

3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
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LETTER REPORT  
QUARTERLY GROUNDWATER MONITORING  
Fourth Quarter 1992  
at  
ARCO Station 2152  
22141 Center Street  
Castro Valley, California

69013.13

3/9/93

3315 Almaden Expressway, Suite 34  
San Jose, CA 95118  
Phone: (408) 264-7723  
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March 9, 1993  
0115MWHE  
69013.13

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

Subject: Letter Report on Fourth Quarter 1992 Groundwater Monitoring at ARCO Station 2152, 22141 Center Street, Castro Valley, California.

Mr. Whelan:

As requested by ARCO Products Company (ARCO), RESNA Industries Inc. (RESNA) prepared this letter report which summarizes the results of the fourth quarter 1992 groundwater monitoring performed by ARCO's contractor, EMCON Associates (EMCON) of San Jose, at the above-referenced site. The objectives of this quarterly groundwater monitoring are to evaluate changes in the groundwater flow direction and gradient, and evaluate changes in concentrations of petroleum hydrocarbons in the local groundwater associated with former gasoline-storage tanks at the site. Field work and laboratory analyses of groundwater samples during this quarter performed under the direction of EMCON, 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; warrant of their field data and evaluation of their field protocols are 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 direction of groundwater flow beneath the site.

The operating Arco Station 2152 is located on the southwestern corner of the intersection of Grove Way and Center Street in Castro Valley, California. The site location is shown on the Site Vicinity Map, Plate 1.

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

### **Groundwater Sampling and Gradient Evaluation**

Depth-to-water measurements (DTW) were performed in the four onsite wells by EMCON field personnel on October 19, November 23, and December 18, 1992. Quarterly sampling was performed by EMCON field personnel on October 19, 1992. The results of EMCON's field work on the site, including DTW measurements and subjective analysis for the presence of product in the groundwater in MW-1 through MW-4, are presented on EMCON's Field Report Sheets and Water Sample Field Data Sheets. These data are included in Appendix A.

The DTW levels, wellhead elevations, groundwater elevations, and subjective observations for product in the groundwater from MW-1 through MW-4 for this quarter and previous quarterly groundwater monitoring at the site are summarized in Table 1, Cumulative Groundwater Monitoring Data. EMCON's DTW measurements were used to evaluate groundwater elevations. Evidence of product or sheen was not reported on EMCON's field report sheets during this quarter (see Appendix A). The groundwater gradients interpreted from the October, November and December 1992 groundwater monitoring episodes are shown on the Groundwater Gradient Maps, Plates 3 through 5. The interpreted groundwater gradients were relatively flat (less than 0.01) with flow directions to the south-southwest for October and November, and to the northwest for December. The gradients were interpreted from EMCON's DTW measurements from wells MW-1 through MW-4. The groundwater elevations and gradients for this quarter are generally consistent with previously interpreted data.

Groundwater monitoring wells MW-1 through MW-4 were purged and sampled by EMCON field personnel on October 19, 1992. EMCON's Water Sample Field Data Sheets, Field Report Sheet, and Summary of Groundwater Monitoring Data for October 19, 1992, are included in Appendix A. The purge water was removed from the site by a licensed hazardous waste hauler; the Monitoring Well Purge Water Transport Form is also included in Appendix A.

### **Laboratory Methods and Analyses**

Under the direction of EMCON, water samples collected from the wells were analyzed by

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Sequoia Analytical located in Redwood City, California (Hazardous Waste Testing Laboratory Certification No. 1210). The water samples from MW-1 through MW-4 were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using modified Environmental Protection Agency (EPA) Methods 5030/8015/8020. Concentrations of TPHg and benzene in the groundwater are shown on Plate 6, TPHg/Benzene Concentrations in Groundwater. The Chain of Custody Records and Laboratory Analysis Reports are attached in Appendix A. Results of these and previous water analyses are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater.

TPHg and BTEX in wells MW-1 through MW-4 are nondetectable this quarter, as they have been since the July 8, 1991 sampling event.

RESNA recommends 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  
Regional Water Quality Control Board  
San Francisco Bay Region  
2101 Webster Street, Suite 500  
Oakland, California 94612

Quarterly Groundwater Monitoring Report  
ARCO Station 2152, Castro Valley, California


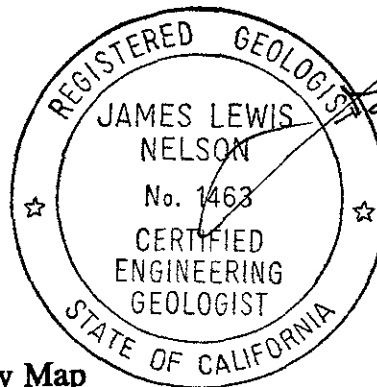
March 9, 1993  
69013.13

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 No. 1463

- Enclosures: **References**
- Plate 1, Site Vicinity Map
  - Plate 2, Generalized Site Plan
  - Plate 3, Groundwater Gradient Map, October 19, 1992
  - Plate 4, Groundwater Gradient Map, November 23, 1992
  - Plate 5, Groundwater Gradient Map, December 18, 1992
  - Plate 6, TPHg/Benzene Concentrations in Groundwater, October 19, 1992
- Table 1, Cumulative Groundwater Monitoring Data
- Table 2, Cumulative Results of Laboratory Analyses of Groundwater Samples
- Appendix A: EMCON's Field Reports Depth to Water/Floating Product Survey Results, Summary of Groundwater Monitoring Data, Certified Analytical Reports with Chain-of-Custody, and Water Sample Field Data Sheets.  
Monitoring Well Purge Water Transport Form

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ARCO Station 2152, Castro Valley, California

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**REFERENCES**

- Applied GeoSystems. May 26, 1989. Limited Environmental Site Assessment, 22141 Center Street, Castro Valley, California, AGS Report 69013-1.
- Applied GeoSystems. January 18, 1990. Limited Subsurface Environmental Investigation Related to Underground Tank Removal, 22141 Center Street, Castro Valley, California, AGS Report 69013-2.
- Applied GeoSystems. November 13, 1990. Environmental Subsurface Investigation at ARCO Station 2152, 22141 Center Street, Castro Valley, California, AGS Report 69013-4.
- Applied GeoSystems. March 24, 1991. Letter Report, Quarterly Ground-Water Monitoring, First Quarter 1991, 22141 Center Street, Castro Valley, California, AGS Report 69013-5.
- Applied GeoSystems. May 20, 1991. Letter Report, Quarterly Ground-Water Monitoring, Second Quarter 1991, 22141 Center Street, Castro Valley, California, AGS Report 69013-5.
- RESNA. July 2, 1991. Supplemental Subsurface and Remedial Investigation at ARCO Station 2152, 22141 Center Street, Castro Valley, California, AGS 69013-6.
- RESNA. October 8, 1991. Supplemental Subsurface and Remedial Investigation at ARCO Station 2152, 22141 Center Street, Castro Valley, California, AGS 69013-5.
- RESNA. October 18, 1991. Letter Report, Quarterly Ground-Water Monitoring, Third Quarter 1991, 22141 Center Street, Castro Valley, California, AGS Report 69013-5.
- RESNA. October 22, 1991. Work Plan for Additional Subsurface Investigation and Design and Permitting of Vapor Extraction System at ARCO Station 2152, 22141 Center Street, Castro Valley, California. 69013.08
- RESNA. March 2, 1992. Letter Report, Quarterly Groundwater Monitoring, Fourth Quarter 1991, 22141 Center Street, Castro Valley, California, 69013.09.
- RESNA. May 1, 1992. Letter Report, Quarterly Groundwater Monitoring, First Quarter 1992, 22141 Center Street, Castro Valley, California, 69013.09.

