

CASE 3717: Application of AZTEC
OIL & GAS for a dual completion
and salt water disposal.

Case No.

377

Application, Transcript,
Small Exhibits, Etc.

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

January 31, 1968

Mr. Gordon Coe
Aztec Oil & Gas Company
2000 1st National Bank Building
Dallas, Texas 75202

Re: Case No. 3717
Order No. R-3373
Applicant:
Aztec Oil & Gas Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC X
Artesia OCC
Aztec OCC
Other Mr. D. E. Gray - State Engineer Office

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3717
Order No. R-3373

APPLICATION OF AZTEC OIL & GAS COMPANY
FOR A DUAL COMPLETION AND SALT WATER
DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 24, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 31st day of January, 1968, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, 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 the applicant, Aztec Oil & Gas Company, seeks authority to complete its State "AJ" Well No. 2, located in Unit N of Section 1, Township 18 South, Range 36 East, NMPM, Arkansas Junction-San Andres Pool, Lea County, New Mexico, as a dual completion to produce oil from the Upper San Andres formation in the interval from 5047 feet to 5079 feet and to dispose of produced salt water in the Lower San Andres formation in the interval from 5430 feet to 5462 feet through parallel strings of 2 1/16-inch internally plastic-coated tubing.

(3) That approval of the dual completion and salt water disposal as set out above will prevent the drilling of unnecessary wells, and will otherwise prevent waste and protect correlative rights.

-2-

CASE No. 3717
Order No. R-3373

IT IS THEREFORE ORDERED:

(1) That the applicant, Aztec Oil & Gas Company, is hereby authorized to complete its State "AJ" Well No. 2, located in Unit N of Section 1, Township 18 South, Range 36 East, NMPM, Arkansas Junction-San Andres Pool, Lea County, New Mexico, as a dual completion to produce oil from the Upper San Andres formation in the interval from 5047 feet to 5079 feet and to dispose of produced salt water in the Lower San Andres formation in the interval from 5430 feet to 5462 feet through parallel strings of 2 1/16-inch internally plastic-coated tubing;

PROVIDED HOWEVER, that the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


DAVID F. CARGO, Chairman


GUYTON B. HAYS, Member


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



esr/

J. O. SETH (1883-1963)

A. K. MONTGOMERY
WM. FEDERICI
FRANK ANDREWS
FRED C. HANNAHS
RICHARD S. MORRIS
SUMNER G. BUELL
SETH D. MONTGOMERY

MONTGOMERY, FEDERICI & ANDREWS

ATTORNEYS AND COUNSELORS AT LAW

350 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87501

January 18, 1968

POST OFFICE BOX 2307
AREA CODE 505
TELEPHONE 982-3876

New Mexico Oil Conservation Commission
Land Office Building
Santa Fe, New Mexico

Re: Case No. 3717
Application of Aztec Oil
& Gas Company

Gentlemen:

Please accept this letter as this firm's entry of
appearance in the above case on behalf of Aztec Oil
& Gas Company.

Mr. Gordon E. Coe, an attorney licensed to practice
law in the State of Texas, will present the case on
behalf of Aztec.

Very truly yours,

Richard S. Morris

RSM:LHS

cc: Mr. Gordon E. Coe
Attorney, Aztec Oil & Gas Co.
2000 First National Bank Building
Dallas, Texas 75202

MAIN OFFICE

'68 JAN 19 AM 8 5

CASE 3715: Application of Gulf Oil Corporation for an amendment to Order No. R-3345, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3345, which order authorized the Gulf Stuart Langlie Mattix Unit Waterflood Project. Applicant proposes to substitute the Stuart "B" Well No. 2 located in Unit I and the Stuart "C" Well No. 3 located in Unit K as water injection wells in said project in lieu of the Stuart "A" Well No. 1 located in Unit J and the Stuart "D" Well No. 4 located in Unit L, all in Section 10, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 3716: Application of Carter Foundation Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Ellenburger formation through the perforated interval from 9580 to 9680 feet in its E. C. Hill "E" Federal Well No. 5 located in Unit E of Section 35, Township 23 South, Range 37 East, Teague-Ellenburger Pool, Lea County, New Mexico.

