

Applied GeoSystems, Inc.

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

• FREMONT

• IRVINE

• BOSTON

• SACRAMENTO

• CULVER CITY

• SAN JOSE

**ADDENDUM ONE TO WORK PLAN
OFFSITE SUBSURFACE INVESTIGATION**

at

**ARCO Station 374
6407 Telegraph Avenue
Oakland, California**

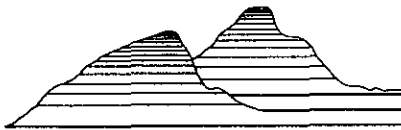
AGS 60025.03

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

by

RESNA/Applied GeoSystems

May 15, 1991



Applied GeoSystems, Inc.

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

• FREMONT

• IRVINE

• BOSTON

• SACRAMENTO

• CULVER CITY

• SAN JOSE

May 15, 1991
AGS 60025.03

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

Subject: Addendum One to Work Plan 60025.03 to perform an Offsite Subsurface Investigation at ARCO Station 374, 6407 Telegraph Avenue, Oakland, California.

Mr. Carmel:

As you requested, this letter has been prepared to serve as an addendum to the Work Plan (RESNA/Applied GeoSystems [AGS] 60025.03, May 15, 1991) for the subject site. The location of the subject site is shown on the Site Vicinity Map, Plate 1. AGS' approach and project tasks recommended to perform an offsite subsurface investigation at this site include the following: drilling and sampling one additional offsite soil boring and installing one additional offsite ground-water monitoring well (MW-5) downgradient direction of the site; developing, sampling, and measuring water levels in the monitoring well in conjunction with quarterly monitoring of pre-existing wells; surveying the monitoring well for top-of-casing elevation; performing laboratory analysis of soil and ground-water samples; performing a records search to investigate previous ownership of the former upgradient service station; acquiring and studying aerial photographs of site vicinity, and preparing a report of our findings, interpretations, and conclusions. The purpose of this work is to delineate the downgradient extent of gasoline hydrocarbon impacted soils and ground water offsite, identify past owner(s) of the abandoned upgradient station, and identify other possible offsite sources of ground-water contamination. The extent of gasoline hydrocarbons in the soil near the former gasoline tank locations and the product pipelines and dispensers will be addressed in a subsequent addendum.

A summary of previous work performed at the site by AGS and others is included in the Work Plan referenced above.

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 an environmental records search to determine previous ownership of former upgradient service station, and acquire and study aerial photographs of site vicinity to identify other possible offsite sources of ground-water contamination.

- Step 3 Drill and obtain soil samples for soil classification and laboratory analysis from one offsite soil boring (B-5) as shown on Plate 2, Proposed Borings/Monitoring Wells. Drill boring B-5 up to 5 feet into a possible perching or confining layer beneath the first encountered ground water (total depth of approximately 25 feet below the ground surface). Install one ground-water monitoring well (MW-5) with 4-inch diameter well casing in boring B-5. This monitoring well will be located to investigate the presence of gasoline hydrocarbons in the inferred downgradient direction of the former gasoline tanks. Submit selected soil samples from boring B-5 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. Drilling will commence upon obtaining proper encroachment permits from City of Oakland.

- Step 4 Survey the monitoring well to a National Geodetic Vertical Datum.

- Step 5 Develop the monitoring well.

- Step 6 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-5. Submit ground-water samples to a State-certified laboratory for analysis for TPHg and BTEX by EPA methods 5030/8015/602.

- Step 7 Prepare a report to include results of the investigation and our conclusions.

Addendum One to Work Plan
ARCO Station 374, Oakland, California

May 15, 1991
AGS 60025.03

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
2101 Webster Street, Suite 500
Oakland, California 94612

