CASE 3151: Application of JAKE L. HAMON for a dual completion, Lea County, New Mexico.

CASE NO.
351

Application,
Transcripts,
Small Exhibits
ETC.

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

P. O. BOX 2088
SANTA FE

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

December 2, 1964

Mr. Clarence Hinkle
Hinkle, Bondurant & Christy
Attorneys at Law
Post Office Box 10
Roswell, New Mexico

Re: CASE NO. 3151 3152 3153
ORDER NO. R-2818, R-2821 & R-2822
APPLICANT JAKE L. HAMON

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. 3151
Order No. R-2818

APPLICATION OF JAKE L. HAMON
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 November 24, 1964, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 2nd day of December, 1964, 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, Jake L. Hamon, seeks authority to complete his State E-8321 Well No. 1, located in Unit L of Section 4, Township 21 South, Range 35 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from the Wolfcamp and Strawn formations through parallel strings of 2 3/8-inch tubing, with separation of zones by a packer set at approximately 10,510 feet.

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

(4) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Jake L. Hamon, is hereby authorized to complete his State E-8321 Well No. 1, located in Unit L of Section 4, Township 21 South, Range 35 East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from the Wolfcamp and Strawn formations through parallel strings of 2 3/8-inch tubing, with separation of zones by a packer set at approximately 10,510 feet;

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 insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Gas-Oil Ratio Test Period for the Strawn formation.

(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

Jack M Campbell

JACK M. CAMPBELL, Chairman

E Walker

E. S. WALKER, Member

A. L. Porter, Jr.

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

esr/

Docket No. 32-64

DOCKET: EXAMINER HEARING - TUESDAY - NOVEMBER 24, 1964

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

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

CASE 3147: Application of Newmont Oil Company for a waterflood expansion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its West Square Lake Waterflood Project by the injection of water into the Grayburg and San Andres formation through 10 wells in Sections 32, 33, and 35, Township 16 South, Range 30 East, and Section 4, Township 17 South, Range 30 East, Eddy County, New Mexico.

CASE 3148: Application of Newmont Oil Company for a waterflood buffer zone, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks establishment of the NW/4 SE/4 of Section 28, the W/2 SW/4 of Section 33, and the SE/4 NW/4 and SE/4 NE/4 of Section 34, all in Township 16 South, Range 31 East, as a buffer zone adjacent to its Square Lake Waterflood Project, Eddy County, New Mexico.

CASE 3149: Application of Newmont Oil Company for amendment of Order No. R-2178-B, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an amendment of Order No. R-2178-B to include the S/2 SE/4 of Section 11, Township 18 South, Range 29 East, in Stage I of the Loco Hills Sand Unit Waterflood Project, to approve two Stage I water injection wells in said Section 11, and to include the NE/4 NE/4 of Section 15, Township 18 South, Range 29 East, in Stage III of the waterflood project.

CASE 3150: Application of California Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Bogle Flats Unit Area comprising 11,091 acres, more or less, of State and Federal lands in Township 22 South, Range 23 East, Eddy County, New Mexico.

CASE 3151: Application of Jake L. Hamon for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State E-8321 Well No. 1 located in Unit L of Section 4, Township 21 South, Range 35 East, Lea County, New Mexico, to produce oil from the Wolfcamp and Strawn formations through parallel strings of tubing.

CASE 3152: Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Wolfcamp production for its State E-8321 Well No. 1 located in Unit L of Section 4, Township 21 South, Range 35 East, Lea County, New Mexico, and for the promulgation of special rules for said pool, including a provision for 80-acre spacing and fixed well locations.

CASE 3153: Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Strawn production for its State E-8321 Well No. 1 located in Unit L of Section 4, Township 21 South, Range 35 East, Lea County, New Mexico, and for the promulgation of special rules for said pool, including a provision for 80-acre spacing and fixed well locations.

CASE 3154: Application of Atlantic Refining Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Culwin Queen Unit Area comprising 820 acres, more or less, of State and Federal lands in Townships 18 and 19 South, Ranges 30 and 31 East, Eddy County, New Mexico.

CASE 3155: Application of Atlantic Refining Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Shugart Pool in its Culwin Queen Unit Area by the injection of water into the Queen formation through six injection wells in Section 36, Township 18 South, Range 30 East, Section 31, Township 18 South, Range 31 East, Section 1, Township 19 South, Range 30 East, and Section 6, Township 19 South, Range 31 East, Eddy County, New Mexico.

CASE 3156: Application of Continental Oil Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Cass Pool, Lea County, New Mexico, including a provision for 80-acre spacing and the transfer of allowables.

CASE 3157: Application of The Pure Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to complete its Red Hills Unit Well No. 1 located 330 feet from the South line and 2310 feet from the East line of Section 32, Township 25 South, Range 33 East, Lea County, New Mexico, as a dual completion (conventional) to produce gas from the Wolfcamp and Pennsylvanian formations through parallel strings of tubing.

CASE 3158: Application of The Pure Oil Company for the creation of a new gas pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Wolfcamp gas pool for its Red Hills Unit Well No. 1 located 330 feet from the South line and 2310 feet from the East line of Section 32, Township 25 South, Range 33 East, Lea County, New Mexico, and the promulgation of special pool rules including a provision for 640 acre spacing.

CASE 3159: Application of The Pure Oil Company for the creation of a new gas pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Pennsylvanian gas pool for its Red Hills Unit Well No. 1, located 330 feet from the South line and 2310 feet from the East line of Section 32, Township 25 South, Range 33 East, Lea County, New Mexico, and the promulgation of special pool rules including a provision for 640-acre spacing.

CASE 3160: Application of Texaco Inc. for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (tubingless) of its State of New Mexico "R" (NCT-4) Well No. 1 located in Unit C of Section 7, Township 18 South, Range 35 East, Lea County, New Mexico, to produce oil from the Vacuum-San Andres and Vacuum-Abo Reef Pools through parallel strings of 2-7/8 inch casing cemented in a common well bore.

CASE 3161: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to permit Southern Union Production Company and all other interested parties to show cause why the Robert Mims-State Well No. 1 located in Unit M of Section 16, Township 29 North, Range 9 West, San Juan County, New Mexico, should not be properly repaired or plugged in accordance with a Commission approved plugging program.

CASE 3162: Application of Continental Oil Company for a waterflood expansion and an administrative procedure, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to convert to water injection its General American Green "B" Wells Nos. 4 and 7, located in Unit H of Section 7 and Unit L of Section 5, respectively, Cave Pool Waterflood Project, Township 17 South, Range 29 East, Eddy County, New Mexico. Applicant further seeks an administrative procedure in exception to Rule 701 whereby additional wells in said project could be converted to water injection prior to receiving response from flooding operations.

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name	County	Date
Wildcat	Lea	October 28, 1964

Operator	Lease	Well No.
Jake L. Hamon	State E-8321	1

Location of Well	Unit	Section	Township	Range
	L	4	21 S	35E

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	Wolfcamp	Strawn
b. Top and Bottom of Pay Section (Perforations)	10,236 to 10,266	10,578 to 10,596
c. Type of production (Oil or Gas)	Oil	Oil
d. Method of Production (Flowing or Artificial Lift)	Flowing	Flowing

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.*

Yes 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.

Amerada Pet. Corp. P.O. Box 591 Midland, Texas

Wilson Oil Co. P.O. Box 457 Artesia, New Mexico

British American Oil Producing Co., P.O. Box 474 Midland, Texas

Gulf Oil Corp., P.O. Drawer 669 Roswell, New Mexico

Cities Service Oil Co., P.O. Box 97 Hobbs, New Mexico

Rosler & Sheldon Mr. Vilas P. Sheldon 801 West Texas st. Artesia, N. M.

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO ____. If answer is yes, give date of such notification 10-28-64.

CERTIFICATE: I, the undersigned, state that I am the Production Supt. of the Jake L. Hamon (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.

DOCKET MAILED

Signature Date 11-13-64

* 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.

