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April 5, 1990
AGS 18034-7.cap

Mr. J. Kevin Hunter
Exxon Company, U.S.A.
P.O. Box 4415
Houston, Texas 77210-4415

Subject: Corrective Action Plan and Schedule for Remediating Hydrocarbons in Soil and Ground Water, and Program for Monitoring Hydrocarbons in Ground Water at Exxon Station No. 7-3399, 2991 Hopyard Road, Pleasanton, California.

Mr. Hunter:

This letter presents a plan for corrective action to recover and remediate hydrocarbons in soil and ground water at Exxon Station No. 7-3399, in Pleasanton, California. The site is shown on the Site Vicinity Map, Plate P-1. The plan is presented to satisfy the provisions of Cleanup and Abatement Order No. 89-132, issued by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) on August 11, 1989. A discussion of the extent of hydrocarbons in soil and ground water is presented in our site characterization report of April 5, 1990 (Applied GeoSystems report No. 18034-7).

Ground-water monitoring wells MW-1, MW-4, MW-5d, MW-5s, and MW-8 through MW-11 are used to monitor ground water at the site. Well MW-7 is used for ground-water recovery. Wells VR-1 through VR-4 were installed at the site for vapor recovery purposes. A remediation equipment pad is located at the southeast corner of the site and contains an oil/water separator for remediation of recovered ground water. The locations of these wells, remediation equipment pad, and general station facilities are presented on the Generalized Site Plan, Plate P-2.

On the basis of work performed to date, detectable hydrocarbons exist in the soil and ground water at the site. Hydrocarbons in soil occur around the margins of the former gasoline storage-tank pit and in the vicinity of well MW-9. Vapor-recovery well VR-1 was installed in pea gravel used to backfill the former tank pit. This well was installed to a depth of 31 feet. Hydrocarbons near well MW-9 were found at depths between 5 and 25 feet in silty clay, and between the depths of approximately 40 and 45 feet in sand and gravel. Vapor recovery wells VR-3 and VR-4 were installed to depths of 32 1/2 and 35 feet in the silty clay approximately 20 feet to the north and south of well MW-9, and vapor-

recovery well VR-2 was installed to a depth of 45 feet adjacent to well VR-3. The maximum detectable levels of hydrocarbons in soil from those wells was less than 1 part per million, suggesting that the hydrocarbons found in soil in well MW-9 are restricted in extent. Work to remediate hydrocarbons in the soil will include the following elements.

- Submit an application to the Bay Area Air Quality Management District for a permit to construct and operate a vapor extraction system.
- Install an underground vapor-recovery line between the remediation equipment pad and wells VR-2 through VR-4 and MW-9 for use for vapor recovery. A line between the pad and well VR-1 is in place.
- Install a vapor extraction and remediation system to include a vacuum pump, and an internal combustion engine/catalytic oxidizer system, as appropriate.
- Test and operate the vapor recovery and remediation system, monitor influent and effluent vapors, and monitor the mechanical equipment during operation. The anticipated duration of operation is estimated to be 1 year.

The approximate location of the underground vapor-recovery line is presented on Plate P-2. A schedule for implementing the hydrocarbon vapor remediation system is presented on Plate P-3. On approval of this plan, an estimated 4 months will be needed to acquire a permit, and install and test the remediation system.

An existing ground-water recovery and remediation system is operating at the site and data indicate that the area of capture from pumping includes most of the area in which hydrocarbons occur in ground water. A declining water level in the aquifer, however, is reducing the rate of recovery. To enhance recovery in the northern portion of the site, ground-water recovery from well MW-9 is planned as follows.

- Drill out 4-inch-diameter well MW-9 and install a 5-inch-diameter well to approximately 60 feet in depth. The well screen will be from approximately 60 to 40 feet below the ground surface and blank casing will extend from 40 feet to 1/2 foot below grade.
- Install an underground recovery line between the remediation equipment pad and ground-water wells MW-1 and MW-9. Well MW-1 may be used for ground-water recovery at a later time, if necessary.
- Install a 3 1/2-inch-diameter recovery pump in well MW-9.

