

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER 95-085

RESCISSION OF SITE CLEANUP REQUIREMENTS AND NPDES PERMIT FOR:

KTI CHEMICALS, INCORPORATED

for the property located at

1170 SONORA COURT  
SUNNYVALE  
SANTA CLARA COUNTY

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

Site Description

1. KTI Chemicals Inc., owned and operated a chemical distribution facility at 1170 Sonora Court, southwest of the intersection of the Lawrence and Central Expressways in Sunnyvale, Santa Clara County. KTI is a subsidiary of Union Carbide Corporation.

Site History

2. KTI Chemicals Inc. (KTI), is referred to as a discharger because of their occupation of the site for 20 years and use of chemicals that have been detected on site in soil and groundwater. KTI continued to operate the facility during site assessment and cleanup activities under initial Site Cleanup Requirements, Order No. 87-035, and Final Site Cleanup Requirements, Order No. 90-043, which also rescinded Order No. 87-035. The facility was constructed in 1973 to blend, filter and repack photochemicals for Santa Clara Valley industries. Three 8,000 gallon underground storage tanks were installed in 1979 and were used to store xylene, n-butyl acetate and mineral spirits. In 1983, KTI discovered a leak in a pipe union from the storage tank that contained odorless mineral spirits (OMS). The composition of OMS is approximately 99% paraffins (straight and branched chain saturated C-9 to C-12 alkanes) and naphthenes, less than 0.2% aromatic hydrocarbons. Based on the assumption that OMS are as toxic as de-aromated white spirits, a nontoxic level in groundwater of 1.4 mg/l was determined. This level was developed considering human exposure by drinking water use and a 500-fold safety factor to convert the no observed effect level (NOEL) to a non-toxic level. The final cleanup objective for groundwater reduced the non-toxic level to a 0.2 mg/L cleanup limit. The leakage resulted in the release of an unknown quantity of OMS to the soil, and ultimately to the groundwater. KTI, in 1983, initiated site hydrogeologic investigations which confirmed soil and groundwater

pollution. An NPDES Permit, Order No. 87-103, was adopted for discharge of treated groundwater to a storm drain.

### Site Investigations

3. A site hydrogeologic investigation was initiated in February 1983 to determine the extent of soil pollution and to evaluate whether groundwater had been affected by site activities. One monitoring well was installed adjacent to the three underground storage tanks. Subsequent groundwater sampling indicated the presence of OMS in the groundwater. Soil borings drilled and sampled adjacent to the underground tanks have depicted the OMS distribution in the shallow sediments and capillary zone. Under SCO 87-035, additional soil sampling was conducted at locations down gradient of the source area which has revealed scattered pockets of OMS pollution.

### Soil and Groundwater Remediation

4. Site interim remediation began in December, 1986 with the installation of a soil and groundwater bioremediation system. The system utilized a down gradient (north site boundary) groundwater extraction well, soil bacteria nutrient supplements added to the extracted groundwater and reinjection of the amended groundwater into the OMS leak area. The bioremediation system operated from December, 1986 to July, 1987 without success and was discontinued in July, 1987. The down gradient extraction well was also used to contain plume migration, and, was used to prevent off site migration of the pollution plume. Operation of the bioremediation system's extraction well enlarged the plume area due to aquifer drawdown and increased gradient beneath the site. A new containment system was designed to more precisely control plume migration and provide floating free-product removal.

The approved site remediation plan for final soil cleanup actions included the removal of the closed underground tanks and surrounding polluted soil. A rectangular prism of soil approximately 26 ft x 35 ft x 23 feet deep was removed at the tank installation area. An additional 26 ft x 15 ft x 23 ft prism of polluted soil immediately north (down gradient) of the tanks was to be removed. The objective for polluted soil removal was to remove soils with OMS concentrations down to 100 ppm except under the building. Final remedial measures for groundwater included operation of free-product removal and groundwater extraction and treatment systems. Treated effluent was recharged through two wells for five weeks out of every six, with one week of discharge, under the 187 NPDES permit, to a storm drain. The approved groundwater cleanup objectives were to remove all recoverable free product, to reduce OMS concentrations in groundwater to below 0.2 mg/L level for six months in all monitoring wells. The cleanup objectives for source removal, the removal of tanks and polluted soils, were met in 1990. The cleanup objective for free product was met in the middle of 1992, and the cleanup objective for groundwater was met in December 1994. Two permits for this site will need to be rescinded, the NPDES permit and the permit for site cleanup requirements.

