

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:

**APPLICATION OF EXXON CORPORATION  
FOR A WATERFLOOD PROJECT,  
QUALIFICATION FOR THE RECOVERED  
OIL TAX RATE PURSUANT TO THE  
"NEW MEXICO ENHANCED OIL  
RECOVERY ACT" FOR SAID PROJECT,  
AND FOR 18 NON-STANDARD OIL WELL  
LOCATIONS, EDDY COUNTY, NEW MEXICO.**

*CASE No. 11297*

**APPLICATION OF EXXON CORPORATION  
FOR STATUTORY UNITIZATION, EDDY  
COUNTY, NEW MEXICO.**

*CASE No. 11298*

*Order No. R-10460*

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 29, 1995, in Hobbs, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 18th day of September, 1995 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) The applicant in Case No. 11298, Exxon Corporation ("Exxon"), seeks the statutory unitization, pursuant to the "Statutory Unitization Act", Sections 70-7-1 through 70-7-21, NMSA (1978), for the purpose of establishing both a secondary recovery and tertiary recovery project, of all mineral interests in the designated and Undesignated Avalon-Delaware Pool comprising 2140.14 acres, more or less, of State, Federal, and fee

lands in Eddy County, New Mexico, said unit to henceforth be known as the Avalon (Delaware) Unit Area; the applicant further seeks approval of the "Unit Agreement" and "Unit Operating Agreement", which were submitted at the time of the hearing in evidence as applicant's Exhibit Nos. 2 and 3.

(3) In Case No. 11297, Exxon seeks authority:

(a) to institute a waterflood project in its proposed Avalon (Delaware) Unit Area by the injection of water into the designated and Undesignated Avalon-Delaware Pool by the injection of water through 18 new wells to be drilled as injection wells and one well to be converted from a producing oil well to an injection well;

(b) to qualify this project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5); and

(c) to drill 18 new producing wells throughout the project area at locations considered to be unorthodox.

(4) The applicant proposes that said unit comprise the following described area in Eddy County, New Mexico:

TOWNSHIP 20 SOUTH, RANGE 27 EAST, NMPM

Section 25: E/2 E/2

Section 36: E/2 E/2

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM

Section 29: SW/4 SW/4

Section 30: Lots 1 through 4, SW/4 NE/4, E/2 W/2, and SE/4

Section 31: All

Section 32: SW/4 NE/4, W/2, and W/2 SE/4

TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM

Section 4: Lot 4

Section 5: Lots 1 and 2

Section 6: Lots 1 and 2

(5) The horizontal confines of said unit are within the governing limits, as specified by Division General Rule 104.A(2), of the Avalon-Delaware Pool with a large part of the proposed area having been reasonably defined by development.

(6) The vertical limits or "unitized formation" of said unitized area is that interval described as the Delaware Mountain Group, extending from 100 feet above the base of the Goat Seep Reef to the top of the Bone Spring formation and including, but not limited to, the Cherry Canyon and Brushy Canyon formations, as identified by the *Compensated Neutron/Lithodensity/Gamma Ray Log* dated September 14, 1990 run in the Exxon Corporation Yates "C" Federal Well No. 36, located 1305 feet from the North and East lines (Unit A) of Section 31, Township 20 South, Range 28 East, NMPM, Eddy County, New Mexico, with the top of the unitized interval being found in said well at a depth of 2,378 feet below the surface (869 feet above sea level) and the base of the unitized interval being found at a depth of 4,880 feet below the surface (1,633 feet below sea level), or stratigraphic equivalents thereof.

(7) The proposed Unit Area contains twelve separate tracts of land, the working interests in which are owned by forty-eight different interest owners. Exxon operates five of the twelve tracts, five tracts are operated by Yates Petroleum Corporation ("Yates"), one tract is operated by Premier Oil & Gas, Inc. ("Premier"), and one tract is operated by MWJ Producing Company. There are twenty-four royalty and overriding royalty interest owners in the proposed Unit Area.

