

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO.

DEC 3 1952

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

TRANSCRIPTION OF HEARING

CASE NO. 426

November 20, 1952

E. E. GREESON
ADA DEARNLEY
COURT REPORTERS
BOX 1303
PHONES 5-9422 AND 5-9546
ALBUQUERQUE, NEW MEXICO

AFTERNOON SESSION
BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

November 20, 1952

In the Matter of:

The Texas Company's application for permission to effect an oil-oil dual completion of its J. B. McGhee No. 1 well, NE SE 31-24S-39E, Lea County. (Oil from both Devonian and Drinkard formations.)

Case No.
426

(Mr. C. J. Ray sworn as a witness.)

(Notice of Publication read by Mr. White.)

MR. SPURRIER: The next case on the Docket is 426.

MR. RAY: I am Carl Ray, Petroleum Engineer of the Texas Company, representing that company in this matter. May it please the Commission I would like to enter my factual testimony in this matter from a prepared statement. I have copies of this statement, a few extras that I'll be glad to furnish any interested party. I have previously testified before this Commission and request that my qualifications as an expert witness be accepted at this time.

MR. SPURRIER: They are.

MR. RAY: "The Texas Company's J. B. McGhee Well No. 1 is located in the NE/4 of the SE/4 of Section 31, T24S., Lea County, New Mexico. This well was originally drilled to a total depth of 8735 in the Fusselman Horizon, which formation was found to

be water-bearing at this location. The well was plugged back to a depth of 7762 feet; the casing was perforated between 7440 and 7610 feet and between 7630 and 7705 feet opposite the Devonian Formation. The well flowed 69 barrels of oil in 24 hours on initial potential test completed September 24, 1952.

On September 11, 1952, the Elliot No. 1-R Federal-Elliott well was completed in the Drinkard formation, flowing an initial potential of 132 barrels of oil in 12 hours. This well is located in the SE/4 of the NE/4 of Section 31, T24S, R38E, and is a direct offset approximately 330' N. of the Texas Company's McGhee Lease.

(The Texas Company's Exhibit
No. 1 Marked for Identification.)

I have here a map of the West Dollarhide Area which shows the location of wells in this area. The producing formation of these wells has been indicated by colored circles which are explained in the legend of the map. I request this be introduced in evidence." I offer it at this time in evidence.

MR. SPURRIER: Is there any objection to the introduction of this exhibit? If not it will be received.

MR. RAY: (Continuing) " On October 21, 1952, a Form C-102 was filed with the Oil Conservation Commission, requesting permission to recomplete the No. 1 McGhee Well in the Drinkard Horizon. This was subsequently accomplished in the following manner:

1. A drillable bridge-plug was set at a depth of 6600'.
2. A cement plug, approximately 10' in length, was spotted

on top of the drillable plug.

3. A D.ST was performed which ascertained that the Devonian section was effectively plugged off.
4. The casing was perforated between 6350 and 6396 feet, between 6416 and 6469 feet, and between 6479 and 6512 feet, all perforation opposite the Drinkard horizon.
5. On october 28, 1952, the well produced 113 barrels of oil in 6 hours flowing; this was the initial potential test in the Drinkard Horizon.

I have here an Electrical Log of the McGhee Well No. 1. I request it be marked "The Texas Company Exhibit No. 2".

(The Texas Company's Exhibit
No. 2 Marked for Identification.)

On this exhibit, all perforated intervals previously referred to have been marked in red. The location of the Bridge plug and cement plug are also marked, as is the location of the proposed dual completion equipment." I would like to offer it at this time in evidence.

MR. SPURRIER: Without objection it will be received.

MR. RAY: (Continuing) "We are requesting approval of the Commission to dually complete this well in the following manner:

1. Drill out the plug now located at a depth of 6600'
2. Install a Baker Model "D" production packer at a depth of 7390'. This is a point 49' above the top of the Devonian Formation as found in this well, and is 50' above the top perforation opposite the Devonian Formation.
3. A side door choke will be installed immediately above the packer to facilitate cleaning up the well after installation, and to allow a means of measuring bottom hole pressure of either productive horizon.

I have here a diagram of the proposed equipment and installa-

ation. I request it be marked "The Texas Company Exhibit No. 3".

(The Texas Company's Exhibit
No. 3 Marked for Identification.)

I now offer it at this time in evidence.