CASE 3651 (Reopened):

Application of Tenneco Oil Company for an amendment to Order No. R-3315, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the re-opening of Case No. 3651 and the amendment of Order No. R-3315 entered therein which order promulgated temporary pool rules for the North Morton-Pennsylvanian Pool, Lea County, New Mexico, including the establishment of 80-acre proration units for a period of one year. Applicant now seeks the amendment of said order to provide for 160-acre spacing and proration units on a temporary basis.

CASE 3717: Application of Aztec Oil & Gas Company for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the authority to dually complete its State "AJ" Well No. 2 located in Unit N of Section 1, Township 18 South, Range 36 East, Arkansas Junction-San Andres Pool, Lea County, New Mexico, in such a manner as to permit the production of oil from the Upper San Andres formation in the interval from 5047 to 5079 feet and to permit the disposal of produced salt water in the Lower San Andres formation in the interval from 5430 to 5462 feet through parallel strings of 2-inch tubing.

CASE 3718: Application of Cabot Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Wolfcamp, Pennsylvanian, Mississippian, and Devonian formations in the overall interval from 9406 to 12,689 feet in its H. L. Lowe "C" Well No. 1 located in Unit N of Section 26, Township 13 South, Range 37 East, King-Devonian Pool, Lea County, New Mexico.

Docket No. 3-68

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 24, 1968

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or
Elvis A. Utz, Alternate Examiner:

CASE 3704 (Continued from the December 20, 1967, Examiner Hearing)

Application of New Mexico Salt Water Disposal Company, Inc., for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bough "D" zone of the Pennsylvanian formation in the perforated interval from 9844 to 9875 feet in its Ainsworth Well No. 1 located in Unit H of Section 19, Township 9 South, Range 34 East, Vada-Pennsylvanian Pool, Lea County, New Mexico.

CASE 3711: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to consider the amendment of Rule 509 of the Commission Rules and Regulations and Commission Form C-109 to permit the production of the bonus discovery oil allowable assigned to multiple discovery wells to be produced from any discovery zone in any proportion; and to further amend said rule to permit applications for the bonus discovery allowable to be heard on dockets other than the regular pool nomenclature docket in instances where the applicant will present the evidence.

CASE 3712: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to consider the amendment of Rule 701 of the Commission Rules and Regulations and secondary recovery Orders Nos. R-1244, R-1311, R-1456, R-1470, R-1505, R-2064, R-2178-B, R-2268-A, R-2269, R-2403, R-2541, R-2622, R-2664, R-2700, and R-2795, to delete therefrom all references to the State Engineer or the State Engineer Office.

CASE 3713: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to consider the amendment to Rule 103 of the Commission Rules and Regulations to require that well identification signs for wells drilled hereafter shall designate the location of said wells by quarter-quarter section rather than quarter section as now required.

CASE 3714: Application of Continental Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its State "O" Well No. 1 located in Unit F of Section 16, Township 17 South, Range 32 East, Lea County, New Mexico, in such a manner as to permit the production of gas from the perforated interval 3140 to 3160 feet, Maljamar-Queen Gas Pool and the injection of water for secondary recovery purposes into the Grayburg-San Andres formations in the interval from 3700 to 4050 feet through parallel strings of 2-inch tubing.

AZTEC OIL & GAS COMPANY

2000 FIRST NATIONAL BANK BUILDING
DALLAS, TEXAS 75202

January 8, 1968

Case 3717

LAND DEPARTMENT
KENNETH A. SWANSON, MANAGER

MAIN OFFICE OCC

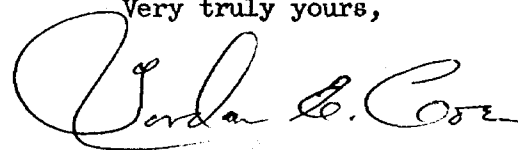
Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

'68 JAN 11 PM 1 19

Dear Mr. Porter:

Enclosed is an original and two copies of Aztec Oil & Gas Company's Application for an Order Approving Multiple Completion and Salt Water Disposal, Arkansas Junction, San Andres Pool, Lea County, New Mexico. It is requested that this matter be set down for an Examiner's hearing at the earliest practicable date.

