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TO: Mr. Larry Seto DATE: July 11, 1991
Alameda County Health Care Services PROJECT NUMBER: AGS 69036.02
Agency-Hazardous Materials Div. SUBJECT: Report
80 Swan Way, Room 200
Oakland, California 94621

FROM: Joel Coffman
 TITLE: Assistant Project Geologist

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

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COPIES	DATED	NO.	DESCRIPTION
1	April 29, 1991	AGS 69036.02	Addendum One to Work Plan at ARCO Station 2035, Albany, California

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- For approval Return for corrections Return ___ corrected prints
- For your files _____

REMARKS: _____

Copies: 1 to AGS project file no. AGS 69036.02

SAN JOSE READER'S FILE
 *Revision 18
 Date: 10/15/90
 *File Name: TRANSMT.PRJ



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ADDENDUM ONE TO WORK PLAN

at

**ARCO Station 2035
1001 San Pablo Avenue
Albany, California**

AGS 69036-2

Prepared for
**ARCO Products Company
P.O. Box 5811
San Mateo, California 94402**

by

RESNA/Applied GeoSystems

April 29, 1991



Applied GeoSystems

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

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April 29, 1991

AGS 69036-2

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

Subject: Addendum One to Work Plan 69036-2 for Subsurface Investigations and Remediation at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California.

Mr. Carmel:

As you requested, this letter has been prepared to serve as an addendum to the Work Plan (RESNA/Applied GeoSystems [AGS] 69036-2, April 29, 1991) for the subject site, and is in response to the results of the Applied GeoSystems Limited Environmental Site Assessment Report (AGS 69036-1, January 24, 1990) and the letter from Alameda County Health Care Services Agency (ACHCSA) to ARCO Products Company (ARCO), dated March 28, 1991. The location of the subject site is shown on the Site Vicinity Map, Plate 1. AGS' approach and project tasks recommended to perform this phase of subsurface investigation at this site include the following: performing a well research of Alameda Flood Control and Water Conservation District (AFCWCD) records for water supply and monitoring wells within a 1/2-mile radius of the subject site, performing a records research of City of Albany Fire Department, AFCWCD, and Regional Water Quality Control Board (RWQCB) files for nearby and upgradient sites to locate possible offsite sources of gasoline and waste-oil hydrocarbons, drilling and sampling four additional soil borings (B-6 through B-9), installing four 4-inch ground-water monitoring wells (MW-1 through MW-4) in the borings, developing, sampling, and measuring water levels in the monitoring wells, surveying the monitoring wells for top-of-casing elevations, performing laboratory analyses of soil and ground-water samples, and preparing reports of the findings, conclusions and recommendations. The purpose of this work is to evaluate further the extent of gasoline hydrocarbons in the soil and investigate the possible impact of gasoline and waste-oil hydrocarbons in the ground water at the site. Additional work regarding the extent of gasoline hydrocarbons in soil and possibly the ground water at the site will be performed in conjunction with the removal of the gasoline tanks, which is tentatively scheduled for the second half of 1991.

PROPOSED WORK

Applied GeoSystems recommends the following work at the site based on the previous investigation :

- Step 1 Submit a Work Plan and Addendum to Work Plan to Alameda County Health Care Services Agency (ACHCSA) describing the proposed work for this phase for the subject site.
- Step 2 Perform a well research of AFCWCD records for all water supply and monitoring wells within 1/2-mile radius of the subject site.
- Step 3 Research records of City of Albany Fire Department, AFCWCD, and RWQCB to identify potential offsite sources of gasoline and waste-oil hydrocarbons.
- Step 4 Drill and obtain soil samples for soil classification and laboratory analysis from four onsite soil borings (B-6 through B-9) as shown on Plate 2, Proposed Borings/Monitoring Wells. Drill borings B-6 through B-9 up to 5 feet into a possible perching or confining layer beneath the first encountered ground water (total depths of approximately 40 feet below the ground surface). Install four ground-water monitoring wells (MW-1 through MW-4) with 4-inch diameter well casing in borings B-6 through B-9. These monitoring wells will be located to investigate the presence of gasoline hydrocarbons in the inferred upgradient and downgradient directions of the gasoline tanks, to evaluate to the presence of hydrocarbons at the location of the former waste-oil tank, and to enable evaluation of the gradient of first ground water beneath the site. Submit selected soil samples from borings B-6 through B-9 to a State-certified laboratory for analysis for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by Environmental Protection Agency (EPA) methods 5030/8015/8020. In addition, soil samples from B-9 will be analyzed for total oil and grease (TOG) by Standard Method 5520 D&F and for the metals cadmium (Cd), chromium (Cr), lead (Pb), and zinc (Zn), as necessary, by EPA methods 7130, 7190, 7420, and 7450, respectively. Volatile organic compounds (VOCs) will also be analyzed in a representative soil sample collected from near the former waste-oil tank using EPA Method 8240.
- Step 5 Survey the monitoring wells to a National Geodetic Vertical Datum.

