



A RESNA Company

RESNA

Working To Restore Nature

92 MAR -6 7:18:26

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

TRANSMITTAL

TO: MR. LARRY SETO
ACHCSA-HMD
80 SWAN WAY, ROOM 200
OAKLAND, CALIFORNIA 94621

DATE: 3/6/92
PROJECT NUMBER: 69034.08
SUBJECT: ARCO STATION 601,
712 LEWELLING BOULEVARD, SAN LEANDRO,
CALIFORNIA.

FROM: JOEL COFFMAN
TITLE: PROJECT GEOLOGSIT

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	3/6/92		FINAL-ADDENDUM THREE TO WORK PLAN FOR
			ADDITIONAL SUBSURFACE INVESTIGATION AT
			THE ABOVE SUBJECT SITE.

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: A COPY OF THIS LETTER HAS BEEN FORWARDED TO YOU AT THE
REQUEST OF MR. CHUCK CARMEL, ARCO PRODUCTS COMPANY.

Copies: 1 to project file no. 69034.08

*Revision Date: 11/21/91

*File Name: TRANSMT.PRJ

		QUESTIONS? CALL 800-238-5355 TOLL FREE		AIRBILL PACKAGE TRACKING NUMBER		1834787283	
1834787283		Date: 3/4/01		RECIPIENT'S COPY			
From (Your Name) Please Print JOHN J. JEFFERSON		Your Phone Number (Very Important) (504) 304-7283		To (Recipient's Name) Please Print Mr. L. J. J. J. J.		Recipient's Phone Number (Very Important) (504) 304-7283	
Company JEFFERSON		Department/Floor No. 2		Company JEFFERSON		Department/Floor No. 2	
Street Address 3000 ALABAMA AVE		City MOBILE		State AL		ZIP Required 36688	
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) 3000 ALABAMA AVE		City MOBILE		State AL		ZIP Required 36688	
YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.) 1834787283							
PAYMENT 1 <input type="checkbox"/> Bill Sender 2 <input type="checkbox"/> Bill Recipient's FedEx Acct. No. 3 <input type="checkbox"/> Bill 3rd Party FedEx Acct. No. 4 <input type="checkbox"/> Bill Credit Card 5 <input type="checkbox"/> Cash/Check				IF HOLD FOR PICK-UP, Print FEDEX Address Here Street Address City State ZIP Required			
4 SERVICES (Check only one box)		5 DELIVERY AND SPECIAL HANDLING (Check services required)		6 PACKAGES WEIGHT In Pounds Only YOUR DECLARED VALUE		Emp. No. Date <input type="checkbox"/> Cash Received <input type="checkbox"/> Return Shipment <input type="checkbox"/> Third Party <input type="checkbox"/> Chg. To Del <input type="checkbox"/> Chg. To Hold Street Address City State Zip Received By: X Date/Time Received FedEx Employee Number Release Signature: _____ Date/Time FedEx Emp. No.	
Priority Overnight (Delivery by next business morning) 11 <input type="checkbox"/> YOUR PACKAGING 16 <input type="checkbox"/> FEDEX LETTER 12 <input checked="" type="checkbox"/> FEDEX PAK * 13 <input type="checkbox"/> FEDEX BOX 14 <input type="checkbox"/> FEDEX TUBE Economy Two-Day (Delivery by second business day) 30 <input type="checkbox"/> ECONOMY Government Overnight (Delivery by next business afternoon) 51 <input type="checkbox"/> YOUR PACKAGING 56 <input type="checkbox"/> FEDEX LETTER * 52 <input type="checkbox"/> FEDEX PAK * 53 <input type="checkbox"/> FEDEX BOX 54 <input type="checkbox"/> FEDEX TUBE 46 <input type="checkbox"/> GOVT LETTER 41 <input type="checkbox"/> GOVT PACKAGE Freight Service (for Extra Large or any package over 150 lbs) 70 <input type="checkbox"/> OVERNIGHT FREIGHT ** 80 <input type="checkbox"/> TWO-DAY FREIGHT ** *Declared Value Limit \$100. **Call for delivery schedule.		1 <input type="checkbox"/> HOLD FOR PICK-UP (if all in Box 11) 2 <input type="checkbox"/> DELIVER WEEKDAY 3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge; (Not available to all locations)) 4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge) 5 <input type="checkbox"/> 6 <input type="checkbox"/> DRY ICE 7 <input type="checkbox"/> OTHER SPECIAL SERVICE 8 <input type="checkbox"/> 9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge) 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> HOLIDAY DELIVERY (if altered) (Extra charge)		Total Total Total DIM SHIPMENT (Chargeable Weight) <input type="checkbox"/> lbs. Received At: 1 <input type="checkbox"/> Regular Stop 3 <input type="checkbox"/> Drop Box 2 <input type="checkbox"/> On-Call Stop 4 <input type="checkbox"/> B.S.O. 5 <input type="checkbox"/> Station		Federal Express Use Base Charges Declared Value Charge Other 1 Other 2 Total Charges REVISION DATE 6/91 PART #137204 FXEM 12/91 FORMAT #099 099 © 1990-91 FEDEX PRINTED IN U.S.A.	



