

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

APPLIED MATERIALS, INC.
3050 BOWERS AVENUE BUILDING 1 FACILITY
CITY OF SANTA CLARA, SANTA CLARA COUNTY
GROUNDWATER SELF-MONITORING PROGRAM

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a waste discharger's monitoring program, also referred to as a self-monitoring program, are: (1) To document compliance with site cleanup requirements and prohibitions established by this Regional Board, (2) To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) To develop or assist in the development of effluent or other limitations, discharger prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) To prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the EPA Method 8000 series described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," dated November 1986; or other methods approved and specified by the Executive Officer of this Regional Board.

C. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Violations or Potential Violations of Requirements

- a. The discharger shall file a written technical report at least 15 days prior to advertising for bid on any construction project which may potentially adversely effect the dischargers' soil and groundwater cleanup activities. All projects involving subsurface construction shall be reported.
- b. In the event the discharger is unable to comply with the conditions of the site cleanup requirements and prohibitions due to:
 - (1) maintenance work, power failures, or breakdown of waste treatment equipment, or
 - (2) accidents caused by human error or negligence, or
 - (3) other causes such as acts of nature, or
 - (4) poor operation or inadequate system design,

the waste discharger shall promptly accelerate the pertinent portions of the monitoring program to weekly or as required by the Regional Board's Executive Officer for those constituents which have been violated. Such analysis shall continue until such time as the discharger is back in compliance with the conditions and prohibitions of the site cleanup requirements, or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

2. Bypass Reports

Bypass reporting shall be an integral part of the regular monitoring program report. A report on bypassing of treatment units shall be made which will include cause, time and date, duration and estimated volume bypassed, method used in estimating volume, and persons and agencies notified. Notification to the Regional Board shall be made immediately by telephone (415-464-1255), followed by a written account within 15 days.

3. Self-Monitoring Reports

a. Reporting Period:

Written reports shall be filed regularly each quarter within forty-five days from the end of the quarter monitored. The first quarterly report is due February 15, 1990.

b. Letter of Transmittal:

A letter transmitting self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period and actions taken or planned for correcting any requirement violation. If the dischargers have previously submitted a detailed time schedule for correcting requirement violations, a reference to this correspondence will be satisfactory. Monitoring reports and the letter transmitting reports shall be signed by either a principal executive officer or his duly authorized employee. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

b. Data Results:

- (1) Results from each required analysis and observation shall be submitted in the quarterly self-monitoring regular reports. Results shall also be submitted for any additional analyses performed by the discharger at the specific request of the Board. Bimonthly water level data shall also be submitted in the quarterly report.
- (2) Quarterly reports shall contain data on the status of installation and operation of any soil remediation system, including, as appropriate, soil boring logs, well construction details, results from soil chemical testing, air monitoring results (laboratory chemical analyses, OVA monitoring, and flow measurements), and an evaluation of the effectiveness of the system in removing volatile chemicals from soils continuing greater than 1 ppm total VOCs.

- (3) The quarterly report shall include a discussion of unexpected operational changes which could affect performance of the extraction system, such as flow fluctuations, maintenance shutdown, etc.
- (4) The quarterly report shall also identify the analytical procedures used for analyses either directly in the report or by reference to a standard plan accepted by the Executive Officer. Any special methods shall be identified and shall have prior approval of the Board's Executive Officer.
- (5) Original lab results shall be retained and shall be made available for inspection for six years after origination or until after all continuing or impending legal or administrative actions are resolved.
- (6) Maps shall accompany the quarterly report, showing sampling locations and pollutant plume contours .
- (7) The dischargers shall describe in the quarterly monitoring report the effectiveness of the actions taken to regain compliance if compliance is not achieved. The effectiveness evaluation shall include the basis of determining the effectiveness, water surface elevations for each well used to determine water surface elevation contours and water quality data.
- (8) The annual report shall be combined with the quarterly report submitted on February 15 of each year and shall include cumulative data for the current year for each parameter of the attached Table 2. The annual report shall also include minimum, maximum, median and average water quality data for the year. Water level data and GC/MS results shall be included in the annual report. The annual report shall also include contour maps for each chemical present above detectable concentrations.

