BEFORE THE
OIL CONSERVATION COMMISSION
Hobbs, New Mexico

IN THE MATTER OF:

CASE NO. 1010

TRANSCRIPT OF PROCEEDINGS

BEFORE THE
OIL CONSERVATION COMMISSION
February 8, 1956
Hobbs, New Mexico

Application of Continental Oil Company for an order approving a dual completion in the Tubb Gas Pool and the Terry-Blinebry Oil Pool in compliance with Rule 112-A of the Commission's Rules and Regulations. Applicant, in the above-styled cause, seeks an order granting them permission to dually complete their Lockhart B-13 "A" Well No. 1-A in the Tubb Gas Pool and the Terry-Blinebry Oil Pool; said well being located in the SW/4 SW/4 Section 13, Township 21 South, Range 37 East, Lea County, New Mexico; said Tubb Gas Pool zone and Terry-Blinebry Oil Pool zone to be produced through parallel strings of tubing.	Case No. 1010

BEFORE:

Warren W. Mankin, Examiner

TRANSCRIPT OF HEARING

EXAMINER MANKIN: The hearing will come to order. The next and last case is Case 1010, the application of Continental for dual completion in the Tubb Gas Pool and the Terry-Blinebry Oil Pool.

MR. KELLAHIN: If the Commission please, Jason Kellahin of Santa Fe, New Mexico, appearing on behalf of the applicant. We will have one witness, Mr. Richard C. Lannen.

RICHARD C. LANNEN

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

DIRECT EXAMINATION

By: MR. KELLAHIN:

Q. Would you state your name please.

A. Richard C. Lannen.

Q. Where do you live Mr. Lannen?

A. Eunice, New Mexico.

Q. By whom are you employed?

A. Continental Oil Company.

Q. And what is your position with Continental?

A. District Engineer.

Q. Mr. Lannen have you testified before the Oil Conservation Commission of New Mexico as an expert witness?

A. Yes.

Q. And have your qualifications been accepted by the Commission?

A. Yes.

Q. Are the witness' qualifications acceptable?

MR. MANKIN: They are.

Q. Mr. Lannen are you familiar with the application filed by Continental Oil Company in Case No. 1010?

A. Yes, sir.

Q. Have you a plat showing the location of the well and lease involved in this application?

A. Yes, sir.

Q. Referring to what has been marked as Continental Oil Company's Exhibit 1, would you state what that shows?

A. Exhibit No. 1 is a Tubb structure plat showing the Lockhart B-13 "A", the location of the well and the location of the subject well.

Q. And how are they shown?

A. Encircled in red. And the offset leases and ownerships and Tubb wells and gas proration unit assigned outlined in green.

Q. Now referring to the exhibit, what are the offset leases-----what is the ownership of the offset leases?

A. Well, the offset lease ownership would be the Gulf Oil Corporation, and Magnolia Oil Corporation and the remaining acreage is owned by Continental.

Q. Now the contours appear on this map, would you state what those are?

A. That is a contour interval of 10 foot on a Tubb marker.

Q. Now, does the exhibit show the location of any Tubb gas wells?

A. Yes, sir it does.

Q. How are they shown?

A. They are encircled in green.

Q. Now is the 160 acres outlined in red the proposed unit for a Tubb gas well as submitted in the application?

A. Yes, sir.

Q. Is that 160 acres located within the horizontal limits of the Tubb Gas Pool?

A. At the present time it is outside the horizontal limits---within a quarter of a mile.

Q. Within a quarter of a mile---referring to the exhibit is the Magnolia well shown in the NE/4 NE/4 of Section 23 within the Tubb Pool?

A. Yes, sir.

Q. Now is the acreage proposed to be dedicated to this well located within the vertical limits of the Tubb formation as shown by your contours?

A. Yes.

Q. Is the Tubb formation productive of gas at this location?

A. It is reasonably presumed to be gas productive, yes.

Q. On what do you base that statement, Mr. Lannen?

A. Well, the Magnolia Williamson located to the southwest and it is--- the structural difference between it and the proposed well is only 10 feet, and it is productive of Tubb gas. The Eva Owen or rather the Olsen Oil Company Eva Owen No. 1, located a mile and half south and structurally comes close to the lease is also a Tubb gas well. Based on these two wells the Lockhart B-13 "A" lease can reasonably be presumed to be gas productive.

Q. May the 160 acres proposed to be dedicated to this well as a Tubb gas well reasonably be presumed to be productive?

A. Yes, sir.

Q. Now referring to what has been marked as Continental's Exhibit No. 2, Mr. Lannen, would you state what that is?

A. That is a structure plat contoured on the Blinebry marker showing the Terry-Blinebry oil wells and Blinebry gas wells and the horizontal limits of the Terry- Blinebry Oil and the Blinebry Gas Pools and the proposed well.

