

CASE 2534: Application of AMERADA  
for a quadruple completion of its  
STATE NJ "A" WELL NO. 3.

452 / 10.

2534

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dition, Transcript,  
all Exhibits, Etc.

GOVERNOR  
EDWIN L. MECHEM  
CHAIRMAN

*State of New Mexico*  
**Oil Conservation Commission**

LAND COMMISSIONER  
E. S. JOHNNY WALKER  
MEMBER



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

P. O. BOX 871  
SANTA FE

May 3, 1962

Mr. Jason Kallahin  
Kallahin & Fox  
Attorneys at Law  
Box 1713  
Santa Fe, New Mexico

Re: Case No. 2534  
Order No. R-2227  
Applicant:  
Amerada Petroleum Corp.

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

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC       

Aztec OCC       

OTHER

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. 2534  
Order No. R-2227

APPLICATION OF AMERADA PETROLEUM  
CORPORATION FOR A QUADRUPLE COM-  
PLETION, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 25, 1962, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 3rd day of May, 1962, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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, Amerada Petroleum Corporation, seeks permission to complete its State NJ "A" Well No. 3, located in Unit A of Section 2, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, as a quadruple completion (combination) in the San Andres, Blinbry, Drinkard and Devonian formations in the North Justis Field with the production of oil from the Devonian and Drinkard formations to be through separate strings of 1 1/2-inch tubing set within parallel strings of 3 1/2-inch casing, and the production of oil from the Blinbry formation to be through a parallel string of 2 7/8-inch casing; applicant proposes to dispose of salt water into the San Andres formation through a parallel string of 2 3/8-inch casing.

(3) That the mechanics of the proposed quadruple completion are feasible and in accord with good conservation practices, provided that centralizers or turbolizers are installed throughout and to at least 100 feet above each zone.

(4) That approval of the subject application will neither cause waste nor impair correlative rights.

-2-  
CASE No. 2534  
Order No. R-2227

IT IS THEREFORE ORDERED:

(1) That the applicant, Amerada Petroleum Corporation, is hereby authorized to complete its State NJ "A" Well No. 3, located in Unit A of Section 2, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, as a quadruple completion (combination) in the San Andres, Blinbry, Drinkard and Devonian formations in the North Justis Field with the production of oil from the Devonian and Drinkard formations to be through separate strings of 1 1/2-inch tubing set within parallel strings of 3 1/2-inch casing, and the production of oil from the Blinbry formation to be through a parallel string of 2 7/8-inch casing; applicant is further authorized to dispose of salt water into the San Andres formation through a parallel string of 2 3/8-inch casing.

PROVIDED HOWEVER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations.


PROVIDED FURTHER, That centralizers or turbolizers shall be installed throughout and to at least 100 feet above each zone open to the well bore.

PROVIDED FURTHER, That the applicant shall conduct zone segregation tests upon completion and annually thereafter during the Annual Gas-Oil Ratio Test Period for the Devonian zone, and at such other times as the Secretary-Director of the Commission may prescribe.

(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



EDWIN L. MECHEM, Chairman



E. S. WALKER, Member



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



Case 2534

Heard 4-25-62

Rec. 4-26-62

1. Grant Ameraden's request for a quadruple completion for their St. H. J. "A" #3, unit A-2-253-B7E.
2. Turbolizers or centralizers shall be used to at least 100 ft above the Devonian and 100 above & above the Dunkard, Blinney and San Andrew.
3. The ~~impermeable~~ impermeable zone between the Base of the S.A. and the top of the Blinney should adequately protect the producing zones from the Salt water to be injected down the 2 3/8 into the S.A..
4. The heading of this order should include S.W.D. for proper identification ~~the 2 strings~~.
5. approved 1 1/2 nominal (1.610 I.D) tubing to be installed in the 3 1/2 inch casing for the Devonian and Dunkard.
6. All Zones are undesignated except ~~the~~ St. Just's Devonian.

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 25, 1962

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

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

- CASE 2532: Application of Zapata Petroleum Corporation for two additional injection wells, Maljamar Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to convert its Phillips 8-B Wells No. 3 and 5 located respectively in Units H and B, Section 19, Township 17 South, Range 33 East, Lea County, New Mexico, to water injection wells in its pilot waterflood project in the Maljamar (Grayburg-San Andres) Pool authorized by Order No. R-2157.
- CASE 2533: Application of Amerada Petroleum Corporation for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a pressure maintenance project in that portion of the Saunders Permo-Pennsylvanian Pool underlying the S/2 S/2 of Section 3 and N/2 of Section 10, Township 15 South, Range 33 East, Lea County, New Mexico, with the injection of water into the Pennsylvanian formation initially to be through one well located in the NE/4 NW/4 of said Section 10.
- CASE 2534: Application of Amerada Petroleum Corporation for a quadruple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its State NJ "A" Well No. 3 located in Unit A of Section 2, Township 25 South, Range 37 East, Lea County, New Mexico, as a quadruple completion (combination) in the San Andres, Blinbry, Drinkard and Devonian formations in the North Justis Field with the production of oil from the Devonian and Drinkard formations to be through separate strings of 1 1/2-inch tubing set within parallel strings of 3 1/2-inch casing, and the production of oil from the Blinbry formation through a parallel string of 2 7/8-inch casing; applicant proposes to dispose of salt water into the San Andres formation through a parallel string of 2 3/8-inch casing.
- CASE 2535: Application of Amerada Petroleum Corporation for a quadruple completion and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its L. G. Warlick "A" Well No. 1, located in Unit I of Section 19, Township 21 South, Range 37 East, Lea County, New Mexico, as a quadruple completion

(combination) in the Eumont Gas, Blinebry Oil, Penrose-Skelly Oil and Drinkard Oil Pools with the production of oil from the Drinkard and Penrose-Skelly formations to be through parallel strings of 2 7/8-inch casing, the production of oil from the Blinebry formation through a string of 1 1/4-inch tubing set within another parallel string of 2 7/8-inch casing and the production of gas from the Eumont formation through the casing-tubing annulus. Applicant further seeks the establishment of a 160-acre non-standard gas proration unit in the Eumont Gas Pool comprising the S/2 NE/4 and the N/2 SE/4 of said Section 19, said unit to be dedicated to said L. G. Warlick "A" Well No. 1.

