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Public Notice No. 7-10-48  
Board Order No. R7-2011-0006  
December 7, 2010

NOTICE OF PUBLIC HEARING FOR  
CLEANUP AND ABATEMENT ORDER (CAO) NO. R7-2011-0006

IN THE MATTER OF  
UNOCAL CORPORATION, OWNER/OPERATOR  
RESIDUE PROCESSING FACILITY (GEMCOR)  
West of Calipatria – Imperial County

Unocal Corporation (hereinafter referred to as the Discharger), 6111 Bollinger Canyon Road, San Ramon, CA 94583, owns an 80-acre property (hereinafter referred to as the site), which includes 65 acres of former unlined evaporation basins used for disposal of geothermal wastes. The site has been known at various times as the Geothermal Residue Processing Facility (GRPF), Geothermal Energy and Mineral Corporation (GEMCOR), and Salton Sea Operation Center. The site address is 950 West Lindsey Road, Calipatria, CA 92233, and is located at the SE 1/4, Section 4, T12S, R13E, SBB&M.

Beginning in the 1960's, brines from an onsite geothermal well were managed by GEMCOR in the evaporation ponds. Waste Discharge Requirements (WDRs) Board Order No. 74-063 was adopted in 1974 to regulate the brine discharge into the ponds. The brine salts that remained after evaporation, however, were determined to contain elevated levels of arsenic and lead.

In 1980, Unocal purchased the site and assumed responsibility for the brine and salt stored in the evaporation basins. The Regional Water Board adopted Board Order No. 81-022, which superseded Board Order No. 74-063, to specify an evaporation basin cleanup schedule, among other requirements. The schedule provided several brine management alternatives, one of which allowed Unocal to dissolve the salts in the basins and re-inject the solution into the geothermal reservoir. Unocal selected this alternative, began this treatment process in 1984, and completed it in 1988. The process left 30,000 cubic yards of undissolved residual solids remaining, which also contained elevated levels of arsenic and lead. A treatment plan was accepted by the Regional Water Board to allow Unocal to reduce the leachability of the arsenic and lead through a process of converting the residual solids to soil cement. The resulting mixture was referred to as "geocrete." The plan then called for the geocrete to be used as road base and as foundational material onsite.

WDRs Board Order No. 89-005, which superseded Board Order No. 81-022, was adopted to authorize this "geocrete" process and to specify composition and other condition parameters for its use in order to ensure water quality was protected. In 1989, as authorized by the WDRs, Unocal excavated the 30,000 cubic yards of residual solids from the basin, "geocrete" the materials with fly ash and cement, and used this mixture as a foundation for a 28-acre storage area onsite.

From 1989 through 1993, Unocal received 62,700 cubic yards of additional solids materials at the GEMCOR site for processing. Of this amount, 13,000 cubic yards were converted into "geocrete," 14,000 cubic yards were disposed of at a Class I landfill off-site due to elevated levels of arsenic and lead that exceeded the levels allowed in the WDRs, and the remaining solids were dissolved and re-injected into the geothermal reservoir.

In 1993, Unocal began other cleanup activities at the site by removing and disposing at an off-site Class I landfill residual solids, pond liners, and contaminated soils. Elevated levels of arsenic and lead remained in the soils, however. Unocal also obtained a deed restriction in 1994, recorded in Imperial County and still in effect, which restricts the property from use for residential or agricultural purposes. The deed restriction also requires physical controls be implemented (i.e., sloping and grading) to prevent drainage of surface waters onto adjacent lands.

Site cleanup activities continued through 2001, with Unocal removing pipes, vessels, and remnant residual solids. Soil samples taken in June 2001, pursuant to a Water Code Section 13267 technical order issued by the Regional Water Board, revealed elevated levels of arsenic and lead still remained in the soils in certain areas, and were also detected in the groundwater beneath the site. The remaining contamination is currently believed to be the result of the historical site operations conducted from 1964 through 1979, when geothermal brines were managed in unlined evaporation ponds onsite.

Because this residual contamination has caused or threatens to cause the discharge of lead and arsenic into the waters of the state of California, and has created or threatens to create a condition of pollution or nuisance, the Regional Water Board issued to Unocal Cleanup and Abatement Order (CAO) No. R7-2002-0207 in 2002 pursuant to its authority under Water Code Section 13304. In response, remedial action plans were prepared, additional site characterization studies were conducted, and a final site characterization report was submitted in January 2006, shortly after Chevron Environmental Management Company assumed responsibility in 2005 for Unocal's environmental obligations at the site.

CAO No. R7-2009-0025 was issued in June 2009, which rescinded and superseded CAO No. R7-2002-0207. The CAO was revised in August 2009 and issued as "Revision 1," which rescinded and superseded the June 2009 CAO. Pursuant to the Revision 1 CAO, Chevron submitted a Feasibility Study on June 15, 2010, which was prepared by its consultant, ARCADIS U.S., Inc. In a meeting held in October 2010 with Chevron management and others, Regional Water Board staff agreed to accept Chevron's preferred cleanup alternative, identified as "Scenario A," and to reflect the agreement reached in a new CAO. The subject tentative CAO is the result.

Accordingly, pursuant to California Water Code Sections 13267 and 13304, tentative CAO No. R7-2011-0006 is proposed to be issued by the Regional Water Board to order the Discharger to prepare technical reports and clean-up or abate the geothermal brines in the underlying soils at the site in accordance with the Discharger's Preferred Alternative, identified in the Feasibility Study as "Scenario A." The tentative CAO would also rescind and supersede CAO No. R7-2009-0025 Revision 1.

A public hearing on this matter will be held as follows:

Date: January 20, 2011  
Time: 10:00 a.m.  
Location: La Quinta Council Chambers

During the hearing, the public and any other person interested in this matter can provide the Regional Water Board with comments on the tentative Order.

Persons wishing to file written comments on, or objections to, the tentative CAO are requested to do so within 30 days of the date of this Notice so that the Regional Board may consider the comments.

Comments must be mailed to the following address:

California Regional Water Quality Control Board  
Colorado River Basin Region  
73-720 Fred Waring Drive, Suite 100  
Palm Desert, CA 92260

A copy of the tentative CAO may be obtained from the Regional Water Board Internet [Website](#).

Please contact Assistant Executive Officer Jose Angel at (760) 776-8932 for any questions regarding this matter. Please bring this notice to the attention of anyone you think would be interested in this matter.

For any person who is disabled and requires special accommodations to participate in this Regional Water Board hearing, please contact Hilda Vasquez at (760) 346-7491 no later than 10 days before the scheduled hearing date.