revised 3/24/92

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Applied GeoSystems, Inc.
A RESNA Company

RESNA
Working To Restore Nature

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
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LETTER REPORT
QUARTERLY GROUNDWATER MONITORING
Fourth Quarter 1991
at
ARCO Station 2152
22141 Center Street
Castro Valley, California

69013.09 3/24/92

Applied GeoSystems, Inc.
A RESNA Company

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Working To Restore Nature

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

March 12, 1992
0309ccar
69013.09

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

Subject: Letter Report on Fourth Quarter 1991 Groundwater Monitoring at ARCO Station 2152, 22141 Center Street, Castro Valley, California.

Mr. Carmel:

This letter report summarizes the methods and results of fourth quarter 1991 groundwater monitoring performed by RESNA Industries, Inc. (RESNA) at the above-referenced site. The station is located on the southwestern corner of Grove Way and Center Street in Castro Valley, California, as shown on the Site Vicinity Map, Plate 1. ARCO Products Company (ARCO) has requested that RESNA perform monthly water level measurements and quarterly groundwater sampling to monitor gasoline hydrocarbon concentrations associated with the former onsite underground gasoline-storage tanks and to evaluate trends related to fluctuations of these gasoline hydrocarbon concentrations.

Previously, RESNA (formerly Applied GeoSystems [AGS]) performed subsurface environmental investigations at the site related to the former underground storage tanks. In August 1989, RESNA supervised the removal of five underground storage tanks and installation of three new tanks onsite and collected soil samples for laboratory analysis in and around the former tank pit area. In October 1989, the product-dispenser lines and product-line sump associated with the former tanks were replaced (AGS, January, 1990). In June 1990, RESNA performed a limited environmental investigation, which included drilling six soil borings (B-4 through B-7, B-10, and B-11), collecting soil samples from the borings, and installing four groundwater monitoring wells (MW-1 through MW-4) and two vadose monitoring wells (VW-1 and VW-2). In September 1990, quarterly groundwater monitoring was initiated. On January 14 through 17, and February 21, 1991 a supplemental subsurface and remedial investigation was performed at the site, which included drilling nine soil borings (B-8, B-9, and B-12 through B-18), installation of three vadose wells (VW-3

through VW-5), and performing a vapor extraction test (RESNA/AGS, July 2, 1991). The results of these investigations are described in the reports listed in the references attached to 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

RESNA personnel performed monthly monitoring for depth-to-water (DTW) levels and subjective analysis for the presence of floating product in the groundwater in the wells onsite on August 22, September 18, October 15, November 13, and December 27 1991, and performed quarterly groundwater sampling and monitoring of wells MW-1 through MW-4 on October 15, 1991. Field work consisted of measuring DTW levels in wells MW-1 through MW-4; subjectively analyzing the groundwater from these wells for the presence of gasoline hydrocarbon sheen and floating product; and purging and subsequently sampling the groundwater from all four wells for laboratory analysis. The methods utilized during this groundwater sampling episode are described in Appendix A, Groundwater Sampling Protocol.

Groundwater elevations were calculated for each well by subtracting DTW levels from the surveyed wellhead elevations. The DTW levels, wellhead elevations, and groundwater elevations for this and previous monitoring episodes at the site are summarized in Table 1, Cumulative Groundwater Monitoring Data. The groundwater elevation decreased an average of 0.22 feet between August and December. This quarter's monitoring data indicate an average interpreted groundwater gradient of 0.004 toward the southwest. Graphic interpretations for the August 22, September 18, October 15, November 13, and December 27 1991, monitoring data are shown on the Groundwater Gradient Maps (Plates 3, through 7, respectively). These interpreted gradients are generally consistent with the previously interpreted groundwater gradients for this site.

Groundwater samples were collected from wells MW-1 through MW-4 for subjective analysis on August 22, September 18, October 15, November 13, and December 27, 1991. No evidence of measurable floating product or hydrocarbon sheen was noted in the groundwater samples collected for subjective analysis from the monitoring wells.

Monitoring wells MW-1 through MW-4 were purged and sampled for laboratory analysis on October 15, 1991, in accordance with the attached protocol in Appendix A. Purge water was removed from the site by a licensed hazardous waste hauler; the Uniform Hazardous Waste Manifest is also attached in Appendix A.

Laboratory Methods

Groundwater samples collected from each of the monitoring wells (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. All groundwater samples were delivered to Sequoia Analytical in Redwood City, California (Hazardous Waste Testing Laboratory Certification No. 1210) under Chain of Custody protocol. The Chain of Custody Records and Laboratory Analysis Reports are attached to this letter report.

Laboratory Results

Results of these and previous groundwater analyses are summarized in Table 2, Cumulative Results of Laboratory Analyses of Groundwater. Results of this quarter's laboratory analysis of groundwater samples from wells MW-1 through MW-4 indicate:

- nondetectable (less than 0.30 parts per billion [ppb]) concentrations of TPHg in wells MW-1 through MW-4; and
- nondetectable (less than 0.30 ppb) concentrations of BTEX in wells MW-1 through MW-4.

Conclusions and Recommendations

With the exception of the initial groundwater sampling and the third quarter 1991 sampling, laboratory analyses have indicated nondetectable concentrations of TPHg and BTEX in groundwater monitoring wells MW-1 through MW-4. Initial groundwater sampling indicated detectable concentrations of TPHg and BTEX in wells MW-1 through MW-3 in the groundwater sampling in June 1990, and in wells MW-1 trough MW-4 in July 1991. The presence of gasoline hydrocarbons may have been related to the seasonal rise of water levels into a confining layer; water levels were at their highest levels in both instances that detectable hydrocarbons were reported in the wells.

RESNA recommends continued monthly groundwater monitoring and quarterly sampling to evaluate changes in groundwater gradient with time and to monitor concentrations of gasoline hydrocarbons in groundwater beneath the site. Monthly groundwater monitoring for DTW levels will be continued at the site.