OFFSET OWNERSHIP PLAT
FOR DUAL COMPLETION HEARING
JAKE L. HAMON NO. 1 STATE "E-8321"
SECTION 4, T-21-S, R-35-E

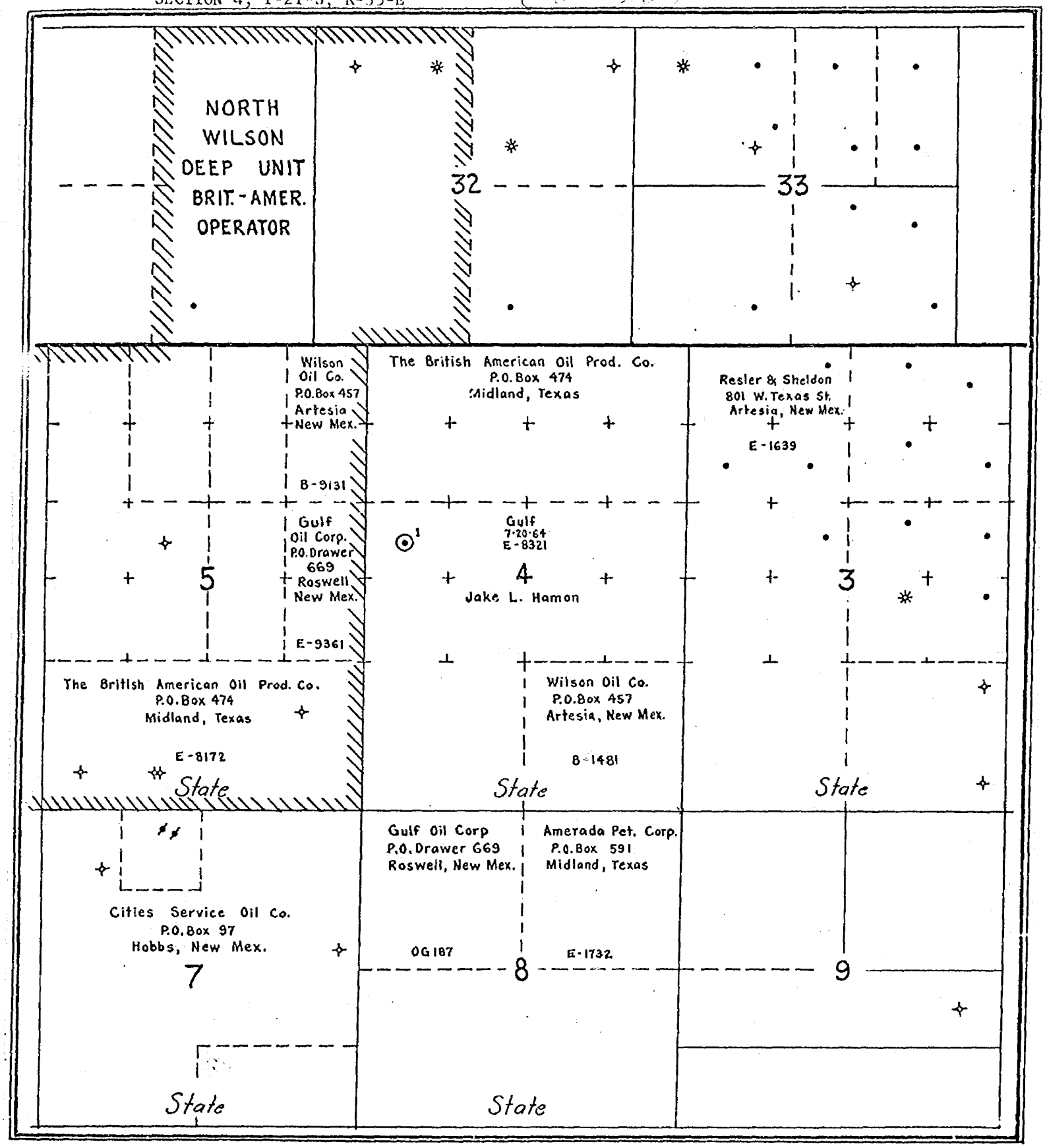
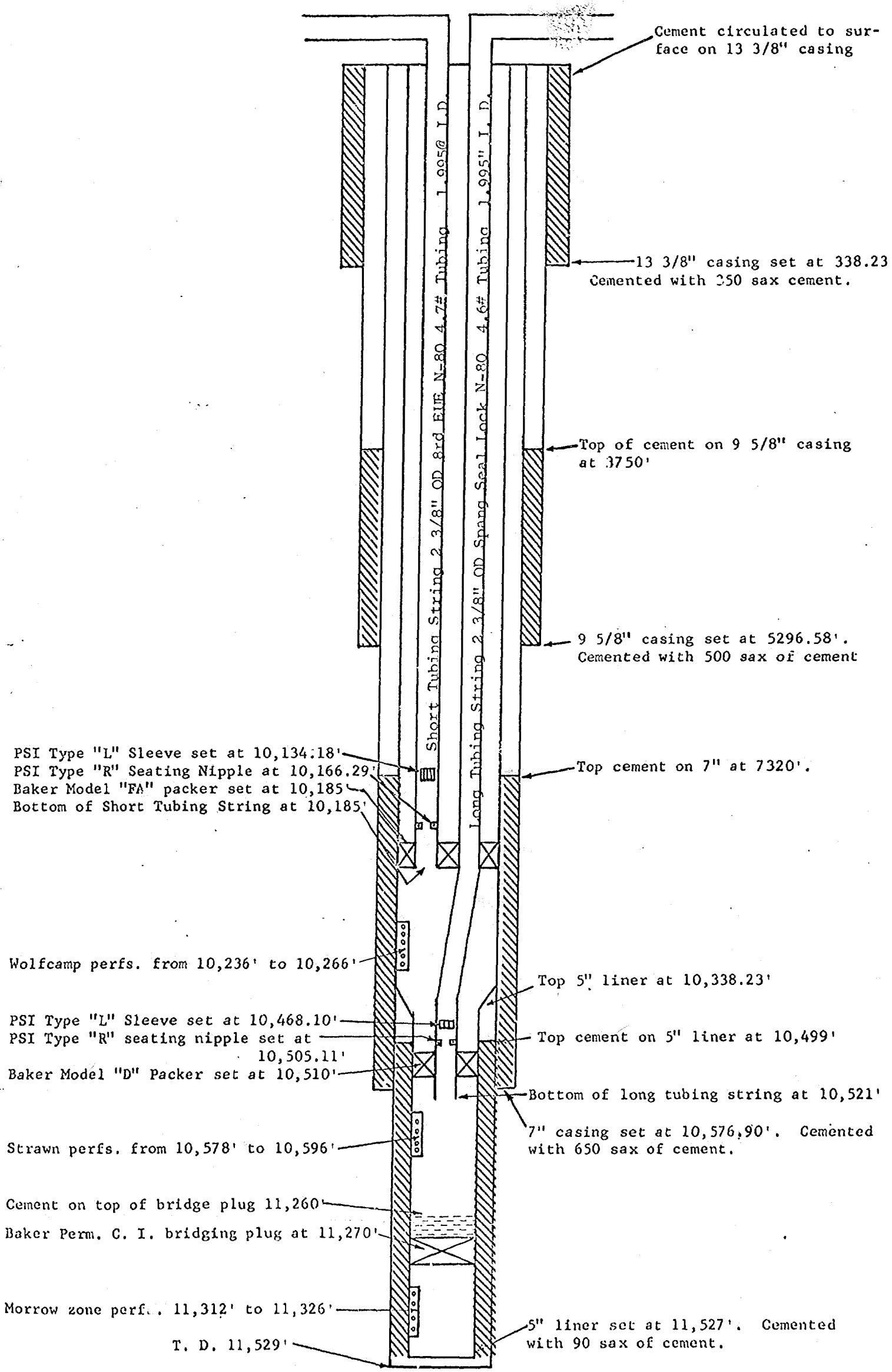


EXHIBIT "A"

STATE E-8321 NO. 1
Diagrammatic Sketch of Dual Completion Installation



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

November 24, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Jake L. Hamon for a dual completion, Lea County, New Mexico. Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Application of Jake L. Hamon for the creation of a new oil pool and special pool rules, Lea County, New Mexico.

Case No. 3151, 3152 & 3153

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 24, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Jake L. Hamon for a dual completion, Lea County, New Mexico. Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico. Application of Jake L. Hamon for the creation of a new oil pool and special pool rules, Lea County, New Mexico.

CASES NO. 3151, 3152 3153

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 3151.

MR. DURRETT: Application of Jake L. Hamon for a dual completion, Lea County, New Mexico, new pool rules, Lea County, New Mexico.

MR. HUIDLE: The testimony which we will introduce overlaps in these cases, and we would like to consolidate them for the purposes of this hearing.

MR. NUTTER: We will call Case 3152.

MR. DURRETT: Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico.

MR. NUTTER: We will call Case 3151.

MR. DURRETT: Application of Jake L. Hamon for the creation of a new oil pool and for special pool rules, Lea County, New Mexico.

MR. NUTTER: That is the three cases which will be consolidated for the purposes of this hearing.

MR. HUIDLE: We have two witnesses, Mr. Shall and Mr. O'Brien, which we would like to have sworn.

(Witnesses sworn)

H. W. SHALL, called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HUIDLE:

Q State your name, please.

A I am H. W. Shall.

Q By whom are you employed?

A By Mr. Jake L. Hamon.

Q In what capacity?

A As Production Superintendent.

Q What area do you have in your charge?

A I have New Mexico, Texas and Oklahoma.

Q Have you previously testified before the Commission?

A I have not.

Q Are you a graduate engineer?

A Yes, sir, I am a graduate engineer from the University of Texas, Class of 1950.

Q Have you practiced your profession since your graduation?

A I have.

Q Have you been with Jake Hamon since your graduation?

