CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 96-135

ADOPTION OF SITE CLEANUP REQUIREMENTS FOR:

CAE ELECTRONICS INC.
ROBERT AND MILLICENT WISE PROPERTY TRUST
THE PATRICIA D. WISE TRUST

for the area designated as

SUBUNIT 4, STEWART DRIVE OPERABLE UNIT
SUNNYVALE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board), finds that:

1. **Site Location and Description**: Subunit 4 of the Stewart Drive Operable Unit (OU) consists of the area north of the 1077 E. Arques Avenue site in Sunnyvale, Santa Clara County, near the intersection of U.S. Highway 101 and the Lawrence Expressway (see attached site map). Subunit 4 includes areas occupied by office complexes. The site is located in an area of low to flat relief approximately 5 miles south of San Francisco Bay. Areas surrounding the site are commercial, industrial, and residential.

2. **Site History**: No known sources of soil and groundwater VOC contamination are located in subunit 4 of the Stewart Drive OU. Prior to development, the area was utilized as orchard.

3. **Operable Unit and Subunits**: In 1993 site cleanup requirements, the Board defined Operable Unit 2 (OU2) and four subunits within OU2. OU2 was defined to allow individual dischargers to proceed with investigation and cleanup independently of other dischargers, given evidence of possible commingling of groundwater pollution. The OU2 designation also reflected the possibility that groundwater pollution in this area was significantly commingled with groundwater pollution from federal Superfund sites in Operable Unit 1 (OU1), located to the south and east. As explained in a subsequent finding, further investigation did not find significant commingling between OU1 and OU2. Therefore, OU2 is redesignated as the Stewart Drive OU, and dischargers in the Stewart Drive OU are not required to comply with federal

Superfund requirements.

The Stewart Drive OU consists of five subunits. Subunits 1-3 are sites which have been identified as sources of groundwater contamination; subunits 4 and 5 do not have any identified sources of contamination, but are impacted by sources on subunits 1 and 3. Subunit 1 consists of the 999 Arques Corporation site at 999 East Arques Avenue, and the southwestern portion of the CAE site located at 1077 East Arques Avenue. Subunit 2 consists of the Sobrato Development site located at 968-970 Stewart Drive in Sunnyvale. Subunit 3 consists of the northern portion of the CAE site. Subunit 4 (formerly designated as the large area north of subunits 1, 2, and 3), consists of the area north of the subunit 3. Subunit 5 consists of the area north of subunits 1 and 2.

It is the Board's intent that, commingling notwithstanding, the dischargers named for each subunit are largely responsible for soil and groundwater pollution in their respective subunit. As additional information is generated in each subunit, the Board may modify the dischargers named in each subunit, or the subunit boundaries. The northern boundaries of subunits 4 and 5 may be extended, contingent upon further definition of the lateral extent of groundwater contamination,

4. **Named Dischargers**: The Board recognizes CAE, as the successor in interest to the former tenants and operators of the facility in subunit 3, to be the discharger and the party primarily responsible for meeting the requirements of this Order. CAE is named as a discharger because releases at the site by predecessor companies to CAE have resulted in groundwater contamination. The Wise Trusts, as the current and historic owners of the property, are also named as a dischargers. The Wise Trusts will be responsible for compliance only if the Board or Executive Officer find that other named dischargers have failed to comply with the requirements of this order.

   If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Board will consider adding that party's name to this order.

5. **Regulatory Status**: Previous investigations for the Stewart Drive OU subunits 4 and 5 were required of 999 Arques Corporation and CAE pursuant to Section 13267 of the California Water Code. No Board orders have been adopted for this subunit.

   The purpose of this order is to establish site cleanup requirements to include additional tasks necessary to complete the site investigation and prepare a remedial action plan to provide consistency and coordination with the remedial action plans for the other subunits of the Stewart Drive Operable Unit.

6. **Site Hydrogeology**: The area in the vicinity of subunit 4 is underlain by unconsolidated alluvial channel and overbank deposits of clay, silt, sand, and gravel.