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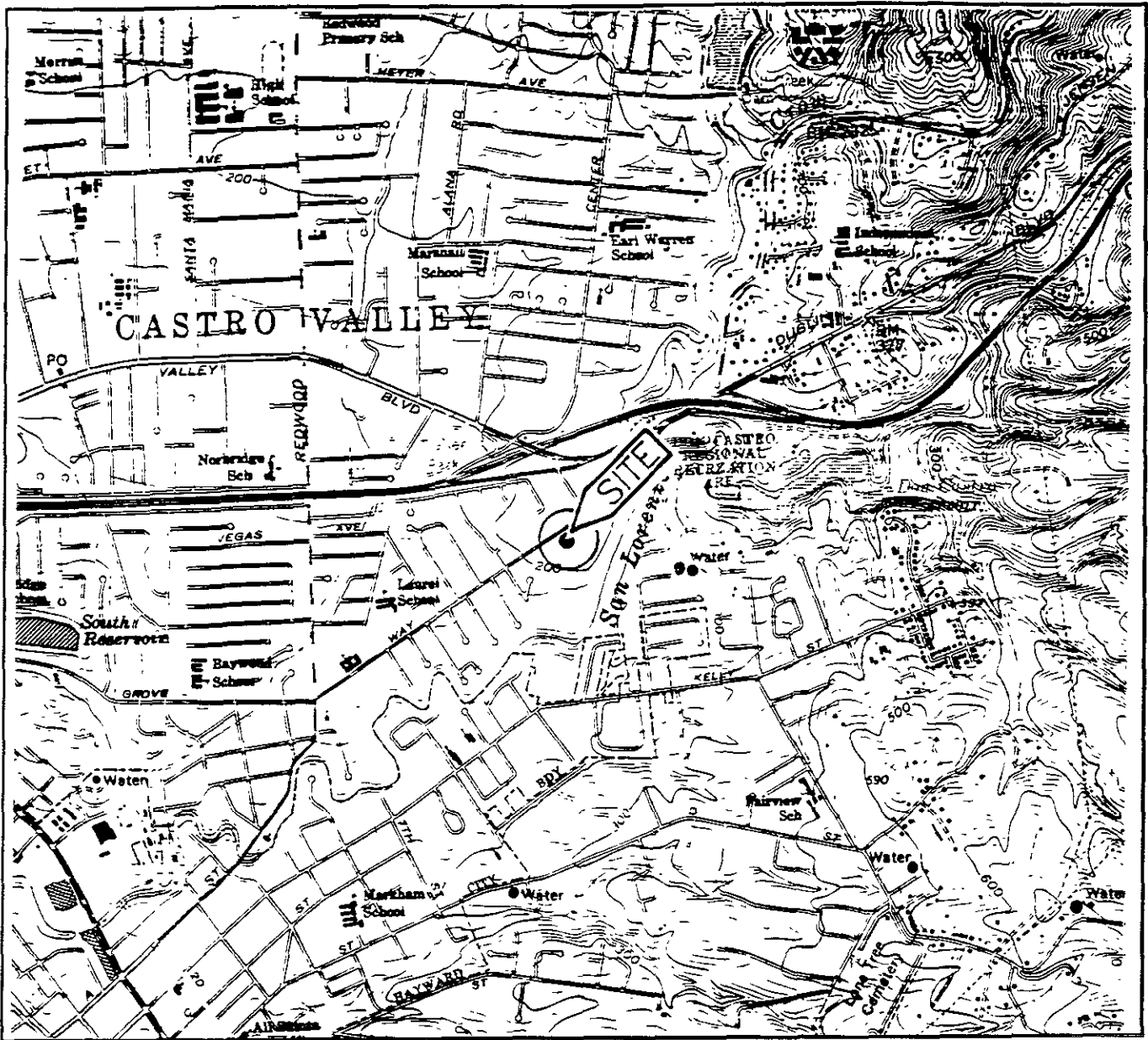
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**REFERENCES**  
(Continued)

RESNA. July 17, 1992. Letter Report, Limited Subsurface Environmental Investigation, ARCO Station 2152, 22141 Center Street, Castro Valley, California, 69013.08

RESNA. September 22, 1992. Letter Report, Quarterly Groundwater Monitoring, Second Quarter 1992, 22141 Center Street, Castro Valley, California, 69013.09.

RESNA. December 30, 1992. Letter Report, Quarterly Groundwater Monitoring, Third Quarter 1992, 22141 Center Street, Castro Valley, California, 69013.09.

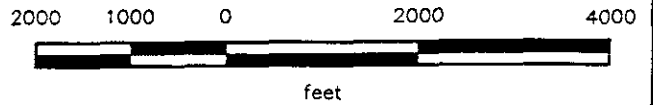


Base: U.S. Geological Survey  
 7.5-Minute Quadrangle  
 Hayward, California.  
 Photorevised 1980

**LEGEND**

● = Site Location

Approximate Scale



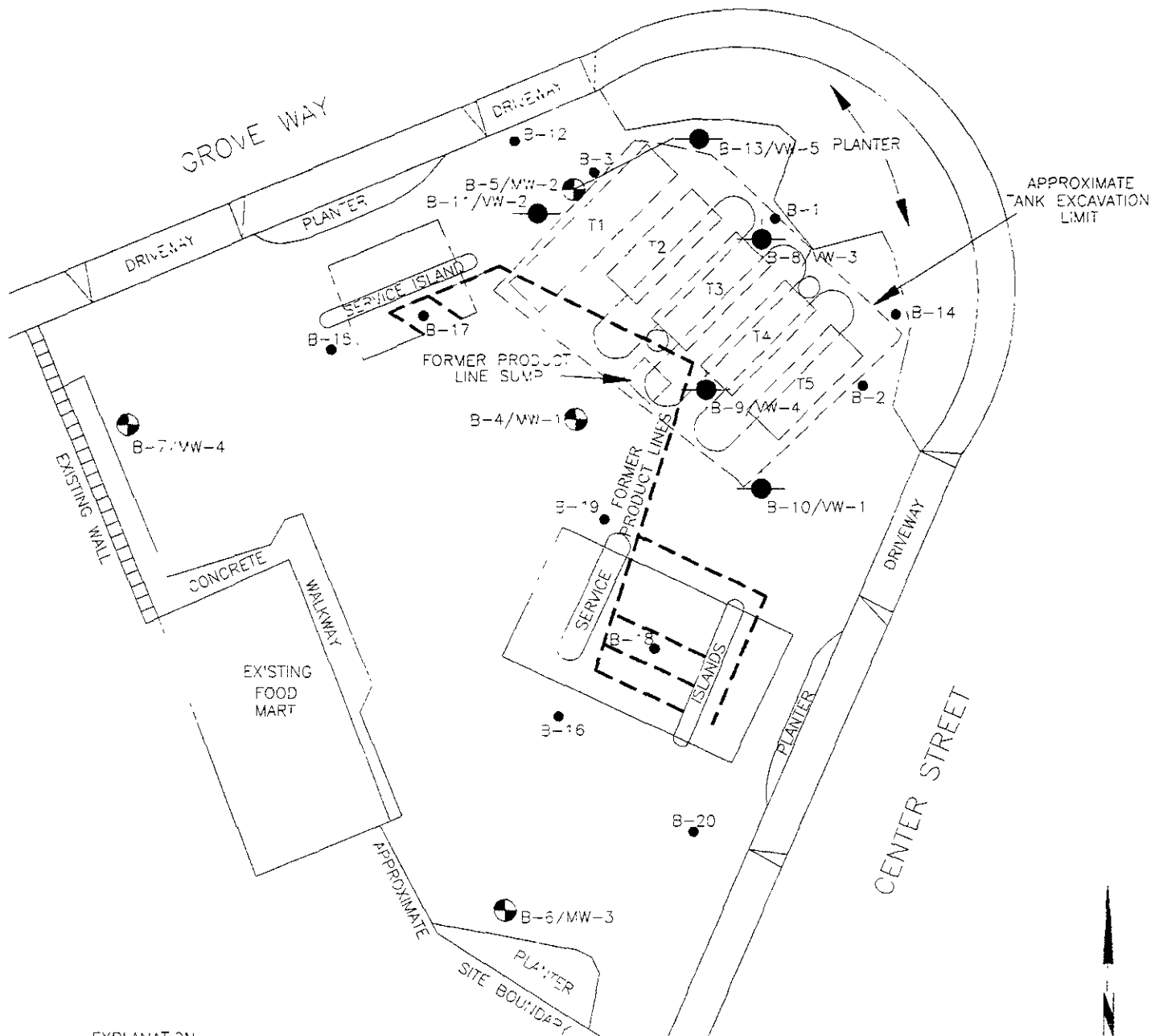
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 Working to Restore Nature

**PROJECT 69013.13**

**SITE VICINITY MAP  
 ARCO Station 2152  
 22141 Center Street  
 Castro Valley, California**

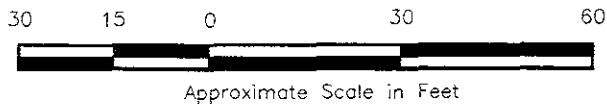
**PLATE  
 1**





**EXPLANATION**

- = Conductor casing (Parcisco, August 17, 1989)
- B-20 ● = Soil boring (RESNA, 1989, 1991, 1992)
- B-6/MW-3 ⊕ = Boring/monitoring well (RESNA, 1989, 1990)
- B-13/VW-5 ⊕ = Boring/vapor well (RESNA, June 1990)
- [ T5 ] = Former underground gasoline-storage tanks
- = Present underground gasoline-storage tanks



