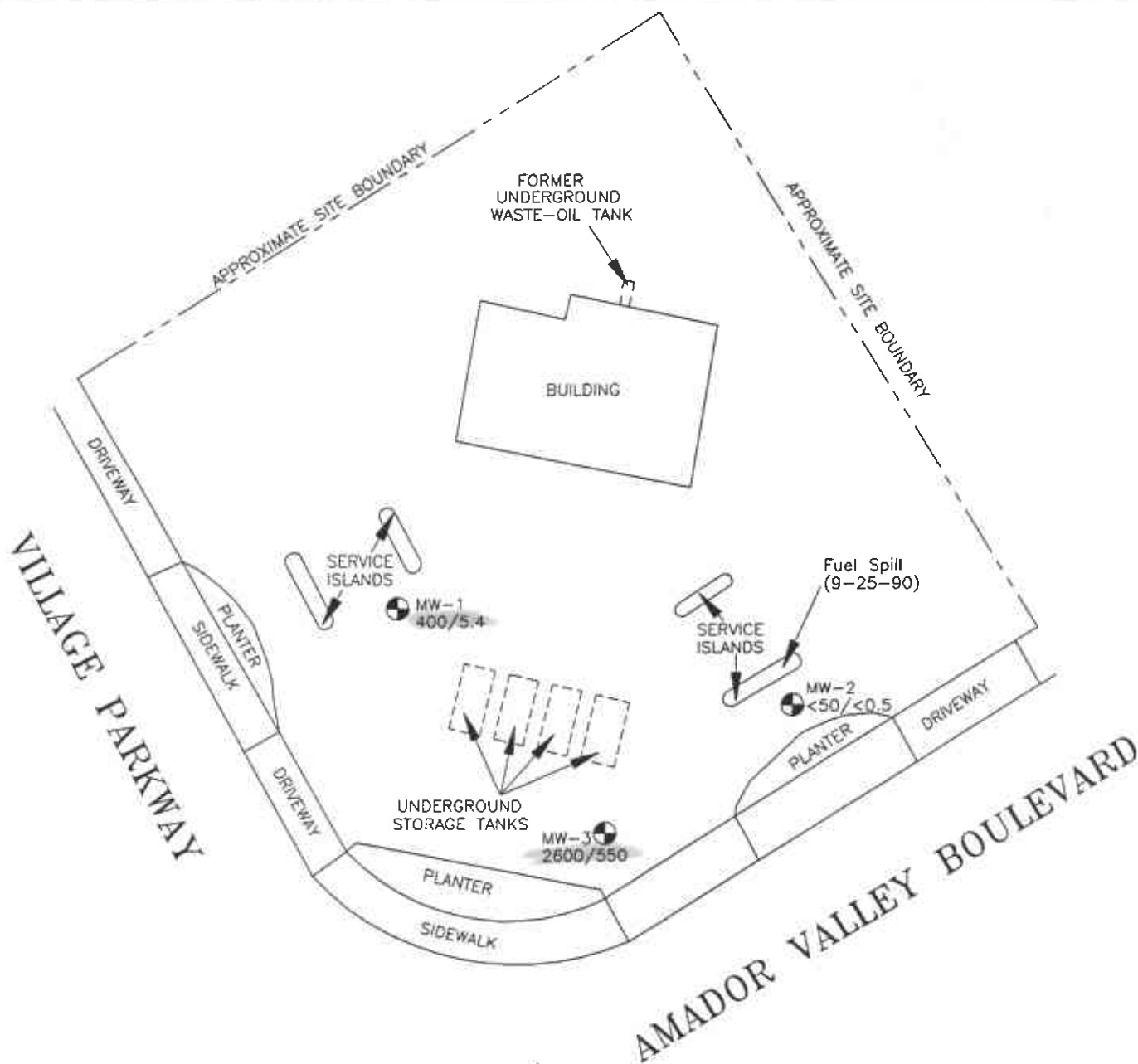
GROUNDWATER GRADIENT MAP
ARCO Service Station 6041
7249 Village Parkway
Dublin, California

PLATE

5


PROJECT

60006.03



EXPLANATION

2600/550 = Concentration of TPHg/Benzene in groundwater, in ppb, September 9, 1992

MW-3  = Groundwater monitoring well (RESNA, September 1991)

Approximate Scale



Source: Modified from plan supplied by ARCO.