Very truly yours,


Gordon E. Coe

GEC:lg
Encls.

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

RECEIVED

'68 JAN 11 PM 1 19

IN THE MATTER OF THE APPLICATION OF
AZTEC OIL & GAS COMPANY FOR AN ORDER
APPROVING MULTIPLE COMPLETION AND SALT
WATER DISPOSAL, ARKANSAS JUNCTION,
SAN ANDRES POOL, LEA COUNTY, NEW MEXICO

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CASE NO.

2717

APPLICATION

Aztec Oil & Gas Company (herein referred to as "Applicant") hereby makes application to the Commission for authority to complete its State A J No. 2 Well, located 660 feet from the South line and 1980 feet from the West line of Section 1, Township 18 South, Range 36 East, Lea County, New Mexico, as a multiple completion to produce oil from the upper zone of the San Andres formation and to dispose of produced salt water into the lower zone of the San Andres formation. In support of such application, Applicant respectfully states and shows the following:

1. Applicant proposes to dually complete the said Aztec - State A J No. 2 Well to produce oil from the upper zone of the San Andres formation from perforated intervals at 5047-51 feet and 5072-79 feet subsurface and to dispose of produced salt water into the lower zone of the San Andres formation, the top of which is 5430 feet subsurface. The proposed intervals of injection are 5430-36 feet, 5444-50 feet and 5459-62 feet subsurface.

2. Production from the upper zone and injection into the lower zone will be through parallel strings of tubing with segregation of the two zones being accomplished by the use of a production-type packer.

3. Produced salt water will be injected, the source of which is the Aztec - State A J No. 1 Well, located in the SW/4 SW/4 of Section 1; the Aztec - Amerada State No. 1 Well located in the NE/4 NW/4 of Section 12, all in Township 18 South, Range 36 East; and said Aztec - State A J No. 2 Well. These wells are producing from the upper zone of the San Andres formation.

4. The anticipated daily injection volume will be approximately 250 barrels.

5. Attached hereto and made a part of this application is one copy of Commission Form C-107, Application for Multiple Completion.

6. Attached hereto and made a part of this application is a plat showing the location of the Aztec - State A J No. 2 Well, the location of all other wells within a radius of two miles from said well, the formation from which said wells are producing or have produced, and the lessees within said two-mile radius.

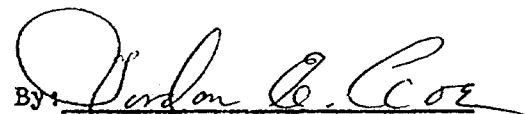
7. Attached hereto and made a part of this application is a Diagrammatic sketch of the Multiple Completion showing, together with other pertinent information, all casing strings, including diameters and setting depths; quantities used and tops of cement; perforated intervals; tubing strings, including diameters and setting depth; and the type and location of packers.

8. A copy of this application, together with all attachments, has been mailed to the State Engineer Office, Capitol Building, Santa Fe, New Mexico; such mailing being accomplished by delivering the same to the United States Post Office at Dallas, Texas, with postage duly prepaid, on this 8th day of January, 1968.

Applicant respectfully requests that this matter be set down for hearing before an Examiner at the earliest practicable date, that notice thereof be given according to the laws and the rules and regulations of the Commission, and upon hearing of this application, an order be issued approving the completion of the Aztec - State A J No. 2 Well as a dual completion to produce oil from the upper zone of the San Andres formation and to dispose of produced salt water into the lower zone of the San Andres formation.

Respectfully submitted this 8th day of January, 1968.

AZTEC OIL & GAS COMPANY

By: 
Gordon E. Coe
Attorney

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APPLICATION FOR MULTIPLE COMPLETION

Form C-107
5-1-61

Case 3117

Operator Aztec Oil & Gas Company		County Lea	Date January 8, 1968
Address 2000 First National Bank Bldg., Dallas, Tex.		State A J	Well No. 2
Location of well N	Section 1	Township 18 South	Range 36 East

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO **X**
2. If answer is yes, identify one such instance: Order No. _____; Operator Lease, and Well No.: _____