A Since February of 1950.

Q Are you familiar with the development in Southeast New Mexico?

A I am.

Q Was the State E Number 1 well completed under your direction?

A It was.

MR. HUIDLE: Are the qualifications acceptable?

MR. NUTTER: Yes, sir.

Q (By Mr. Huidle) Mr. Shall, referring to Mr. Hamon's Exhibit Number 1 which is a diagrammatic sketch of the dual completion installation, is this the same sketch which was attached to the original application?

A Yes.

Q Does this show the method which was used in the dual completion of the State E-8321 well Number 1 of Jake Hamon?

A It does.

Q Where is this well located?

A The well is located in Section 4, Township 21 South, Range 35 East, Lea County.

Q Referring to Exhibit 1, explain to the Examiner the method in which the well was dually completed.

A The well was drilled to 10,577 feet and 7 inch casing was set at that depth, with 650 sax of cement with top cement coming to 7,520 feet. The well was then drilled out to the bottom of the 7 inch casing to a total depth of 11,529 feet and a 5 inch liner set at that time, cemented with 90 sax of cement, and the 5 inch liner came back up into the 7 inch casing to 10,338 feet, and the top of the cement outside the liner came back up into the 7 inch casing to 10,499 feet. An attempt was made to complete the morrow zone between 11,312 feet and 11,326 feet, but this zone was not productive commercially. A permanent C.I. bridging plug was set above these perforations at 11,270 feet, cement was placed on the top of the bridging plug up to 11,260 feet. The strawn zone was then perforated from 10,578 feet to 10,596 feet. That zone was tested, naturally, and acidized with 1,000 gallons and proved to be productive. At that time, Baker Model "D" Packer was set

inside the 5 inch liner at a depth of 10,510 feet. The Wolfcamp zone was then perforated from 10,236 feet to 10,266 feet, this zone proved to be commercial.

Q Was that natural?

A That was natural. Baker Model "FA" permanent packer was set at 10,185 feet, and dual strings of tubing were run in the well, the long string going to the upper packer and setting into the lower packer, thereby isolating the strawn zone, the upper string of tubing going into the upper packer and isolating the Wolfcamp zone.

Q When the casing was run, did you use central liners?

A Central liners were used on the 7 inch casing, they are not shown on the diagrammatic sketch but I have the depth at which each was run. They were "BJ" latch-on type central liners run at the following depth: 10,572 feet, 10,536 feet, 10,507 feet, 10,330 feet, 10,299 feet, 10,267 feet, 10,236 feet, 1,203 feet, 10,177 feet, 10,144 feet. Central liners were not run on 5 inch OD liner due to the small amount of space between the 6 1/8 inch hole and the 5 inch liner. However, the liner is well centralized in the 7 inch casing by the liner hanger.

Q Now, for completion of the dual completion installation, which you have testified to, did you make some bottom hole pressure tests?

A Yes, sir, bottom hole pressure tests were done by John W. West Engineering Company in Hobbs, New Mexico.

Q Referring to Jake L. Hamon's Exhibit Number 2, will you state what that shows?

A Exhibit Number 2 is the bottom hole pressure test run on the Wolfcamp zone with perforations being from 10,236 feet to 10,266. They showed a 24-hour bottom hole shutin pressure of 4,099 pounds.

Q Does this exhibit show anything else?

A Not this one by itself, does not, except for depth at which the strews were run which is pretty well standard.

Q Now, referring to Hamon's Exhibit Number 3, state what that shows.

A Exhibit Number 3 is a bottom hole shutin pressure test run by John West Engineering Company on the Strawn zone which shows a 24-hour shutin bottom hole pressure to be 2,186 pounds.

Q What does the graph indicate?

A Well, the graph indicates that the pressure of the bottom zone, which normally would be the higher of the two, was actually considerably less in the upper zone.

Q Anything you have with reference to Exhibit Number 3?

A No, sir.

Q Was the packer set under the direction of an engineer

acting for Mr. Hamon?

A Yes, sir, both packers were set under the supervision of Mr. Batton.

Q Has he made an affidavit with respect to the packer setting and the result of it?

A He had made affidavits on both the Baker"FA" Packer and the Baker Model "D" Packer.

Q Referring to Exhibit 4 which appears to be the affidavit of Mr. Batton, will you state what that shows?

A The affidavit of Mr. Batton, Exhibit 4, shows that the Baker Model "D" Packer was set at the depth of 10,500 feet.

Q On October 17?

A On October 17, 1964.

Q Any other comments you have with respect to this affidavit?

A No, sir.

Q Now, upon completion of the mechanics of the dual completion, did you make a packer leakage test?

A A packer leackage test was made by John West Engineering Company as required by the New Mexico Conservation Commission.

Q Referring to Exhibit Number 5, will you state what that shows?

A Exhibit Number 5 shows that a flow test was conducted

on the upper completion of the Wolfcamp, completion shows that tophole tubing pressure at the beginning of the test was 2,390 pounds, that the minimum pressure on this tubing string during the test was 1400 pounds. While this test was being conducted the shutin tubing pressure for the lower or Strawn zone was 1,540 pounds and that it did not vary during the test. The second part of the packer leakage test was a flow test on the lower or strawn zone which showed that the intial tubing pressure on the lower completion was 1,540 pounds, that it decreased during the flow test to 1,000 pounds. It also showed that while the flow test was being made on the Strawn that the initial pressure test on the Wolfcamp tubing was 2,050 pounds and that that pressure increased during the flow test of the strawn to 2,310 pounds. This would indicate that there was no communication between zones.

Also, we show on this test that the oil produced from the Wolfcamp zone was of a gravity of 47.3 degrees, API, corrected, and there was a gas-oil ratio of 1,833. During the test on the Strawn zone we produced oil of a gravity of 42.8 degrees, API, corrected, with a gas-oil ratio of 1,948.

Q In your opinion, has the method used in dually completing this well effectively separated the two pools or two productive zones?

A That is right.

Q And so that there will be no communication between the two zones?

A There should be no communication.

Q In your opinion, would this dual completion permit the production separately from the zones and in the event it becomes necessary to pump the oil the installation of separate pumping units?

A Each zone is completely separated and there will be either production by pumping or there will be no comingling.

Q Do you have anything further to add?

A No, sir.

MR. HUIDLE: We would like to offer in evidence Applicant's Exhibits 1 through 5.

MR. NUTTER: Exhibits 1 through 5 in Case 3151 will be admitted in evidence.

MR. HUIDLE: That's all I have on direct of this witness.

MR. NUTTER: Are there any questions of the witness? You may be excused.

JAMES R. O'BRIEN, called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HUIDLE:

Q State your full name.

A James R. O'Brien.

Q By whom are you employed?

A I am employed by Jake L. Hamon.

Q In what capacity?

A As a geologist.

Q How long have you been employed by Mr. Hamon?

A Nearly six years.

Q Have you previously testified before the Oil Conservation Commission?

A Yes, I have.

Q Your qualifications are a matter of record then?

A Yes, sir.

Q Have you made a study -- are you familiar with the development in Southeast New Mexico?

A Yes.

Q Are you familiar with the drilling and completion of State E-8321 well Number 1?

A Yes.

Q Where is this well located with reference to other wells in the area?

A This well is located in the Northeastern corner of the Delaware Basin adjacent to the Central Basin platform, east of the dople unit and adjacent to the Wilson shallow pool.

Q Are you familiar with the three separate applications

that have been filed by Mr. Hamon?

A Yes, I am.

Q Referring to Hamon's Exhibit Number 6, will you state what that shows?

A Exhibit Number 6 shows that the 480 mile area outlined in red in Section 4, Township 21 South, Range 35 East is presently held by Jake L. Hamon with the well in discussion located in unit L, I believe that is indicated by a red circle, this acreage is also jointly held by Perry R. Bass as a 50 per cent partner.

Q Is Mr. Bass familiar with these applications?

A Mr. Bass is familiar with the applications.

Q And Mr. Hamon had the authorization from Mr. Bass to file the applications?

A Yes, he did, and concurrently.

Q Does this show the ownership of all the acreage in the immediate area?

A It shows the ownership of the acreage offsetting Section 4 as well as the outline of the east side of the north Wilson deep unit operated by the British-American Oil Company. It also shows the names and addresses of the offset operators.

Q How many deep wells have been drilled in this area which are shown on Exhibit Number 6?

A There have been 2 deep wells drilled to date or at

least reached hole depth, one is the State "E"-8321 well number 1 and prior to that the British-American deep unit number 1 located in Section 31 of 20/36. And there are currently drilling wells, the British-American Number 1 well, located as a direct north offset to the Hamon well and they are drilling below, some point below 5,000 feet which I don't know at this time, and the Hamon State "E"-8321 well number 2 which is a direct south offset to the number 1 well.

Q Were these started after the applications were filed by Mr. Hamon?

A Yes, they were.

