NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

AMENDED ADMINISTRATIVE ORDER SWD-490

APPLICATION OF PHILLIPS PETROLEUM COMPANY FOR SALT WATER DISPOSAL, SAN JUAN COUNTY, NEW MEXICO.

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Phillips Petroleum Company made application to the New Mexico Oil Conservation Division on November 20, 1995, for permission to complete for salt water disposal its San Juan 32-8 Well No.303 located 1762 feet from the North line and 708 feet from the West line (Unit E) of Section 14, Township 31 North, Range 8 West, NMPM, San Juan 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.

IT IS THEREFORE ORDERED THAT:

The applicant herein, is hereby authorized to complete its San Juan 32-8 Well No.303 located 1762 feet from the North line and 708 feet from the West line (Unit E) of Section 14, Township 31 North, Range 8 West, NMPM, San Juan County, New Mexico, in such manner as to permit the injection of salt water for disposal purposes into the Morrison, Bluff and Entrada formations at approximately 8272 feet to 9210 feet through 2 7/8-inch plastic-lined tubing set in a packer located at approximately 8172 feet.

IT IS FURTHER ORDERED THAT:

Prior to commencing injection operations into the well, and after completion of perforation operations to open the newly permitted injection interval, the operator shall swab test the well to obtain water and hydrocarbon samples for analysis. Prior to conducting the test, the supervisor of the Aztec district office shall be notified of the date and time and a copy of the analysis shall be made available.

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 1654 psi.

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 Morrison, Bluff and Entrada formations. 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 Aztec 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 Aztec 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 28th day of December, 1995.

WILLIAM J. LEMAY, Director

S E A L

WJL/BES

xc: Oil Conservation Division - Aztec ✓

(2)

PHILLIPS PETROLEUM COMPANY
FARMINGTON, NEW MEXICO 87401
5525 HWY. 64 NBU 3004

January 17, 1996

Mr. David Catenach
Petroleum Engineering Specialist
New Mexico Oil Conservation Division
P.O. Box 6429
Santa Fe, New Mexico 87505-6429

Re: Amended Administrative Order SWD-490
San Juan 32-8 #303
(NE 14 T31N-R8W)
San Juan County, New Mexico

Dear Mr. Catenach:

On October 9, 1992, Phillips Petroleum Company (PPCo.) was granted a maximum injection pressure of 2750 psi for the referenced well. Phillips Petroleum Company has been injecting produced Fruitland Coal water into the referenced disposal well since October 10, 1992, into the lower part of the Morrison Formation, the Bluff Sandstone and Entrada Sandstone. Currently the injection pressure is approximately 2725 psi.

On November 16, 1995, Phillips Petroleum Company requested approval from the New Mexico Oil Conservation Division (NMOCD) to extend the top of the disposal interval to 8272 ft. and perforate the interval from 8272 to 8510 ft. which is in the upper portion of the Morrison Formation. Currently the disposal interval is from 8510 to 9210 ft., which includes the lower part of the Morrison Fm., the Bluff Ss. and the Entrada Ss. The Morrison Formation is a non-marine clastic sequence of alternating fluvial channel sandstones and shales. The lithology of the Morrison Formation should therefore be uniform throughout.

In a letter from the NMOCD dated December 28, 1995, PPCo. was granted permission to inject produced water from 8272 to 9210 ft., that is the Morrison Fm., and the Bluff and Entrada sandstones. It was also stated in your letter that the maximum injection pressure for the interval from 8272 to 9210 ft. would be reduced to 1645 psi which we find unacceptable since we are currently injecting at 2725 psi into the existing interval. Due to our current injection pressure, PPCo. would be unable to perform a valid step rate test across the entire interval in question. It is not clear in your letter of December 28,1995 if you were referring to a step-rate test for the entire interval from 8272 to 9210 ft. but PPCo. would be unable to perform such a test on this interval due to the high pressure we would encounter. A step-rate test could only be

performed on the interval from 8272 to 8510 ft. Such a test would be necessary in order to request an increase to our existing injection pressure. If the NMOCD decided after the step-rate test was conducted on the interval from 8272 to 8510 ft. that a maximum injection pressure of less than 2750 psi was appropriate then PPCo. would be required to either 1) abandon the new interval to maintain the existing 2750 psi injection pressure or 2) abandon the existing interval since it would be impossible to inject into it at pressures less than the current 2750 psi. In either case, PPCo.'s ability to dispose of the produced water economically would be severely impacted.

In light of the significant cost involved in completing the additional disposal interval, Phillips Petroleum Company requests the New Mexico Oil Conservation Division permit injection at the existing maximum injection pressure of 2750 psi for the interval from 8272 to 9210 ft.

Thank you for your assistance with this matter.

Sincerely,

Ralph L. Hawks Jr.
Geological Specialist

cc: well file
Mr. Ernie Busch
NMOCD
Aztec, New Mexico