CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 93-136

SITE CLEANUP REQUIREMENTS FOR:

SOBRATO DEVELOPMENT COMPANY
INPRINT CORPORATION
999 ARQUES CORPORATION
SUBUNIT 2, OPERABLE UNIT 2
968-970 STEWART DRIVE
SUNNYVALE, SANTA CLARA COUNTY

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

1. Study Area, Operable Unit and Subunit Locations and Descriptions A Study Area containing numerous sources of soil and ground water pollution in eastern Sunnyvale is shown in Figure 1. The Study Area is located in an area of low to flat relief about 6 miles south of San Francisco Bay (see Figure 2). This is an industrial park setting dominated by low rise industrial buildings common in the electronics industry of Santa Clara County. Mixed commercial and light industrial use are common immediately surrounding the industrial park area. Two residential neighborhoods are at the northern edge of the Study Area: one is south of Highway 101, west of Lawrence Expressway and the other is north of Highway 101, east of Lawrence Expressway.

   This Study Area has been divided into Operable Units 1 and 2 (OU1 and OU2) because of additional field work necessary to define extent of the ground water pollution plumes originating from facilities in OU2 and to determine the extent that these pollution plumes may be commingled with those plumes originating from facilities in OU1. OU1 comprises the eastern portion of the Study Area and OU2 comprises the western portion, as shown in Figure 1.

   The purpose of defining these two operable units is to allow facilities in OU1 to proceed with final cleanup while further characterization work in OU2 is completed. OU1 consists of 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 area to the north. Final Remedial Action Plans (RAPs) were adopted by the Board in September 1991 (Order Nos. 91-137, 91-139, and 91-140) for the facilities in OU1.

The necessity for additional field work in OU2 renders the boundaries of the Study Area incomplete and the boundaries of OU1 inexact because additional information generated for OU2 may alter the Units' boundaries. It is the Board's intent that the boundaries of the operable units be defined such that, commingling notwithstanding, facilities located in OU1 are largely responsible for soil and ground water pollution in OU1, and facilities located in OU2 are largely responsible for soil and ground water pollution in OU2. As additional information is generated for OU2 and the Study Area, this intention may lead the Board to modify the Units' boundaries, this Order, and the list of dischargers named in this Order.

For purposes of the preliminary allocation of responsibility for soil and ground water pollution among the facilities in OU2, OU2 has been further subdivided into four subunits as shown in Figure 1. Subunit 1 consists of the 999 Arques Corporation site at 999 E. Arques Avenue and the southwestern parking lot of the Canadian Aviation Electronics-Link Corporation (CAE-Link) site to the east. 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-Link site located at 1077 E. Arques Avenue in Sunnyvale. Subunit 4 consists of the downgradient area from Subunits 2 and 3 which extends north to the area near the intersection of Highway 101 and Lawrence Expressway, the approximate area of the plume. As noted above, as additional information is generated for OU2 and the Study Area, the Board may modify the Subunits' boundaries.

2. <u>Regulatory Status for Subunits 1, 2, and 3</u> Separate Board Orders have been prepared for Subunits 1, 2, and 3 in OU2. These four Board Orders comprise the remedial investigation workplan for Subunits 1, 2, and 3. The purpose of the further remedial investigations required for each subunit is to provide for the acquisition of adequate information upon which final remedial actions can be based. The Board will adopt the final RAPs for Subunits 1, 2, and 3 after the feasibility studies for these subunits have been completed. At that time, modifications to the preliminary allocation of responsibility may be made by the Board.

3. <u>Regulatory Status for Subunit 4</u> The source(s) of Subunit 4 ground water pollution have not yet been determined. Subunits 1, 2, and 3, as well as other sites in the area, are considered potential contributors to Subunit 4 ground water pollution. This Order, and forthcoming orders for the study area, provides for the collection of information necessary to determine the parties responsible for completion of Subunit 4 investigation and cleanup. The Board anticipates that Subunit 4 responsible parties will be named after the completion of the remedial investigations required for Subunits 1, 2, and 3

and to be required of appropriate parties in and adjacent to OU1 and OU2.

