

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 20, 1961

EXAMINER HEARING

CASE 2378

and

CASE 2379

TRANSCRIPT OF HEARING

DEARNLEY-MEIER REPORTING SERVICE, Inc.

PHONE CH 3-6691

ALBUQUERQUE, NEW MEXICO



BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 20, 1961

EXAMINER HEARING

IN THE MATTER OF:

Application of The Atlantic Refining Company for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Carlson Federal "A" Well No. 2, located in Unit J, Section 23, Township 25 South, Range 37 East, Lea County, New Mexico, as a triple completion (conventional) in the Paddock, Blinebry and Tubb-Drinkard Pools, the production of oil from each pool to be through parallel strings of 2-inch tubing. Case 2378

Application of The Atlantic Refining Company for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Langlie Federal Well No. 2, located in the NW/4 SE/4 of Section 14, Township 25 South, Range 37 East, Lea County, New Mexico, as an oil-oil-oil triple completion in an undesignated Paddock Pool and in the Justis-Blinebry and Justis Tubb-Drinkard Pools. Case 2379

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Case 2378.

MR. MORRIS: Application of The Atlantic Refining Company for a triple completion

MR. BRATTON: Howard Bratton on behalf of the applicant, Atlantic Refining Company. We also have Case 2379, which is approximately identical, triple completion application, and I believe we

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
PHONE 325-1182

ALBUQUERQUE, N. M.  
PHONE 243-6691



could expedite matters if the two cases be consolidated.

MR. NUTTER: We will also call Case 2379, the application of Atlantic Refining Company for a triple completion.

MR. BRATTON: Howard Bratton, on behalf of the applicant. We have one witness in both cases, Mr. Ray Allen, and I ask that he be sworn.

MR. NUTTER: And you wish to consolidate these cases for testimony, Mr. Bratton?

MR. BRATTON: That's right.

MR. NUTTER: They will be consolidated.

(Witness sworn.)

RAY ALLEN

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

DIRECT EXAMINATION

BY MR. BRATTON:

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

A I am Ray Allen, employed by Atlantic Refining in Roswell in the capacity of a petroleum engineer.

Q Are you familiar with the two proposed triple completions which are the subjects of these hearings?

A Yes, sir.

Q Have you previously testified before this Commission as an expert witness?



A No, I have not.

Q Will you state briefly your educational and professional background?

A I received a B.S. in Petroleum Engineering, Texas A&M, in 1956. During that same month I was employed by Atlantic Refining Company, and after completing a training program of approximately 18 months I was transferred to the Roswell Office where I have been working as a petroleum engineer.

Q Have you been familiar with the pools in question, and the particular wells in question in these hearings?

A Yes, sir, I have.

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

MR. NUTTER: Yes, sir, please proceed.

Q Mr. Allen, refer to your Exhibit No. 1 in Case 2378, and explain what that is, and what it shows.

A Exhibit No. 1 is a plat of the area of your Carlson Federal "A" lease; shows the location of the subject wells, 1980 feet from the south line, 1650 feet from the east line of Section 23, Township 25 South, Range 37 East. The plat also shows the offset leases and the operators of the offset leases. It further shows the offset wells and zones in which the offset wells are completed.

Q This is the application in 2378?

A That's right.

Q What are the formations involved in this application?

A The formations involved in this application are the Pad-



dock, Blinebry and the Tubbs-Drinkard.

Q Have you notified all of the offset operators of this application?

A The offset operators should have been notified by the advertising on the docket.

Q Have you received any objection to the application?

A No, sir, we have not received any objections.

Q Referring to your Exhibit No. 2, will you state what that is and what it shows?