Applied GeoSystems, Inc.
A RESNA Company

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Working To Restore Nature

TRANSMITTAL

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

TO: MR. SCOTT SEERY
ACHCSA-DEH
80 SWAN WAY, ROOM 200
OAKLAND, CALIFORNIA 94621

DATE: 3/13/92
PROJECT NUMBER: 69013.09
SUBJECT: ARCO STATION 2152 AT 22141 CENTER STREET, CASTRO VALLEY, CALIF.

FROM: EZEQUIEL CARDONA
TITLE: GEOLOGIC TECHNICIAN

WE ARE SENDING YOU [X] Attached [ ] Under separate cover via _____ the following items:

[ ] Shop drawings [ ] Prints [X] Reports [ ] Specifications

[ ] Letters [ ] Change Orders [ ] _____

COPIES	DATED	NO.	DESCRIPTION
1	3/12/92		FINAL-FOURTH QUARTER 1991 GROUNDWATER MONITORING REPORT FOR THE ABOVE SUBJECT SITE.

THESE ARE TRANSMITTED as checked below:

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REMARKS: THIS REPORT HAS BEEN FORWARDED TO YOU AS REQUESTED BY MR. CHUCK CARMEL OF ARCO PRODUCTS COMPANY.

Copies: 1 to project file no. 69013.09

*Revision Date: 11/21/91
*File Name: TRANSMT.PRJ

Schedule

At the request of ARCO, RESNA will continue to analyze and report monthly groundwater monitoring data and quarterly sampling results at this site to evaluate trends in gasoline hydrocarbons and changes in groundwater gradient with time. RESNA initiated onsite work as described in the work plan (RESNA, October 1991) in February 1992. Results of this work will be presented under separate cover. The next quarterly monitoring episode is scheduled for March 1992.

RESNA recommends that copies of this report be forwarded to:

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

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

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

Sincerely,
RESNA

Ezequiel Cardona
Geological Technician

Joan E. Tiernan
Registered Civil Engineer
#044600

cc: H.C. Winsor, ARCO Products Company

Enclosures: References
Plate 1, Site Vicinity Map
Plate 2, Generalized Site Plan
Plate 3, Groundwater Gradient Map, August 22, 1991
Plate 4, Groundwater Gradient Map, September 18, 1991
Plate 5, Groundwater Gradient Map, October 15, 1991
Plate 6, Groundwater Gradient Map, November 13, 1991
Plate 7, Groundwater Gradient Map, December 27, 1991

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

Appendix A: Groundwater Sampling Protocol
Chain of Custody Record
Laboratory Analysis Reports
Uniform Hazardous Waste Manifest

REFERENCES

Applied GeoSystems. May 20, 1991. Letter Report, Quarterly Ground-Water Monitoring, Second Quarter 1991, 22141 Center Street, Castro Valley, California, AGS Report 69013-5.

Applied GeoSystems. March 24, 1991. Letter Report, Quarterly Ground-Water Monitoring, First Quarter 1991, 22141 Center Street, Castro Valley, California, AGS Report 69013-5.

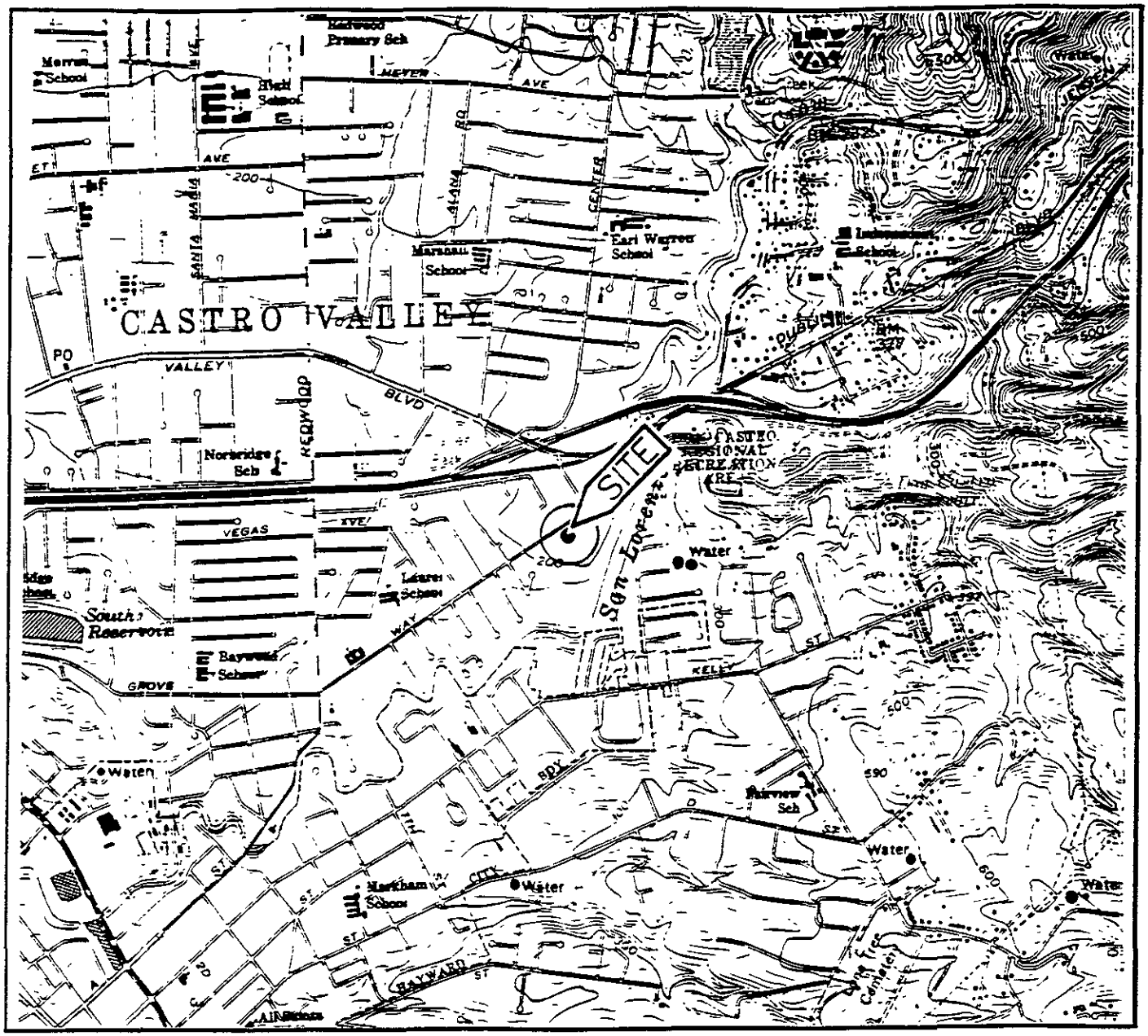
Applied GeoSystems. November 13, 1990. Environmental Subsurface Investigation at ARCO Station 2152, 22141 Center Street, Castro Valley, California, AGS Report 69013-4.

