

CASE 2471: Application of LEONARD
OIL CO. for a dual completion of
its FEDERAL GINSBERT WELL NO. 8.

Case No.

2471

Application, Transcript,
and 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

January 17, 1962

Mr. Jack Campbell
Campbell & Russell
P. O. Drawer 640
Roswell, New Mexico

Re: CASE NO. 2471

ORDER NO. R-2169

APPLICANT:

Leonard Oil 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

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. 2471
Order No. R-2169

APPLICATION OF LEONARD OIL COMPANY
FOR A DUAL COMPLETION, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on January 4, 1962, at Santa Fe, New Mexico, before Daniel S. Nutter, 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 17th day of January, 1962, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, Leonard Oil Company, is the owner and operator of the Federal Ginsberg Well No. 8, located in Unit M of Section 31, Township 25 South, Range 38 East, NMPM, Lea County, New Mexico.

(3) That the applicant seeks permission to complete said Federal Ginsberg Well No. 8 as a dual completion (conventional) in such a manner as to permit the production of oil from the Langlie-Wattix and Justis-Blinsbry Pools through parallel strings of 2 3/8-inch tubing, separation of zones to be by a liner re-entry shoe seal assembly.

(4) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

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

-2-

CASE No. 2471

Order No. R-2169

IT IS THEREFORE ORDERED:

(1) That the applicant, Leonard Oil Company, is hereby authorized to complete its Federal-Ginsberg Well No. 8, located in Unit M of Section 31, Township 25 South, Range 38 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) in such a manner as to permit the production of oil from the Langlie-Mattix and Justis-Blinebry Pools through parallel strings of 2 3/8-inch tubing, separation of zones to be by a liner re-entry shoe seal assembly.

PROVIDED HOWEVER, That the long string of tubing shall be left in compression.

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

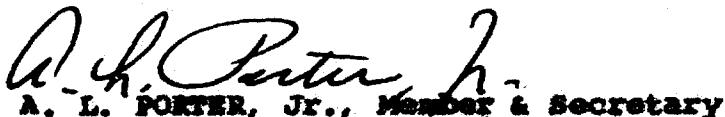
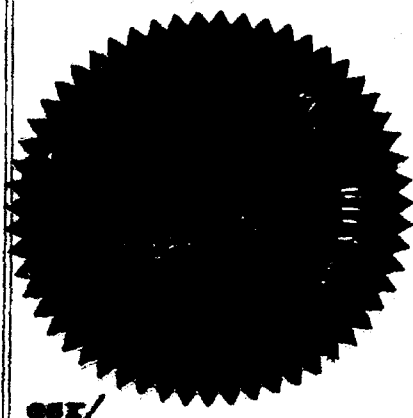
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

EST/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 1-8-62

CASE 2471

Hearing Date Jan 1-4-62

My recommendations for an order in the above numbered cases are as follows:
DEN @ SF

Approve Leonard Oil Company's proposed dual completion ~~to~~ (conventional) to produce oil from the Lagler Mattis and from the Justis Blinberg through parallel strings of 2 7/8 tubing. Separation of the zones is to be by means of a re-entry shoe shoe assembly. Specify that the long string of tubing is to be left in compression. Packer leakage tests upon completion & annually thereafter during the Justis Bl BGR test period

Steff
Staff Member

No. 1-62

DOCKET: EXAMINER HEARING - THURSDAY - JANUARY 4, 1962

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, as alternate examiner:

CASE 2448: (Continued)

Application of Pan American Petroleum Corporation for a pressure maintenance project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a pressure maintenance project on its C. J. Holder, State Holder Oil Unit, State "CA", State Oil Unit and Gallegos Canyon Unit Leases, San Juan County, New Mexico, in the Cha-Cha-Gallup Oil Pool with water injection initially to be through five wells located in Sections 8 and 16, Township 28 North, Range 13 West, and Section 23, Township 28 North, Range 12 West, and requests adoption of special rules to govern the operation of said project.

CASE 2449: (Continued)

Application of Pan American Petroleum Corporation for a pressure maintenance project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a pressure maintenance project on its Navajo Tribal "H" and Gallegos Canyon Unit Leases, San Juan County, New Mexico, in the Totah-Gallup Oil Pool with water injection initially to be through five wells located in Section 35, Township 29 North, Range 13 West, Section 12, Township 28 North, Range 13 West, and Sections 13 and 24, Township 29 North, Range 14 West, and requests adoption of special rules to govern the operation of said project.