A Exhibit No. 2 is a simultaneous laterolog-gamma ray-neutron, run in open hole, Carlson No. "A" 2 well. This exhibit shows the location of the top of the Glorietta formation at 4,688 feet, subsurface, 1,601 feet subsea. It further shows the Paddock perforations which exist today at 4,973 to 5,015 feet. Below that it shows the Blinebry top at 5,066 feet subsurface, and the Blinebry perforations at 5,312 to 5,315 and 5,372 to 5,386; the top of the Tubb formation is at 5,754 feet subsurface with perforations in the Tubb formation at 5,808, 5,816, 5,822 to 5,847, 5,858, 5,872, 5,883, 5,888, 5,900 to 5,914. It also shows the Drinkard top at 5,941 feet subsurface.

Q Anything else that you want to point out in connection with that log?

A I don't think there is anything that needs pointing out.

Q Going to your Exhibit No. 3, which is your proposed completion program, will you explain in detail that exhibit?



A This exhibit is a diagram of the in-hole installation of the well, and in drilling this well we drilled a 13-3/4-inch hole to 940 feet, set 9-5/8 casing at 935.79 feet, using two centralizers located at 867 feet and 925 feet. Our cement was circulated and after the cement was circulated, tested the 9-5/8 casing at 750 pounds pressure for 30 minutes without loss of pressure. We drilled out of that 9-5/8 casing with an 8-3/4-inch hole to a total depth of 6,052 feet, ran simultaneous laterolog-gamma ray-neutron and microlog, total depth set at 6,054 feet with the top four joints of that string being 7-5/8-inch casing, or approximately 140 feet on the top of the string of 7-5/8-inch casing.

This casing string was cemented, using 600 sacks of cement. After the cement was set tubing, or casing, rather, was pressure tested with 1,600 pounds for 30 minutes without a loss in pressure. The temperature survey run in the well indicated that the top of the cement was at 1,100 feet. Now, after temperature surveys were conducted we went into this well and perforated and stimulated and tested the Tubb-Drinkard formation, and the perforations I gave you earlier. After the lode oil was recovered, and a sufficient amount of new oil, a retrievable bridge plug was set over that formation and we perforated and stimulated the Blinbry formation. After it was tested thoroughly the bridge plug was set over that, and we perforated and stimulated the Paddock zone. That is just about where we are right now in our completion. We are running, in the process of running the completion assembly. Our completion



assembly will consist of a Baker Model 415D permanent production packer set at approximately 5,800 feet. We plan to use three parallel strings of two-inch buttress thread tubing in this well. The packer that isolates, or separates, the Blinebry zone from the Tubb-Drinkard zone is run in the hole on the first 2-inch string, and that packer is a TIW Type H.D.F.L. packer. After this long string is run in the hole, our Blinebry string, our second string in this case will be run in and seated in this TIW packer. The weight of this intermediate string actually seats that retrievable packer there. The third string, or Paddock string, will be run in the hole and hung from the tubing-head as indicated in the diagram here.

During, or when we run this tubing in the hole, we plan to install the seating nipples so that when the flowing life of the reservoir has ended we can install artificial lift equipment without upsetting the packers in any way. This type of installation will permit us to obtain bottomhole pressures in each one of these three zones, and it will permit accurate measurements of all the gas and oil produced from each zone.

Q Mr. Allen, what pressure information do you have about the three zones?

A I have some bottomhole pressure information on the offset wells. The only Paddock offset well to this Carlson Federal "A" No. 2 is our Carlson Federal "A" No. 1, 1,320 feet east. That had a bottomhole pressure of 2,168 pounds when it was originally



completed. Likewise on that same well, our Blinebry bottomhole pressure was 2,068 pounds, the Tubb-Drinkard bottomhole pressure was 2,263 pounds.

MR. NUTTER: Was that Tubb-Drinkard pressure off of the east offset also?

A All three, Carlson Federal "A" No. 1, and then the north offset to the proposed well, which is the Skelly Las Cruces "C" No. 1 well, which is 1,320 feet north had an original pressure in the Blinebry of 2,285 pounds, and the original pressure in the Tubb-Drinkard was 2,399 pounds. That is a Blinebry-Tubb-Drinkard dual.

