

## INFORMATION SHEET

ORDER NO R5-2010-XXXX  
COUNTY OF TULARE  
FOR POSTCLOSURE MAINTENANCE AND CORRECTIVE ACTION  
EXETER SOLID WASTE LANDFILL  
TULARE COUNTY

The County of Tulare (hereafter Discharger) owns and maintains a closed municipal solid waste landfill about 3.3 miles south of Exeter. The existing waste management facility (facility) contains one existing unlined waste management unit (Unit) covering 34 acres.

On 11 July 2003, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Order R5-2003-0114, for closure and postclosure maintenance of the Unit. Order R5-2003-0114 classified the facility as a Class III waste disposal facility where a variety of nonhazardous solid waste, including lesser amounts of municipal solid waste, and inert solid waste were previously discharged to the Unit in accordance with Title 27, California Code of Regulations, §20005, et seq. (Title 27). The Discharger closed the existing Unit in accordance with Title 27, in February 2007. The site and waste classification remain the same for this Order. Revised waste discharge requirements are needed to include requirements for postclosure maintenance and corrective action.

The Unit was constructed on a topographically flat region of the San Joaquin Valley. The facility overlies Quaternary-age alluvial deposits from Lewis Creek, which consist of moderately to highly permeable, interbedded fluvial deposits of gravelly-sand, silty-sand, silt, and clay. The measured hydraulic conductivity of the native soils underlying the Unit ranges between  $7 \times 10^{-4}$  and  $5 \times 10^{-5}$  centimeters per second (cm/sec).

Surface drainage is toward Elk Bayou, which is a tributary to the Tule River in the Kaweah Hydrologic Area (558.10) of the Tulare Lake Hydrologic Basin Planning Area. The closest surface water body to the facility is Lewis Creek (intermittent), which passes from east to west along the northern boundary of the facility. The latest available monitoring data indicate that the background surface water quality of Lewis Creek has an electrical conductivity (E.C.) of approximately 450 micromhos per centimeter ( $\mu\text{mhos/cm}$ ), with total dissolved solids (TDS) of approximately 370 milligrams per liter (mg/l). Monitoring has not detected waste constituents in the water within Lewis Creek. The designated beneficial uses of the Tule River, as specified in the Basin Plan, are municipal supply, agricultural supply, industrial service and industrial process supply; recreation-1 and recreation-2, warm fresh water habitat, wildlife habitat, and groundwater recharge.

The facility is in the Kaweah Basin Hydrologic Unit, Detailed Analysis Unit 242. The designated beneficial uses of the groundwater include domestic and municipal water supply, agricultural supply, industrial service and process supply, and recreation-1 and recreation-2.

Three groundwater zones exist beneath the Unit, which from shallowest to deepest are the unconfined, upper semi-confined, and lower semi-confined groundwater zones. Unconfined groundwater (from approximately 64 feet below ground surface (bgs) to 135 feet bgs) flows predominantly to the west, and varies seasonally with periodic flow directions to the southwest and northwest. Unconfined groundwater also flows vertically into the underlying upper semi-confined groundwater zone via water supply wells that serve as conduits and by seepage through the semi-confining layer, especially along the northern side of the landfill where there is an increased sand content. The elevation of unconfined groundwater ranges from approximately 266 to 195 feet above mean sea level (MSL). The unconfined groundwater elevation generally fluctuates between five and seven feet on a seasonal basis. On rare occasions, the depth to unconfined groundwater may fluctuate as much as 20 feet in the northernmost monitoring wells due to heavier than normal storm water flows in Lewis Creek. The upper semi-confined groundwater zone (from approximately 225 feet bgs to 305 feet bgs) flows toward the southwest. The elevation of the upper semi-unconfined groundwater zone ranges from approximately 105 to 135 feet MSL. Information on the groundwater flow direction for the lower semi-confined groundwater zone (below 305 feet bgs or an elevation of 25 feet MSL) is not available.

Background groundwater in the unconfined groundwater zone has an E.C. that ranges from 1,500 to 3,600  $\mu\text{mhos/cm}$  and a TDS concentration that ranges from 1,000 to 2,700 mg/l. Background groundwater in the upper semi-confined groundwater zone has an E.C. that ranges from 1,600 to 1,700  $\mu\text{mhos/cm}$  with a TDS concentration that ranges from 1,000 to 1,100 mg/l. Background water quality data are not available for the lower semi-confined groundwater zone.

Detection monitoring determined that the Unit released waste constituents to groundwater. An evaluation monitoring program determined the nature of the release to consist of several volatile organic compounds (VOCs). Based on frequency of occurrence and concentration level, groundwater has been degraded by the VOCs: tetrachloroethylene (PCE); trichloroethylene (TCE); cis-1,2-dichloroethylene (cis-1,2-DCE); 1,1-dichloroethylene (1,1-DCE); 1,1-dichloroethane (1,1-DCA); dichlorodifluoromethane (CFC-12); 1,2-dichloropropane; and vinyl chloride.