4. Other Potential Contributors to OU2 Pollution That Are Sources of Soil and/or Ground Water Pollution Several facilities exist to the south of OU2 that are sources of soil and/or ground water pollution. These facilities include, but may not be limited to, Hewlett-Packard, located at 974 E. Arques Street; Sunnyvale Corporation Yard, located at 221 Commercial Street; Sola/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 ground water for Hewlett-Packard, Sola/Barnes-Hind, and Mohawk Laboratories. The Board intends to update existing orders and adopt new orders for sites in the Study Area. As additional information is generated for these and other facilities in the Study Area, the Board may modify the boundaries of OU1 and OU2, this Order and the list of dischargers named in this Order.

   Ground water pollution emanating from the former UTC facility in OU1 appears to have migrated into the area beneath the southeastern portion of the CAE-Link site. This ground water pollution plume may be potentially intermingling with the pollution plumes caused by releases in OU2. Investigation and cleanup of the plume emanating from the UTC facility will be addressed by future amendment of the final RAP for Subunit 1 of OU1.

5. Operable Unit 2, Subunit 2 Boundary As shown in Figure 1, Operable Unit 2, Subunit 2 consists of the Sobrato Development Company site located at 968-970 Stewart Drive. The Sobrato Development site is located immediately north of the 999 E. Arques site, and immediately west of the CAE-Link site.

6. Subunit 2 Facility Description The Sobrato Development Company owns the site located at 968-970 Stewart Drive, Sunnyvale, Santa Clara County, near the intersection of U.S. Highway 101 and Lawrence Expressway (Figure 1). Currently the site is occupied by a one-story concrete tilt-up building surrounded by an asphalt parking lot and landscaping. Previously the site was utilized for raising row crops.

   Land use in the immediate area is almost exclusively industrial. Within approximately a one mile radius, land use is industrial, commercial, and residential.

7. Subunit 2 Site History Sobrato Development Company has owned the site at 968-970 Stewart Drive since 1979. In 1980, the site was developed with the construction of the concrete building. Inprint leased the western portion of the building

while TRW/ESL leased the eastern portion. Inprint has utilized the site for commercial printing, photographic developing, and copying. Between 1980 and 1983, Inprint operated and maintained a 1000 gallon underground tank for temporary storage of used fountain solution and small amounts of isopropyl alcohol and glycerin.

Chemical compounds utilized in the printing and photographic development processes include adhesives, coatings (ink and varnish), sealers, and propellants. The adhesives, and possibly coatings, sealers and propellants, historically contained chlorinated solvents. According to employees at Inprint, the 1,000 gallon underground storage tank was utilized to store wastewater comprised mainly of a wetting solution used in the printing process. Small amounts of glycerine, and possibly small amounts of isopropyl alcohol and photochemicals were also part of the wastewater. Wastes generated at the Inprint facility are regulated under RCRA.

In 1984 the 1,000 gallon underground tank was removed from the site. Soil samples obtained from the tank excavation contained detectable levels of methylene chloride, tetrachloroethylene (PCE), toluene, trichloroethylene (TCE), and benzene. These pollutants were also detected in ground water samples obtained from monitoring wells on the site.

8. Subunit 2 Discharger The Board recognizes Sobrato Development Company, as the owner of the 968-970 Stewart Drive site, and Inprint Corporation, as the property tenant and operator of the underground storage tank, to be dischargers responsible for meeting the requirements of this Order.

The Sobrato Development site is directly downgradient of the 999 E. Arques site. The ground water pollution plume emanating from the 999 E. Arques site is considered to be migrating beneath the Sobrato Development site and causing ground water beneath the Sobrato Development site to be polluted. Therefore, 999 Arques Corporation is also a discharger responsible for meeting the requirements of this Order.

As indicated in Finding 4, other potential contributors to OU2 pollution may exist. If additional information comes to light showing that any party not currently named as a discharger caused or permitted any waste to be discharged or deposited in Subunit 2 where it entered or could have entered into the waters of the State, the Board will consider adding that party's name to this Order.

