

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
July 24, 1957.

CASE NO. 1285

New Mexico Oil Conservation

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE - SANTA FE
3-6691 2-2211

NEW MEXICO WILDLIFE CONSERVATION COMMISSION

MEETING HALL

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE Examiner July 24, 1957

TIME: 9:00 A.M.

NAME:	REPRESENTING:	LOCATION:
Warren W. Mentzer Jack Cooley	N.M.O.C.C.	Santa Fe, N. M.
Nancy Doyle	N.M. State Game Reporting Service Champion Oil & Refining Co.	Santa Fe 78 West, Texas
W. F. Jones	i	-
George Staples	i	"
A. Gale	" " "	"
W. R. Zachary Robert D. King	321 Washington St. Santa Fe 78 West, Texas	Albuquerque, N. Mex.

ILLEGIBLE

Harry Bass Drilling Company and Champlin Oil and Refining Company for an order authorizing directional drilling to a predetermined point in the Echol-Devonian Pool, Lea County, New Mexico, in exception to Rule 111 of the Commission Rules and Regulations.

Who represents the applicant?

MR. STAPLES: I will. Possibly all of us are to testify.

MR. COOLEY: Would you identify yourself for the record.

MR. STAPLES: George Staples.

MR. COOLEY: Representing?

MR. STAPLES: Champlin Oil and Refining Company.

MR. COOLEY: And you have possibly two witnesses?

MR. STAPLES: Yes.

MR. COOLEY: Will you stand and be sworn, please?

(Witnesses sworn.)

MR. COOLEY: You may proceed, Mr. Staples.

A We have made this application to deviate the hole bore of this State "A" One Well so that the bottom hole location will be within a fifty-foot target area, the center of it which is two thousand eighteen feet from the east line and three hundred fifty-five feet from the South line of Section 32, Township 10 South, Range 37 East. Currently, the well is producing large quantities of salt water. Disposition of the salt water is exceedingly difficult and expensive. It is believed that if the well be

deviated to the above requested point, a water free completion will be effected, and considerable additional oil recovery therefrom. We have been contacted by Sinclair, one of the other operators in the pool there, and I believe you have had a copy of their waiver of objection to this proposed location. Now, we have talked with Texas Company, and they have said they would not appear, and had no objection. They did not give us a letter on that. We have not heard from other operators in the field in regard to this proposed deviation. May I ask a question off the record?

MR. NUTTER: Yes, sir. Off the record.

(Discussion off the record.)

MR. NUTTER: On the record.

A (By Mr. Staples) I have here an Eastman Survey showing the present bottom hole location of the well.

MR. COOLEY: Let me interrupt. Will you state your name for the record, please?

A George A. Staples.

Q By whom are you employed?

A Champlin Oil and Refining Company.

Q Mr. Staples, would you give us a brief outline of your education and experience and background?

A I graduated from the Agricultural and Mechanical College

of Texas, with a degree in Geology in Nineteen Thirty-four. Since that time I have been with the Amerada Petroleum Corporation, several independent contractors, and Champlin Oil and Refining Company, which was previously a Chicago corporation.

MR. NUTTER: And what position do you hold?

A I am assistant to the Vice-President in the Production Department.

MR. NUTTER: Would you proceed. Your qualifications are accepted.

MR. STAPLES: I would like to offer as Exhibit the present bottom hole location as determined by Eastman Survey.

MR. COOLEY: The instrument, identified as Exhibit One, is Eastman Directional Survey at present bottom hole location?

A Yes, sir. This survey shows that the present bottom hole location is south one hundred eighteen point ninety-nine feet, and east twenty-one point forty-seven feet, of the surface location.

MR. MANKIN: A hundred eighteen feet south, and what else?

MR. NUTTER: What is the surface location of this well?

A The surface location of this well is six hundred sixty from the south line, nineteen eighty from the east line, Section thirty-two, Township ten South, Range thirty-seven East, Lea

County, New Mexico.

MR. NUTTER: So, what would the location with regard to the section line of the bottom of the hole be, Mr. Staples?

A Let me see if I have that written down. According to Mr. Mankin's figures, it is nineteen sixty-five from the east line, and five forty-one from the south line.

MR. MANKIN: Is it fifty-five instead of sixty-five?

A We will see.

MR. MANKIN: Yes, fifty-five.

A Would you correct that to show nineteen fifty-five instead of sixty-five?

MR. NUTTER: And forty-five forty-one feet from the south line?

A Yes, sir. Now, I would like to point out that the proposed new bottom hole location will conform with the spacing Rule for the field as outlined in the Commission's Field Rules, and the proposed deviation is merely in the sake of economy, rather than driving a new well. The same thing can be accomplished by drilling a new well to this requested point here, and according to my information, it would be a permitted location.