- Step 6 Develop the monitoring wells.
- Step 7 Measure depths-to-water, record visual evidence of floating product in initial ground-water samples, and purge and collect ground water samples for laboratory analysis from wells MW-1 through MW-4. Submit ground-water samples to a State-certified laboratory for analysis for TPHg and BTEX by EPA methods 5030/8015/602. In addition, water samples from MW-4 will be analyzed for TOG (as necessary) using Standard method 5520 C&F, for VOCs using EPA method 624, and for the metals Cd, Cr, Pb, and Zn by EPA methods 7130, 7190, 7420, and 7450, respectively.
- Step 8 Prepare a report to include results of the investigation, our conclusions, and recommendations for possible future work at the site.

Field work proposed in this Addendum to Work Plan will be performed according to the Field Methods included in Appendix A of the above referenced Work Plan for Subsurface Investigations and Remediation for the subject site. A preliminary time schedule to perform Steps 1 through 7 is shown on Plate 3. Subsequent addenda to the Work Plan will be prepared and submitted to ARCO and proper regulatory agencies as necessary to describe future work proposed at the site.

Copies of this Addendum One should be forwarded to:

Mr. Lester Feldman
Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, 7th Floor
Oakland, California 94612

Mr. Larry Seto
Alameda County Health Care Services Agency
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Addendum One to Work Plan
ARCO Station 601, San Leandro, California

April 29, 1991
AGS 69036-2

If you have any questions or comments about this Addendum to Work Plan, please call us at (408) 264-7723.