9. Hydrogeology The area in the vicinity of Subunit 2 is underlain by unconsolidated sedimentary deposits of clay, silt, sand, and gravel extending to depths of at least 1,000

feet below the ground surface. These deposits have been subdivided into three general aquifer (water producing) zones designated as the A, B, and C aquifers. The aquifer zones are separated by semi-permeable to relatively impermeable saturated zones (aquitards).

The unconfined, shallow A aquifer extends from the ground surface to depths of approximately 20 to 25 feet below the ground surface. The semi-confined to confined, intermediate B aquifer, which generally consists of coarser-grained sedimentary materials than those in the A aquifer, extends from depths of approximately 25 to 45 feet below the ground surface to a depth of approximately 90 feet below the ground surface in the site vicinity. The A and B aquifers are separated by an aquitard ranging in thickness from 5 to 20 feet, or more. Underlying the B aquifer is a thick clay aquitard. The confined, deep, C aquifer exists beneath this aquitard. The A and B aquifers contain limited ground water supplies with marginal water quality in most places. The C aquifer supplies most of the ground water produced for this region. All aquifers have been determined to be actual or potential sources of drinking water.

The ground water gradient within the A aquifer generally slopes in a north-northeasterly direction in the vicinity of Subunit 2. Depth to the water table in this zone ranges from 10 to 13 feet below the ground surface in the general Subunit 2 area. The ground water gradient in the upper portions of the B aquifer slopes in a general northeast direction. In some locations, the elevations of the piezometric surface for the upper B aquifer generally correspond to the elevations of the piezometric surface for the A aquifer.

10. <u>Subunit 2 Soil Pollution</u> Relatively low levels of PCE and TCE were detected in soil samples obtained from an underground tank pit in July 1984. Benzene, toluene, and methylene chloride were also detected in the samples. Significantly higher levels of soil pollution were detected in soil samples obtained from borings in the southeastern portion of Subunit 2, adjacent to the 999 E. Arques site.

In addition, a soil gas survey conducted in 1988 indicated that a TCE and PCE gas plume exists in the southeastern area of Subunit 2, and extends northward, potentially beyond the Sobrato Development site and Subunit 2 boundary.

It has not been determined whether soil pollution detected at Subunit 2 is the result of either: 1) a near-surface release from Subunit 2, 2) volatization of pollutants from ground water pollution migrating from the 999 E. Arques site and/or other off-site sources, or 3) both a near-surface release and volatization of migrating off-site pollutants. The additional

remedial investigation required by this Order will help make this determination.

11. Subunit 2 Ground Water Pollution Pollutants found in A aquifer ground water samples include TCE, PCE, 1,1,1-trichloroethane (TCA), 1,2-dichloroethylene (1,2-DCE), and Freon 113. Ground water samples obtained from a monitoring well adjacent to the former underground tank contained up to 342 parts per billion (ppb) total volatile organic compounds (VOCs). Ground water samples obtained from monitoring wells on the eastern portion of the site contained up to 6530 ppb total VOCs.

    It has not been determined whether ground water pollution detected at Subunit 2 is the result of either: 1) a near-surface release at Subunit 2, 2) migration of a ground water pollution plume from the 999 E. Arques site and/or other off-site sources, or 3) both a near-surface release and migration of a ground water pollution plume from off-site sources.

12. Operable Unit For the purposes of this Order and future work at Subunit 2, the operable unit consists of the soil and ground water beneath the entire subunit. Remedial actions taken for the operable unit include tank removal and are considered interim remedial actions.

13. Scope of this Order. The intent of this Order is to prescribe a time schedule both to completely define the source and extent of pollution in Subunit 2, and to evaluate final remedial action alternatives for Subunit 2. No previous orders have been adopted for this site.

14. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986 and subsequently amended it. This Order implements the water quality objectives for South San Francisco Bay and contiguous surface and ground waters.