CASE 2536:

Application of William A. & Edward R. Hudson for a secondary recovery project, Maljamar Pool, Eddy County, New Mexico. Applicants, in the above-styled cause, seek permission to institute a secondary recovery project in the Maljamar Pool in an area underlying their Puckett "A" and "B" Leases located in Section 24, Township 17 South, Range 31 East, Eddy County, New Mexico, with the injection of water into the Grayburg-San Andres formation initially to be through six wells, said project to be governed by the provisions of Rule 701.

CASE 2537:

Application of J. C. Williamson for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Westates-Federal Well No. 8 located in Unit E of Section 1, Township 25 South, Range 37 East, Lea County, New Mexico, as a dual completion (conventional) in the North Justis-McKee Pool and an undesignated Montoya pool with the production of oil from both zones to be through parallel strings of tubing.

CASE 2538:

Application of Southwest Production Company for a non-standard oil proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 73.89-acre non-standard oil proration unit in the Cha Cha-Gallup Oil Pool comprising the NE/4 SE/4 and that portion of the NW/4 SE/4 lying North of the mid-channel of the San Juan River, of Section 16, Township 29 North, Range 14 West, San Juan County, New Mexico, said unit to be dedicated to the Foutz-State Well No. 1, located 1912 feet from the South line and 2310 feet from the East line of said Section 16.



- CASE 2539: Application of Pan American Petroleum Corporation for an exception to Order No. R-333-E, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-333-E to permit the extension of the terminal date for the 1961 deliverability test period from December 15, 1961, to March 1, 1962, for ten wells located in Townships 27 and 28 North, Ranges 10 and 11 West, San Juan County, New Mexico.
- CASE 2540: Application of Pan American Petroleum Corporation for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its State "CK" Well No. 2, located in the NE/4 SW/4 of Section 19, Township 21 South, Range 37 East, Lea County, New Mexico, as a triple completion in the Drinkard, Blinebry and Paddock Oil Pools with the production of oil from the Blinebry and Drinkard formations and the production of undetermined hydrocarbons from the Paddock formation.
- CASE 2541: Application of J. Glenn Turner for a dual completion, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Ballard Well No. 11-15 located in Unit D of Section 15, Township 26 North, Range 9 West, San Juan County, New Mexico, as a dual completion (conventional) in the Basin-Dakota Gas Pool and an undesignated Gallup oil pool with the production of gas from the Dakota formation and the production of oil from the Gallup formation to be through parallel strings of 2 1/16-inch tubing.
- CASE 2542: Application of La Plata Gathering System, Inc. for a dual completion, a non-standard gas proration unit, and an unorthodox gas well location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete a gas well to be located at an unorthodox gas well location 1980 feet from the South line and 734 feet from the East and West lines of Section 19, Township 32 North, Range 5 West, Rio Arriba County, as a dual completion (conventional) in the Blanco-Mesaverde and Basin-Dakota Gas Pools with the production of gas from the Dakota formation to be through a string of 2 1/16-inch tubing and the production of gas from the Mesaverde formation to be through a parallel string of 1 1/2-inch tubing. Applicant further seeks the establishment of a 355.25-acre non-standard gas proration unit in the aforesaid pools comprising all of Sections 18 and 19, in said township to be dedicated to the above-described well.

- CASE 2543: Application of G. W. Strake for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its LeBow-Federal Well No. 6 located in Unit I of Section 25, Township 19 South, Range 30 East, Eddy County, New Mexico, as a dual completion (conventional) in the North Hackberry-Yates and Hackberry-Seven Rivers Pools with the production of oil from both formations to be through parallel strings of 2 1/16-inch tubing.
- CASE 2544: Application of Perry R. Bass for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Plains Unit Agreement embracing 7,198.01 acres, more or less, of federal lands in Township 19 South, Range 32 East, Lea County, New Mexico.
- CASE 2545: Application of The British American Oil Producing Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Jalmat Field-Yates Sand Unit Agreement embracing 2,760 acres, more or less, of State and fee lands in Township 22 South, Range 35 East, Lea County, New Mexico.
- CASE 2546: Application of The British American Oil Producing Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a waterflood project in the Yates formation in the Jalmat Pool in an area underlying its proposed Jalmat Field-Yates Sand Unit Area, comprising 2,760 acres, more or less, in Township 22 South, Range 35 East, Lea County, New Mexico, with injection of water initially to be through 16 wells located within said unit area, the project to be governed by the provisions of Rule 701.

BEFORE THE OIL CONSERVATION COMMISSION OF  
THE STATE OF NEW MEXICO

APPLICATION OF AMERADA PETROLEUM  
CORPORATION FOR A PRESSURE MAINTENANCE PROJECT, LEA COUNTY, NEW MEXICO.

Case No. 2533

APPLICATION OF AMERADA PETROLEUM  
CORPORATION FOR A QUADRUPLE COMPLETION, LEA COUNTY, NEW MEXICO.

Case No. 2534

APPLICATION OF AMERADA PETROLEUM  
CORPORATION FOR A QUADRUPLE COMPLETION AND A NON-STANDARD GAS PROMOTION UNIT, LEA COUNTY, NEW MEXICO.

Case No. 2535

ENTRY OF APPEARANCE

Come and KELLAHIN & FOX, P. O. Box 1713, Santa Fe, New Mexico, and enter their appearance in the above-captioned case on behalf of Amerada Petroleum Corporation in association with Mr. H. D. Bushnell, a member of the Oklahoma Bar.