Q. And how is the proposed well shown, sir?

A. Encircled in red.

Q. Does the exhibit show the outlines of the Blinebry Gas Pool?

A. Yes, it does.

Q. Does it show the outlines of the Terry-Blinebry Oil Pool as defined by the Commission?

A. Yes, sir.

Q. Is the acreage proposed to be dedicated to this well located within the horizontal limits of the Terry-Blinebry Oil Pool?

A. Yes, sir.

Q. Now the contour interval---the contours shown on here, what do they indicate?

A. Well, they indicate the structure of the Blinebry in this vicinity and the contour interval is 25 feet and they would indicate that the proposed well would be productive of oil in the Terry-Blinebry.

Q. On what do you base that statement?

A. Well, the offset wells of the proposed well, the Lockhart B-13 "A" No. 8 TB, located to the north and No. 5 TB located to the northeast----the No. 4 TB is to the northeast and the No. 5 is to the east and the Nancy Stevens--Gulf's Nancy Stevens No. 3 is to the southeast are all productive of oil in the Terry-Blinebry.

Q. Do those plats indicate to you that a well located as your proposed dual completion in this case would be productive of oil in the Terry-Blinebry?

A. Yes.

Q. May the 40 acres which would be proposed to be dedicated to this well as a Terry-Blinebry oil well reasonably be presumed to be productive of gas---of oil?

A. Of oil, yes.

Q. And will the well be completed in the event this application is approved as an oil well?

A. In the Terry-Blinebry, yes.

Q. Referring to what has been marked as Continental's Exhibit No. 3, would you state what that is?

A. That is an electric log of the proposed well, the Lockhart B-13 "A" No. 1.

Q. Is that a producing well Mr. Lannen?

A. Yes, sir it is a producing well, producing from the Wantz Abo Pool, at the present time it is pumping four barrels of oil per day.

Q. Now what is proposed to be done with the abo production in the event this application is approved?

A. It will be squeezed off and the well will be plugged back.

Q. And what did you say the production was at the present time?

A. Pumping four barrels of oil per day.

Q. Now, does Exhibit No. 3 give any information as to the formation involved in this application?

A. Yes sir, it has Blinebry marker, the Tubb marker, top of the Abo, Drinkard and top of the Glorieta, all indicated in red.

Q. And at what depths are those shown?

A. The Glorieta top at 5235, the Blinebry marker at 5680, the Tubb marker at 6134, the top of the Drinkard 6485, the top of the Abo 6810 and the present plug back depth is 7140.

Q. Are those measurements given from the surface?

A. Yes sir.

Q. Referring to the part that has been marked as exhibit---Continental's Exhibit No. 4, Mr. Lannen, what does that show?

A. Exhibit No. 4 is a diagram---simplified diagram of the present condition of the well and the proposed dual completion.

Q. And what does that exhibit show as to the present condition?

A. It shows the casing points, the present perforations, and the proposed plug back depths and the dual completion. The present condition of the well as shown on the diagram. The well has 2 inch tubing in it and 7 inch production casing set at 7576. The pumping equipment is on the well at the present time.

Q. Where is the surface string, Mr. Lannen?

A. The surface is 13 3/8 set at 238 feet.

Q. Is there an intermediate string?

A. And the intermediate is 9 5/8 set at 3150.

Q. Now, how is it proposed to plug back that well?

A. As indicated on the diagram, it is proposed to plug back to 7,020 by squeezing off the abo perforations---the present producing interval by cementing.

Q. And what does the exhibit show in regard to the proposed dual completion?

A. The proposed dual completion will consist of a parallel tubing string, one producing---or rather the Terry-Blinebry Oil Zone producing from----- through one string and the Tubb Gas Zone producing through another string, and

the zones separated by production packer.

Q. Now referring to the exhibit you have a point marked there as Blinebry oil zone, is that correct?

A. That is the Terry-Blinebry oil zone.

Q. And to that extent do you wish to have the exhibit corrected?

A. Yes sir.

MR. MANKIN: It will be so corrected.

Q. Referring to the exhibit again, Mr. Lannen, how will that well be completed?

A. Well it will be completed with parallel tubing strings.

Q. What is proposed to be done in mechanical operations and completions.

A. The well will be plugged back out of the Abo formation and recompleted in the Tubb gas zone first and then dually completed in the Terry-Blinebry oil zone.