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PROJECT 60006.03

**TPHg/BENZENE CONCENTRATIONS
IN GROUNDWATER**
ARCO Service Station 6041
7249 Village Parkway
Dublin, California

PLATE

6

Quarterly Groundwater Monitoring
ARCO Station 6041, Dublin, CA

TABLE 1
CUMULATIVE GROUNDWATER MONITORING DATA
ARCO Station 6041
Dublin, California

Date Measured	Well Elevation	Depth to Water	Water Elevation	Floating Product
<u>MW-1</u>				
09-20-91	336.56	11.20	325.36	None
10-22-91		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	
<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		9.76	325.04	None
01-18-92		9.47	325.33	None
02-21-92		7.62	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	
<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
01-18-92		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	

Measurements in feet.

Wells surveyed on October 11, 1991. Datum is City of Dublin = (USGS)

Quarterly Groundwater Monitoring
ARCO Station 6041, Dublin, CA

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER SAMPLES
ARCO Station 6041
Dublin, California

<u>Well</u> Date	TPHg	Benzene	Toluene	Ethyl- Benzene	Total Xylenes
<u>MW-1</u>					
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
<u>MW-2</u>					
09-20-91	130	6.6	0.96	1.4	1.5
12-16-91	83	0.96	<0.30	<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
<u>MW-3</u>					
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
MCL	---	1	---	680	1,750
DWAL	---	---	100	---	---

Results in ~~micrograms per liter~~ (ppb)

Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 5030/8015/8020.

TPHg: Total petroleum hydrocarbons as gasoline (analyzed by EPA Method 5030/8015/8020).

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

└─

Monitoring well number

APPENDIX A

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

MONITORING WELL PURGE WATER DISPOSAL FORM



Consultants in Wastes
Management and
Environmental Control

RECEIVED

SEP 1 1992

RESNA
SAN JOSE

Date Sept 01, 1992
Project G70-35.01

To:

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

We are enclosing:

Copies	Description
<u>1</u>	<u>Depth To Water/Floating Product Survey Results</u>
<u> </u>	<u>August 1992 monthly water level survey, ARCO</u>
<u> </u>	<u>station 6041, 7249 Village Parkway, Dublin, CA</u>

For your: X Information Sent by: X Mail

Comments:

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

Reviewed by:



Jim Butera JB

Robert Porter

Robert Porter, Senior Project
Engineer.





EMCON
ASSOCIATES

Consultants in Wastes
Management and
Environmental Control

RECEIVED

AUG 4 1992

RESNA
SAN JOSE

Date July 30, 1992
Project G70-35.01

To:

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

We are enclosing:

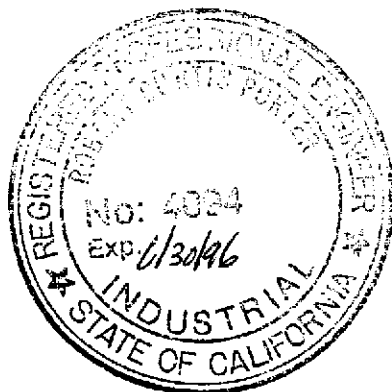
Copies	Description
<u>1</u>	<u>Depth To Water/Floating Product Survey Results</u>
<u> </u>	<u>July 1992 monthly water level survey, ARCO</u>
<u> </u>	<u>station 6041, 7249 Village Parkway, Dublin, CA</u>

For your: X Information Sent by: X Mail

Comments:

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

Reviewed by:



Jim Butera JB

Robert Porter
Robert Porter, Senior Project
Engineer.





