

## INFORMATION SHEET

ORDER R5-2013-XXXX  
COUNTY OF TULARE  
POSTCLOSURE MAINTENANCE AND CORRECTIVE ACTION  
BALANCE ROCK MUNICIPAL SOLID WASTE LANDFILL  
TULARE COUNTY

The County of Tulare (hereafter Discharger) owns and maintains a municipal solid waste landfill (facility) about 0.5 miles north of the community of Balance Rock in Tulare County.

The California Regional Water Quality Control Board (Central Valley Water Board) adopted Waste Discharge Requirements (WDRs) Order No. R5-01-164 (Order R5-01-164) on 14 June 2001, which classified the waste management unit (Unit) as a Class III landfill as defined in Title 27, California Code of Regulations, section 20005 et seq. (hereafter Title 27), that accepts or accepted municipal solid waste. The proposed Order revises the existing WDRs to provide for postclosure maintenance and to implement a corrective action program.

The 18.16-acre facility contains one existing unlined Unit that covers 1.67 acres. The Discharger does not propose expansion.

The facility is located near the top of a divide between two watersheds on the western flank of the Sierra Nevada Mountain Range approximately 16 miles southeast of the City of Porterville. The facility is underlain by 10 to 30 feet of alluvial deposits, which are underlain by decomposed granite and fractured granite.

The first encountered groundwater occurs within the decomposed granite at depths currently ranging between six and 65 feet below ground surface (bgs) depending on location at the facility. Groundwater elevations range from 4,859 feet MSL to 4,937 feet MSL depending on location at the facility. The groundwater is unconfined. The depth to groundwater fluctuates seasonally as much as 25 feet. All background and detection groundwater monitoring wells are screened in the unconfined groundwater zone.

Unsaturated zone detection monitoring for leachate is not being conducted at the facility. Installing an unsaturated zone monitoring system for leachate (i.e., lysimeters) beneath the Unit at this time would not be practical based on the fact the existing Unit is small (1.67 acres), closed, and has already leaked waste constituents to groundwater.

Volatile organic compounds (VOCs) that are not naturally occurring have been detected in the unconfined groundwater zone along the southern and western Point of Compliance. The VOCs detected in groundwater are benzene, chlorobenzene, vinyl chloride, tetrachloroethylene (PCE), trichloroethylene (TCE), 1,1-dichloroethylene (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), and 1,4-

dichlorobenzene (1,4-DCB). The latest semiannual monitoring report (First Semiannual Monitoring Report, 2012) stated that only chlorobenzene, 1,1-DCA, and cis-1,2-DCE were detected in Point of Compliance groundwater monitoring wells. Inorganic waste constituents detected in Point of Compliance groundwater monitoring wells at concentrations statistically exceeding their respective background concentrations include mercury, arsenic, barium, sodium, selenium, TDS, EC, nitrate, manganese, and magnesium. The latest self-monitoring report (First Semiannual Monitoring Report, 2012) detected several inorganic waste constituents (e.g., arsenic, barium, manganese, iron, and mercury) that statistically exceeded their respective background concentrations. Iron and manganese exceeded their respective Secondary Maximum Contaminant Levels.

An evaluation monitoring program was completed in 20 October 2006. The comingled VOC and inorganic waste constituent plumes were determined to occur immediately adjacent to the Unit's western and southern boundaries. The vertical extent of the VOC plume was determined to be a depth of approximately 137 feet bgs near the southwestern corner of the Unit.

A final engineering feasibility study for a corrective action program (EFS for a CAP) proposal was submitted on 27 March 2009. Central Valley Water Board staff on 6 July 2009, concurred with the Discharger's EFS for a CAP proposal. The EFS for a CAP concluded that the most technically and economically feasible corrective action alternative for VOCs is monitored natural attenuation. The EFS for a CAP concluded that the most technically and economically feasible corrective action alternative for inorganic waste constituents is the injection of calcium polysulfide (CaSx) at three temporary injection points to remediate inorganic waste constituents (soluble mercury and other soluble metals) by converting them into insoluble and immobile solids, and potentially the injection of an oxidizing reagent and/or phosphate binder to stabilize mercury and other metals in groundwater if it is determined that CaSx is unsuccessful in remediation.

The Discharger completed construction of an engineered alternative composite final cover system in October 2003. The final cover system consists of the following: a two-foot thick soil foundation layer; a geosynthetic clay liner, a geosynthetic drainage layer, and a two-foot thick vegetated soil layer. Postclosure maintenance includes inspection, maintenance, and monitoring of the landfill during the postclosure maintenance period, and includes a postclosure maintenance cost estimate for the entire facility.

This order requires full containment of wastes and does not permit degradation of surface water or groundwater. Further, antidegradation analysis is therefore not needed. The discharge is consistent with the antidegradation provisions of State Water Resources Control Board Resolution 68-16.