3. The following facts are submitted:

	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Upper San Andres		Lower San Andres
b. Top and Bottom of Pay Section (Perforations)	5047-5079		5430-5462
c. Type of production (Oil or Gas)	Oil		Salt Water Disposal
d. Method of Production (Flowing or Artificial Lift)	Pumping		

4. The following are attached. (Please check YES or NO.)

- | | | |
|---|--------------------------|--|
| Yes | No | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or run-in-liners and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and slide door chokes, and such other information as may be pertinent. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease. |
| <input type="checkbox"/> | <input type="checkbox"/> | c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application. |
| ** <input checked="" type="checkbox"/> | <input type="checkbox"/> | d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112A.) |

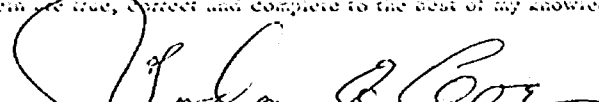
5. List all offset operators to the lease on which this well is located together with their street mailing address.

See attached list

**** The Commission has previously been furnished copies of log of subject well.**

6. Were all operators listed in item 5 above notified and furnished a copy of this application? YES _____ NO _____. If answer is yes, give date of such notification _____

CERTIFICATE: I, the undersigned, state that I am the Attorney of the Aztec Oil & Gas Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.


Gordon E. Coe

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will allow the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest or request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard perforation unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Case 3717

LIST OF OFFSET OPERATORS

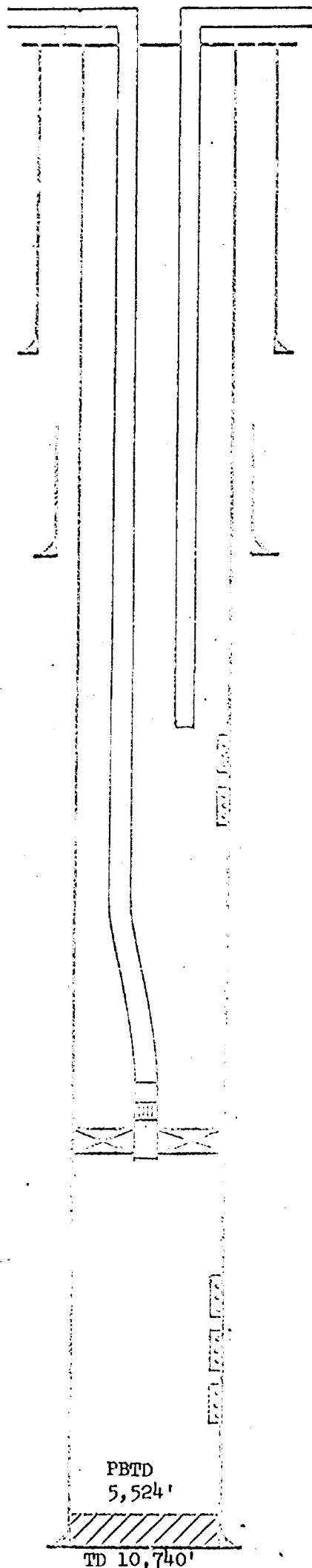
Morris R. Antwell
P. O. Box 2010
Hobbs, New Mexico

Estate of Ralph Lowe
P. O. Box 832
Midland, Texas 79701

Tenneco Oil Company
P. O. Box 1301
Midland, Texas 79701

Amo Dalby
c/o Bill Ranck
1504 Main Street
Lubbock, Texas

Cactus Drilling Company
P. O. Box 1826
Hobbs, New Mexico



Case 2717

AZTEC OIL & GAS COMPANY
Diagrammatic Sketch of Dual Completion
State A J No. 2
Unit N, Section 1, T-18-S, R-36-E
Lea County, New Mexico

13-3/8", 48#, H-40 Csg. Set at 250'
Cmt. w/150 Sxs. cmt. circulated

9-5/8" Csg. cut and pulled from 3850'

9-5/8", 40#, J-55 Csg. set at 4990'
Cmt. w/270 sxs. top cmt. at 3850'.

2-1/16" OD Gst. tubing set
at approx. 5030'. ID 1.750"

Upper San Andres Perforations:
5047-51

5072-79

Baker Model AD Packet
Set at 5271'

2-1/16" Gst. Tubing set at approx 5274'.
ID 1.750" Internally Plastic coated.