### Recommendation For Final Action

5. The discharger submitted an annual report, dated January 30, 1995, recommending final action for the site. The report concludes that concentrations in the monitoring wells have decreased to below cleanup limits.
6. The discharger should produce a final letter report documenting that all the monitoring wells used at the site have been properly destroyed.

### STATE BOARD RESOLUTIONS

7. State Board Resolution 68-16  
On October 28, 1968, the State Board adopted Resolution No. 68-16, "Statement of Policy with Respect to Maintaining high Quality Waters in California". This policy calls for maintaining the existing high quality of State waters unless it is demonstrated that any change would be consistent with the maximum public benefit and not unreasonably affected beneficial uses. This is based on a Legislative finding, contained in section 13000, California Water Code, which states in part that it is State policy that "waters of the State shall be regulated to attain the highest water quality which is reasonable". The original discharge of wastes to the groundwater at this site is in violation of this policy.
8. State Board Resolution 88-63  
On May 19, 1988, the State Board adopted Resolution 88-63, "Sources of Drinking Water". This resolution states that, with certain exceptions, surface and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply.

### REGIONAL BOARD RESOLUTIONS

9. Regional Board Resolution 89-39  
Resolution 88-39, "Incorporation of 'Sources of Drinking Water' Policy into the Water Quality Control Plan" was adopted on March 15, 1989. This policy defines groundwater as suitable or potentially suitable for municipal or domestic supply if it:
  - a. has a total dissolved solids content of less than 3,000 mg/l, and
  - b. is capable of producing sufficient water to supply a single well with at least 200 gallons per day.

For purposes of establishing cleanup objectives, the water bearing zones at this site qualify as potential sources of drinking water.

### BASIN PLAN

10. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 16, 1986 and amendments thereafter. The Basin Plan contains water

quality objectives for Los Gatos Creek and South San Francisco Bay and contiguous surface waters and groundwater.

11. 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
  
12. The existing and potential beneficial uses of Calabazas Creek and South San Francisco Bay include:
  - a. industrial process water supply
  - b. navigation
  - c. recreation
  - d. commercial/sport fishing
  - e. warm fresh water habitat
  - f. areas of special biological significance
  - g. wildlife and marine habitat
  - h. fish migration

#### BASIS FOR NPDES AND SCR RESCISSION

13. The Board establishes the overall cleanup level for a water body based upon the most sensitive beneficial use identified. In all cases, the Board first considers high quality or naturally occurring "background" concentration objectives as the cleanup levels for polluted groundwater with a beneficial use of municipal and domestic supply, such as at this site.
  
14. All known sources of contamination have been removed or mitigated. Groundwater contamination has decreased significantly over the eight year monitoring program and are now below detection limits. Groundwater monitoring shows that levels are below the 200  $\mu\text{g/l}$  cleanup limit for OMS.
  
15. Based on the above findings and in consideration of the reasonable protection of beneficial uses and maximum benefit to the people of the State pursuant to State Board Resolution 68-16, additional remediation and groundwater monitoring are not necessary.
  
16. Water Code Section 13263 requires the Board to review Waste Discharge Requirements periodically and modify them as necessary. Given that relevant water quality objectives are now met at the site, the Site Cleanup Requirements, and Waste Discharge Requirements under the NPDES permit are no longer needed and should be rescinded.

CEQA

17. This action is constitutes a minor modification to land and as such is categorically exempt from the provisions of the CEQA pursuant to Section 15304 of the Resources Agency Guidelines.

NOTICE

18. The Board has notified the dischargers and interested agencies and persons of its intent to rescind Site Cleanup Requirements and NPDES Permit for this site and has provided them with the opportunity for a public hearing and opportunity to submit their written views and recommendations.
19. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT:

- a. Order No. 87-103 is rescinded.
- b. Order No. 90-043 is rescinded.

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 April 19, 1995.

  
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Steven R. Ritchie  
Executive Officer