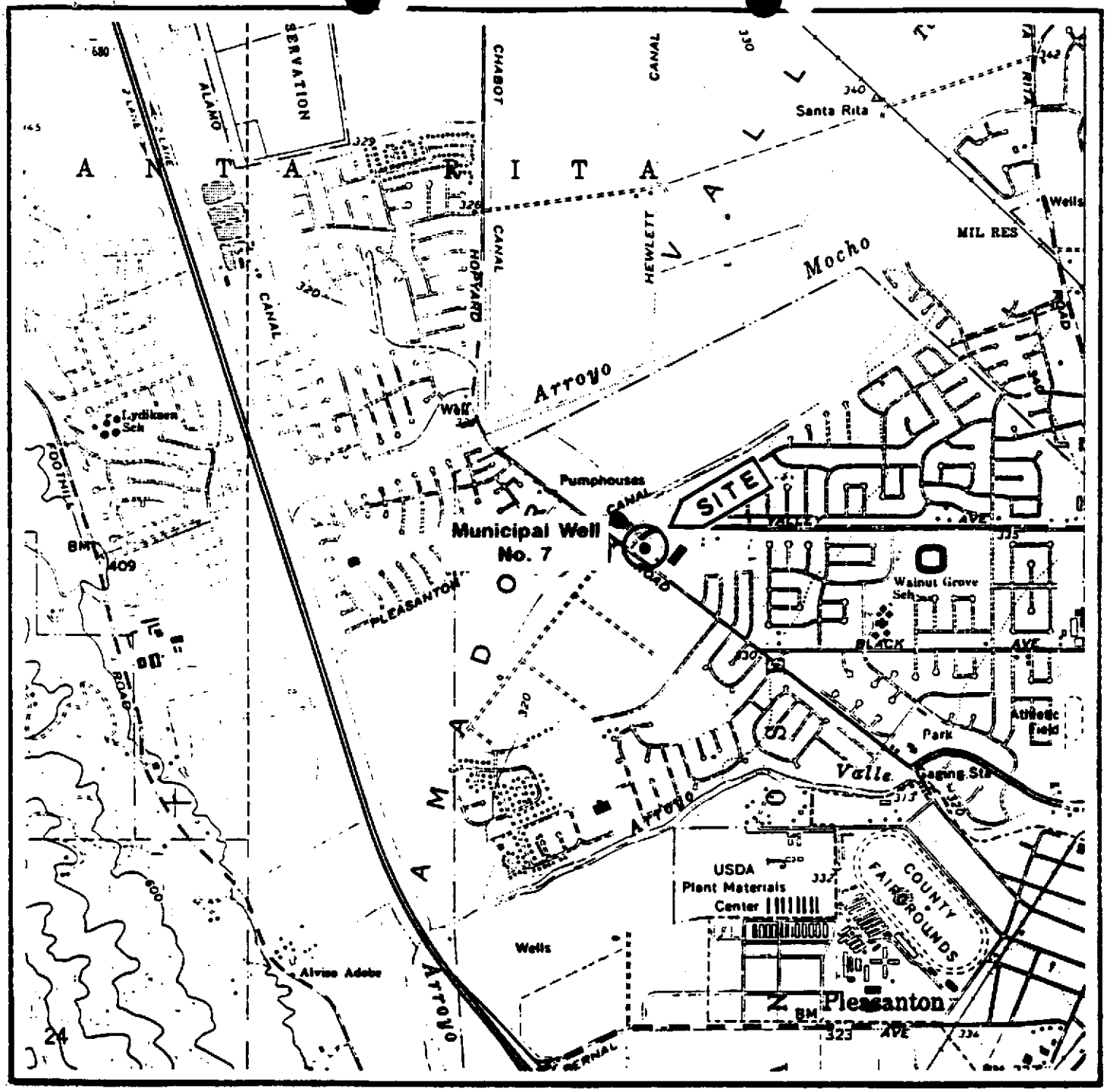
Please call if you have any questions.

Sincerely,
Applied GeoSystems

Rodger C. Witham
Senior Project Geologist

Ashraf M. Mirza
Branch Manager

Attachments: Site Vicinity Map, Plate P-1
Generalized Site Plan, Plate P-2
Proposed Schedule of Corrective Action and Monitoring, Plate P-31