/s/ Jason W. Kellahin  
JASON W. KELLAHIN

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

April 25, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Amerada Petroleum Corporation for a )  
quadruple completion, Lea County, New Mexico. )  
Applicant, in the above-styled cause, seeks )  
permission to complete its State NJ "A" Well No. 3 )  
located in Unit A of Section 2, Township 25 South, )  
Range 37 East, Lea County, New Mexico, as a quadruple )  
completion (combination) in the San Andres, Blinebry) CASE  
Drinkard and Devonian formations in the North Justis) 2534  
Field with the production of oil from the Devonian )  
and Drinkard formations to be through separate strings  
of 1 1/2-inch tubing set within parallel strings of 3 )  
1/2-inch casing, and the production of oil from the )  
Blinebry formation through a parallel string of )  
2 7/8-inch casing; applicant proposes to dispose of )  
salt water into the San Andres formation through a )  
parallel string of 2 3/8-inch casing. )

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 2534.

MR. MORRIS: Application of Amerada Petroleum Corpora-  
tion for a quadruple completion, Lea County, New Mexico.

MR. BUSHNELL: H. D. Bushnell in association with  
Kellahin and Fox appearing for Amerada. We have one witness.

(Witness sworn.)

MR. UTZ: Are there other appearances in this case?

You may proceed.

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MR. BUSHNELL: The purpose of this application is to comply with state-wide Rule 112 which requires Hearing for purposes of multiple completion where none has been granted of this type in any of the fields affected and also to obtain permission to use tubing smaller than 1.670 I.D.

J. R. ENLOE, JR.,

called as a witness herein, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BUSHNELL:

Q Would you state your name and company for which you are employed?

A My name is J. R. Enloe, Jr. I am employed by Amerada Petroleum Corporation as Division Engineer located in Midland, Texas.

Q Have you testified previously before this Commission which has accepted your qualifications as an expert witness?

A I have not.

Q Would you state, in summary, your qualifications, including education and work or employment?

A I received a B.S. Degree from Texas Technological College in May of 1949. That Degree was in Petroleum Engineering, I joined Amerada in January of 1950. Since that time I have been closely connected with the drilling and production operations in the States of New Mexico, Oklahoma, North Dakota and Texas. I am



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a registered professional engineer in the State of North Dakota. I have been directly connected with operations in New Mexico and particularly in southeastern Lea County for a period of four to five years.

MR. BUSHNELL: Are his qualifications accepted?

MR. UTZ: Yes, sir.

(Whereupon, Applicant's Exhibit No. 1 Marked for Identification)

Q (By Mr. Bushnell) I hand you what has been identified as Amerada's Exhibit No. 1. Would you state what that is and what it shows?

A Exhibit No. 1 is a plat showing portions of Township 24, and 25 South, Range 37 East. This area is known as the North Justis Area. It is located in southeastern Lea County. The exhibit also shows ownership of leases in the area. It indicates completed wells and locations, it also indicates zones of completion of wells, according to the information that we had available at the time this plat was prepared. The exhibit also shows the location of the Amerada State NJ "A" Well No. 3, subject well being the subject of this Hearing, this well is located in Unit A, Section 2, Township 25 South, Range 37 East. This well is within the red circle shown on this exhibit.

Q When was the NJ "A" No. 3 well spudded?

A This well was spudded January 21, 1962.

(Whereupon, Applicant's Exhibit No. 2 Marked for Identification)



Q I hand you what has been marked as Amerada's Exhibit No. 2 and ask you to identify and explain what that shows?

A Exhibit No. 2 is a gamma ray acoustic velocity log taken in the Amerado State NJ "A" Well No. 3. On this log, this exhibit, is shown the tops of the formation of interest in this particular well subject to this particular Hearing. It also indicates the perforated intervals and the proposed zones of completion for this quadruple completion. At a depth of 3,606 feet on the log is shown the top of the San Andres, the San Andres zone is proposed to be used for salt water disposal of produced salt water from the NJ "A" lease.

The San Andres zone is perforated over the interval from 4,280 feet to 4,375 feet. The top of the Blinebry zone occurs at a depth of 4,996 feet. The Blinebry interval is selectively perforated over a gross interval from 5,286 feet to 5,475 feet. The top of the Drinkard was encountered in this well at 5,867 feet and is so shown on Exhibit No. 2. This zone has been selectively perforated over the gross interval 5,946 to 6,132 feet. The top of the Devonian zone as indicated by this log is at 6,727 feet, the Devonian zone has been selectively perforated over the gross interval from 6,820 feet to 6,880 feet.

(Whereupon, Applicant's Exhibit No. 3 Marked for Identification)

Q Now, with reference to the manner of completion of this well, I hand you what is identified as Amerada's Exhibit

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No. 2 which is a Schematic and ask you what that shows?

A I believe this is Exhibit No. 3.

Q I'm sorry, yes.

A Exhibit No. 3 is a Schematic Diagram showing the method of multiple completion employed in completing the State NJ "A" Well No. 3. This completion is what is commonly called a small diameter multiple completion. It can further be defined as a combination type completion. We might review the details of this particular completion; 16 inch casing was set at 258 feet, cemented with 450 sacks and the cement circulated back to the surface. 10-3/4 inch casing was set at 2,345 feet and cemented with 1,300 sacks. The cement circulated back to the surface. The well was drilled to a total depth of 7,245 feet.

Four strings of casing were then run in this well as follows: For convenience' sake we have numbered the strings as No. 1, 2, 3 and 4. The No. 1 string is 3½ inch O.D. set at 7,240 feet, the No. 2 string is 3½ inch O.D. set at 2,740 feet. The No. 3 string is 2-7/8 inch O.D. set at 7,235 feet, the No. 4 string is 2-3/8 inch O.D. set at 7,213 feet. These strings of casing were cemented in the hole with a total of 1,550 sacks of cement. The top of this cement outside these four strings of casing was found to be at a depth of 1,575 feet. This was determined by temperature survey. You will note that this top of the cement is well up inside the 10-3/4 intermediate casing and it's well above all potential zones of completion in this well.





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Q The perforation intervals indicated on this Exhibit 3 are the same as those shown on Exhibit 2 on your log, is that correct?