The deposits are of variable thickness and laterally discontinuous. The uppermost deposits have been subdivided into four general aquifer (water producing) zones, designated as the A, B1, B2, and B3 aquifers. The aquifers are separated by semi-permeable to relatively impermeable saturated zones (aquitards), ranging from 5 to 20 feet thick. The unconfined, shallow A aquifer is generally encountered at a depth of 10 to 25 feet below the ground surface. The confined B1, B2, and B3 aquifers are generally encountered between 25 to 40 feet, 45 to 60, and 70 to 80 feet, respectively, below ground surface. Groundwater flows preferentially through channelized coarse-grained deposits within each aquifer. The groundwater gradient within the A and B aquifers in the area is generally toward the north-northeast.

7. **Remedial Investigation**: Groundwater in subunit 4 has been impacted with volatile organic compounds (VOCs). Trichloroethene (TCE) and 1,2-dichloroethene (DCE), the primary contaminants, have been detected in the A and B1 groundwater aquifers at total concentrations of up to 3,500 ppb (sum of TCE and DCE). No sources of contamination have been identified on subunit 4. Investigations indicate that subunit 4 groundwater contamination is the result of migration from subunit 3 (CAE site), located immediately upgradient of subunit 4. Additional investigation (including the installation of groundwater monitoring wells), needs to be conducted in subunit 4 to fully define the lateral and vertical extent of groundwater contamination.

   Groundwater contamination originating from the CAE site is commingled with contamination originating from OU1 sources, other Stewart Drive OU sources, and possibly sites upgradient. However, data indicate that contamination originating from the CAE site is located largely within the area of subunits 3 and 4 of the Stewart Drive OU, and that the CAE site is the primary contributor to subunit 3 and 4 groundwater contamination. Additional future investigations may modify or confirm present conclusions about relative contributions from upgradient dischargers.

8. **Interim Remedial Measures**: To date, no groundwater remedial measures have been implemented in subunit 4. Interim remedial measures need to be implemented in order to reduce the threat to water quality, public health, and the environment posed by the discharge of waste and to provide a technical basis for evaluating and coordinating final remedial measures for the other subunits of the Stewart Drive Operable Unit. On August 9, 1996, the Board's Executive Officer requested that CAE submit a workplan for groundwater interim remedial measures in subunit 4; the workplan or report is due on October 15, 1996.

9. **Adjacent Sites**: In addition to the Stewart Drive OU sites, several other sites are located in the area which are also sources of soil and/or groundwater pollution. Immediately east and adjacent to the Stewart Drive OU is Operable Unit 1 (OU1), which consists of two federal Superfund sites. OU1 includes the National Semiconductor Corporation (NSC) site at 2900 Semiconductor Drive, the former United Technologies Corporation (UTC) site at 1050 E. Arques Avenue, the

Advanced Micro Devices site at 1165 E. Arques Avenue, and the commingled areas extending downgradient of the sites. Final Remedial Action Plans (RAPs) for the facilities in OU1 were adopted by the Board in September 1991. As with the Stewart Drive OU, OU1 is divided into subunits.

Investigations conducted in OU1 and the Stewart Drive OU in 1994 and 1995 indicate that groundwater contamination originating from both Operable Units is commingled along the area of the common OU1/Stewart Drive OU boundary. However, the location of the boundary approximates the extent of the significant contamination originating within each Operable Unit. Groundwater contamination originating in OU1 is largely limited to the area of OU1; groundwater contamination originating in the Stewart Drive OU is largely limited to the area of the Stewart Drive OU.

Sites southwest of the Stewart Drive OU include: the Schlumberger Technologies Corporation site, located at 974 East Arques Avenue; Sunnyvale Corporation Yard, located at 221 Commercial Street; Pilkington Barnes Hind, located at 895 Kifer Road; and Mohawk Laboratories, located at 932 Kifer Road. The board has adopted orders requiring further characterization and cleanup of groundwater for these sites. The Board intends to update existing orders and adopt new orders for sites as appropriate. Should additional information generated for these and other facilities in the area indicate significant groundwater pollution commingling across the Stewart Drive OU boundary, the Board may revise this Order to modify the OU boundary or the dischargers named in this Order.