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. May 26, 1989. Limited Environmental Site Assessment, 22141 Center Street, Castro Valley, California, AGS Report 69013-1.

RESNA. October 8, 1991. Supplemental Subsurface and Remedial Investigation at ARCO Station 2152, 22141 Center Street, Castro Valley, California, AGS 69013-5.

RESNA. July 2, 1991. Supplemental Subsurface and Remedial Investigation at ARCO Station 2152, 22141 Center Street, Castro Valley, California, AGS 69013-6.



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

N

LEGEND

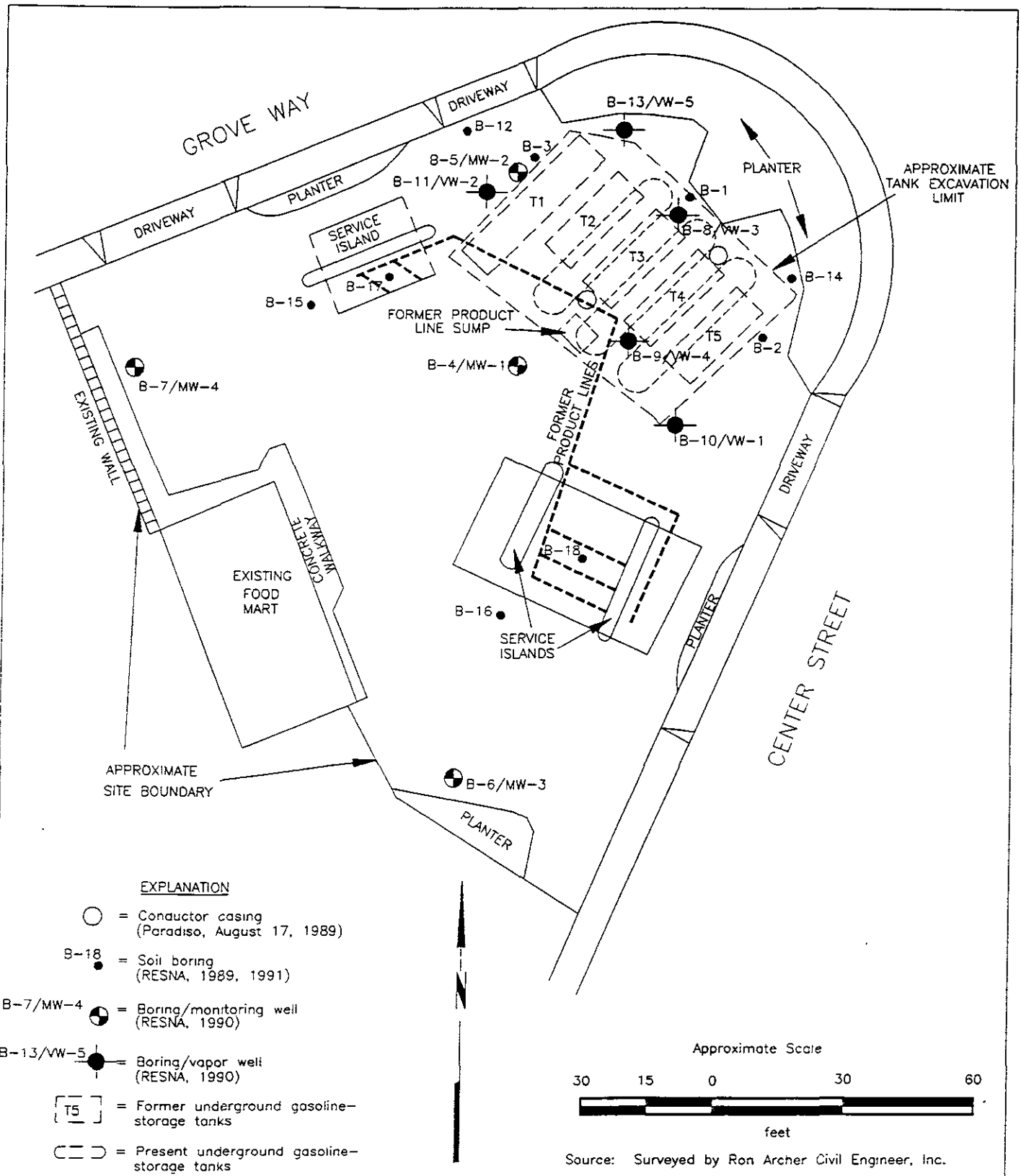
⊙ = Site Location

Approximate Scale

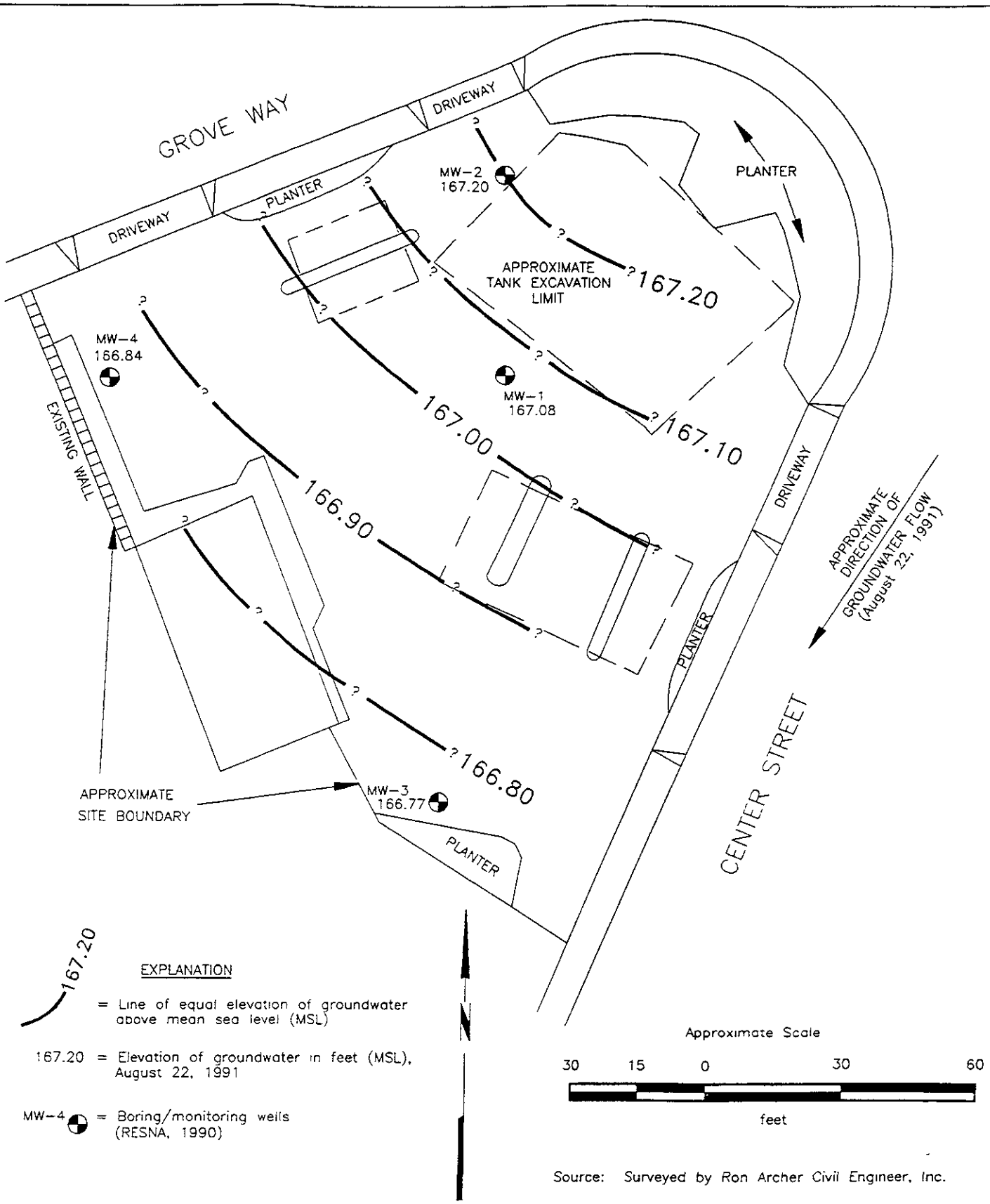
2000 1000 0 2000 4000

feet

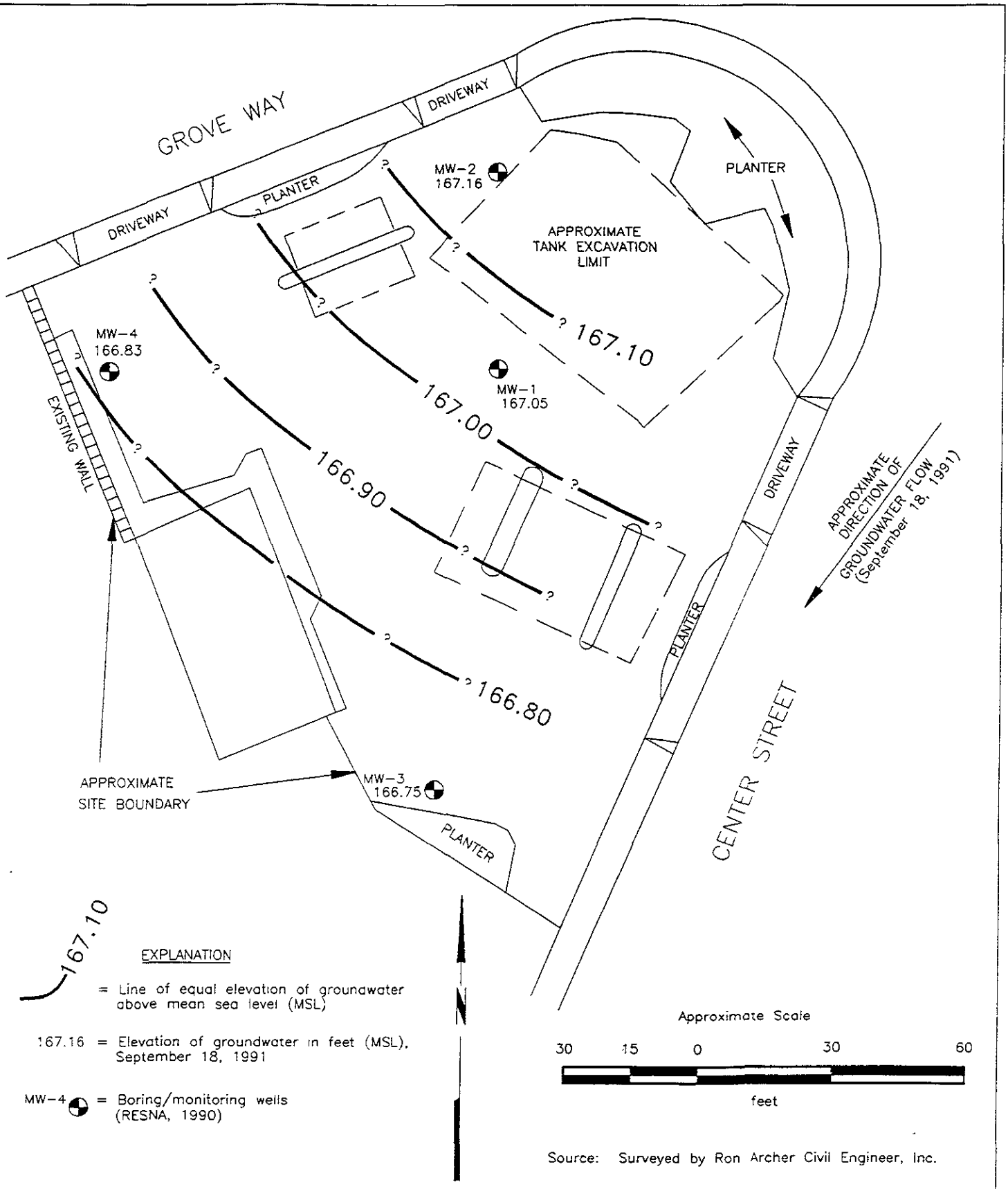
RESNA	**SITE VICINITY MAP** **ARCO Station 2152** **22141 Center Street** **Castro Valley, California**	**PLATE** **1**
PROJECT 69013.09		



