

## NEW MEXICO OIL CONSERVATION COMMISSION

Examiner Hearing - Daniel S. NutterSanta Fe, NEW MEXICOREGISTER**ILLEGIBLE**

HEARING DATE

November 30, 1960

TIME:

9 a.m.

NAME:	REPRESENTING:	LOCATION:
R. T. WRIGHT	El Paso Natural Gas Co	Salt, N. Mex.
GARRETT WHITWORTH	" " "	EL PASO TEXAS
Jimmie L. Olson	" " "	Midland, Texas
Jerry Hickson	" " "	El Paso, Tex.
Lee N Perry Jr	Humble Oil & Ref Co	Hobbs, N.M.
R.M. Anderson	Luciani	Midland, Tex
Jack M Campbell	Campbell & King	Roswell N.M.
Bob White	Robert White & Co	Midland Texas
John Redfern Jr	Redfern & Herd	
Jason Kellahin	Kellahin & Fox	Santa Fe
J. T. Hollis	Hunt Oil Co.	Dallas, Texas
Chester F. Strabacz	Robinson Bros Drilling Co	Midland Texas
A. I. Robinson	Robinson Bros Oil Producers	Midland, Texas
E. A. Anderson	Robinson Bros Drilling Co	Midland, Texas
R. F. Montgomery	Robinson Bros Drilling Co	Hobbs
John H. Hedges	J. H. Hedges	Hobbs, N.M.

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Santa Fe, , NEW MEXICO

REGISTER

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NAME:	REPRESENTING:	LOCATION:
Tom L. Ingram	Nearburg & Ingram	Roswell
S. W. Williams	Mid-Continent Supply Co.	Midland
Ralph L. Gray	Nearburg & Ingram	Artesia
Eugen Ehrenburg	" "	Roswell
Earl Hartley	Self, Brady Lowe & Lowe Land Co.	Clavin

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PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE LAND OFFICE BLDG.  
Santa Fe, New Mexico  
November 30, 1960

IN THE MATTER OF: )  
 )  
 )  
 APPLICATION OF EL PASO NATURAL GAS COMPANY )  
 for an oil-oil dual completion. Applicant, in the )  
 above-styled cause, seeks an order authorizing the )  
 dual completion of its Lusk Deep Unit Well No. 1, )  
 located in Unit A, Section 19, Township 19 South, )  
 Range 32 East, Lea County, New Mexico, in such a )  
 manner as to permit the production of oil from an )  
 undesignated Bone Springs pool and the production )  
 of oil from an undesignated Pennsylvanian pool )  
 through parallel strings of tubing. )

CASE  
NO. 2125

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: The hearing will come to order please. The first case on the docket will be 2125.

MR. MORRIS: Application of El Paso Natural Gas Company for an oil-oil dual completion.

MR. WHITWORTH: Garrett Whitworth, representing El Paso Natural Gas Company. The local counsel firm of Seth, Montgomery & Federici of Santa Fe, New Mexico, which firm has filed a written appearance in this case. We have one witness, Mr. Gerald A. Hickson to be sworn.

(Witness sworn.)



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ALBUQUERQUE, NEW MEXICO

GERALD A. HICKSON

a witness, called by and on behalf of the Applicant, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. WHITWORTH:

Q Will you please state your full name, by whom you are employed and in what capacity you are employed?

A Gerald A. Hickson, El Paso Natural Gas Company, Proration Engineer.

Q Mr. Hickson, have you qualified as an expert witness before this commission and is it a matter of record?

A Yes, sir.

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

MR. NUTTER: Yes, sir, please proceed.

Q (By Mr. Whitworth) Are you familiar with El Paso's application in this case, Mr. Hickson?

A Yes, sir, I am.

Q What is El Paso Natural Gas seeking with this application?

A We are seeking an order authorizing the dual completion of our Lusk Deep Unit Well No. 1 in Unit A of Section 19, Township 19 South, Range 32 East, Lea County, New Mexico.

Q Is this an oil-oil dual?

A Yes, sir, it is.

Q To what zones was the well completed?



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A The lower zone is in the Strawn Lime and the upper zone was completed in the Bone Springs Dolomite.

Q The well is productive from both zones?

A Yes, sir.

Q Where is the well located?

A In Unit A, Section 19-19-32.

Q Do you have a plat showing the exact location of the well and the offset operators?