A RESNA Company

RESNA

Working To Restore Nature

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

**ADDENDUM THREE TO WORK PLAN
ADDITIONAL SUBSURFACE INVESTIGATION**

at

ARCO Station 601
712 Lewelling Boulevard
San Leandro, California

69034.08

3/6/92

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

by

RESNA Industries, Inc.



March 6, 1992



A RESNA Company

RESNA

Working To Restore Nature

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

March 6, 1992
69034.08

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

Subject: Addendum Three to Work Plan for Additional Subsurface Investigation at
ARCO Station 601, 712 Lewelling Boulevard, San Leandro, California.

Mr. Carmel:

At your request, this letter has been prepared to serve as Addendum Three to Work Plan (RESNA 69034-4W, March 21, 1991) to perform an additional subsurface investigation at the subject site. The location of the site is shown on the Site Vicinity Map, Plate 1. The project tasks recommended to perform additional subsurface investigation at this site include the following: after receiving approval of this addendum to the Work Plan by the Regional Water Quality Control Board (RWQCB) and the Alameda County Health Care Services Agency (ACHCSA), submit well permit applications to the Alameda County Flood Control and Water Conservation District (ACFCWCD); obtain offsite access for the installation of two offsite wells from adjoining property owners; ~~drill and install three groundwater monitoring wells~~ (two offsite and one onsite); survey the wellheads to a local Geodetic Survey Datum; develop, perform subjective analysis, and sample the groundwater monitoring wells; and prepare a report of results.

The proposed offsite, downgradient borings/monitoring wells B-14/MW-9 and B-15/MW-10 are necessary to further delineate the lateral extent of gasoline hydrocarbons in the soil and groundwater downgradient of the site. The locations of the proposed borings and monitoring wells are shown on Plate 2. These wells will be installed upon attaining access from the adjoining property owners. The purpose of proposed upgradient, onsite boring/monitoring well B-16/MW-11 is to determine if gasoline hydrocarbons exist upgradient of the former underground gasoline-storage tanks, and if possible offsite source(s) of hydrocarbons have impacted the soil and groundwater at the site. Groundwater flow direction is toward the southwest, as shown on Plate 2.

PREVIOUS WORK

The following is a brief summary of previous work performed at the site by RESNA and others:

In August 1989, Applied GeoSystems (AGS) of San Jose, California, performed a limited environmental site assessment to evaluate the presence of hydrocarbons in the soil in the vicinity of the underground storage tanks prior to removal of four underground gasoline-storage tanks and one underground waste-oil-storage tank. Five soil borings were drilled and sampled, soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and the gasoline constituents benzene, toluene, ethylbenzene and total xylenes (BTEX). Selected soil samples collected from the boring near the waste-oil tank were also analyzed for total oil and grease (TOG) and halogenated volatile organics (VOC). A report was prepared including laboratory results and conclusions (AGS, November 9, 1989).

In November 1989, GeoStrategies Inc. (GSI) of Hayward, California, prepared a Work Plan for ARCO and in January 1990, GSI observed removal and replacement of the four gasoline and one waste-oil underground storage tanks. GSI collected soil samples from the excavation for laboratory analyses and prepared a report of the results for ARCO (GSI, 1989 and 1990).