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

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



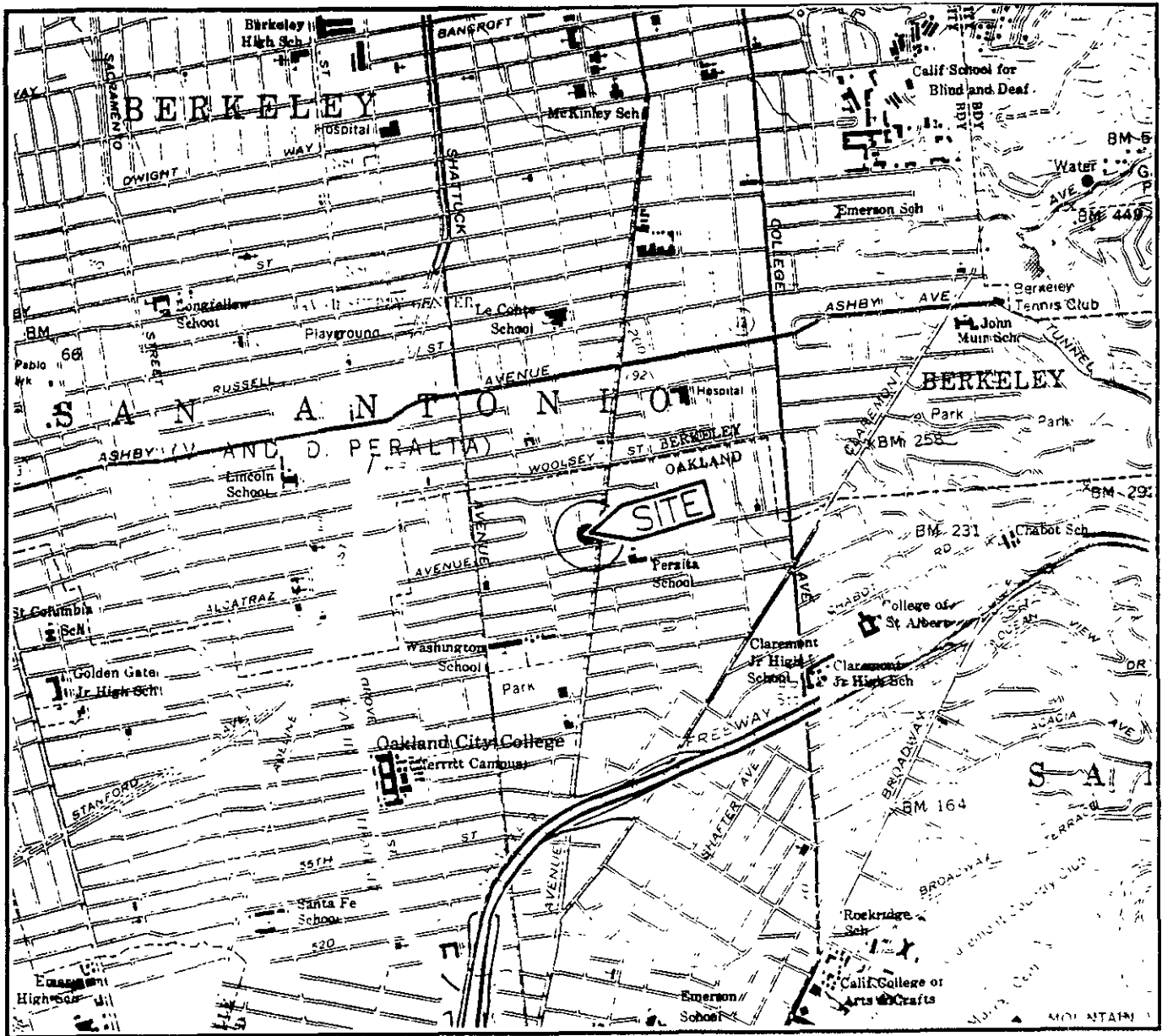
Greg Barclay
General Manager

Addendum One to Work Plan
ARCO Station 374, Oakland, California

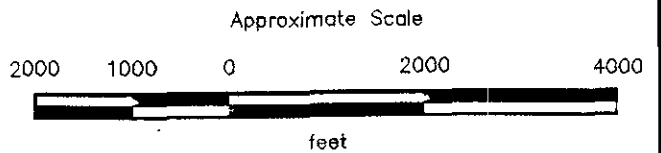
May 15, 1991
AGS 60025.03

Enclosures: Plate 1, Site Vicinity Map
 Plate 2, Proposed Borings/Monitoring Wells
 Plate 3, Preliminary Time Schedule

