

EXECUTIVE OFFICER'S SUMMARY REPORT  
8:30 a.m., January 29, 2009  
David C. Joseph Hearing Room  
5550 Skylane Boulevard, Suite A  
Santa Rosa, California

Item: 3

Subject: Public Hearing to Consider Adoption of Waste Discharge Requirements Order No. R1-2009-0001 for In-Situ Groundwater Treatment and a Mitigated Negative Declaration and Environmental Checklist for the Former Remco Hydraulics Facility, 934 South Main Street, Willits, Mendocino County.

### **Background**

The Remco Hydraulics Facility (Remco) is a former machine shop and chrome plating facility located at 934 South Main Street in Willits, California (Figure 1\*). Remco began operations as a machine shop in 1945. Chrome plating operations began around 1963 and ceased in 1995.

Metal cleaning solvents and other petroleum-based products such as cutting oils were used in the operation of the machine shop. Chrome plating operations required the use of high strength hexavalent chromium solutions, and solvents for degreasing purposes. The plating operations included the use of two horizontal chrome plating tanks, and five vertical tanks. Faulty design of tanks and chemical handling systems, coupled with spills, leaks, and unpermitted waste disposal activities over the operational period of the facility resulted in hexavalent chromium, volatile organic compounds (VOCs) and petroleum hydrocarbon contamination of soil and groundwater. VOCs are the predominant contaminants in groundwater at the site.

On December 10, 1996, the City of Willits filed a suit in Federal Court against Remco and the previous owners, seeking abatement of imminent endangerment pursuant to provisions of the federal Resource Conservation and Recovery Act (RCRA). The outcome was a negotiated settlement (Consent Decree) between the City of Willits, Remco Hydraulics, Inc., M-C Industries, Inc., Pneumo Abex Corporation, and Whitman Corporation. The Regional Water Board is not a party to the Consent Decree.

A final Consent Decree, Final Order, and Final Judgment (Case No. C-96-0283 FMS) established the Willits Environmental Remediation Trust, and was entered by the federal district court on August 22, 1997. Through this Consent Decree, the Willits Environmental Remediation Trust (WERT) acquired title to the Remco property. The purpose of the WERT is to design and implement projects to cleanup and abate the effects of soil and groundwater contamination at the Remco site, on behalf of the

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\* Figures are attachments to the proposed Waste Discharge Requirements

responsible parties, as directed by the Court and as directed by the Regional Water Board's Cleanup and Abatement Order No. 99-55. As part of its compliance with the judicial order and the Regional Water Board's enforcement action, the WERT is proposing an Interim Remedial Action (IRA) to dechlorinate VOCs in groundwater.

The efficacy of the proposed project was demonstrated in a pilot study conducted in 2000/2001 (*Final Post-Injection Report on Pilot Study of In-Situ Chromium Reduction, Former Remco Hydraulics, Inc., Facility, Willits, California*), and an *Interim Remedial Action (IRA) to Reduce Hexavalent Chromium* in 2003. The pilot study and IRA demonstrated the effectiveness of reducing hexavalent chromium using molasses and found that the molasses also enhanced the dechlorination of VOCs. In addition, another pilot study was conducted during 2003 on the west side of the plant that involved injections of molasses to groundwater in one area, and soy oil in another area to evaluate the effectiveness of dechlorinating VOCs. The results of the study showed reductions in parent compounds of VOCs, and increases in daughter (breakdown) products. Most importantly, the dechlorination is continuing beyond the daughter products to ethenes and ethanes (Figure 3). No significant adverse environmental effects were found to result from that effort based on air and water monitoring and related reporting requirements.

### **Project Description**

The proposed project consists of an interim remedial action designed to dechlorinate VOCs in-situ (in-place), using a carbohydrate solution of organic molasses or emulsified oil with a vitamin supplement and pH buffer (hereinafter referred to as reducing agents). The WERT is proposing to inject the reducing agents into shallow groundwater initially at five identified locations or areas on the site, and based on its effectiveness, may expand to other areas within the Site (Figure 2). The Site includes Assessor Parcel Nos. APN 006-170-X32, APN 006-170-01, APN 006-170-02, APN 006-170-03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, and 30. This Mitigated Negative Declaration and Environmental Checklist and the proposed Waste Discharge Requirements regulate and evaluate the reducing agent injections to enhance cleanup of shallow groundwater at the Site.