CASE 2429: (Continued)

Application of Standard Oil Company of Texas for approval of the Jurnegan Point Unit Agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Jurnegan Point Unit Agreement embracing 10,240.84 acres, more or less, of State and fee lands in Township 24 South, Ranges 24 and 25 East, Eddy County, New Mexico.

CASE 2452: (Continued)

Application of Southwest Production Company for an order pooling all mineral interests in the Basin-Dakota Gas Pool in the W/2 of Section 7, Township 30 North, Range 11 West, San Juan County, New Mexico. Interested parties include Maleta Y. Brimhall, Phoenix, Arizona, and Barbara Brimhall Burnham, Aztec, New Mexico.

CASE 2463:

Application of Amerada Petroleum Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its L. M. Lambert Well No. 2, located in Unit G of Section 6, Township 20 South, Range 37 East, Lea County, New Mexico, as a dual completion (conventional) in the Grayburg and McKee zones in the Monument Field, with the production of gas from the Grayburg zone to be through a string of 1 1/2-inch tubing and the production of gas from the McKee zone to be through a parallel string of 2 3/8-inch tubing.

CASE 2464:

Application of Amerada Petroleum Corporation for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its State NJ "A" Well No. 1, located in Unit A of Section 2, Township 25 South, Range 37 East, Lea County, New Mexico, as a triple completion (combination) in the McKee, Fusselman and Ellenburger zones in the North Justis Field, with the production of oil from the Fusselman and Ellenburger zones to be through tubing installed within parallel strings of 3 1/2-inch casing and the production of oil from the McKee zone to be through a parallel string of 2 7/8-inch casing, all of said casing strings to be cemented in a common well bore.

CASE 2465:

Application of Skelly Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Hobbs "N" Well No. 1, located in Unit D of Section 8, Township 18 South, Range 35 East, Lea County, New Mexico, as a dual completion (conventional) in the Vacuum-Abo Pool and in an undesignated Drinkard pool, with the production of oil from both zones to be through parallel strings of 2 1/16-inch tubing.

CASE 2466:

Application of Shell Oil Company for a 320-acre non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to establish a

320-acre non-standard gas proration unit in the Eumont Gas Pool, comprising the S/2 of Section 22, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the Turner Well No. 7, located at an unorthodox location 1650 feet from the South line and 330 feet from the West line of said Section 22.

CASE 2467:

Application of Shell Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Livingston Well No. 12, located 4620 feet from the South line and 660 feet from the East line of Section 4, Township 21 South, Range 37 East, Lea County, New Mexico, as a dual completion (tubingless) in the Drinkard and Blinebry Oil Pools, with the production of oil from both zones to be through parallel strings of 2 7/8-inch casing cemented in a common well bore.

CASE 2468:

Application of Shell Oil Company for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Livingston Well No. 11, located 3300 feet from the South line and 660 feet from the West line of Section 3, Township 21 South, Range 37 East, Lea County, New Mexico, as a triple completion (tubingless) in the Drinkard Oil, Tubb Gas and Blinebry Oil Pools, with the production of oil from the Drinkard and Blinebry zones and the production of gas from the Tubb zone to be through parallel strings of 2 7/8-inch casing cemented in a common well bore.

CASE 2469:

Application of El Paso Natural Gas Company for an order establishing special rules and regulations for the Lusk-Strawn Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order establishing special rules and regulations for the Lusk-Strawn Pool, Lea County, New Mexico, including provisions for 160-acre proration units and a limiting gas-oil ratio of 4000 to 1.

CASE 2470:

Application of J. R. Cone for a 40-acre non-standard gas proration unit and for an exception to Order No. R-1670, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 40-acre non-standard gas proration unit in the Blinebry Gas Pool comprising the NE/4 SE/4 of Section 21, Township 21 South, Range 37 East, Lea

County, New Mexico, said unit to be dedicated to the Anderson Well No. 2, located 1650 feet from the South line and 330 feet from the East line of said Section 21. Applicant further seeks an exception to Rule 34 (A) of the special rules and regulations for the Blinebry Gas Pool as contained in Order No. R-1670, to permit the gas produced from said Anderson Well No. 2 to be produced into a low-pressure separator only.