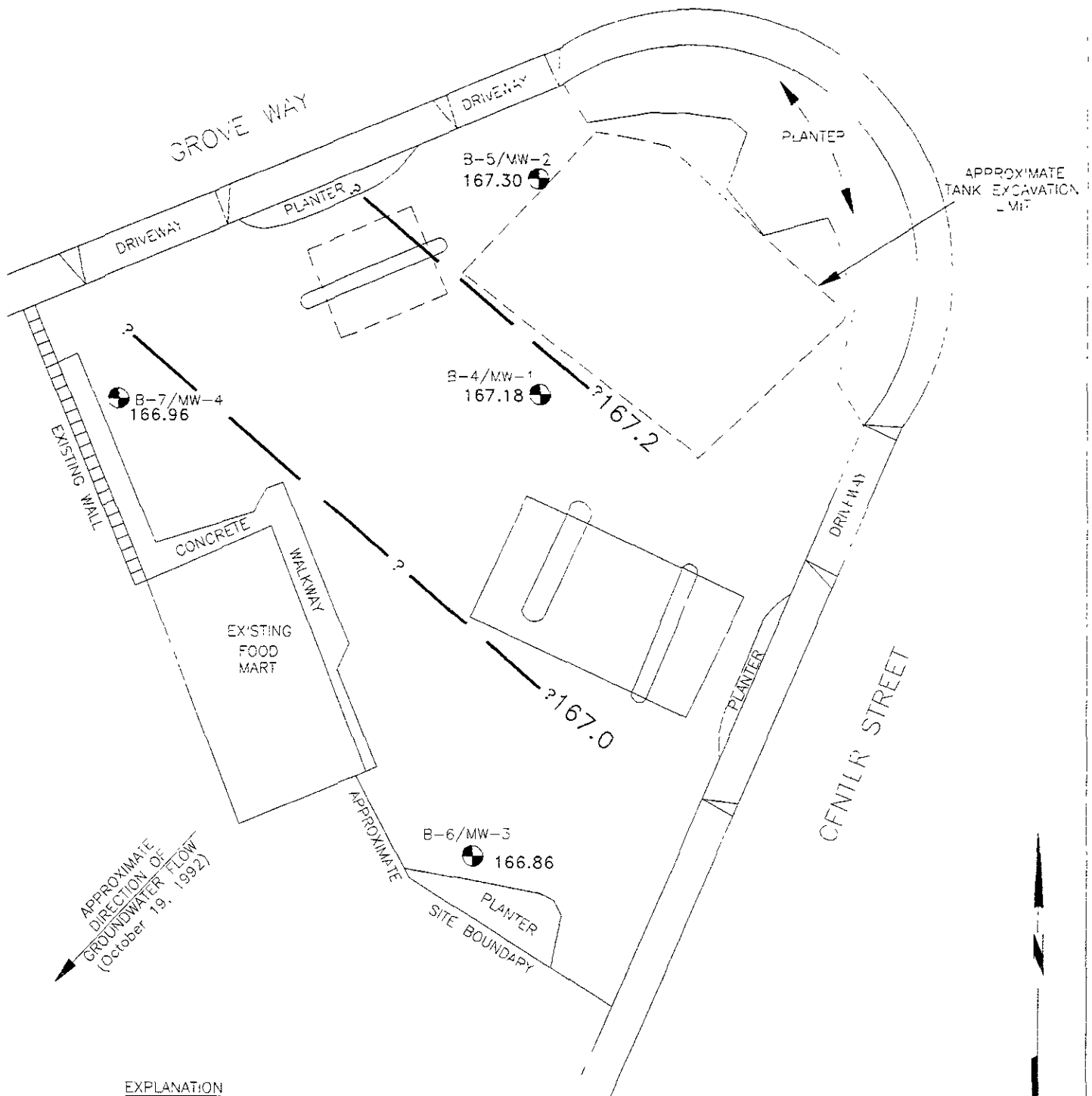
Source Surveyed by Ron Archer Civil Engineer, Inc



**GENERALIZED SITE PLAN**  
**ARCO Station 2152**  
**22141 Center Street**  
**Castro Valley, California**

**PLATE**  
**2**

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**EXPLANATION**

167.2 = Line of equal elevation of groundwater above mean sea level (MSL)

167.30 = Elevation of groundwater in feet (MSL) December 18, 1992

B-6/MW-3 = Boring/monitoring well (RESNA, 1989, 1990)



Approximate Scale in Feet

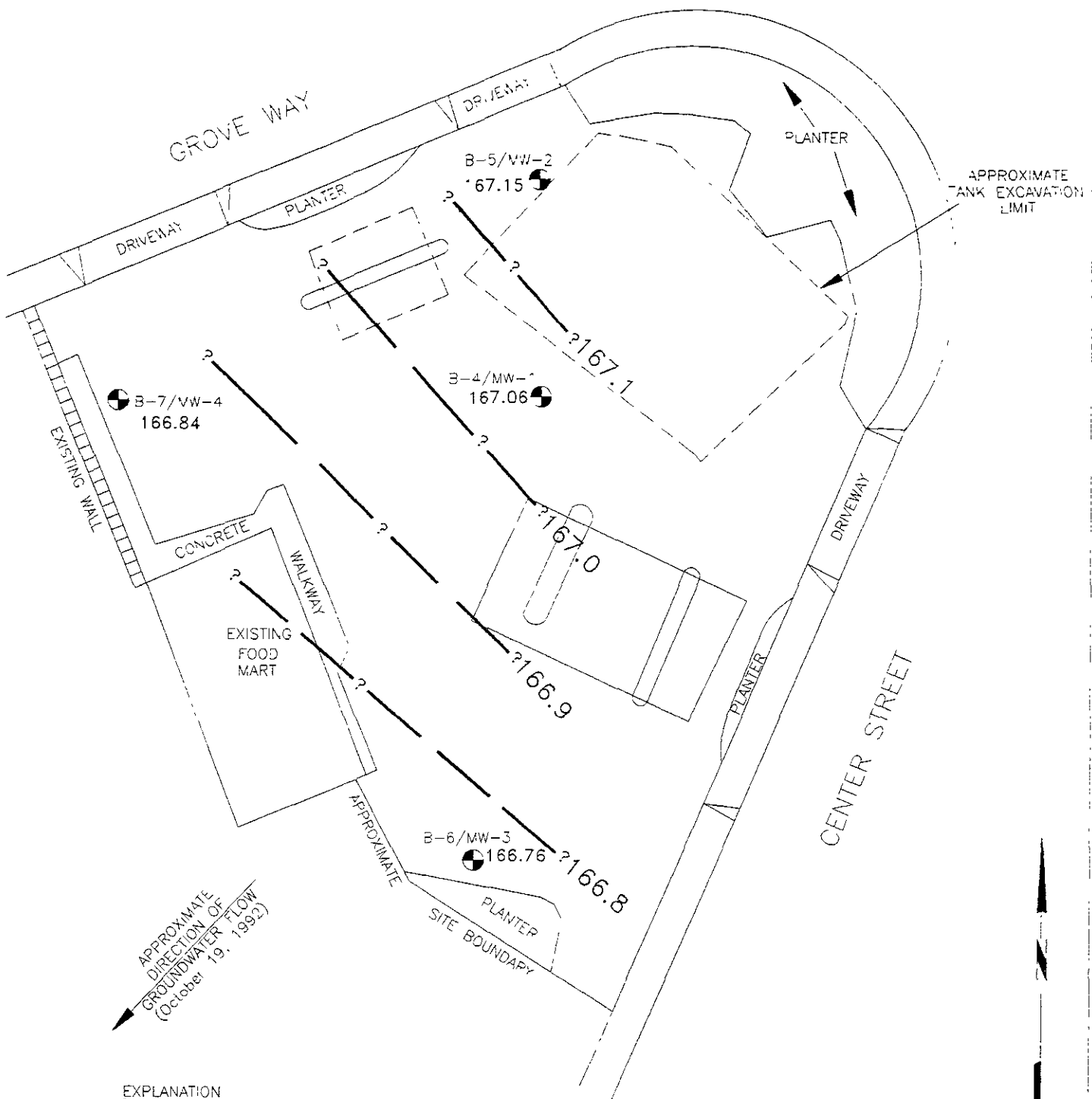
Source: Surveyed by Ron Archer Civil Engineer, Inc.