EMCON
ASSOCIATES

Consultants in Wastes
Management and
Environmental Control

RECEIVED

SEP 29 1992

RESNA
SAN JOSE

Date Sept 22, 1992
Project G70-35.01

To:

Mr. Joel Coffman
RESNA/ Applied Geosystems
3315 Almaden Expressway, Suite 34
San Jose, California 95050

We are enclosing:

Copies	Description
<u>1</u>	<u>Depth To Water / Floating Product Survey Results</u>
<u>1</u>	<u>Summary of Groundwater Monitoring Data</u>
<u>1</u>	<u>Certified Analytical Reports with Chain-of-Custody</u>
<u>3</u>	<u>Water Sample Field Data Sheets</u>

For your: X Information Sent by: X Mail

Comments:

Enclosed are the data from the third quarter 1992 monitoring event at
ARCO service station 6041, 7249 Village Parkway, Dublin, 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



Robert Porter
Robert Porter, Senior Project
Engineer.



FIELD REPORT
DEPTH TO WATER / FLOATING PRODUCT SURVEY

PROJECT # : G70-35.01

STATION ADDRESS : 7249 Village Parkway, Dublin, CA

DATE : 9-9-97

ARCO STATION # : 6041

FIELD TECHNICIAN : J Williams

DAY : WED

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-2	OK	YES	OK	3259	3259 OK	9.92	9.92	ND	ND	14.0	-
2	MW-1	OK	YES	OK	3259		11.54	11.54	ND	ND	17.5	-
3	MW-3	OK	YES	OK	3259	↓	1053	1053	ND	ND	14.7	-

SURVEY POINTS ARE TOP OF WELL CASINGS

Summary of Groundwater Monitoring Data
 Third 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 ¹ as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)
MW-1(17)	09/09/92	11.54	ND. ²	400.	5.4	8.4	4.6	6.7
MW-2(13)	09/09/92	9.92	ND.	<50.	<0.5	<0.5	<0.5	<0.5
MW-3(14)	09/09/92	10.53	ND.	2,600.	550.	<5.	120.	12.
FB-1 ³	09/09/92	NA. ⁴	NA.	<50	<0.5	<0.5	<0.5	<0.5

-
1. TPH. = Total petroleum hydrocarbons
 2. ND. = Not detected
 3. FB. = Field blank
 4. NA. = Not applicable
-



September 16, 1992

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

Re: EMCON Project No. G70-35.01
Arco Facility No. 6041

Dear Mr. Butera:


Enclosed are the results of the water samples submitted to our lab on September 9, 1992. For your reference, our service request number for this work is SJ92-1133.


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 J. Bazar
Regional QA Coordinator

le/KAM

Analytical Report

Client: EMCON Associates
 Project: EMCON Project No. G70-35.01
 Arco Facility No. 6041

Date Received: 09/09/92
 Work Order #: SJ92-1133
 Sample Matrix: Water

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

Sample Name:	<u>MW-1 (17)</u>	<u>MW-2 (13)</u>	<u>MW-3 (14)</u>
Date Analyzed:	09/11/92*	09/14/92	09/14/92

<u>Analyte</u>	<u>MRL</u>			
Benzene	0.5	5.4	ND	550.
Toluene	0.5	8.4	ND	<5.**
Ethylbenzene	0.5	4.6	ND	120.
Total Xylenes	0.5	6.7	ND	12.
TPH as Gasoline	50	400.	ND	2,600.

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 September 11, 1992. However, it was analyzed after midnight so the actual date analyzed is September 12, 1992.