A Yes, sir, I do.

Q That would be marked as El Paso's Exhibit No. 1?

A Yes.

MR. NUTTER: This will be Exhibit No. 1, Mr. Whitworth?

MR. WHITWORTH: Right.

Q (By Mr. Whitworth) This well is located in the Federal Unit, is that right?

A Yes, sir.

Q What is the name of the unit?

A Lusk Deep Unit.

Q Who are the offset operators?

A All offset operators to this well are asking for dual completions and are in the unit.

Q Now, do you have an exhibit showing the physical equipment that has been installed in this well?

A Yes, sir. I have a diagrammatic sketch showing the dual



completion.

Q That is El Paso's Exhibit No. 2?

A Yes, sir.

Q Would you explain, Mr. Hickson, the physical equipment in this well?

A Well, this diagrammatic sketch illustrates or points out casing strings and the cement tops and the depth of the tubing and formation involved in this dual completion and the point which both packers were set.

Q Where were the packers set?

A We have two packers in this hole, hydraulic retrievable packers. 172-C which is set at 8702', which is 42' above the perforations in the Bone Springs. The lower packer which is a HS 16-1 is set at 11,134' which is 34' above the perforations in the Strawn Lime.

Q You stated the production packer is a retrievable type, exactly what is the make and model?

A The make and model of the lower packer, which is a separation packer, is HS 16-1, hydraulically set retrievable packer, made by Brown Oil Tools Incorporated.

Q Has El Paso used this type of packer before?

A Yes, sir, we have.

Q What has been the experience of El Paso as to the effectiveness of this production packer?

A We have the same packer installation set in quintuplet completions in Louisiana which has been in operation for nearly a year and have had



no failure as of yet.

Q In your opinion, Mr. Hickson, is this packer sufficient to separate production from the two zones in this well?

A Yes, sir, I believe it is.

Q When was the well completed?

A October 5, 1960.

Q Do you have any pressure data in this well?

A We have shut-in information taken from a packer leakage test which is filed in the District Office in Hobbs; shows the shut-in pressure of the Strawn Lime, 3086 psig and -

MR. NUTTER: 3086 pounds surface pressure.

A Yes, sir and the Bone Springs pressure of 1330 psig.

Q (By Mr. Whitworth) You stated this well is an oil well, what is the gas oil ratio?

A The gas oil ratio which was taken 6 days after completion was 2771 to 1 for the Strawn Lime and 1539 to 1 on the Bone Springs Dolomite.

Q Do you have a well log on this well?

A Yes, sir.

Q And that is El Paso's Exhibit No. 3?

A Yes, sir, it is.

Q Would you explain what that log shows?

A A composite which we determine the tops of the formation and pick the pays of the two zones that we completed in porosity and permeability.

Q You stated that the well is productive of oil, did you tell us exactly what amounts from each zone?



A On a six hour and twenty minutes test in the Strawn, 151 barrels of 50.1 degree gravity oil and the Bone Springs produced 42.1 - 42.2 in twelve hours, gravity 39.1.

Q In your opinion, Mr. Hickson, would the granting of this application prevent waste and protect correlative rights?

A I believe it would.

Q Do you have anything you would like to add to your testimony?

A No, sir, except we have good means of finding any leaks that may occur if they do down the line because we have a very good pressure differential and we also have good difference in gravities of the two oils in the two different zones.

Q Have packer leakage tests been completed on this well?

A Yes, sir, it was.

Q When was that done?

A October 6. Correction, that would be the 10th of October.

Q What did this test show?

A It showed no leaks at the present time.

Q Were El Paso's Exhibits 1, 2 and 3 prepared by you or under your supervision?

A Yes, sir, they were.

MR. WHITWORTH: We ask that the exhibits be admitted into evidence.

MR. NUTTER: Exhibit 1 through 3 will be admitted.

MR. WHITWORTH: That is all.



MR. NUTTER: Anyone have any questions?

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Hickson, what will be the pressure differential at the packer?

A I would approximate, I would say probably about, oh, maybe close to 2000 pounds.

Q Do you have any literature or brochure on this type of Brown Oil Tool packer?

A We have one brochure here from Brown Oil Tool, if you would like to enter it as an exhibit.

MR. NUTTER: We would prefer you would, Mr. Hickson.

A All right, fine.

MR. WHITWORTH: We will enter that brochure as El Paso's Exhibit No. 4.

