

Applied GeoSystems

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

• FREMONT • IRVINE • HOUSTON • BOSTON • SACRAMENTO • CULVER CITY • SAN JOSE

July 7, 1989
0705KCHR
AGS 69013-2

Mr. Kyle Christie
ARCO Products Company
P.O. Box 5811
San Mateo, California 94402

Subject: Letter summary of work to date, and proposed work related to tank replacement activities at ARCO Service Station No. 2152, 2214 Center Street, Castro Valley, California.

Mr. Christie:

At the request of ARCO Products Company (ARCO), Applied GeoSystems is submitting this letter summary of the work performed to date, and an outline of the proposed additional work related to future tank replacement activities at ARCO Service Station No. 2152, at 2214 Center Street, Castro Valley, California. The site location is shown on the Site Vicinity Map, Plate P-1. The purpose of this letter is to provide the Alameda County Health Department with information regarding previous work performed at the site, and to summarize procedures that will be followed if gasoline contaminated soil is encountered in the tank excavation during tank replacement activities.

We understand from information provided by ARCO that five underground gasoline-storage tanks are present at the site: one 10,000-gallon super unleaded gasoline tank (T-1); two 6,000-gallon regular unleaded gasoline tanks (T-2 and T-3); and two 6,000-gallon leaded regular gasoline tanks (T-4 and T-5). The approximate locations of the underground gasoline-storage tanks and the corresponding tank designation are shown on the Generalized Site Plan, Plate P-2.

On April 13 1989, at the request of ARCO, a geologist from Applied GeoSystems visited the site to drill three soil borings in the immediate area of the underground gasoline-storage tanks as part of ARCO's Preliminary Tank Replacement Program in conjunction with the planned replacement of the tanks. This work included drilling borings B-1 through B-3 adjacent to the tanks, and collecting soil samples from borings. The locations of the

borings are shown on Plate P-2. Borings B-1, B-2, and B-3 were drilled to approximate depths of 45, 30, and 30 feet, respectively. Soil samples collected from the borings and drill cuttings were logged by the geologist present at the site according to the Unified Soil Classification System. Soil encountered in the borings consisted predominantly of layers of silty clay to sandy clay. A clayey gravel was encountered at a depth of approximately 45 feet in boring B-1. Ground water was not encountered in the borings during drilling. Based on previous work in the area of the site, we estimate groundwater to be at a depth of approximately 50 feet below grade.

A total of 16 soil samples collected in borings B-1, B-2, and B-3 were submitted to Applied GeoSystems Laboratory in Fremont, California, (Hazardous Waste Testing Laboratory No. 153) for total petroleum hydrocarbons (TPH) as gasoline using modified EPA Method 8015 and for benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) using EPA Method 8020. Results of laboratory analyses are shown on Table 1, and indicated nondetectable to very low levels (less than 6 parts per million [ppm]) of TPH present in the soil samples from the borings, with the exception of the 5-foot sample collected from boring B-3, which indicated 460 ppm TPH.

ARCO proposes to remove the underground gasoline-storage tanks on July 11, 1989 and has requested Applied GeoSystems be onsite to monitor the removal of underground gasoline storage tanks.

- o We recommend that soil samples be collected from below the underground gasoline-storage tanks during tank removal operations to confirm levels (if any) of hydrocarbon contamination in the soil beneath the gasoline tanks. The soil samples should be analyzed for TPH using modified Environmental Protection Agency (EPA) Method 8015, and for purgeable gasoline constituents BETX using EPA Method 8020.
- o If significant hydrocarbon contamination is observed in the soil during removal of the tanks, we recommend that as much of the contaminated soil as possible be excavated from the pit prior to replacing the tanks. The excavated soil should be field tested with an organic vapor meter to allow for separation of highly contaminated soil from soil with nondetectable to low levels of hydrocarbon contamination. Excavated soil should be placed on and covered with plastic. Highly contaminated soil should be aerated onsite to levels

acceptable to a Class III disposal facility. If hydrocarbon contamination appears to extend beyond the limits of the excavation, additional investigative work will be necessary to evaluate the extent of this contamination and to select appropriate remediation alternatives, as necessary.