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

N

Approximate Scale

2000 1000 0 2000 4000

feet

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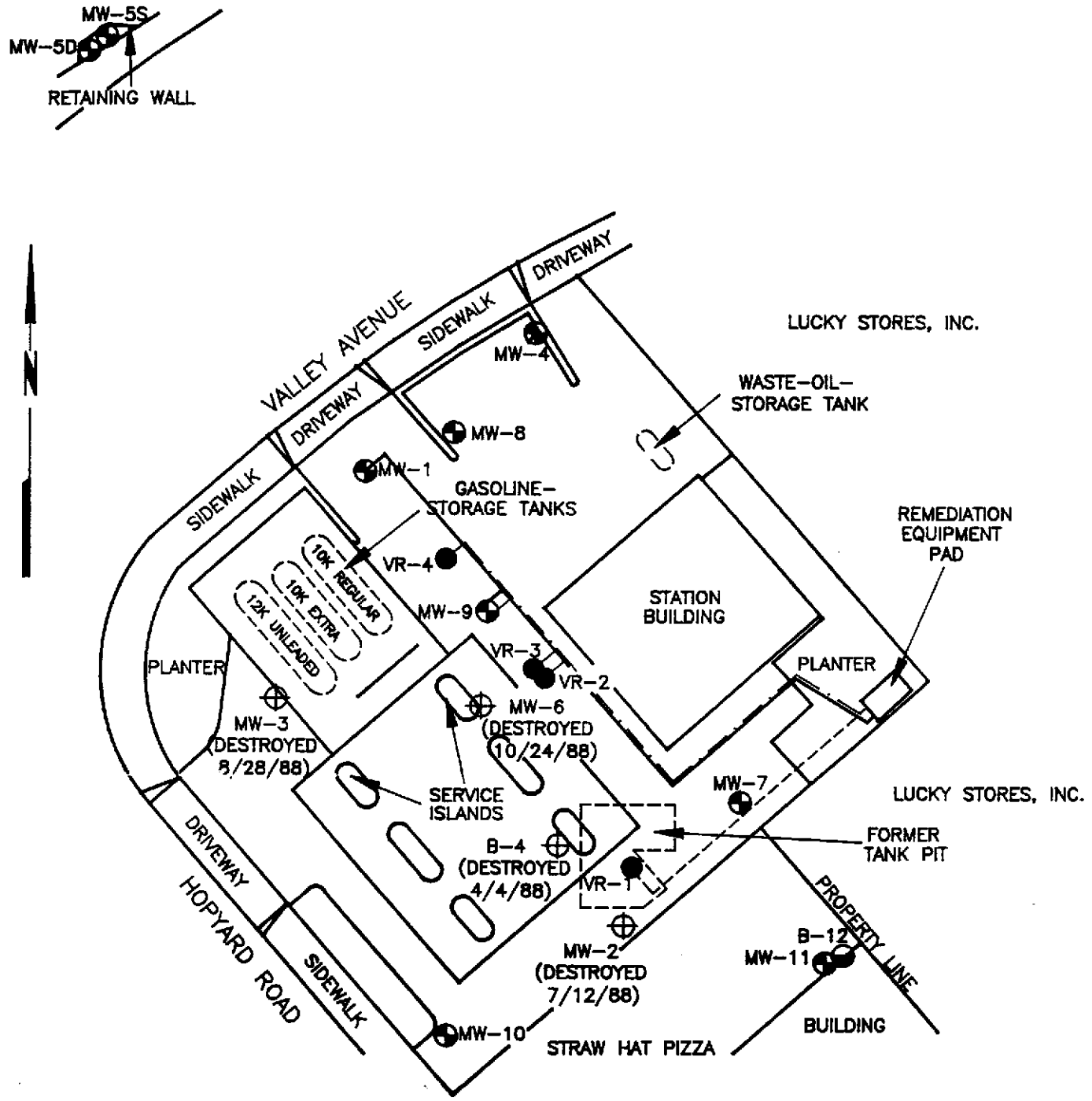
SITE VICINITY MAP
Exxon Station No. 7-3399
2991 Hopyard Road
Pleasanton, California