**GROUNDWATER GRADIENT MAP**  
**ARCO Station 2152**  
**22141 Center Street**  
**Castro Valley, California**

**PLATE**  
**3**

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**EXPLANATION**

167.1 = Line of equal elevation of groundwater above mean sea level (MSL)

167.15 = Elevation of groundwater in feet (MSL) December 18, 1992

B-6/MW-3 = Boring/monitoring well (RESNA 1989, 1990)



Approximate Scale in Feet

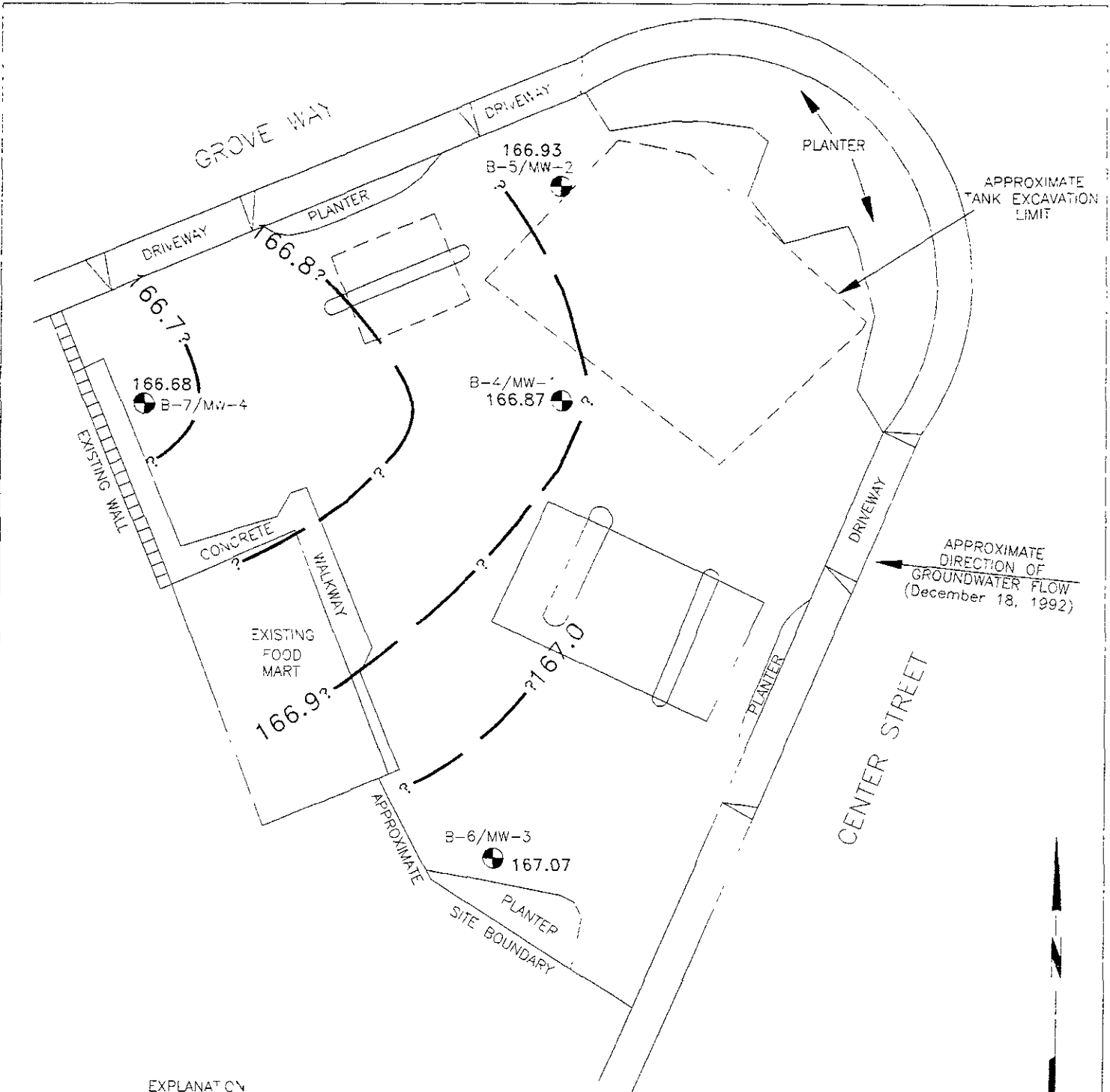
Source. Surveyed by Ron Archer Civil Engineer, Inc



**GROUNDWATER GRADIENT MAP**  
**ARCO Station 2152**  
**22141 Center Street**  
**Castro Valley, California**

**PLATE**  
**4**

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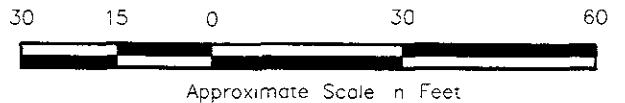


**EXPLANATION**

167.0 = Line of equal elevation of groundwater above mean sea level (MSL)

167.07 = Elevation of groundwater in feet (MSL) December 18, 1992

B-6/MW-3 = Boring/monitoring well (RESNA, 1989, 1990)



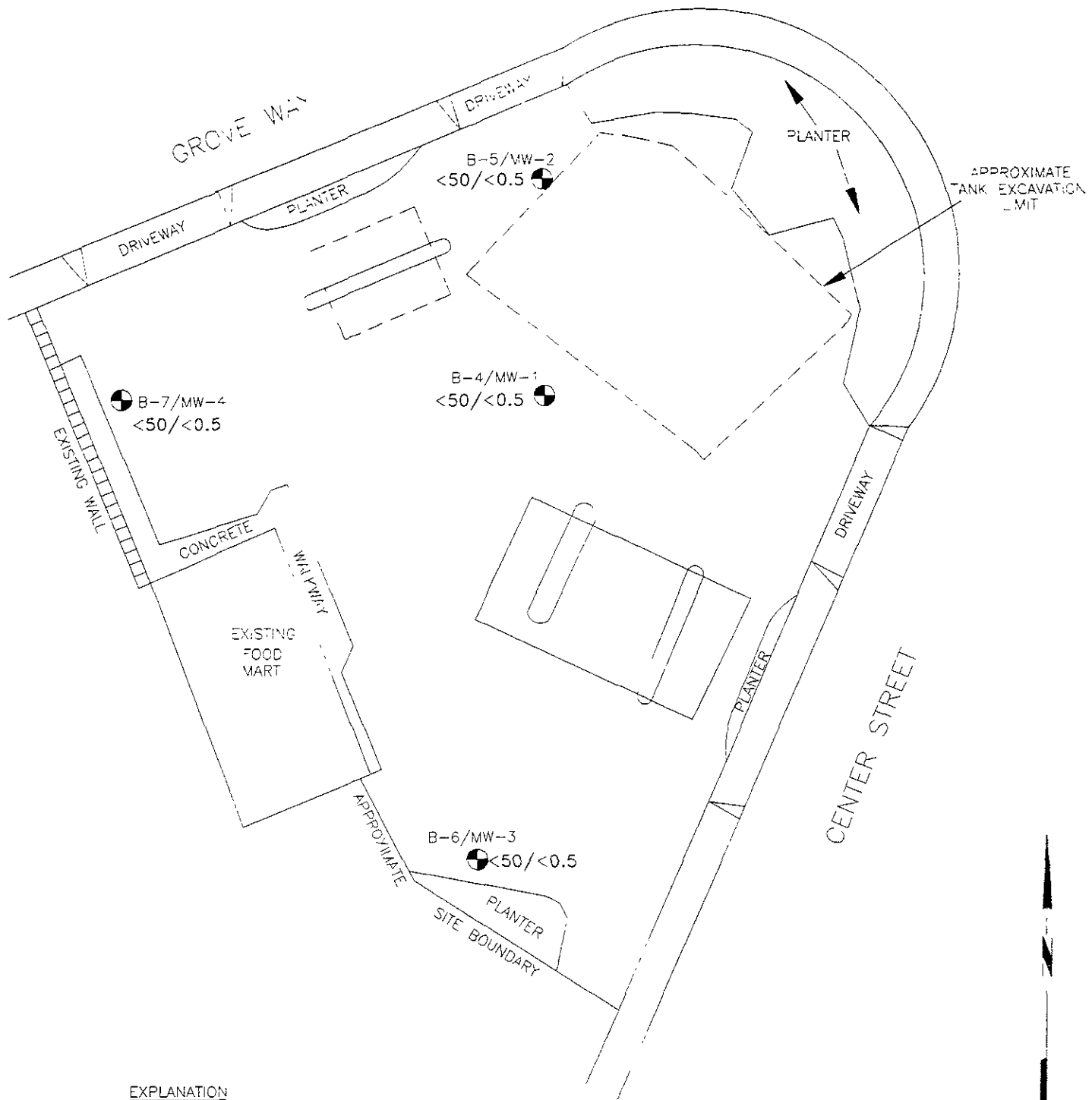
Source: Surveyed by Ron Archer Civil Engineer, Inc



