

Final decision 3, 1974
R.P.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

CASE NO. 5377
Order No. R-4936

IN THE MATTER OF THE HEARING CALLED BY
THE OIL CONSERVATION COMMISSION ON ITS
OWN MOTION TO PERMIT ALL INTERESTED
PARTIES TO APPEAR AND SHOW CAUSE WHY THE
CONTINUED INJECTION OF WATER FOR SECONDARY
RECOVERY OR DISPOSAL PURPOSES INTO ANY FOR-
MATION FROM THE SURFACE OF THE GROUND DOWN
TO AND INCLUDING THE DRINKARD FORMATION
SHOULD BE PERMITTED IN SECTIONS 13 THROUGH
36, TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM,
AND SECTIONS 1 THROUGH 12, TOWNSHIP 23 SOUTH,
RANGE 37 EAST, NMPM, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 3, 1974, at Santa Fe, New Mexico, before the New Mexico Oil Conservation Commission, hereinafter referred to as the "Commission."

NOW, on this 5th day of December, 1974, the Commission, a quorum being present, having considered the testimony and the record, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That pursuant to Order No. R-2633, dated January 16, 1964, and other orders of the Commission, Anadarko Production Company has been and is injecting water into the Queen formation of the Langlie-Mattix Pool for the purpose of secondary recovery of oil in Sections 14, 21, 22, 23, 26, 27, 28, 29, 20, 32, 33, and 34, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico.
- (3) That pursuant to Order No. R-2566, dated August 23, 1963, and other orders of the Commission, Petro-Lewis Corporation has been and is injecting water into the Queen formation of the Langlie-Mattix Pool for the purpose of secondary recovery of oil in Sections 19, 20, 29, 30, and 31, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico.
- (4) That pursuant to Order No. R-2956, dated August 16, 1965, Order No. R-3208, dated March 17, 1967, and other orders of the Commission, Skelly Oil Company has been and is injecting water into the Queen formation of the Langlie-Mattix Pool for

the purpose of secondary recovery of oil in Sections 31, 32, 33, and 34, Township 22 South, Range 37 East, NMPM, and Sections 3, 4, 5, 6, 8, 9, and 10, Township 23 South, Range 37 East, Lea County, New Mexico.

(5) That pursuant to Administrative Order No. SWD-29, dated September 21, 1961, Skelly Oil Company is injecting water into the San Andres formation for disposal purposes in a well located in Unit L, Section 27, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico.

(6) That pursuant to Administrative Order No. SWD-82, dated October 26, 1968, Agua, Inc., is injecting water into the San Andres formation for disposal purposes in a well located in Unit H, Section 35, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico.

(7) That pursuant to Administrative Order No. SWD-138, dated May 15, 1973, Armer Oil Company is injecting water into the San Andres formation for disposal purposes in a well located in Unit M, Section 2, Township 23 South, Range 37 East, NMPM, Lea County, New Mexico.

(8) That this case was called to investigate the possibility that some of the water being injected into the Queen and/or San Andres formations is not being injected into the formation into which it is placed, but may be in fact migrating into another formation or other formations.

(9) That the evidence indicates that such is the case, and that injected water has appeared and is appearing in formations above the top of the salt section found at a depth of approximately 1300 feet in the subject area, in the salt section from approximately 1300 feet to 2400 feet, and in formations from the base of the salt section at approximately 2400 feet to the top of the Queen formation at approximately 3400 feet.

(10) That there is evidence that some contamination of fresh water supplies in the subject area has occurred.

(11) That the actual avenue or avenues of escape for the waters being injected in the subject area are not now known, but are probably through the bore holes of inadequately plugged or cemented wells.

(12) That further investigation of the avenue or avenues of escape for the injected waters should be made, and to that end a study committee should be appointed to make a thorough and immediate study of the wells in the subject area and to report its findings to the Commission.

(13) That the evidence presently available indicates that the major problem area is confined to the easternmost 24 sections of the area under consideration.

(14) That the evidence presently available indicates that while the injection of water into the Queen formation in the westernmost 12 sections of the area under consideration may be contributing to the problem, this injection is not so serious a threat as injection of water into the Queen formation in the easternmost 24 sections.

(15) That there is no evidence now available to support the theory that water injected into the San Andres formation through the three disposal wells described in Findings Nos. (5), (6), and (7) is migrating upward past the Queen formation and into the formations described in Finding No. (9).

(16) That injection volumes in the secondary recovery areas described in Findings Nos. (2), (3), and (4) greatly exceed reservoir voidage and should be curtailed.

(17) That water injection volumes into the Queen formation in Sections 14, 21, 22, 23, 26, 27, 28, 33, and 34, Township 22 South, Range 37 East, NMPM, and in Sections 3, 4, 9, and 10, Township 23 South, Range 37 East, NMPM, should be limited to 100 percent of the reservoir voidage from the secondary recovery wells in said area, including oil, water, and gas produced.

(18) That water injection volumes into the Queen formation in Sections 19, 20, 29, 30, 31, and 32, Township 22 South, Range 37 East, NMPM, and in Sections 5, 6, and 8, Township 23 South, Range 37 East, NMPM, should be limited to 150 percent of the reservoir voidage from the secondary recovery wells in said area, including oil, water, and gas produced.