MR. NUTTER: What formation is this well presently completed in?

A I will have to ask Mr. Gale to testify on that. He is

the geologist. I am not qualified to answer that.

MR. NUTTER: Do you have anything further, Mr. Staples?

A Not unless there are questions.

MR. NUTTER: Mr. Staples, the actual mechanics of directionally drilling this well will be in conformance with accepted industry procedure, will they not? That is, you will have a survey run of the well at periodic intervals to measure the point at which the bottom of the hole will be located?

A Yes, sir. We propose to do that, and we propose to furnish the Commission with a certified copy of the survey upon completion of the well.

Q And you will have this work done by a reputable well surveying location company?

A Yes, sir, a well known company.

MR. NUTTER: I believe that's all I have.

MR. MANKIN: Mr. Staples, to reiterate where you propose to locate this well, it will still be not closer than three hundred and thirty feet from the lease boundary line, is that correct?

A That is correct.

Q Which was as indicated in the notice of the hearing, would be two thousand and eighteen from the east line, and three hundred fifty from the south line of Section thirty-two?

A Yes, sir. That was the center of the target area as is outlined in the hearing notice. Now, it could get to within three hundred thirty feet from the lease line, and still be in conformance with the hearing notice.

Q Yes, but it still would not be closer than three hundred thirty feet from the outer boundary of the lease?

A Yes, that's true.

Q It -- this is to be whipstocked from what point?

A Actually, we don't know. We are going to attempt to pull the present five and a half casings, and if that is successful, we hope to retrieve the casing down to about ninety-one hundred feet. Now, that is just our plan. I don't know that we'll be able to do it, but we hope to; and, if that can be done, it would be deviated from that point.

Q Deviated from approximately ~~ninety~~ ninety-one hundred, or whatever you are able to pull at that point?

A Yes, sir. I might state further, if we are not able to pull this casing down to a fairly good depth, it won't be practical to continue with the operation.

Q Do you have any knowledge as to the status of the well? Is it not cemented up to a point where you will have to cut and leave the lower, will you not?

A According to the record that I have on the well, the

temperature survey runs at the cementing of the five and a half casings, would be nine hundred feet.

Q You feel you are going to attempt to cut and pull it at that point?

A That is right.

Q And then you will, of course, have to whipstock it and put it in this fifty foot target area to again obtain the Devonian production, and obtain less water?

A That is correct.

Q Will there be someone testifying as to the well conditions, as to the water encountered, and the status of the pool, as to other wells making water?

A I have no information in regard to the other wells. I can give you the status of this well if you want me to.

Q Yes, I'd like to have that, please.

A The last test run at the well was sometime last week. It was pumping eleven strokes per minute, one hundred twenty inch strokes, with twenty-four barrels of oil, plus ninety percent water.

Q Do you know anything as to the history of this pool as to water production? Does it normally make quite a bit of water, or just edge water?

A I do not know.

Q I notice that there is a dry hole drilled by the Texas Company as State AR-One, at the southeast quarter of Section thirty-two. I assume you will attempt to stay farther away from that well, or is your target closer to that well?

A Actually --

Q I believe your target is closer to that well.

A It will be awful close. If you will notice, the proposed deviation direction, it is directly toward the Texas Company "AR" One.

Q Which is south of your well?

A South, and some west.

Q So, actually, the dry hole of the Texas Company well, directly west of your well -- you will not be any closer to that well?

A Very little.

Q Very little, if any? The reason I asked you was because it was an abandoned well?

A Yes, sir.

MR. MANKIN: I believe that's all.

MR. NUTTER: Mr. Staples, the proposed bottom of this hole is three hundred thirty feet from the south line, and two thousand eighteen from the east line, correct?

A Yes, sir, that was the second application after making

my original application for a hearing. I talked with Mr. Porter, and found out the application was not in the very best of form, and he suggested I make an amendatory application, which I did, and suggested that the bottom hole be three thirty from the south; and when the hearing notice came out, it incorporated parts of both of the requests for hearing.

MR. NUTTER: Well, now --

A (Interrupting) But now, we do definitely request that it be no closer than three thirty to the lease line.

Q Well, now, you have outlined that the projected bottom of the hole is two thousand eighteen feet from the east line, and three hundred thirty feet from the south line?

A Yes, sir.

Q But you are requesting a fifty-foot target area. Do you mean a fifty foot radius, or diameter circle?

A Fifty foot diameter.

Q In other words, you would have a leeway of twenty or twenty-five feet in any direction?

A No, sir. We are not asking for twenty-five feet closer to the lease line. We are just asking that we be -- I would be perfectly willing to make it, or make it as my last letter indicated, three hundred thirty from the south line, and two thousand eighteen from the west line.

Q Two thousand eighteen from the east line?