cc: H.C. Winsor, ARCO Products Company



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







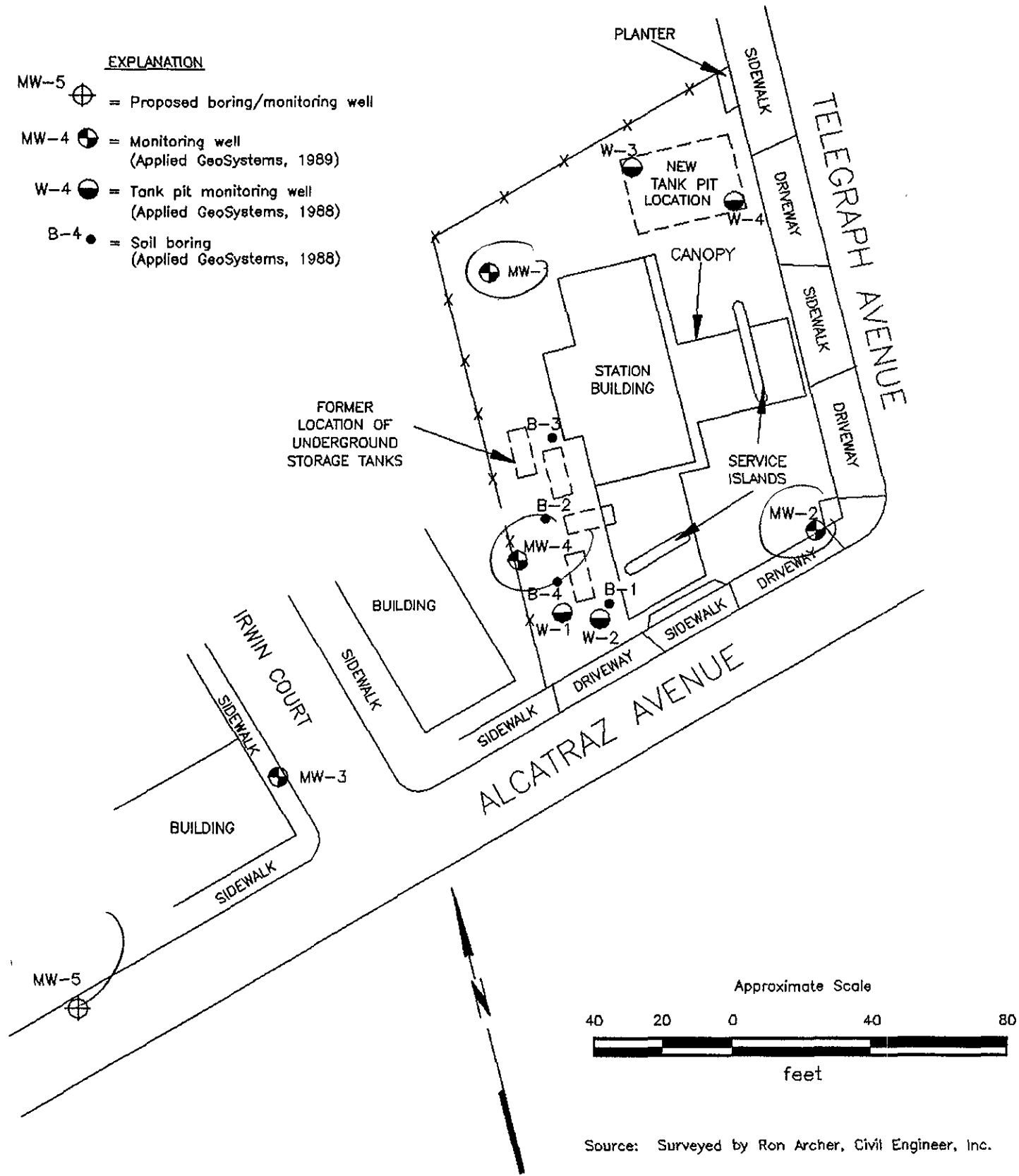
PROJECT 60025-3

SITE VICINITY MAP
ARCO Station 374
6407 Telegraph Avenue
Oakland, California

PLATE
1

EXPLANATION

- MW-5  = Proposed boring/monitoring well
- MW-4  = Monitoring well
(Applied GeoSystems, 1989)
- W-4  = Tank pit monitoring well
(Applied GeoSystems, 1988)
- B-4  = Soil boring
(Applied GeoSystems, 1988)



Source: Surveyed by Ron Archer, Civil Engineer, Inc.