Q. Where will the perforations be in the Tubb gas zone?

A. The proposed perforations in the Tubb gas zone are from 6050 to 6355 in that interval.

Q. And where will the perforations be in the Terry-Blinebry oil zone?

A. They will be from 5723 to 5945.

Q. And how are----how will the two zones be separated?

A. They will be separated with a Baker Model "D" production packer.

Q. Is that type of packer effective in the prevention of communication between these two zones?

A. Yes sir.

Q. In your opinion will it prevent communication between the two zones?

A. Yes sir.

Q. Is there a pressure differential between the Tubb gas zone and the Blinebry oil------Terry-Blinebry oil zone?

A. Yes sir.

Q. Is it an appreciable difference or could you say what it is?

A. It will vary from between 50 and 150 pounds.

Q. Is that in the oil business generally considered excessive pressure for completions of this nature?

A. No sir.

Q. Now referring to what has been marked as Continental's Exhibit No. 5, Mr. Lannen, would you state what that is?

A. Exhibit No. 5 is an equipment diagram of the dual completion equipment to be used in the hole and thewellhead equipment to be used.

Q. And would you, for the benefit of the Commission, please give us an explanation of that equipment?

A. This equipment consists of Baker down hole equipment and OCT wellhead equipment. The dual completion will consist or will be made by parallel----using a parallel tubing string with one Baker Model "D" production packer segregating the oil zone from the gas zone. This picture or rather this diagram is a complete explanation of theequipment to be used in the dual completion.

Q. Would you explain----you have already stated briefly how the well would be recompleted---would you explain with reference to this exhibit as to what operations will be carried on?

A. Yes sir. The method to be used is somewhat similar to previous dual completions that have been made with the oil zone below and the gas zone above. In this situation the gas zone will be below and the oil zone will be above. The well will first be plugged back out of the Abo formation and the Tubb

zone will be perforated, treated and tested and a gas completion made. If the productivity of the gas zone is sufficient to continue the dual completion then a Baker Model "D" production packer will be set by a wire line and tubing will be run in the hole with the pictured equipment, the Baker Model C-1 tubing seal receptacle unit, the Baker Model E anchor tubing seal assembly and the Garrett circulating valve. The circulating valve will be open when the tubing is run in the hole. The casing will be pressured up to test the packer seat and the tubing sealed. The Garrett sleeve will be closed and the tubing will be pressured up to test the sleeve and the tubing seal in the tubing. At this point if all equipment tests are satisfactory and there is no communication the tubing will be unlatched at the tubing seal receptacle unit and removed from the hole. The completion of the Blinebry or Terry-Blinebry oil zone will be made at this point the oil zone will be perforated, treated, tested and when sufficiently productive a long string of tubing will be run into the hole with the tubing seal nipple on the bottom and the tubing will be connected to the tubing seal receptacle, latched in and the second string of tubing---well in this long string of tubing will be a Baker parallel string anchor with a latching-sub. The second string of tubing will be run with a perforated nipple and a seating nipple latched in this parallel string anchor latching-sub. The wellhead will be assembled and the producing zones swabed in and put on production.

Q. Is it proposed to make any further tests after the completion in the two zones to determine if there is communication?

A. Yes sir. After the completion is made and the tubing is assembled all on the well, the completion is finished. A test for communication will be made at the surface with a two pen recorder flowing one string of tubing or flowing

one zone and observing the pressure from the other zone and then reversing the procedure.

Q. Now referring to what has been marked as Exhibit No. 6, Mr. Lannen, what does that show?

A. Exhibit No. 6 is a cut-away of the parallel tubing string, dual completion and christmas tree assembly. It shows the or rather it is a blow-up of the head shows the method of preventing communication or method of segregation at the surface in the head and on this cut-away a back pressure----Otis back pressure valve is indicated installed which will be used in the event of remedial work after completion.

Q. Are there separate valves for the two strings of tubing?

A. Yes. One valve for each string of tubing.

Q. In connection with exhibit No. 6, Mr. Lannen, does it show how the tubing strings will be connected in the head---what I mean by that is are they kept entirely separate always?

A. Yes sir. The tubing string is individually---is separated----is completely separated or isolated, each tubing string is isolated all the way through the head with an individual valve with seals at each landing joint the seals are double taper metal seals which have been tested under conditions of 30,000 pounds per square inch and are used elsewhere in high pressure gas completions.

Q. Now, with this type of a completion will it be possible to do any remedial work in either or both of the productive zones?

A. Yes sir.

Q. Will you explain how that can be done?

A. If it is necessary to work on the lower zone, treating can be performed through the tubing, acidizing or sandfracing, but perforating cannot be done.