MR. SPURRIER: Without objection it will be received.

MR. RAY: (Continuing) "The dual completion equipment just described, will provide the means for producing the Drinkard oil through the casing annulus, and the Devonian oil through the tubing. This installation is mechanically feasible and similar installations have been successfully used by The Texas Company, and other operators, in fields where dual completion of oil horizons is permitted.

The J. B. McGhee Well No. 1 produced from the Devonian formation for a period of approximately 30 days, during which time production amounting to 1623 barrels of oil was recovered. A production decline from the 69 barrels of oil per day potential test to approximately 35 barrels oil per day was evident. This production history, while of short duration, is indicative, in my opinion, that the Devonian Production from this location will not repay the cost of a well.

The granting of this application will, in my opinion, permit the recovery of oil that may not otherwise be recoverable, and, therefore, is in the interest of conservation in that it will prevent underground waste."

MR. SPURRIER: Are there any questions of this witness?

MR. GRAHAM: What are the characteristics of those two

oils from the different formations.

MR. GRAHAM: The gravity and base.

MR. RAY: I do not have the actual gravities of those two oils here. I think I'd be glad to furnish that information though for the record.

MR. GRAHAM: The Commission wishes that information.

MR. SPURRIER: I think we should.

MR. RAY: I will be glad to include it. I am very sorry I do not have the information.

MR. GRAHAM: What is the possibility of the co-mingling from the standpoint of sour acid conditions?

A We do not have an analysis of either of these crude oils but based on a general knowledge of similar production the sulphur content in the Devonian oil in my opinion would probably be less than that from the Drinkard oil, but I have no definite information on that lacking an analysis of either sample of crude.

MR. GRAHAM: You, of course, propose to produce separate tanks?

MR. RAY: Yes, sir, I think separate tankage is at present available on that lease.

MR. GRAHAM: You're aware that the Commission has never committed itself on oil-oil dual completions?

MR. RAY: Yes, sir, I am. It is the thought of the Texas Company that the form of the order issued by the Commission in the case of oil-gas duals, if similar - - if a similar order

were issued in this case it would provide that any interested party or offset operator or the Commission, and I mean by that that the interested operators, by request to the Commission or the Commission on its own request, could ask that tests, as the Commission would see fit, be performed on this well to check the maintenance of separation of the two zones at any reasonable time they so desire. We would be very happy to cooperate in performing such tests if the parties granted.

MR. GRAHAM: The lower, deeper, formations; in your opinion, tend to fail, is that right? It is not as good as it was?

A Yes, sir. It seems, from the production history and to some extent from the geological picture here, that it is possibly a non-commercial producing horizon.

MR. GRAHAM: The upper formation is substantial, is that right?

MR. RAY: Yes, sir, I believe it is. I think that is well borne out by other wells completed in the same reservoir.

MR. GRAHAM: In all probability you would plug back to that, is that right?

MR. RAY: The Texas Company has plugged this well back in order to protect this property from adverse drainage from the completion of the Federal-Elliott No. 1-R Well, yes, sir.

MR. GRAHAM: That is all.

MR. SPURRIER: What is the differential between the two producing formations, do you have that?

MR. RAY: We have not measured bottom hole pressures in either of these producing horizons but in the event that we are granted permission to dually complete these wells the measurement of those pressures would be included in our process of installing that equipment.

MR. SPURRIER: I think you would take it before you would install the equipment, wouldn't you? You would want to know what the differntial was?

MR. RAY: Yes, sir. Well, my point was that at the present time it would be impossible to measure them and the present plug at 6600 feet would not be drilled out unless we were granted permission to dually complete the well.

MR. GRAHAM: You propose to use your most efficient method of producing the lesser horizon?

MR. RAY: Yes, sir, we intend to produce the Devonian production through the tubing. That is the weaker zone and by producing it through the tubing we would get the most efficient flow.

MR. GRAHAM: And the casing would handle the better production?

MR. RAY: That is correct. Yes, sir, we do not think that producing the Drinkard through the casing would adversely effect this reservoir.

MR. GRAHAM: That is all.

MR. MACEY: Gas-oil ratio on the completion of the Drinkard, Mr. Ray?

MR. RAY: May I furnish that when I furnish the gravities of the two zones?

MR. SPURRIER: Yes. Is there any other question of this witness?

MR. MACEY: What is the nearest Devonian producer to your No. 1 McGhee Well?