If gasoline-contaminated soil appears to extent beyond the limits of the excavation, Applied GeoSystems proposes the following to assist in future delineation and remediation of the contaminated soil remaining in place:

- o Observe the installation of seven 12-inch diameter conductor casings at locations within the tank cavity to provide access for installing vapor extraction or ground-water monitoring wells between and adjacent to the new underground storage tanks. The conductor casings will extend from the bottom of the tank cavity to the ground surface. Covers will be installed over the conductor casing to limit vandalism and reduce the possibility of accidental disturbance to the casing.

With ARCO's authorization, Applied GeoSystems will forward this letter summary of work to date to Mr. Scott Seery, Alameda County Department of Public Health, Hazardous Materials Division, 80 Swan Way, Room 200, Oakland, California 94621. Unless otherwise notified, ARCO will proceed with the tank replacement. Please call if you have any questions regarding this letter summary.

Sincerely,
Applied GeoSystems

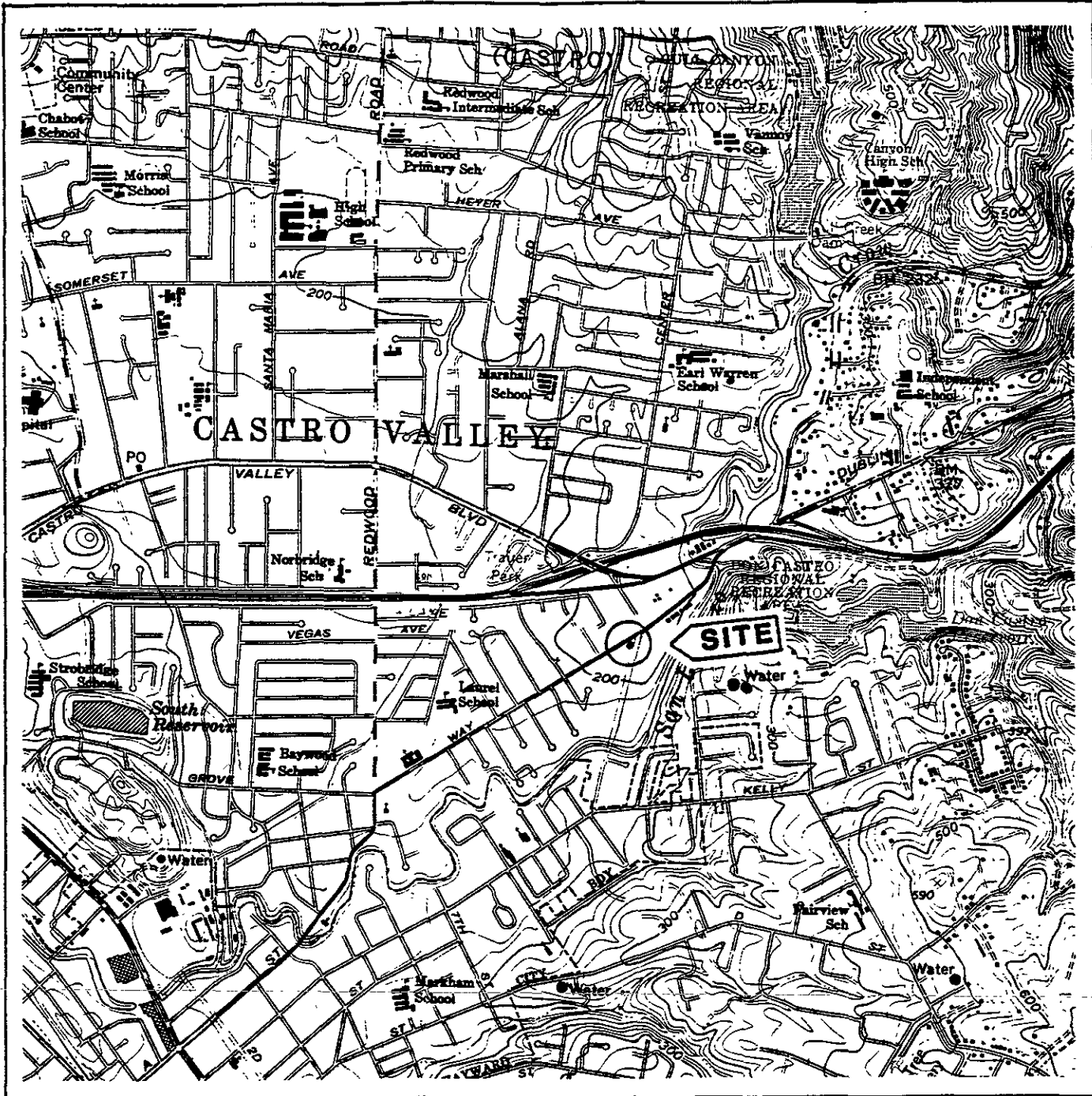


Steve Bittman
Staff Geologist



Greg Barclay
Project Branch
Manager

Enclosures: Plate P-1, Site Vicinity Map
Plate P-2, Generalized Site Plan
Table 1, Results of Chemical Analysis of Soil
Samples



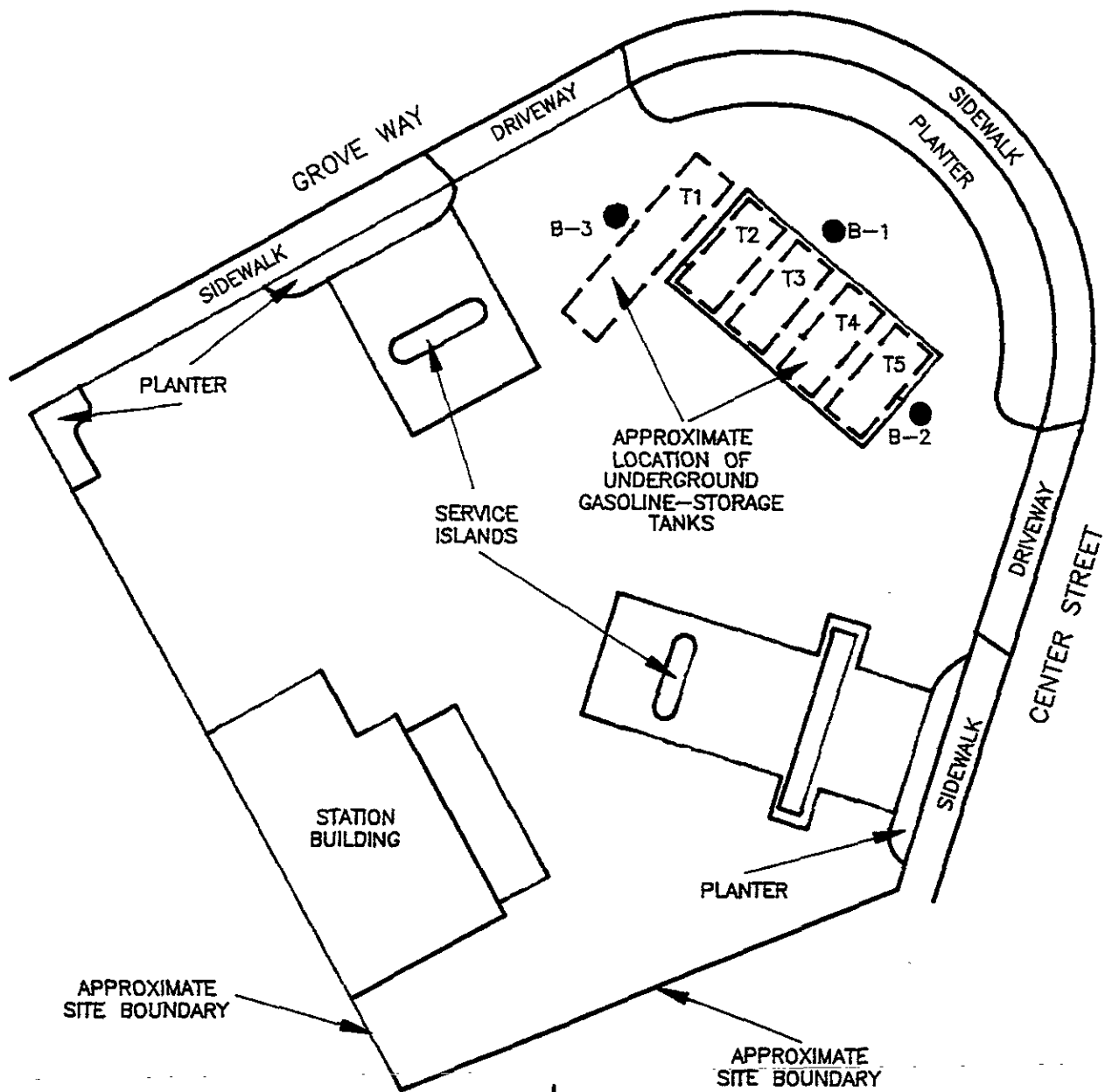
Source: U.S. Geological Survey
 7.5-Minute Quadrangle
 Hayward, California
 Photorevised 1980



