

# MINUTE ITEM

This Calendar Item No. 38  
 was approved as Minute Item  
38 by the State Lands  
 Commission by a vote of 2  
 to 0 at its 5-28-81  
 meeting.

## INFORMATIVE CALENDAR ITEM

F 38

5/81  
 Thompson

### REVIEW OF PILOT SCALE DEMONSTRATION OF CAUSTIC WATERFLOODING TECHNIQUES FOR ENHANCED OIL RECOVERY LONG BEACH UNIT, WILMINGTON OIL FIELD LOS ANGELES COUNTY

This review covers the events of the Fourth Quarter of 1980 and the First Quarter of 1981, in this cost-sharing project with the United States Department of Energy, in the Ranger Zone of Fault Block VII of the Long Beach Unit. The contract between the City of Long Beach and the federal government provided for a 60/40 percent respective sharing of the originally estimated \$11.6 million contract demonstration costs and a similar sharing of any revenue resulting from the federal contribution toward costs. The DOE participation in the \$11.6 million contract amount ended in July 1980. In the current fiscal year there have been prepayments from August 1980 through January 1981 for the alkaline chemicals required for the next five years of the project. This prepayment was approved in the First Modification of the 1980-1981 Plan and Budget and was done under the tertiary oil recovery project incentive regulations of the federal Department of Energy.

The project is intended to recover additional oil by an emulsification process in the reservoir due to a reaction between injected caustic and organic acids in the crude oil. There was a conditioning preflush of softened brine having a concentration of 1% by weight of sodium chloride (begun in April 1979 and completed in late March 1980), followed by an alkaline slug of sodium hydroxide (caustic) and sodium silicate to give about 0.4% by weight total sodium orthosilicate in the softened brine (begun in late March 1980, and to continue for approximately six years), after which injection of regular water is planned to be resumed.

In the alkaline injection stage, there has been some loss of injectivity, which can be restored by acidizing. It is a positive indication that there is no evidence of breakthrough of the injected alkaline mix into the producing wells, and no evidence of pressure communication across the two faults on the boundaries of the project. There is slight improvement in the project's production rate relative to the remainder of Block VII, but this is due in large part to extensive well repair work that was performed in the project area.

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S 27, 31

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This is a relatively long-term low-cost pilot project. Any increase in oil production is expected to be less dramatic than in other enhanced recovery projects.

The staff will continue to report on this project semiannually.

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