A East line.

Q In other words, that would be less restrictive to inside your unit area, and you could come in further away from the unit line, and you would not bottom the hole any closer than those figures?

A That is right. I would like to have a little tolerance on my side, not on the other man's side. If I'm three forty, I don't want to do anything about it, so -- I mean three thirty from him.

Q Well, Mr. Staples, New Mexico Rules and Regulations don't permit a hole to be closer than three hundred thirty feet from the lot line. However, that's the surface location; we don't know where a lot of these holes bottom out. How much deviation would you like to have as far as your side of the hole is concerned?

A May I ask a question? I'm not sure I understand there. The point I'm trying to make, I don't want to get closer than three thirty to that line. I don't mind if I'm three forty or three fifty. I want to be as close to three thirty as I can get, which would be the legal location. If it ends at three hundred forty feet from the south line, or three hundred fifty, I would like to keep the well.

Q What if the hole bottomed out three twenty?

A I'll see it doesn't.

Q I see. You are not asking less than three hundred thirty feet from that line?

MR. MANKIN: (Interrupting) Mr. Staples, I believe the advertisement stated "directionally re-drilling said well to a fifty foot target area from the center of the location". That still gave twenty-five foot leeway in any direction. This could cover your problem of not being less than three hundred thirty feet, and would still give you three forty or three thirty, or anything within a fifty-foot target area. I believe it would still cover your problem.

A That is correct, sir.

MR. COOLEY: Mr. Staples, would the authority as advertised be satisfactory -- fifty-foot target area -- the center of which would be two thousand-eighteen feet from the east line, and three fifty feet from the south line?

A Yes, sir, that would be satisfactory.

MR. NUTTER: That would be a fifty foot diameter circle from that point?

A Yes, sir.

MR. NUTTER: Anyone else have questions of the witness? If not, the witness may be excused.

MR. COOLEY: I want to ask you one question.

MR. NUTTER: Recall the witness.

MR. COOLEY: Have you tried to calculate what the economic savings will be over the drilling of an additional well, if this application is granted?

A No, sir, I have not in it's entirety. I have calculated the cost of this. My figures say one hundred forty-seven thousand nine hundred twenty dollars.

Q What does it cost to drill a well in this area?

A You'd probably be working at a saving of somewhere around seventy-five thousand dollars.

MR. NUTTER: Any other questions of the witness? If not, he may be excused.

(Witness excused.)

ARTHUR GALE

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

DIRECT EXAMINATION

MR. COOLEY: State your name and position.

A Arthur S. Gale, Junior Chief Exploration Geologist for Champlin Oil and Refining Company.

Q Would you briefly outline your educational background and experience you have had in the oil industry.

A I graduated with a degree in Geology from the University

of Rochester, New York, in Nineteen Thirty-five, and I had a Masters Degree in Geology from the University of Chicago, Nineteen Thirty-eight, and since that time have been actively engaged in petroleum geology in the southwest, working in many states.

Q Are you familiar with the geology in the Echol-Devonian Pool in Lea County, New Mexico?

A I am.

MR. COOLEY: Witness' qualifications acceptable?

MR. NUTTER: They are.

MR. COOLEY: Will you proceed and present what evidence you have.

A Off the record.

MR. NUTTER: Off the record.

(Discussion off the record.)

MR. NUTTER: On the record.

A Champlin State One "A" well in the Echols field is completed currently at the Devonian formation, is topped at eleven thousand six hundred and twenty-five feet sub "C", minus seven thousand six hundred ~~sixty~~-nine and it is completed through perforations from eleven thousand six hundred thirty-one to eleven thousand seven-zero-one. The water level, which I'm using in this field, which is at a sub "C" depth of eleven thousand eight hundred and forty-five -- pardon me -- seven thousand eight

forty-five. We have no break in this long series of perforations. We have reason to believe that it will be virtually impossible, by previous experience of others in this field, to effectively shut off the water that is coming in, in that long series of perforations, and then recomplete the well as an effective producer. We believe a new hole into the formation is necessary to eliminate the water. Our application, therefore, is based on a new hole, and at the same time, placing that hole structurally a little more advantageously on the lease. We anticipate encountering the Devonian forty to fifty feet higher than in the present hole by so deviating.

MR. NUTTER: Do you have anything further?

A I can't think of anything.

Q Any further questions of the witness?

MR. MANKIN: Mr. Gale, I got the impression you talked of topping the Devonian, in the present well there at seventy-six seventy-nine minus seventy-six sixty-nine feet, and I believe you said the water level was minus seventy-eight forty-five.

A That is correct. That is the original water level. The water level today, I am afraid, is ill defined.

Q Do you feel the water level today is possibly somewhat near the top of your perforations in the present well?