A That is correct. We might review these briefly. The Devonian zone is perforated in what we have designated as the No. 1 string, 3½ inch, the Drinkard was perforated in the No. 2, the 3½ string. The Blinebry was perforated in the 2-7/8 and the San Andres has been perforated in the 2-3/8 string.

Q In that connection, attached to Amerada's application is a printed form of application for dual completion, two copies?

A Yes.

Q One covering the San Andres and the Blinebry; the other covering the Drinkard and the Devonian. Do you wish to indicate some changes reflected on that application in connection with this testimony here?

A Yes, sir. In the San Andres zone on the application for completion, we indicated an interval 3,750 to 4,550 feet. We would like to amend that to show the present perforated interval which is from 4,280 feet to 4,375 feet.

Q That's in conformity with the testimony that you have previously given?

A Yes, sir.

Q All right.

A In the Drinkard zone, additional perforations have been made since this application was submitted. We would like to change



this application to show the entire perforated interval to be from 5,946 feet to 6,142 feet.

Q Is this proposed method of multiple completion one practiced in the industry as representing good standards of the industry?

A Yes, sir.

Q Is it your opinion that this proposed method of multiple completion would maintain separation throughout the zones?

A We have proved that we can maintain separation of these zones through some production testing and some bottom hole pressure information.

Q You are satisfied, then, that it will do so, it will maintain separation?

A Yes, sir.

Q Do you have some completion data as to these respective zones, if so, would you give it to the Commission?

A The Blinebry zone is the only zone that at this time is officially completed. The potential test has been filed with the Oil Conservation Commission. On that test the well flowed 61 barrels of oil, with one barrel of water, 24 hours through a 14-64 choke, the gas-oil ratio was 17,000 cubic feet per barrel, the gravity of the produced oil was 42 degrees API.

Q What about the Devonian?

A The Devonian, of course, can not be officially completed until after this Hearing; however, a recent production test showed

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that this well flowed 64 barrels of oil, 1 barrel of water in 24 hours, through a half inch choke, the gas-oil ratio was 13,300 cubic feet per barrel, the gravity of the crude produced was 37.8 degrees API.

Q What about the Drinkard?

A The Drinkard zone currently is flowing backload oil after acid and fracture treatment stimulations. Apparently we encountered extremely poor reservoir conditions in the Drinkard zone at this location. We do not know at the present time whether this will or will not be a commercial completion.

Q Have you tested the San Andres to determine what that would take?

A The San Andres has been tested for salt water disposal; the well accepted 5 barrels per minute or 7,200 barrels per day at 2,200 pounds surface pressure. Currently the well will take about 12 barrels per hour or 288 barrels per day by gravity. This is not necessarily the capacity of this well under gravity conditions.

Q Have you run some bottom hole pressure tests?

A Bottom hole pressures were taken in all three of the proposed producing intervals. The Devonian pressure was 2,493 PSI, at a 3,680 feet sub-sea datum. The Drinkard zone showed a 2,562 PSI bottom hole pressure, at 2,830 feet sub-sea, the Blinbry zone pressure in this zone was 1,878 PSI, at 2,330 feet sub-sea. These pressures were measured at or near the mid point



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of the perforated interval in accordance with the specifications set forth by the Commission. Now, if we take these pressures and correct them all to a common datum which figure I have corrected to the Devonian datum at 3,680 feet sub-sea, the pressures are as follows: The Devonian, of course, is 2,493 pounds per square inch at that datum, the Drinkard pressure is 2,943 pounds, the Blinbry pressure is 2,970 pounds. These substantial differences in pressures at this common depth and the difference in characteristics of the produced fluids and gas-oil ratios of these different zones conclusively show that we have separation, between the producing intervals. The fact that we have pumped into the San Andres zone with 2,200 pound surface pressure with no effect on the other intervals shows conclusively that that zone is separated from the producing zone.

Q By this application you are also asking for approval to use tubing smaller than 1.670 inch ID. Referring to Amerada's Exhibit No. 3, would you state where that tubing is located?

A 1½ inch tubing strings have been run in the Devonian zone and the Drinkard zone, that is inside the 3½ inch casing strings.

Q Why have you used this size tubing?

A In the future, when it becomes necessary to artificially lift these wells, we plan to lift them by gas lift. For this particular type reservoir or these particular type reservoirs and for application of gas lift, this size tubing is the best size that



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could be run for this particular size casing.

Q Does this size tubing also help you run your bottom hole pressure instruments?

A This tubing is of sufficient size that we can gather reservoir information by running bottom hole instruments through it.

Q Were these exhibits prepared by you or by someone under your supervision?

A They were.

MR. BUSHNELL: I offer Exhibits 1 through 3.

MR. UTZ: Without objection, Exhibits 1 through 3 will be entered into this case.

(Whereupon, Applicant's Exhibits No. 1 through 3 Introduced into Evidence.)

MR. BUSHNELL: That's all.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Enloe, what is the O.D. of the inch and a half tubing?

A That is the O.D. of the inch and a half tubing.

Q 1.500?

A Yes, sir.

Q Did you use any turbulizers or centralizers on these four strings of tubing to attempt to insure a good cement job?

A Yes, sir. Turbulizers were used on each of these



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four strings of tubing or four strings of casing. They were run pretty much according to standard practices in the industry. I believe we ran one about every third joint throughout all prospective producing or completion intervals. We ran those turbolizers up to a hundred feet above to a hundred feet below those prospective intervals of completion.

Q What type of formation is there between the base of the San Andres and the top of the Blinebry?

A It is a dense limestone; not being a Geologist, that's about all I can say about it.

Q Do you feel that on the basis of your experience in this area that there will not be any possibility of vertical communication between these two zones?

A No, sir. I don't think there is any possibility. We're looking at something in the neighborhood of 900 feet or so of vertical separation on the bottom of the injection interval in the San Andres to the top of the producing interval in the Blinebry zone.

MR. UTZ: Are there other questions of the witness?

MR. PORTER: I have a couple.

MR. UTZ: Mr. Porter.

BY MR. PORTER:

Q Mr. Enloe, I would judge from the test that you have had from the Devonian and the Blinebry that you considered these probable marginal wells from the outset?



