California Regional Water Quality Control Board
North Coast Region

RESOLUTION NO. R1-2003-084

APPROVING THE INITIAL STUDY/CHECKLIST
AND ADOPTING A NEGATIVE DECLARATION FOR
IN-SITU HEXAVALENT CHROMIUM SOIL AND
GROUNDWATER TREATMENT

FOR

WILLITS ENVIRONMENTAL REMEDIATION TRUST
Former Remco Hydraulics Site
934 South Main Street
Willits, California

Mendocino County

WHEREAS, the California Regional Water Quality Control Board, North Coast Region (hereinafter the Regional Water Board) finds that:

1. California Water Code (CWC) section 13260(a)(1) requires that any person discharging wastes, or proposing to discharge wastes other than into a community wastewater collection system, which could affect the quality of the waters of the State, shall file a report of waste discharge (ROWD) with the Regional Water Quality Control Board exercising jurisdiction in the area, and that Regional Board shall then prescribe requirements for the discharge or proposed discharge of wastes.

2. The Willits Environmental Remediation Trust (hereafter Discharger) has filed a Report of Waste Discharge and applied for Waste Discharge Requirements to use a solution of molasses and water to remediate hexavalent chromium contamination in soil and groundwater and volatile organic compounds (VOC) contamination in groundwater.

3. The Discharger owns the former Remco Hydraulics Facility located at 934 South Main Street in Willits, California (site). The site encompasses an area of approximately seven acres, and the facility was used as a machine shop and chrome plating facility.

4. Soil and groundwater beneath the site is contaminated with volatile organic compounds (VOCs) including tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane, and their breakdown products; petroleum hydrocarbons; and hexavalent chromium.

5. The site is the subject of a Consent Decree, Final Order, and Final Judgment (Case No. C-96-0283 FMS) entered by the Federal District Court for the Northern District of California on August 22, 1997; and various North Coast Regional Water Quality Control Board orders, including the latest cleanup and abatement order, CAO 99-55. The Discharger is required to conduct cleanup activities on the site to comply with these judicial and enforcement orders.

6. Under the Report of Waste Discharge described in paragraph two (2) above, and in the documents referenced in paragraph nine (9) below, in order to partially comply with the orders described in paragraph five (5) above, the Discharger proposes to conduct remediation activities to reduce contamination at the site. The Discharger will create an onsite localized reducing condition in groundwater by injecting a mixture of molasses and water into the subsurface to facilitate reducing hexavalent chromium to trivalent chromium and enhance biodegradation of VOCs by reductive dechlorination. Groundwater quality monitoring will continue to evaluate the affects of reducing hexavalent chromium and rate of reductive dechlorination of the VOCs within the treatment area.

7. Groundwater quality within the remediation area will be monitored through a Monitoring and Reporting Program Order No. R1-2003-085, and groundwater quality across the entire site will be monitored by a comprehensive groundwater monitoring well network.

8. The direction of groundwater flow is to the east-northeast, while in the lower aquifers a more north-northeasterly trend exists. The Discharger shall monitor the presence and concentration of injection solution and contaminants and evaluate flow conditions and any potential for movement of contaminants outside the remediation area. As specified in the Waste Discharge Requirements and the Negative Declaration, the Discharger will initiate a contingency plan, if necessary, should contaminants or the injected solution migrate to the contingency well area.

9. Details of the remediation and methods are included in a documents titled *Interim Remedial Action Work Plan for Hexavalent Chromium-Affected Groundwater*, dated March 12, 2003 and *Addendum to Interim Remedial Action Work Plan for Hexavalent Chromium Affected Groundwater* dated June 18, 2003, August 20, 2003, August 22, 2003, August 28, 2003, and September 3, 2003, prepared by Geomatrix Consultants.

10. A pilot study was conducted at the site in 2000/2001 and the results reported in a document titled *Final Post-Injection Report on Pilot Study of In-Situ Chromium Reduction, Former Remco Hydraulics, Inc., Facility, Willits, California*. The pilot study involved injection of molasses to groundwater in one area, and calcium polysulfide to groundwater in another area, in accordance with Waste Discharge Requirements Order No. R1-2000-54. The studies were performed to evaluate the effectiveness of reducing concentrations of hexavalent chromium, dechlorinating volatile organic compounds as well as to monitor any unwanted effects from the

release of the compounds in the subsurface. The results of the study showed dramatic reductions in hexavalent chromium levels (in general, to laboratory detection limits) for the molasses while the calcium polysulfide treatment was not nearly as effective. No significant adverse environmental effects were found to result from that project, based on air and water monitoring, related reporting requirements, and follow-up staff work.