In June 1990, AGS conducted further subsurface environmental assessment which included drilling and sampling three soil borings, construction of three groundwater monitor wells (MW-1 through MW-3) in the borings, development and sampling of the wells, laboratory analyses of soil and ground-water samples, and preparation a of report including laboratory results and conclusions (RESNA/AGS, 1990). The groundwater gradient was interpreted to be to the southwest. Quarterly groundwater monitoring and sampling was initiated in July 1990.

The Work Plan and Addendum One to Work Plan (March 1991) was approved by Larry Seto of the Alameda County Health Care Services Agency on April 18, 1991, and a subsurface environmental assessment was performed in May and June 1991, which included drilling six soil borings (B-9 through B-13, and B-11A), installing monitoring wells (MW-4 through MW-8) in five of the borings (B-9 through B-13), development and sampling of the wells, laboratory analysis of soil and groundwater samples, performing a vapor-extraction test, and preparation a of report including laboratory results and conclusions (RESNA, October 1991). The groundwater gradient was interpreted to be to the southwest, which is consistent with previous findings. The environmental assessment concluded that the horizontal extent of hydrocarbons in soil have not been delineated in the western and northeastern portion of the site. The vertical extent of hydrocarbon in soil has not been

delineated in the eastern vicinity of the former gasoline tanks (B-3) and near the former waste-oil tank (B-5). The lateral and vertical extent of hydrocarbons in groundwater at the site has not been delineated. The vapor-extraction test concluded that a vapor-extraction system would not be effective at this site given the tight clays and the high groundwater table (8-10 feet) at the site.

The offsite boring (B-14) was not drilled on the adjacent property during the subsurface investigation performed in May and June 1991, due to inability to gain access from the property owner. Once offsite access is granted, the work proposed in this addendum three will be initiated.

Work Proposed in Addendum Two to Work Plan (RESNA, May 15, 1991) included installation of a floating product recovery system in wells MW-1 and MW-3. Approximately 3.4 gallons of floating hydrocarbon product were previously bailed and removed from the site to date. Due to the reduced amounts of floating product observed in the wells at the site, a Horner EZY Floating Product Skimmer was installed in wells MW-3 in place of a floating product recovery system on December 24, 1991, but not in monitoring wells MW-1 and MW-5 due to low groundwater levels in the wells.

PROPOSED WORK

RESNA recommends the following work at the site based on previous investigations:

- Step 1 Negotiate permission from the adjoining property owners to drill two offsite wells. Submit well permit applications to ACFCWCD and wait for regulatory approval.

- Step 2 After permit approval, drill and obtain soil samples for soil classification and laboratory analysis from two offsite borings (B-14 and B-15) and one onsite boring (B-16), as shown on Plate 2, Proposed Borings/Monitoring Wells. Drill borings B-14 through B-16 down to 5 feet into a possible perching or confining layer beneath the first encountered groundwater (total depths of approximately 20 feet below ground surface). Install three groundwater monitoring wells, two offsite wells (MW-9 and MW-10) and one onsite groundwater monitoring well (MW-11) with 4-inch diameter well casings in the borings. The purpose of these proposed monitoring wells is to delineate the lateral extent of possible gasoline hydrocarbons in soil and groundwater downgradient and upgradient of the site.

- Step 3 Submit selected soil samples from borings B-14 through B-16 for analysis to an ARCO approved, State-certified laboratory for TPHg and BTEX by Environmental Protection Agency (EPA) Method 5030/8015/8020 and receive results. Chain-of-custody protocol will be observed for all samples submitted for analysis.
- Step 4 Survey wellhead elevations to a U.S. Coast and Geodetic Survey Datum, by an approved State-licensed surveyor.
- Step 5 Develop groundwater monitoring wells MW-9 through MW-11.
- Step 6 Measure depths-to-water, purge, and collect groundwater samples from monitoring wells MW-9 through MW-11. Submit groundwater samples from MW-9 through MW-11, in conjunction with monitoring wells MW-1 through MW-8, to a State-certified laboratory for analysis for TPHg and BTEX by EPA Method 5030/8015/602 and receive results. Chain-of-custody protocol will be observed.
- Step 7 Prepare a report summarizing field and laboratory procedures, findings, interpretations, and conclusions.

