



California Regional Water Quality Control Board

Los Angeles Region



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December 19, 2003

Mr. Tony Patton, Manager
Ventura County General Services Agency
Fleet Services Division
664 El Rio Drive
Oxnard, CA 93030

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
CLAIM NO. 7000 0520 0020 1693 5510

Dear Mr. Patton:

GENERAL WASTE DISCHARGE REQUIREMENTS FOR INJECTION/DRIP-FEED OF HYDROGEN PEROXIDE WITH FENTON'S REAGENT AT A PETROLEUM HYDROCARBON FUEL AND/OR VOLATILE ORGANIC COMPOUND IMPACTED SITE – VENTURA COUNTY OJAI MAINTENANCE YARD, 1768 MARICOPA HIGHWAY, OJAI, CALIFORNIA (FILE NO. 03-130, CI NO. 8664)

We have completed our review of your application for Waste Discharge Requirements to inject/drip-feed hydrogen peroxide with Fenton's reagent into groundwater monitoring wells at the above referenced site for the remediation of petroleum hydrocarbon impacted groundwater.

Ventura County General Services Agency, Fleet Services Division (hereafter Discharger) owns and operates Ventura County Ojai Maintenance Yard which is located at 1768 Maricopa Highway in Ojai, California (Plate1). For the past seven years, the Discharger has been aquifer testing and performing numerous feasibility studies on the extraction of contaminants from soil and groundwater. The total petroleum hydrocarbon (TPH) contaminants include gasoline, benzene, toluene, ethyl benzene, methyl-tertiary-butyl-ether, and xylene. A total of 30,724 gallons of contaminated groundwater has been extracted and treated on-site with granular activated carbon and discharged to Baker holding tanks, until it could be hauled to the Santa Clara wastewater treatment plant for proper disposal.

The Discharger has indicated that remediation will be conducted with a variety of treatment methods such as air sparging, and soil vapor extraction and venting. The Discharger intends to inject hydrogen peroxide with Fenton's reagent into well MW-17. The purpose of injecting hydrogen peroxide with Fenton's reagent at this well is to oxidize the petroleum hydrocarbon contaminants to enhance groundwater remediation.

Chemical oxidation using hydrogen peroxide with Fenton's reagent is a well-known method for producing hydroxyl radicals, which are very effective oxidizing agents, breaking hydrocarbon bonds and yielding carbon dioxide and water. The technology is frequently used to remediate organic-contaminated soils and groundwater. The Discharger intends to first inject hydrogen peroxide with Fenton's reagent into one well (MW-17) which is located in Area III, south of El Roblar Drive, at the furthest extent of the contaminant plume (Plate 2 and 3) perimeter wells

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(MW-16A, MW-20 and MW-23) will be used to monitor remedial performance. If the results indicate improvement in groundwater quality, the Discharger will continue the treatment at additional wells. The concentration of the hydrogen peroxide with Fenton's reagent will range from 6 to 10 %. Injection is planned weekly for a period of 9 to 10 weeks at an injection rate of .5 gallons per minute (gpm).

If the pilot test is determined to be successful, and a full-scale treatment system is proposed for Site clean up, then the following is required:

- a. A final Remedial Action Plan is to be submitted to the Regional Board for review and approval prior to its implementation; and
- b. A revised Report of Waste Discharge (ROWD) is to be submitted for the full-scale treatment system.

Regional Board staff will review the revised RoWD to determine whether it is complete. The Monitoring and Reporting Program (MRP) will be revised to incorporate the approved full-scale treatment program.

Regional Board staff is cognizant that the hydrogen peroxide with Fenton's reagent causes a strongly exothermic chemical reaction. The Discharger shall use extreme care while injecting hydrogen peroxide and Fenton's reagent into the wells. The Discharger shall continuously monitor and record on field logs injection/drip rates, temperature, pH, and dissolved oxygen.

As a result of site assessment activities and pilot testing, an Addendum to the Corrective Action Plan (CAP)/ Remedial Design (RD) was submitted on February 21, 2003. On March 24, 2003, the Ventura County Environmental Health Division approved both documents.

The Discharger also applied for a general National Pollutant Discharge Elimination System (NPDES) permit. The NPDES General Permitting Section received the application on August 8, 2003. The Discharger intends a full-scale two-phase groundwater extraction (TVGE) program. After approval of the NPDES application, the Discharger will initiate the discharge of the treated groundwater to the storm drains and thence to the Ventura River. No discharge to the storm drains is allowed until the NPDES permit is obtained.

Regional Board staff has reviewed the information provided and has determined that the proposed discharge meets the conditions specified in Order No. R4-2002-0030, "*General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites*," adopted by this Regional Board on January 24, 2002.

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2002-0030 (Series No. 038) and Monitoring and Reporting Program (MRP) No. CI-8664.

You are required to implement the monitoring program on the effective date of this enrollment (December 19, 2003) under Regional Board Order No. R4-2002-0030. All monitoring reports should be sent to the Regional Board, ATTN: Information Technology Unit.

Mr. Tony Patton
Ventura County General Services Agency
Fleet Service Division

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When submitting monitoring or technical reports to the Regional Board per these requirements, include a reference to "Compliance File No. CI-8664", which will assure that the reports are directed to the appropriate file and staff. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending a copy of Order No. R4-2002-0030 only to the applicant. A copy of the Order will be furnished to anyone who requests it. If you have any additional questions, please contact Ms. Toni Callaway at (213) 620-2271 or Dr. Kwang-il Lee at (213) 620-2269.

Sincerely,

Dennis A. Dickerson
Executive Officer

Enclosures:

1. Board Order No. R4-2002-0030
2. Monitoring and Reporting Program No. CI-8664
3. Standard Provisions applicable to Waste Discharge Requirements (addressee only)

cc: Mr. Robert Sams, Office of Chief Counsel, State Water Resources Control Board
Mr. Michael Lauffer, Office of Chief Counsel, State Water Resources Control Board
Mr. James Evans, Ventura County Environmental Health Division, Liquid Waste
Ms. Melinda Talent, Ventura County Environmental Health Division, Land Use Unit
Mr. K. Craig Klein, LUFT Program, Ventura County Environmental Health Division
Mr. J. F. Fakhoury, Ventura County Public Works
Mr. George Ehrhardt, City of Thousand Oaks
Ms. Carol B. Shestag, Applied Environmental Technologies, Inc.

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