(8) At the time of the hearing, the owners of approximately 97.5% of the working interest, and the owners of over 95% of the royalty and overriding royalty interest, had voluntarily joined in the proposed unitization. The 95% royalty owner approval includes federal lands owned by the United States. The U.S. Bureau of Land Management has indicated its preliminary approval by designating the unit as logical for conducting secondary recovery operations, and the New Mexico Commissioner of Public Lands, acting on behalf of the state's trust lands, has preliminarily approved the proposed unitization.

(9) The applicant has conducted negotiations with interest owners within the proposed unit area for over four years. Therefore, the applicant has made a good faith effort to secure voluntary unitization within the above-described Unit Area.

(10) All interested parties who have not agreed to unitization were notified of the hearing by applicant. At the hearing in this matter, Yates entered its appearance and presented evidence in support of the application. Unit Petroleum Company and MWJ Producing Company, working interest owners, made statements in support of the application.

(11) Premier, the operator and sole working interest owner of Tract No. 6, which comprises the E/2 E/2 of Section 25, Township 20 South, Range 27 East, NMPM, Eddy County, New Mexico, and represents 7.6% of the proposed unit acreage, appeared at the hearing and presented evidence in opposition to the inclusion of Tract 6 within the Unit Area.

(12) Exxon, the largest working interest owner in the proposed Unit Area with 80 percent of the current production, prepared a "*Report of the Technical Committee for the Working Interest Owners*", which was submitted at the time of the hearing in evidence as applicant's Exhibit No. 10, Volumes I and II.

(13) The applicant proposes to institute a waterflood project at an expected cost of \$14,400,000.00 for the secondary recovery of oil and associated gas, condensate, and all associated liquefiable hydrocarbons within and to be produced from the proposed Unit Area (being the subject of Division Case No. 11,297). The estimated reserves recoverable from the waterflood project are 8.2 million barrels of oil.

(14) Said Unit Area also has potential as a tertiary (CO<sub>2</sub> injection) project. Evidence presented at the hearing by the applicant and proponents of this case shows that:

- (a) the estimated recoverable tertiary reserves are 39.9 million barrels of oil;
- (b) if such a CO<sub>2</sub> flood is instituted in the proposed Unit Area, it will likely be the first CO<sub>2</sub> project in the area and could facilitate other CO<sub>2</sub> floods;
- (c) the waterflood project will provide additional data which may justify additional secondary recovery waterflood projects in other Delaware pools in the general area;
- (d) institution of the CO<sub>2</sub> flood depends upon waterflood performance, results of future CO<sub>2</sub> injectivity tests, and perception of future oil prices. A minimum of 3 years of water injection would be required to repressure the reservoir prior to commencing a CO<sub>2</sub> injection program; and
- (e) the participation formula presented is single phase whereby remaining primary oil is weighted by 25%, secondary oil and workover potential is weighted by 50% and tertiary oil is weighted by 25%, which results in Exxon receiving 73.920333% of Unit

production, Yates receiving 4.149893% of Unit production and Premier receiving 1.019231% of Unit production.

(15) Additional testimony was presented by Exxon for approval of said Unit Area because:

- (a) the waterflood project area includes approximately 1100 acres in the center of the Unit Area. The outer or "fringe" tracts were included in the Unit Area based upon their CO<sub>2</sub> flood potential. The "fringe" tracts having little or no primary or secondary production potential will however participate in production from inception of the Unit;
- (b) the "Technical Report" and the Unit Agreement attribute no remaining primary or waterflood reserves to Tract 6, operated by Premier;
- (c) Premier will own 1% of the Avalon (Delaware) Unit despite the fact that Premier's Tract 6 has produced only 0.1% of the cumulative oil to date;
- (d) in addition, Premier is likely to receive positive cash flow from the first day of unit operations because of investment adjustments;
- (e) it would be difficult, if Tract 6 were deleted from the Unit, to waterflood or CO<sub>2</sub> flood Tract 6 separately from the Unit. Furthermore, if Tract 6 is not part of the Unit, production of CO<sub>2</sub>-laden gas from Tract 6 would present operational difficulties; and
- (f) deleting Tract 6 from the Unit Area would require additional negotiations among working interest owners, revision of Unit documents, and other delays. It was further indicated that if Tract 6 is deleted, unitization may never occur.