15. The Board adopted Resolution No. 89-39 "Incorporation of 'Sources of Drinking Water' Policy into the Water Quality Control Plan" on March 15, 1989. This policy defines ground water as suitable or potentially suitable for municipal or domestic water supply as that which: 1) has a total dissolved solids content of less than 3,000 mg/l, and 2) is capable of providing sufficient water to supply a single well with at least 200 gallons a day. The ground water underlying and adjacent to Subunit 2 falls within this category.

16. The existing and potential beneficial uses of the ground water underlying and adjacent to the site include:

    a. Industrial process water supply

b. Industrial service supply
c. Municipal and domestic supply
d. Agricultural supply.

17. The dischargers have caused or permitted, and threaten to cause or permit, waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.

18. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

19. Interim containment and cleanup measures need to be implemented to alleviate the threat to the environment posed by the continued migration of pollutants and to provide a substantive technical basis for designing and evaluating the effectiveness of final water cleanup alternatives.

20. Pursuant to Section 13304 of the Water Code, 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. Upon receipt of a billing statement for such costs, the discharger shall reimburse the Board.

21. The Board has notified the dischargers and 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 the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

22. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

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

A. <u>PROHIBITIONS</u>

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

2. Further significant migration of pollutants 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 the pollutants or distortion of portions of the plume under investigation are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of polluted soil or ground water shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The dischargers shall conduct monitoring activities as needed to define the current local hydrogeologic conditions, and the lateral and vertical extent of ground water pollution. Should monitoring results show evidence of plume migration, additional plume characterization may be required.

3. Ground water cleanup standards shall be in accordance with State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California". Cleanup standards shall not exceed: a) the Federal or State Primary or Secondary Maximum Contaminant Level (MCL) or State Action Level (AL), whichever is more restrictive, or b) a more stringent level based upon a site specific risk assessment. If an MCL or AL has not been promulgated, the cleanup standard shall be based on the best available subunit- and chemical-specific health information and shall be protective of human health and the environment.

4. The unsaturated soil cleanup standard shall be 1 ppm for total VOCs. This cleanup standard may be modified by the Board if the discharger is able to demonstrate, with subunit-specific data, that higher levels of VOCs in the soil will not threaten the quality of waters of the State and that human health and the environment are protected.

C. PROVISIONS

1. The dischargers shall comply with all Prohibitions and Specifications immediately, except as modified in accordance with the following time schedule and tasks:

a) COMPLETION DATE: December 1, 1993

TASK: REMEDIAL INVESTIGATION WORKPLAN Submit a technical report acceptable to the Executive

Officer which evaluates previous technical data and includes a workplan for additional soil and ground water investigation in order to completely define the sources and extent of pollution within and at the boundaries of Subunit 2. The workplan should also include a ground water monitoring and sampling plan.

b) COMPLETION DATE: February 1, 1994

TASK: IMPLEMENTATION OF REMEDIAL INVESTIGATION Submit a technical report acceptable to the Executive Officer documenting implementation of the remedial investigation workplan identified in C.1.a. The report should include documentation of the occurrence of field investigations performed pursuant to the Remedial Investigation Workplan. Information regarding the results of the investigations performed, such as boring logs, CPT logs, and laboratory analytical reports will not be required in this submittal.

c) COMPLETION DATE: May 1, 1994

TASK: COMPLETION OF REMEDIAL INVESTIGATION REPORT Submit a technical report acceptable to the Executive Officer, pursuant to the remedial investigation workplan identified in Provision C.1.a., containing the results of the remedial investigation. Upon review and approval of the Remedial Investigation Report by the Executive Officer, the parties named in this order and required to meet the remaining provisions of this Order may be modified based on their respective contributions to the Subunit's pollution.

d) COMPLETION DATE: August 1, 1994

TASK: COMPLETION OF FEASIBILITY STUDY REPORT AND PROPOSED REMEDIAL ACTION PLAN Submit a technical report acceptable to the Executive Officer, based on the results of the remedial investigation submitted for Provision C.1.c., containing the feasibility study and proposed remedial action plan. This technical report shall include 1) proposed soil and ground water cleanup standards based on Specifications B.3. and B.4., 2) a feasibility study evaluating alternative final remedial actions and the proposed remedial actions necessary to achieve the proposed cleanup standards, and 3) the time schedule necessary to implement the proposed final remedial actions.

