

**STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION  
320 West 4<sup>th</sup> Street, Suite 200, Los Angeles, California 90013**

**FACT SHEET  
WASTE DISCHARGE REQUIREMENTS  
FOR  
INSTALLATION RESTORATION SITE 14  
FORMER NAVAL STATION LONG BEACH**

**ORDER NO. R4-2002-0030 (SERIES NO. 002)  
CI-8417, SITE ID# 1654100**

**FACILITY ADDRESS**

Installation Restoration Site 14  
Naval Station Long Beach  
Long Beach, CA 91702

**FACILITY MAILING ADDRESS**

Naval Facilities Engineering Command  
1220 Pacific Coast Highway, Building 127, Room 112  
San Diego, CA 92132-5190

**PROJECT DESCRIPTION:**

Installation Restoration (IR) Site 14 of the Former Naval Station Long Beach is located in the vicinity of Coffman Avenue and Colorado Street, Long Beach, approximately at Latitude: N33° 45' 24", Longitude: W118° 14' 16". A former dry-cleaning facility was operated in Building 46 at the IR Site 14. The underlying groundwater at IR Site 14 has been contaminated with volatile organic compounds (VOCs). The contaminants of concern (COCs) in groundwater for IR Site 14 are tetrachloroethene (PCE), trichloroethene (TCE), and their degradation compounds, 1,1-dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene, and vinyl chloride.

A Remedial Action Plan was developed to treat the contaminated groundwater. The Final Addendum to the Removal Action Work Plan, Organic Substrate Addition to the Groundwater, dated April 8, 2002, was approved by this Regional Board on May 30, 2002. The Removal Action Work Plan proposes to inject Hydrogen Release Compound (HRC™) to groundwater at the subject site for use in in-situ bioremediation to address the COCs in groundwater. HRC has a considerable history of being utilized successfully in California in similar projects and is expected to be widely used in future remediation efforts. Subsequently, this technology has been included for the General Permit (Board Order No. R4-2002-0030). The main plume (TCE) extends over an area of approximately 300 feet by 1000 feet. The target zone for remediation is approximately the first 20 feet of groundwater in the upper water-bearing zone. This groundwater unit is composed of recent alluvium of interbedded Sandy silt to sand and is underlain by the Bellflower Aquiclude.

**VOLUME AND DESCRIPTION OF DISCHARGE (INJECTION):**

The HRC is introduced to the aquifer underlying the site. HRC is a proprietary, environmentally safe polylactate ester specially formulated for slow release of lactic acid upon hydration. When placed in a contaminated aquifer, HRC stimulates a multi-step process resulting in the degradation of chlorinated solvents and their derivatives. Because of its consistent slow release of hydrogen, HRC stimulates rapid and complete dechlorination of chlorinated solvents resulting in non-toxic end products such as ethene.

HRC will be delivered into the saturated zone via approximately 32 injection points. The injection field includes an array of eight by four injection points, covering an 80-foot by 40-foot area (32,000 square feet). The injection points will have a spacing of 10 feet. The dosing rate

of HRC will be 2.2 pounds of gel HRC per foot of saturated zone per injection point. The target saturated zone is approximately 25 feet, resulting in a total of 55 pounds per injection point and 1,760 pounds for the entire injection field. HRC will be applied to the saturated zone using direct-push hydraulic equipment. A groundwater and subsurface bioprocesses monitoring program will be implemented for a period of two years to verify the efficacy of the organic substrate addition to this site. The monitoring wells include two upgradient wells: MW-14-S1, MW-14-S2, three well near the injection zone: MW-14-D1, MW-14-S3, MW-14-S4, and seven downgradient wells: MW-14-D2, MW-14-D3, MW-14-S5, MW-14-S6, MW-14-S7, MW-14-S8, and MW-14-S9 (see attached Figure 5-1).

The injection activities are expected to start on July 8, 2002. Any potential adverse water quality impacts that may result will be localized, of short-term duration, and will not impact any existing or prospective uses of groundwater. Groundwater quality will be monitored to verify no long-term adverse impact to water quality. There may be small increases associated with soluble gases such as methane, ethane, ethene, and carbon dioxide.