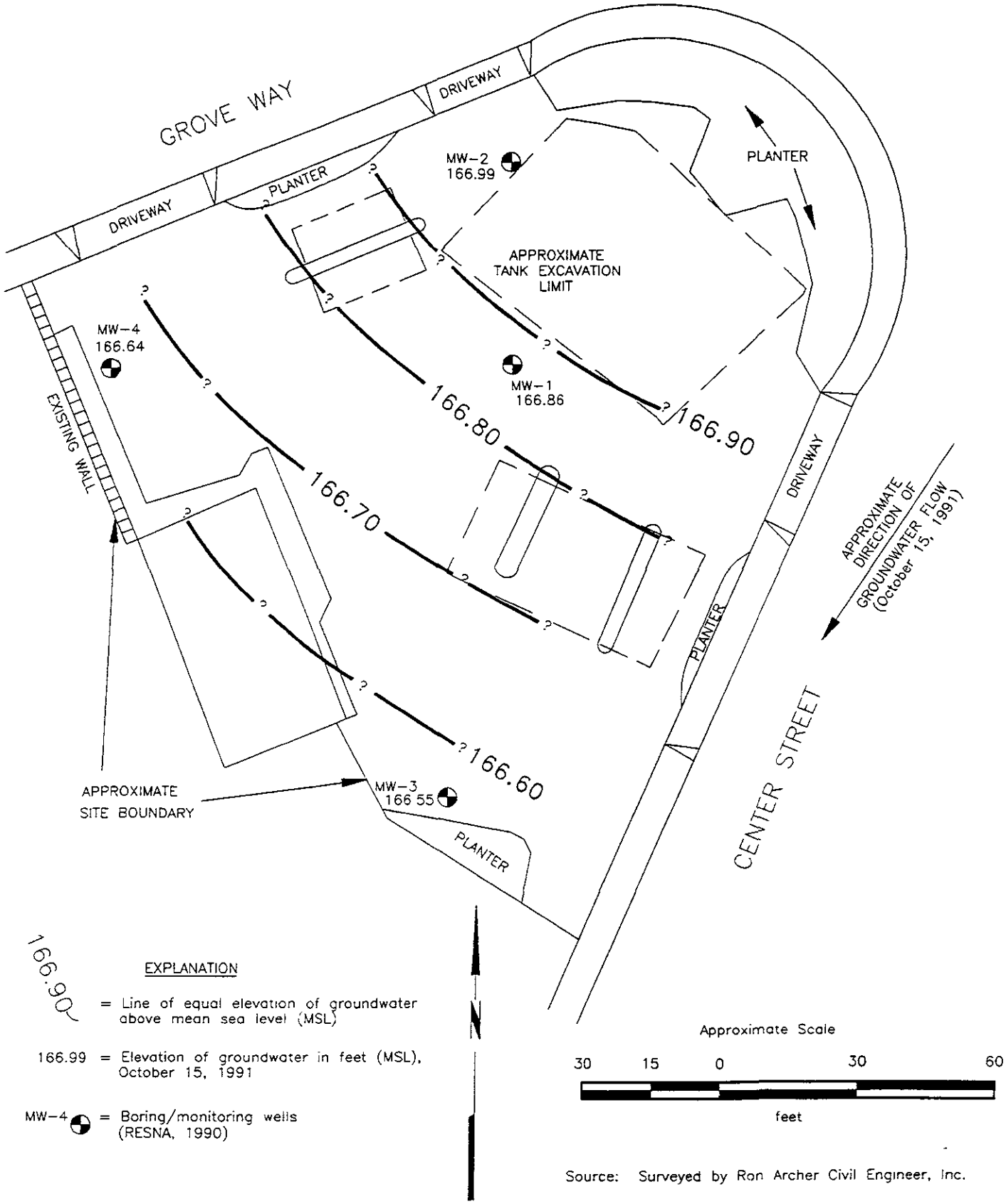
RESNA	**GENERALIZED SITE PLAN** **ARCO Station 2152** **22141 Center Street** **Castro Valley, California**	**PLATE** **2**
PROJECT 69013.09		