The northeast diagonal offset, which is the Texas-Pacific Coal and Oil Wimberley No. 3, in the Blinebry we do not have bottomhole pressures on those wells. After contacting those people, they weren't available.

The southeast diagonal offset, which is the Union Texas Natural Gas Corporation, A-P Division, Carlson "B" No. 1 2311, 1,850 feet southeast, had an original pressure in the Blinebry of 919 pounds, which is a little out of line with these pressures in the Blinebry formation. The Tubb-Drinkard in that same well had an initial pressure of 2,241 pounds. I can't explain that low pressure there, 1,919 pounds.

MR. NUTTER: Was it 1,919?

A Pardon me, that was 919. With those type pressures you can see there is not a great deal of pressure differential across either one of these packers. They are designed to withstand con-





siderable more pressure differential, probably will withstand in the order of 10,000 pounds differential, or maybe more.

Q Your east offset well is a triple completion, the same as you are proposing here?

A Yes, sir, the east offset, Carlson Federal "A" No. 1, is completed in the Paddock, Blinebry and Tubb-Drinkard, in exactly the same manner we propose to complete the Carlson Federal "A" No. 2.

Q Is there anything unusual about these zones that would make that triple completion either impractical initially, or impractical to maintain or operate?

A I know of nothing unusual about any of these zones that would make this application, or this installation, impractical.

Q Is there anything else in connection with the proposed completion that you care to discuss as to this well?

A No, sir, there is nothing that is significant, I don't believe, at this time.

Q Now, referring to the well which is the subject of Case No. 2379, that is your Carlson Langlie Federal?

MR. BRATTON: Mr. Examiner, would you prefer to have this marked as Exhibit 4?

MR. NUTTER: No, we will file in two individual case files.

MR. BRATTON: It will be marked as Exhibit No. 1 in Case 2379.

Q Is that a plat of that well, Mr. Allen?



A Yes, this is a plat of the area of our Langlie Federal lease, shows the location of the Langlie Federal No. 2, 1,650 feet from the south line, and 1,650 feet from the east line, Section 14, Township 25 South, Range 37 East. This also shows the offset leases and operators of the offset leases as well as offset wells and formations in which the offset wells are completed.

Q Where is this with relation to the well in the other case?

A This well, the Langlie Federal No. 2 well, is approximately one mile due north of the Carlson Federal "A" No. 2.

Q Are you in the process of drilling this well now?

A Yes, sir, we are in the process of drilling this well. I think we would be at a total depth of approximately 5,500 feet today.

Q Have you received any objections from any offset operators in connection with the application in this case?

A No, sir, we have not.

Q Referring to your Exhibit No. 2, in Case 2379, that is a log of that well?

A Exhibit No. 2 is a log of our Langlie Federal No. 1 well, which is the direct east offset to the Langlie Federal No. 2 well. The purpose of presenting this log is to show where the Glorietta, Blinebry, Tubb-Drinkard tops are in the Langlie Federal No. 1 well and to state that we expect these tops to be approximately 50 feet lower in our Langlie Federal No. 2 well. The Glorietta top in the Langlie Federal No. 1, 4,672 feet subsurface; Blinebry top at



5,051 feet subsurface, and the Blinebry perforations in this well are at 5,404 to 5,420; the Tubb top is at 5,740 with Tubb perforations at 5,788 to 5,797, 5,803, 5,812, 5,838, 5,844 and 5,860, 5,867, 5,914, 5,922; Drinkard top there is at 5,928 feet subsurface with Drinkard perforations 5,930 to 5,940, 5,952 to 5,960, 5,962 to 5,971. We plan to perforate the Langlie Federal No. 2 in intervals that could correlate to the intervals perforated in this well, and, in addition, plan to perforate the Paddock formation, which, in the Langlie Federal No. 1 well would be at approximately 4,960 to about 5,010 feet. I might add, in our Langlie Federal No. 2 well we do expect these perforations to be about 50 feet lower.

