

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. 89-113

SITE CLEANUP REQUIREMENTS FOR:

HONEYWELL INC.
AND
THE RREEF FUNDS

3050 CORONADO DRIVE FACILITY
SANTA CLARA, SANTA CLARA COUNTY

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

1. **Site History** Honeywell Inc. (Honeywell) owns Synertek Inc. as a wholly owned subsidiary. Synertek Inc. manufactured semiconductor products in Synertek Building 1 (Synertek #1), a site located at 3050 Coronado Drive, Santa Clara, Santa Clara County (Figure 1), from March 1978 to February 1985. The RREEF Funds is the current owner of the property. Honeywell Inc. and The RREEF Funds are hereinafter referred to as the dischargers.

Investigations initiated in 1983 have found the soil and groundwater beneath the site to be polluted with organic solvents including trichloroethylene (TCE), 1,1,1-trichloroethane (TCA), 1,1-dichloroethane (DCA), 1,1-dichloroethylene (DCE), trans-1,2-dichloroethylene (TDCE), Freon 113, and vinyl chloride.

2. **Hydrogeology** The top water bearing layers beneath the site, designated as the A, B, and B1 aquifers, have been identified. The shallowest, or A aquifer, has its upper boundary at about 10 feet below ground surface (BGS), and lower boundary about 20 feet BGS. The B aquifer lies between about 30 and 40 feet BGS. The two zones are separated by a 2 to 10 feet thick aquitard composed of clay to silty sand. It is suspected that hydraulic separation between the two zones is imperfect owing to the discontinuous nature of sediment types. The deeper B1 aquifer lies between 100 and 108 feet BGS.

Shallow groundwater flow in the A and B aquifer zone, beneath the site, is generally to the north-northeast. This flow regime is consistent with the northerly regional flow towards the San Francisco Bay.

3. **Subsurface Investigation** Since 1985, 31 monitoring wells have been installed to define the vertical and horizontal extent of the pollutant plume beneath the site. Groundwater monitoring data indicates that the plume extends vertically, through the A aquifer, into the B aquifer, to a depth of 48 feet and horizontally for a distance of 1200 feet from the source. Results from a B1 aquifer monitoring well indicate that the B1 aquifer has not been impacted.

As of December 1988, the groundwater beneath the site (i.e. in monitoring wells 4B and 12A) contained TCE up to 3900 parts per billion (ppb), TCA up to 2100 ppb, DCE less than 250 ppb, DCA less than 250 ppb, TDCE less than 250 ppb, Freon-113 less than 250 ppb, and vinyl chloride less than 5 ppb.

4. **Regulatory Status** The Synertek #1 site was proposed to be placed on the National Priority List (Superfund) in June 1988. Honeywell and The RREEF Funds are Potentially Responsible Parties under Federal Superfund (CERCLA/SARA) regulations.
5. **Interim Remedial Actions** Interim remedial actions at the site have included the extraction of polluted groundwater and the removal of underground tanks and contaminated soils. A 200 gallon solvent storage tank, installed in 1976 to store TCE and TCA, was removed along with contaminated soils in February 1985. A three-tank neutralization system, installed in 1974, was associated with the wastewater treatment system and contained TCE, TCA, and Freon 113. The neutralization system and contaminated soils were removed in April 1985.

It is believed that the excavation of the tanks and substantial portion of the contaminated soils has removed a majority of the source of further groundwater pollution. However, a task in this Order will require Honeywell to evaluate the extent, if any, of contaminated soils in the vicinity of monitoring well 4B. Well 4B has recorded anomalously high concentrations of organic solvents in the B aquifer since the well was installed in 1984.

Honeywell has been extracting onsite A and B aquifer groundwater since 1987. Additional interim remedial actions, in the form of an offsite A zone groundwater extraction system, began operation on January 5, 1989. This extraction system, consisting of two wells pumping at a combined rate of approximately five gallons per minute, is expected to 1) halt the advance of the pollution plume and 2) initiate clean-up of the offsite groundwater pollution.

Extracted groundwater is currently pumped at a combined rate of 15 gallons per minute from five extraction wells (3 onsite and 2 offsite) and treated by two air strippers connected in

series. The treated water is discharged to a storm sewer system tributary of San Tomas Creek as specified under NPDES Permit #CA0029211.

6. **Workplan** Honeywell submitted a workplan for the completion of a Remedial Investigation/Feasibility Study (RI/FS) on December 20, 1988, and a revised workplan on April 13, 1989.
7. **Scope of this Order** This Order adopts the RI/FS workplan and contains tasks for Honeywell to complete the RI/FS. In addition, this Order 1) requires Honeywell to submit a proposal to evaluate the source of pollution in the B aquifer beneath the site, 2) outlines the requirements for quarterly progress reports, and 3) requires Honeywell to assist the Regional Board in the preparation of the Administrative Record.

On July 15, 1987, the Board adopted Order No. 87-084 which prescribed Site Cleanup Requirements to Honeywell and established tasks and time schedules to define the extent of the contaminants and implement interim remedial actions.

The intent of this Order is to supersede the requirements of Order No. 87-084 by updating the status of the site, prescribing a time schedule to complete final investigations, and evaluate final remedial action alternatives, and in so doing, approve the workplan referenced in Finding 6 above. This Order rescinds Order No. 87-084.