Q Did Mr. Hamon know about the location of the British-American well at the time these applications were filed?

A No, he did not, we did not know the definite location.

Q You know that the British-American Oil Company was contemplating a well, but did not know the definite location?

A They advised us that they were drilling a well but they didn't know where the exact location would be.

Q Now, how did Mr. Hamon and Mr. Bass obtain the acreage you indicated they own?

A The acreage was acquired by Mr. Hamon as a farmout from Gulf Oil Corporation.

Q Under the terms of that farmout agreement were Hamon and Bass required to carry on a drilling program?

A Yes, we have a drilling agreement which stipulates the conditions.

Q When was the number 1 well commenced?

A July the 5th.

Q It was July the 5th?

A It was July the 5th of '64.

Q And what was the approximate date that you encountered the Wolfcamp formation.

A Approximately August the 27th of 1964.

Q Did you make any drill stem tests of the Wolfcamp?

A Yes, we did.

Q How many?

A We made four.

Q What was the result?

A Three of the drill stem tests showed oil in considerable quantities and the fourth test recovered less than a gallon of free oil and none of the tests showed any signs of water.

Q Were bottom hole pressure tests taken at the time the tests were made?

A Yes, initial and final shutin pressure tests were taken on all the tests. Initial shutin at 36 minutes on the initial test was 4,460 pounds, in a three hour fifteen minute shutin test it was 4,444 pounds on the third drill stem test.

Q What about the second, what was the second?

A No, that was the first drill stem test, pardon me. The 32 minute initial shutin pressure test on the second Wolfcamp was 4,372 pounds. The two hour final shutin pressure was 4,234 pounds, and the 35 minute initial shutin pressure on the third test on the Wolfcamp was 4,355 pounds, and the one hour eighteen minute final shutin on this was 4,335 pounds. On the fourth drill stem test we recovered a minor amount of gas, 33,001 pint of free oil. It had a thirty minute pressure of 294 pounds and a final shutin of 154 pounds in thirty minutes.

Q After completion of these drill stem tests, then how was the well completed from then on?

A After the drill stem tests were taken and showed a large quantity of oil, we drilled to 10,577 feet and ran a 7 inch string of protective casing and then we drilled down onto the morrow.

Q What made you decide to drill the casing at that time?

A Well, two reasons for that, we injected to protect the Wolfcamp from any contamination and also because we anticipated to a certain extent on the information gathered from other deep wells in the Delaware Basin the possible existence of a high pressure porosity zone.

Q Then, also possible high pressure in the morrow?

A Possible high pressure in the morrow, this was at least 50 per cent of the reason.

Q Did you run electrical logs before running the casing?

A Yes, we did.

Q What logs did you run?

A We ran a Slumber "J" dual induction lateral, a Slumber "J", approximately.

Q After reaching the total depth, did you run additional logs?

A Yes, we did.

Q After the completion of the well to the total depth, what efforts did you make to complete the well in the morrow?

A We perforated the morrow and had an initial slow of less than 5,000 and after a considerable period of tests we abandoned that zone.

Q In connection with the drilling of the well, did you examine all of the samples of the producing formations?

A Of the producing formations, yes, sir.

Q Now, do you have available the electrical logs or a partial sample of the electrical logs showing the pay section?

A Yes, I do, I have two well logs.

Q Refer to Exhibit Number 7 and explain to the Commission what that shows.

A This is a two-well log cross-section are utilizing

the dual induction lateral logs with gamma rays which are the Hamon and Bass 8083 Number 219 and the British-American north unit number 1. This particular cross-section is located on a minimum status of 6500 feet.

Q Are the wells that are shown on this cross-section on the insert plate on the bottom right hand corner of this exhibit?

A There is an insert section showing the well. The scale is 100 inches equals 5,000 feet.

Q Now, the logs that are shown are the electrical logs insofar as the Wolfcamp and Strawn sections as shown on this exhibit.

A These are only portions of the logs in question and they include those markers commonly referred to as the sections owned as the upper mark down to below the top of the Atoka as commonly recognized in the Basin.

Q Now, have you attempted to show the correlation of any of the formations?

A Yes, sir, we began with the top of the second bone string sand which shows that the well in question, the Hamon well, is considerably higher than the British-American on the top of the bone string sang and coming down the cross-section, we get to the third bone string sand where the Hamon well is 1,898 feet high to the British-American --

Q Let me interrupt you there, can you readily identify from these logs the top of the Wolfcamp then?

A Yes, I feel that you can.

Q Does your tops here correlate pretty well with other Wolfcamp logs in the general area?

A Yes, they do.

Q Go ahead.

A At the top of the Wolfcamp line or the production in Mr. Hamon's well, the Hamon is 238 feet high to the British-American and on the top of the Strawn, I believe, if my memory serves me right, it's 138 feet high and on the top of the Atoka the Hamon well is only 38 feet high to the British-American. And from the top of the Wolfcamp on downwards, there is a tendency for this well to thicken, although we didn't show it on the cross-section. These two wells are flat on some correlative morrow zones.

Q Due to the thickness of the beds?

A That's right.

Q Does this portray a structural zone or work geologically, does it?

A Well, I believe it shows a graphic development in the form of a reef, the Wolfcamp.

Q Was this discovery on the strength of any geophysical information, or --

A No, it was drilled on the surface. We had no

geophysical information at all.

Q Consequently, you did not have a structural map of the area?

A That's true.

Q Is there anything else which you'd like to bring out with respect to this exhibit?

A Yes, there are a couple of points we would like to make there. There is a green correlation marked on this particular cross-section that shows a well-defined, well-developed shale bed and that is, of course, in the British-American well and Mr. Hamon's well. And we feel that this shale section is a thoroughly inpervious shale bed and it makes for a positive vertical separation between the lower and the upper reservoir produced in this well.

Q What is the thickness?

A Approximately 300 feet.

Q And is it made largely or impervious formations?

A Yes, it is. I would like to point out that the top of the Strawn marker is a very distinct lithologic marked drilled down to the Wolfcamp where we encountered bicarbonates in the range of 90 and about 10 per cent chite and less, and where the Strawn marker is correlated this is where we encountered chirt of less than 60 per cent and solicious limestone formations.

Q Now, from your samples of this and these electrical logs, is there any question in your mind about where you picked

the top of these respective formations?

A There is not. As I stated, the Strawn very distinct lithologic marker, it is composed of chirt and solitious limestone and it is very easily identified as well drilled and the samples were examined.

Q Can you determine intervals which were perforated in connection with each, what interval is open to perforations, in other words.

A The intervals in the Wolfcamp were perforated from 10,236 feet to 10,266 feet and this particular zone was completed, naturally, for an initial flowing of 200.4 barrels in four hours. The gravity is in the neighborhood of 47 degrees.

Q What are the characteristics of the Wolfcamp's formation from your examination of these electrical logs?

A In the well in question, the Wolfcamp reservoir, there is much less limestone with an apparent though permanability as calculated by electrical bulbs or porosity.

Q Was any attempt made, or did you have any surveys made to determine the porosity?

A Yes, after the electric bulbs were used, we had a survey made and a porosity analysis of all logs and they indicated that the average porosity in the Wolfcamp was about 7 per cent. The water saturations were in the neighborhood of

30 to 35 per cent. This, coupled with the high flowing beginning estimate on the drill stem test, were, incidentally, in the neighborhood of 42 barrels per hour on the initial test, indicated to me and to our company that that reservoir has extremely high permeability.

Q Was the Wolfcamp formation completed naturally or did you use artificial means?

A No, it was completed naturally, without any artificial means.

Q What do you figure the net pay of this to be?

A Approximately 40 cents a foot.

Q Now, with respect to the formations, what are the characteristics as you have determined from the samples of these electrical logs of the Strawn?

A As I stated previously, the Strawn is a salicious and chirty reservoir with 60 per cent shirt and is completely different from the Wolfcamp reservoir above the actual producing zone and is for the large part chirt.

Q How many feet of porosity do you have in the Strawn formation?

A About 18 feet net.

Q Did you make any attempt to determine the porosity of the Strawn?

A Yes, the probable porosity varied from 5½ to 11 per cent, and the water saturations were in the neighborhood of 20 to 25 per cent, considerably lower than the Wolfcamp.

Q After the performation of the Strawn formation, what did you do, did you swab it?

A Yes.

Q And what was the result?

A I believe the well was swabbed dry.

Q Without getting any appreciable oil?

A Yes.

Q What did you then do?

A It was treated then with some quantity of acid, I believe it was 1,000 gallons.

Q And did you get any result?

A There were some new oil that was recovered.

Q And what was your result, what is the potential?

A The potential test on the well after all the treatment was, flowing,263 barrels of oil in 24 hours on a one-quarter inch stroke.

Q I believe this shows also the gravity of the soil in the Strawn and in the Wolfcamp?

A They are of different gravity.

Q And you do have different bottom low pressures?

A Yes.