Lower San Andres Perforations

5430-36
5444-50
5459-62

PBTD
5,524'

5 1/2", 14#, J-55 Csg. set at 5571'
Cmt. w 220 sxs. Top cmt. at 3820'

TD 10,740'

dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 24, 1968

IN THE MATTER OF:

Application of Aztec Oil and
Gas Company for a dual completion
and salt water disposal,
Lea County, New Mexico

CASE NO. 3717

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will call Case 3717.

MR. HATCH: Application of Aztec Oil and Gas Company for a dual completion and salt water disposal, Lea County, New Mexico.

MR. COE: Gordon Coe, appearing for the Applicant, from Dallas, Texas. I believe you have been furnished with a letter from Mr. Richard Morris as his appearance as resident counsel for Aztec.

MR. NUTTER: We do have the letter of appearance.

MR. COE: I have one witness to be sworn, please.

(Witness sworn.)

(Whereupon, Applicant's Exhibits
1 through 4 marked for
identification.)

* * * * *

J E R R Y E S K E W, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. COE:

Q Will you state your name and address, please?

A Jerry Eskew, Hobbs, New Mexico.

Q By whom are you employed and in what capacity?

A By Aztec Oil and Gas in Hobbs, as their District Engineer.

Q Have you ever testified before the Oil Conservation Commission?

A No.

Q For the benefit of the Examiner, would you review briefly your educational background and work experience?

✓ A I graduated from Texas Tech in 1957 with a Bachelor of Science in Petroleum Engineering; I was employed by Texas Pacific for six years as an engineer, and by Aztec for the last four years as their District Engineer in Hobbs, and I am a registered professional engineer in the State of New Mexico.

MR. COE: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, sir.

Q (By Mr. Coe) Briefly, what does Aztec propose in Case 3717?

A We have two propositions in this case: One, to effect a dual completion, produce oil from the Upper San Andres; the second proposition is to dispose of the produced water into the Lower San Andres in the State "AJ" No. 2 of Aztec's.

Q Referring to what has been marked as Exhibit 1, would you explain it, please?

A This is an ownership plat of the general area, the lessees are shown on the plat, all of the wells that are producing or have produced within a two-mile radius of the

well in question. We have a color coded legend:
The wells colored blue are Pennsylvanian Formation completions;
those in green are Devonian; those in purple are Queen;
those in red, the Upper San Andres, and the well in yellow
is the proposed disposal well.

Q You stated that the proposed disposal well, the
Aztec State "AJ" No. 2, that also produces from the Upper
San Andres?

A That's right.

Q Are there any other wells, the wells indicated in
red also produced from the Upper San Andres?

A That is right, the Aztec State "AJ" No. 1 in
Section 1, Township 18 South, Range 36 East; the Aztec
Amerada State No. 1 in Section 12, and the Dalby Amerada
State No. 1 in Section 12.

Q And you are going to dispose of produced salt
water into the Lower San Andres?

A That is right.

Q Are there any wells within a two-mile limit of
the State "AJ" No. 2 producing from the Lower San Andres?

A No, there are not.

Q Are there any multiple completions similar to
that proposed for the State "AJ" No. 2 in the general area?

A No.

Q Referring to what has been marked as Exhibit 2, would you explain it, please?

A This is a cross-section which was made through the Aztec State "AJ" No. 2, southward, through the Amerada State No. 1 and continuing south to the Dalby Amerada State No. 1, the latter two wells, the Amerada States, neither one of them penetrated into the Lower San Andres, but from observing these logs, we contend there is a considerable separation, in excess of 300 feet and I believe that the disposal zone will not interfere with the producing zone in any of these wells.

Q On your Exhibit 2, that would be a north-south cross-section from the injection well down through the Dalby Amerada State?

A Reading from right to left on the cross-section that would be from north to south.

Q All right. Referring now, to Exhibit 3, would you explain it, please?