10. **Basin Plan**: The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20 and November 13, respectively, of 1995. A summary of regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

The potential beneficial uses of groundwater underlying and adjacent to the site include:

a. Municipal and domestic water supply
b. Industrial process water supply
c. Industrial service water supply
d. Agricultural water supply

At present, there is no known use of groundwater underlying the site for the above purposes.

11. **Other Board Policies**: Board Resolution No. 88-160 allows discharge of extracted treated groundwater from site cleanups to surface water only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.

    Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels.

12. **State Water Board Policies**: State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Non-background cleanup levels must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives.

    State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

13. **Preliminary Cleanup Goals**: The discharger will need to make assumptions about future cleanup standards for soil and groundwater, in order to determine the necessary extent of remedial investigation, interim remedial actions, and the draft cleanup plan. Pending the establishment of site-specific cleanup standards, the following preliminary cleanup goals should be used for these purposes:

    a. Groundwater: Applicable water quality objectives (e.g. maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, risk-based levels (e.g. drinking water equivalent levels).

    b. Soil: 1 mg/kg total volatile organic compounds (VOCs), 10 mg/kg total semi-volatile organic compounds (SVOCs), and background concentrations of metals.

14. **Basis for 13304 Order**: The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.

15. **Cost Recovery**: Pursuant to California Water Code Section 13304, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all

reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.

16. **CEQA**: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

17. **Notification**: The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

18. **Public Hearing**: The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger (or its agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. TASKS

1. REMEDIAL INVESTIGATION WORKPLAN

COMPLIANCE DATE: November 18, 1996

Submit a workplan acceptable to the Executive Officer for additional groundwater investigation necessary to fully determine the lateral and vertical

extent of groundwater contamination, and to assist in determining the appropriate remedial measures. The workplan should provide for the installation of groundwater monitoring wells. The workplan should specify investigation methods and a proposed time schedule, and include a groundwater monitoring and sampling plan.

2. **REMEDIAL INVESTIGATION REPORT**

COMPLIANCE DATE: June 3, 1997

Submit a technical report acceptable to the Executive Officer containing the results of the remedial investigation.

3. **IMPLEMENTATION OF INTERIM REMEDIAL MEASURES (PHASE I)**

COMPLIANCE DATE: October 15, 1997

Submit a report acceptable the Executive Officer documenting implementation of the interim remedial action workplan, submitted pursuant to the Executive Officer's August 9, 1996 request.

4. **INTERIM REMEDIAL MEASURES WORKPLAN (PHASE II)**

COMPLIANCE DATE: June 24, 1997

Submit a workplan acceptable to the Executive Officer which proposes interim measures necessary to 1) prevent continued migration of VOC groundwater pollution, and; 2) to reduce concentrations of the VOC groundwater pollution. The workplan should include a proposed time schedule, which provides for aquifer testing, alternative selection, and system installation and startup.

5. **IMPLEMENTATION OF INTERIM REMEDIAL MEASURES (PHASE II)**

COMPLIANCE DATE: June 11, 1998

Submit a technical report acceptable to the Executive Officer which documents the startup of interim groundwater remedial measures.

6. **FINAL REMEDIAL ACTION PLAN**

COMPLIANCE DATE: May 25, 1999

Submit a report acceptable to the Executive Officer containing:

a. Evaluation of the installed interim remedial actions
b. Feasibility study evaluating alternative final remedial actions
c. Risk assessment for current and post-cleanup exposures
d. Recommended final remedial actions and cleanup standards
e. Implementation tasks and time schedule

The proposed remedial actions and cleanup standards should consider the results of additional investigation and groundwater cleanup strategies for other areas of the Stewart Drive OU.

Item b should include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Items a through c should be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code Section 25356.1(c), and State Board Resolution No. 92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304").

7. **Delayed Compliance**: If the discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

8. **Report Consolidation**: Technical reports submitted to comply with the above tasks may be combined with analogous reports for other subunits of the Stewart Drive OU (e.g. Remedial Action Plan covering more than one subunit), provided that the combined report fully addresses the task for this subunit.