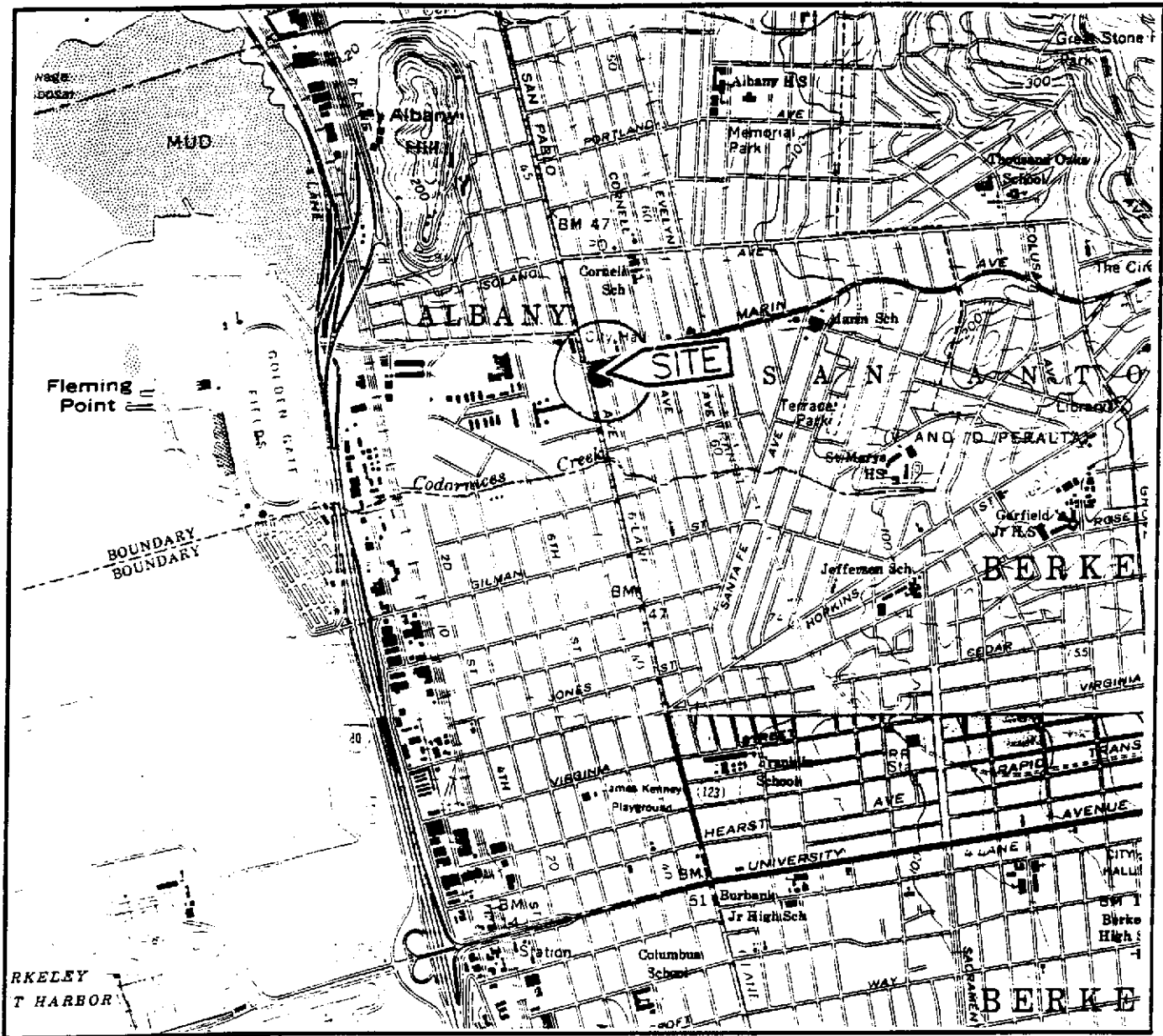
Sincerely,
RESNA\Applied GeoSystems



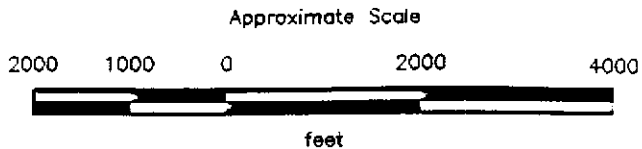
Joel Coffman
Assistant Project Geologist

Enclosures: Plate 1, Site Vicinity Map
 Plate 2, Proposed Boring/Monitoring Well Locations
 Plate 3, Preliminary Time Schedule

