

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

TENTATIVE ORDER

RESCISSION OF SITE CLEANUP REQUIREMENTS (ORDER NO. 89-084) for:
RADIATION DETECTION COMPANY, INC.

for the property located at:

162 NORTH WOLFE ROAD
SUNNYVALE, SANTA CLARA COUNTY

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

1. **Regional Water Board Order:** The Regional Water Board adopted site cleanup requirements for this site on May 17, 1989 (Order No. 89-084). This order names Radiation Detection Company, Inc. (RDC), as the discharger for the property at 162 North Wolfe Road, Sunnyvale (Site).

2. **Summary of Investigation and Remediation Activities:** RDC operated at the Site from 1972 through 2001. RDC was in the business of measuring personal exposure to radiation, calibrating radiation survey instruments, taking radiometric measurements of sealed sources, and conducting industrial hygiene analytical chemistry. From 1975 to 1986, small quantities of trichloroethylene (TCE) were reportedly used at the Site during select operations. In 1986, subsurface investigations were conducted and volatile organic compounds (VOCs) were detected at the Site in soil samples and in groundwater samples collected from wells RD-1 and RD-2 located near a waste neutralization sump at the Site. Total VOC concentrations detected in soil samples collected during construction of wells RD-1 and RD-2 were 0.9 milligrams per kilogram (mg/kg) and 1.14 mg/kg, respectively. Total VOC concentrations detected in groundwater samples collected from wells RD-1 and RD-2 were 804 micrograms per liter ($\mu\text{g/L}$) and 400 $\mu\text{g/L}$, respectively.

In 1988, the waste neutralization sump was excavated and removed from the northeast corner of the RDC building, and soil sampling was performed from five borings (SB-1 through SB-5) located in the area of the former sump. The soil sampling identified TCE and tetrachloroethylene (PCE) in unsaturated soil with the higher concentrations reported in samples collected from 10.5 feet below ground surface (bgs) to 11 bgs and from 15.5 bgs to 16 feet bgs. Maximum TCE and PCE concentrations detected in soil samples were 0.84 mg/kg and 0.71 mg/kg, respectively.

In addition, elevated organic vapor monitor (OVM) readings were recorded on the boring logs of SB-4 and SB-5 from depths of 2 to 20 feet below ground surface (unsaturated zone soil). VOCs detected in soil samples together with the OVM readings are partially attributable to releases of VOCs from the former sump.

In September 2012, RDC collected groundwater samples from monitoring wells RD-1, WA-1, and RMW-1. Maximum concentrations of total VOCs detected in groundwater samples collected from these wells were 14.3 µg/L, 84 µg/L and 221 µg/L, respectively.

3. **Adjacent Sites:** Nearby and adjacent properties have caused or contributed to VOC concentrations in groundwater in the area. The former Royal Auto Body site located at 150 North Wolfe Road is an upgradient source. The groundwater flow direction at the Royal Auto Body site in the shallow water-bearing zone is generally to the northeast (i.e., towards and underneath the Site). The Regional Water Board has required investigation and remediation of the Royal Auto Body site under Order No. 89-060. The Royal Auto Body site had a sump that was removed. TCE was detected in soil beneath the sump. Since then extensive investigation and remediation of the Royal Auto Body site has been performed and is ongoing.

Another nearby site potentially contributing to groundwater pollution in the area is the former C & G Tools site located at 165 San Lazaro Avenue. The C & G Tools site is located immediately to the east and cross-gradient of the Site. C& G Tools utilized petroleum naphtha (benzene), kerosene and TCE in its parts manufacturing and machine shop operations.

Another nearby site contributing to groundwater pollution in the area is the former ICORE International site located at 170-180 North Wolfe Road. The ICORE site is located immediately to the north and downgradient of the Site. ICORE used two 550-gallon underground storage tanks (USTs) to store TCE until approximately 1979; the USTs were reportedly removed in 1987. A soil vapor extraction system operated at the ICORE site from 1991 to 1997, and approximately 530 pounds of VOCs were removed by the system. ICORE implemented an in-situ groundwater remediation event in 2002 by injecting a hydrogen release compound. ICORE remediated the soil and groundwater beneath its property to the extent practicable. Based on soil gas sampling, ambient and indoor air monitoring, and groundwater sampling results, the Regional Water Board concurred that no further action was required for the ICORE site and rescinded ICORE's site cleanup requirements on August 12, 2009.