MR. RAY: I would say that the nearest Devonian producer, according to my information, as shown on Exhibit No. 1, would be the Stanolind State of New Mexico 1-Y, in the Southeast of the Southeast Quarter of the Northeast Quarter of Section 32.

MR. MACEY: How far is that away, approximately?

MR. RAY: It appears to be slightly over a mile.

MR. MACEY: Would you say that that well was draining your lease?

MR. RAY: No, I would not. I can definitely say that. May I qualify my answers slightly by stating that the Texas Company's No. 1 McGhee Well has cut a fault which is evident in the difference between the top of the Devonian formation as found at this location and the top of the Fusselman formation as found at this location compared with the similar markers in offset wells. To be more specific the top of the Devonian is higher than it is on any of the nearby locations and the top of the Fusselman was so low as to be in the water at this location. I can not predict direction in which that fault runs due to the fact that development is insufficient for that purpose in this area, but it would appear from the Fusselman formation or the

production from the Fusselman formation that possibly it is a ceiling fault, at least as far as the Fusselman horizon is concerned and there is a great liklihood that such a fault would separate the McGhee, Texas Company's McGhee Well, No. 1, from any presently producing Devonian wells.

MR. SPURRIER: Are there any other questions?

MR. MCGHEE: May I ask the witness a question? I am a royalty owner on the south half of the section in question. Do I understand if the application is denied the Texas Company intends to leave the block in and walk off and leave the Devonian formation not producing?

MR. RAY: Yes, sir. Our intention would be to produce the well from the Drinkard Horizon until such time that horizon would be depleted at this location.

MR. MCGHEE: You don't intend to drill out the plug and drill another well to the Drinkard if this application is denied?

MR. RAY: If this application were denied that certainly would be done upon the depletion of the Drinkard production.

MR. MCGHEE: No one knows how long that will last.

MR. RAY: Well, we have had experience in other areas that where a weak pay has remained with mud or drilling fluid upon it for an appreciable period of time it is extremely difficult to restore such a formation to production.

MR. MCGHEE: This Drinkard is 116 barrels in six hours.

MR. RAY: 113 barrels in six hours.

MR. MCGHEE: That well was drilled all the way down to

very heavy mud on account of a blow out in the Elliott well?

MR. RAY: A heavy mud was used in the drilling of the Prepermian Formation, yes, sir.

MR. MCGHEE: Where do you strike that?

MR. RAY: I don't have the exact point but I would assume that that heavy mud was introduced into the well before the top of the Devonian Formation was encountered.

MR. MCGHEE: Did you carry it to the Drinkard?

MR. RAY: In the original drilling of the well I do not believe the heavy mud was used through the Drinkard Section, no, sir.

MR. MCGHEE: That is all.

MR. SPURRIER: Any further questions?

MR. GRAHAM: What is the cost of a well to the Devonian top?

MR. RAY: I do not have any exact figures on that. I would estimate it in the neighborhood of \$150,000.00.

MR. GRAHAM: For a new and additional well?

MR. RAY: Yes, sir.

MR. GRAHAM: Dual completion is relatively smaller?

MR. RAY: Yes, sir. The installation of dual completion equipment in this well would be relatively smaller expense, yes, sir.

MR. GRAHAM: Approximation?

MR. RAY: I have that right here. The engineer's estimate that the cost of the dual completion equipment would be paid out in a period of a few months.

MR. GRAHAM: The well to the Devonian, would it pay for itself? It is a commercial well in the Devonian.

MR. RAY: The Devonian production, in my opinion, would not repay the cost of the drilling of this well, no, sir.

MR. GRAHAM: But this well is drilled to the Devonian, is that right?

MR. RAY: It was originally drilled to the Fusselman and it has successively plugged back and is now producing only from the Drinkard. I think we can expect a pay out of the development costs from the Drinkard Formation.

MR. MCGHEE: What would be the approximate cost of the new well to the Drinkard?

MR. RAY: It would be considerably less than the Devonian well.

MR. MCGHEE: Approximately?

MR. RAY: I don't have any firm figures. I would estimate say somewhere in the neighborhood of \$100,000.00.

MR. SPURRIER: Any further questions? If not Mr. Ray may be excused.

(Mr. Ray excused.)

Does anyone else have a comment in this case?