Q From all the information which you have available, and studied, in your opinion, are these two separate and distinct reservoirs?

A Yes, they are.

Q And they both have different characteristics?

A Completely different characteristics.

Q Could both of these wells, in your opinion, make the 80 which is requested at least as far as the potential is concerned?

A Yes.

Q The deep well factor?

A Yes.

Q How does the Wolfcamp formation as encountered in this well compare with the Wolfcamp formations that have been encountered in other producing wells?

A Favorably or better, I think, generally better.

Q Do you know whether or not other Wolfcamp pools are being produced on an acre or larger space?

A Yes, I believe there are a number of pools that are being produced.

Q Now, you spoke about the drill stem tests that were taken in connection with the Wolfcamp formation would indicate good permeability. Would that also indicate that it would drain a larger area?

A Yes, I believe this Wolfcamp reservoir will.

Q Have there been a great many Strawn discoveries made in south New Mexico?

A No, sir, there have not.

Q How does this Strawn compare with others that have been made?

A I think it compares favorably with the few that it can be compared to.

Q Are there other Strawn pools in southern New Mexico being produced on an 80-acre spacing?

A Yes, sir, there are.

Q Well, for instance, the Dean and the Ranger Lake?

A The Dean and the Ranger Lake are produced on an 80-acre spacing.

Q Now, in the applications, two of the applications being filed, , we asked that an area be delineated for the fields and the pools be made, do you have any recommendations to the Commission as to the area which should be included in the delineation of these pools, the Wolfcamp and the Strawn?

A Well, all of section Four, yes, 21/35.

Q In other words, you believe that all of Section 4 is reasonably proven by the disoveries which have been made?

A Yes, sir, I do.

Q Do you have any particular name to give to the

Commission for naming these pools?

A Yes, we would like to follow Springs with the name applied to it, Osudo Springs.

Q Now, in connection with your applications, you are requesting 80-acre spacing for both of these pools?

A That's correct.

Q And are you requesting that either the north half or the south half or the east half or the west half or each quarter section be a spacing and perforation unit?

A Yes.

Q Are you requesting that there be any fixed location of an initial test well driven into quarter sections?

A Yes.

Q Your original application, I believe, provided for a fixed location,but the application was amended after the locations were made of the British-American well which you did not know about at the time?

A That's true.

Q Now, you were also proposing the proportional factor of 80-acre spacing for 5.6 per cent for allowable purposes?

A Yes.

MR. NUTTER: For both pools?

THE WITNESS: Yes.

Q (By Mr. Huidle) And then are you also proposing that

each well be located within 200 feet of the center of the governmental quarter section on which it is located?

A That's correct.

Q Are you also proposing that more than one well may be drilled on an 80-acre unit and that the allowable can be shared in any proportion between the two wells?

A Yes.

MR. HUIDLE: We'd like to offer into evidence Exhibits 6, 7 and 8.

MR. NUTTER: Applicant's Exhibits 6 to 8 will be admitted into evidence.

Q (By Mr. Huidle) Now, Mr. O'Brien, although the two wells which are presently being drilled are direct offsets to the discovery well under your development program under the farmout with British-American, you would be required to stagger the well, would you not, with respect to the wells that are drilled in the northwest quarter and the southwest quarter of Section 4?

A That's correct.

Q That is to say there would be undrilled locations between the wells?

A There would be 40 acres undrilled.

Q I think that's all on a direct testimony.

MR. NUTTER: Are there any questions of Mr. O'Brien?

MR. DURRETT: I have a question or two, please.

MR. HUIDLE: We've got one other thing.

Q (By Mr. Huidle) Have you made an analysis of the economics of this well?

A Yes, sir, I have.

Q As far as to production zones are concerned?

A Yes, sir.

Q Please refer to Exhibit Number 8 and state to the Commission what it shows.

A Exhibit 8 is a profitability analysis made by Mr. Hamon's district. We have assigned 50 barrels of oil per acre a foot to the Wolfcamp and the Strawn with recovery estimated for the Wolfcamp at 2,350 barrels of oil per acre and a per acre recovery of the Strawn of 900 barrels of oil and our estimated price per barrel is $2 and that, like we say, is an estimate and it covers the oil after the lifting costs, transportation and royalties are concerned. The analysis is broken down for the Wolfcamp and Strawn as a dual well analysis and because of the relative nature of these reservoirs, that is, we don't have any others nearby to compare it to. We feel that in making this analysis we would have to assign one-half of the cost of the discovery well and one-half the cost of the subsequent wells to the individual reservoirs because the actual productivity of these reservoirs has not been determined.

Q And that is what you have done in making this analysis?

A Yes. This analysis indicates that on 80-acre spacing the net income from the Wolfcamp would amount to about $236,000, whereas the net income on 40-acre spacing would amount to about $116,000. The Strawn analysis based on the same situation indicates that the net income on an 80-acre spacing is only going to be $40,000. On 40-acre spacing from the Strawn reservoir we have arrived at a net loss of $116,000. And going down through the analysis, the dual analysis indicates that on 80-acre spacing a dual Wolfcamp and Strawn well will produce an income of about $240,000 and the dual well on 40-acre spacing came out by our calculations of making absolutely no money at all and, I would like to say here, these figures weren't fudged in, it just turned out to be an exact zero-zero-zero-zero figure. I would like to state, though, that item 2 here shows the subsequent dual well cost to be about $240,000, our actual AFE figure and that is higher than that by some $2,000. So, the bottom figure would actually be a loss if that AFE figure turned out to be the figure.

MR. HUIDLE: That concludes our testimony.

CROSS EXAMINATION

BY MR. DURRETT:

Q Mr. O'Brien, the first question I have is a matter of

clarification. Do you base your opinion concerning 80-acre spacing for both reservoirs on a permeability initial potential and the fact that the other reservoirs in this case of the same type are based on 80-acre spacing, is that correct?

A That is correct. Without qualifying that, I'd like to add to that that the British-American well is on 80-acre spacing. Further, the drainage of the Wolfcamp has indicated, and I'll be specific about that, about 7 per cent porosity.

Q This Section 4 that you are seeking by your proposal to designate as the dual completion, that is a long section, is it not, or something?

A It is an extremely long section, I believe about 960 acres, plus or minus a few.

Q Now, I assume these are designated by logs on the governmental survey?

MR. HUIDLE: I'm not sure about that.

THE WITNESS: I'm not sure about that either.

Q (By Mr. Durrett) Do they contain more or less -- are they 40-acre lots, or do you know?

A Yes, they are 40-acre lots.

Q So, you actually got a section and a half here?

A That's correct.

Q Now, I wasn't clear at all on your proposal, if you made one, on the locations that you propose for the dual

completion, your proposed well location. In other words, that you have to drill in a certain quarter section?

A No, we do not. We would, in digression to the British-American, the first well first well north of us, and we felt obliged to ourselves to locate the number 2 well on our lease as a direct south offset. We didn't feel at the time that this would preclude other well locations on an 80-acre pattern. We feel that the unknown quality of this reservoir stands for delineation of the reservoir and in the best possible manner, which, we feel would be 80-acre spacing. The apparent difficulties of the reservoir as we now see it, would be a north-south line parallel to the central basin. And the development of the reservoir would be better established by new well control which we need.

Q Am I correct, Mr. O'Brien, that what you desire is 80-acre spacing, the unit to comprise the north, south, east or west half of the governmental section and the only spacing, excuse me, location, which you are seeking is that they have to be in 200 feet of the center quarter section in the 80-acre unit?

A That's correct.

MR. NUTTER: The original application was for a staggered location and that was amended by a subsequent application.

MR. HUIDLE: After they learned about the British location.

MR. NUTTER: Now, didn't you say your farmout agreement was for dual completion?

THE WITNESS: No, the farmout agreement just specified that we drill continually and they didn't --

MR. HUIDLE: Six months.

THE WITNESS: Six months between wells.

MR. NUTTER: I thought you mentioned that it also called for a staggered location.

MR. HUIDLE: No, one well to each.

MR. DURRETT: That's what I was asking, thank you. That's all I have.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. O'Brien, you have estimated that both for the Wolfcamp and the Strawn 50 barrels of oil, would you elaborate on how that figure was derived?

A Yes, sir, the Wolfcamp is located in our well in this particular position of the Delaware Basin and it has no comparable correlative section up from the east of us. Then, we have no control in between, and because of this, we chose to take some wells around, or fields around the edge of the basin located similarly to our well and determine what the API

was as to those wells and I think they allow 1,000 and 1,200 barrels per acre which is much less than 50 barrels of oil per acre foot.

Q Well, did you make the computation as to the oil in place using porosity and saturation of water?

A Yes, sir, I did, and using the formation factor at 1.05 plus a variation of the gas ratio, we came up with about 48 barrels of oil per foot -- pardon me, the oil in place, no sir, I did not.

Q In other words, this 50 barrels of oil estimated recovery per acre foot is more or less an estimate which is based on some comparison with some field some where?