Q But they all correspond approximately the same depth?

A We think they will be approximately the same depth.

Q Now, refer to your Exhibit No. 3 in Case 2379.

A Exhibit No. 3 is a diagram of the in-hole installation. We have drilled a 13-3/4-inch hole to 924 feet where we set 9-5/8-inch casing at 920.63 feet, using two centralizers, 829 feet and 909 feet. Our cement was circulated and the casing was tested at 1200 pounds for 30 minutes without reduction of pressure. We drilled out of the 9-5/8 casing with 8-3/4-inch hole, and expect to drill to approximately 6,050 feet. As I said before, we are now drilling at 5,500 feet. We plan to install 7-5/8 and 7-inch combination casing string as pointed out in the Carlson "A" Federal No. 2 and set it at total depth, and cement in a similar conventional manner we cemented the other one. Our completion assembly



inside the casing will be very similar and identical, using the same equipment installed in, generally, the same manner.

Q How about your pressure information in this area, Mr. Allen?

A Well, in the area of the Langlie Federal No. 2 well, we have a direct east offset which is the Langlie Federal No. 1. The original Blinebry pressure in the Langlie Federal No. 1 was 1,155 pounds. Our original Tubb-Drinkard pressure in the Langlie Federal No. 1 was 2,285 pounds. The northeast diagonal offset, which is the Atlantic Langlie Federal "A" No. 1, the Blinebry had an initial pressure of 1,154 pounds, and in the Tubb-Drinkard an initial pressure of 1,491 pounds. The direct south offset to the Langlie Federal No. 2 is the Union Texas Natural Gas, A-P Division, Langlie "B" No. 2. In the Blinebry formation that well has an initial pressure of 1,396 pounds, and in the Tubb-Drinkard formation we do not have a pressure recorded for that well. The southeast diagonal offset, which is the Union Texas Natural Gas, A-P Division Langlie "B" No. 1, in the Blinebry had an initial pressure of 2,198, and in the Tubb-Drinkard had an initial pressure of 1,546 pounds.

Q Do you have any Paddock pressures anywhere in the area?

A This well is not directly or diagonally offset by Paddock producers, but I do have some Paddock pressures in our Carlson Federal "A" No. 1. The initial Paddock pressure was 2,168 pounds. In the Western Petroleum Company Carlson "B" 13 No. 5, which is approximately 5,100 feet to the east northeast, the bottomhole



pressure is 1,765 pounds. The Gulf McBuffington No. 5, approximately 9,400 east, bottomhole 2,099 pounds. The only other Paddock well in the pool, the Westate Carlson "B" 26-7, approximately 10,050 feet south, I understand the bottomhole pressure was never obtained on that well due to the fact that artificial lift equipment was installed immediately after completion.

Q Mr. Allen, would the possible spread of pressures here be in the magnitude to give you any trouble?

A No, sir, we certainly would not expect any pressure difficulty across these packers due to pressure differentials from one formation to another. These packers were built to withstand pressure differentials considerably in excess of what we expect here.

Q Is there anything else about this completion that would be different or unusual, or cause you to anticipate trouble?

A No, sir, there is nothing unusual or different about this completion which would cause us to anticipate any trouble. I can't think of a thing that would go against us.

Q Is there anything else you care to state in connection with either of these applications?

A I might add that in this case No. 2379, this type of installation will allow us to obtain reservoir pressures or bottomhole pressures, and it will also allow us to get accurate measurements on all of the gas and oil produced from each one of the formations.



Q This installation would, in your opinion, be satisfactory to prevent communication between the zones?

A Yes, sir.

Q And would prevent waste?

A Definitely would.

Q Were Exhibits 1 through 3 in both of these cases prepared by you or under your supervision?

A Yes, sir, they were.

Q Except the logs, which were obtained from engineering firm?

A The marks on the logs were put on.

MR. BRATTON: We will offer in evidence Atlantic's Exhibits 1 through 3 in cases 2378 and 2379.