(19) That Skelly Oil Company should continue to produce, at its maximum capacity to flow, water currently being produced from its LPG Well No. 3, located in Unit F, Section 27, Township 22 South, Range 37 East, NMPM.

(20) That because of its proximity to the aforesaid LPG Well No. 3, injection of water for disposal purposes into Skelly Oil Company's Eunice GP Well No. 1, located in Unit L, Section 27, Township 22 South, Range 37 East, NMPM, should be limited to gasoline plant water effluent only.

(21) That injection of water into the San Andres formation for disposal purposes into Agua, Inc.'s SWD Well No. H-35, located in Unit H, Section 35, Township 22 South, Range 37 East, NMPM, and into Armer Oil Company's Gulf State SWD Well No. 1, located in Unit M, Section 2, Township 23 South, Range 37 East, NMPM, should continue, at least pending further study.

(22) That workover operations are being and will continue to be conducted on certain wells in the subject area, said workover operations including the cementing or recementing of casing through the Queen and San Andres formations.

(23) That to enable the cement to properly set on said wells, water injection into any well within a radius of 1320 feet of the well being cemented or recemented should not occur for a minimum of 12 hours prior to commencement of actual cementing operations or 36 hours after completion thereof.

(24) That approval of an order embodying the above findings will prevent waste of oil and gas, will protect correlative rights, and will alleviate the contamination of fresh water supplies.

IT IS THEREFORE ORDERED:

(1) That the operator of each secondary recovery injection well in Sections 14, 21, 22, 23, 26, 27, 28, 33, and 34, Township 22 South, Range 37 East, NMPM, and in Sections 3, 4, 9, and 10, Township 23 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, shall reduce the total injection of water into the Queen formation in said sections to an amount equalling the reservoir voidage of the Queen formation by wells under his operation in said sections.

(2) That the operator of each secondary recovery injection well in Sections 19, 20, 29, 30, 31, and 32, Township 22 South, Range 37 East, NMPM, and in Sections 5, 6, and 8, Township 23 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, shall reduce the total injection of water into the Queen formation in said sections to an amount equalling 150 percent of the reservoir voidage of the Queen formation by wells under his operation in said sections.

(3) That the aforesaid reductions in water injection volumes shall take place immediately, and shall take place and continue to take place on as near a current basis as possible, i.e., daily injection rates shall be in the required proportion of daily production rates as nearly as can be reasonably ascertained. In no event shall total injected volume for a given month exceed the permitted volume.

(4) That to calculate the permitted volume of water which may be injected into the Queen formation, produced oil, water, and gas shall be converted to reservoir barrels at the calculated reservoir pressure. Surface barrels of injection water shall be in the permitted proportion to reservoir barrels of voidage. The operator's Monthly Injection Report, Form C-120, shall be accompanied by the operator's calculations of reservoir voidage.

(5) That Skelly Oil Company shall produce its LPG Well No. 3, located in Unit F of Section 27, Township 22 South, Range 37 East, NMPM, at the capacity of the well to flow water.

(6) That Skelly Oil Company shall not dispose of any waters other than normal gasoline plant water effluent into its Eunice GP Well No. 1, located in Unit L of Section 27, Township 22 South, Range 37 East, NMPM.

(7) That Skelly Oil Company, Agua, Inc., and Armer Oil Company are hereby authorized to continue the disposal of water into the San Andres formation in their disposal wells located in Unit L of Section 27, Township 22 South, Range 37 East, NMPM, Unit H of Section 35, Township 22 South, Range 37 East, NMPM, and Unit M of Section 2, Township 23 South, Range 37 East, NMPM, respectively.

(8) That the operator of any well in Sections 13 through 36, Township 22 South, Range 37 East, NMPM, or Sections 1 through 12, Township 23 South, Range 37 East, NMPM, who is planning to cement or recement casing in the Queen and/or San Andres formations, shall notify the Hobbs district office of the Commission at least 24 hours prior to commencement of cementing operations, whereupon the District Supervisor of the Commission shall notify the operator of any injection or disposal well within a radius of 1320 feet of said well of the date and hour the cementing operations are to be commenced. The operator of such injection well or wells shall cease injection into said wells at least 12 hours prior to commencement of cementing operations and shall not resume injection for at least 36 hours after completion thereof.

(9) That the Secretary-Director of the Commission is hereby directed to appoint a study committee to further investigate the condition of all wells in Sections 13 through 36, Township 22 South, Range 37 East, NMPM, and Sections 1 through 12, Township 23 South, Range 37 East, NMPM, particularly with respect to casing, cementing, and plugging. Said committee shall report its findings to the Secretary-Director in accordance with a time schedule designated by him, and the Committee shall also make recommendations as to the proper remedial action or actions which should be taken or required.

(10) That this order shall remain in full force and effect until further order of the Commission.

(11) That jurisdiction of this cause is retained by the Commission for the entry of such further orders as the Commission may deem necessary.


-6-
CASE NO. 5377
Order No. R-4936

DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member


A. L. PORTER, Jr., Member & Secretary

S E A L

jr/