STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 13377
ORDER NO. R-12268

APPLICATION OF PECOS PRODUCTION COMPANY FOR APPROVAL OF A COOPERATIVE WATERFLOOD PROJECT AND TO QUALIFY THE PROJECT FOR THE RECOVERED OIL TAX RATE, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on November 18, 2004, and January 6, 2005, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this day 12th of January, 2005, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, Pecos Production Company ("Pecos"), seeks authority to institute a cooperative waterflood project within the following-described area by the injection of produced water into the Queen formation, Shugart (Yates-Seven Rivers-Queen-Grayburg) Pool ("Shugart Pool") through five proposed injection wells located in Sections 2 and 3, Township 19 South, Range 30 East, NMPM, Eddy County, New Mexico:

TOWNSHIP 19 SOUTH, RANGE 30 EAST, NMPM

Section 2: Lots 3 and 4, S/2 NW/4, SW/4
Section 3: Lots 1 and 2, S/2 NE/4, SE/4

(3) The proposed injection wells are described as follows:

Well Name & Number	**Well Location**
State "2" Well No. 1	Unit E, Section 2, T-19 South, R-30 East
State "2" Well No. 5	Unit M, Section 2, T-19 South, R-30 East
State "2" Well No. 7	Unit K, Section 2, T-19 South, R-30 East
Benson "3" Federal Well No. 2	Unit A, Section 3, T-19 South, R-30 East
Benson "3" Federal Well No. 6	Unit I, Section 3, T-19 South, R-30 East

(4) This case was originally heard on November 18, 2004 and was taken under advisement at that time. Subsequent to the hearing, it was determined that the advertisement for the case did not correctly describe the proposed waterflood project area. The case was reopened and heard on January 6, 2005 to correct the deficiency in the advertisement.

(5) Yates Petroleum Corporation, an offset operator, appeared at the hearing to oppose the application on the basis that it owns an offset producing well, the Benson Deep "AAZ" Federal Well No. 4 (API No. 30-015-24775) located 1980 feet from the North and West lines (Unit F) of Section 3, which is not cemented across the proposed injection interval and is therefore exposed to possible damage by waterflood operations. The Benson Deep "AAZ" Federal Well No. 4 is currently producing from the Bone Spring formation through the perforated interval from 8,053 feet to 8,096 feet.

(6) The proposed project area is comprised of three separate state and federal leases. State of New Mexico Lease No. V-640 covers Lots 3 and 4, S/2 NW/4 and SW/4 of Section 2, Federal Lease No. NM-29228 covers Lots 1 and 2 and the S/2 NE/4 of Section 3 and Federal Lease No. NM-67985 covers the SE/4 of Section 3.

(7) The proposed project area is fully contained within the Shugart Pool.

(8) The evidence presented by Pecos demonstrates that:

(a) Pecos is the only working interest owner within the proposed project area. Royalty interest is all state and federal;

(b) within the project area, Pecos will utilize five existing wells as injection wells and six existing wells as producing wells;

(c) the Queen formation is the only productive interval in the Shugart Pool within the proposed project area. The gross Queen sand interval is approximately 150 feet thick and is comprised of at least two separate productive sand members; and

(d) the porosity within the productive sand members diminishes as you move up dip towards the northwest portion of the project area where the Yates Benson Deep "AAZ" Federal Well No. 4 is located.

(9) The wells within the project area are in an advanced state of depletion.

(10) Pecos estimates that it will cost approximately $1.0 million dollars to implement waterflood operations within the proposed project area.

(11) Pecos estimates that implementation of the proposed secondary recovery project will result in the recovery of an additional 500,000 barrels of oil that would otherwise not be recovered, thereby preventing waste.

(12) The evidence presented by Pecos shows that there is an additional well within the "area of review" of the Benson "3" Federal Well No. 2 that is not cemented across the proposed injection zone. This well is the Gruy Petroleum Management Company ("Gruy") Benson "3" Federal Well No. 1 (API No. 30-015-25718) located 760 feet from the North line and 2080 feet from the East line (Unit B) of Section 3. Division records show that this well is producing from the Benson-Strawn Gas Pool through perforations from 10,888 feet to 10,902 feet.

(13) Pecos contends that injection in the western portion of the project area does not pose a threat to the Yates Benson Deep "AAZ" Federal Well No. 4 or the Gruy Benson "3" Federal Well No. 1 because: i) both wells are located in an area of up dip porosity pinch out within the targeted Queen sands; and ii) the pressure sinks within the project area will be located generally to the south and east of the two injection wells in Section 3.