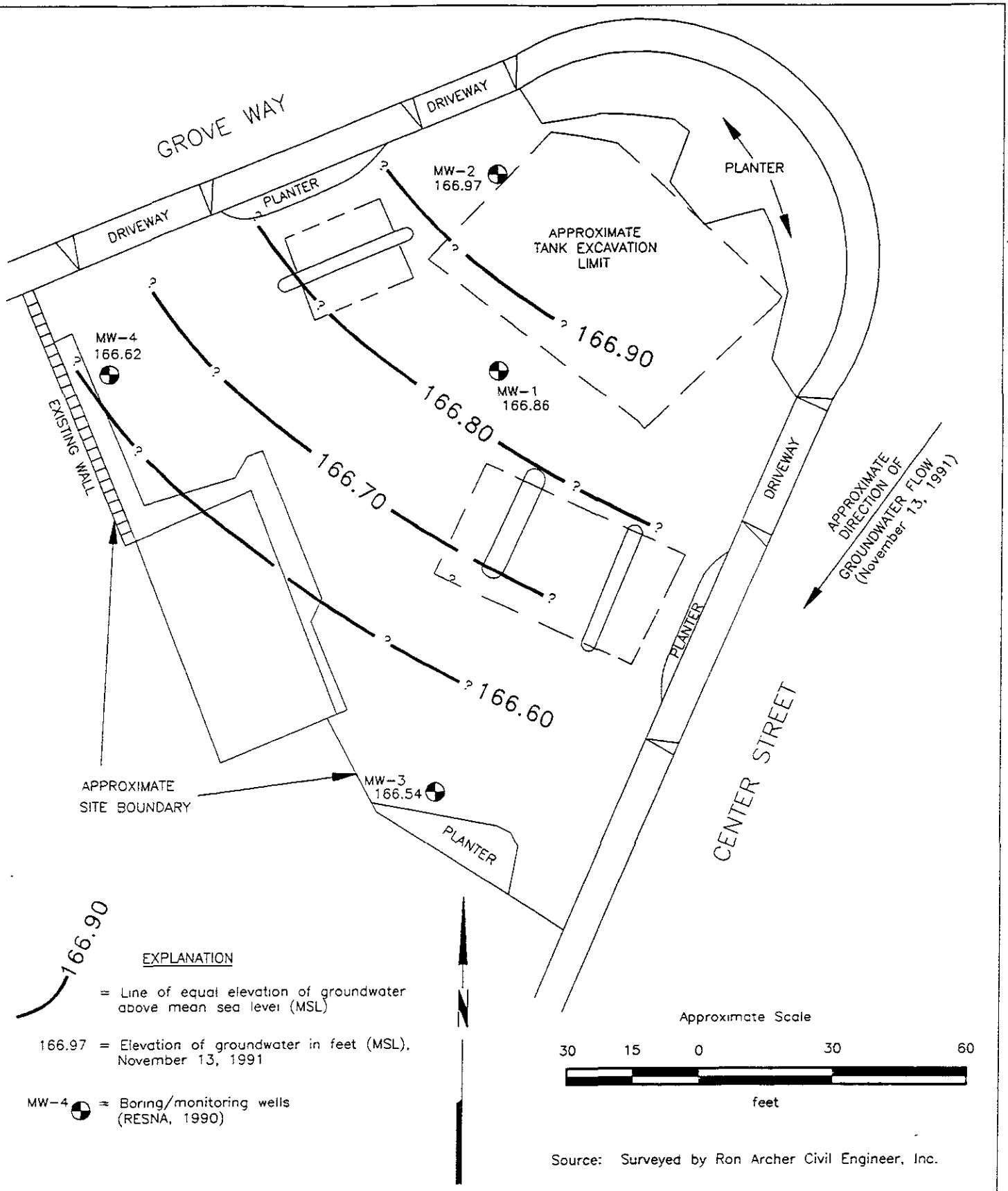
RESNA	**GROUNDWATER GRADIENT MAP** **ARCO Station 2152** **22141 Center Street** **Castro Valley, California**	**PLATE** **3**
PROJECT 69013.09		