A This is a schematic diagram of the proposed dual completion. This schematic differs slightly from the one submitted with the application given to the Commission, in that we now propose to use a model D Baker packer instead of

the model AD that was on the schematic submitted with the application. This schematic shows all the casing programs, cement was circulated on the surface pipe, the intermediate pipe shows to be cut off at 3850, and the five and a half producing casing was set at 5571, cement was brought back to a depth of 3820. This schematic shows that the Upper San Andres perforations are at 5,047 to 51, 5,072 to 79; it shows that the Baker model D packer will be set at 5,271, that there are two strings of 2 1/16th tubing, the disposal string to be internally plastic-coated. This schematic also shows the Lower San Andres perforations at 5,430 to 36, 5,444 to 50 and 5,459 to 62.

Q Did Aztec originally drill this well?

A No, this well was originally drilled by Morris R. Antweil, as the Jabamma No. 1. Mr. Antweil drilled this well in May of 1964; it was a dry Devonian test and plugged on July 28th, 1964. Aztec re-entered the hole on June 17th, 1966 and cleaned it out to 5600 foot, the five and a half inch casing was run to 5571 and cemented. The Upper San Andres was perforated at 5,047 to 51, 5,072 to 79, and 5,126 to 31. These perforations were acidized and tested 100% formation water. All these perforations were squeezed with one hundred sacks of cement. The cement was drilled

out, the casing was pressure tested to 1200 psi and held O. K., and then the upper two zones 5,047 to 51 and 5,072 to 79 were reperforated. The Lower San Andres then was perforated at 5,430 to 36, 5,444 to 50 and 5,459 to 62. These perforations were acidized with 500 gallons of acid. The zone was swab tested and there were no shows of oil or gas, only salty sulphur water. The Upper San Andres was placed on pump with a packer between it and the Lower San Andres and potentialled for 20 barrels of oil per day and 190 barrels of water per day.

Q How do you plan to dispose of the produced salt water into the Lower San Andres?

A We anticipate this zone will take the water by gravity; if necessary, we will install a pump later.

Q Have you run any tests to determine the feasibility of disposing water into the Lower San Andres?

A Yes, after we acidized it, we found that this zone would take one and one-half barrels per minute on vacuum.

Q What will be the source of the produced water to be disposed of?

A The source of the water will be from Aztec State "AJ" No. 1 in Section 1 of 18 South, 36 East, the Aztec State

"AJ" No. 2, Section 1 and the Aztec Amerada State No. 1
Section 12, of 18, 36.

Q What volume of water do you anticipate disposing
of?

A The approximate volumes are 190 barrels per day
from the State "AJ" No. 2, 90 barrels per day from Amerada
State No. 1, and 60 barrels per day from the Aztec State
"AJ" No. 1; that is a total of approximately 340 barrels
per day.

Q In your opinion, will the well, as you propose
to complete it, dispose of this volume of water by gravity
feed?

A Yes, sir, the test we did immediately after acidizing
reflected the zone to take one and a half barrels per minute,
or 2160 barrels per day, on vacuum.

Q Mr. Eskew, referring to what has been marked as
Exhibit 4, would you explain that, please?

A These are analyses of water that we submitted to
Halliburton and Dowell. Page 1 of the Exhibit 4 is an analysis
of the water from the Upper San Andres and the State "AJ"
No. 1.

Q Now, that would be the produced water?

A This is the produced water, correct. The total

mineral content of this analysis was 23,171 milligrams per liter. Page 2 of the exhibit is an analysis of water from the produced zone of the Upper San Andres of this Amerada State No. 1, total solids were 31,838 milligrams per liter. Page 3 of the exhibit is an analysis of water from the Lower San Andres or the zone to be used as disposal in our State "AJ" No. 2, and the total solids were 29,700 milligrams per liter which we think shows that all of these waters are mineralized to an extent where they would be unfit for domestic, stock, irrigation or any other general use.

Q Do you plan to treat the water prior to injection?

A The internally plastic-coated tubing does away for the need of this, but actually the water will be treated to some extent because we are treating the producing wells with a water soluble, oil dispersable chemical to protect from corrosion and some of this chemical will still be present when it reaches the disposal well.

Q If this application is granted, will you comply with all the applicable rules of the Oil Conservation Commission pertaining to multiple completion and salt water disposal projects, particularly as to the testing and reporting procedure set out therein?

A Yes, we will.

Q Were Exhibits 1 through 3 prepared by you or under your direction?

