MINUTE ITEM
This Calendar Item No. 32
submitted for information
only, no action thereon
being necessary.

INFORMATIVE
CALENDAR ITEM

32.

11/79
Thompson

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

The State Lands Commission, at its September 1976 meeting, approved a request by the City of Long Beach to enter into a cost-sharing contract with the United States Energy and Development Administration (ERDA) to conduct a pilot scale demonstration of caustic waterflooding techniques for enhanced oil recovery in Fault Block VII of the Long Beach Unit.

Under the terms of the contract, the City and the Federal Government agreed to share in $11.6 million of the demonstration costs on a 60/40 basis, respectively, and the parties will share similarly in the proceeds of any incremental oil production as established under the proposed order issued to approve this as a tertiary recovery project. As of the end of September, twenty-four months after the start of the project, total expenditures were $10,041,664.

The start of the preflush injection phase commenced with injection of water in which the calcium and magnesium ions were removed and sodium ions added, on April 15, 1979.

Design of the alkaline injection facility has been completed. Procurement of the required equipment is proceeding. Completion of the facility is scheduled for late December, 1979. Caustic slug injection is expected to begin in January, 1980, about nine months later than originally planned.

Ten more core flood tests for purposes of comparing chemical efficiencies were completed and six additional tests were begun. Results indicate increased recovery using a mixture of sodium hydroxide and sodium orthosilicate instead of only sodium hydroxide. Plans have been finalized to inject the orthosilicate slug. Routine well work, testing and surveying of the pilot area wells continued.

A series of produced water samples in pilot area producing wells indicated some dilution of salinity and hardness since the start of the soft water injection. The dilution is minimal and appeared to decrease in the July to September quarter.

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Review of the performance of each producing well reveals a generally stable to gradually increasing gross (water and oil) production rate and a stable to slightly declining net oil production rate.

The Economic Regulatory Agency of DOE acted favorably on the application for crude oil price relief. The project is declared to be a tertiary enhanced recovery project. Crude oil produced each month from the project in excess of the "non-incremental crude" is not subject to ceiling price limitations. Incremental crude was produced in the months of July, August and September of the period reviewed.

The staff will continue to inform the Commission, semiannually, regarding the status of this enhanced oil recovery project.