

INFORMATION SHEET

ORDER NO.
SAN JOAQUIN COUNTY DEPARTMENT OF PUBLIC WORKS
HARNEY LANE LANDFILL
SAN JOAQUIN COUNTY

Background

The Harney Lane Landfill is a closed, Class III landfill on East Harney Lane approximately six miles east of Lodi. The landfill is on a 127-acre site and includes two unlined landfill units -- Landfill 1 (97-acres) and Landfill 2 (15-acres), and associated precipitation and drainage controls, landfill gas (LFG) controls, monitoring wells, access roads, and other facilities. The landfill operated from 1948 to 1991, accepting primarily household wastes. The landfill was previously owned and operated by the City of Lodi, which sold the facility to the Discharger in the mid-1980s. In 1994, both landfill units were closed (i.e., graded and clay capped) in accordance with Chapter 15 (now Title 27) regulations. Approximately 7 million cubic yards of waste, including household waste, commercial refuse, construction debris, and agricultural waste, are estimated to be in place at the facility. The maximum thicknesses of waste in the landfill units are estimated to be at least 80 feet in LF-1 and 50 feet in LF-2, respectively.

In 1991, the Discharger installed a LFG monitoring system along the site perimeter. The system consists of 12 LFG monitoring wells with nested probes screened in the upper, intermediate, and lower portions of the unsaturated zone. Subsequent LFG monitoring showed high concentrations of methane and the presence of several volatile organic compounds (VOCs) in LFG, including tetrachloroethene (PCE), which has also been detected in groundwater at the site.

Groundwater

The average depth to groundwater at the site is about 127 feet bgs (-36 feet MSL) and the ground water gradient is typically about 0.003 feet/foot to the south-southwest. The upper water-bearing zone occurs in alluvial deposits of the Victor formation, which consist of laterally discontinuous layers of gravel, sand, silt and clay. Four groundwater monitoring wells, including one upgradient (MW-1), two cross-gradient (MWs-2 and 4), and one downgradient (MW-3), were installed at the site in 1987.

Low concentrations of various volatile organic compounds (VOCs) have been historically detected in groundwater at the site, including benzene, PCE, dichlorodifluoromethane (Freon 12), 1,2-dichloropropane, toluene, total xylenes, and trace concentrations of various other VOCs. Most of the VOCs have been detected in cross-gradient well MW-2. Elevated concentrations of general minerals have also been historically detected in groundwater at the site, primarily in downgradient well MW-4.

Closure/Corrective Action

In 1994, both landfill units were closed (i.e., graded and clay capped) with a prescriptive clay cover in accordance with land disposal regulations formerly in the California Code of Regulations (CCR), title 23, chapter 15, division 3; and now in Title 27. Closure of the landfill, including installation of cover and storm water controls, was also intended as a corrective action measure to minimize storm water infiltration into the landfill. These efforts were

targeted at reducing leachate as a source of groundwater impacts. As a further corrective action measure, in 1996, the Discharger installed a landfill gas extraction system in the landfill to control methane and mitigate LFG as a potential source of VOCs in groundwater. The system has since been expanded and presently includes 82 vertical extraction wells at Landfill 1 and 14 vertical extraction wells at Landfill 2

Historical monitoring data for the site generally indicates declining concentrations of VOCs coincident with improvements to the LFG extraction system. Since 2007, the primary VOCs historically detected in groundwater at the site (e.g., PCE, Freon 12, and 1,2-Dichloropropane) have been detected at trace or non-detect levels. In 2008, two VOCs, PCE [0.5 micrograms per liter ($\mu\text{g/L}$)] and benzene (0.7 $\mu\text{g/L}$) were sporadically detected above their California Public Health Goals (0.06 $\mu\text{g/L}$ and 0.15 $\mu\text{g/L}$), but below their respective maximum contaminant levels (MCLs) of 5 $\mu\text{g/L}$ and 1 $\mu\text{g/L}$, respectively. Elevated concentrations of general minerals, including chloride (120 mg/L) and total dissolved solids (TDS, 510 mg/L) also continue to be detected in groundwater.

Revised WDRs

These revised WDRs prescribe updated requirements for postclosure maintenance and corrective action monitoring. To improve background monitoring, the WDRs require that the Discharger submit (by 15 June 2009) a work plan for establishing additional background wells at the site. The WDRs also require that (by 30 July 2009) the Discharger submit for approval an updated postclosure maintenance plan, including updated cost estimates for postclosure maintenance and corrective action financial assurances, as necessary. The monitoring and reporting program (MRP) in the WDRs requires semiannual groundwater monitoring for representative parameters, and monitoring every five years for all landfill constituents of concern. The MRP also requires that the Discharger perform semiannual surface water monitoring at the site and maintain coverage under the General Industrial Storm Water Permit. Surface drainage at the site is to South Paddy Creek, tributary to Paddy Creek, Bear Creek, and the San Joaquin River. (JDM)