SCHEDULE

A Preliminary Time Schedule (Plate 3) to perform Steps 1 through 7 has been attached to this addendum. Performing the proposed scope of work for the offsite wells is contingent upon obtaining property owner permissions. Work began on identifying the property owners in the fall of 1991. Correspondence has been mailed to the property owners. However, one owner states that he will not allow a well on his property, and this negotiation may not be successful. If property owner permission cannot be obtained for the proposed offsite well locations, alternate well locations on public (City) property will be proposed in another Addendum to Work Plan.

Field work proposed in this Addendum Three to Work Plan will be performed according to the Field Methods included in Appendix A of the Work Plan for Subsurface Investigations and Remediation for the subject site, dated March 21, 1991. Subsequent addenda to the Work Plan will be prepared and submitted to regulatory agencies as necessary to describe future work proposed at the site.

DISTRIBUTION

It is recommended that copies of this Addendum be forwarded to:

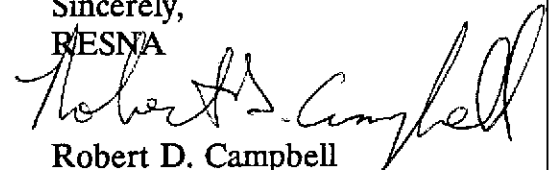
Mr. Larry Seto
Alameda County Health Care Services Agency
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

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

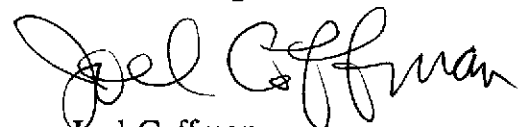
Mr. Guy Telham
San Leandro Fire Department
835 East 14th Street
San Leandro, California 94577