A Yes.

Q They are correct to the best of your knowledge?

A That is true.

Q Exhibit 4 is composed of copies of water analysis furnished to you, is that correct?

A That is correct.

MR. COE: At this time, I would like to offer into evidence Exhibits 1 through 4.

MR. NUTTER: Aztec's Exhibits 1 through 4 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 4 admitted in evidence.)

MR. COE: I would like to state that a copy of the application was furnished to the State Engineer. I don't know if you received any correspondence from him on that or not. It was mailed by certified mail on January 8th, and the return receipt shows that it was delivered on January 9th, signed for by Antoinette Dix.

MR. NUTTER: We evidently don't have anything in our file.

MR. COE: That's all I have on direct.

MR. NUTTER: Are there any questions of Mr. Eskew?

CROSS EXAMINATION

BY MR. NUTTER:

Q Just a matter of curiosity, how deep was this well originally drilled?

A Total depth was 10,740 feet, drilled by Antweil.

Q And he plugged it in '64 and Aztec re-entered it in '66 and established production in the Upper San Andres?

A Yes, sir.

Q On your cross-section there, it looks like a casing shoe at about 4980, that's not the casing shoe, it's on down to the fifty-five hundreds, just about 5,000 there.

A I don't believe this looks like a casing shoe, all right; I don't believe it has any significance because we didn't set pipe here. Antweil set intermediate at 4990; this is probably what this is.

Q Was that intermediate pulled or --

A It was pulled from 3850.

Q And you were able to get on in with your five and a half-onch and get down to 5571 with it?

A Right, we were somewhat lucky.

Q So there probably is an old intermediate casing shoe right there?

A Right, from the way the bit acted as we went through this zone, there is the old pipe in there.

Q It wouldn't interfere with the use of the well as a disposal well?

A No.

Q The five and a half does go all the way to the surface, it is not a liner?

A Right, it is not a liner, it is all the way to the surface.

MR. NUTTER: Any other questions of Mr. Eskew?
He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Coe?

MR. COE: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3717? We will take the case under advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
<u>JERRY ESKEW</u>	
Direct Examination by Mr. Coe	2
Cross Examination by Mr. Nutter	11

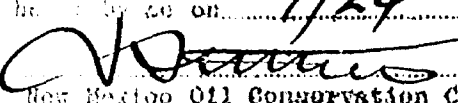
<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's 1 through 4	4	10

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand and seal this 5th day of February, 1968.


 Ada Dearnley

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the hearing bearing on Case No. 3713
 held on 1/24, 1968.

 Examiner
 New Mexico Oil Conservation Commission

AZTEC OIL & GAS COMPANY
Diagrammatic Sketch of Dual Completion
State A J No. 2
Unit N, Section 1, T-18-S, R-36-E
Lea County, New Mexico

13-3/8", 48#, H-40 Csg. Set at 250'
Cmt. W/150 Sxs. cmt. circulated

9-5/8" Csg. cut and pulled from 3850'

9-5/8", 40#, J-55 Csg. set at 4990'
Cmt. W/270 sxs. top cmt. at 3850'.

2-1/16" OD Cst. tubing set
at approx. 5030'. ID 1.750"

Upper San Andres Perforations:

5047-51

5072-79

*Top of 2nd
190 # 1st
190 # 1st
190 # 1st*

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 3

CASE NO. 3717

*original 1 a
dry test
to 10,740
P.A. 195"
measured 195"
in 66*

Baker Model D Packer

Set at 5271'

2-1/16" Cst. Tubing set at approx 5274'.
ID 1.750" Internally Plastic coated.

Lower San Andres Perforations

5430-36

5444-50

5459-62

PBTD
5,524'

5 1/2", 14#, J-55 Csg. set at 5571'
Cmt. w 220 sxs. Top cmt. at 3820'

TD 10,740'

EXHIBIT III

EXHIBIT IV

File
copy to 8/15/66

ANALYSIS MADE BY THE DOG CHEMICAL COMPANY

WATER ANALYSIS

Aztec Oil & Gas Co.
Box 847
Hobbs, New Mexico

DATE August 10, 1966

LAB NO.