A Well, it's based on a comparison with the reservoir with the Wolfcamp reservoir situation in the basin.

Q Now, what about the Buffalo and Washington?

A The Buffalo and Washington Wolfcamps.

Q Originally they came up with a recovery of 1,000 to 1,200 barrels per acre?

A That's correct.

Q Or that much oil in place per acre foot?

A Pardon me, that is barrels of oil per acre.

Q Well, you mentioned an estimate of your porosity here in the Wolfcamp, I think you said 7 per cent and you mentioned a figure for the water saturation.

A Yes, they would vary between 28 and 35.

Q And you also mentioned a 1.05 formation of volume factor.

A Well, this is a standard figure that I will use, I think it's pretty standard.

Q Now, what about the Strawn, do you have an estimated porosity there?

A Well, I stated the porosity varies between $5\frac{1}{2}$ and 11 per cent.

Q You mean in your well here?

A Yes.

Q Do you have an idea of what the average would be for the 800 feet of pay that you would have?

A I'd say about 8 per cent.

Q What about the water saturation, Mr. O'Brien?

A About 20 to 25 per cent.

Q And your volume factor, would that be about the same or a little higher in this area?

A I believe it was a little lower.

Q This is the one that had the lower gas-oil ratio?

A Yes, sir.

Q Now, do you have any drill stem tests for this well?

A No, sir, we do not. While we were drilling the well we thought we had those particular zones identified and we found

out after we looked at the well we were actually higher.

Q Now, the well in your Exhibit Number 2, is this the lower area?

A Yes, sir.

Q And then the upper would be off this exhibit?

A Yes.

Q And you don't have any drill stem tests for the lower?

A No, sir.

Q Did they make drill stem tests for any others in the Wolfcamp or Strawn?

A No, sir, they did not.

Q So, the existence of either pool in the other well is really not known due to lack of tests?

A From lack of tests or any test information it is not known but the electrical log calculations indicate that these would not be productive.

Q In your opinion, is there separation between the lower Wolfcamp as designed by the British-American well and the Wolfcamp zone as designed by you, either horizontal or vertical separation?

A Yes, sir, there is separation.

MR. NUTTER: Are there further questions of the witness?

MR. HUIDLE: I'd like to ask one more.

REDIRECT EXAMINATION

BY MR. HUIDLE:

Q Mr. Hamon is asking only for a temporary order for special field rules for each of these formations for one year, is that right?

A Yes.

Q And during that period, from your testimony, it is quite evident that there will be a number of additional wells drilled?

A That's correct.

Q And by the end of the year period you should be able to determine pretty well the drainage area of one well?

A Yes.

Q If this is not drilled on an 80-acre pattern?

A Yes.

MR. NUTTER: Mr. O'Brien, you mentioned that one well, the British-American well, was drilled some 5,000 feet, what was your number two drilling?

THE WITNESS: Below 1,800 feet.

MR. NUTTER: Are there further questions of Mr. O'Brien?

MR. HUIDLE: I don't believe that I offered Exhibit 8 into evidence.

MR. NUTTER: Applicant's Exhibit 8 will be admitted

into evidence.

THE WITNESS: I would like to make one other statement here, I had a lapse of memory here a while ago, I brought up the Washington and Buffalo pools but I didn't mention the South Vancouver Wolfcamp pool which has a per acre recovery, I figure, as stated by the API at 2875 and this pool is just as close to us as Washington or Buffalo and so, our figure of 2,350 per acre is in line. It falls very well within these two wells to work out with any calculation.

MR. NUTTER: Mr. O'Brien, do you know if Jake Hamon contemplates any coring in any subsequent well here?

THE WITNESS: I don't know of any discussions along that line.

MR. NUTTER: There were no cores taken in these sections?

THE WITNESS: No.

MR. NUTTER: Are there further questions of Mr. O'Brien? Does anyone have anything further in Case 3151, 3152 or 3153? We will take it under advisement and recess the hearing until 1:30.

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

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

John Orfanides
COURT REPORTER

I N D E X

WITNESSES	PAGE
H. W. SHALL	
Direct Examination by Mr. Huidle	3
JAMES R. O'BRIEN	
Direct Examination by Mr. Huidle	10
Cross-Examination by Mr. Durrett	28
Cross-Examination by Mr. Nutter	31

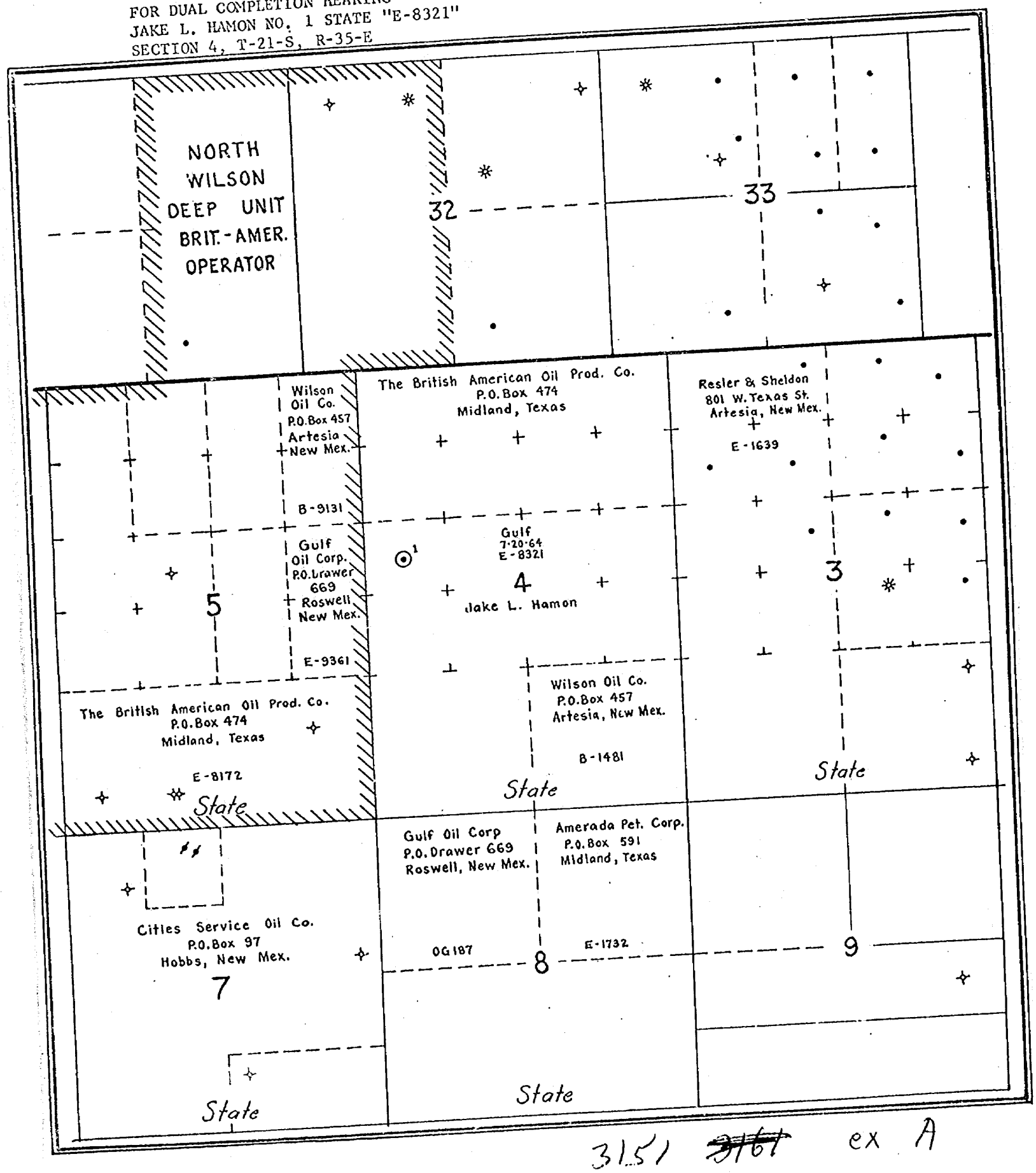
E X H I B I T S

NUMBER	MARKED FOR IDENTIFICATION	OFFERED	ADMITTED
Exhibit 1	2	10	10
Exhibit 2	2	10	10
Exhibit 3	2	10	10
Exhibit 4	2	10	10
Exhibit 5	2	10	10
Exhibit 6	2	26	26
Exhibit 7	2	26	26
Exhibit 8	2	35	35

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3151, 3152, 3153 heard by me on 11/24, 1964.

