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STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



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GOVERNOR

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SANTA FE, NEW MEXICO 87504  
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*ADMINISTRATIVE ORDER NO. WFX-615*

*APPLICATION OF GREENHILL PETROLEUM CORPORATION TO EXPAND ITS  
WATERFLOOD PROJECT IN THE LOVINGTON SAN ANDRES POOL IN LEA  
COUNTY, NEW MEXICO*

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Under the provisions of Division Order No. R-2278, Greenhill Petroleum Corporation has made application to the Division on September 7, 1991, for permission to expand its Lovington San Andres Unit Waterflood Project in the Lovington San Andres Pool in Lea County, New Mexico.

**THE DIVISION DIRECTOR FINDS THAT:**

- (1) The application has been filed in due form.
- (2) Satisfactory information has been provided that all offset operators have been duly notified of the application.
- (3) No objection has been received within the waiting period as prescribed by Rule 701(B).
- (4) The proposed injection wells are eligible for conversion to water injection under the terms of Rule 701.
- (5) The proposed expansion of the above referenced Waterflood Project will not cause waste nor impair correlative rights.
- (6) The application should be approved.

**IT IS THEREFORE ORDERED THAT:**

The applicant, Greenhill Petroleum Corporation, be and the same is hereby authorized to inject water into the San Andres formation at approximately 4481 feet to approximately 5129 feet through 2 3/8 inch plastic lined tubing set in a packer located within 100 feet of the uppermost injection preforation in the wells shown on Exhibit "A" attached hereto for purposes of secondary recovery to wit.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations into the wells, the casing in each well shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus in each well shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

The injection wells or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 0.2 psi/ft. of depth to the uppermost perforation, as shown on Exhibit "A".

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said wells that such higher pressure will not result in migration of the injected fluid from the San Andres formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity tests so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Hobbs district office of the Division of the failure of the tubing, casing or packer in said wells and shall take such steps as may be timely and necessary to correct such failure or leakage.

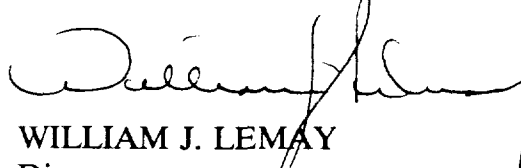
The subject wells shall be governed by all provisions of Division Order No. R-2278 and Rules 701-708 of the Division Rules and Regulations not inconsistent herewith.

PROVIDED FURTHER THAT, jurisdiction of this cause is hereby retained by the Division for the entry of such further order or orders as may be deemed necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

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Greenhill Petroleum Corporation  
October 25, 1991  
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DONE at Santa Fe, New Mexico, on this 25th day of October, 1991.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director

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cc: Oil Conservation Division - Hobbs

**EXHIBIT "A"**  
**DIVISION ORDER NO. WFX-615**  
**LOVINGTON SAN ANDRES UNIT WATERFLOOD PROJECT**  
**APPROVED INJECTION WELLS**

<i>Well Number</i>	<i>Location</i>	<i>Unit</i>	<i>S-T-R</i>	<i>Injection Perforations</i>	<i>Packer Depth</i>	<i>Tubing Size</i>	<i>Injection Pressure</i>
LSAU No. 9	1980' FNL & 660' FEL	<u>E</u>	36-16S-36E	4645' - 5065'	4530'	2 3/8"	929 PSIG
LSAU No. 21	660' FSL & 2310' FEL	O	31-16S-36E	4570' - 5032'	4500'	2 3/8"	914 PSIG
LSAU No. 24	660' FSL & 660' FEL	P	36-16S-36E	4515' - 5075'	4480'	2 3/8"	903 PSIG
LSAU No. 26	660' FSL & 1980' FWL	N	36-16S-36E	4520' - 5129'	4480'	2 3/8"	904 PSIG
LSAU No. 29	660' FNL & 660' FEL	A	2-17S-36E	4590' - 4980'	4520'	2 3/8"	918 PSIG
LSAU No. 33	660' FNL & 660' FEL	A	1-17S-36E	4481' - 4775'	4381'	2 3/8"	896 PSIG
LSAU No. 41	1980' FNL & 1980' FEL	G	1-17S-36E	4592' - 4903'	4520'	2 3/8"	918 PSIG