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PHONE 243-6691

A I wouldn't consider them marginal wells, no, sir.

They're certainly gas-oil ratio oil wells, but I believe most of them have producing capacity in excess of what we've indicated here by our tests.

Q You testified, I believe, that the gas-oil ratio in the Blinebry zone was some 30 odd thousand to 1?

A I believe 17,000.

Q The Devonian, was that 13,000?

A Yes, sir.

Q Is that high for the Devonian in that area?

A Yes, sir, it is high for the Devonian in this area.

Q Where is the well located with reference to the other Devonian wells in the pool?

A Our well is considerably higher, structurally, than other wells in the Devonian that I'm familiar with.

MR. PORTER: Thank you.

MR. UTZ: Did you give the GOR for the Drinkard zone?

A No, sir. The Drinkard zone has not been tested because we are still recovering load oil.

MR. UTZ: Are there any other questions? Mr. Irby.

BY MR. IRBY:

Q Mr. Enloe, I am Frank Irby from the State Engineer's Office. Could you furnish me with a copy of the application for my records and a copy of your Exhibit No. 3?

A We certainly can.



MR. IRBY: Thank you. That's all.

MR. UTZ: I think we can furnish that right now.

Are there other questions of the witness? The witness may be excused.

(Witness excused)

MR. UTZ: Any statements in this case? The case will be taken under advisement. We will take a ten minute recess.

-----  
STATE OF NEW MEXICO )  
 ) ss  
COUNTY OF BERNALILLO )

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, New Mexico, do hereby certify that the foregoing and attached transcript of Hearing was reported by me in Stenotype and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

*Ada Dearnley*  
NOTARY PUBLIC

My Commission Expires;

June 19th, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2534, heard by me on Apr. 25, 1962.

*Thos. G. [Signature]*, Examiner  
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
PHONE 325-1182

ALBUQUERQUE, N. M.  
PHONE 243-6691





April 3, 1962

IN THE MATTER OF THE APPLICATION OF  
AMERADA PETROLEUM CORPORATION FOR  
AN ORDER PERMITTING THE MULTIPLE  
COMPLETION OF ITS STATE NJ "A" NO. 3  
IN THE NORTH JUSTIS DEVONIAN, DRINKARD  
AND BLINEBRY POOLS AND FOR SALT WATER  
DISPOSAL IN THE SAN ANDRES FORMATION.  
SUBJECT V-774, IS LOCATED IN UNIT A,  
SEC. 2, T-25-S, R-37-E, LEA COUNTY,  
NEW MEXICO.

CASE NO. 2574

A P P L I C A T I O N

Applicant, Amerada Petroleum Corporation, states that

1. Applicant is the owner and operator of the State NJ "A" Lease consisting of the NE NE Section 2 T-25-S, R-37-E, Lea County, New Mexico.
2. This application is for the purpose of securing approval for a multiple tubingless completion in the North Justis Devonian, Drinkard and Blinebry Pools and for salt water disposal in the San Andres formation.
3. Two strings of 3-1/2" casing, one string of 2-7/8" casing and one string of 2-3/8" casing will be cemented in the common well bore with top of cement being above all potential pays.
4. All standards adopted by the Commission concerning completion and production practices shall be adhered to. Such completion will maintain separation in the several common sources of supply in a manner that will prevent waste and protect the rights of all parties concerned.
5. A multiple completion has not previously been approved in the zones under consideration. Hearing is also required in this matter due to two strings of tubing being smaller than 1.670" I.D.
6. Attached hereto are copies of the Commission's Multiple Completion Form, Plat of Area and Schematic Diagram of the proposed installation.

Applicant requests that this matter be set for hearing, that notice of the hearing be given as required by law, and that, upon conclusion of the hearing, the Commission issue its order authorizing the proposal set forth above.

Respectfully Submitted,

AMERADA PETROLEUM CORPORATION

By Jesse W. Kellahin  
KELLAHIN & FOX  
P. O. Box 1713  
Santa Fe, New Mexico

Attorneys for Applicant

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION *2.534*

Field Name <b>North Justin</b>			County <b>Lea</b>	Date <b>April 3, 1962</b>
Operator <b>Amerada Petroleum Corp.</b>		Lease <b>State NJ "A"</b>		Well No. <b>3</b>
Location of Well	Unit <b>A</b>	Section <b>2</b>	Township <b>25-S</b>	Range <b>37-E</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual 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	Lower Zone
a. Name of reservoir	<b>San Andres</b>	<b>Hilobry</b>
b. Top and Bottom of Pay Section (Perforations)	<b>3750' to 4550'</b>	<b>5285' to 5475'</b>
c. Type of production (Oil or Gas)	<b>Salt Water Disposal</b>	<b>Oil</b>
d. Method of Production (Flowing or Artificial Lift)	<b>Injection</b>	<b>Flowing</b>

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

- Yes** a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- Yes** 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.
- No** c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*
- No** 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 112-A.)

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

<b>Texaco Inc.</b>	<b>P. O. Box 3109</b>	<b>Midland, Texas</b>
<b>Gulf Oil Corporation</b>	<b>P. O. Box 1150</b>	<b>Midland, Texas</b>
<b>J. C. Williamson</b>	<b>608 V &amp; J Tower</b>	<b>Midland, Texas</b>
<b>Elvin Hale</b>	<b>P. O. Box 667</b>	<b>Hobbs, New Mexico</b>
<b>Shell Oil Company</b>	<b>P. O. Box 845</b>	<b>Roswell, New Mexico</b>

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

CERTIFICATE: I, the undersigned, state that I am the \_\_\_\_\_ of the \_\_\_\_\_ (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.

Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold 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 nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

## NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

## APPLICATION FOR DUAL COMPLETION

Field Name <b>North Justis</b>		County <b>Lea</b>	Date <b>April 3, 1962</b>
Operator <b>Amerada Petroleum Corporation</b>		Lease <b>State NJ "A"</b>	Well No. <b>3</b>
Location of Well <b>A</b>	Unit <b>2</b>	Township <b>25-S</b>	Range <b>37-E</b>

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

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	<b>Drinkard</b>	<b>Devonian</b>
b. Top and Bottom of Pay Section (Perforations)	<b>5946' to 5987'</b>	<b>6820' to 6880'</b>
c. Type of production (Oil or Gas)	<b>Oil</b>	<b>Oil</b>
d. Method of Production (Flowing or Artificial Lift)	<b>Flowing</b>	<b>Flow</b>

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

- \_\_\_\_\_ a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- \_\_\_\_\_ 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.
- \_\_\_\_\_ c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.\*
- \_\_\_\_\_ 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 112-A.)

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

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 \_\_\_\_\_.

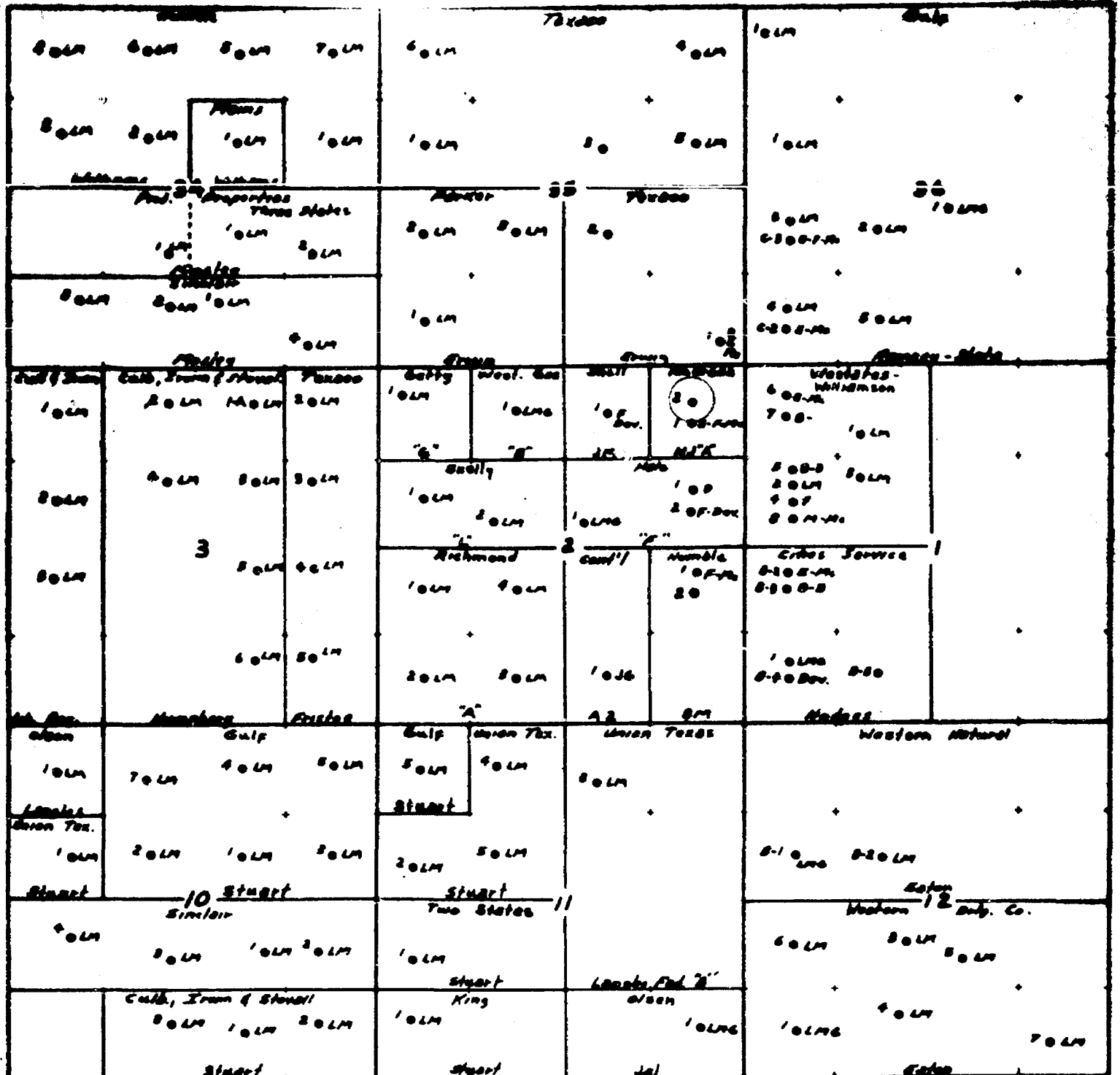
CERTIFICATE: I, the undersigned, state that I am the District Superintendent of the Amerada Petroleum Corp. (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

D. C. Capps

Signature

- \* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold 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 nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