cc: H.C. Winsor, ARCO Products Company



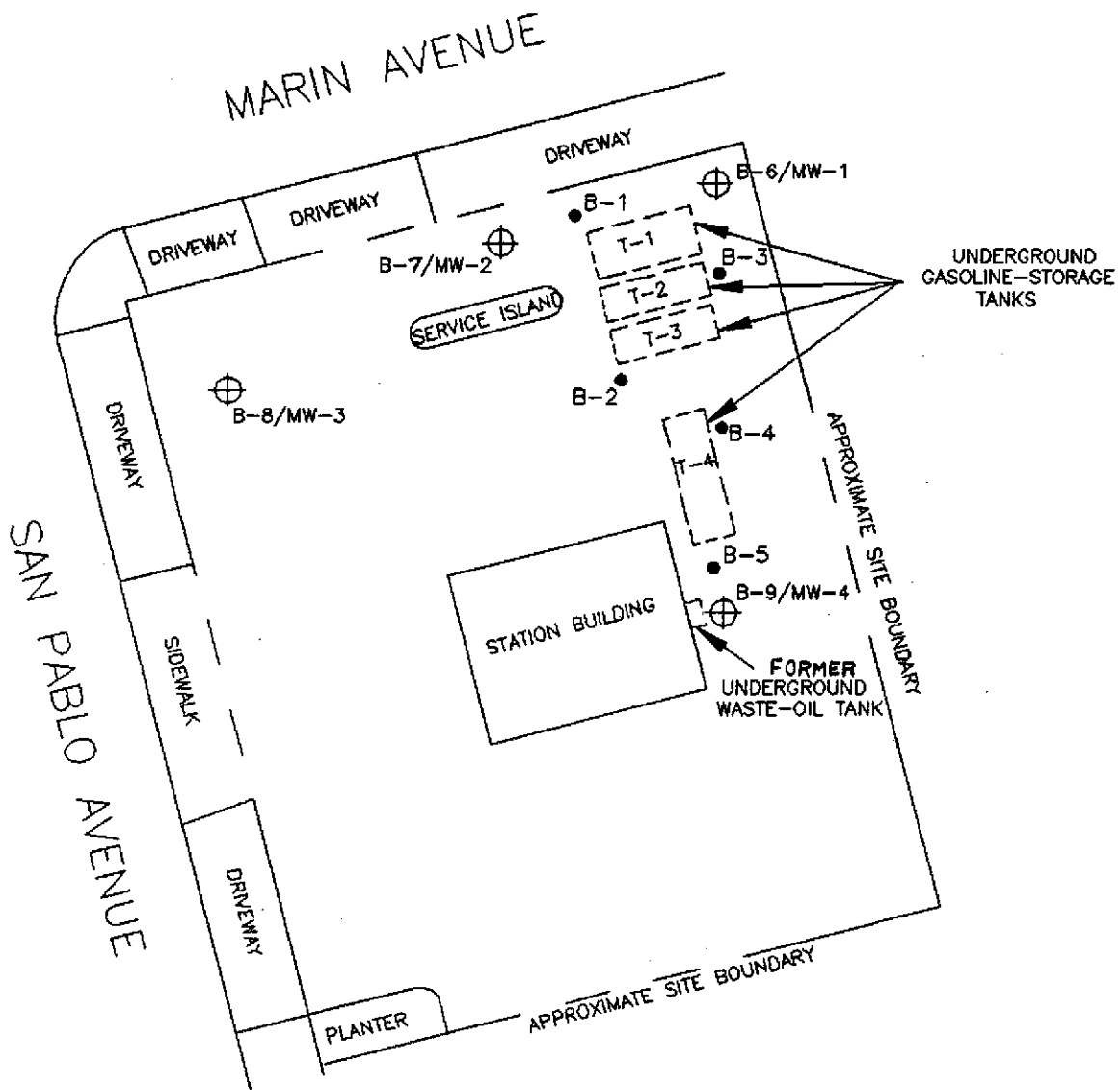
Source: U.S. Geological Survey
 7.5-Minute Quadrangles
 Richmond/Oakland West
 California.
 Photorevised 1980



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

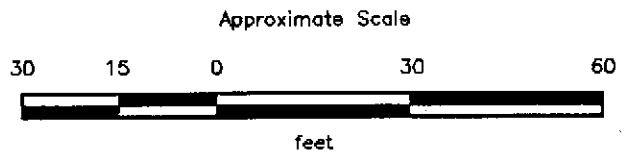
PLATE
1

PROJECT 69036-2



EXPLANATION

- B-9/MW-4 ⊕ = Proposed boring/monitoring well
- B-5 ● = Soil boring
(Applied GeoSystems, August 9, 1989)



Source: Modified from plan supplied by ARCO.