2. Technical reports evaluating proposed interim and final remedial actions will include a projection of the cost, effectiveness, benefits and impact on public health, welfare, and environment of each alternative action. The remedial investigation and feasibility study shall consider Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300 et seq.); Superfund Amendments and Reauthorization Act of 1986; CERCLA/SARA guidance documents with reference to Remedial Investigations and Feasibility Studies and Removal Actions; and both the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" and Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304".

3. Any proposal for the discharge of extracted ground water must initially consider the feasibility of reclamation, reuse, or discharge to a publicly owned treatment works (POTW), as specified in Board Resolution No. 88-160. If it can be demonstrated that reclamation, reuse, or discharge to a POTW is technically and economically unfeasible, a proposal for discharge to surface water shall be considered. Such proposal for discharge to surface water shall include the above demonstration and a completed application for an NPDES permit.

4. If the dischargers are delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer. In the event of such delays, the Board may consider modification of the task completion dates established in this Order.

5. The dischargers shall submit to the Board acceptable self-monitoring program reports containing results of work performed according to a program approved by the Executive Officer.

6. The self-monitoring program reports shall also summarize the status of compliance with the Prohibitions, Specifications, and Provisions of this Order and shall be submitted quarterly to the Board, according to the schedule below, commencing with the report for the fourth quarter, due January 31, 1994.

Quarter	1st quarter	2nd quarter	3rd quarter	4th quarter
Period	Jan-March	April-June	July-Sept	Oct-Dec
Due Date	April 30	July 31	October 31	January 31

The quarterly reports shall include:

a. a summary of work completed since the previous quarterly report,
b. appropriately scaled and labeled maps showing the location of all monitoring wells, extraction wells, and existing structures,
c. updated water table and piezometric surface maps for all affected water bearing zones, or alternatively, isoconcentration maps for key contaminants in all affected water bearing zones,
d. a cumulative tabulation of all well construction data, ground water levels and chemical analysis results for site monitoring wells in the monitoring program approved by the Executive Officer.
e. a cumulative tabulation of volume of extracted ground water and chemical analysis for all site ground water extraction wells,
f. identification of potential problems which will cause or threaten to cause noncompliance with this Order and what actions are being taken or planned to prevent these obstacles from resulting in noncompliance with this Order, and
g. in the event of noncompliance with the Provisions and Specifications of this Order, the report shall include written justification for noncompliance and proposed actions to achieve compliance.

7. Technical reports on compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted monthly by the 15th of the following month to the Board. These reports shall consist of a brief letter report that:

   a. summarizes work completed since submittal of the previous report, and work projected to be completed by the time of the next report,
   b. identifies any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles, and
   c. includes, in the event of non-compliance with the Prohibitions, Provisions, and Specifications of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order.

During those months when the self-monitoring program

reports will be submitted, as described in Provision C.6., these technical reports may be submitted and combined with the self-monitoring reports.

8. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist, certified engineering geologist or professional engineer.

9. 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 records for Board review.

10. The dischargers 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.

11. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be provided to the following agencies:

    a. Santa Clara Valley Water District
    b. Santa Clara County Health Department
    c. City of Sunnyvale

    The Executive Officer may additionally require copies to be provided to the California Environmental Protection Agency - Department of Toxic Substances Control, the U.S. Environmental Protection Agency, Region IX, and/or a local repository for public use.

12. The dischargers shall permit the Board or its authorized representatives, in accordance with Section 13267(c) of the California Water Code:

    a. Entry upon premises in which any pollution sources exist, 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 terms and conditions of this Order.
    c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
    d. Sampling of any ground water or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.

13. The Sobrato Development Company shall file a report on any changes in site occupancy and ownership associated with the Sobrato Development site.