The vertical extent of VOC migration is approximately 294 feet bgs (near the base of the upper semi-confined groundwater zone). The lateral extent of the VOCs in the unconfined groundwater is approximately 1,750 feet west of the Unit and approximately 300 feet south of the Unit. The lateral extent of VOCs in the

upper semi-confined groundwater zone is approximately 1,400 feet west of the Unit and approximately 1,650 feet south of the Unit.

The inorganic waste constituents in groundwater are derived from the olive brine waste water previously discharged to the City of Lindsay and Lindsay Olive Growers olive brine ponds located southeast and west of the Unit. The West Side Brine Ponds are regulated by closure and postclosure Waste Discharge Requirements Order R5-04-0084 and Cleanup and Abatement Order R5-04-0703. The East Side Brine Ponds are regulated by Cleanup and Abatement Order R5-04-0715. Additionally, granite, metagabbro, metasedimentary rock, and ultramafic rock outcrop approximately four miles east of the facility. The alluvium underlying the facility may be derived in part, from the weathering and erosion of some or all of the aforementioned igneous and metamorphic rocks. As a result, inorganic constituent concentrations beneath the facility may be partially due to the alluvium beneath and upgradient of the facility.

The Discharger's proposed corrective action method consists of monitored natural attenuation of the VOC plumes in the unconfined and upper semi-confined groundwater zones and public notification of the presence of VOCs in all water bodies affected by the release. Additionally, the Discharger states that the final cover system and landfill gas extraction will serve as source reduction limiting leachate and landfill gas migration to groundwater. Natural attenuation as a corrective action method relies primarily on the reduction of VOCs in groundwater over time as a result of dispersion, degradation, and possibly sorption. To evaluate the effectiveness of natural attenuation, the Discharger proposed monitoring points within and outside the VOC plumes to evaluate whether the plume boundaries are expanding, shrinking, or remaining static.

The Discharger is required in the revised WDRs to submit an amended report of discharger to establish a corrective action program in accordance with the existing WDRs and §20425(d) of Title 27. The Discharger is also required to submit a report that specifies the corrective action monitoring points for the unconfined and upper semi-confined groundwater zones to evaluate the effectiveness of natural attenuation of VOCs. Additionally, the Discharger is required to evaluate the effectiveness of natural attenuation of VOCs in the unconfined and upper semi-confined groundwater zones on an annual basis and determine whether modifications to the corrective action program are needed to mitigate the VOC plumes. If modifications to the corrective action program are needed, the Discharger is required to submit a report that contains modifications to the corrective action program to mitigate the VOC plumes in the unconfined and upper semi-confined groundwater zones and then implement the modified corrective action plan in accordance with a time schedule.

The Discharger is required by the revised WDRs to conduct postclosure maintenance throughout the postclosure maintenance period in accordance with

the approved postclosure maintenance plans. Postclosure maintenance duties include at a minimum, maintaining: 1) groundwater, surface water, leachate/seep detection monitoring; 2) the structural integrity of the final cover system and effectiveness of containment structures as necessary to correct the effects of settlement, ponding, burrowing rodents, and equipment damage; and 3) the effectiveness of the drainage systems to prevent erosion of the final cover system and promote storm water drainage off of the final cover system.

The facility ceased discharge in 1989. Therefore, the provisions of Title 40, Code of Federal Regulations, Parts 257 and 258, “federal municipal solid waste regulations” or “Subtitle D” do not apply to the Unit.

Since no expansion of operations beyond the original waste footprint has occurred or is proposed, the facility is categorized as an “existing facility” and the action to revise the WDRs for postclosure maintenance and corrective action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code, §21000, et seq., and the CEQA Guidelines, in accordance with §15301 of Title 14, CCR.

This Order requires the Discharger to maintain the integrity and effectiveness of containment structures as necessary to correct the effects of settlement, erosion, or other adverse factors and maintain groundwater, surface water, and leachate monitoring throughout the postclosure maintenance period of the Unit. Additionally, the proposed corrective action program will monitor VOC plumes to determine whether their concentrations remain static, are reducing, or are expanding in the unconfined and upper semi-confined groundwater zones. If the VOC plumes in either the unconfined or upper semi-confined groundwater zones are determined to be expanding, the Discharger will be required to submit an amended engineering feasibility study for a corrective action program that contains alternative remedial methods to monitored natural attenuation to mitigate the expansion of the VOC plume/s. The provisions of Title 27 require that waste be contained to protect the beneficial uses of surface and/or groundwater, and to remediate any release to surface water and/or groundwater. The proposed order does not allow the degradation of surface water or groundwater. Therefore, further antidegradation analysis is not needed.