

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 89-084

SITE CLEANUP REQUIREMENTS FOR:

RADIATION DETECTION COMPANY
162 NORTH WOLFE ROAD FACILITY
SUNNYVALE, SANTA CLARA COUNTY

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

1. Radiation Detection Company, hereinafter called the discharger, has owned and operated a physics/industrial hygiene services facility since 1972. The facility is located at 162 North Wolfe Road in Sunnyvale, Santa Clara County.
2. Subsurface investigations initiated by the discharger in 1987 have revealed the presence of organic chemicals in soils and groundwater beneath the site. Chemicals detected onsite include trichloroethylene (TCE), 1,1,1-trichloroethane (TCA), and perchloroethylene (PCE).
3. Chemical concentrations from a soil boring taken onsite at a depth of 16 feet were as high as 450 parts per billion (ppb) for TCE, 100 ppb for PCE, and 350 ppb for TCA. Chemical concentrations in groundwater obtained by sampling the onsite monitoring well were as high as 340 ppb for TCE and 390 ppb for TCA.
4. Chemical concentrations from a soil boring taken beneath an onsite waste neutralization sump that was removed on September 9, 1988 were as high as 26 ppb for TCE, 153,000 ppb for barium, and 149,000 ppb for manganese.
5. Groundwater upgradient of the facility is polluted with organic chemicals at levels as high as 1600 ppb for TCE, 71 ppb for TCA, and 3 ppb for PCE. Further subsurface investigation is needed to determine whether the facility is a source of groundwater pollution detected beneath and downgradient of the facility.
6. The Regional 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 groundwaters.

7. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:
 - a. Industrial process water supply
 - b. Industrial service water supply
 - c. Municipal and Domestic water supply
 - d. Agricultural water supply
8. The discharger threatens 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.
9. Measures to stabilize the pollutant plume need to be implemented by responsible parties 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 any cleanup alternatives.
10. 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.
11. The Board has notified the discharger 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.
12. 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. 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. 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 polluted soil or groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The discharger 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 from the Radiation Detection site. Should monitoring results show evidence of plume migration past the established monitoring system, additional plume characterization will be required.

C. PROVISIONS

1. The discharger 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:

a. COMPLETION DATE: June 30, 1989

TASK: PROPOSAL FOR SOIL AND GROUNDWATER
POLLUTION CHARACTERIZATION IN SUMP AREA:

Submit a technical report acceptable to the Executive Officer containing a proposal to determine whether an onsite source of chemicals is and/or has contributed to soil and groundwater pollution detected beneath site. The proposal must include a proposal for further soil and groundwater pollution characterization in the area of the former waste sump.

b. COMPLETION DATE: September 29, 1989

TASK: SOIL AND GROUNDWATER POLLUTION
CHARACTERIZATION IN SUMP AREA:

Submit a technical report acceptable to the Executive Officer, which includes the results of work performed pursuant to Task C.1.a. to characterize the soil and groundwater pollution in the sump area.

c. COMPLETION DATE: October 30, 1989

TASK: PROPOSAL FOR COMPLETE SOIL AND GROUNDWATER
POLLUTION CHARACTERIZATION:

Submit a technical report acceptable to the Executive Officer, based on the technical report submitted pursuant to Task C.l.b., which contains a proposal and schedule to complete definition of the vertical and horizontal extent of soil and groundwater pollution originating from the discharger's facility.

d. COMPLETION DATE: December 30, 1989

TASK: PROPOSAL FOR PLUME CONTAINMENT AND
INTERIM CLEANUP AT THE SITE:

Submit a technical report acceptable to the Executive Officer, based on the technical report submitted pursuant to Task C.l.b., which contains a proposal to implement interim remedial measures to prevent pollution migration to offsite areas and to cleanup any pollutant plume. This proposal shall include a schedule to implement such interim remedial measures. If this proposal includes the extraction of groundwater, the proposal shall describe the treatment and discharge of such extracted groundwater.

2. The submittal of the proposal for interim remedial measures will include a projection of the cost, effectiveness, and impact on public health, welfare, and environment of each alternative interim remedial measure considered.
3. Any proposal for the discharge of extracted groundwater included in the technical report required in Task C.l.d. 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. The discharger shall submit chemical analytical results from groundwater and soil sampling conducted pursuant to this Order within 10 days of receipt by the discharger. Such results shall clearly indicate all sampling locations.

5. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger 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.
6. Technical reports on compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted monthly to the Board commencing with the June 1989 report due on July 15, 1989. Continuing on a monthly basis thereafter, these reports shall consist of a brief letter report that, (1) summarizes work completed since submittal of the previous report, and work projected to be completed by the time of the next report, (2) identifies any obstacles which may threaten compliance with the schedule of this Order and what actions are being taken to overcome these obstacles, and (3) includes, in the event of non-compliance with Provisions 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.
7. In addition to the monthly report required in C.6, the discharger shall submit a quarterly technical report commencing with a report for the quarter ending September 30, 1989, due October 15, 1989. The quarterly technical report shall include, but need not be limited to, updated water table and piezometric water level measurements and chemical results of all monitoring wells and any extraction wells, cross-sectional geological maps describing the hydrogeological setting of the site, a detailed base map showing the location of all monitoring wells and extraction wells as well as identifying adjacent facilities and structures. Should the technical report submitted pursuant to Task C.1.b. indicate that further site characterization is not warranted, the discharger shall submit only the initial quarterly report due October 15, 1989.
8. 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.