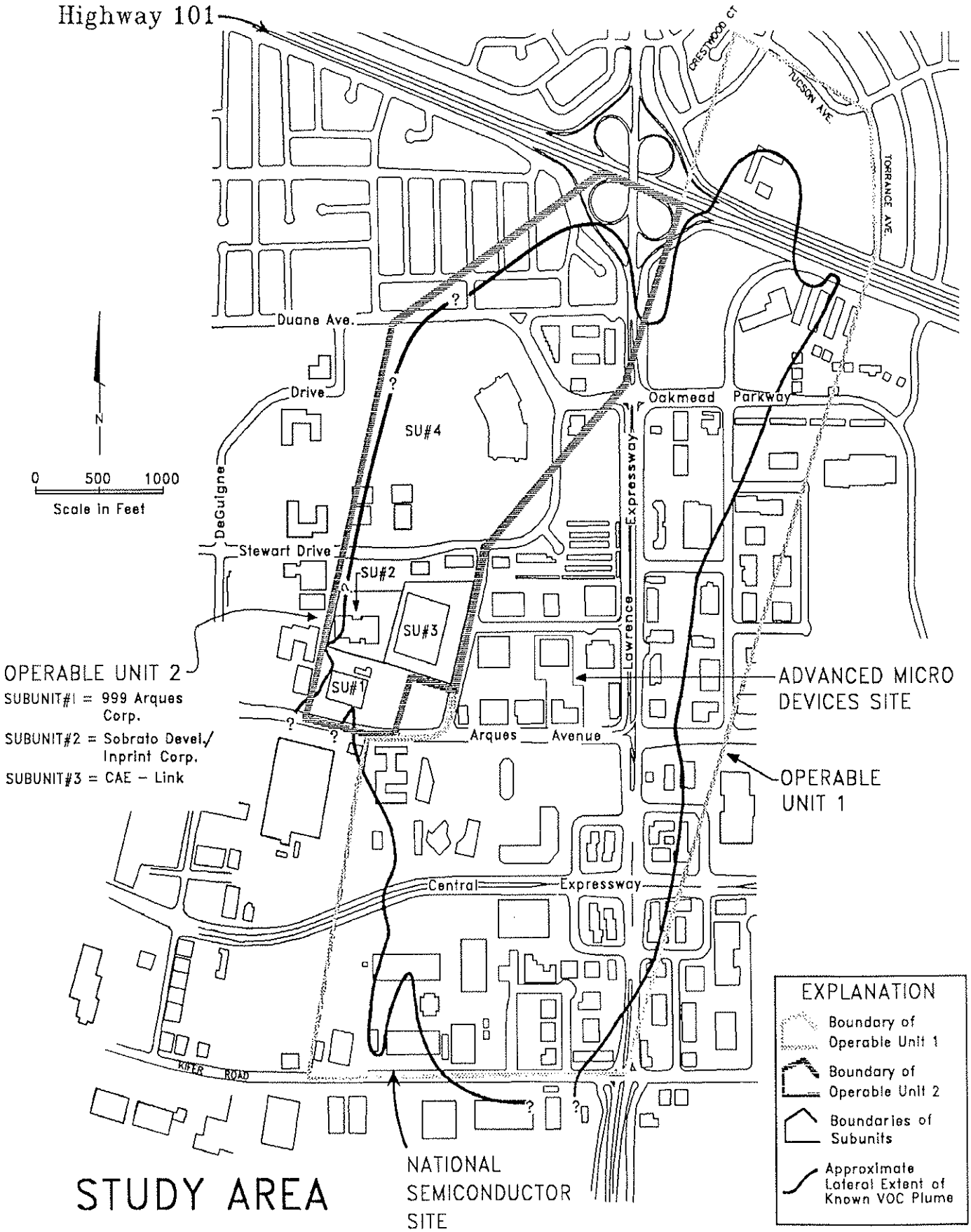
14. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any waters of the State, the dischargers shall report such a discharge to this Board, at (510) 286-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons notified.

15. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, 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 October 20, 1993.