....., Examiner
New Mexico Oil Conservation Commission

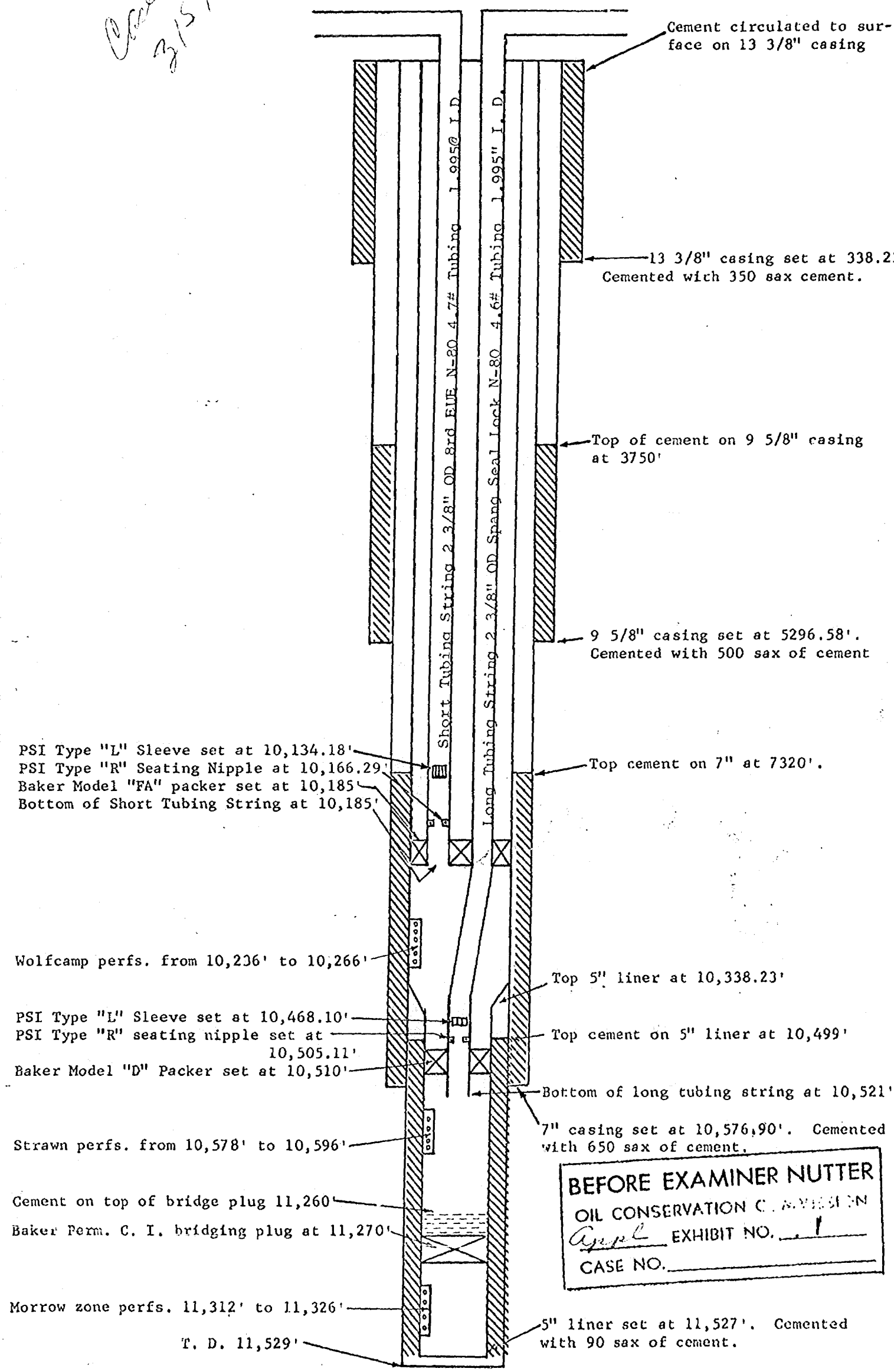
OFFSET OWNERSHIP PLAT
FOR DUAL COMPLETION HEARING
JAKE L. HAMON NO. 1 STATE "E-8321"
SECTION 4, T-21-S, R-35-E



3151 ~~3161~~ ex A

STATE E-8321 NO. 1
Diagrammatic Sketch of Dual Completion Installation

Case 3151



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Appl EXHIBIT NO. 1
CASE NO.

#2

JOHN W. WEST ENGINEERING COMPANY
412 NORTH DAL PASO, HOBBS, NEW MEXICO

TELEPHONES 3-3942
3-6770

BOTTOM HOLE PRESSURE SURVEY REPORT

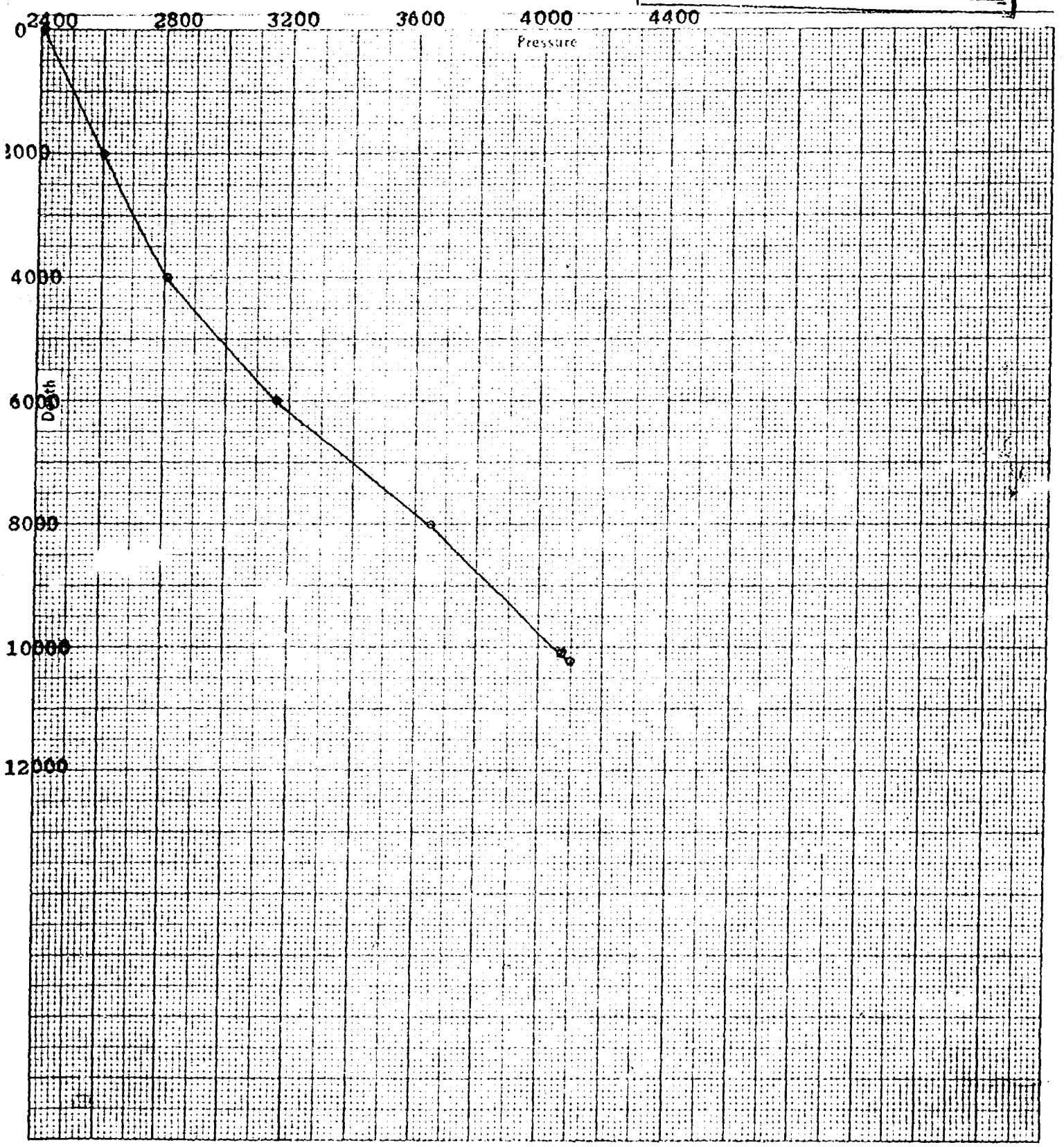
OPERATOR JAKE L. HAMON
LEASE STATE "B" 8321
WELL NO. 1
FIELD Wolfcamp
DATE 11-6-64 TIME 12:00 noon

STATUS shut-in TEST DEPTH 10,118
TIME S.I. LAST TEST DATE initial
CAS. PRES. BHP LAST TEST
TUB. PRES. 2411 BHP CHANGE
ELEV. 3628 FLUID TOP
DATUM -6610 WATER TOP
TEMP RUN BY M.C.T.
CLOCK NO. 18971 GAUGE NO. 12434
ELEMENT NO. 16531-N

DEPTH	PRESSURE	GRADIENT
000	2411	
2000	2604	.097
4000	2813	.105
6000	3164	.176
8000	3648	.227
10118	4072	.224
10238 *	4099 *	.224

* Pressure Corrected To Datum

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO.