(14) Yates presented evidence that demonstrates that:

(a) the Queen sands targeted for injection by Pecos are continuous within the project area and extend into the Yates Benson Deep "AAZ" Federal Well No. 4 and the Gruy Benson "3" Federal Well No. 1. In addition, there does not appear to be a definitive porosity barrier that would preclude injected fluid from migrating towards the Yates and Gruy wells;

(b) Pecos' current waterflood plan does not provide for a producing well to be located between its Benson "3" Federal Wells No. 2 and 6 injection wells and the Yates and Gruy wells;

(c) although the Yates Benson Deep "AAZ" Federal Well No. 4 currently only produces two barrels of oil per day from the Bone Spring interval, Yates expects to economically produce this interval for several more years. In addition, there are other potentially productive intervals in the well that may be tested in the future; and

(d) injection into the Benson "3" Federal Wells No. 2 and 6 poses a significant risk to the Yates and Gruy wellbores.

(15) Yates requests that the Division deny that portion of Pecos' application to utilize the Benson "3" Federal Wells No. 2 and 6 as injection wells in this project; or in the alternative, Yates requests that Pecos be required to equip and utilize a well located to the west of the Benson "3" Federal Wells No. 2 and 6 as either a monitor or producing well. Yates suggested that the Benson "3" Federal Well No. 5, a plugged and abandoned well located 2310 feet from the North line and 1650 feet from the East line (Unit G) of Section 3, might serve as a possible candidate.

(16) The evidence presented in this case demonstrates that:

(a) the Queen sands are continuous in Sections 2 and 3, and there is sufficient porosity in the Queen sands within the Yates Benson Deep "AAZ" Federal Well No. 4 and the Gruy Benson "3" Federal Well No. 1 so as to provide an avenue whereby injected fluid from Pecos' proposed injection wells in Section 3 may reach these wellbores;

(b) there are oil and gas reserves within the Yates Benson Deep "AAZ" Federal Well No. 4 and the Gruy Benson "3" Federal Well No. 1 that may be adversely affected by the proposed injection in Section 3, thereby violating the correlative rights of Yates and Gruy; and

(c) Pecos' current plan of waterflood operations does not provide any protection for the Yates and Gruy wellbores.

(17) It is the general policy of the Division to require that all wells within the "area of review" of a proposed injection well be cemented above, across and below the injection interval. There is not sufficient evidence in this case to justify an exception to this policy.

(18) Although the Yates Benson Deep "AAZ" Federal Well No. 4 is located outside the "area of review" of Pecos' proposed injection wells in Section 3 (the Yates Benson Deep "AAZ" Federal Well No. 4 is located 3,267 feet from the Benson "3" Federal Well No. 2 and 3,130 feet from the Benson "3" Federal Well No. 6,) this well should be afforded protection from waterflood operations.

(19) Injection into the Benson "3" Federal Wells No. 2 and 6 should not be authorized until such time as Pecos presents an acceptable plan of operation that will reduce or eliminate the risk to the Yates Benson Deep "AAZ" Federal Well No. 4 and to the Gruy Benson "3" Federal Well No. 1.

(20) The proposed waterflood project should be approved, and Pecos should be authorized to utilize its State "2" Wells No. 1, 5 and 7 as injection wells within the project area, all as shown in detail on Exhibit "A" attached to this order.

(21) Prior to commencing injection operations into the State "2" Well No. 1, this well should be plugged back to a depth of approximately 3,300 feet in a manner that is acceptable to the supervisor of the Division's Artesia District Office.

(22) The applicant further seeks to qualify the waterflood project as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (NMSA 1978 Sections 7-29A-1 through 7-29A-5).

(23) The evidence presented demonstrates that:

(a) the application for approval of the proposed secondary recovery project has not been prematurely filed either for economic or technical reasons;

(b) the area affected by the proposed project has been so depleted by primary operations that it is prudent to apply secondary recovery techniques to maximize the ultimate recovery of crude oil from the pool; and

(c) the proposed secondary recovery project meets all the criteria for certification by the Division as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (NMSA 1978 Sections 7-29A-1 through 7-29A-5).

(24) The approved project area should initially comprise Lots 3 and 4, S/2 NW/4 and SW/4 of Section 2 and Lots 1 and 2, S/2 NE/4 and SE/4 of Section 3; however, the "project area" and/or the producing wells eligible for the enhanced oil recovery (EOR) tax rate may be contracted and reduced based upon the evidence presented by the applicant in its demonstration of a positive production response.

(25) To be eligible for the EOR tax rate, the operator should advise the Division of the date water injection commences within the secondary recovery project. At that time, the Division will certify the project to the New Mexico Taxation and Revenue Department.

(26) At such time as a positive production response occurs, and within five years from the date the project was certified to the New Mexico Taxation and Revenue Department, the applicant must apply to the Division for certification of a positive production response. This application shall identify the area benefiting from enhanced oil recovery operations and the specific wells eligible for the EOR tax rate. The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those wells that are eligible for the EOR tax rate.