(16) Premier presented evidence in opposition to the formation of said Unit and contends that Tract 6 should be excluded because:

- (a) the proposed waterflooding portion of this project is the reason for the Unit, while the tertiary recovery portion, or CO<sub>2</sub> injection, has only some probability of happening or not happening;

- (b) under the Exxon analysis the inclusion of the Premier's Tract 6 is not necessary in order to effectively carry on the waterflood portion of this project and that it is premature to include Tract 6 for tertiary recovery;
- (c) under the Exxon analysis there is no increase in ultimate recovery of secondary oil from the Unit by including Tract 6;
- (d) the Exxon analysis of the CO<sub>2</sub> potential is speculative and has not been the subject of any scientific study to determine its feasibility and therefore any forecasted increase in ultimate recovery of tertiary oil from the unit by including Tract 6 is speculative;
- (e) Exxon proposes to include Tract 6 only as a "protection buffer" and assigns no "contributing value" for secondary oil recovery; and
- (f) Premier, as owner of all of said Section 25, is not receiving any "contributing value" for primary or secondary oil and does not desire to divide its property for the formation of said Unit.

(17) Based upon the foregoing, the inclusion of Tract 6 in the proposed unitization is in the best interest of conservation in that it is deemed necessary, as well as fair and reasonable, to effectively carry out tertiary recovery operations. The exclusion of Tract 6 would result in waste and could serve to inhibit CO<sub>2</sub> development not only of this project but others in the area. Further, such unitization as requested and the adoption of Exxon's proposed secondary and tertiary plans for this Unit Area will serve to benefit the working interest and royalty interest owners of the oil and gas rights in the Delaware formation.

(18) The proposed unitized method of operation as applied to the Avalon (Delaware) Unit is feasible and will result with reasonable probability in the increased recovery of substantially more oil and gas from the unitized portion of the Avalon-Delaware Pool than would otherwise be recovered without unitization.

(19) The estimated additional costs of such operations will not exceed the estimated value of the additional oil so recovered plus a reasonable profit.

(20) The applicant's Exhibit Nos. 2 and 3 in this case, being the Unit Agreement and the Unit Operating Agreement, should be incorporated by reference into this order.

(21) The unitized management, operation and further development of the Avalon (Delaware) Unit Area, as proposed, is reasonably necessary to effectively increase the ultimate recovery of oil and gas from the unitized portion of the Avalon-Delaware Pool.

(22) The Avalon (Delaware) Unit Agreement and the Avalon (Delaware) Unit Operating Agreement provide for unitization and unit operation of the Avalon (Delaware) Unit Area upon terms and conditions that are fair, reasonable and equitable, and include:

- (a) a participation formula which will result in fair, reasonable and equitable allocation to the separately owned tracts of the Unit Area of all oil and gas that is produced from the Unit Area and which is saved, being the production that is (i) not used in the conduct of unit operations, or (ii) unavoidably lost;
- (b) a provision for the credits and charges to be made in the adjustment among the owners in the Unit Area for their respective investments in wells, tanks, pumps, machinery, materials and equipment contributed to the unit operators;
- (c) a provision governing how the costs of unit operations including capital investments shall be determined and charged to the separately-owned tracts and how said costs shall be paid, including a provision providing when, how and by whom such costs shall be charged to each owner, or the interest of such owner, and how his interest may be sold and the proceeds applied to the payment of his costs;
- (d) a provision for carrying any working interest owner on a limited or carried basis payable out of production, upon terms and conditions which are just and reasonable, and which allow an appropriate charge for interest for such service payable out of production, upon such terms and conditions determined by the Division to be just and reasonable;
- (e) a provision designating the Unit Operator and providing for supervision and conduct of the unit operations, including the selection, removal and substitution of an operator from among the working interest owners to conduct the unit operations;

- (f) a provision for a voting procedure for decisions on matters to be decided by the working interest owners in respect to which each working interest owner shall have a voting interest equal to his unit participation; and
- (g) a provision specifying the time when the unit operation shall commence and the manner in which, and the circumstances under which, the operations shall terminate and for the settlement of accounts upon such termination.

(23) The statutory unitization of the Avalon (Delaware) Unit Area is in conformity with the above findings, and will prevent waste and protect correlative rights of all interest owners within the proposed Unit Area, and should therefore be approved as requested by Exxon.