CASE 2471:

Application of Leonard Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Federal Ginsberg Well No. 8, located in Unit M of Section 31, Township 25 South, Range 38 East, Lea County, New Mexico, as a dual completion (conventional) in the Langlie-Mattix and Justis-Blinebry Pools, with the production of oil from both zones to be through parallel strings of 2 3/8-inch tubing, separation of the zones to be by a liner re-entry shoe seal assembly.

CASE 2472:

Application of Newmont Oil Company for approval of a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the West Loco Hills Grayburg No. 4 Sand Unit Agreement, covering 5320 acres, more or less, in Townships 17 and 18 South, Ranges 29 and 30 East, Eddy County, New Mexico.

CASE 2473:

Application of Newmont Oil Company for expansion of its Loco Hills Waterflood Project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks permission to expand its Loco Hills Waterflood Project to include the proposed West Loco Hills Grayburg No. 4 Sand Unit Area, comprising 5320 acres, more or less, in Townships 17 and 18 South, Ranges 29 and 30 East, Eddy County, New Mexico.

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

5-1-61

APPLICATION FOR MULTIPLE COMPLETION

Operator LEONARD OIL COMPANY		County LEA	Date December 8, 1961
Address P.O. BOX 400 - ROSWELL, N.M.		Lease FEDERAL GINSBERG	Well No. 8
Location of Well	Unit M	Section 31	Township 25 South
			Range 38 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	Langlie Mattix		Justis Blinbry
b. Top and Bottom of Pay Section (Perforations)	3214-3289		5122-5310
c. Type of production (Oil or Gas)	Oil		Oil
d. Method of Production (Flowing or Artificial Lift)	Pumping		Flowing

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

- X a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and 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.
- X 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 multiple 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.

Request hearing.

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 General Manager of the Leonard Oil 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.