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

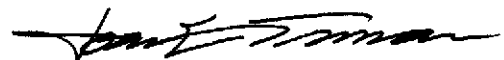
Sincerely,
RESNA



Robert D. Campbell
Staff Geologist



Joel Coffman
Project Geologist



Joan E. Tiernan, Ph.D, P.E.
Engineering Manager

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

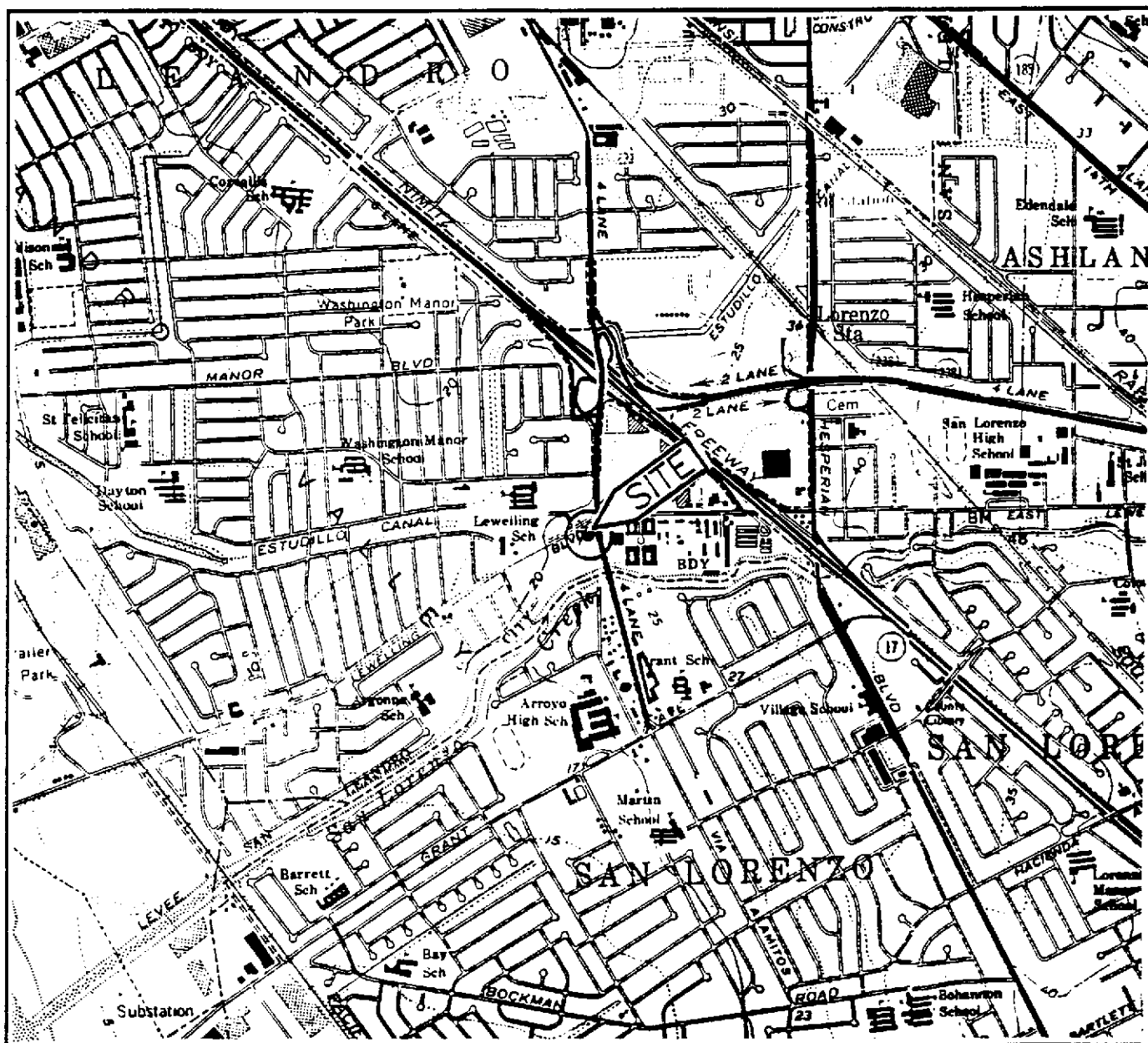
March 5, 1992
69034.08

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

cc: H.C. Winsor, ARCO Products Company

REFERENCES CITED

- Applied GeoSystems, November 9, 1989, Limited Environmental Site Assessment at ARCO Service Station No. 601, San Leandro, California, AGS Report 69034-1.
- GeoStrategies, Inc, November 14, 1989, Proposed Scope of Work, ARCO Service Station No. 601, San Leandro, California, GSI Report 7918-1.
- GeoStrategies, Inc., June 29, 1990, Tank Replacement Report, ARCO Service Station No. 601, San Leandro, California, GSI Report 7918-2.
- Helley, E. S., K. R. Lajoie, W. E. Spangle, and M. L. Blair, 1979, Flatland Deposits of the San Francisco Bay Region, California, U.S. Geological Survey Professional Paper 943.
- Hickenbottom, Kelvin and Muir, Kenneth, June 1988, Geohydrology and Groundwater - Quality Overview of the East Bay Plain Area, Alameda County, California, Alameda County Flood Control and Water Conservation District, Report 205 (j).
- RESNA/Applied GeoSystems, December 14, 1990, Subsurface Environmental Assessment at ARCO Station 601, RESNA/AGS Report 69034-2.
- RESNA, March 21, 1991, Work Plan for Subsurface Investigation and Remediation at ARCO Station 601, RESNA/AGS Report 69034-4W.
- RESNA, March 21, 1991, Addendum One to Work Plan at ARCO Station 601, RESNA Report 69034.04.
- RESNA, May 21, 1991, Site Safety Plan, Subsurface Environmental Investigation at ARCO Service Station 601, RESNA/AGS Report 69034.04S.
- RESNA, May 15, 1991, Addendum Two to Work Plan for Interim Product Recovery at ARCO Station 601, RESNA/AGS Report 69034.05.
- RESNA, October 17, 1991, Subsurface Environmental Assessment And Vapor Extraction Test at ARCO Station 601, RESNA/AGS Report 69034.04.



Base: U.S. Geological Survey
7.5-Minute Quadrangles
Hayward/San Leandro,
California
Photorevised 1980