11. Concerns were raised during the pilot study that the release of molasses and calcium polysulfide to groundwater would cause generation of hydrogen sulfide that could present adverse health related exposures in the vicinity of the pilot study. As demonstrated by a review of the air quality monitoring data generated during and after the project, as well as on-the-ground follow-up by Regional Water Board staff, no hydrogen sulfide was generated in ambient air at unsafe levels, and no adverse health exposures occurred.

12. The injection of a mixture of molasses and water in the soil and groundwater is a discharge of waste subject to section 13260 of the California Water Code. However, the discharge of the molasses is intended to provide an environmentally beneficial and efficient remediation of hexavalent chromium and VOC-contaminated groundwater, and is anticipated to reduce cleanup time and costs compared to other traditional cleanup remedies such as pump and treat.

13. The Water Quality Control Plan (Basin Plan) for the North Coast Region designates the beneficial uses of groundwater as municipal and domestic supply, industrial process supply, industrial service supply, and agricultural supply.

14. The permitted discharge is consistent with the anti-degradation provisions of State Water Resources Control Board Resolution No. 68-16 (Anti-degradation Policy). The discharge may result in some localized mobilization of iron, manganese, arsenic, antimony, acetone, and methyl ethyl ketone (MEK) at the site, but this is not anticipated to result in any long-term groundwater degradation. To the contrary, the discharge is intended, and is anticipated, to produce an improvement to groundwater quality.

15. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations. The Regional Water Board staff held a public meeting in Willits on July 24, 2003, to present the proposed project, including draft waste discharge requirements, Initial Study/Checklist and Negative Declaration, and to accept public comments. The Regional Water Board, in a public meeting on September 24, 2003, heard and considered all comments pertaining to the discharge and to the tentative requirements.

16. This Regional Water Board has assumed lead agency role for this project under the California Environmental Quality Act (Public Resources Code section 21000 et seq.) and has prepared an Initial Study/Checklist in accordance with title 14, California Code of Regulations, section 15063, titled Guidelines for Implementation of the California Environmental Quality Act. Based on the Initial Study/Checklist, Regional Water Board staff prepared a Negative Declaration indicating that the project will not have a significant adverse effect on the environment.

17. Copies of the Initial Study/Checklist and proposed Negative Declaration were transmitted to the State Clearinghouse, all agencies and interested parties.

18. The Regional Water Board has reviewed the Initial Study/Checklist and Negative Declaration concerning this Resolution prepared by staff, in compliance with the California Environmental Quality Act (Public Resources Code section 21000 et seq.). The Regional Water Board concurs with the staff findings that a Negative Declaration should be adopted. The Initial Study/Checklist and Negative Declaration were circulated for public review and comment.

19. Regional Water Board staff prepared an Addendum to the Initial Study/Checklist and Negative Declaration to support and modify that document's discussion of the project description and cumulative impacts. The Regional Water Board has considered the Addendum as required by the California Environmental Quality Act and its implementing regulations.

20. All substantive comments received have been addressed by Regional Water Board staff. The Regional Water Board considered all testimony and evidence at a public hearing held on September 24, 2003, at the David C. Joseph Hearing Room located at the Regional Water Board office, 5550 Skylane Boulevard, Suite A, Santa Rosa, California, and good cause was found to approve the Initial Study/Checklist and adopt a Negative Declaration. After consideration of the written and oral comments, and staff's professional review and advice, the Regional Water Board finds that there is no evidence in the record to support a fair argument that there may be adverse environmental impacts resulting from the proposed discharge.

THEREFORE, BE IT RESOLVED that the Regional Water Board:

1. Adopts the Initial Study/Checklist and Negative Declaration as modified by the Addendum, and directs the Executive Officer to file a Notice of Determination with the State Clearinghouse within 30 days as required by the California Code of Regulations.

2. Directs that a copy of this Resolution shall be forwarded to the State Water Resources Control Board and all interested parties.

3. Directs that the discharge of the molasses solution into the soil and groundwater shall conform with all the requirements, conditions, and provisions set forth in *A. "Discharge Prohibitions" and B. "Discharge Specifications"* of the Order No. R1-2003-085. Groundwater and air monitoring shall conform to Monitoring and Reporting Program No. R1-2003-085.

Certification

I, Catherine E. Kuhlman, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, North Coast Region, on September 24, 2003.

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Catherine E. Kuhlman
Executive Officer

(RemcoResolution)