IT IS THEREFORE ORDERED THAT:

(1) Pecos Production Company is hereby authorized to institute a waterflood project within the following-described area by the injection of water into the Queen formation, Shugart (Yates-Seven Rivers-Queen-Grayburg) Pool, Eddy County, New Mexico, through three injection wells shown on Exhibit "A" attached to this order located in Sections 2 and 3, Township 19 South, Range 30 East, NMPM:

Township 19 South, Range 30 East, NMPM
Section 2: Lots 3 and 4, S/2 NW/4, SW/4
Section 3: Lots 1 and 2, S/2 NE/4, SE/4

(2) 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 from injection, production, or plugged and abandoned wells.

(3) Injection into each of the wells shown on Exhibit "A" shall be accomplished through 2 3/8 inch internally plastic-lined tubing installed in a packer located within 100 feet of the uppermost injection perforations. The casing-tubing annulus in each well shall be filled with an inert fluid and a gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(4) The injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the uppermost injection perforation, all as shown on Exhibit A.

(5) The Division Director may administratively authorize a pressure limitation in excess of the above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(6) Prior to commencing injection operations, the casing in each well shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

(7) Prior to commencing injection operations into the State "2" Well No. 1, the well shall be plugged back to a depth of approximately 3,300 feet in a manner acceptable to the supervisor of the Division's Artesia District Office.

(8) The operator shall give advance notice to the supervisor of the Division's Artesia District Office of the date and time (i) injection equipment will be installed, (ii) the mechanical integrity pressure tests will be conducted on the injection wells, and (iii) remedial plug back work will be conducted on the State "2" Well No. 1, so that these operations may be witnessed.

(9) The operator shall immediately notify the supervisor of the Division's Artesia District Office of the failure of the tubing, casing or packer in any of the injection wells or the leakage of water, oil or gas from or around any producing or plugged and abandoned well within the project area, and shall promptly take all steps necessary to correct such failure or leakage.

(10) The waterflood project is hereby designated the State "2" Shugart Cooperative Waterflood Project, and the applicant shall conduct injection operations in accordance with Division Rules No. 701 through 708, and shall submit monthly progress reports in accordance with Division Rules No. 706 and 1115.

(11) The injection authority granted herein for each well shown on Exhibit "A" shall terminate one year after the date of this order if the operator has not commenced injection operations into the well; provided, however, the Division, upon written request by the operator, may grant an extension for good cause.

(12) The State "2" Shugart Cooperative Waterflood Project is hereby certified as an "Enhanced Oil Recovery Project." The project area shall initially comprise the area described in Ordering Paragraph No. (1), provided however, the project area and/or the producing wells eligible for the enhanced oil recovery (EOR) tax rate may be contracted and reduced based upon the evidence presented by the applicant in its demonstration of a positive production response.

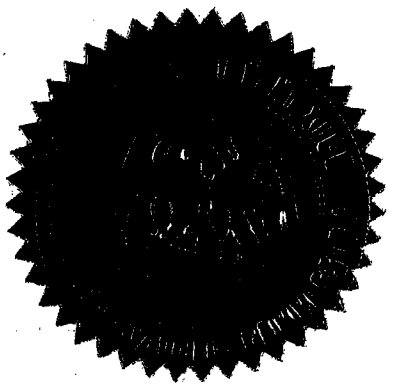
(13) To be eligible for the EOR tax rate, the operator shall advise the Division of the date and time water injection commences within the secondary recovery project. At that time, the Division will certify the project to the New Mexico Taxation and Revenue Department.

(14) At such time as a positive production response occurs, and within five years from the date the project was certified to the New Mexico Taxation and Revenue Department, the applicant must apply to the Division for certification of a positive production response. This application shall identify the area benefiting from enhanced oil recovery operations and the specific wells eligible for the EOR tax rate. The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those wells that are eligible for the EOR tax rate.

(15) The portion of Pecos Production Company's application to convert the Benson "3" Federal Well No. 2 (API No. 30-015-26260) located 330 feet from the North line and 480 feet from the East line (Unit A) of Section 3, and the Benson "3" Federal Well No. 6 (API No. 30-015-26565) located 2310 feet from the South line and 330 feet from the East line (Unit I) of Section 3, both in Township 19 South, Range 30 East, NMPM, Eddy County, New Mexico, is hereby denied.

(16) Jurisdiction is hereby 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.



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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MARK E. FESMIRE, P.E.
Director

Exhibit "A"
Case No. 13377
Division Order No. R-12268
State "2" Shugart Cooperative Waterflood Project
Approved Injection Wells

Well Location	Injection Interval	Packer Depth	Maximum Surface Injection Pressure
1855' FNL & 660' FWL (Unit E) Section 2, T-19S, R-30E	2,980'-3,120'	2,930'	596 PSIG
660' FSL & 330' FWL (Unit M) Section 2, T-19S, R-30E	2,899'-2,929'	2,850'	580 PSIG
1980' FSL & 1650' FWL (Unit K) Section 2, T-19S, R-30E	2,978'-3,023'	2,910'	596 PSIG