C. PROVISIONS

1. **No Nuisance**: The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).

2. **Good O&M**: The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery**: The discharger shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by

the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

4. **Access to Site and Records**: In accordance with California Water Code Section 13267(c), the discharger shall permit the Board or its authorized representative:

   a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

   b. Access to copy any records required to be kept under the requirements of this Order.

   c. Inspection of any monitoring or remediation facilities installed in response to this Order.

   d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

5. **Self-Monitoring Program**: The discharger shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer. Reports submitted to comply with this provision may be combined with analogous reports for other subunits of the Stewart Drive OU, provided that the combined report fully addresses the Self-Monitoring Program requirements for this subunit.

6. **Contractor/ Consultant Qualifications**: All hydrogeologic documents (plans, specifications, and reports) shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.

7. **Lab Qualifications**: All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be

performed on-site (e.g. temperature).

8. **Document Distribution**: All correspondence, technical reports, and other documents pertaining to compliance with this Order shall be sent to the attention of the designated Board staff person. Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:

   a. City of Sunnyvale, Department of Public Safety
   b. County of Santa Clara, Department of Environmental Health
   c. Santa Clara Valley Water District

9. **Reporting of Changed Owner or Operator**: To the extent practicable, the discharger shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.

10. **Reporting of Hazardous Substance Release**: If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Regional Board by calling (510) 286-1255 during regular office hours (Monday through Friday, 8:00 to 5:00).

    A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

    This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Secondarily Responsible Discharger**: Within 60 days of being notified by the Executive Officer that other named dischargers have failed to comply with this order, the Wise Trusts as property owners shall then be responsible for complying with this order.

12. **Periodic SCR Review**: The Board will review this Order periodically and may revise it when necessary. The discharger may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control

Board, San Francisco Bay Region, on September 18, 1996.