A I wish I knew; I don't. We are making water, and we

don't know in that long series of perforations, which is embarrassing to me -- it's a broken zone of porosity, and any one of those zones may be the water tending one. We have no way of knowing what level the water is coming in.

Q You said a long series of perforations. I believe your well has about seventy feet of perforations?

A That is correct.

Q You don't feel anywhere in that seventy foot of perforations you could get a semi-water-free completion?.

A I believe in all probability, the water is in the bottom part, and, if we could mechanically and effectively shut it off, we probably could effect a water free completion. We don't feel we can soon do that.

Q Has experience been in this pool to get rid of water there by plugging back, or is it impossible to get rid of water?

A Attempts have been made to plug it back; and in some cases it has been effective to some degree, and in others, it has been a complete failure at great expense.

MR. MANKIN: I believe that's all.

MR. NUTTER: Are you prepared to testify as to the difficulties that might be encountered in plugging this well by having it a crooked hole?

A No, sir.

Q Is there a witness who will testify as to that?

A No, sir.

MR. MANKIN: I believe that's all.

MR. NUTTER: Any questions of this witness? If not, he may be excused.

(Witness excused.)

MR. COOLEY: Recall Mr. Staples to the stand, please.

MR. NUTTER: Mr. Staples, do you anticipate, when you get a producing well in the Devonian formation from your new hole, that it will be a flowing well?

A It will possibly flow for a short period of time.

Q What is the history of wells in this location? Are they flowing or pumping wells?

A I don't know. This well, I am familiar with, is a pumping well; I think all are pumping wells.

Q What system of pumping do you use?

A Rod pumps, and we are pumping from a fairly shallow depth, though the fluid stands high in the hole. If I may refresh my memory here, the pump is set at approximately four thousand feet, so there will be no crooked hole at that point. The hole will be in its original condition.

MR. NUTTER: I think you said you whipstocked at ninety-one hundred feet?

A Yes, sir.

Q You don't anticipate you would be pumping the well with the pump set below the point at which you will whipstock?

A That is correct, sir.

Q So there will be no problem as to artificial lift as a result of whipstocking --

MR. MANKIN: (Interrupting) Do you know what the normal drift of the wells in this field is? I mean, is it less than four degrees normal completion?

A The only one I'm familiar with is this particular well on which we submitted the Survey.

Q Do you have any idea whether that is two, three or four degrees, roughly?

A I will have to look and see where it took place, as to the depth of the well -- down to approximately nine thousand feet. I have not seen any drift angle greater than about one and a half degrees. Below that point, I note that there are several four and five degree leads.

Q So, essentially, the statewide rule requires for the all-over degrees deviation. This has been met in most cases?

A For this particular well, yes.

Q Yes, I'm speaking of this particular well.

A Yes, sir.

Q Have you had any calculations from your well surveying company as to what maximum deviations would be necessary?

A I believe I have such here; let me check and see. It looks like ten degrees is the maximum deviation here.

MR. NUTTER: Thank you. Anyone else have questions of the witness? If not, he may be excused.

(Witness excused.)

MR. NUTTER: Does anyone else have anything further they wish to enter on Case Twelve Eighty-five?

(No response.)

MR. NUTTER: We have correspondence from Sinclair Oil and Gas Company regarding this case?

MR. COOLEY: I have a letter from Sinclair Oil and Gas Company, Midland, Texas, dated July Nineteenth, Nineteen Fifty-seven, addressed to New Mexico Oil Conservation Commission, Post Office Box Eight-Seven-One, Santa Fe, New Mexico, for Attention Mr. Daniel S. Nutter (reading) - "Please refer to Case Twelve Eighty-five on the Examiner Docket scheduled to be heard July Twenty-fourth, Nineteen Fifty-seven, in Santa Fe, New Mexico. We have been advised by the Champlin Oil and Refining Company that they desire to directionally redrill their State "A" Well Number One located six hundred sixty feet from the South line and nineteen hundred eighty feet from the East line of Section Thirty-

two, Ten S., Thirty-seven East, Echols Devonian Field, Lea County, New Mexico. We understand that Champlin desires to bottom their well no closer than three hundred thirty feet from their lease line. Sinclair Oil and Gas Company has no objections to the granting of this application provided the applicant be required to comply with the provision of Statewide Rule One Eleven (b) which requires that a deviational and directional survey be run and filed with the Commission. Yours very truly, (signed) R. F. Higginbotham, Assistant Division Production Superintendent."

MR. NUTTER: Does anyone else have anything further in this case?

(No response).

MR. NUTTER: Without objection, you wish to enter Exhibit Number One?

A Yes, sir.

MR. NUTTER: Without objection, Exhibit One will be entered in Case Twelve Eighty-five. No further statements?

(No response.)

MR. NUTTER: We will take the case under advisement.

