

Initial Study/Checklist And Mitigated Negative Declaration

Prepared for and by

**North Coast Regional
Water Quality Control Board**

**Union Pacific Railroad
Former West Coast Metals Facility
99 Frances Street
Santa Rosa, California
Sonoma County**

In-Situ Treatment of Contaminated Soil and Groundwater

February 28, 2008

**North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403**

Initial Study/Checklist and Mitigated Negative Declaration

This Initial Study/Checklist and Mitigated Negative Declaration has been prepared in accordance with Public Resources Code section 21080, and title 14, sections 15070 and 15071 of the California Code of Regulations. The Mitigated Negative Declaration is proposed for adoption at a meeting of the California Regional Water Quality Control Board, North Coast Region, on April 24, 2008.

Project Title: In-Situ Treatment of Contaminated Soil and Groundwater

Project Location/Address: Former West Coast Metals Facility, 99 Frances Street, Santa Rosa, California, Sonoma County.

Lead Agency: California Regional Water Quality Control Board, North Coast Region, 5550 Skylane Boulevard, Suite A, Santa Rosa, CA 95403

Decision Making Body: California Regional Water Quality Control Board, North Coast Region

Project Applicant: Union Pacific Railroad, 1408 Middle Harbor Road, Oakland, California 94607

Project Description: Union Pacific Railroad is proposing to conduct an interim remedial action of enhanced in-situ bioremediation to promote reductive dechlorination and thereby remediating soil and groundwater contaminated with chlorinated volatile organic compounds (CVOCs).

During the reductive dechlorination treatment process, a food source is provided for the existing microorganisms in the aquifer. The microorganisms consume the food substances and donate hydrogen electrons in the course of their metabolism. The microorganisms use the CVOCs (such as TCE) as electron acceptors. During this process, the parent compounds break down to the more toxic intermediary CVOC (i.e., vinyl chloride). However, this is temporary and the dechlorination of vinyl chloride will continue to occur with further breakdown to non-toxic end products (e.g., carbon dioxide, chloride, and water).

Enhanced in-situ bioremediation dechlorination typically involves the addition of an organic food-grade substrate to supply the subsurface with hydrogen. There are several organic substrates which can be naturally degraded and fermented in the subsurface that result in the generation of hydrogen. Examples of common organic food-grade substrates include molasses, whey, and Hydrogen Releasing Compound.

The project applicant proposes to initially inject an organic food-grade substrate to the subsurface by a direct push rig into twenty two borings spaced fifteen feet apart along a 300 foot transect. Approximately 11,000 gallons of diluted food-grade organic substrate will be injected in to a total of twenty injection points 25-40 feet below ground surface (bgs) and 1,000 gallons of solution will be injected into two injection points 45-65 feet bgs. Proposed initial injection locations are focused in the identified source areas. Based on the results of the initial treatment, the future injections of organic food-grade substrate may be altered or modified to achieve optimal results or expanded to other areas within the site. This document analyzes potential environmental impacts from injections throughout the Site and for any minor modification to enhance the performance of the technology. Groundwater and soil characteristics are the same or similar in the project area, and therefore impacts are expected to be the same for additional injections. More details of the proposed project are provided in the report of waste discharge (ROWD) dated May 15, 2007, August 27, 2007, and January 7, 2008. The ROWD also includes a contingency plan in the event that there is increased migration of pollutants off-site.

Since 1991, the site has been investigated to determine the full extent of soil and groundwater contamination. Since 1993, the project applicant has operated a groundwater extraction and treatment system (GETS) under NPDES permits issued by the Regional Water Board. Over the course of the project, the Regional Water Board has issued Waste Discharge Requirements (WDRs), Cleanup and Abatement Orders (CAOs), and Monitoring and Reporting Programs (M&RP).

Need for the Project: The proposed project implementation is intended to address on-site source area contamination. Successful reductive dechlorination in the source area will prevent further migration of CVOCs and move toward restoring the beneficial uses of groundwater. Active remediation is necessary for the protection of human health and the environment.

Surrounding Land Uses and Settings: The project is located at 99 Frances Street, in Santa Rosa, California. The project area is an undeveloped 9.5 acres, enclosed by fencing. Current land use surrounding the site includes mixed commercial, industrial, and residential.

Environmental Finding: The staff of the Regional Water Board has determined, on the basis of the attached Initial Study/Checklist and the documents and sources referenced therein, that the project described above will not have a significant impact on the environment, provided that the mitigation measures identified in the projects applicant's Report of Waste Discharge and the related Initial Study/Checklist are included in the project.

Initial Study/Checklist: The Initial Study/Checklist is attached. For more information call Colleen Hunt at (707) 576-2831.

Mitigation Measures: The mitigation measures are included in the attached Initial Study/Checklist and will become enforceable conditions of approval of waste discharge requirements for the project.

Permits Required:

Union Pacific Railroad must comply with regulatory and permitting requirements including California State Water Resources Control Board Resolutions 92-49 and 68-16; title 27, California Code of Regulations; and any local, state and federal permitting requirements.

A Waste Discharge Requirements Order will be required to proceed with the project. The draft Waste Discharge Requirements Order No. R1-2008-0033 will be considered for adoption at a Regional Water Board meeting to be held on April 24, 2008. In addition, a Monitoring and Reporting Program included as part of the Waste Discharge Requirements will also be required to proceed with the project. The Waste Discharge Requirements allow for future in-site enhanced bioremediation using an organic, food-grade substrate as long as a technically sound workplan is received, reviewed, and approved by the Executive Officer. The injections are required to be controlled on the Site in accordance with the Waste Discharge Requirements.

Permits from the Sonoma County Environmental Health Department are required for installing a groundwater monitoring well or for drilling soil borings.

Initial Study/Checklist

The attached checklist is taken from Appendix G of the State CEQA Guidelines. For each item, one of four responses is given:

No Impact: The project will not have the impact described.

Less Than Significant Impact: The project will have the impact described, but the impact will not be significant. Mitigation is not required, although the project applicant may choose to include mitigation measures to reduce the impacts.

Potentially Significant Unless Impacted: The project will have the impact described and the impact will be significant. One or more mitigation measures have been identified that will reduce the impact to a less than significant level.

Potentially Significant Impact: The project may have the impact described, and the impact is significant. The impact cannot be reduced to a less than significant level by incorporating mitigation measures. An environmental impact report must be prepared for this project.

Each question on the checklist was answered by evaluating the project as proposed in the Report of Waste Discharge, that is, without considering the effect of any added mitigation measures. As proposed in the Report of Waste Discharge, and as reflected in the proposed Waste Discharge Requirements, the project includes various constraints and conditions which reduce all potentially significant impacts to a level that is less than significant. The checklist includes a discussion of the impacts and mitigation measures that have been identified. Sources used in this Initial Study/Checklist are numbered and listed beginning on page 27 of the Checklist. Union Pacific Railroad has agreed to obtain all necessary permits.