

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 8787
Order No. R-8165

APPLICATION OF EASTLAND OIL COMPANY
FOR A WATERFLOOD PROJECT, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8 a.m. on December 18, 1985 at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 25th day of February, 1986, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) At the time of the hearing this case was consolidated with Division Case No. 8786 for purposes of testimony.

(3) The applicant, Eastland Oil Company, seeks authority to institute a waterflood project on its proposed Power Grayburg (Federal) Unit, Power Grayburg-San Andres Pool, by the injection of water under pressure in excess of 0.2 psi per foot of depth to the uppermost perforation in the Grayburg formation through the following wells in Eddy County, New Mexico:

- (a) by the conversion of the Allied Federal Well No. 2 located 660 feet from the North line and 1980 feet from the East line (Unit B) and the Kenwood Federal Well No. 3 located 660 feet from the North and West lines (Unit D), both in Section 6, Township 18 South, Range 31 East, NMPM, and the Sibyl Federal Well No. 2 located 1650 feet from the North line and 330 feet from the East line (Unit H) of Section 1, Township 18 South, Range 30 East, NMPM, and,

- (b) by re-entering and recompleting the ARCO-Federal Well No. 3 located 330 feet from the North line and 1980 feet from the West line (Unit C) of Section 5, Township 18 South, Range 31 East, NMPM.

(4) The wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(5) The proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(6) The operator should 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 from injection, production, or plugged and abandoned wells.

(7) The previously abandoned Stagner Well No. 1 located 1980 feet from the South and East lines of Section 31, Township 17 South, Range 31 East, NMPM, Eddy County, New Mexico, is located within one-half mile of the applicant's Allied Federal Well No. 2, as described above.

(8) Evidence presented at the time of the hearing indicates that said Stagner Well No. 1 was originally spudded by P. B. English on November 21, 1938, drilled to a total depth of 4252 feet, and was subsequently plugged and abandoned on March 21, 1939. On November 24, 1956, Ernest A. Hanson attempted to re-enter the wellbore but encountered "junk casing" at 295 feet, at which time the well was plugged and abandoned a second time.

(9) Prior to commencement of injection into the Allied Federal Well No. 2 the operator should demonstrate, to the satisfaction of the supervisor of the Division's district office in Artesia, that the Stagner Well No. 1 has been re-entered and re-plugged or has been previously plugged and abandoned in such a manner as to ensure that it does not provide an avenue of escape for waters from the proposed injection zone or that said wellbore will not otherwise serve for such escape.

(10) Prior to commencing injection operations, the casing in each of the subject wells should be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(11) The injection into each well should be accomplished through internally plastic lined tubing installed in a packer which should be set as near as practicable to the uppermost perforations; the casing-tubing annulus in each well should be filled with an inert fluid; and a pressure gauge or approved leak detection device should be attached to the annulus in each well in order to determine leakage in the casing, tubing, or packer.

(12) Based on the evidence presented which indicates the formation fracture pressure exceeds 0.2 psi per foot of depth in this area, the injection wells or injection pressurization system on each well should be so equipped as to limit injection pressure at the wellhead to 1000 psi, but the Division Director should have authority to increase said pressure limitation, should circumstances warrant.

(13) The operator should give advance notification to the supervisor of the Artesia district office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

(14) The subject application should be approved and the project should be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Eastland Oil Company, is hereby authorized to institute a waterflood project on its proposed Power Grayburg (Federal) Unit, Power Grayburg-San Andres Pool, by the injection of water into the Grayburg formation through the following described wells in Eddy County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM

Sibyl Federal Well No. 2 located 1650 feet from the North line and 330 feet from the East line (Unit H) of Section 1.

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM

Allied Federal Well No. 2 located 660 feet from the North line and 1980 feet from the East line (Unit B) of Section 6;

Kenwood Federal Well No. 3 located 660 feet from the North and West lines (Unit D) of Section 6, and;

ARCO-Federal Well No. 3 (plugged and abandoned) located 330 feet from the North line and 1980 feet from the West line (Unit C) of Section 5.

(2) Injection into the Allied Federal Well No. 2 shall not commence until the Stagner Well No. 1 located 1980 feet from the South and East lines of Section 31, Township 17 South, Range 31 East, NMPM, Eddy County, New Mexico, has either been re-plugged or is shown to have been adequately plugged and abandoned in a manner that is satisfactory to the supervisor of the Division's District office in Artesia, or that such well will not serve as an avenue of escape for injection water or formation fluids from the injection interval.

(3) Prior to commencing individual injection operations, the casing in each of the subject wells shall be pressure-tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's district office at Artesia.

(4) Injection into each of said wells shall be through internally coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation; the casing-tubing annulus of each injection well shall be filled with an inert fluid and a pressure gauge or approved leak detection device shall be attached to the annulus in each well in order to determine leakage in the casing, tubing, or packer.

(5) The injection wells herein authorized and/or the injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to 1000 psi, provided however, the Division Director may authorize a higher surface injection pressure upon satisfactory showing that such pressure will not result in fracturing of the confining strata.

(6) The operator shall notify the supervisor of the Artesia district office of the Division in advance of the date and time of the installation of injection equipment and of the mechanical integrity pressure test for each injection well in order that the same may be witnessed.

(7) The operator shall immediately notify the supervisor of the Division's Artesia district office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

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(8) The subject waterflood project is hereby designated the Power Grayburg (Federal) Unit Waterflood Project and shall be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(9) Monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.

(10) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



R. L. STAMETS,
Director

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