(24) The proposed Avalon (Delaware) Unit Area contains undeveloped acreage and acreage that will not be part of the initial waterflood project. Therefore, in compliance with Division General Rule 701.G(3), the initial waterflood project area, for allowable and tax credit purposes, should be reduced to include the following described 1088.50 acres in Eddy County, New Mexico:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM

Section 30: Lots 1 through 4, SE/4 NW/4, E/2 SW/4, and S/2 SE/4

Section 31: Lots 1 through 3, NE/4, E/2 NW/4, NE/4 SW/4, N/2 SE/4, and SE/4 SE/4

Section 32: W/2 NW/4, N/2 SW/4, and SW/4 SW/4.

(25) Exhibit "A", attached hereto and made a part hereof, lists the 19 proposed injection wells (18 of which are to be new drills and one is to be a conversion) for the initial waterflood project. It is the applicant's intent to drill the 18 new wells and initially complete them first as oil producing wells and eventually convert them to water injectors. Approval of the unorthodox locations is necessary for "start-up" of said waterflood project.

(26) The waterflood pattern to be utilized initially is to be a 40-acre inverted fivespot comprising the 19 aforementioned water injection wells and 27 producing wells.

(27) The present Delaware oil producing wells within the subject project area and interval are in an advanced state of depletion and should therefore be properly classified as "stripper wells".



(28) The operator of the proposed Avalon (Delaware) Unit Waterflood Project should take all steps necessary to ensure that the injected water enters and remains confined to only the proposed injection interval and is not permitted to escape from that interval and migrate into other formations, producing intervals, pools, or onto the surface from injection, production, or plugged and abandoned wells.

\* (29) The injection of water into the proposed injection wells should be accomplished through 2-3/8 inch plastic-coated tubing installed in a seal bore assembly set within 100 feet of the uppermost injection perforation. The casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or seal bore assembly.

\* (30) Prior to commencing injection operations into the proposed injection wells, ~~the casing in each well should be pressure tested throughout the interval from the surface down to the proposed seal bore assembly setting depth to assure the integrity of such casing.~~ *Upper most perforation, mechanical the well.*

(31) The injection wells or pressurization system for each well should be so equipped as to limit injection pressure at the wellhead to no more than 490 psi; however, the Division Director should have the authority to administratively authorize a pressure increase upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(32) 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-tests in order that the same may be witnessed.

(33) The proposed waterflood project should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(34) The applicant further requests that the subject waterflood project be approved by the Division as a qualified Enhanced Oil Recovery Project ("EOR") pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(35) The evidence presented indicates that the subject waterflood project meets all the criteria for approval.

(36) The approved "project area" should initially comprise that area described in Finding Paragraph No. (24) above.

(37) To be eligible for the EOR credit, prior to commencing injection operations the operator must request from the Division a Certificate of Qualification, which Certificate will specify the proposed project area as described above.

(38) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator must apply to the Division for certification of a positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to the Department of Taxation and Revenue those lands and wells which are eligible for the credit.

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

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Exxon Corporation ("Exxon") in Case No, 11,298 for the Avalon (Delaware) Unit, covering 2,118.78 acres, more or less, of State, Federal, and fee lands in the designated and Undesignated Avalon-Delaware Pool, Eddy County, New Mexico is hereby approved for statutory unitization, for the purpose of establishing both a secondary recovery and tertiary recovery project, pursuant to the "Statutory Unitization Act", Sections 70-7-1 through 70-7-21, NMSA (1978).

(2) The Avalon (Delaware) Unit Agreement, and the Avalon (Delaware) Unit Operating Agreement, which were submitted to the Division at the time of the hearing as Exhibits 2 and 3, respectively, are hereby incorporated by reference into this order.