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

Approved by

K. A. Murphy

Date

September 16, 1992

Analytical Report



Client: EMCON Associates
Project: EMCON Project No. G70-35.01
Arco Facility No. 6041

Date Received: 09/09/92
Work Order #: SJ92-1133
Sample Matrix: Water

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

Sample Name:	<u>FB-1</u>	<u>Method Blank</u>	<u>Method Blank</u>
Date Analyzed:	09/11/92	09/11/92	09/14/92

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

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

Approved by

Date

September 16, 1992

Client: EMCON Associates
 Project: EMCON Project No. G70-35.01
 Arco Facility No. 6041

Date Received: 09/09/92
 Work Order #: SJ92-1133

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

Date Analyzed: 09/11/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	257.	103.	85-115
Toluene	250.	260.	104.	85-115
Ethylbenzene	250.	255.	102.	85-115
Total Xylenes	750.	728.	97.	85-115
TPH as Gasoline	2,500.	2,420.	97.	90-110

Date Analyzed: 09/14/92

<u>Analyte</u>	<u>True Value</u>	<u>Result</u>	<u>Percent Recovery</u>	<u>CAS Percent Recovery Acceptance Criteria</u>
Benzene	250.	249.	100.	85-115
Toluene	250.	260.	104.	85-115
Ethylbenzene	250.	244.	98.	85-115
Total Xylenes	750.	710.	95.	85-115
TPH as Gasoline	2,500.	2,596.	104.	90-110

TPH Total Petroleum Hydrocarbons

Approved by Kearney Murphy Date September 16/1992

Client: EMCON Associates
Project: EMCON Project No. G70-35.01
Arco Facility No. 6041

Date Received: 09/09/92
Work Order #: SJ92-1133
Sample Matrix: Water

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

<u>Sample Name</u>	<u>Date Analyzed</u>	<u>Percent Recovery</u> <i>α,α,α-Trifluorotoluene</i>
MW-1 (17)	09/11/92	103.
MW-2 (13)	09/14/92	95.
MW-3 (14)	09/14/92	93.
FB-1	09/11/92	93.
MS	09/11/92	125.
DMS	09/11/92	107.
Method Blank	09/11/92	103.
Method Blank	09/14/92	98.

CAS Acceptance Criteria 70-130

TPH Total Petroleum Hydrocarbons

Approved by

Keon Murphy

Date

September 16, 1992



Client: EMCON Associates
Project: EMCON Project No. G70-35.01
Arco Facility No. 6041

Date Received: 09/09/92
Work Order #: SJ92-1133
Sample Matrix: Water

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

Date Analyzed: 09/11/92

		Percent Recovery					
Analytes	Spike Level	Sample Result	Spike Result		Percent Recovery		Acceptance Criteria
			MS	DMS	MS	DMS	
TPH as Gasoline	250.	130.	394.	381.	105.	100.	70-130

TPH Total Petroleum Hydrocarbons

Approved by

Keenan Murphy

Date

September 16, 1992

Distribution: White copy — Laboratory; Canary copy — ARCO Environmental Engineering; Pink copy — Consultant
APPC-3292 (2-91)

EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

 PROJECT NO: G70-3501
 PURGED BY: SW Williams
 SAMPLED BY: SW Williams

 SAMPLE ID: MW-1
 CLIENT NAME: ARCO 6041
 LOCATION: 7249 Village Pkwy
Dublin, CA

 TYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐

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

 CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 3.90
 DEPTH TO WATER (feet): 11.54 CALCULATED PURGE (gal.): 19.54
 DEPTH OF WELL (feet): 17.5 ACTUAL PURGE VOL (gal.): 8.5

 DATE PURGED: 090997 Start (2400 Hr) 1420 End (2400 Hr) 1432
 DATE SAMPLED: 090997 Start (2400 Hr) End (2400 Hr) 1447

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	EC. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1425</u>	<u>4</u>	<u>6.54</u>	<u>3450</u>	<u>75.0</u>	<u>GREY</u>	<u>HEAVY</u>
<u>1430</u>	<u>8</u>	<u>6.70</u>	<u>2560</u>	<u>74.1</u>	<u>L</u>	<u>L</u>
<u>DRIED AFTER 8.5 GALLON Time 1432</u>						
<u>1450</u>	<u>Recharge</u>	<u>6.70</u>	<u>2500</u>	<u>78.1</u>	<u>GREY</u>	<u>HEAVY</u>