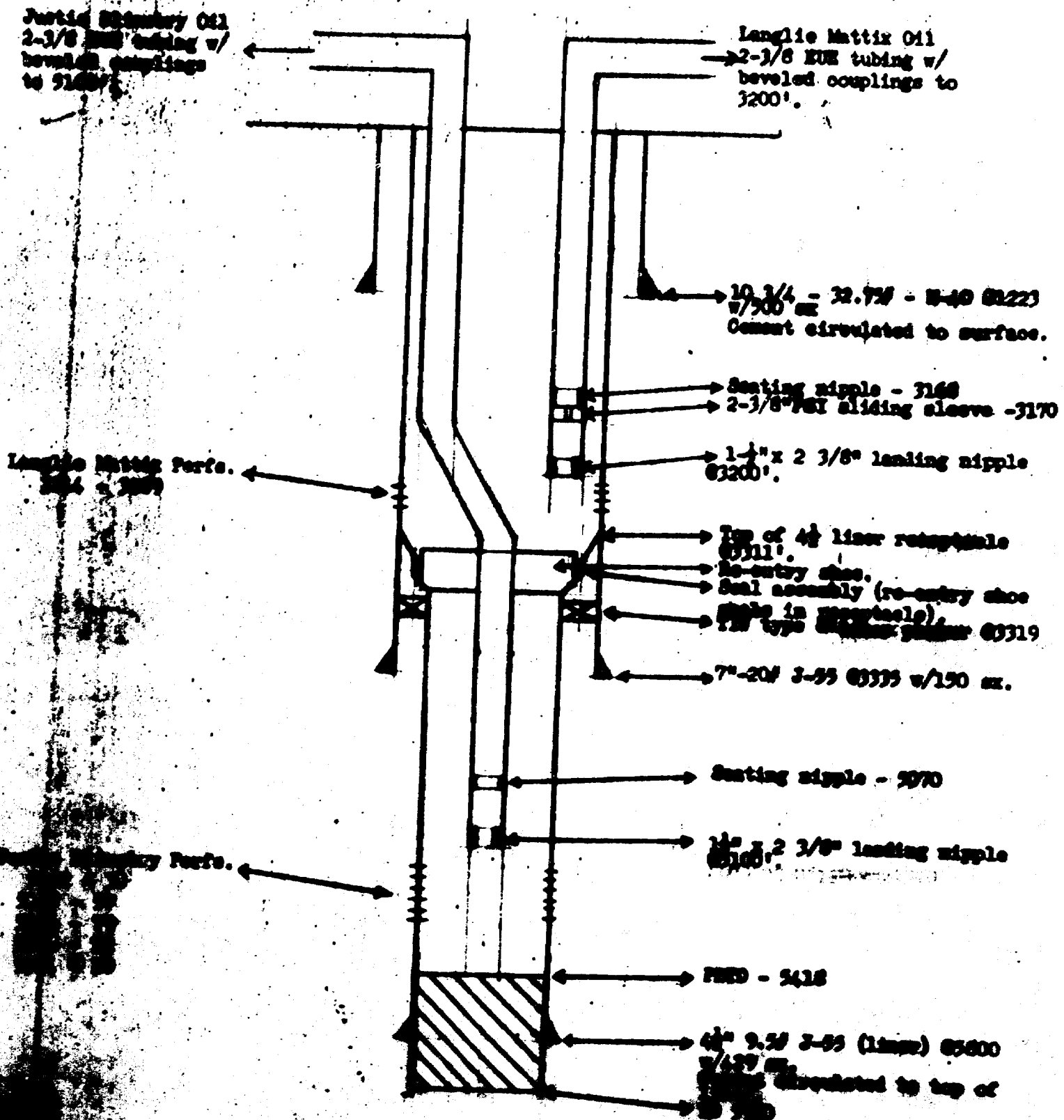
[Signature]
Signature

- * 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 multiple 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.

DIAGRAMMED SKETCH OF MECHANICAL INSTALLATION OF PROPOSED DUAL COMPLETION.

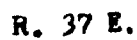
LEONARD OIL COMPANY - GINSBERG FEDERAL #8

FROM THE: JUSTIS BLINDERY POOL
LANGLIE MATTIX POOL



Case 247

R. 38 E.



R. 38 E.

Legend

☐ Pertinent Leonard Lease
● Pertinent Leonard Well.

Case 2471

Case 2871

LAW OFFICES OF
CAMPBELL & RUSSELL
P. O. DRAWER 640
ROSWELL, NEW MEXICO

JACK M. CAMPBELL
JOHN F. RUSSELL

TELEPHONES
MAIN 2-4641
MAIN 2-4642

December 8, 1961

Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Gentlemen:

We transmit herewith, in triplicate, the application of Leonard Oil Company for the dual completion of Well No. 8 on its Federal Ginsberg Lease. We also transmit a diagrammatic sketch of the multiple completion and a plat covering the location of wells.

It is requested that this application be set down for hearing.

Very truly yours,

CAMPBELL & RUSSELL

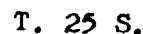
John F. Russell
John F. Russell

JFR:np

Enclosures

*Docket
Mailed
12-20-61*

R. 38 E.



T. 26 S.

T. 26 S.

R. 38 E.

Part of
Lea County, New Mexico.

Legend

Pertinent Leonard Lease
Pertinent Leonard Well.

Peruse you of
the largest meeting

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 4, 1962

EXAMINER HEARING

IN THE MATTER OF:)

)
Application of Leonard Oil Company for)
a dual completion, Lea County, New Mexico.)
Applicant, in the above-styled cause,)
seeks permission to complete its Federal)
Ginsberg Well No. 8, located in Unit M)
of Section 31, Township 25 South, Range)
38 East, Lea County, New Mexico, as a)
dual completion (conventional) in the)
Langlie-Mattix and Justis-Blinebry Pools,)
with the production of oil from both)
zones to be through parallel strings of)
2 3/8-inch tubing, separation of the)
zones to be by a liner re-entry shoe seal)
assembly.)

Case 2471

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: The hearing will come to order, please.

The next case will be 2471.

MR. MORRIS: Application of Leonard Oil Company for a
dual completion, Lea County, New Mexico.

MR. CAMPBELL: Mr. Examiner, my name is Jack M.
Campbell, Campbell and Russell, Roswell, New Mexico, appearing on
behalf of the applicant. We have one witness, Mr. Hix.

MR. MORRIS: Mr. Hix, would you stand and be sworn?

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325.1182

ALBUQUERQUE, N. M.
PHONE 243.6691

(Witness sworn.)

FOWLER HIX

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A Fowler Hix.

Q By whom are you employed, Mr. Hix?

A Leonard Oil Company.

Q What capacity? A General Manager.

Q Do you have a professional degree?

A Yes.

Q In what? A Geology.

Q Have you testified previously before this Commission in your professional capacity and as General Manager of Leonard Oil Company?

A Yes.

Q Are you acquainted with the application of Leonard Oil Company in this case, Mr. Hix?