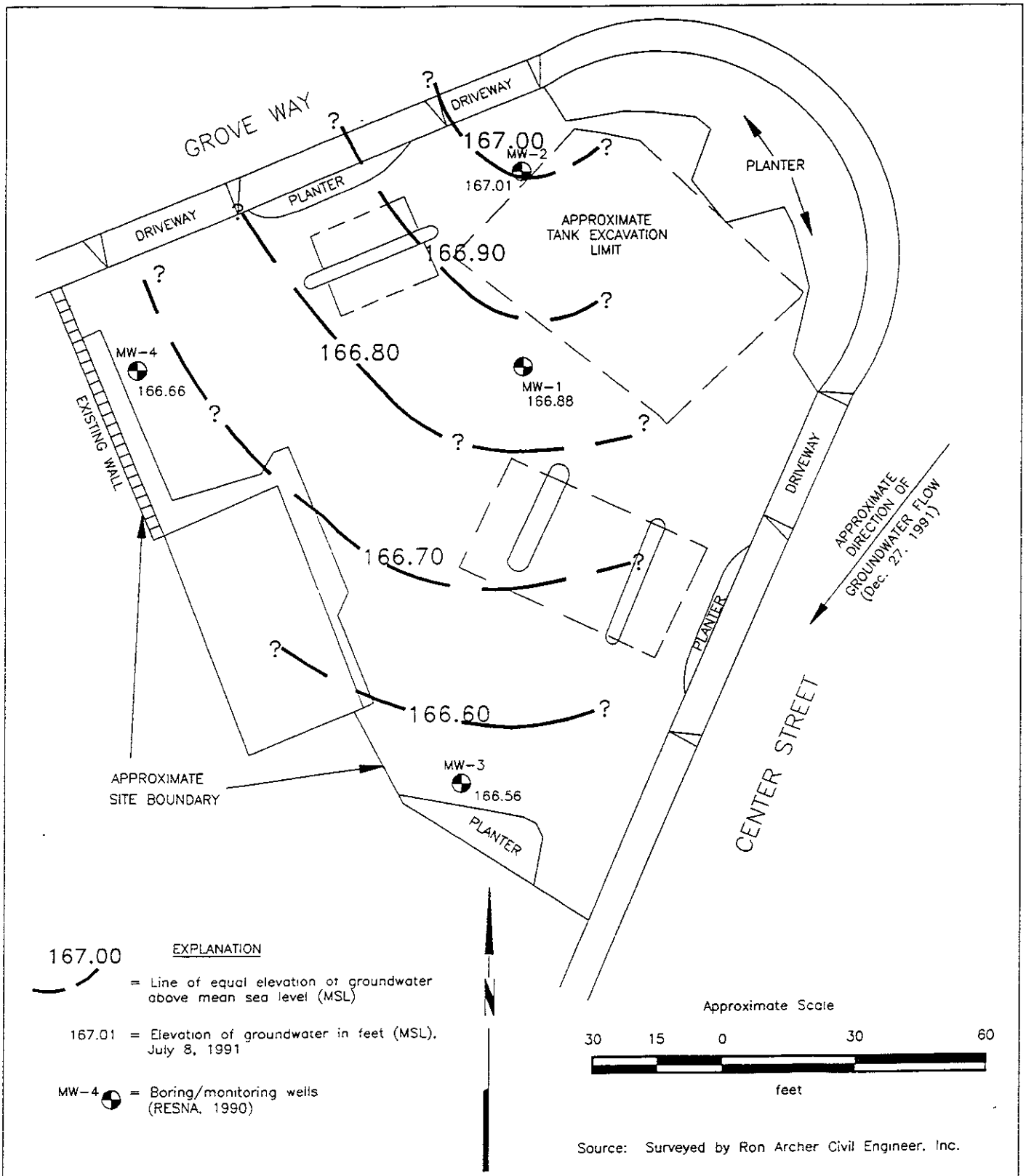
RESNA	**GROUNDWATER GRADIENT MAP** **ARCO Station 2152** **22141 Center Street** **Castro Valley, California**	**PLATE** **4**
PROJECT 69013.09		



RESNA	**GROUNDWATER GRADIENT MAP** **ARCO Station 2152** **22141 Center Street** **Castro Valley, California**	**PLATE** **5**
PROJECT 69013.09		



RESNA	**GROUNDWATER GRADIENT MAP** **ARCO Station 2152** **22141 Center Street** **Castro Valley, California**	**PLATE** **6**
PROJECT 69013.09		



RESNA

PROJECT 69013.09

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

PLATE
7

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

Date Well Measured	Depth of Well	Well Elevation	Static Water Depth	Water Elevation
MW-1				
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
MW-2				
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
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
MW-3				
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

See notes on Page 2 of 2.

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

Date Well Measured	Depth of Well	Well Elevation	Static Water Depth	Water Elevation
MW-3				
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
MW-4				
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

Depth measurements in feet. Water elevation is mean sea level.
Static water level measured in feet below top of casing.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES
OF GROUNDWATER
ARCO Station 2152
Castro Valley, California

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
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
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
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

Results in parts per billion (ppb).
TPHg: Total petroleum hydrocarbons as gasoline
B:benzene T:toluene E:ethylbenzene X:total xylene isomers

APPENDIX A

GROUNDWATER SAMPLING PROTOCOL

The static water level in each well that contained water was measured with a Solinst® water-level indicator; this instrument is accurate to the nearest 0.01 foot. These groundwater depths were subtracted from wellhead elevations measured by Ron Archer, Civil Engineer, Inc., of Pleasanton, California, a licensed land surveyor, to calculate the differences in groundwater elevations.

Water samples collected for subjective evaluation were collected by gently lowering approximately half the length of a new, disposable bailer past the air-water interface and collecting a sample from near the surface of the water in the well. The samples were checked for measurable floating hydrocarbon product and sheen.

Before water samples were collected from the groundwater monitoring wells, the wells were purged until stabilization of the temperature, pH, and conductivity was obtained. Approximately 3 to 7 well casing volumes of water were purged before these characteristics stabilized. The quantity of water purged from the wells was calculated as follows:

1 well casing volume = $\pi r^2 h(7.48)$ where:

r = radius of the well casing in feet.
h = column of water in the well in feet (well depth - depth to water).
7.48 = conversion constant from cubic feet to gallons

Gallons of water purged/gallons in 1 well casing volume = well casing volumes removed.

After purging, each well was allowed to recharge to within 80% of the initial water level. Water samples were then collected with a new, disposable bailer. The water samples were carefully poured into 40-milliliter glass vials, which were filled to produce a positive meniscus. Each sample container was preserved with hydrochloric acid, sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace which would allow volatilization to occur. The samples were promptly transported in iced storage in a thermally-insulated ice chest, accompanied by a Chain of Custody Record, to a California-certified laboratory. Purge water was removed from the site by H & H Ship Service Company, a licensed hazardous waste hauler. The Uniform Hazardous Waste Manifest is attached.