R 37 E



AMERADA P-400

AMERADA PETROLEUM CORP

1 INCH = 8000 FT.

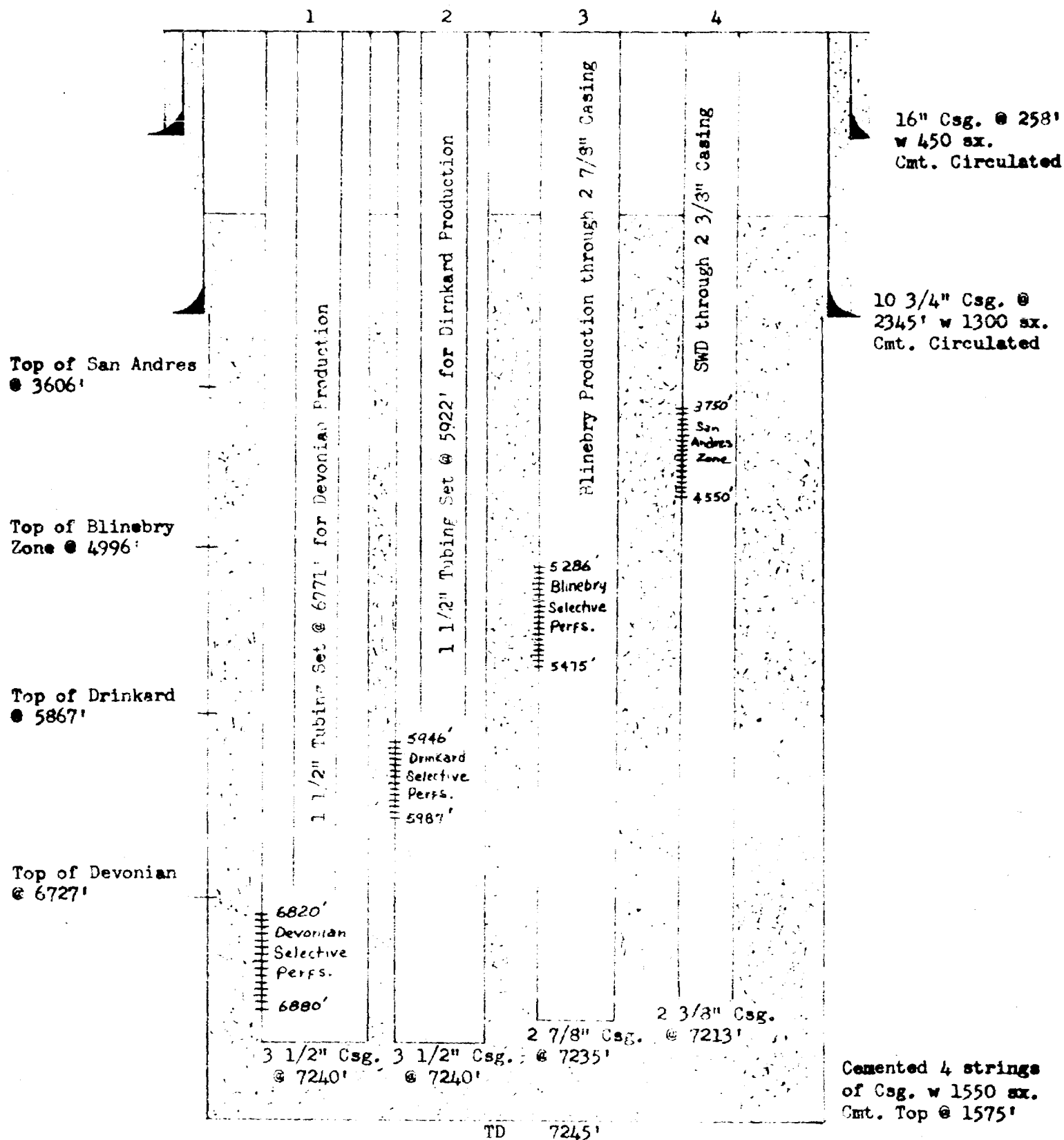
LM - Longh. Moffix oil  
 LAG - Gas  
 JB - Justis Gas  
 B - Buehry  
 D - Drinkard  
 Box - Bowman  
 M - Montoya  
 F - Fusselman  
 E - Edenburger

