

## INFORMATION SHEET

ORDER NO.  
FOR CHEVRON USA, INC.  
SECTION 29 IMPOUNDMENTS  
LOST HILLS OIL FIELD  
KERN COUNTY

Chevron USA, Inc. (Discharger), owns and operates eight surface impoundments that receive produced water and treatment backwash water from oil field operations owned by the Discharger in the Lost Hills Oil Field. The impoundments, which have a surface area of approximately 26 acres, are used for the disposal of wastewater by evaporation and percolation. Generally, in excess of 4,000,000 barrels of wastewater annually are discharged to the impoundments. The impoundments are unlined and do not meet the prescriptive construction criteria for surface impoundments as specified in Title 27. The wastewater disposal operation is currently regulated by Waste Discharge Requirements (WDRs), Resolution No. 58-275. The WDRs are outdated and are being updated to reflect Basin Plan policy and current regulations.

The facility lies on Quaternary age lithologic units, which include the Alluvium, Corcoran Clay Equivalent, and the Tulare Formation. Alluvium contains sand, silty sand, silt, and clay beds. Within the Alluvium and overlying the Corcoran Clay Equivalent is a sand layer, the Basal Alluvial Sand (BAS). The Corcoran Clay Equivalent is the lateral equivalent of the Corcoran Clay and consists of predominantly silt and clay. The Tulare Formation is comprised of interbedded clay, silt, and sand.

The Discharger has conducted a detailed hydrogeologic investigation to determine the lateral and vertical extent of wastewater migration and if wastewater is degrading groundwater quality. The Discharger advanced eight borings to depths between 277 and 450 ft to the northeast (downgradient) of the impoundments. Groundwater in the Alluvium was sampled at depths ranging from 75 to 197 ft. The samples had the following salinity concentration ranges: total dissolved solids (TDS), 5,800 to 32,900 mg/L; chloride, 1,060 to 16,000 mg/L; and, boron, 8 to 86 mg/L. Groundwater in the BAS was sampled at depths ranging from 165 to 295 ft and had the following salinity concentration ranges: TDS, 3,500 to 29,600 mg/L; chloride, 732 to 13,200 mg/L; and, boron, 4.1 to 67 mg/L. Groundwater in the upper Tulare Formation was sampled at depths ranging from 208 to 437 ft. The samples had the following salinity concentration ranges: TDS, 2,820 to 33,800 mg/L; chloride, 466 to 16,200 mg/L; and boron, 2.1 to 78 mg/L.

A groundwater monitoring well, 29MW-1, was installed in a boring to the southwest (upgradient) of the impoundments. Three monitoring wells, 21MW-1, 21MW-2, and 21MW-3, were installed in borings to the northeast of the California Aqueduct. The Discharger has collected information from the borings and monitoring wells confirming that the maximum lateral extent of groundwater degradation occurs in the BAS and extends northeast from the impoundments to between the Aqueduct and monitoring wells, 21MW-1, 21MW-2, and 21MW-3. Wastewater is free to migrate from beneath the impoundments in the downgradient (northeast) direction towards useable groundwater aquifers in the San Joaquin Valley.

The beneficial uses of groundwater beneath the area, as designated by Table II-2 in the Basin Plan, are municipal and domestic supply, agricultural supply, and industrial service supply. There are

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no municipal or domestic supply wells in the area. The nearest agricultural supply well is on property owned by Munger Farms and is approximately 3,200 ft. to the northeast of the impoundments. According to Mr. David Munger, the well has not been used since it was drilled in 1976. The idle well is gravel-packed to near the surface and has a screen interval between 300 and 570 ft. In 1976, the well was sampled and had the following salinity concentrations: TDS, 3,752 mg/L; chloride, 743 mg/L; and, boron, 5.2 mg/L.

Wastewater discharged to the impoundments has the following salinity concentrations: TDS, 22,200 mg/L; chloride, 11,800 mg/L; and boron, 94 mg/L. The wastewater has salinity and boron concentrations that exceed maximum numerical salinity limits prescribed in the Basin Plan for oilfield discharges to unlined impoundments overlying groundwater with existing and future probable beneficial uses. The wastewater salinity exceeds applicable water quality objectives and has affected the beneficial uses of the waters of the State. The wastewater discharge is subject to the requirements of Title 27 for discharges of waste to land.

The Discharger, in a written statement, proclaimed a formal commitment to permanently cease the discharge of wastewater to the impoundments. The Order contains a compliance schedule for the Discharger to cease the wastewater discharge and close the impoundments.

The action to adopt WDRs for an existing facility is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.) in accordance with Title 14, California Code of Regulations, Section 15301.

DLW:dlw/rac:8/18/2005