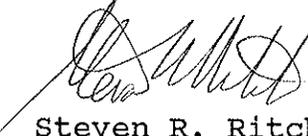
9. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.
10. The discharger shall maintain in good working order, and operate, as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.
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
 - d. Department of Health Services/TSCD

The Executive Officer may additionally require copies of correspondence, reports and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order to be provided to the U.S. Environmental Protection Agency, Region IX, and to a local repository for public use.

12. The discharger 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 discharger.
13. The discharger shall file a report on any changes in site occupancy and ownership associated with the facility during the effect of this Order.

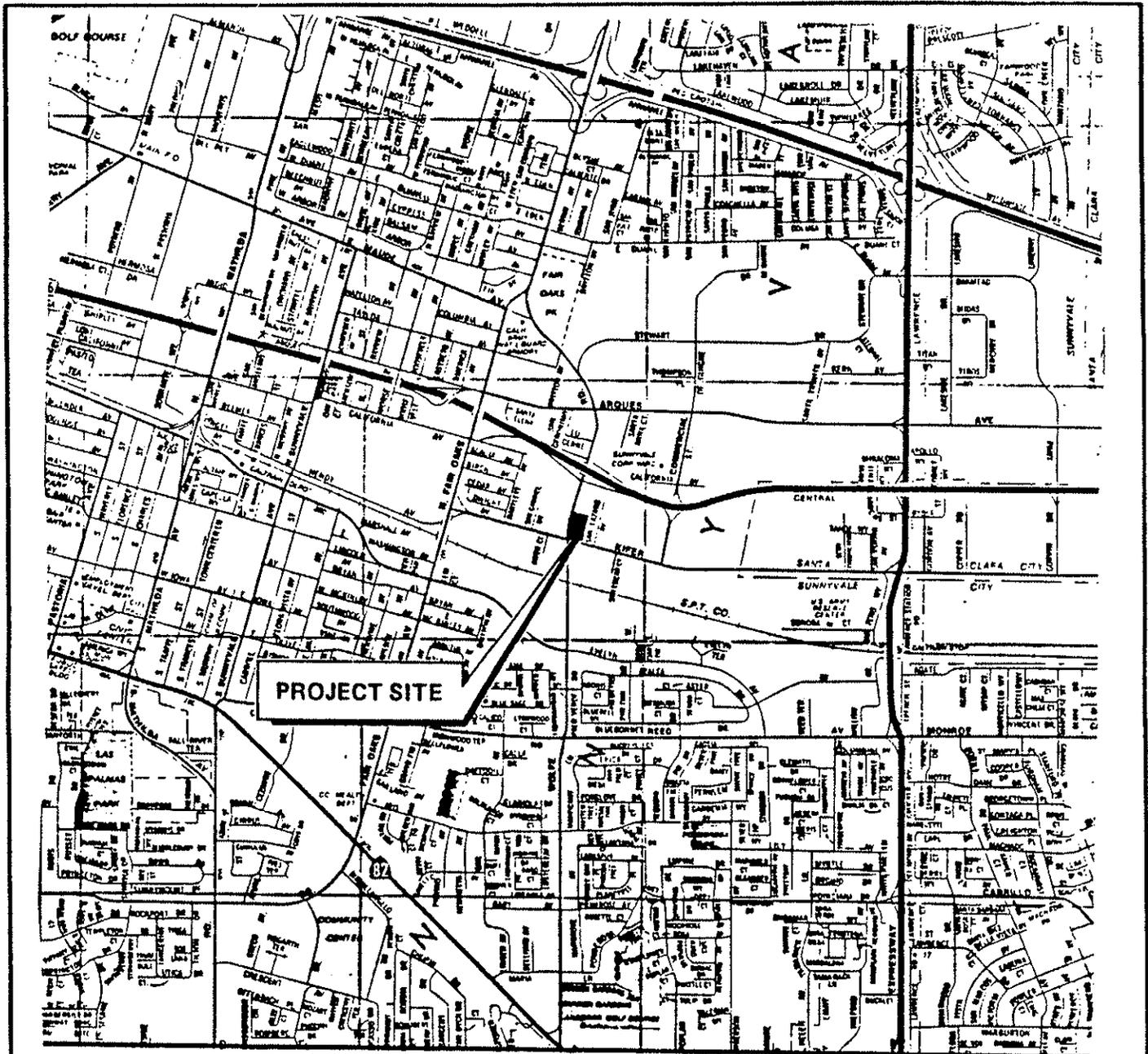
14. The discharger shall report any newly discovered spill of any hazardous substance, as defined pursuant to Section 25140 of the California Health and Safety Code, that is discharged in or on any Waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any Waters of the State, the discharger shall report such a 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-office hours. A written report shall be filed with the Regional 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 May 17, 1989.



Steven R. Ritchie,
EXECUTIVE OFFICER

Attachment: Site Map



PROJECT SITE



0 1000 2000
SCALE IN FEET

Source:
U.S. Geological Survey Map, 7.5 minute series,
Sunnyvale California, Quadrangle. 1978.

STATE OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN FRANCISCO BAY REGION		
LOCATION MAP		
RADIATION DETECTION COMPANY 162 NORTH WOLFE ROAD SUNNYVALE, SANTA CLARA COUNTY		
DRAWN BY: MYM	DATE: 3/10/89	DRWG. NO. 010