c. Self-Monitoring Program (SMP) Revisions:

Additional long term or temporary changes in the sample collection frequency and routine chemical analysis may become warranted as monitoring needs change. These changes shall be based on the following criteria and shall be proposed in a quarterly report. The changes shall be implemented no earlier than 45 days after a self-monitoring report is submitted for review or not at all if the proposal is found to be unacceptable by the Executive Officer.

Criteria for SMP revisions:

- (1) Discontinued analysis for a routine chemical parameter for a specific well after a one-year period of below detection limit values for that parameter.
- (2) Changes in sampling frequency for a specific well after a one-year period of below detection limit values for all chemical parameters from that well.
- (3) Temporary increases in sampling frequency or changes in requested chemical parameters for a well or group of wells because of a

change in data needs (e.g., evaluating groundwater extraction effectiveness or other cleanup strategies).

- (4) Add routine analysis for a chemical parameter if the parameter appears as an additional chromatographic peak in three consecutive samples from a particular well.
- (5) Add routine chemical parameters for new wells based on the results of initial GC/MS analysis.
- (6) Alter sampling frequency based on evaluation of collective data base.
- (7) Following a temporary increase in sampling frequency, as described in C.1, the regular sampling frequency will resume after 4 samples show stable or decreasing concentrations provided the sampling indicates compliance with the Site Cleanup Requirements.

D. DESCRIPTION OF SAMPLING STATIONS

Groundwater:

<u>Stations</u>	<u>Description</u>
Listed in Table 1 and shown in Figure 2	Monitoring and extraction wells, and piezometers

E. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be as given herein:

1. Once every four months, while cleanup goals are being achieved, representative samples shall be collected for analyses from all onsite and offsite extraction and monitoring wells listed in Table 1 and as shown on Figure 2, excluding the three piezometers. All samples of one event shall be collected at approximately the same time.
2. For any new extraction or monitoring well that may be constructed, sampling and analysis shall be conducted on a quarterly schedule for a term to be decided by the Executive Officer but not less than one year.
3. After cleanup goals have been achieved, samples shall be collected for analyses from all monitoring and extraction wells identified in 1. above, quarterly (every three months) during the one-year stability period.
4. Following completion of the stability period, samples shall be collected for analyses from all identified wells, twice annually during the long-term monitoring period, as long as cleanup goals are not exceeded, or as shall be determined by the Executive Officer.

In addition, if a previously undetected compound or peak is detected in a sample from a well, a second sample shall be taken within a week after the results from the first sample are available. All chromatographic peaks detected in two consecutive samples for purgeable halocarbons and/or volatile organics shall be identified and quantified in the quarterly report.

A GC/MS analysis shall be performed annually and all peaks identified and reported for all operating extraction wells and pits.

A GC/MS analysis shall be performed on each new well immediately after installation and well development and all peaks identified and reported on each well in the next quarterly report.

Groundwater elevations shall be obtained on a bimonthly basis from each monitoring and extraction well and piezometer listed in Table 1. Groundwater levels shall be obtained from all AM and HP wells, and Avantek wells as may be available, in the vicinity of the Building 1 facility as shown on Figure 2, every four months.

Depths of wells in Table 1 shall be determined on an annual basis and compared to the depth of the well as constructed.

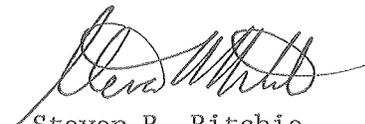
The depth of the pump and the groundwater elevation at the time of sampling shall be determined and submitted in the quarterly report with the sampling results.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data to determine compliance with Regional Board Order No. 89-167.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

Effective Date: September 20, 1989

Attachments: Tables 1,2
Figures 1,2



Steven R. Ritchie
Executive Officer