PROJECT 60025-3

**PROPOSED BORING/
MONITORING WELL LOCATION
ARCO Station 374
6407 Telegraph Avenue
Oakland, California**

**PLATE
2**

STEP 1:
Submit Work Plan

STEP 2:
Perform Records Search and
obtain Aerial Photos

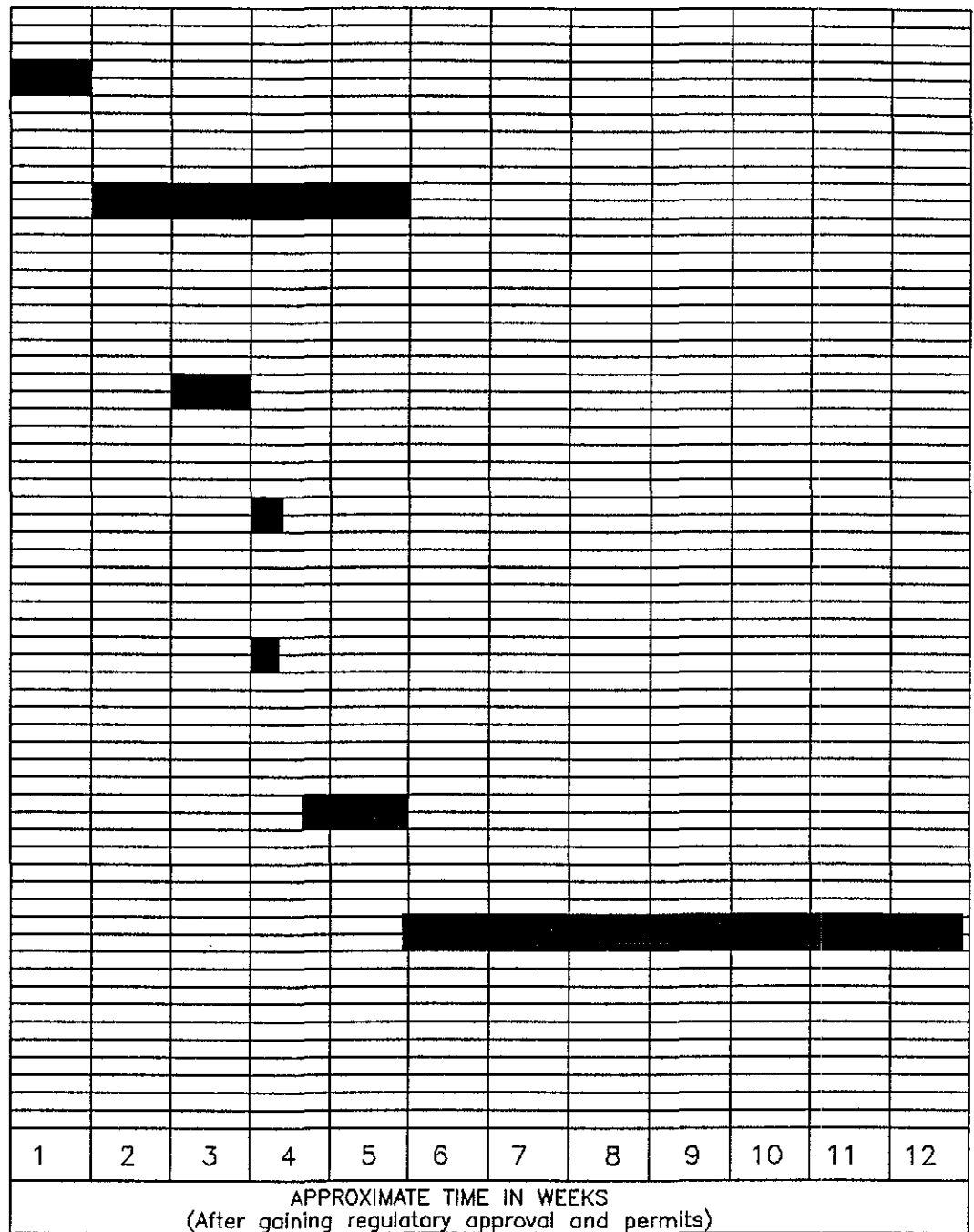
STEP 3:
Drill boring and Install
Monitoring Well

STEP 4:
Survey Well

STEP 5:
Develop Well

STEP 6:
Measure depths-to-water
and Sample Well

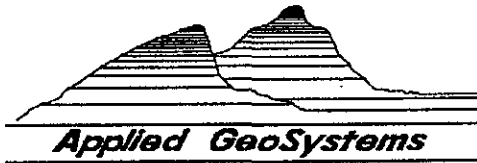
STEP 7:
Prepare Report



PROJECT 60025-3

**PRELIMINARY TIME SCHEDULE
ARCO Station 374
6407 Telegraph Avenue
Oakland, California**

**PLATE
3**



91 MAY 16 AM 8:59

TRANSMITTAL

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

TO: MR. LARRY SETO
ALAMEDA COUNTY HEALTH CARE SERVICES
DEPARTMENT OF ENVIRONMENTAL HEALTH
80 SWAN WAY, ROOM 200
OAKLAND CA 94621

DATE: 5/15/91
 PROJECT NUMBER: 60025.03
 SUBJECT: WORK PLAN AND ADDENDUM TO
WORK PLAN

FROM: JOEL COFFMAN
 TITLE: ASST. PROJECT GEOLOGIST

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

Shop drawings Prints Reports Specifications

Letters Change Orders _____

COPIES	DATED	NO.	DESCRIPTION
1	5/15/91	60025.03	WORK PLAN FOR ARCO STATION 374
1	5/15/91	60025.03	ADDENDUM ONE TO WORK PLAN FOR ARCO STATION 374

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 AUTHORIZATION COPIES OF REPORT HAVE BEEN FORWARDED
FOR YOUR REVIEW.

COURIER SERVICE (SAME DAY DELIVERY)

Copies: 1 to AGS project file no. 60025.03 SAN JOSE READER'S FILE
 *Revision Date: 10/15/90
 *File Name: TRANSMT.PRJ