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

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

PURGING EQUIPMENT

☐ 2" Bladder Pump ☐ Bailer (Teflon®)
☐ Centrifugal Pump ☐ Bailer (PVC)
☐ Submersible Pump ☐ Bailer (Stainless Steel)
☐ Well Wizard™ ☐ Dedicated

 Other:

SAMPLING EQUIPMENT

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

 Other:

 WELL INTEGRITY: OK LOCK #: 3259

 REMARKS: DRIED Time 1432

 Meter Calibration: Date: 9-9-97 Time: 1300 Meter Serial #: Temperature °F:

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

 Location of previous calibration: MW-3

 Signature: Joe Williams Reviewed By: JB Page 1 of 3



EMCON
ASSOCIATES

WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: G70-35.01

SAMPLE ID: MW-2

PURGED BY: J. Williams

CLIENT NAME: ARCO 6041

SAMPLED BY: J. Williams

LOCATION: 7249 Village Pkwy

TYPE: Ground Water ☒ Surface Water ☐ Treatment Effluent ☐ Other ☐

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

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 2.67
DEPTH TO WATER (feet): 9.92 CALCULATED PURGE (gal.): 13.38
DEPTH OF WELL (feet): 19.0 ACTUAL PURGE VOL (gal.): 14.0

DATE PURGED: 090992 Start (2400 Hr) 1350 End (2400 Hr) 1403
DATE SAMPLED: 090992 Start (2400 Hr) 1405 End (2400 Hr) 1406

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1353</u>	<u>3</u>	<u>6.49</u>	<u>3840</u>	<u>74.5</u>	<u>GREY</u>	<u>HEAVY</u>
<u>1355</u>	<u>6</u>	<u>6.47</u>	<u>4246</u>	<u>73.1</u>	<u>L</u>	<u>L</u>
<u>1358</u>	<u>9</u>	<u>6.49</u>	<u>4230</u>	<u>72.3</u>	<u>L</u>	<u>L</u>
<u>1400</u>	<u>12</u>	<u>6.51</u>	<u>4260</u>	<u>72.4</u>	<u>L</u>	<u>L</u>
<u>1403</u>	<u>14</u>	<u>6.55</u>	<u>4250</u>	<u>72.4</u>	<u>L</u>	<u>L</u>

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

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

PURGING EQUIPMENT

☐ 2" Bladder Pump ☐ Bailer (Teflon®)
☐ Centrifugal Pump ☒ Bailer (PVC)
☐ Submersible Pump ☐ Bailer (Stainless Steel)
☐ Well Wizard™ ☐ Dedicated

Other: _____

SAMPLING EQUIPMENT

☐ 2" Bladder Pump ☒ Bailer (Teflon®)
☐ DDL Sampler ☐ Bailer (Stainless Steel)
☐ Dipper ☐ Submersible Pump
☐ Well Wizard™ ☐ Dedicated

Other: _____

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: _____

Meter Calibration: Date: 9-9-92 Time: 1300 Meter Serial #: _____ Temperature °F: _____

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

Location of previous calibration: MW-3

Signature: Joe Williams Reviewed By: JB Page 2 of 3



WATER SAMPLE FIELD DATA SHEET

EMCON
ASSOCIATES

PROJECT NO: G70-35.01
PURGED BY: J Williams
SAMPLED BY: J.W. Williams

SAMPLE ID: MW-3
CLIENT NAME: ARCO 6041
LOCATION: 7249 Village Parkway
Dublin CA

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

CASING ELEVATION (feet/MSL): NR VOLUME IN CASING (gal.): 2.7
DEPTH TO WATER (feet): 10.53 CALCULATED PURGE (gal.): 13.67
DEPTH OF WELL (feet): 14.70 ACTUAL PURGE VOL (gal.): 4.0

DATE PURGED: 090992 Start (2400 Hr) 1315 End (2400 Hr) 1325
DATE SAMPLED: 090992 Start (2400 Hr) End (2400 Hr) 1501