(3) The lands herein designated the Avalon (Delaware) Unit Area shall comprise the following described acreage in Eddy County, New Mexico:

**TOWNSHIP 20 SOUTH, RANGE 27 EAST, NMPM**

Section 25: E/2 E/2

Section 36: E/2 E/2

**TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM**

- Section 29: SW/4 SW/4
- Section 30: SW/4 NE/4, NW/4, and S/2
- Section 31: All
- Section 32: SW/4 NE/4, W/2, and W/2 SE/4

**TOWNSHIP 21 SOUTH, RANGE 27 EAST, NMPM**

- Section 4: Lot 4
- Section 5: Lots 1 and 2
- Section 6: Lots 1 and 2

(4) The vertical limits or "unitized formation" of said unitized area shall include that interval described as the Delaware Mountain Group, extending from 100 feet above the base of the Goat Seep Reef to the top of the Bone Spring formation and including, but not limited to, the Cherry Canyon and Brushy Canyon formations, as identified by the *Compensated Neutron/Lithodensity/Gamma Ray Log* dated September 14, 1990 run in the Exxon Corporation Yates "C" Federal Well No. 36, located 1305 feet from the North and East lines (Unit A) of Section 31, Township 20 South, Range 28 East, NMPM, Eddy County, New Mexico, with the top of the unitized interval being found in said well at a depth of 2,378 feet below the surface (869 feet above sea level) and the base of the unitized interval being found at a depth of 4,880 feet below the surface (1,633 feet below sea level), or stratigraphic equivalents thereof.

(5) Since the persons owning the required statutory minimum percentage of interest in the Unit Area have approved, ratified, or indicated their preliminary approval of the Unit Agreement and the Unit Operating Agreement, the interests of all persons within the Unit Area are hereby unitized whether or not such persons have approved the Unit Agreement or the Unit Operating Agreement in writing.

(6) The applicant as Unit operator shall notify in writing the Division Director of any removal or substitution of said Unit operator by any other working interest owner within the Unit Area.

**IT IS FURTHER ORDERED THAT:**

(7) Exxon is hereby authorized to institute a waterflood project in its Avalon (Delaware) Unit Area by the injection of water into the designated and Undesignated Avalon-Delaware Pool, as found in that stratigraphic interval between 2378 feet to 4880 feet as identified by the *Compensated Neutron/Lithodensity/Gamma Ray Log* dated September 14, 1990 run in the Exxon Corporation Yates "C" Federal Well No. 36, located 1305 feet from the North and East lines (Unit A) of Section 31, Township 20 South,

Range 28 East, NMPM, Eddy County, New Mexico, through nineteen certain wells as further described in Exhibit "A" attached hereto and made a part hereof.

(8) In compliance with Division General Rule 701.G(3), the initial waterflood project area, for allowable and tax credit purposes, shall comprise only the following described 1088.50 acres in Eddy County, New Mexico:

**TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM**

Section 30: Lots 1 through 4, SE/4 NW/4, E/2 SW/4, and S/2 SE/4

Section 31: Lots 1 through 3, NE/4, E/2 NW/4, NE/4 SW/4, N/2 SE/4, and SE/4 SE/4

Section 32: W/2 NW/4, N/2 SW/4, and SW/4 SW/4.

(9) The applicant must take all steps necessary to ensure that the injected water only enters and remains confined to 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.

**IT IS FURTHER ORDERED THAT:**

(10) Injection shall be accomplished through 2-3/8 inch plastic-coated tubing installed in a seal bore assembly set approximately within 100 feet of the uppermost injection perforation; the casing-tubing annulus in each well shall be filled with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(11) The 19 water injection wells or pressurization system shall be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 490 psi.

(12) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the 490 psi herein authorized upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

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

(14) The operator shall 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.

(15) The applicant shall immediately notify the supervisor of the Artesia District Office of the Division of the failure of the tubing, casing or seal bore assembly in any of the 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 steps as may be timely and necessary to correct such failure or leakage.

(16) The applicant shall conduct injection operations in accordance with Division Rule Nos. 701 through 708 and shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

**FURTHERMORE:**

(17) The subject waterflood project is hereby approved as an Enhanced Oil Recovery Project ("EOR") pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(18) The approved "project area" shall initially comprise that area described in Decretory Paragraph No. (8) above.