FIELD North Justis Area  
 STATE New Mexico  
 COUNTY La B

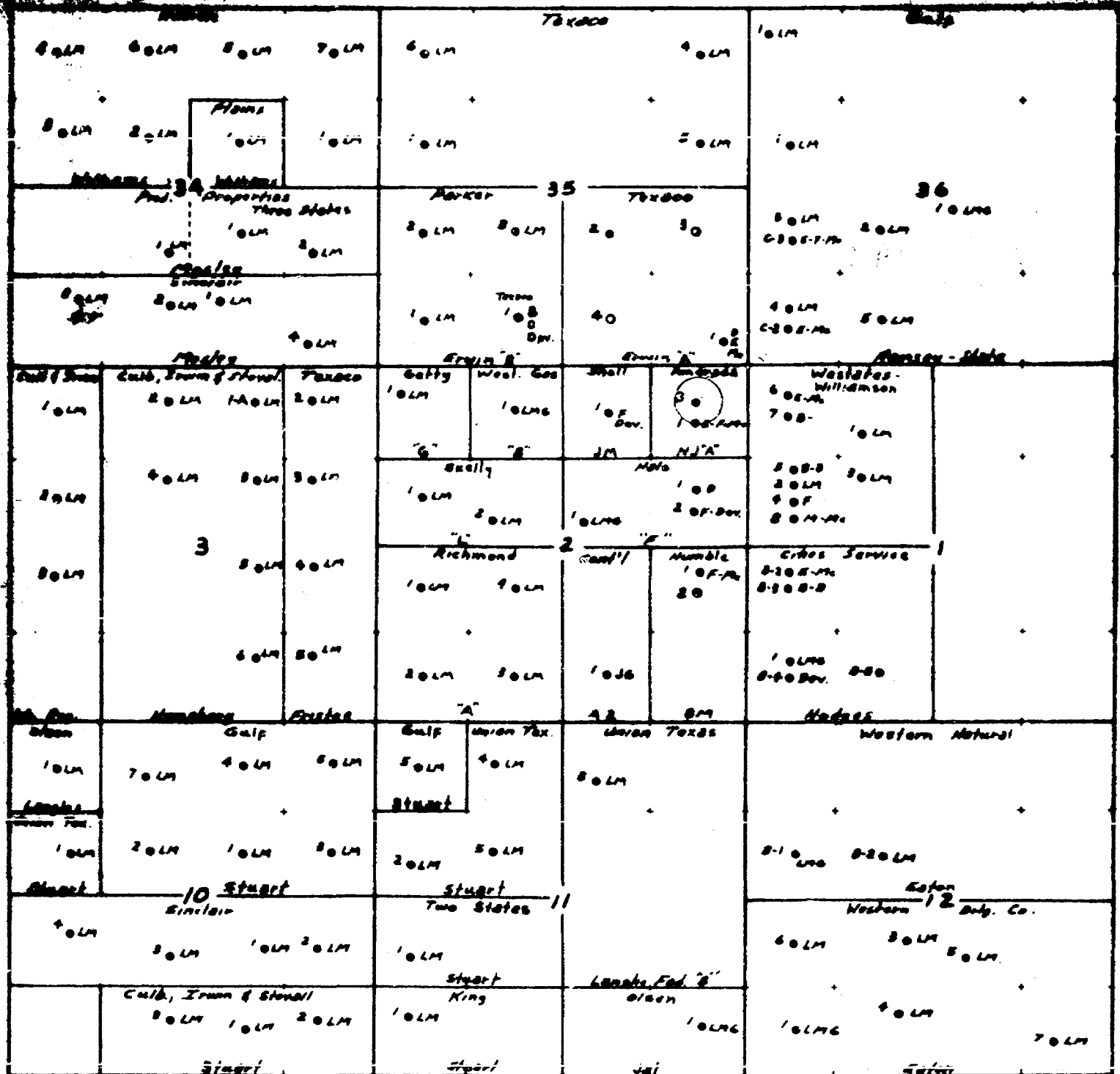
Line 2534

AMERADA PETROLEUM CORPORATION  
 SCHEMATIC DIAGRAM OF MULTIPLE COMPLETION  
 STATE N.J. "A" NO. 3  
 UNIT A SEC. 2 - T25S - R37E  
 LEA COUNTY, NEW MEXICO

*Well 2534*



R 37 E



AMERADA P-480

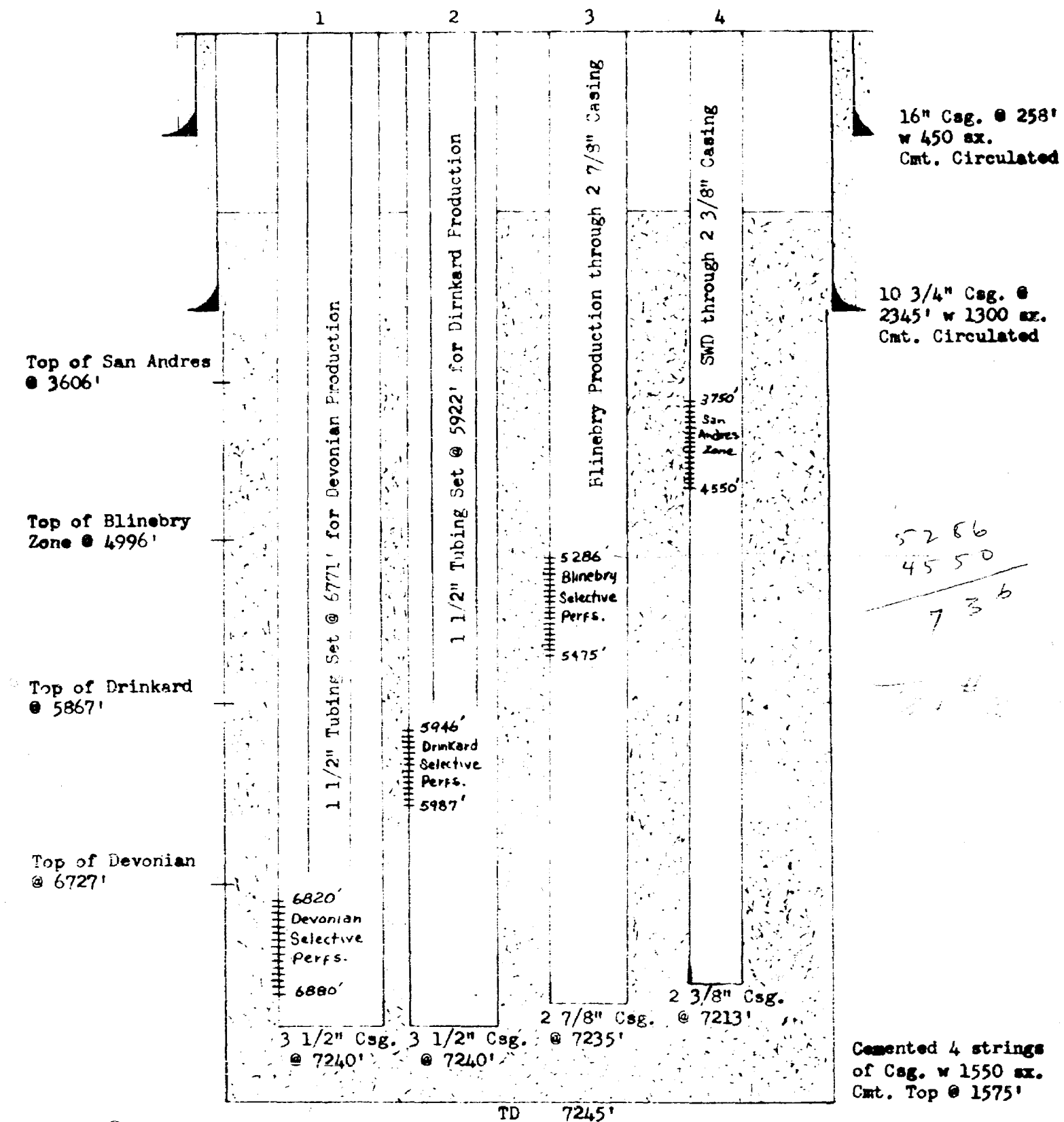
AMERADA PETROLEUM CORP

1 INCH = 2000 FT.

LM - Langlie Mathis Oil  
 LAG - Gas  
 JG - Justis Gas  
 B - Blinabry  
 D - Drinkard  
 Dev - Devenian  
 M - Montoya  
 Mc - McKee  
 F - Fusselman  
 E - Ellenberger

2534  
 FIELD North Justis Area  
 STATE New Mexico  
 COUNTY Lea

AMERADA PETROLEUM CORPORATION  
 SCHEMATIC DIAGRAM OF MULTIPLE COMPLETION  
 STATE N.M. "A" NO. 3  
 UNIT A SEC. 2 - T25S - R37E  
 LEA COUNTY, NEW MEXICO



Case 2534