A Yes.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

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FARMINGTON, N. M.
PHONE 323-1182

ALBUQUERQUE, N. M.
PHONE 243-6691

Q I hand you what has been identified as Applicant's Exhibit No. 1 in this case and ask you to state what it is, please.

A Exhibit No. 1 is a plat of a portion of Southeast Lea County, with Section 31, Township 25 South, Range 38 East, outlined in red, which is the Leonard Oil Company Lease, Federal Ginsberg Lease, and the No. 8 well in the Southwest Southwest Quarter of 31 circled in red and the No. 8 well is the well which we're asking for permission to dually complete.

Q Will you state to the Examiner the reason why you are unable to seek approval of this dual completion by administrative route?

A First, it is the first dual completion of the Langlie-Mattix Pool and the Justis-Blinebry Pool in the area, and the packer is slightly different from packers which have been approved before.

Q Will you state for the record the producing zones from which you propose to produce this well?

A The producing zone in the Langlie-Mattix Pool is the Penrose, and the producing zone in the Justis-Blinebry Pool is the Blinebry formation.

(Whereupon, Applicant's Exhibit No. 2 was marked for identification.)

Q I hand you what has been identified as Applicant's No. 2



and ask you please to state what that is.

A Using Exhibit 2, I would like to give a brief --

Q Will you state what Exhibit 2 is first, please?

A Exhibit 2 is a diagrammatic sketch of the mechanical installation of the proposed dual completion.

Q Mr. Hix, using Exhibit 2 where necessary, will you first give the Examiner a brief explanation of the completion history of the well that's involved in this case?

A The well involved is our Ginsberg Federal No. 8 which was originally drilled in 1956 to a total depth of 3335, at which point 7" casing was set as shown in the diagram. The plug back total depth was 3320, and it was completed through perforations 3260 to 68 and 3276 to 90, using 10,000 gallon oil and 10,000 pound of sand completed for 525 barrels of oil per day.

In 1959, after the well had dropped below top allowable we came back and set a bridge plug at 3256, perforated 3250 to 52, 3234 to 38, 3214 to 20 and treated those perforations with 22,000 gallon of oil and 100,000 pound of sand with no appreciable increase in production.

From 1959 to November, 1961, this well was produced from the Penrose formation in the Langlie-Mattix Pool. November of '61, the above-mentioned perforations were all squeezed with 100 sacks of cement; approximately 70 sacks were put in the formation and



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PHONE 243-6691

the excess reversed out, squeezed to 4,000 pounds. Then we drilled a 6 1/4 hole to 5800 feet, at which point we set a 4 1/2" liner and used 429 sacks of cement, and the cement was circulated back to the top of the liner.

On the top of this liner, which is at 3311, we used a TIW type S liner packer. This packer was set at 3319, and on top of the packer we used a re-entry shoe. The re-entry shoe, first the purpose of the re-entry shoe was that we knew we would have to frack the Blinebry to have been stimulated in order to get commercial production. We wanted something on top of this liner that we could tie back into with 4 1/2" tubing and frack down the tubing and not put the frack pressure on the perforations which we'd squeezed off in the Penrose zone.

After setting this liner, to go on with the history of the well, we drilled out beneath this liner with a 3 7/8" hole to 5920 and tested the Tubb zone. The Tubb was water-bearing, so we plugged back to 5418, we used 25 sacks of cement on the bottom and then 20 sacks at the top to plug back to 5418. Then we perforated the Blinebry 5122 to 30, 5148 to 57, 5176 to 79, 5266 to 72, 5304 to 10, ran 4 1/2" tubing with the re-entry shoe on the bottom of the 4 1/2" tubing to treat the Blinebry. After treating the Blinebry and the treating pressure, the maximum treating pressure was approximately 3,000 pounds, we killed the Blinebry



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with mud, removed the 4 1/2 tubing from the hole, then adapted this re-entry shoe to 2 3/8 tubing, ran it back in the hole, as shown on the diagram, with 2 3/8 tubing to the Blinbry, landed at 5100 with a 1 1/2 by 2 3/8" landing nipple on the bottom. Seating nipple at 5,070 and the re-entry shoe seated with the receptacle at 3311. This is 2 3/8 EUE tubing from 5100 to the surface.

Then we ran the Penrose tubing to 3200 with an inch and a half landing nipple on the bottom and the PSI sliding sleeve at 3170. The seating nipple at 3168, the purpose of this landing nipple in the short string, in fact, the well will be produced by pumping, will be with a plug in place in this 1 1/2" landing nipple and the sliding sleeve open for perforations so that we'll have a conventional mud anchor below the seating nipple.