PLATE
P - 1



= Proposed vapor recovery line

= Existing vapor recovery line

= Proposed ground water recovery line

MW-7 = Monitoring well

VR-1 = Vapor recovery well

B-12 = Soil boring

MW-6 = Former well or boring

Approximate Scale

40 20 0 40 80

feet

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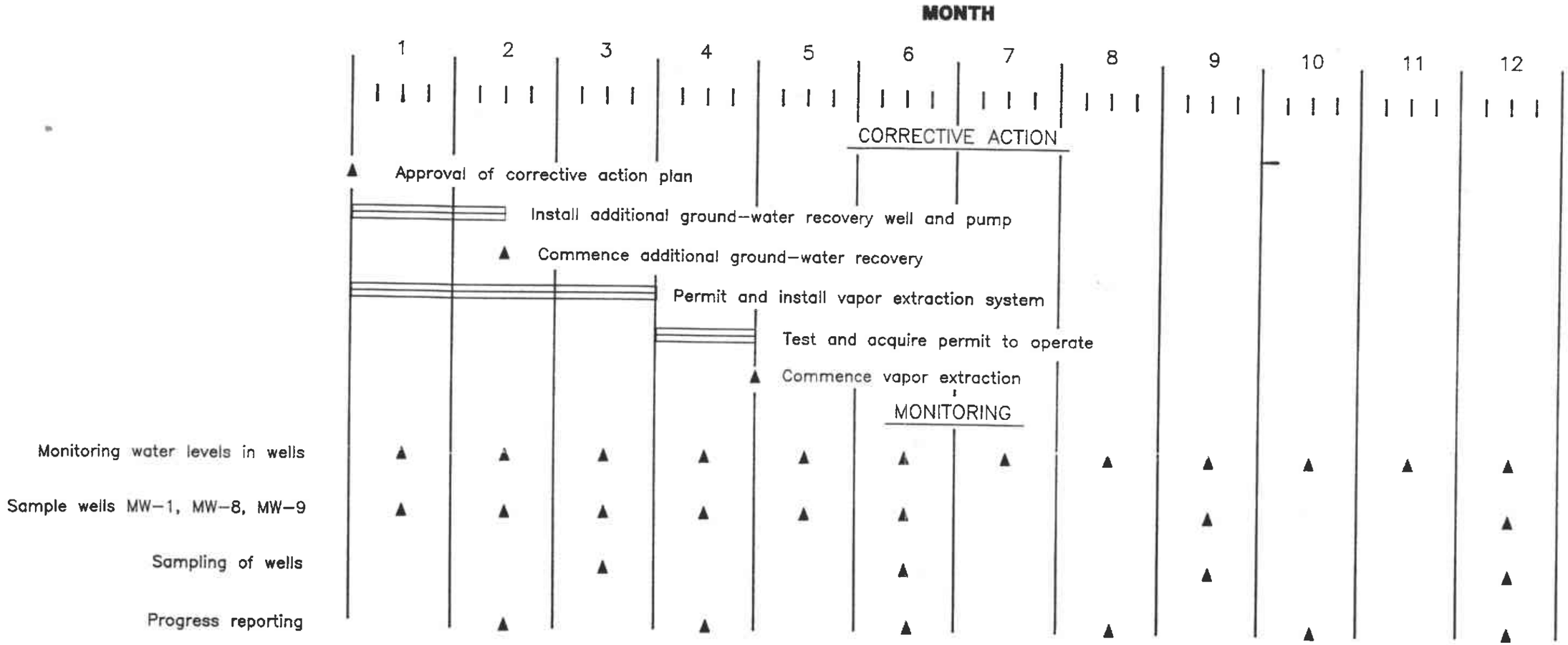
GENERALIZED SITE PLAN
Exxon Station No. 7-3399
2991 Hopyard Road
Pleasanton, California

PLATE

P - 2



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PROPOSED SCHEDULE OF CORRECTIVE ACTION AND MONITORING
Exxon Station No. 7-3399
2991 Hopyard Road
Pleasanton, California

PLATE
P - 3

The ground-water recovery line will be place in the same trench as the vapor-recovery lines. Well MW-9 will be used for both vapor and ground-water recovery. A schedule for implementing the additional ground-water recovery is presented on Plate P-3. An estimated 6 weeks will be necessary after approval of this plan to complete installation and begin pumping.

A program for monitoring of the ground water in wells is also planned. This program will include;

- measuring water levels in wells monthly;
- purging and sampling water from wells MW-1, MW-8, and MW-9 monthly for six months and quarterly thereafter for laboratory analysis for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylene isomers (BTEX); and
- purging and sampling the other wells at the site on a quarterly basis for laboratory analysis for TPHg and BTEX.

Reports of the results of remediation and monitoring activities will be submitted every 2 months. The schedule of monitoring, sampling, and reporting is also presented on Plate P-3.

Copies of this plan should be submitted to:

- Mr. Lester Feldman, California Regional Water Quality Control Board, San Francisco Bay Region, 1800 Harrison Street, Oakland, California 94612;
- Mr. Steve Cusenza, City of Pleasanton, Public Works Department, 200 Old Bernal Avenue, Pleasanton, California 94566-08092;
- Mr. Rick Mueller, Pleasanton Fire Department, 4444 Railroad Street, Pleasanton, California 94566; and
- Mr. Jerry Killingstad, Alameda County Flood Control and Water Conservation District, Zone 7, 5997 Parkside Drive, Pleasanton, California 94566.