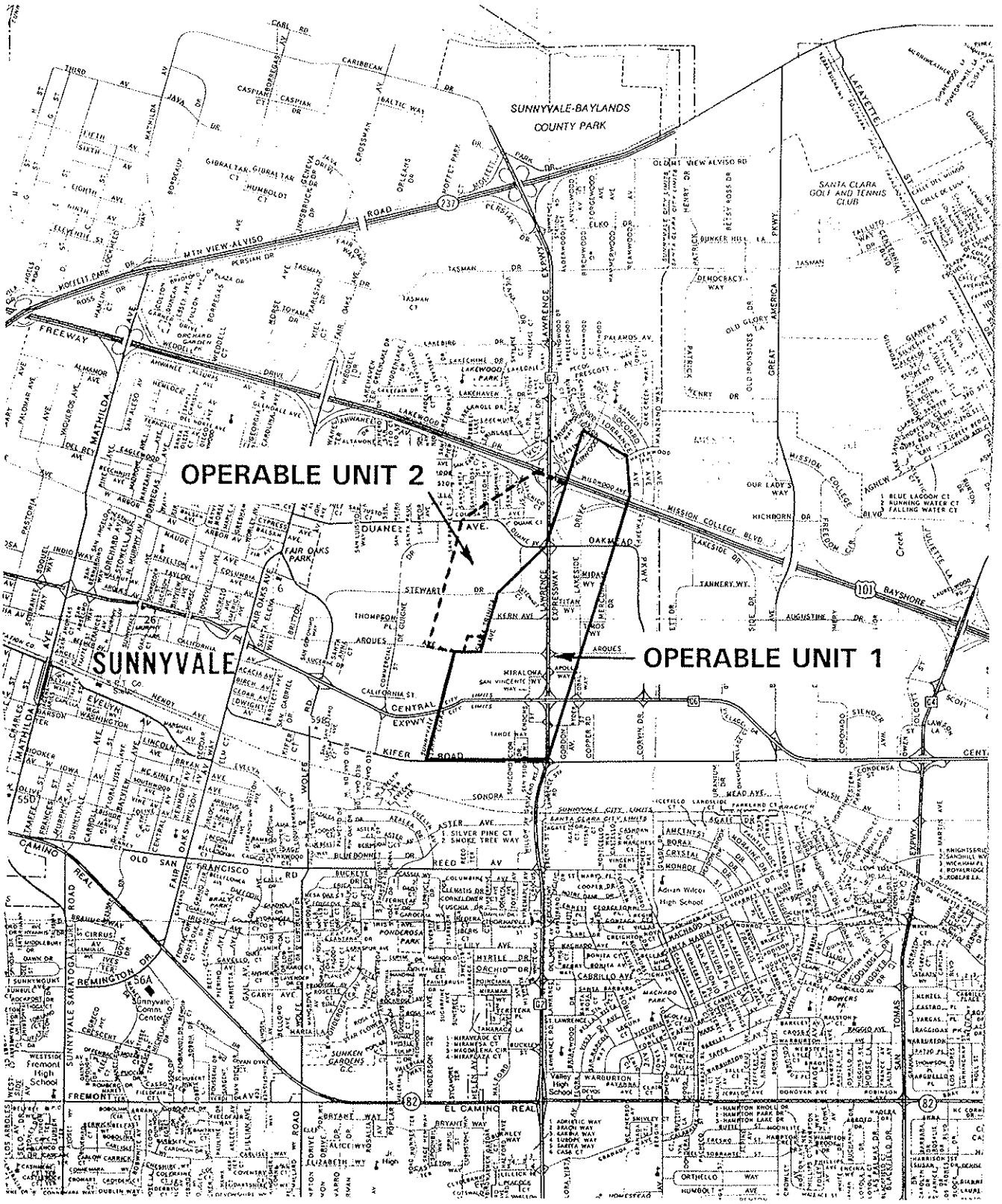
Steven R. Ritchie
Executive Officer

Attachments:
Figure 1. Study Area Map
Figure 2. General Location Map



STUDY AREA

EASTERN SUNNYVALE, CA



NORTH

SCALE OF MILES

0 ¼ ½ 1

ONE INCH EQUALS APPROXIMATELY 0.67 MILES

BASE MAP: H.M. GOUSHA CO., 1990

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

FIGURE 2

GENERAL LOCATION MAP