The five initial locations include injection points in the A-zone to 20 feet below ground surface. The treatment areas are described in the Report of Waste Discharge dated August 25, 2008. For additional injections at the Site, the following items shall be submitted: a) a workplan proposal to the Executive Officer for review and concurrence, b) a proposed groundwater monitoring program; c) a revised contingency plan, and d) a 30-day notification and comment period to the public and all involved agencies. If the Executive Officer finds no new significant impacts or issues, the Executive Officer may concur with the reinjection proposal. The discharger may then perform additional injections to complete remediation of the VOC contaminated groundwater in the A-zone.

The VOC treatment process is to provide a food source for the existing microorganisms in the aquifer. The microorganisms consume the food substances and donate electrons in the course of their metabolism. Once the electron acceptors are depleted, the

microorganisms use the chlorinated VOCs as electron acceptors. Sufficient food source is needed over a period of time to complete the dechlorination of chlorinated VOCs to benign breakdown products like carbon dioxide and water. Therefore, more than one injection may be necessary to provide a sufficient food source to complete the dechlorination process.

The WERT has indicated that the injection of reducing agents may temporarily mobilize iron, manganese, arsenic, and/or antimony. In addition, the injection will temporarily create an increase in the concentration of vinyl chloride in the injection areas. Breakdown products from treatment of VOCs were observed in the 2000/2001 Pilot Study as well as the 2003 *Interim Remedial Action to Reduce Hexavalent Chromium*. The *Interim Remedial Action to Reduce Hexavalent Chromium* mobilized arsenic in one groundwater monitoring well located on the east side of the property. Several groundwater extraction wells were installed to control the migration of arsenic off-site. The extraction system was effective in preventing the migration of arsenic off-site. Since that time, arsenic concentrations in this one well are at background concentrations of <5 ug/l (parts per billion).

Because of the potential to mobilize metals and generate vinyl chloride as part of the dechlorination process, a contingency plan is proposed. The contingency plan consists of sampling groundwater monitoring wells located within the injection areas, downgradient of the injection areas, and in contingency wells located near the property boundary. If mobilized metals and/or vinyl chloride threatens to migrate off of the Site, groundwater extraction wells located along the property boundary will be connected to the existing groundwater treatment system and pumped to control off-site migration. If additional injections are proposed in other areas of the Site where the existing monitoring program and contingency plan may not fully address, the discharger is required to submit a revised monitoring program and contingency plan. The revised monitoring program and contingency plan will identify the groundwater monitoring wells that will be sampled, the contingency wells to control off-site migration, and could include the proposal for drilling of additional extraction wells, if needed. The extraction wells can be drilled and connected to the existing treatment system within a short period of time. The monitoring program and contingency plan to prevent off-site migration are included as part of the Waste Discharge Requirements (WDRs).

### **Initial Study/Checklist and Mitigated Negative Declaration**

Staff prepared and circulated for comment an Initial Study/Checklist and Mitigated Negative Declaration for the in-situ treatment of VOCs in groundwater. It was prepared in accordance with title 14, California Code of Regulations, Section 15063.

Staff has determined, on the basis of the Initial Study/Checklist and the documents and sources referenced therein, that the project will not have a significant adverse impact on the environment, provided that the mitigation measures identified in the project applicant's Report of Waste Discharge (ROWD) and the related Initial Study/Checklist are included in the project. Staff has determined that the proposed project will have a

significant beneficial effect on the environment, and is necessary to move the site towards compliance with Cleanup and Abatement Order No. 99-55.

### **Public Comments**

This item was originally scheduled for Regional Water Board consideration at its March 6, 2008 meeting. The City of Willits requested additional time to review the proposed project, and the March 6, 2008 public hearing was cancelled and rescheduled to June 12, 2008. The public comment period was extended from February 20, 2008 to April 30, 2008. On June 5, 2008 and on June 10, 2008, substantial public comments were received before the June 12, 2008 public hearing. The discharger concurrently proposed modifications to the project, and the public hearing was cancelled. Following submittal of a revised ROWD dated August 25, 2008, the public hearing was rescheduled to January 29, 2009. Prior to circulation of the draft WDRs to the State clearinghouse on December 3, 2008, the June 12, 2008 draft permit was revised in consideration of the August 25, 2008 revised ROWD and previously submitted public comments. Additional public comments were received during the December 3, 2008 through January 5, 2009 comment period, but have not raised any significant issues resulting in modifications to the draft WDRs. A copy of the public comments received as well as staff's responses are attached to the agenda package.

**PRELIMINARY STAFF  
RECOMMENDATION:**

Adopt Waste Discharge Requirements Order No. R1-2009-0001 for the In-situ Groundwater Treatment, including the Mitigated Negative Declaration and Environmental Checklist.