PROJECT 69036-2

PROPOSED BORING/
MONITORING WELL LOCATIONS
ARCO Station 2035
1001 San Pablo Avenue
Albany, California

PLATE
2

STEP 1
Submit Work Plan

STEP 2 & 3
Perform Well Search and
Records Search

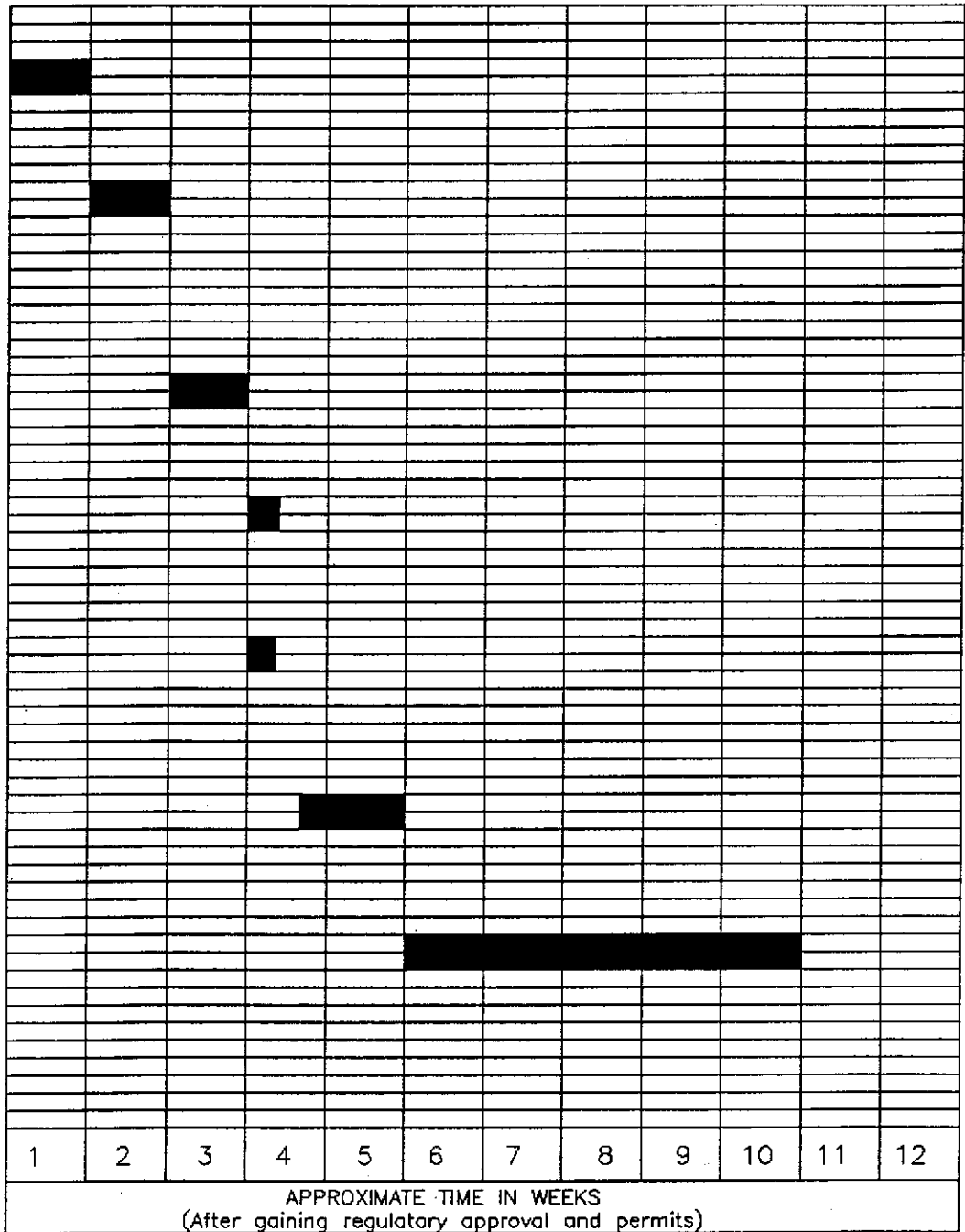
STEP 4
Drill boring and Install
monitoring wells

STEP 5
Survey wells

STEP 6
Develop Wells

STEP 7
Measure depths-to-water
and Sample wells

STEP 8
Prepare Report



PROJECT 69036-2

PRELIMINARY TIME SCHEDULE
ARCO Station 2035
1001 San Pablo Avenue
Albany, California

PLATE
3