**GROUNDWATER GRADIENT MAP**  
**ARCO Station 2152**  
**22141 Center Street**  
**Castro Valley, California**

**PLATE**  
**5**

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EXPLANATION

<50/<0.5 = Concentrations of TPHg/Benzene in groundwater in parts per billion (ppb) October 19, 1992

B-6/MW-3 = Boring/monitoring well (RESNA, 1989, 1990)



Approximate Scale in Feet

Source Surveyed by Ron Archer Civil Engineer, Inc

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**TPHg/BENZENE CONCENTRATIONS  
IN GROUNDWATER  
ARCO Station 2152  
22141 Center Street  
Castro Valley, California**

**PLATE  
6**

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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
ARCO Station 2152  
Castro Valley, California  
(Page 1 of 4)

Date Well Measured	Depth of Well	Well Elevation	Static Water Depth	Water Elevation
<u>MW-1</u>				
06/25/90	58.10	217.16	49.80	167.36
09/07/90			50.00	167.16
09/26/90			50.09	167.07
12/14/90			50.44	166.72
01/08/91			50.45	166.71
02/21/91			50.51	166.65
03/19/91			50.16	167.00
04/02/91			50.14	167.02
05/02/91	57.80		49.77	167.39
06/18/91			49.75	167.41
07/08/91			49.80	167.36
08/22/91			50.08	167.08
09/18/91			50.11	167.05
10/15/91			50.30	166.86
11/13/91			50.30	166.86
12/27/91			50.28	166.88
01/18/92			50.39	166.77
02/20/92			50.16	167.00
03/13/92			49.75	167.41
04/24/92			49.18	167.98
05/15/92			49.22	167.94
06/08/92			49.3*	167.9*
07/25/92			49.42	167.74
08/23/92			49.52	167.64
09/04/92			49.71	167.45
10/19/92			49.98	167.18
11/23/92			50.10	167.06
12/18/92			50.29	166.87
<u>MW-2</u>				
06/25/90	59.20	216.50	49.04	167.46
09/07/90			49.22	167.28
09/26/90			49.32	167.18
12/14/90			49.66	166.84
01/08/91			49.72	166.78
02/21/91			49.77	166.73
03/19/91			49.44	167.06
04/02/91			49.43	167.07
05/02/91	58.90		49.03	167.47

See notes on Page 4 of 4.

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TABLE 1  
 CUMULATIVE GROUNDWATER MONITORING DATA  
 ARCO Station 2152  
 Castro Valley, California  
 (Page 2 of 4)

Date Well Measured	Depth of Well	Well Elevation	Static Water Depth	Water Elevation
<u>MW-2cont.</u>				
06/18/91			48.98	167.52
07/08/91			49.03	167.47
08/22/91			49.30	167.20
09/18/91			49.34	167.16
10/15/91			49.51	166.99
11/13/91			49.53	166.97
12/27/91			49.49	167.01
01/18/92			49.60	166.90
02/20/92			49.39	167.11
03/13/92			48.97	167.53
04/24/92			48.47	168.03
05/15/92			48.47	168.03
06/08/92			48.5*	168.0*
07/25/92			48.52	167.98
08/23/92			44.95	171.55
09/04/92			48.95	167.55
10/19/92			49.20	167.30
11/23/92			49.35	167.15
12/18/92			49.57	166.93
<u>MW-3</u>				
06/25/90	59.70	217.57	50.55	167.02
09/07/90			50.73	166.84
09/26/90			50.81	166.76
12/14/90			51.15	166.42
01/08/91			51.16	166.41
02/21/91			51.21	166.36
03/19/91			50.93	166.64
04/02/91			50.92	166.65
05/02/91	59.34		50.51	167.06
06/18/91			50.47	167.10
07/08/91			50.54	167.03
08/22/91			50.80	166.77
09/18/91			50.82	166.75
10/15/91			51.02	166.55
11/13/91			51.03	166.54
12/27/91			51.01	166.56
01/18/92			51.15	166.42

See notes on Page 4 of 4.

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ARCO Station 2152, Castro Valley, California

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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
ARCO Station 2152  
Castro Valley, California  
(Page 3 of 4)

Date Well Measured	Depth of Well	Well Elevation	Static Water Depth	Water Elevation
<u>MW-3cont.</u>				
02/20/92			50.84	166.73
03/13/92			50.39	167.18
04/24/92			49.82	167.75
05/15/92			49.90	167.67
07/25/92			50.14	167.43
08/23/92			50.12	167.45
09/04/92			50.38	167.19
10/19/92			50.71	166.86
11/23/92			50.81	166.76
12/18/92			50.50	167.07
<u>MW-4</u>				
06/25/90	60.30	215.18	48.06	167.12
09/07/90			48.25	166.93
09/26/90			48.35	166.83
12/14/90			48.68	166.50
01/08/91			48.70	166.48
02/21/91			48.76	166.42
03/19/91			48.44	166.74
04/02/91			48.43	166.75
05/02/91	60.00		48.04	167.14
06/18/91			48.00	167.18
07/08/91			48.04	167.14
08/22/91			48.34	166.84
09/18/91			48.35	166.83
10/15/91			48.54	166.64
11/13/91			48.56	166.62
12/27/91			48.52	166.66
01/18/92			48.68	166.50

See notes on Page 4 of 4.



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ARCO Station 2152, Castro Valley, California

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TABLE 1  
CUMULATIVE GROUNDWATER MONITORING DATA  
ARCO Station 2152  
Castro Valley, California  
(Page 4 of 4)

Date Well Measured	Depth of Well	Well Elevation	Static Water Depth	Water Elevation
<u>MW-4cont.</u>				
02/20/92			48.37	166.81
03/13/92			47.96	167.22
04/24/92			47.41	167.77
05/15/92			47.46	167.72
06/08/92			47.52	167.66
07/25/92			47.67	167.51
08/23/92			47.78	167.40
09/04/92			47.78	167.40
10/19/92			48.22	166.96
11/23/92			48.34	166.84
12/18/92			48.50	166.68

Depth measurements in feet. Water elevation is mean sea level.

Static water level measured in feet below top of casing.

\* = Depth to water measurements reported to tenth of foot on EMCON's field sheets.

03/09/93 11:00:01

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

# TRANSMITTAL

**TO:** Mr. Scott Seery  
Alameda County Health Care Services  
80 Swan Way, Room 200  
Oakland, California 94621

**DATE:** March 9, 1993  
**PROJECT NUMBER:** 69013.13  
**SUBJECT:** ARCO Station 2152, 22141  
Center Street, Castro Valley, California

**FROM:** Erin McLucas  
**TITLE:** Staff Geologist

**WE ARE SENDING YOU:**

COPIES	DATED	NO.	DESCRIPTION
1	3/9/93	69013.13	Final-Letter Report Quarterly Groundwater Monitoring Fourth Quarter 1992 at ARCO Station 2152, 22141 Center Street, Castro Valley, California.

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 As requested     Approved as noted     Submit \_\_\_ copies for distribution  
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**REMARKS:** cc: Mr. Scott Seery, Alameda County Health Care Services Agency  
Mr. Richard Hiatt, RWQCB, San Francisco Bay Region  
Mr. Joel Coffman, RESNA Industries Inc.