ARCO Products Company
Division of AtlanticRichfieldCompany

Task Order No. ~~2152-91-5~~ 2152-915 ~~2152-69013.09~~

Chain of Custody

ARCO Facility no. 2152 69013.09 | City (Facility) CASTRO VALLEY | Project manager (Consultant) JOE COFFMAN / LOU | Laboratory name SEQUOIA

ARCO engineer CHUCK CARMEL | Telephone no. (ARCO) | Telephone no. (Consultant) 408 264 7723 | Fax no. (Consultant) 408 264 2435

Consultant name REGINA INDUSTRIES/APPLIED GEOSYSTEMS | Address (Consultant) 3315 ALMADEN EXP. SUITE 34 SAN JOSE 95118 | Contract number 07-073

Sample I.D.	Lab no.	Container no.	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation: Ice	Preservation: Acid	Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH gas EPA M602/8020/8015	TPH Modified 8015 Gas ☐ Diesel ☐	Oil and Grease 413.1 ☐ 413.2 ☐	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 624/8240	EPA 625/8270	TCLP Metals ☐ VOA ☐ Semi VOA ☐	CAM Metals EPA 6010/7000 TTLC ☐ STLC ☐	Lead Org./DHS ☐ Lead EPA 7420/7421 ☐		
W-48	MW4	4		X		X	X	10-15-91	15 39		X				1103276							
W-49	MW2	4		X		X	X		15:52		X				3277							
W-50	MW1	4		X		X	X		16:07		X				3278							
W-51	MW3	4		X		X	X		16:20		X				3279							

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time
- Priority Rush 1 Business Day ☐
- Rush 2 Business Days ☐
- Expedited 5 Business Days ☐
- Standard 10 Business Days ☒

Condition of sample: good | Temperature received: cool

Relinquished by sampler	Date	Time	Received by	Date	Time
[signature]	10/16/91	12:20 pm	Alex Savia [signature]	10/16/91	12:20 pm
Relinquished by: Alex Savia [signature]	10/16/91	1:05 pm	Received by		
Relinquished by	Date	Time	Received by laboratory [signature]	10-16	1:05

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

SEQUOIA ANALYTICAL

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

RESNA
3315 Almaden Expwy., Suite 34
San Jose, CA 95112
Attention: Joel Coffman

Project: ARCO 2152, Castro Valley

Enclosed are the results from 4 water samples received at Sequoia Analytical on October 16,1991. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
1103276	Water, W-48-MW-4	10/15/91	EPA 5030/8015/8020
1103277	Water, W-49-MW-2	10/15/91	EPA 5030/8015/8020
1103278	Water, W-50-MW-1	10/15/91	EPA 5030/8015/8020
1103279	Water, W-51-MW-3	10/15/91	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

Elizabeth W. Hackl
Project Manager

SEQUOIA ANALYTICAL

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

RESNA	Client Project ID:	ARCO 2152, Castro Valley	Sampled:	Oct 15, 1991
3315 Almaden Expwy., Suite 34	Matrix Descript:	Water	Received:	Oct 16, 1991
San Jose, CA 95112	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Oct 21, 1991
Attention: Joel Coffman	First Sample #:	110-3276	Reported:	Oct 29, 1991

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons µg/L (ppb)	Benzene µg/L (ppb)	Toluene µg/L (ppb)	Ethyl Benzene µg/L (ppb)	Xylenes µg/L (ppb)
110-3276	W-48-MW-4	N.D.	N.D.	N.D.	N.D.	N.D.
110-3277	W-49-MW-2	N.D.	N.D.	N.D.	N.D.	N.D.
110-3278	W-50-MW-1	N.D.	N.D.	N.D.	N.D.	N.D.
110-3279	W-51-MW-3	N.D.	N.D.	N.D.	N.D.	N.D.
Detection Limits:		**30**	**0.30**	**0.30**	**0.30**	**0.30**

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

SEQUOIA ANALYTICAL

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

RESNA
3315 Almaden Expwy., Suite 34
San Jose, CA 95112
Attention: Joel Coffman

Client Project ID: ARCO 2152, Castro Valley

QC Sample Group: 1103276-79

Reported: Oct 29, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Jencks	J. Jencks	J. Jencks	J. Jencks
Reporting Units:	µg/L	µg/L	µg/L	µg/L
Date Analyzed:	Oct 21, 1991	Oct 21, 1991	Oct 21, 1991	Oct 21, 1991
QC Sample #:	GBLK102191 MS/MSD	GBLK102191 MS/MSD	GBLK102191 MS/MSD	GBLK102191 MS/MSD
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	10	10	10	30
Conc. Matrix Spike:	10	10	10	32
Matrix Spike % Recovery:	100	100	100	107
Conc. Matrix Spike Dup.:	11	11	11	33
Matrix Spike Duplicate % Recovery:	110	110	110	110
Relative % Difference:	9.5	9.5	9.5	3.1

SEQUOIA ANALYTICAL

Elizabeth W. Hackl
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

State of California—Health and Welfare Agency

See Instructions on back of page 6.

Department of Health Services
Toxic Substances Control Program
Sacramento, California

Please print or type. *Form designed for use on elite (12-pitch typewriter).*

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
ARCO
P. O. Box 5811, San Mateo, CA 94402

4. Generator's Phone (415) 571-2434/571-2435

A. State Manifest Document Number: 91507930

B. State Generator's ID

5. Transporter 1 Company Name	6. US EPA ID Number
H & H Ship Service Company	

C. State Transporter's ID
D. Transporter's Phone

7. Transporter 2 Company Name	8. US EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number
H & H Ship Service Company 220 China Basin Street San Francisco, CA 94107	

G. State Facility's ID
H. Facility's Phone

GENERATOR

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a. OIL AND WATER NON-RCRA HAZARDOUS WASTE LIQUID					State EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
FUEL, OIL AND WATER
PROFILE #A1040

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
JOB #9555
24 Hr Emergency Contact: H & H #(415) 543-4835
APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR

JOB SITE: ARCO STATION #2152
22141 Center Street
Castro Valley, California

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, *if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.*

Printed/Typed Name	Signature	Month	Day	Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
LANCE D. SMITH				

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year

DO NOT WRITE BELOW THIS LINE.

[redacted]SE C[redacted]RGE[redacted]R SP[redacted]CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

DHS 8022A (12/90)
EPA 8700—22

Yellow: GENERATOR RETAINS