LEGEND

● = Site Location

Approximate Scale



RESNA

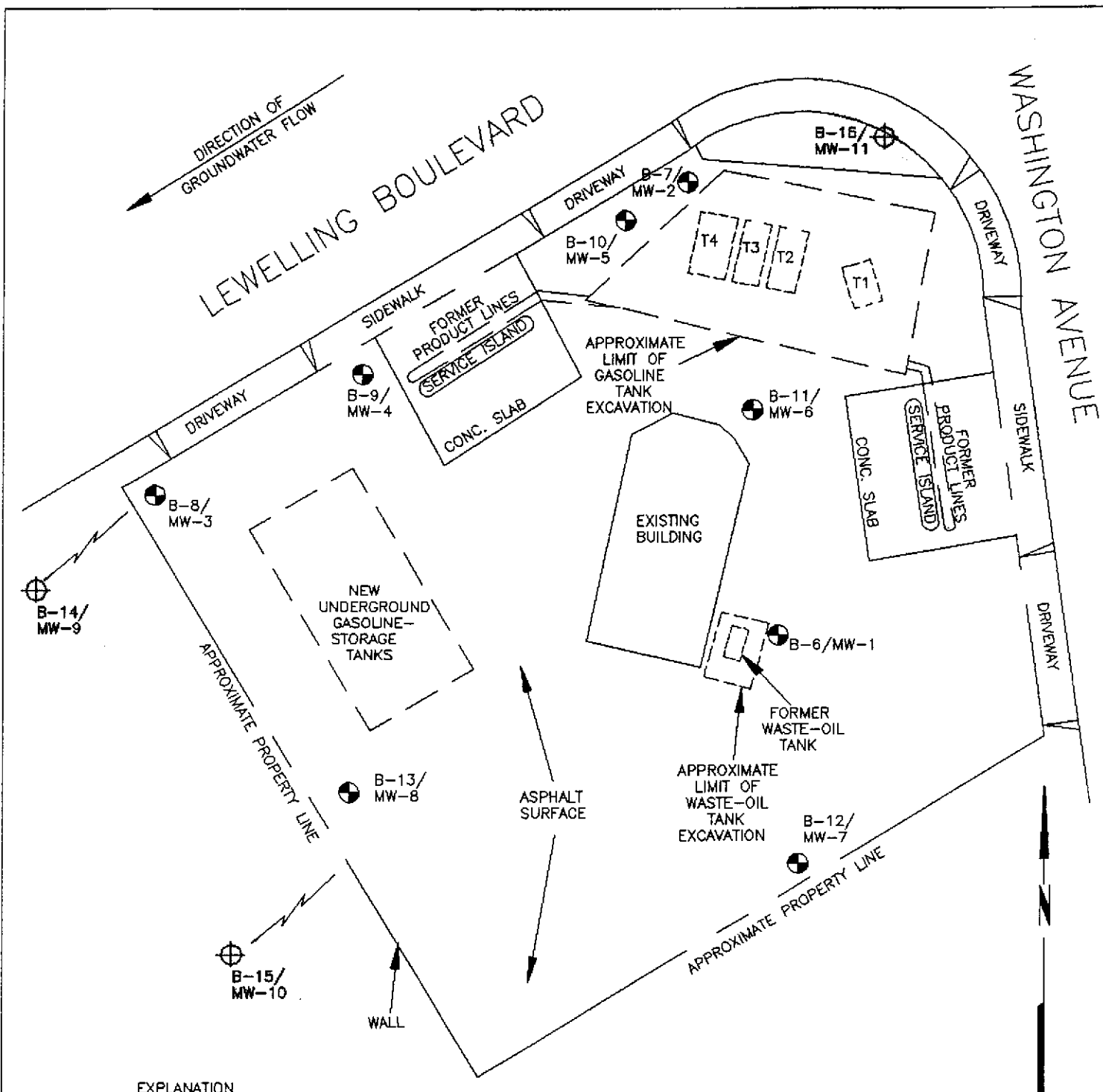
SITE VICINITY MAP
ARCO Station 601
712 Lewelling Boulevard
San Leandro, California

PLATE

1

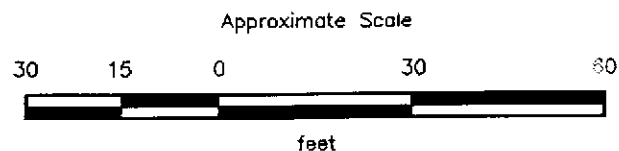
PROJECT

69034.08



EXPLANATION

- B-16/
MW-11 ⊕ = Proposed groundwater monitoring well
- B-13/
MW-8 ● = Groundwater monitoring well
(RESNA, 1990 and 1991)



Source: Surveyed by Ron Archer, Civil Engineer Inc.