Q Mr. Hix, in what respects does this installation differ from ones which have heretofore been approved by the Commission as standard installation?

A I think in general the packer which is approved for duals is either a retrievable or a permanent type packer which is set and held in place by slips in the 4 1/2 tubing and not being seated in a receptacle.

Q Do you believe that this type of installation will provide complete separation of these two zones?



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A Yes.

Q What leads you to that conclusion? Have you made tests which satisfy you that it will withstand any pressures that may exist in connection with the production of this well?

A This is the same shoe that was used during the frack treatment of the well, at which time there was probably more differential pressure across the shoe than there will be any time during production, and during that treatment we had pressure gauges on both the casing and the tubing, and the pressure on the casing never showed any pressure on it during the frack treatment.

Q You have stated that you believe there will be complete separation of these two zones. Do you believe, then, that this installation can be utilized in the production of these two zones without causing any commingling of the oil?

A Yes.

Q And without waste?

A Yes.

Q Do you intend to produce these zones separately into separate tankage?

A Yes. They are produced into separate tankage.

Q And they're measured separately, of course?

A Measured separately.

MR. CAMPBELL: I would like to offer Applicant's Exhibits 1 and 2 in evidence in this case.



MR. NUTTER: Applicant's Exhibits 1 and 2 will be admitted in evidence.

MR. CAMPBELL: That's all the questions I have.

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

CROSS EXAMINATION

BY MR. NUTTER:

Q Now both of these are classified as oil wells, is that correct?

A Yes.

Q Now, the lowermost perforations in the Langlie-Mattix went down how far, the ones that were squeezed?

A The lowest perforations that were squeezed?

Q The lowermost original perforation.

A 3290.

Q So all of those lowermost perforations are still above the top of the 4 1/2" receptacle and the re-entry shoe, aren't they?

A Yes.

Q What does this re-entry shoe depend upon to obtain a seal in the receptacle? Does it depend on the weight of the tubing?

A Yes. The receptacle, the upper part of the receptacle is a machined, has a machined surface on it, and it's beveled in

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the bottom. The re-entry shoe in the beveled portion on the bottom has a lead seal which seats on the beveled portion of the receptacle and along the side of the re-entry it has five ^{o-rings} ~~holding~~.

Q So there's a combination of the lead seal and the ~~lead~~ ^{o-rings} overall?

A For a seal, ~~and~~ the tail pipe which is run below the re-entry shoe, weighs approximately 8,000 pounds, which is holding it down, and we have about 4,000 pounds of the tubing weight above the set.

Q So you have got your upper tubing in 4,000 pounds compression?

A Right in the long string.

Q Then there's a dead weight of 8,000 pounds below the re-entry shoe hanging on the re-entry shoe?

A In the tail pipe.

Q So you have a total of 12,000 pounds on that shoe?

A Right.

Q Will the tubing above the re-entry shoe be left in compression?

A Yes.

Q Do you have anything on the characteristics of the two zones, Mr. Hix, the potential as well as the GOR and gravities?

A I do on the lower zone. I don't have all that



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information on the upper zone. The lower zone, the Blinebry zone flowed 61 barrels in 24 hours on a 9-64 choke with a GOR of 1300 to 1. The upper zone, we haven't tested it since the completion of the well.

Q Do you have the gravity on the lower?

A The gravity on the lower is approximately 37 degrees. The gravity on the upper zone, from past history before we squeezed the perforation, it's 38 to 40 degrees.

Q Is it a high ratio completion, Mr. Hix?

A Originally it was a low ratio when it was first completed. It is in the range of 15,000 to 1 prior to squeezing the perforations. Since perforating the second time this perforation 3214 to 3289, there is a total of 14 holes in that interval, and they were selectively perforated and we picked the tighter zones which we thought didn't get treatment in this original sand frack job.

Q And you don't have any test on it yet?

A No test yet.

Q So you don't have a GOR at the present time?

A No, it's shut-in.

MR. NUTTER: Are there any other questions of Mr. Hix?

He may be excused.

(Witness excused.)



MR. CAMPBELL: That's all I have.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2471? We will take the case under advisement.

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 5th day of January, 1962.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:
June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2471, 1962.
[Signature]
New Mexico Oil Conservation Commission

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