4. **Basis for Rescission:** Rescission of Order No. 89-084 is appropriate because the Site meets the Regional Water Board's low-threat chlorinated solvent site closure criteria as discussed below:
 - Pollutant sources at the Site are identified and evaluated. The presence of VOCs in soil and groundwater beneath the Site is due to the former waste neutralization sump located at the northeast corner of the Site and impacted groundwater that is migrating from the upgradient Royal Auto Body site.
 - The Site is adequately characterized. Five soil borings were installed onsite and several monitoring wells were installed at the Site and on adjacent properties. Over four dozen soil samples were collected and tested for VOCs. Soil and groundwater sampling results indicate that the shallow water-bearing zone beneath the Site is impacted with relatively low concentrations of VOCs. VOC contamination is laterally and vertically-defined.

- Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed. Nearby receptors are identified. Groundwater and vapor migration and exposure pathways are assessed. Shallow groundwater beneath the Site is not currently used for drinking water. The VOC plume does not threaten deeper groundwater aquifers, which are used for drinking water, because a regional aquitard separates the shallow and deeper aquifers.
- Pollutant sources of onsite pollution have been remediated to the extent feasible. The former waste neutralization sump was excavated and removed in 1988. Due to low concentrations in soil and groundwater, no further active cleanup was needed. Sources of offsite pollution at the upgradient Royal Auto Body site are being remediated under Regional Water Board order and oversight.
- There are no unacceptable risks to human health, ecological health, and sensitive receptors, considering current and reasonable future land and water uses. TCE and PCE concentrations in groundwater are below the Regional Water Board's environmental screening levels (ESLs) for potential vapor intrusion into indoor air.
- There are no unacceptable threats to groundwater and surface water resources, considering current and reasonable future beneficial uses. The shallow groundwater plume is not impacting any surface water bodies or drinking water wells.
- The groundwater plume is decreasing. VOC concentrations in shallow groundwater have gradually decreased. Maximum concentrations of total VOCs detected in onsite monitoring well RD-1 and the nearest downgradient monitoring well WA-1 in September 2012 were 14.3 µg/L and 84 µg/L, respectively. In comparison, well RD-1 contained 804 µg/L VOCs in 1986 and well WA-1 contained 337 µg/L in 1989.
- Cleanup standards can be met within a reasonable timeframe. Natural attenuation is expected to reduce VOC (primarily TCE and PCE) concentrations in shallow groundwater to below drinking water standards before the groundwater will be used as a source of drinking water.
- Risk management measures are not needed because of the low groundwater concentrations, the shallow groundwater is not currently used, and the soil concentrations are below the direct exposure ESLs for residential land use.

5. Safe Drinking Water Policy: It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy because the Regional Water Board has evaluated and determined that shallow groundwater underlying the site is not currently used for drinking water and will not be used for drinking water in the foreseeable future. The deeper aquifer underlying the site, which is used for drinking water, meets maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use. A regional aquitard underlying the shallow aquifer will ensure that the deeper aquifer is not threatened by the remaining low concentrations of total VOCs.

6. **Next Steps Prior to Case Closure:** Monitoring wells owned by RDC need to be properly closed before this case is closed by the Regional Water Board, so as to eliminate vertical conduits for potential future groundwater contamination.
7. **CEQA:** This action rescinds an order to enforce the laws and regulations administered by the Regional Water Board. Rescission of the Order is not a project as defined in the California Environmental Quality Act (CEQA). There is no possibility that the activity in question may have a significant effect on the environment. (Cal. Code Regs., tit. 14 §§ 15378 and 15061, subd. (b) (3).)
8. **Notification:** The Regional Water Board has notified RDC and all interested agencies and persons of its intent under California Water Code section 13304 to rescind site cleanup requirements for the discharge and has provided them with an opportunity to submit their written comments.
9. **Public Hearing:** The Regional Water Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Water Code section 13304, that Order No. 89-084 is rescinded.

IT IS FURTHER ORDERED that Radiation Detection Company shall properly close all groundwater monitoring and extraction wells consistent with applicable local agency requirements and shall document such closure in a technical report to be submitted to the Regional Water Board by July 31, 2013.

I, Bruce H. Wolfe, 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 _____.

 Bruce H. Wolfe
 Executive Officer

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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 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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