MR. HILTZ: R. G. Hiltz, with Stanolind, as an offset operator in this area, I would like to state that Stanolind concurs in this application and we recommend that the Commission approve it. Our experience in other areas has shown that by employing proper completion and operational techniques you can satisfactorily separate these zones and maintain separation during

very heavy mud on account of a blow out in the Elliott well?

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MR. RAY: I don't have any firm figures. I would estimate say somewhere in the neighborhood of \$100,000.00.

MR. SPURRIER: Any further questions? If not Mr. Ray may be excused. (Mr. Ray excused.)

Does anyone else have a comment in this case?

MR. HILTZ: R. G. Hiltz, with Stanolind, as an offset operator in this area, I would like to state that Stanolind concurs in this application and we recommend that the Commission approve it. Our experience in other areas has shown that by employing proper completion and operational techniques you can satisfactorily separate these zones and maintain separation during

the producing life of the two zones and that the two zones can be satisfactorily produced without co-mingling thereby in many cases precluding the necessity of drilling additional wells.

MR. SPURRIER: Anyone else? Mr. Gray.

MR. GRAY: I have a prepared statement here that I would like to read on behalf of Buffalo Oil Company.

MR. SPURRIER: Very well.

MR. GRAY: " New Mexico Oil Conservation Commission, Santa Fe, New Mexico. Dear Sirs: The Buffalo Oil Company has no operations in the West Dollarhide field of Lea County, New Mexico, and therefore, has no statement to make insofar as Case No. 426 is considered individually. However, since the Commission has not, to our knowledge, previously acted upon a dual completion involving the producing of oil from two separate oil reservoirs from a common well bore, we feel it dutiful to express our views insofar as general policies are concerned so that the Commission may more adequately provide the proper foundation for future cases involving dual completions where both are from oil zones.

It is the opinion of the Buffalo Oil Company that the principal justification for allowing dual oil completions lies in the case where at least one of the pays is considered non-commercial in itself, so that economics require the dual completion in order to recover oil from the non-commercial zone. We recognize that such dual completions should be permitted. There may also be justification where a particular field is located on a state boundary line, and is therefore located in two states, and one

state already having approved a dual completion program.

We believe that dual oil completions should continue to be considered on an individual field basis. Where no opposition is expressed and approval of a program is given by the Commission, there should be strict observance to guarantee that complete segregation of the two zones is being maintained. This is necessary to protect individual correlative rights and to assure proper functioning in proration.

The Commission should recognize certain practices that might contribute to inefficient producing methods which would decrease ultimate recoveries. In stop-cocking a high gas-oil ratio zone, considerably more gas would be produced from the casing annulus, than if produced through tubing. Secondly, it is sometimes the practice to produce one pay through the tubing for one-half month, change tubing openings, and then produce the other zone through tubing for one-half month. This procedure would require a producing rate in excess of that presently permitted under Paragraph (a) of Rule 502. The effects of such practices as these should be considered by the Commission in ruling upon dual completion applications. By: Mr. H. G. Ellis, Vice-President of Buffalo Oil Company."

MR. SPURRIER: Mr. Selinger.

MR. SELINGER: The statement that Skelly Oil Company is going to make is not to be considered as a direct opposition or objection to the Texas Company's application in this particular regard. Our statement is to be a reaffirmation of our position at

a series of hearings held by the Conservation Commission some eight or ten years ago, in which the matter of dual oil-oil completions were thoroughly gone into during a course of some four or five days. We wish to affirm our opposition on the oil-oil dual completion.

MR. SPURRIER: Anyone else?

MR. SCOTT: W. A. Scott of Shell Oil Company. The Shell has no direct interest in the immediate vicinity of the ~~subject well~~ in this case. This statement is to present our views on the issue only as a matter of principle. We have heretofore expressed before the Commission our opinion that all oil duals should not be looked on with favor and especially so unless a separate examination of the facts in each particular case is made. We are still of the same opinion and we urge that in the event permission is granted in any one instance that it not be considered as a precedent.

MR. SPURRIER: Anyone else? Mr. Ray.

MR. RAY: I would like to make a statement of the Texas Company's views on this. If this petition is granted we wish to cooperate in every way and to maintain effective separation of the two pays in question. We are presenting this case on the merits that have been put forth for this one location alone. It is not our desire to apply this to any other area in which we might operate. If the Commission sees fit to grant this application we pledge our fullest cooperation in the matter of performing tests or obtaining and reporting any data which the Commission or

the operators in this area might request.