RESNA

**PROPOSED BORING/
MONITORING WELL LOCATIONS
ARCO Station 601
712 Lewelling Boulevard
San Leandro, California**

PLATE

2

PROJECT

69034.08

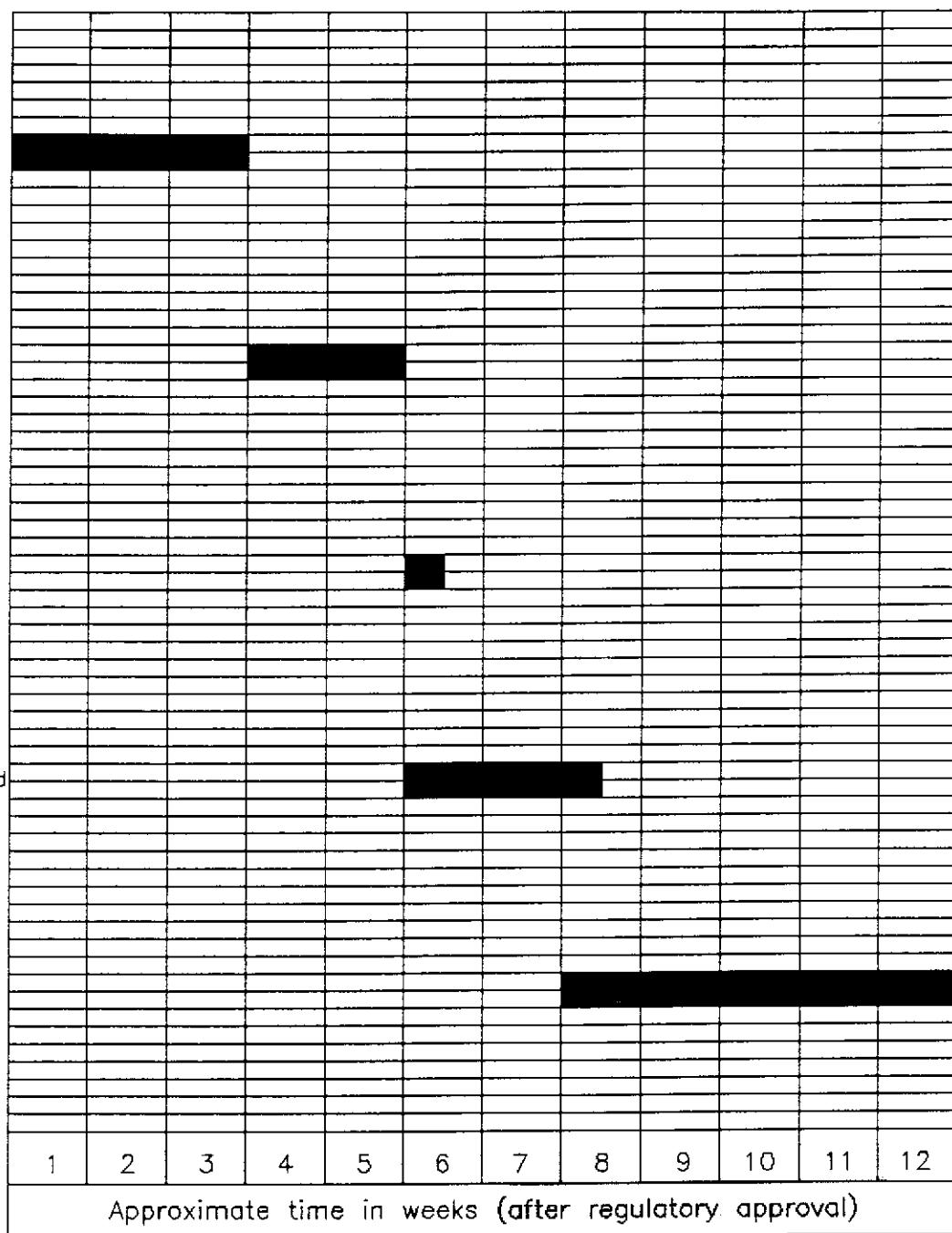
TASK 1:
Prepare Addendum to Work
Plan

TASK 2:
Drill borings and install wells

TASK 3:
Survey wells

TASKS 4 and 5:
Develop and sample wells and
receive analytical results

TASK 6:
Prepare report



RESNA

PROJECT

69034.08

PRELIMINARY TIME SCHEDULE
ARCO Station 601
712 Lewelling Boulevard
San Leandro, California

PLATE

3