Copies: 1 to RESNA project file no. 69013.13

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ARCO Station 2152, Castro Valley, California

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TABLE 2  
CUMULATIVE RESULTS OF LABORATORY ANALYSES  
OF GROUNDWATER SAMPLES  
ARCO Station 2152  
Castro Valley, California  
(Page 1 of 2)

Well	Date	TPHg	B	T	E	X
MW-1	06/26/90	64	0.63	<0.50	<0.50	<0.50
	09/26/90	<50	<0.50	<0.50	<0.50	<0.50
	01/08/91	<50	<0.50	<0.50	<0.50	<0.50
	04/02/91	<50	<0.05	<0.05	<0.05	<0.05
	07/08/91	120	2.3	4.6	1.3	9.6
	10/15/91	<30	<0.30	<0.30	<0.30	<0.30
	03/13/92	<30	<0.30	<0.30	<0.30	<0.30
	06/08/92	<30	<0.30	<0.30	<0.30	<0.30
	09/04/92	<50	<0.5	<0.5	<0.5	<0.5
	10/19/92	<50	<0.5	<0.5	<0.5	<0.5
MW-2	06/26/90	27	<0.50	<0.50	<0.50	<0.50
	09/26/90	<50	<0.50	<0.50	<0.50	<0.50
	01/08/91	<50	<0.50	<0.50	<0.50	<0.50
	04/02/91	<50	<0.05	<0.05	<0.05	<0.05
	07/08/91	30	0.42	0.47	<0.30	0.89
	10/15/91	<30	<0.30	<0.30	<0.30	<0.30
	03/13/92	<30	<0.30	<0.30	<0.30	<0.30
	06/08/92	<30	<0.30	<0.30	<0.30	<0.30
	09/04/92	<50	<0.5	<0.5	<0.5	<0.5
	10/19/92	<50	<0.5	<0.5	<0.5	<0.5
MW-3	06/25/90	52	0.65	1.5	<0.50	2.0
	09/26/90	<50	<0.50	<0.50	<0.50	<0.50
	01/08/91	<50	<0.50	<0.50	<0.50	<0.50
	04/02/91	<50	<0.05	<0.05	<0.05	<0.05
	07/08/91	67	0.69	1.5	0.65	4.7
	10/15/91	<30	<0.30	<0.30	<0.30	<0.30
	04/13/92	<30	<0.30	<0.30	<0.30	<0.30
	06/08/92	<30	<0.30	<0.30	<0.30	<0.30
	09/04/92	<50	<0.5	<0.5	<0.5	<0.5
	10/19/92	<50	<0.5	<0.5	<0.5	<0.5
MW-4	06/25/90	<20	<0.50	<0.50	<0.50	<0.50
	09/26/90	<50	<0.50	<0.50	<0.50	<0.50
	01/08/91	<50	<0.50	<0.50	<0.50	<0.50
	04/02/91	<50	<0.05	<0.05	<0.05	<0.05
	07/08/91	50	1.4	2.4	0.62	4.2
	10/15/91	<30	<0.30	<0.30	<0.30	<0.30
	03/13/92	<30	<0.30	<0.30	<0.30	<0.30
	06/08/92	<30	<0.30	<0.30	<0.30	<0.30
	09/04/92	<50	<0.5	<0.5	<0.5	<0.5
	10/19/92	<50	<0.5	<0.5	<0.5	<0.5

See notes on Page 2 of 2.

69013.12



**EMCON**  
ASSOCIATES

Consultants in Wastes  
Management and  
Environmental Control

RECEIVED  
NOV 9 - 1992

RESNA  
SAN JOSE

Date November 5, 1992  
Project OG70-026.01

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

We are enclosing:

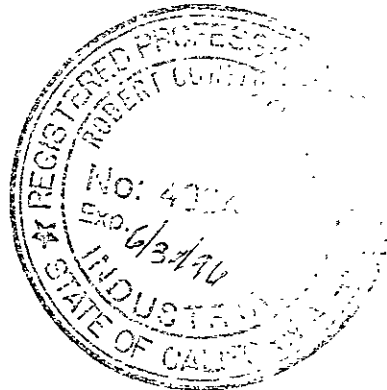
Copies	Description
<u>1</u>	<u>Depth To Water / Floating Product Survey Results</u>
<u>1</u>	<u>Summary of Groundwater Monitoring Data</u>
<u>1</u>	<u>Certified Analytical Reports with Chain-of-Custody</u>
<u>4</u>	<u>Water Sample Field Data Sheets</u>

For your:  X  Information Sent by:  X  Mail

Comments:

Enclosed are the data from the fourth quarter 1992 monitoring event at ARCO service station 2152, 22141 Center Street, Castro Valley, California. Groundwater monitoring is conducted consistent with applicable regulatory guidelines. Please call if you have any questions: (408) 453-2266.

Reviewed by:



Jim Butera JB

Robert Porter  
Robert Porter, Senior Project  
Engineer.



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

PROJECT #: 0G70-026.01

STATION ADDRESS: 22141 Center Street, Castro Valley

DATE: 10-19-97

ARCO STATION #: 2152

FIELD TECHNICIAN: Manuel Gallegos

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-1	good	Yes	good	2359	good	49.58 49.2	49.58 49.2	ND	NA	58.0 59.1	Lid needs one screw
2	MW-2	good	Yes	good	2359	good	49.20	49.20	ND	NA	59.1	Lid need one screw.
3	MW-3	good	no	good	2359	good	50.71	50.71	ND	NA	59.6	well box lid needs screws
4	MW-4	good	no	good	2359	good	48.22	48.22	ND	NA	60.2	well box lid needs screws

**SURVEY POINTS ARE TOP OF WELL CASINGS**

Summary of Groundwater Monitoring Data  
 Fourth Quarter 1992  
 ARCO Service Station 2152  
 22141 Center Street, Castro Valley, California  
 micrograms per liter ( $\mu\text{g/l}$ ) or parts per billion (ppb)

Well ID and Sample Depth	Sampling Date	Depth To Water (feet)	Floating Product Thickness (feet)	TPH <sup>1</sup> as Gasoline (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)
MW-1(57)	10/19/92	49.98	ND. <sup>2</sup>	<50.	<0.5	<0.5	<0.5	<0.5
MW-2(58)	10/19/92	49.20	ND.	<50.	<0.5	<0.5	<0.5	<0.5
MW-3(58)	10/19/92	50.71	ND.	<50.	<0.5	<0.5	<0.5	<0.5
MW-4(59)	10/19/92	48.22	ND.	<50.	<0.5	<0.5	<0.5	<0.5
FB-1 <sup>3</sup>	10/19/92	NA. <sup>4</sup>	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
-



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

Emcon Associates  
1938 Junction Avenue  
San Jose, CA 95131  
Attention: Jim Butera

Project: Arco 2152


Enclosed are the results from 5 water samples received at Sequoia Analytical on October 20, 1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2102989	Water, MW-1(57)	10/19/92	EPA 5030/8015/8020
2102990	Water, MW-2(58)	10/19/92	EPA 5030/8015/8020
2102991	Water, MW-3(58)	10/19/92	EPA 5030/8015/8020
2102992	Water, MW-4(59)	10/19/92	EPA 5030/8015/8020
2102993	Water, FB-1	10/19/92	EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

  
Maile A. Springer  
Project Manager



# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

Emcon Associates  
1938 Junction Avenue  
San Jose, CA 95131  
Attention: Jim Butera

Client Project ID: Arco 2152  
Sample Matrix: Water  
Analysis Method: EPA 5030/8015/8020  
First Sample #: 210-2989

Sampled: Oct 19, 1992  
Received: Oct 20, 1992  
Reported: Oct 28, 1992

## TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 210-2989 MW-1(57)	Sample I.D. 210-2990 MW-2(58)	Sample I.D. 210-2991 MW-3(58)	Sample I.D. 210-2992 MW-4(59)	Sample I.D. 210-2993 FB-1	Sample I.D.
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ethyl Benzene	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Total Xylenes	0.50	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Chromatogram Pattern:		--	--	--	--	--	

### Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0	1.0
Date Analyzed:	10/22/92	10/22/92	10/22/92	10/22/92	10/22/92
Instrument Identification:	GCHP-2	GCHP-2	GCHP-2	GCHP-2	GCHP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	89	89	87	97	85

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.  
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

  
Maile A. Springer  
Project Manager





# SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063  
(415) 364-9600 • FAX (415) 364-9233

Emcon Associates  
1938 Junction Avenue  
San Jose, CA 95131  
Attention: Jim Butera

Client Project ID: Arco 2152

QC Sample Group: 2102989 - 93

Reported: Oct 29, 1992

## QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
---------	---------	---------	---------------	---------

Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	M.Nipp	M.Nipp	M.Nipp	M.Nipp
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Oct 22, 1992	Oct 22, 1992	Oct 22, 1992	Oct 22, 1992
QC Sample #:	GBLK102292	GBLK102292	GBLK102292	GBLK102292

Sample Conc.:	N.D.	N.D.	N.D.	N.D.
---------------	------	------	------	------

Spike Conc. Added:	10	10	10	30
--------------------	----	----	----	----

Conc. Matrix Spike:	11	11	11	33
---------------------	----	----	----	----

Matrix Spike % Recovery:	110	110	110	110
--------------------------	-----	-----	-----	-----