LABORATORY LOCATION Hobbs

S. NO. 1

GENERAL INFORMATION			FORMATION		
WELL IDENTIFICATION			Upper San Andres		
WELL # 1			DEPTH		
TEMPERATURE			SPECIFIC GRAVITY		
7.2			1.010 @ 60°F		
CONSTITUENTS	mg/L	meq/L	CONSTITUENTS	mg/L	meq/L
Sodium	6570	285	Chloride	11350	320
Calcium	1200	60	Bicarbonate	1770	29
Magnesium	480	40	Sulfate	1800	36
Iron	1	0	Carbonate	0	0

STIFF DIAGRAM
(meq/L)

10.1 meq/L
23.17 meq/L

	6	5	4	3	2	1	0	1	2	3	4	5	6	
Na/1000														Cl/1000
Ca/100														HCO ₃ /100
Mg/100														SO ₄ /100
Fe/1														CO ₃ /100
Li/1000														

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
3717

HALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
MIDLAND DIVISION

LABORATORY WATER ANALYSIS No. W1-401-66

To Aztec Oil and Gas Company

Date 8-22-66

Box 847

Hobbs, New Mexico

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company

Submitted by _____

Date Rec. 7-28-66

Well No. Amerada State # 1

Depth _____

Formation Upper San Andres

County _____

Field _____

Source _____

Resistivity

0.21 @ 84 F.

Specific Gravity

1.015

pH

7.0

Calcium (Ca)

2,880

*MPL

Magnesium (Mg)

438

Chlorides (Cl)

25,900 ✓

Sulfates (SO₄)

2500

Bicarbonates (HCO₃)

120

Soluble Iron (Fe)

Nil

Remarks _____

*Milligrams per liter

Respectfully submitted,

Analyst: Brewer

HALLIBURTON COMPANY

By _____

DIVISION CHEMIST

NOTICE

This report is limited to the described sample tested. Any user of this report agrees that Halliburton shall not be liable for any loss or damage, whether it be to a person or property, resulting from such report or otherwise.

Aztec Oil & Gas Co.
Box 847
Hobbs, New Mexico

7/7/66

5147

Hobbs

			Slaughter San Andres	
			5459-62	5430-36
			1.018	82
CONSTITUENTS	mg/L	mg/L	mg/L	mg/L
	6800	295	15,930	450
1/1.2	2400	120	670	11
1/1.6	1200	100	2700	54
1.0				

State A J #2

5.5

4.5/1

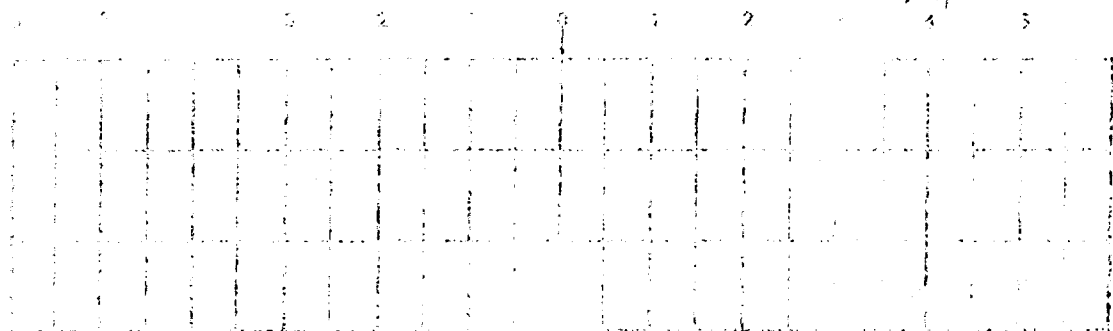
10/1.1

Silica

Carbonate

DIFFERENTIAL
(mg/L)

total solids 29,700 mg/L



CL/1000

Case 3717

Application Aztec Oil & Gas Co.

land camp

salt water disp

Arkansas Junction - San Andres

prod of oil from upper S.A.
5049-5079

Lower S.A.

5430-5462

parallel strings 2 inch

Aztec State AT Well No 2

Loc 660' FSL

1980' FWL

See 1 185 36 E

Revised to: Jordan Co.
Aztec - Dallas

7xH