Additional perforations cannot be made. It is anticipated at the time of completion that all possible pay zones will be perforated and treated. If any additional treatment is necessary other than treating---or rather than sandfracing or acidizing it will be necessary to kill both zones to ----and drill out this Baker packer to get to the lower zone. But the upper zone--remedial work can be performed on it easily down the tubing either by acidizing or fracing and if it is necessary to pull the tubing the lower zone will be completely isolated and it will not be necessary to tamper with it. This will be accomplished by either one of two methods. In Exhibit 5 it is shown that a Garrett circulating valve installed in the long string--at the same time there will be installed in the head a hanger for a Otis back pressure valve. If the Garrett circulating valve at any later stage of the producing well's life will not operate, the Otis back pressure valve can be used to effectively shut off the lower zone while removing the tubing--the second string of tubing and working on the upper zone.

Q. Do I understand your testimony then to be that all remedial work which may be foreseeably necessary in the Tubb-Blinebry could be done with the exception of the perforations?

A. Yes.

Q. That is in the lower zone?

A. Yes.

Q. And all remedial work which may possibly become necessary including perforations could be done in the upper zone or the Terry-Blinebry oil zone?

A. Yes sir.

Q. And without interfering with the completion of the well in the lower zone?

A. Yes sir. The lower zone will be completely isolated at all times. Even after completion if remedial work is possible in the upper zone.

Q. Mr. Lannen, do you foresee the possibility of any need for remedial work in the lower zone which could not be done through the tubing?

A. No, sir.

Q. In your opinion will a completion such as this effectively separate the two zones and prevent any communication?

A. Yes sir.

Q. Is this an accepted method of dual completion in the industry?

A. Yes sir.

Q. Do you know whether it has been used in other areas than this?

A. It has been used in West Texas considerably. And it has been used in one case in New Mexico.

Q. In New Mexico?

A. Yes sir, a gas-gas dual.

Q. And has Continental had any experience with this type of dual completion?

A. Yes sir, they have.

Q. Has that been during recent years?

A. Yes sir, it has.

Q. Now, while the records show the location and designation of this well Mr. Lannen, would you state for the benefit of your testimony just where this well is located and the designation of it?

A. This is the Continental Oil Company Lockhart B-13 "A" No. 1. It is located 660 feet from the South line and 660 feet from the West line of Section 13, Township 21 South, Range 37 East, NMPM, Lea County.

Q. And what acreage does Continental have dedicated to that well as a Tubb gas well?

A. It is proposed to conform to standard rules and regulations and assign 160 acres to the well.

Q. And Continental has that 160 acres?

A. Yes sir.

Q. And what acreage would you propose to be assigned to it as a Terry-Blinebry oil well?

A. A 40-acre allocation would be made and it will be the SW/4 of the SW/4 of Section 13, Township 21 South, Range 37 East.

Q. And does Continental have that acreage available to dedicate to the well?

A. Yes sir.

Q. And all of the testimony you have given pertains to the well located on the lease which you have described?

A. Yes.

Q. That is all.

MR. MANKIN: Mr. Lannen, do you anticipate this well will make any liquids in the Tubb Gas zone?

A. Yes.

Q. It has been the practice or it has been found in the area of wells adjoining this that Tubb wells do make some liquids.

A. Yes.

MR. MANKIN: Do you feel that it would be a sizable amount or a very small amount?

A. It will not be a sizable amount. Possibly from 100 to 200 barrels of distillate.

MR. MANKIN: In other words, the number of barrels per million--it would be very small?

A. Yes sir.

MR. MANKIN: You indicated pressure differential between the Blinebry oil zone and the Tubb gas zone would be, I believe, in the neighborhood of 100 to 150 pounds, was that it?

A. 50 to 150.

MR. MANKIN: In what range would that be? In other words, how many pounds for one zone and how many pounds for the other?

A. In the Terry-Blinebry oil zone there would be approximately 1800 pounds and in the Tubb about 1900 to 2000 pounds.

MR. MANKIN: The Tubb is anywhere from 50 to 150 pounds higher differential being the lower zone. In regard to the Wantz-Abo field which is being plugged back --is this on the edge of the Wantz-Abo Field and of questionable commerical value at the present time?

A. It has reached its economic limit after a production of 12,116 barrels of oil.

MR. MANKIN: Then there will be no Wantz-Abo production on this particular 160 acres which is the SW/4 of that particular section?

A. No. The Wantz will be finished---the Abo.

MR. MANKIN: Is there further question of this witness? If there are no further questions, the witness may be excused. Is there any statements to be made in this case? If not we will take the case under advisement and the hearing is adjourned.

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Joan Hadley, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Hobbs, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

Dated this 1st. day of March, 1956.

Joan Hadley