Conc. Matrix Spike Dup.:	11	11	11	34
--------------------------	----	----	----	----

Matrix Spike Duplicate % Recovery:	110	110	110	113
------------------------------------	-----	-----	-----	-----

Relative % Difference:	0.0	0.0	0.0	3.0
------------------------	-----	-----	-----	-----

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

SEQUOIA ANALYTICAL

Maile A. Springer  
Project Manager

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

2102989.EEE <2>

ARCO Facility no **2152** City (Facility) **CASIRO Valley** Project Manager (Consultant) **Jim Butera**  
 ARCO engineer **Fyle Christie** Telephone no (ARCO) **415 571-2434** Telephone no (Consultant) **408 453-0719** Fax no. (Consultant) **408 453-0452**  
 Consultant name **EMCON ASSOCIATES** Address (Consultant) **1958 Junction Ave San Jose**

Laboratory name **Sequoia**  
Contract number

Sample I.D.	Lab no	Container no	Matrix			Preservation		Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA 1602/8020/8015	TPH Modified 8015 Gas Diesel	Oil and Grease 413.1 413.2	TPH EPA 418 1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCMP Metals VOA VOA	Semi Metals VOA VOA	CAM Metals EPA 6010/7000 TLC STLC	Lead Org/DHS Lead EPA 7420/7421	
			Soil	Water	Other	Ice	Acid															
MW (57)		2		X		X	HCl	10-19-92	1217		X						210	2489				
MW (58)		2		X		X	HCl		1314		X							90				
MW (58)		2		X		X	HCl		1429		X							91				
MW (57)		2		X		X	HCl		1533		X							92				
FB 1		2		X		X	HCl		1542		X							93				

Method of shipment  
**Sampler/Carrier will pick up**

Special detection Limit/reporting  
**Lowest Possible**

Special QA/QC  
**As Normal**

Remarks  
**2-40ml HCl  
VOA'S**

Lab number

Turnaround time

Condition of sample:  
Relinquished by sampler **Marcel Gallages** Date **10-19-92** Time  
Relinquished by **[Signature]** Date **10-20-92** Time **2:40**  
Relinquished by **[Signature]** Date **10-20-92** Time **3:35**

Temperature received:  
Received by **[Signature]**  
Received by **[Signature]**  
Received by laboratory **[Signature]** Date **10 20 92** Time **3 35 PM**

Priority Rush 1 Business Day   
Flush 2 Business Days   
Expedited 5 Business Days   
Standard 10 Business Days



EMCON ASSOCIATES

# WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 0670-02601

SAMPLE ID: MW-1

PURGED BY: M Gallegos

CLIENT NAME: ARCO # 2152

SAMPLED BY: M Gallegos

LOCATION: Castro Valley, 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.): 5.26

DEPTH TO WATER (feet): 4998 CALCULATED PURGE (gal.): 26.30

DEPTH OF WELL (feet): 580 ACTUAL PURGE VOL. (gal.): 27.0

DATE PURGED: 10-19-92 Start (2400 Hr) 1150 End (2400 Hr) 1212

DATE SAMPLED: 10-19-92 Start (2400 Hr) 1216 End (2400 Hr) 1217

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1153</u>	<u>5.5</u>	<u>6.16</u>	<u>1489</u>	<u>69.6</u>	<u>Cloudy</u>	<u>heavy</u>
<u>1154</u>	<u>11.0</u>	<u>6.41</u>	<u>1703</u>	<u>68.9</u>	<u>11</u>	<u>heavy</u>
<u>1204</u>	<u>16.5</u>	<u>6.53</u>	<u>2150</u>	<u>69.4</u>	<u>11</u>	<u>11</u>
<u>1208</u>	<u>22.0</u>	<u>6.56</u>	<u>1980</u>	<u>69.3</u>	<u>11</u>	<u>11</u>
<u>1212</u>	<u>27.0</u>	<u>6.59</u>	<u>2050</u>	<u>69.1</u>	<u>11</u>	<u>moderate</u>

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

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

### PURGING EQUIPMENT

### SAMPLING EQUIPMENT

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

WELL INTEGRITY: Good LOCK #: 2359

REMARKS: All samples taken

Meter Calibration: Date: 10-19-92 Time: 1130 Meter Serial #: 9011 Temperature °F: 71.5  
(EC 1000 1174/1000) (DI \_\_\_\_\_) (pH 7 693/700) (pH 10 992/1000) (pH 4 400/400)

Location of previous calibration: \_\_\_\_\_

Signature: M Gallegos Reviewed By: JB Page 1 of 4



# WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 0670-0026-01

SAMPLE ID: MW-2

PURGED BY: M. Gallegos

CLIENT NAME: ARCO# 7152

SAMPLED BY: M. Gallegos

LOCATION: Castro Valley, CA

TYPE: Ground Water  Surface Water \_\_\_\_\_ Treatment Effluent \_\_\_\_\_ Other \_\_\_\_\_

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

CASING ELEVATION (feet/MSL):	<u>NR</u>	VOLUME IN CASING (gal.):	<u>6.49</u>
DEPTH TO WATER (feet):	<u>59.1</u>	CALCULATED PURGE (gal.):	<u>32.47</u>
DEPTH OF WELL (feet):	<u>59.1</u>	ACTUAL PURGE VOL (gal.):	<u>33.0</u>

DATE PURGED:	<u>10-19-92</u>	Start (2400 Hr)	<u>1247</u>	End (2400 Hr)	<u>1307</u>
DATE SAMPLED:	<u>10-19-92</u>	Start (2400 Hr)	<u>1313</u>	End (2400 Hr)	<u>1314</u>

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1253</u>	<u>6.5</u>	<u>7.15</u>	<u>2370</u>	<u>71.0</u>	<u>Clear</u>	<u>Light</u>
<u>1256</u>	<u>13.0</u>	<u>6.74</u>	<u>2320</u>	<u>70.0</u>	<u>"</u>	<u>Trace</u>
<u>1300</u>	<u>19.5</u>	<u>6.85</u>	<u>2280</u>	<u>69.6</u>	<u>"</u>	<u>"</u>
<u>1304</u>	<u>26.0</u>	<u>6.75</u>	<u>2260</u>	<u>69.4</u>	<u>cloudy</u>	<u>Light</u>
<u>1307</u>	<u>33.0</u>	<u>6.79</u>	<u>2270</u>	<u>69.2</u>	<u>Cloudy</u>	<u>Light</u>

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

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

### PURGING EQUIPMENT

### SAMPLING EQUIPMENT

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

Other: \_\_\_\_\_

Other: \_\_\_\_\_

WELL INTEGRITY: Good LOCK #: 2359

REMARKS: All samples taken

Meter Calibration: Date: 10-19-92 Time: \_\_\_\_\_ Meter Serial #: \_\_\_\_\_ Temperature °F: \_\_\_\_\_

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

Location of previous calibration: Amw-1

Signature: M. Gallegos Reviewed By: JB Page 2 of 4



EMCON ASSOCIATES

# WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

PROJECT NO: 0670-0026-01

SAMPLE ID: MW-3

PURGED BY: M Gallegos

CLIENT NAME: ARLO# 7152

SAMPLED BY: M Gallegos

LOCATION: CASTRO VALLEY

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.): 5.83

DEPTH TO WATER (feet): 50.71 CALCULATED PURGE (gal.): 29.15

DEPTH OF WELL (feet): 59.6 ACTUAL PURGE VOL. (gal.): 30.0

DATE PURGED: 10-19-92 Start (2400 Hr) 1402 End (2400 Hr) 1423

DATE SAMPLED: 10-19-92 Start (2400 Hr) 1428 End (2400 Hr) 1429

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1407</u>	<u>6.0</u>	<u>7.22</u>	<u>4220</u>	<u>71.4</u>	<u>cloudy</u>	<u>heavy</u>
<u>1410</u>	<u>12.0</u>	<u>6.78</u>	<u>2510</u>	<u>68.5</u>	<u>clear</u>	<u>trace</u>
<u>1415</u>	<u>18.0</u>	<u>6.68</u>	<u>2300</u>	<u>67.7</u>	<u>"</u>	<u>"</u>
<u>1419</u>	<u>24.0</u>	<u>6.68</u>	<u>2270</u>	<u>67.3</u>	<u>"</u>	<u>"</u>
<u>1423</u>	<u>30.0</u>	<u>6.69</u>	<u>2310</u>	<u>67.3</u>	<u>"</u>	<u>"</u>

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

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

### PURGING EQUIPMENT

### SAMPLING EQUIPMENT

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

WELL INTEGRITY: Good LOCK #: 2359

REMARKS: All samples taken.

