

## **ADMINISTRATIVE APPROVAL NO. SIO 2A.001**

Samuel Atta-Darkwah, P.E.  
Unocal Alaska  
909 West 9<sup>th</sup> Avenue, P.O. Box 196247  
Anchorage, Ak 99519-6247

Re: The application of Unocal Alaska (“Unocal”) to expand the Kenai Gas Storage Facility (“KGSF”) to include well KGSF No. 7A

Dear Mr. Atta-Darkwah:

Per Rule 6. of Storage Injection Order (“SIO”) 2A, the Alaska Oil and Gas Conservation Commission (“AOGCC” or “Commission”) hereby administratively approves Unocal’s application to expand the KGSF to include well KGSF No. 7A.

By correspondence dated August 11, 2004, Unocal states that KGSF No. 7A will be completed exclusively in the Tyonek 64-5 reservoir, as is well KGSF No. 1, and that gas storage will be limited to these two wells. Openhole logs from KGSF No. 7A were submitted to the Commission. Well casing was cemented in accordance with 20 AAC 25.252 and tested in accordance with 20 AAC 25.030. A cement bond log confirmed adequate cement bond and appropriate isolation of the proposed gas storage interval. KGSF No. 7A was tested for mechanical integrity using the testing methods and evaluation criteria specified in 20 AAC 25.412. Daily injection rates and pressures will be continuously monitored and the AOGCC will be notified the next working day if rates and pressures indicate pressure communication or leakage in any casing, tubing, or packer. Injection rate and pressure data will be reported to the Commission on a monthly basis. The injectant will be dry methane with a specific gravity of 0.57. The estimated maximum volume of gas to be injected daily is 30 mmcf/d. Wellhead injection pressure will be limited to 3571 psig at 0 mmcf/d injection rate, limiting the pressure gradient within the wellbore, at the estimated Tyonek 64-5 reservoir midpoint depth, to 0.65 psi/ft.

The Commission finds that gas storage in KGSF No. 7A will not result in fracture propagation through reservoir confining zones nor cause movement of hydrocarbons into sources of fresh water as long as the injection pressure is maintained below fracture

gradient. AOGCC further finds that operation of the subject well will not cause waste, jeopardize correlative rights, endanger fresh water, or impair ultimate recovery. Accordingly, Unocal's application for gas storage through well KGSF No. 7A is approved.

Any further expansion of the Kenai Gas Storage Facility will require definition of an affected area corresponding to the areal extent of the Tyonek 64-5 reservoir and a well spacing rule for gas storage wells.

**DONE** at Anchorage, Alaska and dated October 6 2004.

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John K. Norman  
Chairman

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Daniel T. Seamount, Jr.  
ommissioner