PROJECT NO. 69013-2

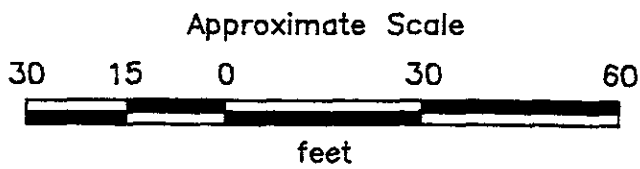
SITE VICINITY MAP
ARCO Station No. 2152
2214 Center Street
Castro Valley, California

PLATE
P-1



B-3 ● = Approximate boring location

Source: Modified from plan supplied by ARCO Corporation



PROJECT NO. 69013-2

GENERALIZED SITE PLAN
ARCO Station No. 2152
2214 Center Street
Castro Valley, California

PLATE
P - 2

TABLE 1
 RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES
 ARCO Station No. 2152
 2214 Center Street
 Castro Valley, California

Sample Identifier	TPH	B	E	T	X
S-10-B1	ND	ND	ND	ND	ND
S-20-B1	ND	0.11	ND	0.15	0.19
S-25-B1	ND	0.22	0.088	0.34	0.38
S-30-B1	5.1	0.42	0.11	0.89	0.56
S-35-B1	5.1	0.40	0.094	0.72	0.42
S-40-B1	ND	0.10	ND	ND	ND
S-45-B1	ND	ND	ND	ND	ND
S-10-B2	ND	ND	ND	ND	ND
S-20-B2	ND	ND	ND	ND	ND
S-25-B2	ND	ND	ND	ND	ND
S-30-B2	ND	ND	ND	ND	ND
S-5-B3	460	5.1	9.6	34	51
S-10-B3	5.6	ND	ND	0.11	1.0
S-20-B3	ND	ND	0.055	ND	0.068
S-25-B3	ND	ND	0.17	ND	0.16
S-30-B3	ND	ND	ND	ND	ND

Results in milligrams per kilogram (mg/kg), or parts per million (ppm).

TPH: Total petroleum hydrocarbons

B:benzene E:ethylbenzene T:toluene X:total xylene isomers

ND: Less than the detection limit of the specified analysis.

Sample identification:

S-30-B3