8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and ground waters.
9. The existing and potential beneficial uses of the groundwater underlying and adjacent to the site include:
 - a. Industrial process water supply
 - b. Industrial service water supply
 - c. Municipal and Domestic water supply
 - d. Agricultural water supply
10. 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.

11. 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.
12. Ongoing interim containment and cleanup measures need to be continued to alleviate the threat to the environment posed by the migration of pollutants and to provide a substantive technical basis for designing and evaluating the effectiveness of final cleanup alternatives.
13. 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.
14. 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 dischargers shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

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 pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. Honeywell shall conduct monitoring and investigatory activities as needed to define the current local hydrogeologic conditions, and the lateral and vertical extent of soil and groundwater pollution. Should monitoring results show evidence of pollutant migration,

additional characterization of pollutant extent may be required.

C. PROVISIONS

1. Honeywell shall submit to the Board acceptable monitoring program reports containing results of work performed according to a program as attached.
2. Honeywell shall comply with Prohibitions A.1., A.2., and A.3., and Specifications B.1. and B.2. above, in accordance with the following time schedule and tasks:

COMPLETION DATE/TASK

- a. COMPLETION DATE: **July 1, 1989**

TASK: SUBMIT A PROPOSAL TO EVALUATE THE SOURCE OF ONSITE B AQUIFER POLLUTION: Submit a technical report acceptable to the Executive Officer containing a proposal and a schedule to determine the source of the groundwater pollution in the vicinity of monitoring well 4B.

- b. COMPLETION DATE: **July 17, 1989**

TASK: ADMINISTRATIVE RECORD: Submit a technical report acceptable to the Executive Officer containing a proposal and a schedule for developing the Administrative Record, as outlined in EPA's guidance on Administrative Records.

- c. COMPLETION DATE: **November 30, 1989**

TASK: SUBMIT DRAFT REMEDIAL INVESTIGATION REPORT AND BASELINE PUBLIC HEALTH EVALUATION: Submit a technical report acceptable to the Executive Officer, pursuant to the workplan described in Finding 6 and the results of the investigation submitted for Task C.2.a., containing the results of the remedial investigation.

- d. COMPLETION DATE: **March 31, 1990**

TASK: SUBMIT DRAFT FEASIBILITY STUDY REPORT: Submit a technical report acceptable to the Executive Officer, pursuant to the workplan described in Finding 6 and the technical report submitted for Task C.2.c., containing an evaluation of the installed interim remedial measures, a feasibility study evaluating alternative final remedial measures, the recommended measures necessary to

achieve final cleanup objectives, and the time schedule necessary to implement the recommended final remedial measures.

e. COMPLETION DATE: **June 15, 1990**

TASK: SUBMIT FINAL REMEDIAL INVESTIGATION, BASELINE PUBLIC HEALTH EVALUATION, AND FEASIBILITY STUDY REPORT AND PROPOSED REMEDIAL ACTION PLAN: Submit a technical report acceptable to the Executive Officer based on the previous technical reports submitted for Task C.2. and agency comments on the previous technical reports submitted for Task C.2.

5. The RI/FS workplan, as described in Finding 6, is hereby approved.
6. The submittal of technical reports evaluating immediate, interim and final remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study must be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents issued with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California". The Baseline Public Health Evaluation shall include an evaluation of cleanup goals based on the Hazard Index as discussed in the California Department of Health Services Decision Tree (1986).
7. Any proposal for the discharge of extracted groundwater included in the technical report required in Provisions C.4.d. and C.4.e. 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.
8. 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 and the Board may consider revision to this Order.

9. Honeywell shall submit technical reports summarizing the status of compliance with the Prohibitions, Specifications, and Provisions of this Order on a quarterly basis, according to the schedule below, commencing with the report for the second quarter 1989, due July 31, 1989.

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, and work projected to be completed by the time of the next quarterly report,
 - b. appropriately scaled and labeled maps showing the location of all monitoring wells, extraction wells, and existing structures,
 - c. cross sections depicting subsurface geologic information and corresponding correlations based on boring data,
 - d. updated water table and piezometric surface maps for all affected water bearing zones, and isoconcentration maps for key pollutants in all affected water bearing zones,
 - e. a cumulative tabulation of all well construction data, groundwater levels and chemical analysis results for site monitoring wells specified in the sampling plan,
 - 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.
10. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist, engineering geologist or professional engineer.
11. 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.

12. 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.
13. Copies of all reports 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 Santa Clara
 - d. State Department of Health Services/TSCD
 - e. U. S. Environmental Protection Agency, Region IX

The Executive Officer shall receive three copies of all correspondence, reports and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order.

Each of the dischargers shall provide copies of all correspondence, reports and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, to the other discharger named in this Order.

14. The dischargers shall permit the Board or its authorized representative, 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 groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the dischargers.
15. The dischargers shall file a report on any changes in site occupancy and ownership associated with the sites described in this Order.

16. If any hazardous substance, as defined pursuant to Section 25140 of the Health and Safety Code, 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 discharge to this Regional Board, at (415) 464-1255 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-business hours. A written report shall be filed with the Regional 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 effect, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.
17. Order No. 87-084 is hereby rescinded.
18. 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 June 21, 1989.



Steven R. Ritchie
Executive Officer

Attachments: Figure 1-Location Map