Q (By Mr. Payne) Mr. Hickson, the well you completed in Louisiana where you used this same type packer, is that well as deep as this one?

A Well, sir, I am not real certain of the depth of that well. I am sure they have greater pressures in that as it is an offshore well. They have extreme pressure differentials and temperatures.

Q What you have lists producing from the Strawn, is that actually part of the Pennsylvanian?

A Yes, sir.



MR. PAYNE: Thank you.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Hickson, would you describe in your own words, I am sure the brochure probably does, would you describe in your own words the manner in which the number of slips, whether the slips are pointed upward or downward and how many rubber seals are in the packer.

A The manner in which the packer is set, it is a hydraulically set packer and lowered on the longest string, the lower string of tubing; then the upper string of tubing is ran in the hole and set in the upper packer which is 17-2-C. A bakelite ball is ran into the upper tubing, at which time the pressure which sets the upper packer, which has two slips, the upper slips of both packers, the upper and lower of the two sets of slips and rubber sealed on the outside of the slips with lead seals on the outside of the rubber seals.

Q It has two sets of slips, one set pointing upward and one pointing downward?

A Yes, sir.

Q Each set rubber?

A On the outside, yes.

Q Lead seal on the outside of the rubber seal?

A Yes, sir.

Q How is the packer released?

A The packer is released by rotating the tubing.

Q Can the packer be set again after released without removing



it from the hole?

A Yes, sir, it could be. We can run another bakelite ball in the hole in this lower packer and pressure up on it and if we are not satisfied with the pressure that it was set at, we can pressure up on it again and then reverse out this ball; it will be set into a higher pressure.

Q Would the lead seals the first time the packer was set be disfigured, you couldn't get another set on the lead seals?

A I don't think so. They may be to a certain degree; we still have the lead seal, the protection of the rubber seal which is really for corrosive fluids that we have in this hole.

Q In other words, the lead seals are to protect the rubber seals?

A Yes, sir. The rubber seals hold and the lead seals actually protect the rubber seals from corrosive fluids. This is sweet crude in both zones.

Q The packer is set by pressuring up the tubing string on which the packer is hung?

A Yes, sir.

Q And released by rotating the tubing string?

A Yes, sir.

Q What did you say the gas oil ratio on the Strawn was?

A Six days after completion it was 2771 to 1.

Q 2771 to 1.

A Yes, sir. I understand on recent tests it has come down to somewhere between 2200 and 2300.



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Q Do you have any bottom hole pressure information on this well?

A Yes, sir, I believe we do. I believe we have one for the drill stem tests which shows it to be in the neighborhood of 5800 pounds. I don't see this right now, I am sure it is in the neighborhood of 5850.

Q I think the bottom hole pressure is indicated on the log during the drill stem test for the Strawn.

A Yes, sir.

Q Let's see if we have a bottom hole pressure on the Bone Springs.

A Yes, bottom hole pressure is given on both drill stem tests.

MR. NUTTER: Any further questions of Mr. Hickson.

(No response.)

MR. NUTTER: You may be excused. Do you wish to formally offer that Exhibit No. 4?

MR. WHITWORTH: We wish to offer El Paso's Exhibit No. 4.

MR. NUTTER: El Paso's Exhibit No. 4 will be received. Do you have any further questions?

MR. WHITWORTH: No, sir.

MR. NUTTER: Does anyone have anything further?

(No response.)

MR. NUTTER: We will take the case under advisement and call case 2126.



I N D E XWITNESSPAGE

GERALD A. HICKSON	
Direct Examination by Mr. Whitworth	2
Cross Examination by Mr. Payne	7
Cross Examination by Mr. Nutter	8

E X H I B I T S

<u>Number</u>	<u>Exhibit</u>	<u>Marked for Identification</u>	<u>Offered</u>	<u>Received</u>
No. 1	Plat	3	3	6
No. 2	Sketch	4	4	6
No. 3	Log	5	5	6

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

I, LEWELLYN F. NELSON, Court Reporter, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand this *16th day of Dec 1960*, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

*Lewellyn F. Nelson*  
Lewellyn F. Nelson, Court Reporter.

*My commission expires  
June 14, 1961*

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. *2125*, heard by me on *11/30*, 19*60*.

*[Signature]*, Examiner  
New Mexico Oil Conservation Commission

