NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

ADMINISTRATIVE ORDER SWD-647

APPLICATION OF PRIME OPERATING COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Prime Operating Company made application to the New Mexico Oil Conservation Division on October 30, 1996, for permission to complete for salt water disposal its Possh Well No.2 located 1650 feet from the North line and 1650 feet from the West line (Unit F) of Section 36, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations;

(2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified;

(3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met; and

(4) No objections have been received within the waiting period prescribed by said rule.

(5) The application should be approved.

IT IS THEREFORE ORDERED THAT:

The applicant herein, is hereby authorized to complete its Possh Well No.2 located 1650 feet from the North line and 1650 feet from the West line (Unit F) of Section 36, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico, in such manner as to permit the injection of salt water for disposal purposes into the Queen formation at approximately 3553 feet to 3627 feet through 2 7/8-inch plastic-lined tubing set in a packer located at approximately 3503 feet.

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 well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus 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 well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 711 psi.

At such time it is determined that injection into the well has stabilized, but not to exceed sixty days from implementation, the operator shall conduct an injection profile consisting of combination temperature and radioactive tracer logs. These logs shall be repeated one year after the initial injection profile date and all logs shall be witnessed by a representative of the Division. At the conclusion of both profiles, a determination shall be made as to the future status of the well. If both profiles indicate no channeling or other migration from the Queen formation, the operator may be relieved from any future logging requirements contained herein. Procedures for logging operations are contained in Exhibit 'A' attached hereto, and made a part of this order.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Queen 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 disposal equipment and of the mechanical integrity test 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 well and shall take such steps as may be timely and necessary to correct such failure or leakage.

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.

The operator shall submit monthly reports of the disposal operations in accordance with Rule Nos. 706 and 1120 of the Division Rules and Regulations.

The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

Approved at Santa Fe, New Mexico, on this 21st day of November, 1996.

WILLIAM J. LEMAY, Director

SEAL

WJL/BES

xc: Oil Conservation Division - Hobbs

EXHIBIT 'A'

DIVISION ORDER SWD-647

INJECTION WELL MONITORING GUIDANCE

(Revised 10/6/95)

INJECTION PROFILES

1) All injections profiles shall be a combination of temperature and radioactive tracer logs. The injection profiles will always be witnessed by a representative of the Division.

2) All log curves shall be started (or finished) at a minimum of 200 feet above the top perforation. Temperatures curves shall be run: a) while injecting, and, ***if the well is on vacuum or goes on vacuum within 30 minutes of shutting in the well*** at the conclusion of the tracer studies; b) 30 minutes after shut-in, c) 1 hour after shut-in, and d) 2 hours after shut-in. ***If the well is holding surface pressure*** at the conclusion of the tracer studies, shut- in temperature curves will be run: b) 1 hour after shut-in, c) 2 hours after shut-in, and d) 24 hours after shut-in.

3) Radioactive tracer runs shall start at a minimum of 150 feet above the top perforation and consist primarily of an "intensity" type survey. The initial recorded runs through the radioactive material should have a minimum of 6 inches chart deflection immediately above any anticipated loss interval. The tracer intensity shall be recorded until the R/A residual falls below 1 chart division deflection over background.

4) The "velocity" type and "drop shot" type surveys are not required but may be run at the discretion of the operator of the well. The determination should however, take into consideration the injection rate. It may be desirable to run velocities if the rate is such that drag runs cannot easily be made. As a rule of thumb, it is difficult to keep up with a slug with an injection rate over about 1500 bpd in 5 ½ inch casing.

5) A "no flow" interval should be established immediately below the bottom perforation or, if flow exists, a percentage or rate of movement below the perforated interval should be calculated.

6) Channel (leak) checks should be made first at the bottom perforation and finally at the top perforation with the detector tool positioned approximately 10 feet below or above the subject perforations. The R/A "burst" or "slug" should be of very high intensity and recorded on time-drive for a minimum of 5 minutes (unless R/A material is detected rapidly). At the conclusion of the time-drive survey, the logger shall drop below the remaining R/A material and make a number of depth-drive (log through) runs until the existence or severity of any channeling or leak is determined. Every effort should be made to establish the top or bottom of the channel(s) if one exists. If there is a severe channel,

this might include "unloading" the R/A ejector tool at the top or bottom perforation in an attempt to saturate the fluid moving in the channel. The logging unit operator should be able to allocate the usage of R/A material so as to leave no doubt about the existence and severity of channels or leaks at these two positions.

7) If any channeling exists, the Division representative on location shall make the determination, based on their judgement as to the severity of the channel or leak, to immediately shut the well in or not.

8) Copies of all logs shall be forwarded to the District office and the Division office of the Oil Conservation Division. After reviewing the results in the Division office, a final determination shall be made as to the future status of the well.

FREQUENCY OF INJECTION PROFILES

A complete injection profile consisting of combination temperature and radioactive tracer conducted as outlined above, shall be run at the following times:

1) After injection into the well has stabilized, but not to exceed sixty days from implementation, and;

2) Approximately one year after the date of 1) above.

3) Further profiles may not be required depending upon the results of the initial and one year profiles.