

## INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2011-XXXX  
TRACK FOUR, INC., AND MERCK AND COMPANY, INC.  
FORMER BALTIMORE AIRCOIL COMPANY FACILITY, MERCED  
FULL-SCALE IN-SITU DEEP SOIL REMEDIATION  
MERCED COUNTY

The 40.5-acre former Baltimore Aircoil Company (BAC) facility is located at 3058 Beachwood Drive, two miles northwest of Merced. The former BAC facility was used from 1961 to 1994 for cooling tower fabrication. In 1969, a wood treatment system, which used treatment solutions containing arsenic, copper, and chromium, was installed at the facility. During operations of the wood treatment system, waste treatment solution was discharged to soils and groundwater at the facility, creating a condition of pollution or nuisance. In 1975, BAC, then a subsidiary of Merck & Co., Inc. (Merck), purchased the cooling tower fabrication operation. Merck sold BAC to Amsted Industries, Inc. (Amsted), in 1985. Amsted ceased cooling tower manufacturing operations and closed the facility in February 1994. Merck and Company, Inc., Amsted Industries, Inc., and Track Four, Inc. are collectively the Dischargers.

Hexavalent chromium, the form of chromium found beneath the site, is of concern because it is a carcinogen and can cause adverse health effects. Hexavalent chromium is soluble in groundwater.

To the extent feasible, the discharger has excavated and properly disposed of soils and materials at the site which contained hexavalent chromium contamination. Since 1994, the discharger also operated a groundwater extraction and treatment system which treated over 220 million gallons of water and removed over 5,400 pounds of chromium.

In 2008, in accordance with Waste Discharge Requirements issued by the Central Valley Regional Water Quality Control Board, the Dischargers began implementing a new groundwater cleanup method that converts the soluble hexavalent chromium to the insoluble trivalent form. The method uses injection into the groundwater of dilute alcohol, which stimulates biological and chemical processes that permanently fix the chromium to the soil and eliminate the potential to dissolve in groundwater. It is anticipated that full-scale groundwater cleanup will be completed in 2011.

Soil located in the former wood treatment area, beneath the previous excavations, at depths between 15 feet and 40 feet below ground surface, remain contaminated with hexavalent chromium. That soil contains concentrations of leachable hexavalent chromium that could potentially migrate to, and impact groundwater. The Dischargers have conducted studies which show that this deeper soil could also be effectively remediated by injecting a dilute mix of alcohol and corn syrup.

These Waste Discharge Requirements are being issued for the full-scale implementation of in situ treatment for the deeper soil in the former wood treatment area. The first phase of the project involves installing 20 injection wells that target the perimeter of the deep soil treatment area. The second phase will involve installation of 12 injection wells that target

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the core of the deep soil treatment area. Most of injection wells will be installed as dual screened wells to separately target different depth intervals. An optional third phase may be implemented if there are areas that require more treatment.

During full-scale deep soil in situ treatment implementation, groundwater in specified monitoring wells will be monitored for total organic carbon, total dissolved solids, total chromium, total arsenic, and sulfate by laboratory analysis. Electrical conductivity, pH, temperature, turbidity, and water level will be measured in the field. Monitoring specific to the full-scale treatment implementation will begin prior to amendment injection, and will continue monthly during injections, quarterly for one year following injections and semiannually thereafter if necessary.

Temporal, short-term degradation of the underlying groundwater by corn syrup, methanol or ferrous sulfate injection may occur in a limited portion of the aquifer near the injection points. Such degradation is consistent with Resolution 68-16 since (a) the purpose of the discharge is to implement the cleanup of groundwater pollution and such remediation will benefit the people of the State; (b) this Order requires use of best practicable treatment, including adequate monitoring and contingency plans to assure protection of water quality; and (c) this Order does not allow discharges of waste to exceed water quality objectives other than those temporarily permitted by these WDRs.

The *Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Fourth Edition* (Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin. The beneficial uses for the groundwater at the site are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

The proposed Order prohibits the discharge of wastes in any manner other than that described in the Findings of the Order, including prohibiting discharge of waste to surface waters or discharge of hazardous waste.

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