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (Visual)
<u>1320</u>	<u>3</u>	<u>6.43</u>	<u>2720</u>	<u>74.9</u>	<u>BROWN</u>	<u>HEAVY</u>
	<u>DRIED</u>	<u>AFTER</u>	<u>4.0 GILLON</u>			
<u>1507</u>	<u>Recharge</u>	<u>6.46</u>	<u>2880</u>	<u>77.4</u>	<u>BROWN</u>	<u>HEAVY</u>
D. O. (ppm):	<u>NR</u>	ODOR:	<u>STRONG</u>		<u>NR</u>	<u>N/A</u>
					(COBALT 0 - 100)	(NTU 0 - 200)

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

PURGING EQUIPMENT

SAMPLING EQUIPMENT

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

WELL INTEGRITY: OK LOCK #: 3259

REMARKS: DRIED Time 13:25

Meter Calibration: Date: 9-9-92 Time: 1300 Meter Serial #: 9111 Temperature °F: 77.1
(EC 1000 826 / 1000) (DI) (pH 7 7.21 / 7.00) (pH 10 10.35 / 10.00) (pH 4 3.97 /)
Location of previous calibration:

Signature: J.W. Williams Reviewed By: JB Page 3 of 3

MONITORING WELL PURGE WATER TRANSPORT FORM

GENERATOR INFORMATION

NAME: ARCO PRODUCTS

ADDRESS: P.O. BOX 5811

CITY, STATE, ZIP: SAN MATEO, CA 94402

PHONE #: (415) 571-2434

DESCRIPTION OF WATER: PURGE WATER GENERATED DURING SAMPLING OR DEVELOPMENT OF MONITORING WELLS LOCATED AT VARIOUS SITES. AUGER RINSEATE GENERATED DURING THE INSTALLATION OF MONITORING WELLS AT VARIOUS SITES.
THE WATER MAY CONTAIN DISSOLVED HYDROCARBONS.

THE GENERATOR CERTIFIES THAT THIS WATER
AS DESCRIBED IS NON-HAZARDOUS

Kyle Christie by Stephen R. Yafite 9-24-92
(Typed or printed full name & signature) (Date)

SITE INFORMATION

	STA #	JOB #	ADDRESS	GALS
1	A-2092	21073-DW	5498 MONTEREY HWY., SAN JOSE, CA	401
2	A-6113	21053-PW	785 E. STANLEY, LIVERMORE, CA	30
3	A-771	21088-PW	899 RINCON AVE., LIVERMORE, CA	98
4	A-6201	20916-PW	40077 MISSION BLVD., FREMONT, CA	8
5	A-2152	21045-PW	22141 CENTER ST., CASTRO VALLEY, CA	123
6	A-6041	21050-PW	7249 VILLAGE PKWY., DUBLIN, CA	27
7	A-4495	21038	1950 S. DELAWARE, SAN MATEO, CA	46
8	A-4430	21010-PW	2995 MIDDLEFIELD RD., PALO ALTO, CA	173
9	A-2010	21090-PW	2110 OLD MIDDLEFIELD RD., MOUNTAIN VIEW, CA	415
10	A-1319	21054-PW	365 JACKSON ST., HAYWARD, CA	346
11	A-5387	21087-PW	20200 HESPERIAN BLVD., HAYWARD, CA	328
TOTAL GALLONS:				1,995

TRANSPORTER INFORMATION

NAME: BALCH PETROLEUM

ADDRESS: 930 AMES AVE.

CITY, STATE, ZIP: MILPITAS, CA 95035

PHONE #: (408) 942-8686

TRUCK ID #: PETERBILT

HURSCHEL WARD

(Typed or printed full name & signature)

(Date)

TSD FACILITY INFORMATION

NAME: GIBSON ENVIRONMENTAL

ADDRESS: 475 SEAPORT BLVD

CITY, STATE, ZIP: REDWOOD CITY, CA 94063

PHONE #: (415) 368-5511

RELEASE #: 11320

Shawn P. Rabin

(Typed or printed full name & signature)

(Date)

ON AIR 92-074 9-24-92