MR. SPURRIER: Anyone else?

MR. MCGHEE: I hate to see them go off and leave that.

MR. GRAHAM: That is commercial production.

MR. MCGHEE: I have been under considerable temptation.

MR. GRAHAM: Isn't that commercial production, Mr. Ray?

MR. RAY: Mr. Graham, I do not anticipate that this production will have sufficient life to be considered commercial production.

MR. GRAHAM: Except for the Drinkard then that would be a dry hole in your opinion?

MR. RAY: No, sir, I wouldn't say that, but you see in this well we have an additional problem. We have a very commercial pay in the Drinkard and we will also be faced with a problem of adverse drainage. We have attempted to solve that problem to the best of our ability.

MR. MACEY: You were subject to adverse drainage on the Drinkard?

MR. RAY: Yes, sir.

MR. MACEY: Just the Drinkard?

MR. RAY: Well, I think that since we have made application in this matter wells have been completed in the Queens Formation which is also productive of oil in this area. I didn't bring that into it because I felt it had no bearing on the application, but we're drilling separate wells for Queens production. One which may have been recently completed and the second Queens well

is projected and if it is not drilling at the present time - -

MR. SPURRIER: Any further questions? If not we will take the case under advisement and move on to Case 427.

STATE OF NEW MEXICO)
 :
COUNTY OF BERNALILLO)

I HEREBY CERTIFY that the foregoing and attached transcript of hearing in Case No. 426 before the Oil Conservation Commission, State of New Mexico, at Santa Fe, on November 20, 1952, is a true and correct record of the same to the best of my knowledge, skill and ability.

DATED at Albuquerque, New Mexico, this 29th day of November, 1952.


REPORTER

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

TRANSCRIPT OF HEARING

CASE NO. 426

February 17, 1953

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

February 17, 1953

In the Matter of:

CASE 426: (Readvertised) In this case the Texas Company was granted rehearing in its request for an oil-oil dual completion of its J. B. McGhee Well, NE SE 31-24S-38E, NMPM (West Dollarhide-Drinkard Pool), permitting production of oil from both the Devonian and Drinkard formations.

No. 426

TRANSCRIPT OF HEARING

(MR. GRAHAM reads the notice of publication.)

C. J. RAY: I am C. J. Ray, appearing for The Texas Company. May it please the Commission, I would like to read a portion of a letter which was submitted to the Oil Conservation Commission in this matter. The applicant respectfully requests that the re-hearing be continued over until the March 17th, 1953, hearing in order to allow the applicant to complete a study on the well which is now in progress.

MR. SPURRIER: Is there any objection to The Texas Company's motion? If not, the case will be continued to the regular March 17th hearing.

The next case is Case 459.

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

I HEREBY CERTIFY that the foregoing and attached transcript of hearing on the Case No. 426, before the Oil Conservation Commission, State of New Mexico, at Santa Fe, on February 17, 1953, is a true and correct record of the same to the best of my knowledge, skill and ability.

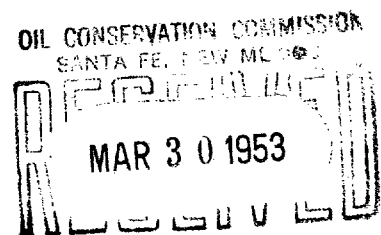
Dated at Albuquerque, New Mexico, this 24th day of February, 1953.


REPORTER

BEFORE THE
OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

Santa Fe, New Mexico
March 17, 1953

TRANSCRIPT OF HEARING
CASE NO. 426



ADA DEARNLEY & ASSOCIATES
COURT REPORTERS
ROOM 12, CROMWELL BLDG.
PHONES 7-9645 AND 5-9546
ALBUQUERQUE, NEW MEXICO

March 17, 1953

No. 426

MR. SPURRIER: Is there any comment or objection to Mr. Ray's motion. Without objection, the Commission will approve Mr. Ray's request. The case will be dismissed as far as the re-hearing is concerned and our original order will stand.

REPORTER'S CERTIFICATE

I, ADA DEARNLEY, Court reporter, hereby certify that the foregoing pages, numbered 1 to 2 inclusive, constitute a complete and accurate record of the proceedings before the Oil Conservation Commission, in case No. 426, on March 17, 1953, to the best of my knowledge, skill and ability.


REPORTER