Meter Calibration: Date: 10-19-92 Time: 1130 Meter Serial #: 9011 Temperature °F: 71.3

(EC 1000 1174 / 1000) (DI \_\_\_\_\_) (pH 7 693 / 700) (pH 10 492 / 1000) (pH 4 420 / 406)

Location of previous calibration: MW-1

Signature: M Gallegos Reviewed By: JB Page 3 of 4



# WATER SAMPLE FIELD DATA SHEET

Rev. 2, 5/91

EMCON ASSOCIATES

PROJECT NO: 0 670-026-01  
~~0 670-007~~

PURGED BY: M Gallegos

SAMPLED BY: M Gallegos

SAMPLE ID: MW-4

CLIENT NAME: ARCO # 2152

LOCATION: Castro Valley, 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.): 7.85

DEPTH TO WATER (feet): 48.22 CALCULATED PURGE (gal.): 39.29

DEPTH OF WELL (feet): 60.2 ACTUAL PURGE VOL (gal.): 40.0

DATE PURGED: 10-19-92 Start (2400 Hr) 1500 End (2400 Hr) 1526

DATE SAMPLED: 10-19-92 Start (2400 Hr) 1532 End (2400 Hr) 1533

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
<u>1504</u>	<u>8.0</u>	<u>7.33</u>	<u>2290</u>	<u>70.2</u>	<u>Cloudy</u>	<u>heavy</u>
<u>1510</u>	<u>16.0</u>	<u>6.86</u>	<u>2080</u>	<u>68.8</u>	<u>Cloudy</u>	<u>Light</u>
<u>1516</u>	<u>24.0</u>	<u>6.81</u>	<u>2070</u>	<u>68.4</u>	<u>"</u>	<u>"</u>
<u>1520</u>	<u>32.0</u>	<u>6.99</u>	<u>2070</u>	<u>68.1</u>	<u>"</u>	<u>"</u>
<u>1526</u>	<u>40.0</u>	<u>7.03</u>	<u>2070</u>	<u>68.1</u>	<u>"</u>	<u>"</u>

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

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, XDUP-1): FB-1 (1542)

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 type="checkbox"/> Bailer (PVC)	<input type="checkbox"/> DDL Sampler	<input type="checkbox"/> Bailer (Stainless Steel)
<input checked="" type="checkbox"/> Submersible Pump	<input type="checkbox"/> Bailer (Stainless Steel)	<input type="checkbox"/> Dipper	<input type="checkbox"/> Submersible Pump
<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated	<input type="checkbox"/> Well Wizard™	<input type="checkbox"/> Dedicated
Other: _____		Other: _____	

WELL INTEGRITY: Good LOCK #: 2359

REMARKS: All Samples taken

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Meter Calibration: Date: 10-19-92 Time: \_\_\_\_\_ Meter Serial #: \_\_\_\_\_ Temperature °F: \_\_\_\_\_

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

Location of previous calibration: MW-1

Signature: M Gallegos Reviewed By: JB Page 4 of 4

69013.12



RESNA  
S&JOST

DEC 18 1992

RECEIVED

Date December 17, 1992  
 Project OG70-026.01

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>November 1992 monthly water level survey, ARCO</u>
<u>          </u>	<u>station 2152, 22141 Center Street, Castro Valley, CA</u>

For your:   X   Information      Sent by:   X   Mail

Comments:

Revised monthly water level data for the above mentioned site are attached. Please make note that original data sent had well MW-3 water level reported as well MW-4 and MW-4 reported as MW-3. I apologize for any inconveniences this may have caused. Please call if you have any questions: (408) 453-2266.

*Jim Butera*  
 Jim Butera



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

PROJECT # : 0G70-026.01

STATION ADDRESS : 22141 Center Street, Castro Valley

DATE : 11-23-92

ARCO STATION # : 2152

FIELD TECHNICIAN : J.W

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-1	ok	YES	YES	3259	ok	50.10	50.10	ND	ND	58.0	-
2	MW-2	ok	YES	YES	3259	ok	49.35	49.35	ND	ND	59.1	-
3	MW-3	ok	YES	YES	3259	ok	50.81	50.81	ND	ND	59.6	-
4	MW-4	ok	YES	YES	3259	ok	48.34	48.34	ND	ND	60.2	-

**SURVEY POINTS ARE TOP OF WELL CASINGS**



69-1E.13

JAN 1 1993  
RESNA



**EMCON**  
ASSOCIATES  
Consultants in Wastes  
Management and  
Environmental Control

Date December 23, 1992  
Project OG70-026.01

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

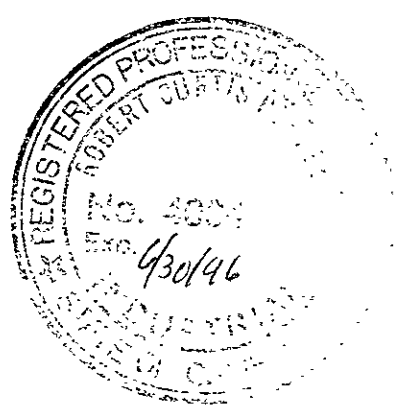
We are enclosing:

Copies	Description
<u>1</u>	<u>Depth To Water/Floating Product Survey Results</u>
<u>          </u>	<u>December 1992 monthly water level survey, ARCO</u>
<u>          </u>	<u>station 2152, 22141 Center Street, Castro Valley, CA</u>

For your:   X   Information      Sent by:   X   Mail

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

Reviewed by:



Jim Butera JB

Robert Porter  
Robert Porter, Senior Project  
Engineer.



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

PROJECT # : 0G70-026.01

STATION ADDRESS : 22141 Center Street, Castro Valley

DATE : 17-18-92

ARCO STATION # : 2152

FIELD TECHNICIAN : MG / JW

DAY : Friday

DTW Order	WELL ID	Well Box Seal	Well Lid Secure	Gasket	Lock	Locking Well Cap	FIRST DEPTH TO WATER (feet)	SECOND DEPTH TO WATER (feet)	DEPTH TO FLOATING PRODUCT (feet)	FLOATING PRODUCT THICKNESS (feet)	WELL TOTAL DEPTH (feet)	COMMENTS
1	MW-1	OK	YES	OK	3257	OK	50.29	50.29	ND	NP	59.8	-
2	MW-2	OK	YES	OK	3257	OK	49.57	49.58	ND	NP	59.0	-
3	MW-3	OK	YES	OK	3257	OK	51.0	49.99	ND	NP	59.5	-
4	MW-4	OK	YES	OK	3257	OK	48.50	48.50	ND	NP	60.0	-

**SURVEY POINTS ARE TOP OF WELL CASINGS**

# 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 RINSATE 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 Jon De Lon* 11/12/92  
 (Typed or printed full name & signature) (Date)

## SITE INFORMATION

	STA #	JOB #	ADDRESS	GALS
1	A-2133	21240-PW	2908 BENJAMIN HOLT DR., STOCKTON, CA	84
	A-716	21175-PW	699 SAN ANTONIO RD., PALO ALTO, CA	120
3	A-440	21262-PW	600 PORTOLA ST., SAN FRANCISCO, CA	12
	A-1326	21176-PW	840 SAN ANTONIO RD., PALO ALTO, CA	226
	A-5662	21293-PW	OROVILLE DAM RD., OROVILLE, CA	122
	A-2035	21179-PW	1001 SAN PABLO AVE., ALBANY, CA	129
	A-601	21195-DW	712 LEWELLING BLVD., SAN LEANDRO, CA	118
8	A-2152	21174-PW	22141 CENTER ST., CASTRO VALLEY, CA	114
	A-2162	21131-PW	15135 HESPERIAN BLVD., SAN LEANDRO, CA	104
10	A-2076	21193-DW	800 E. KETTLEMAN LANE, LODI, CA	583
	A-2185	21186-PW	9800 E. 14TH AVE., OAKLAND, CA	104
TOTAL GALLONS:				1,716

## TRANSPORTER INFORMATION

NAME: BALCH PETROLEUM

ADDRESS: 930 AMES AVE.

CITY, STATE, ZIP: MILPITAS, CA 95035 PHONE #: (408) 942-8686

TRUCK ID #: PETERBILT HURSCHEL WARD *Hurschel Ward* 11-13-92  
 (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 Reghi 11-13-92  
 (Typed or printed full name & signature) (Date)