(19) To be eligible for the EOR credit, prior to commencing injection operations the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

(20) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator must apply to the Division for certification of a positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to the Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(21) The injection authority granted herein for the proposed injection wells shall terminate one year after the effective date of this order if the operator has not commenced

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injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

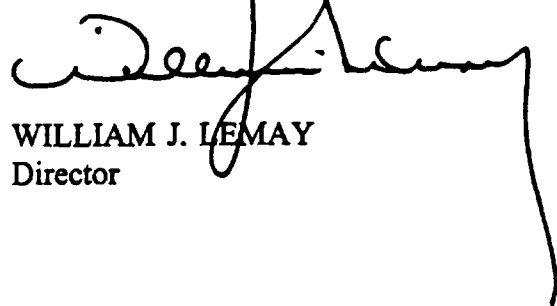
**FURTHERMORE:**

(22) The applicant is authorized to drill the first eighteen wells listed on Exhibit "A" attached hereto. The applicant may complete the wells as producers and later convert them to injection.

(23) 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



WILLIAM J. LEMAY  
Director

S E A L

EXHIBIT 'A'

CASE NO. 11297  
ORDER NO R-10460

EXXON CORPORATION  
PROPOSED WATER INJECTION WELLS/UNORTHODOX OIL WELL LOCATIONS  
AVALON (DELAWARE) UNIT WATERFLOOD PROJECT AREA

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM,  
EDDY COUNTY, NEW MEXICO

| WELL NO. | ORIGINALLY PROPOSED LOCATION | SECTION | ACTUAL STAKED LOCATION | PROPOSED PERFORATED INTERVAL FEET |
|----------|------------------------------|---------|------------------------|-----------------------------------|
| 1212     | 1668' FNL & 1455' FWL        | 30      | 1665' FNL & 1452' FWL  | 2486 - 4817                       |
| 1412     | 2310' FSL & 1485' FWL        | 30      | 2301' FSL & 1485' FWL  | 2509 - 4832                       |
| 1612     | 992' FSL & 1489' FWL         | 30      | 1152' FSL & 1489' FWL  | 2492 - 4798                       |
| 1614     | 1046' FSL & 2677' FWL        | 30      | NO CHANGE              | 2498 - 4853                       |
| 1812     | 183' FNL & 1397' FWL         | 31      | 101' FNL & 1355' FWL   | 2467 - 4774                       |
| 1814     | 123' FNL & 2673' FEL         | 31      | NO CHANGE              | 2496 - 4844                       |
| 1816     | 46' FNL & 1402' FEL          | 31      | 43' FNL & 1458' FEL    | 2520 - 4902                       |
| 2012     | 1386' FNL & 1314' FWL        | 31      | NO CHANGE              | 2481 - 4800                       |
| 2014     | 1335' FNL & 2681' FWL        | 31      | 1388' FNL & 2750' FWL  | 2495 - 4843                       |
| 2018     | 1317' FNL & 97' FEL          | 31      | 1310' FNL & 97' FEL    | 2501 - 4924                       |
| 2212     | 2600' FSL & 1322' FWL        | 31      | NO CHANGE              | 2496 - 4817                       |

| WELL NO. | ORIGINALLY PROPOSED LOCATION | SECTION | ACTUAL STAKED LOCATION | PROPOSED PERFORATED INTERVAL FEET |
|----------|------------------------------|---------|------------------------|-----------------------------------|
| 2214     | 2699' FSL & 2549' FWL        | 31      | 2610' FSL & 2549' FWL  | 2509 - 4841                       |
| 2216     | 2566' FNL & 1377' FEL        | 31      | 2564' FNL & 1377' FEL  | 2505 - 4885                       |
| 2218     | 2423' FSL & 78' FEL          | 31      | 2517' FSL & 78' FEL    | 2477 - 4918                       |
| 2220     | 2648' FSL & 1127' FWL        | 32      | 2658' FSL & 1127' FWL  | 2489 - 4945                       |
| 2412     | 1337' FSL & 1324' FWL        | 31      | NO CHANGE              | 2535 - 4826                       |
| 2418     | 1356' FSL & 99' FEL          | 31      | NO CHANGE              | 2478 - 4911                       |
| 2420     | 1323' FSL & 1107' FWL        | 32      | 1333' FSL & 1107' FWL  | 2479 - 4935                       |
| 2016*    | 1305' FNL & 1305' FEL        | 31      | NO CHANGE              | 2478 - 4880                       |

\*Already drilled under prior Division Order (previously designated the Exxon Corporation Yates "C" Federal No. 36).