MR. NUTTER: Atlantic's Exhibits 1 through 3 in each case will be admitted in evidence.

MR. BRATTON: We have no further questions at this time.

MR. NUTTER: Does anyone have any questions of Mr. Allen?

CROSS EXAMINATION

BY MR. NUTTER:

Q What is the present status of this Langlie Federal No. 2 well?

A The Langlie Federal No. 2?

Q Yes.

A We are currently drilling that well with 8-3/4-inch hole at approximately 5,500 feet. I would say within a week or a week and a half we will be completing the well.



Q So you haven't been able to log the well yet?

A No, we have not.

Q And the log which you submitted in Case No. 2379 is on the No. 1 well, which is the east offset?

A Yes, sir.

Q And the tops as depicted in this log are in the No. 1 well?

A Yes, sir; the tops marked on the Langlie Federal No. 1 log are the tops.

Q And you expect the other well to run about 50 feet lower?

A Approximately.

MR. BRATTON: As soon as you do log this well, will you submit the Commission copies?

A Yes, sir, we will supply the Commission copies of the log.

Q (By Mr. Nutter) Mr. Allen, some months ago the Commission defined the vertical limits of the Blinebry pool in this area at specific points. Do the proposed perforations in the Langlie Federal No. 2 and the actual perforations in the Carlson Federal "A" No. 2 conform with the vertical limits as specified by the Commission in that order?

A Yes, sir, they do. The Justis-Blinebry vertical limits were established, or depicted in the Amerada Wimberley 4 -- I do not have a large scale log you could correlate immediately, but the Blinebry top we depicted here correlates exactly to the top in this well.



Q You have been able to pick that point in the Wimberley well on this well?

A Yes, sir.

Q Do you have anything on the GOR's or gravity of the three zones we are considering here?

A Yes, sir, I do. On the Langlie Federal No. 2, the east offset, the Atlantic Refining Langlie Federal No. 1, in the Blinebry, during July of this year, was producing with a GOR of 864 with a gravity of 37 degrees API. The Tubb-Drinkard formation in that Langlie Federal No. 1 well is producing with a GOR of 678. These are still July production figures -- with an oil of 37 degrees API. The northeast diagonal offset, the Langlie Federal "A" No. 1, in the Blinebry formation, is producing with a GOR of 732, with an oil gravity of 37 degrees API. The Tubb-Drinkard formation in that Langlie Federal "A" No. 1 well is producing with a GOR of 7,512, oil gravity of 37 degrees API.

Q Which well was that?

A Langlie Federal "A" No. 1.

Q It has a GOR of 7,512?

A Yes, sir. I might add, we have just recently completed work-over on that well since this date, and I do not have a recent test; these are July figures.

Q As far as you know, did you drop the GOR in the work-over?

A I certainly hope so; I do not know, however, and the direct south offset to the Langlie Federal No. 1, which is the





## DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
PHONE 325-1182ALBUQUERQUE, N. M.  
PHONE 243-6691

Union Texas Natural Gas Langlie "B" No. 2, in the Blinebry produces with a GOR of 528, oil gravity of 37. In the Tubb-Drinkard it is producing with a GOR of 656, with an oil gravity of 39 degrees API. The southeast diagonal offset, or the Union Texas Natural Gas Langlie "B" 1, in the Blinebry is producing with a GOR of 709, oil gravity of 37 degrees API, and in the Tubb-Drinkard formation it is producing with a GOR of 2198, with an oil gravity of 36 degrees API. The Paddock information I have here are not direct or diagonal offsets, but the Carlson Federal "A" No. 1 in the Paddock completed with a GOR of 432, 37 degree gravity; the Westates Petroleum Company Carlson "B" 13 No. 5 produced with a GOR of 1,135, with a 39 degree API gravity, and the Gulf McBuffington No. 5 produced with a GOR of 14,356, with an oil gravity of 38 degrees. The Westates Carlson "B" 26 No. 7 is producing with a GOR of 9,432, gravity of 39 degrees API. I have similar information available on the Carlson No. 2, on the Carlson Federal "A" No. 2. The Carlson Federal "A" No. 1, Paddock, had a GOR of 403, oil gravity of 37 degrees API. The north offset, which is the Skelly Las Cruces "C" No. 1, in the Blinebry formation, is producing with a GOR of 679, with an oil gravity recorded of 24 degrees API. The Skelly Las Cruces well "C" No. 1 well in the Tubb-Drinkard formation produced with a GOR of 751, oil gravity of 37 API. The southeast diagonal offset, which is the Union Texas Natural Gas Carlson "B" No. 1, in the Blinebry produced with a GOR of 2,510, with an oil gravity of 37 degrees API; in the Tubb-Drinkard for-