JOHN W. WEST ENGINEERING COMPANY
412 NORTH DAL PASO, HOBBS, NEW MEXICO

TELEPHONES 3-3942
3-6770

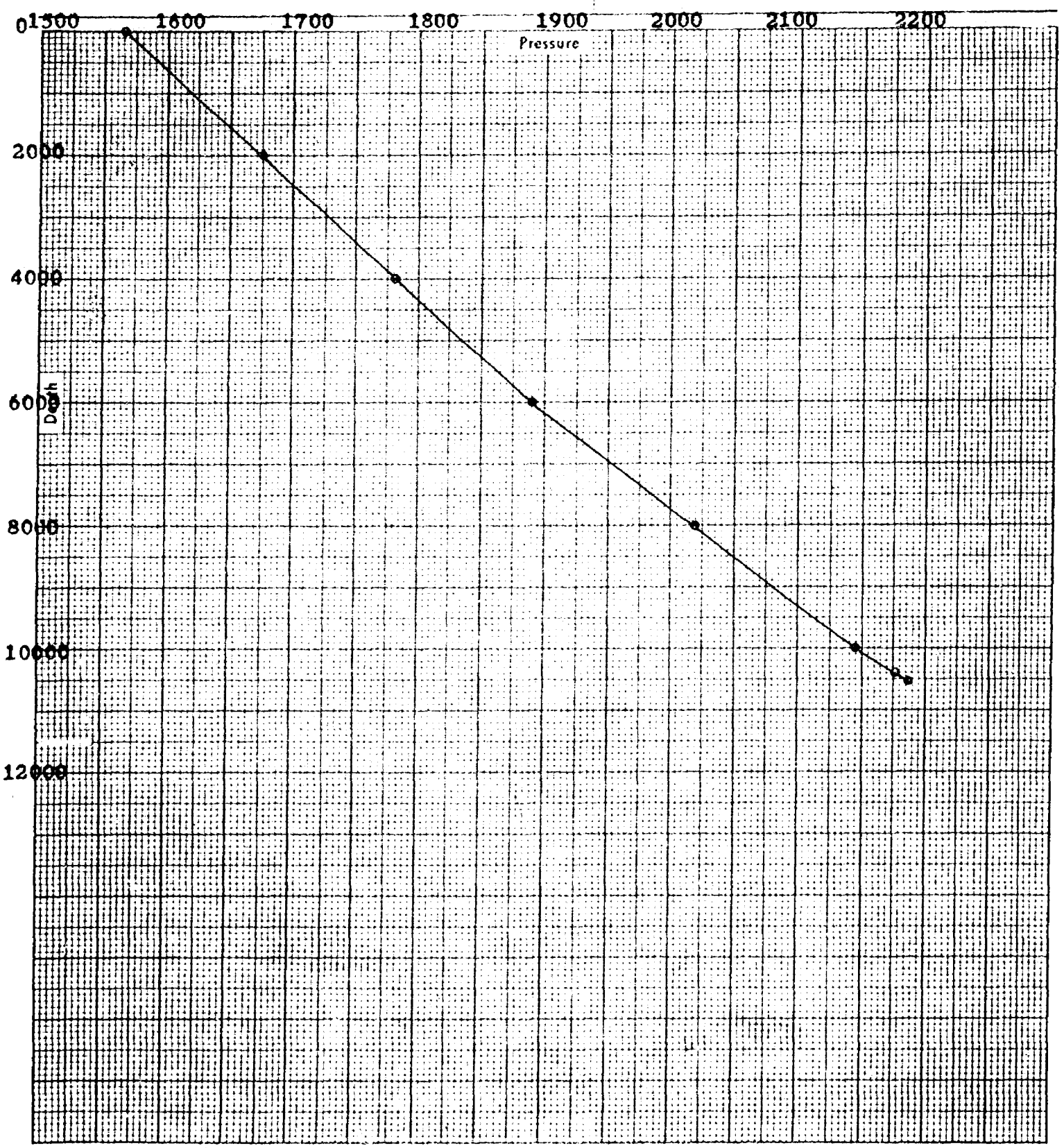
BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR JAKE L. HAMON
LEASE STATE "E" 8321
WELL NO. 1
FIELD Strawn
DATE 11-6-64 TIME 2:30 P.M.

STATUS shut-in TEST DEPTH 10,440
TIME S.I. LAST TEST DATE initial
CAS. PRES. BHP LAST TEST
TUB. PRES. 1566 BHP CHANGE
ELEV. 3628 FLUID TOP
DATUM -6940 WATER TOP
TEMP RUN BY M.C.T.
CLOCK NO. 18971 GAUGE NO. 12434
ELEMENT NO. 16531-N

DEPTH	PRESSURE	GRADIENT
000	1566	
2000	1674	.054
4000	1781	.054
6000	1889	.054
8000	2019	.065
10000	2145	.063
10440	2177	.073
10568*	2186*	.073

* Pressure Corrected To Datum



NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

6-2-56

PACKER-SETTING AFFIDAVIT
(Dual Completions)

STATE OF Texas)
) ss
County of Midland)

Cecil H. Barton, being first duly sworn according to law, upon his oath deposes and says:

That he is of lawful age and has full knowledge of the facts herein below set out.

That he is employed by Jake L. Hamon in the capacity of Petroleum Engineer and as such is its authorized agent.

That on October 17, 19 64, he personally supervised the setting of a Baker Model "D" (Make and Type of Packer) in Jake L. Hamon (Operator)'s State E 8321 (lease) Well No. 1, located in Unit Letter L, Section 4, Township 21 - S, Range 35 - E, NMPM, Lea County, New Mexico.

That said packer was set at a subsurface depth of 10,510 foot, said depth measurement having been furnished by Go Services, Inc.

That the purpose of setting this packer was to effect a seal in the annular space between the two strings of pipe where the packer was set so as to prevent the commingling, within the well-bore, of fluids produced from a stratum below the packer with fluids produced from a stratum above the packer. That this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

Jake L. Hamon
(Company)

Cecil H. Barton
(its Agent)

Subscribed and sworn to before me this the 18 th day of November, AD, 19 64.

R. T. HAYWARD, NOTARY PUBLIC

R D Mayhew
Notary Public in and for the County of Midland.

My Commission Expires June, 1965.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO.

NEW MEXICO OIL CONSERVATION COMMISSION

SOUTHEAST NEW MEXICO PACKER LEAKAGE TEST

Operator	Lease	Well
JAKE L. HAMON	STATE "E" 8321	No. 1

Location of Well	Unit	Sec	Twp	Rge	County
	L	4	21 SOUTH	35 EAST	LEA

	Name of Reservoir or Pool	Type of Prod (Oil or Gas)	Method of Prod (Flow, Art. Lift)	Prod. Medium (Tbg or Csg)	Choke Size
Upper Compl	WOLFCAMP	OIL	FLOW	TUBING	14/64
Lower Compl	STRAWN	OIL	FLOW	TUBING	16/64

FLOW TEST NO. 1

Both zones shut-in at (hour, date): 12:00 NOON 11-5-1964

Well opened at (hour, date): 5:00 PM 11-6-1964

	Upper Completion	Lower Completion
Indicate by (X) the zone producing	X	
Pressure at beginning of test	2390	1540
Stabilized? (Yes or No)	YES	YES
Maximum pressure during test	2390	1540
Minimum pressure during test	1400	1540
Pressure at conclusion of test	1400	1540
Pressure change during test (Maximum minus Minimum)	990	NO CHANGE
Was pressure change an increase or a decrease?	DECREASE	NO. CHANGE

Well closed at (hour, date): 10:00 PM Nov. 6, 1964 Total Time On Production 5 HOURS

Oil Production During Test: 63.48 bbls; Grav. 47.3 ; Gas Production During Test 116.4 MCF; GOR 1833

Remarks

FLOW TEST NO. 2

	Upper Completion	Lower Completion
Well opened at (hour, date): 7:00 AM Nov. 7-1964		
Indicate by (X) the zone producing		X
Pressure at beginning of test	2050	1540
Stabilized? (Yes or No)	PARTIAL	YES
Maximum pressure during test	2310	1540
Minimum pressure during test	2050	1000
Pressure at conclusion of test	2310	1000
Pressure change during test (Maximum minus Minimum)	260	540
Was pressure change an increase or a decrease?	INCREASE	DECREASE

Well closed at (hour, date) 11:00 AM Nov. 7, 1964 Total time on Production 4 HOURS

Oil Production During Test: 35.88 bbls; Grav. 42.8 ; Gas Production During Test 69.9 MCF; GOR 1948

Remarks

I hereby certify that the information herein contained is true and complete to the best of my knowledge.

Approved 19
New Mexico Oil Conservation Commission

By

Title

Operator JAKE L. HAMON

By [signature]

Title ENGINEER

Date Nov. 11, 19