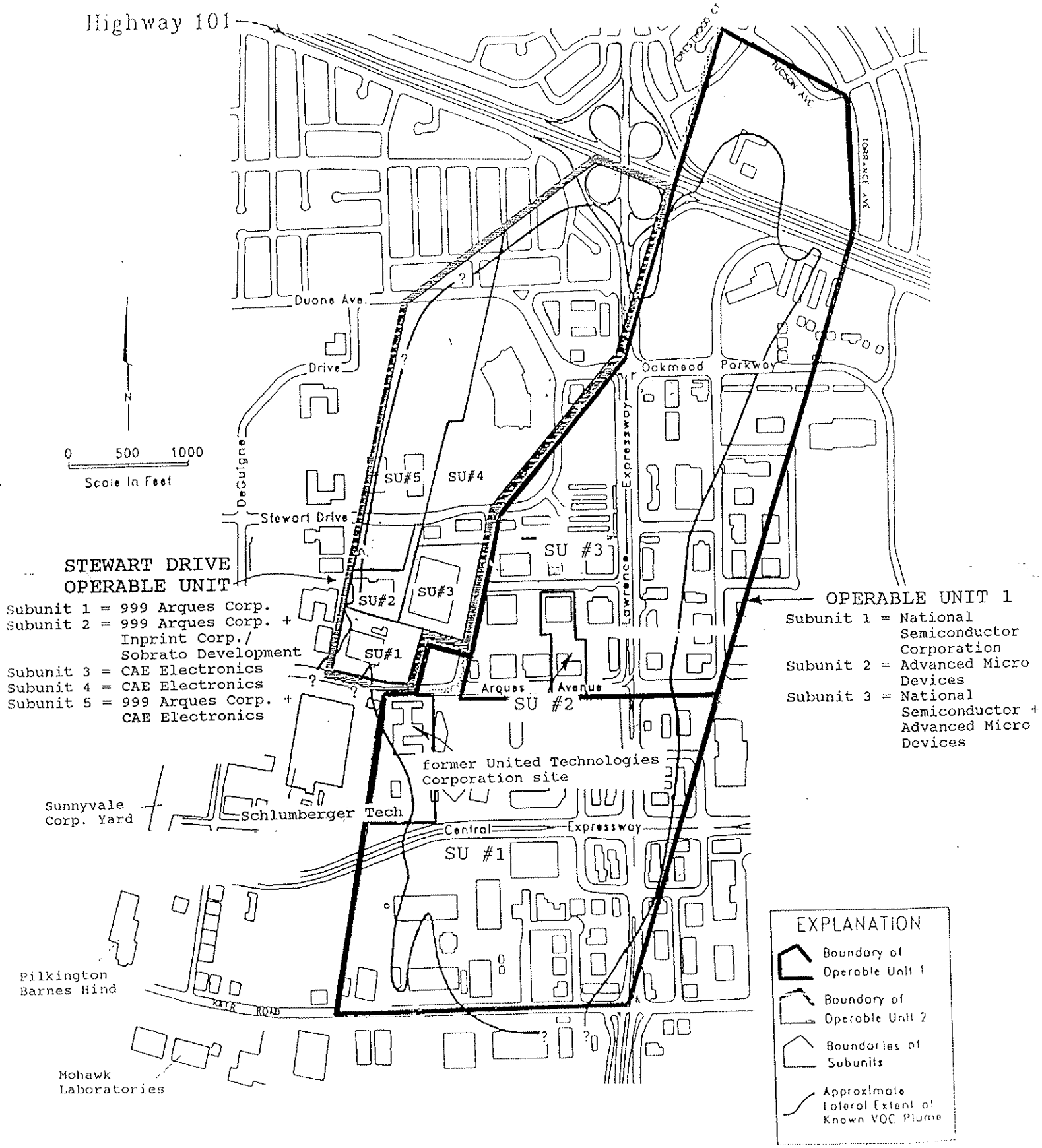
Loretta K. Barsamian
Executive Officer

==========

FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13267 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

==========

Attachments: Site Map
Self-Monitoring Program



LOCATION MAP
OPERABLE UNITS AND SUBUNITS

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

CAE ELECTRONICS INC.
ROBERT AND MILLICENT WISE PROPERTY TRUST
THE PATRICIA D. WISE TRUST

for the area designated as

SUBUNIT 4, OPERABLE UNIT 2
SUNNYVALE, SANTA CLARA COUNTY

1. **Authority and Purpose**: The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. 96-135 (site cleanup requirements).

2. **Monitoring**: Once groundwater monitoring or extraction wells are installed, the discharger shall sample the wells quarterly and analyze groundwater samples utilizing EPA method 8010. Groundwater elevations should also be measured quarterly. The discharger may propose changes to the monitoring program; any proposed changes are subject to Executive Officer approval.

3. **Semi-Annual Monitoring Reports**: Once groundwater monitoring or extraction wells are installed, the discharger shall submit semi-annual monitoring reports to the Board no later than 30 days following the end of the second and fourth quarters (e.g. first semi-annual report due July 30). The first semi-annual report will be due on July 30, 1997. The reports shall include:

    a. Transmittal Letter: The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

    b. Groundwater Elevations: Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map should be prepared for each monitored water-bearing zone. Historical groundwater elevations should be included with each semi-annual report.

c. Groundwater Analyses: Groundwater sampling data shall be presented in tabular form, and an isoconcentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used and detection limits obtained for each reported constituent. Historical groundwater sampling results shall be included in each semi-annual report. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).

d. Groundwater Extraction: If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the site as a whole, expressed in gallons per minute and total groundwater volume for the reporting period. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the reporting period. Historical mass removal results shall be included in each semi-annual report.

e. Status Report: The semi-annual report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following half-year.

4. **Violation Reports**: If the discharger violates requirements in the Site Cleanup Requirements, then the discharger shall notify the Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of telephone notification.

5. **Other Reports**: The discharger shall notify the Board prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.

6. **Record Keeping**: The discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination.

7. **SMP Revisions**: Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

I, Loretta K. Barsamian, Executive Officer, hereby certify that this Self-Monitoring Program was adopted by the Board on September 18, 1996.

Loretta K. Barsamian
Executive Officer