mation produces with a GOR of 2,304, oil gravity of 39 API. The northeast diagonal offset, which is the Texas Pacific Coal & Oil Wimberley No. 3, produces in the Blinebry with a GOR of 812, oil gravity of 39 degrees API, and in the Tubb-Drinkard, a GOR of 2,027, oil gravity of 38 degrees API. The Paddock offset information I have for this well is similar to the one I gave you earlier.

Q What did you say this packer was you are going to use for the upper separation?

A It is TIW Type H.D.F.L.

Q Who makes that?

A Texas Iron Works -- retrievable packer.

Q The same as you used in the Carlson "A" 1?

A Yes, sir, that is the same packer we used.

Q Have you taken packer leakage tests?

A We have conducted packer leakage tests on that well within the 15-day period after it was completed, and we had no indication of communication at that time in that well.

Q And that packer is set by the weight of the tubing, is that correct?

A Yes, sir, that packer is run in on the long string, or the Tubb-Drinkard string. It just merely hangs on that string of tubing and it is set by the weight of the Blinebry string, or intermediate string.

Q The secondary string?

A Right.



Q If you artificially lift that middle zone of the Blinebry, will you have any trouble with releasing the weight on the packer or anything causing it to unseat itself?

A No, we plan to use a hydraulic pump system here; we will run a hydraulic pump in on 3/4-inch hydraulic tubing, and set that pump down in the seating nipple there. The weight varies from 3 to 6,000 pounds. During the process of pumping we merely pump power oil down the tubing, which actuates the hydraulic pump, which in turn pumps the expended power oil back up the 3/4-inch and the tubing annulus, and there is no vertical movement of the pump.

Q You wouldn't have any motion to tend to upset the pump?

A No, sir, we would not.

MR. NUTTER: Are there any other questions of Mr. Allen?  
You may be excused.

Do you have anything further, Mr. Bratton?

MR. BRATTON: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2378 or 2379? Take the cases under advisement and call Case 2380.



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

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

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 30th day of September, 1961.

*June Paige*  
 Notary Public - Court Reporter

My Commission expires:

May 11, 1964.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2378 + 2379 heard by me on 9/20, 1961.

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

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
 PHONE 325-1182

ALBUQUERQUE, N. M.  
 PHONE 243-6691



I N D E X

| <u>WITNESSES</u>                  | <u>PAGE</u> |
|-----------------------------------|-------------|
| RAY ALLEN                         |             |
| Direct Examination by Mr. Bratton | 2           |
| Cross Examination by Mr. Nutter   | 13          |

E X H I B I T S

| <u>NUMBER</u> | <u>CASE NO.</u> | <u>IDENTIFIED</u> | <u>ADMITTED</u> |
|---------------|-----------------|-------------------|-----------------|
| 1             | 2378            | 3                 | 13              |
| 2             | 2378            | 4                 | 13              |
| 3             | 2378            | 5                 | 13              |
| 1             | 2379            | 8                 | 13              |
| 2             | 2379            | 9                 | 13              |
| 3             | 2379            | 10                | 13              |

